

EXTRACTION OIL & GAS

ADAMS COUNTY

Sec 13-T1S-R66W

WARBLER 13W-27-03

OWB

PROPOSAL 1

Anticollision Report

17 October, 2022

Anticollision Report

Company:	EXTRACTION OIL & GAS	Local Co-ordinate Reference:	Well WARBLER 13W-27-03
Project:	ADAMS COUNTY	TVD Reference:	KB 25' @ 5105.00usft
Reference Site:	Sec 13-T1S-R66W	MD Reference:	KB 25' @ 5105.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	WARBLER 13W-27-03	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	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 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:	Pedal Curve
Warning Levels Evaluated at:	2.00 Sigma	Casing Method:	Not applied

Survey Tool Program	Date	10/17/2022		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
0.00	21,573.27	PROPOSAL 1 (OWB)	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
Offet Well - Wellbore - Design						
Sec 13-T1S-R66W						
ABND VERT ROCK 1 - Wellbore #1 - Design #1	600.00	601.00	823.13	809.52	60.492	CC
ABND VERT ROCK 1 - Wellbore #1 - Design #1	700.00	701.02	824.75	808.77	51.610	ES
ABND VERT ROCK 1 - Wellbore #1 - Design #1	7,300.00	6,802.78	3,245.33	3,079.44	19.563	SF
EXIST VERT JOHN ROCK 1 - Wellbore #1 - Design #1	2,209.23	2,087.71	2,619.42	2,567.03	49.998	CC
EXIST VERT JOHN ROCK 1 - Wellbore #1 - Design #1	2,600.00	2,445.30	2,624.15	2,561.47	41.862	ES
EXIST VERT JOHN ROCK 1 - Wellbore #1 - Design #1	7,400.00	6,834.25	3,359.75	3,176.90	18.373	SF
EXIST VERT PETE ROCK 1 - Wellbore #1 - Design #1	5,724.25	5,319.27	982.99	836.56	6.713	CC
EXIST VERT PETE ROCK 1 - Wellbore #1 - Design #1	5,900.00	5,480.10	985.54	834.44	6.522	ES
EXIST VERT PETE ROCK 1 - Wellbore #1 - Design #1	6,600.00	6,120.66	1,044.50	876.33	6.211	SF
WARBLER 13W-27-01 - OWB - PROPOSAL 1	200.00	200.00	56.10	55.12	56.911	CC, ES
WARBLER 13W-27-01 - OWB - PROPOSAL 1	21,573.27	22,296.06	2,536.87	1,700.47	3.033	SF
WARBLER 13W-27-02 - OWB - PROPOSAL 1	400.00	400.00	28.05	25.63	11.593	CC, ES
WARBLER 13W-27-02 - OWB - PROPOSAL 1	21,573.27	21,844.70	1,275.72	439.31	1.525	SF
WARBLER 13W-27-04 - OWB - PROPOSAL 1	600.00	600.00	28.05	24.20	7.279	CC, ES
WARBLER 13W-27-04 - OWB - PROPOSAL 1	21,573.27	21,507.43	1,281.01	445.67	1.534	SF
WARBLER 13W-27-07 - OWB - PROPOSAL 1	691.16	698.75	139.47	134.73	29.400	CC
WARBLER 13W-27-07 - OWB - PROPOSAL 1	700.00	707.48	139.48	134.67	28.954	ES
WARBLER 13W-27-07 - OWB - PROPOSAL 1	21,573.27	22,441.45	1,957.86	1,139.64	2.393	SF
WARBLER 13W-27-08 - OWB - PROPOSAL 1	1,097.20	1,117.44	98.34	90.12	11.961	CC
WARBLER 13W-27-08 - OWB - PROPOSAL 1	21,573.27	22,094.16	763.80	58.08	1.082	Level 2, ES, SF
WARBLER 13W-27-09 - OWB - PROPOSAL 1	1,490.71	1,525.36	43.97	32.66	3.888	CC
WARBLER 13W-27-09 - OWB - PROPOSAL 1	1,500.00	1,534.61	43.99	32.55	3.843	ES
WARBLER 13W-27-09 - OWB - PROPOSAL 1	21,573.27	21,939.48	767.81	54.37	1.076	Level 2, SF
WARBLER 13W-27-10 - OWB - PROPOSAL 1	971.80	995.68	123.68	116.91	18.270	CC
WARBLER 13W-27-10 - OWB - PROPOSAL 1	1,000.00	1,024.08	123.83	116.81	17.640	ES
WARBLER 13W-27-10 - OWB - PROPOSAL 1	21,573.27	21,985.98	1,967.38	1,148.22	2.402	SF
WARBLER 13W-27-13 - OWB - PROPOSAL 1	600.00	605.00	195.99	192.12	50.625	CC, ES
WARBLER 13W-27-13 - OWB - PROPOSAL 1	21,573.27	22,387.96	2,231.61	1,390.99	2.655	SF
WARBLER 13W-27-14 - OWB - PROPOSAL 1	600.00	605.00	215.10	211.23	55.561	CC, ES
WARBLER 13W-27-14 - OWB - PROPOSAL 1	21,573.27	22,114.88	1,531.09	690.30	1.821	SF
WARBLER 13W-27-15 - OWB - PROPOSAL 1	600.00	606.00	236.01	232.13	60.904	CC
WARBLER 13W-27-15 - OWB - PROPOSAL 1	21,573.27	21,933.75	955.53	114.61	1.136	Level 2, ES, SF
WARBLER 13W-27-16 - OWB - PROPOSAL 1	5,248.59	5,405.06	146.15	80.13	2.214	CC
WARBLER 13W-27-16 - OWB - PROPOSAL 1	21,573.27	21,776.09	320.26	-520.65	0.381	Level 1, ES, SF
WARBLER 13W-27-17 - OWB - PROPOSAL 1	600.00	606.00	281.57	277.69	72.661	CC
WARBLER 13W-27-17 - OWB - PROPOSAL 1	21,500.00	30,158.98	320.51	-746.57	0.300	Level 1, ES, SF
WARBLER 13W-27-18 - OWB - PROPOSAL 1	606.08	607.19	111.78	107.89	28.712	CC

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

Anticollision Report

Company:	EXTRACTION OIL & GAS	Local Co-ordinate Reference:	Well WARBLER 13W-27-03
Project:	ADAMS COUNTY	TVD Reference:	KB 25' @ 5105.00usft
Reference Site:	Sec 13-T1S-R66W	MD Reference:	KB 25' @ 5105.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	WARBLER 13W-27-03	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	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 13-T1S-R66W						
WARBLER 13W-27-18 - OWB - PROPOSAL 1	700.00	701.06	112.32	107.77	24.662	ES
WARBLER 13W-27-18 - OWB - PROPOSAL 1	21,573.27	21,495.14	960.98	125.60	1.150	Level 2, SF
WARBLER 13W-27-19 - OWB - PROPOSAL 1	400.00	401.00	139.89	137.47	57.729	CC
WARBLER 13W-27-19 - OWB - PROPOSAL 1	500.00	499.94	140.27	137.14	44.852	ES
WARBLER 13W-27-19 - OWB - PROPOSAL 1	21,573.27	21,900.44	1,656.57	847.43	2.047	SF
WARBLER 13W-27-20 - OWB - PROPOSAL 1	300.00	301.00	167.94	166.24	98.424	CC, ES
WARBLER 13W-27-20 - OWB - PROPOSAL 1	21,573.27	21,958.88	2,276.89	1,456.66	2.776	SF
WARBLER 24W-27-05 - OWB - PROPOSAL 1	400.00	400.00	56.10	53.68	23.186	CC, ES
WARBLER 24W-27-05 - OWB - PROPOSAL 1	21,573.27	21,657.71	2,556.90	1,723.01	3.066	SF
WARBLER 24W-27-06 - OWB - PROPOSAL 1	200.00	201.00	84.15	83.16	85.057	CC, ES
WARBLER 24W-27-06 - OWB - PROPOSAL 1	21,573.27	22,019.61	3,836.99	3,004.62	4.610	SF
WARBLER 24W-27-11 - OWB - PROPOSAL 1	690.40	701.54	154.03	149.41	33.331	CC
WARBLER 24W-27-11 - OWB - PROPOSAL 1	700.00	711.09	154.05	149.35	32.790	ES
WARBLER 24W-27-11 - OWB - PROPOSAL 1	21,573.27	22,241.77	3,222.03	2,393.06	3.887	SF
WARBLER 24W-27-12 - OWB - PROPOSAL 1	355.97	360.32	178.86	176.73	84.281	CC
WARBLER 24W-27-12 - OWB - PROPOSAL 1	500.00	502.99	179.63	176.43	56.080	ES
WARBLER 24W-27-12 - OWB - PROPOSAL 1	21,573.27	22,650.37	4,447.82	3,617.37	5.356	SF
WARBLER 24W-27-21 - OWB - PROPOSAL 1	200.00	202.00	195.99	195.00	197.383	CC, ES
WARBLER 24W-27-21 - OWB - PROPOSAL 1	21,573.27	22,067.48	2,909.11	2,084.48	3.528	SF
WARBLER 24W-27-22 - OWB - PROPOSAL 1	100.00	102.00	224.05	223.77	825.085	CC, ES
WARBLER 24W-27-22 - OWB - PROPOSAL 1	21,573.27	22,206.92	3,541.04	2,714.71	4.285	SF
Sec 14-T1S-R66W						
ABND VERT HECKENDORF 1 - Wellbore #1 - Design #1	10,142.90	7,109.00	1,847.43	1,590.85	7.200	CC
ABND VERT HECKENDORF 1 - Wellbore #1 - Design #1	10,200.00	7,109.00	1,848.31	1,589.85	7.151	ES
ABND VERT HECKENDORF 1 - Wellbore #1 - Design #1	10,500.00	7,109.00	1,881.63	1,615.03	7.058	SF
ABND VERT HECKENDORF 2 - Wellbore #1 - Design #1	13,071.01	7,113.00	1,457.70	1,124.63	4.377	CC
ABND VERT HECKENDORF 2 - Wellbore #1 - Design #1	13,100.00	7,113.00	1,457.98	1,124.49	4.372	ES, SF
SI VERT REBA SHAW 1 - Wellbore #1 - Design #1	18,407.52	7,156.00	1,258.60	782.09	2.641	CC, ES, SF
Sec 16-T1S-R66W						
ABND VERT GILBERT A. DIEDRICHS G U 1 - Wellbore	21,020.26	7,153.00	1,339.97	793.27	2.451	CC, ES
ABND VERT GILBERT A. DIEDRICHS G U 1 - Wellbore	21,100.00	7,153.00	1,342.34	793.28	2.445	SF
Sec 22-T1S-R66W						
ABND VERT FARMER 1 - Wellbore #1 - Design #1	18,684.11	7,156.00	3,840.93	3,356.98	7.937	CC
ABND VERT FARMER 1 - Wellbore #1 - Design #1	18,800.00	7,156.00	3,842.68	3,356.24	7.900	ES
ABND VERT FARMER 1 - Wellbore #1 - Design #1	19,100.00	7,156.00	3,863.38	3,371.95	7.861	SF

Anticollision Report

Company:	EXTRACTION OIL & GAS	Local Co-ordinate Reference:	Well WARBLER 13W-27-03
Project:	ADAMS COUNTY	TVD Reference:	KB 25' @ 5105.00usft
Reference Site:	Sec 13-T1S-R66W	MD Reference:	KB 25' @ 5105.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	WARBLER 13W-27-03	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	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 24-T1S-R66W						
ABND VERT BARR 1 - Wellbore #1 - Design #1	12,420.85	7,159.00	6,475.73	6,158.92	20.440	CC
ABND VERT BARR 1 - Wellbore #1 - Design #1	12,600.00	7,159.00	6,478.21	6,157.17	20.179	ES
ABND VERT BARR 1 - Wellbore #1 - Design #1	14,300.00	7,159.00	6,742.87	6,389.20	19.065	SF
ABND VERT BERGMAN 1 - Wellbore #1 - Design #1	10,232.07	7,127.00	3,007.75	2,748.53	11.603	CC
ABND VERT BERGMAN 1 - Wellbore #1 - Design #1	10,300.00	7,127.00	3,008.51	2,747.95	11.546	ES
ABND VERT BERGMAN 1 - Wellbore #1 - Design #1	10,700.00	7,127.00	3,043.93	2,776.54	11.384	SF
ABND VERT JOSEPHINE 1 - Wellbore #1 - Design #1	3,863.32	3,635.35	2,949.21	2,852.23	30.412	CC
ABND VERT JOSEPHINE 1 - Wellbore #1 - Design #1	4,300.00	4,034.95	2,954.46	2,845.82	27.194	ES
ABND VERT JOSEPHINE 1 - Wellbore #1 - Design #1	8,000.00	7,136.00	3,395.87	3,194.61	16.873	SF
EXIST VERT D G H L 1 - Wellbore #1 - Design #1	2,165.46	2,134.65	6,246.82	6,193.94	118.129	CC
EXIST VERT D G H L 1 - Wellbore #1 - Design #1	3,200.00	3,081.35	6,260.74	6,180.44	77.972	ES
EXIST VERT D G H L 1 - Wellbore #1 - Design #1	10,900.00	7,189.00	7,317.61	7,058.37	28.227	SF
SI VERT LEECH 1 - Wellbore #1 - Design #1	600.00	606.00	2,936.82	2,923.13	214.553	CC
SI VERT LEECH 1 - Wellbore #1 - Design #1	800.00	805.84	2,939.08	2,920.65	159.486	ES
SI VERT LEECH 1 - Wellbore #1 - Design #1	7,700.00	7,107.23	4,576.45	4,390.09	24.557	SF

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-INC													Offset Well Error:	0.00 usft
Sec 13-T1S-R66W - ABND VERT ROCK 1 - Wellbore #1 - Design #1														
Reference Measured Depth (usft)	Vertical Depth (usft)	Offset Measured Depth (usft)	Vertical Depth (usft)	Semi Major Axis Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning	
0.00	0.00	1.00	-1.00	0.00	0.01	132.93	-560.62	602.70	823.13					
100.00	100.00	101.00	99.00	0.13	1.22	132.93	-560.62	602.70	823.13	821.77	1.36	607.231		
200.00	200.00	201.00	199.00	0.49	3.51	132.93	-560.62	602.70	823.13	819.13	4.00	205.702		
300.00	300.00	301.00	299.00	0.85	5.59	132.93	-560.62	602.70	823.13	816.69	6.44	127.855		
400.00	400.00	401.00	399.00	1.21	7.63	132.93	-560.62	602.70	823.13	814.29	8.84	93.130		
500.00	500.00	501.00	499.00	1.57	9.66	132.93	-560.62	602.70	823.13	811.90	11.23	73.324		
600.00	600.00	601.00	599.00	1.93	11.68	132.93	-560.62	602.70	823.13	809.52	13.61	60.492	CC	
700.00	699.98	701.02	698.98	2.28	13.70	-158.51	-560.62	602.70	824.75	808.77	15.98	51.610	ES	
800.00	799.84	801.16	798.84	2.63	15.72	-158.61	-560.62	602.70	829.62	811.27	18.35	45.201		
900.00	899.45	901.55	898.45	3.00	17.74	-158.77	-560.62	602.70	837.75	817.01	20.74	40.402		
1,000.00	998.70	1,002.30	997.70	3.37	19.77	-158.98	-560.62	602.70	849.13	826.00	23.13	36.716		
1,100.00	1,097.47	1,103.53	1,096.47	3.77	21.81	-159.25	-560.62	602.70	863.76	838.23	25.53	33.831		
1,200.00	1,195.62	1,205.38	1,194.62	4.19	23.86	-159.56	-560.62	602.70	881.67	853.71	27.95	31.540		
1,300.00	1,293.06	1,307.94	1,292.06	4.64	25.93	-159.91	-560.62	602.70	902.83	872.44	30.40	29.702		
1,400.00	1,389.64	1,388.64	1,388.64	5.12	27.55	-160.29	-560.62	602.70	927.26	894.86	32.40	28.616		
1,500.00	1,485.27	1,484.27	1,484.27	5.66	29.48	-160.69	-560.62	602.70	954.95	920.24	34.72	27.507		
1,600.00	1,579.82	1,578.82	1,578.82	6.24	31.38	-161.10	-560.62	602.70	985.89	948.88	37.01	26.635		
1,700.00	1,673.17	1,672.17	1,672.17	6.88	33.26	-161.52	-560.62	602.70	1,020.06	980.77	39.29	25.959		
1,800.00	1,765.22	1,764.22	1,764.22	7.57	35.11	-161.96	-560.62	602.70	1,057.43	1,015.87	41.56	25.445		
1,900.00	1,856.73	1,855.73	1,855.73	8.31	36.95	-162.61	-560.62	602.70	1,096.13	1,052.33	43.80	25.025		
2,000.00	1,948.24	1,947.24	1,947.24	9.06	38.79	-163.21	-560.62	602.70	1,134.95	1,088.90	46.05	24.647		
2,100.00	2,039.75	2,038.75	2,038.75	9.83	40.63	-163.78	-560.62	602.70	1,173.87	1,125.57	48.30	24.305		
2,200.00	2,131.26	2,130.26	2,130.26	10.61	42.47	-164.31	-560.62	602.70	1,212.88	1,162.34	50.55	23.995		
2,300.00	2,222.77	2,221.77	2,221.77	11.40	44.31	-164.81	-560.62	602.70	1,251.98	1,199.18	52.80	23.711		
2,400.00	2,314.28	2,313.28	2,313.28	12.20	46.16	-165.27	-560.62	602.70	1,291.15	1,236.09	55.05	23.452		
2,500.00	2,405.79	2,404.79	2,404.79	13.00	48.00	-165.71	-560.62	602.70	1,330.39	1,273.08	57.31	23.214		
2,600.00	2,497.30	2,503.70	2,496.30	13.81	49.99	-166.13	-560.62	602.70	1,369.69	1,309.98	59.71	22.938		
2,700.00	2,588.81	2,587.81	2,587.81	14.62	51.68	-166.52	-560.62	602.70	1,409.05	1,347.23	61.82	22.793		

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 WARBLER 13W-27-03
Project:	ADAMS COUNTY	TVD Reference:	KB 25' @ 5105.00usft
Reference Site:	Sec 13-T1S-R66W	MD Reference:	KB 25' @ 5105.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	WARBLER 13W-27-03	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT_32Bit_ODBC
Reference Design:	PROPOSAL 1	Offset TVD Reference:	Offset Datum

Offset Design Sec 13-T1S-R66W - ABND VERT ROCK 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						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		
2,800.00	2,680.31	2,679.31	2,679.31	15.44	53.52	-166.89	-560.62	602.70	1,448.47	1,384.39	64.08	22.606		
2,900.00	2,771.82	2,770.82	2,770.82	16.25	55.36	-167.24	-560.62	602.70	1,487.93	1,421.60	66.33	22.432		
3,000.00	2,863.33	2,862.33	2,862.33	17.08	57.20	-167.57	-560.62	602.70	1,527.44	1,458.85	68.59	22.270		
3,100.00	2,954.84	2,953.84	2,953.84	17.90	59.04	-167.89	-560.62	602.70	1,566.98	1,496.14	70.84	22.119		
3,200.00	3,046.35	3,045.35	3,045.35	18.72	60.88	-168.19	-560.62	602.70	1,606.57	1,533.47	73.10	21.977		
3,300.00	3,137.86	3,136.86	3,136.86	19.55	62.72	-168.47	-560.62	602.70	1,646.20	1,570.84	75.36	21.845		
3,400.00	3,229.37	3,228.37	3,228.37	20.38	64.56	-168.75	-560.62	602.70	1,685.85	1,608.24	77.62	21.720		
3,500.00	3,320.88	3,319.88	3,319.88	21.21	66.40	-169.01	-560.62	602.70	1,725.54	1,645.67	79.87	21.604		
3,600.00	3,412.39	3,411.39	3,411.39	22.04	68.24	-169.26	-560.62	602.70	1,765.26	1,683.13	82.13	21.493		
3,700.00	3,503.90	3,502.90	3,502.90	22.87	70.08	-169.49	-560.62	602.70	1,805.00	1,720.61	84.39	21.389		
3,800.00	3,595.41	3,605.59	3,594.41	23.70	72.15	-169.72	-560.62	602.70	1,844.77	1,757.90	86.87	21.236		
3,900.00	3,686.91	3,685.91	3,685.91	24.54	73.76	-169.94	-560.62	602.70	1,884.56	1,795.66	88.90	21.198		
4,000.00	3,778.42	3,777.42	3,777.42	25.37	75.60	-170.15	-560.62	602.70	1,924.38	1,833.21	91.16	21.109		
4,100.00	3,869.93	3,868.93	3,868.93	26.20	77.44	-170.35	-560.62	602.70	1,964.21	1,870.79	93.42	21.026		
4,200.00	3,961.44	3,960.44	3,960.44	27.04	79.28	-170.54	-560.62	602.70	2,004.07	1,908.39	95.68	20.946		
4,300.00	4,052.95	4,051.95	4,051.95	27.88	81.13	-170.73	-560.62	602.70	2,043.94	1,946.00	97.94	20.870		
4,400.00	4,144.46	4,143.46	4,143.46	28.71	82.97	-170.91	-560.62	602.70	2,083.83	1,983.63	100.20	20.798		
4,500.00	4,235.97	4,234.97	4,234.97	29.55	84.81	-171.08	-560.62	602.70	2,123.74	2,021.28	102.45	20.729		
4,600.00	4,327.48	4,326.48	4,326.48	30.39	86.65	-171.24	-560.62	602.70	2,163.66	2,058.95	104.71	20.663		
4,700.00	4,418.99	4,417.99	4,417.99	31.22	88.49	-171.40	-560.62	602.70	2,203.60	2,096.62	106.97	20.600		
4,800.00	4,510.50	4,509.50	4,509.50	32.06	90.33	-171.56	-560.62	602.70	2,243.55	2,134.32	109.23	20.539		
4,900.00	4,602.01	4,601.01	4,601.01	32.90	92.17	-171.71	-560.62	602.70	2,283.51	2,172.02	111.49	20.481		
5,000.00	4,693.51	4,707.49	4,692.51	33.74	94.31	-171.85	-560.62	602.70	2,323.49	2,209.44	114.05	20.372		
5,100.00	4,785.02	4,784.02	4,784.02	34.58	95.85	-171.99	-560.62	602.70	2,363.48	2,247.47	116.01	20.373		
5,200.00	4,876.53	4,875.53	4,875.53	35.42	97.69	-172.12	-560.62	602.70	2,403.48	2,285.21	118.27	20.322		
5,300.00	4,968.04	4,967.04	4,967.04	36.26	99.53	-172.25	-560.62	602.70	2,443.49	2,322.96	120.53	20.273		
5,400.00	5,059.55	5,058.55	5,058.55	37.10	101.37	-172.38	-560.62	602.70	2,483.51	2,360.72	122.79	20.225		
5,500.00	5,151.06	5,150.06	5,150.06	37.94	103.21	-172.50	-560.62	602.70	2,523.54	2,398.48	125.05	20.180		
5,600.00	5,242.57	5,241.57	5,241.57	38.78	105.05	-172.61	-560.62	602.70	2,563.58	2,436.26	127.31	20.136		
5,700.00	5,334.08	5,333.08	5,333.08	39.62	106.89	-172.73	-560.62	602.70	2,603.63	2,474.05	129.58	20.094		
5,800.00	5,425.59	5,424.59	5,424.59	40.46	108.73	-172.84	-560.62	602.70	2,643.68	2,511.85	131.84	20.053		
5,900.00	5,517.10	5,516.10	5,516.10	41.30	110.57	-172.95	-560.62	602.70	2,683.75	2,549.65	134.10	20.013		
6,000.00	5,608.61	5,607.61	5,607.61	42.14	112.41	-173.05	-560.62	602.70	2,723.82	2,587.46	136.36	19.975		
6,100.00	5,700.12	5,700.89	5,699.12	42.98	114.29	-173.15	-560.62	602.70	2,763.90	2,625.24	138.66	19.933		
6,200.00	5,791.62	5,809.38	5,790.62	43.82	116.47	-173.25	-560.62	602.70	2,803.99	2,662.73	141.26	19.850		
6,300.00	5,883.13	5,882.13	5,882.13	44.66	117.93	-173.34	-560.62	602.70	2,844.08	2,700.93	143.15	19.868		
6,400.00	5,974.64	5,973.64	5,973.64	45.50	119.77	-173.44	-560.62	602.70	2,884.18	2,738.77	145.41	19.835		
6,500.00	6,066.15	6,065.15	6,065.15	46.35	121.61	-173.53	-560.62	602.70	2,924.29	2,776.61	147.67	19.803		
6,600.00	6,157.66	6,156.66	6,156.66	47.19	123.45	-173.62	-560.62	602.70	2,964.40	2,814.46	149.93	19.771		
6,700.00	6,249.17	6,248.17	6,248.17	48.03	125.29	-173.70	-560.62	602.70	3,004.52	2,852.32	152.20	19.741		
6,800.00	6,340.68	6,339.68	6,339.68	48.87	127.13	-173.78	-560.62	602.70	3,044.64	2,890.18	154.46	19.711		
6,900.00	6,432.19	6,431.19	6,431.19	49.71	128.97	-173.86	-560.62	602.70	3,084.77	2,928.04	156.72	19.683		
7,000.00	6,523.70	6,522.70	6,522.70	50.55	130.81	-173.94	-560.62	602.70	3,124.90	2,965.91	158.99	19.655		
7,100.00	6,615.21	6,614.21	6,614.21	51.40	132.65	-174.02	-560.62	602.70	3,165.04	3,003.79	161.25	19.628		
7,200.00	6,706.72	6,705.72	6,705.72	52.24	134.49	-174.10	-560.62	602.70	3,205.18	3,041.67	163.52	19.602		
7,300.00	6,798.22	6,802.78	6,797.22	53.08	136.45	-174.17	-560.62	602.70	3,245.33	3,079.44	165.89	19.563 SF		
7,400.00	6,886.25	6,885.25	6,885.25	54.07	138.10	-165.52	-560.62	602.70	3,291.90	3,123.91	167.99	19.595		
7,500.00	6,965.23	6,964.23	6,964.23	55.35	139.69	-158.38	-560.62	602.70	3,351.09	3,181.06	170.03	19.708		
7,600.00	7,032.75	7,031.75	7,031.75	56.90	141.05	-150.82	-560.62	602.70	3,421.21	3,249.39	171.82	19.912		
7,700.00	7,086.77	7,085.77	7,085.77	58.68	142.14	-141.13	-560.62	602.70	3,500.25	3,326.97	173.28	20.200		
7,800.00	7,125.64	7,124.64	7,124.64	60.64	142.92	-127.44	-560.62	602.70	3,585.96	3,411.59	174.37	20.566		
7,900.00	7,148.19	7,147.19	7,147.19	62.69	143.37	-108.35	-560.62	602.70	3,675.84	3,500.80	175.04	21.000		

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 WARBLER 13W-27-03
Project:	ADAMS COUNTY	TVD Reference:	KB 25' @ 5105.00usft
Reference Site:	Sec 13-T1S-R66W	MD Reference:	KB 25' @ 5105.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	WARBLER 13W-27-03	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT_32Bit_ODBC
Reference Design:	PROPOSAL 1	Offset TVD Reference:	Offset Datum

Offset Design Sec 13-T1S-R66W - ABND VERT ROCK 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						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		
8,000.00	7,154.00	7,153.00	7,153.00	64.75	143.49	-90.00	-560.62	602.70	3,767.28	3,591.99	175.29	21.492		
8,100.00	7,154.00	7,153.00	7,153.00	66.83	143.49	-90.00	-560.62	602.70	3,859.02	3,683.63	175.39	22.002		
8,200.00	7,154.00	7,153.00	7,153.00	68.96	143.49	-90.00	-560.62	602.70	3,951.17	3,775.67	175.51	22.513		
8,300.00	7,154.00	7,153.00	7,153.00	71.12	143.49	-90.00	-560.62	602.70	4,043.69	3,868.07	175.62	23.025		
8,400.00	7,154.00	7,153.00	7,153.00	73.32	143.49	-90.00	-560.62	602.70	4,136.56	3,960.81	175.75	23.537		
8,500.00	7,154.00	7,153.00	7,153.00	75.55	143.49	-90.00	-560.62	602.70	4,229.75	4,053.88	175.87	24.050		
8,600.00	7,154.00	7,153.00	7,153.00	77.81	143.49	-90.00	-560.62	602.70	4,323.25	4,147.25	176.00	24.564		
8,700.00	7,154.00	7,153.00	7,153.00	80.10	143.49	-90.00	-560.62	602.70	4,417.03	4,240.90	176.13	25.078		
8,800.00	7,154.00	7,153.00	7,153.00	82.41	143.49	-90.00	-560.62	602.70	4,511.08	4,334.81	176.26	25.593		
8,900.00	7,154.00	7,153.00	7,153.00	84.75	143.49	-90.00	-560.62	602.70	4,605.38	4,428.98	176.40	26.108		
9,000.00	7,154.00	7,153.00	7,153.00	87.11	143.49	-90.00	-560.62	602.70	4,699.91	4,523.38	176.53	26.624		
9,100.00	7,154.00	7,153.00	7,153.00	89.48	143.49	-90.00	-560.62	602.70	4,794.67	4,618.01	176.66	27.140		
9,200.00	7,154.00	7,153.00	7,153.00	91.88	143.49	-90.00	-560.62	602.70	4,889.64	4,712.84	176.80	27.657		
9,300.00	7,154.00	7,153.00	7,153.00	94.29	143.49	-90.00	-560.62	602.70	4,984.80	4,807.87	176.93	28.174		
9,400.00	7,154.00	7,153.00	7,153.00	96.72	143.49	-90.00	-560.62	602.70	5,080.15	4,903.09	177.06	28.691		
9,500.00	7,154.00	7,153.00	7,153.00	99.16	143.49	-90.00	-560.62	602.70	5,175.67	4,998.48	177.19	29.209		
9,600.00	7,154.00	7,153.00	7,153.00	101.61	143.49	-90.00	-560.62	602.70	5,271.36	5,094.04	177.33	29.727		
9,700.00	7,154.00	7,153.00	7,153.00	104.08	143.49	-90.00	-560.62	602.70	5,367.21	5,189.75	177.46	30.245		
9,800.00	7,154.00	7,153.00	7,153.00	106.56	143.49	-90.00	-560.62	602.70	5,463.20	5,285.62	177.59	30.764		
9,900.00	7,154.00	7,153.00	7,153.00	109.05	143.49	-90.00	-560.62	602.70	5,559.34	5,381.63	177.72	31.282		
10,000.00	7,154.00	7,153.00	7,153.00	111.55	143.49	-90.00	-560.62	602.70	5,655.61	5,477.77	177.84	31.801		
10,100.00	7,154.00	7,153.00	7,153.00	114.06	143.49	-90.00	-560.62	602.70	5,752.01	5,574.04	177.97	32.320		
10,200.00	7,154.00	7,153.00	7,153.00	116.57	143.49	-90.00	-560.62	602.70	5,848.53	5,670.44	178.10	32.839		
10,300.00	7,154.00	7,153.00	7,153.00	119.10	143.49	-90.00	-560.62	602.70	5,945.17	5,766.94	178.22	33.358		
10,400.00	7,154.00	7,153.00	7,153.00	121.63	143.49	-90.00	-560.62	602.70	6,041.91	5,863.57	178.35	33.878		
10,500.00	7,154.00	7,153.00	7,153.00	124.17	143.49	-90.00	-560.62	602.70	6,138.76	5,960.29	178.47	34.397		
10,600.00	7,154.00	7,153.00	7,153.00	126.72	143.49	-90.00	-560.62	602.70	6,235.71	6,057.12	178.59	34.916		
10,700.00	7,154.00	7,153.00	7,153.00	129.28	143.49	-90.00	-560.62	602.70	6,332.75	6,154.04	178.71	35.436		
10,800.00	7,154.00	7,153.00	7,153.00	131.84	143.49	-90.00	-560.62	602.70	6,429.88	6,251.05	178.83	35.955		
10,900.00	7,154.00	7,153.00	7,153.00	134.40	143.49	-90.00	-560.62	602.70	6,527.10	6,348.15	178.95	36.475		
11,000.00	7,154.00	7,153.00	7,153.00	136.97	143.49	-90.00	-560.62	602.70	6,624.41	6,445.34	179.07	36.994		
11,100.00	7,154.00	7,153.00	7,153.00	139.55	143.49	-90.00	-560.62	602.70	6,721.79	6,542.61	179.18	37.514		
11,200.00	7,154.00	7,153.00	7,153.00	142.13	143.49	-90.00	-560.62	602.70	6,819.25	6,639.95	179.30	38.033		
11,300.00	7,154.00	7,153.00	7,153.00	144.72	143.49	-90.00	-560.62	602.70	6,916.78	6,737.36	179.41	38.552		
11,400.00	7,154.00	7,153.00	7,153.00	147.30	143.49	-90.00	-560.62	602.70	7,014.38	6,834.85	179.53	39.072		
11,500.00	7,154.00	7,153.00	7,153.00	149.90	143.49	-90.00	-560.62	602.70	7,112.04	6,932.40	179.64	39.591		
11,600.00	7,154.00	7,153.00	7,153.00	152.50	143.49	-90.00	-560.62	602.70	7,209.77	7,030.02	179.75	40.110		
11,700.00	7,154.00	7,153.00	7,153.00	155.10	143.49	-90.00	-560.62	602.70	7,307.56	7,127.70	179.86	40.629		
11,800.00	7,154.00	7,153.00	7,153.00	157.70	143.49	-90.00	-560.62	602.70	7,405.42	7,225.44	179.97	41.148		
11,900.00	7,154.00	7,153.00	7,153.00	160.31	143.49	-90.00	-560.62	602.70	7,503.32	7,323.24	180.08	41.666		
12,000.00	7,154.00	7,153.00	7,153.00	162.92	143.49	-90.00	-560.62	602.70	7,601.29	7,421.10	180.19	42.185		
12,100.00	7,154.00	7,153.00	7,153.00	165.54	143.49	-90.00	-560.62	602.70	7,699.30	7,519.00	180.30	42.703		
12,200.00	7,154.00	7,153.00	7,153.00	168.15	143.49	-90.00	-560.62	602.70	7,797.36	7,616.96	180.40	43.222		
12,300.00	7,154.00	7,153.00	7,153.00	170.77	143.49	-90.00	-560.62	602.70	7,895.48	7,714.97	180.51	43.740		
12,400.00	7,154.00	7,153.00	7,153.00	173.39	143.49	-90.00	-560.62	602.70	7,993.64	7,813.02	180.62	44.258		
12,500.00	7,154.00	7,153.00	7,153.00	176.02	143.49	-90.00	-560.62	602.70	8,091.84	7,911.12	180.72	44.775		
12,600.00	7,154.00	7,153.00	7,153.00	178.65	143.49	-90.00	-560.62	602.70	8,190.09	8,009.27	180.83	45.293		
12,700.00	7,154.00	7,153.00	7,153.00	181.28	143.49	-90.00	-560.62	602.70	8,288.38	8,107.45	180.93	45.810		
12,800.00	7,154.00	7,153.00	7,153.00	183.91	143.49	-90.00	-560.62	602.70	8,386.71	8,205.68	181.03	46.327		
12,900.00	7,154.00	7,153.00	7,153.00	186.54	143.49	-90.00	-560.62	602.70	8,485.08	8,303.95	181.14	46.844		
13,000.00	7,154.00	7,153.00	7,153.00	189.18	143.49	-90.00	-560.62	602.70	8,583.49	8,402.25	181.24	47.360		
13,100.00	7,154.00	7,153.00	7,153.00	191.81	143.49	-90.00	-560.62	602.70	8,681.94	8,500.59	181.34	47.876		

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 WARBLER 13W-27-03
Project:	ADAMS COUNTY	TVD Reference:	KB 25' @ 5105.00usft
Reference Site:	Sec 13-T1S-R66W	MD Reference:	KB 25' @ 5105.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	WARBLER 13W-27-03	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT_32Bit_ODBC
Reference Design:	PROPOSAL 1	Offset TVD Reference:	Offset Datum

Offset Design Sec 13-T1S-R66W - ABND VERT ROCK 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						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	
13,200.00	7,154.00	7,153.00	7,153.00	194.45	143.49	-90.00	-560.62	602.70	8,780.41	8,598.97	181.44	48.392	
13,300.00	7,154.00	7,153.00	7,153.00	197.10	143.49	-90.00	-560.62	602.70	8,878.93	8,697.38	181.54	48.908	
13,400.00	7,154.00	7,153.00	7,153.00	199.74	143.49	-90.00	-560.62	602.70	8,977.47	8,795.83	181.64	49.424	
13,500.00	7,154.00	7,153.00	7,153.00	202.38	143.49	-90.00	-560.62	602.70	9,076.05	8,894.31	181.74	49.939	
13,600.00	7,154.00	7,153.00	7,153.00	205.03	143.49	-90.00	-560.62	602.70	9,174.66	8,992.82	181.84	50.454	
13,700.00	7,154.00	7,153.00	7,153.00	207.68	143.49	-90.00	-560.62	602.70	9,273.30	9,091.36	181.94	50.968	
13,800.00	7,154.00	7,153.00	7,153.00	210.33	143.49	-90.00	-560.62	602.70	9,371.97	9,189.92	182.04	51.482	
13,900.00	7,154.00	7,153.00	7,153.00	212.98	143.49	-90.00	-560.62	602.70	9,470.66	9,288.52	182.14	51.996	
14,000.00	7,154.00	7,153.00	7,153.00	215.63	143.49	-90.00	-560.62	602.70	9,569.38	9,387.14	182.24	52.510	
14,100.00	7,154.00	7,153.00	7,153.00	218.28	143.49	-90.00	-560.62	602.70	9,668.13	9,485.80	182.34	53.023	
14,200.00	7,154.00	7,153.00	7,153.00	220.93	143.49	-90.00	-560.62	602.70	9,766.91	9,584.47	182.43	53.536	
14,300.00	7,154.00	7,153.00	7,153.00	223.59	143.49	-90.00	-560.62	602.70	9,865.71	9,683.17	182.53	54.049	
14,400.00	7,154.00	7,153.00	7,153.00	226.25	143.49	-90.00	-560.62	602.70	9,964.53	9,781.90	182.63	54.561	

Anticollision Report

Company:	EXTRACTION OIL & GAS	Local Co-ordinate Reference:	Well WARBLER 13W-27-03
Project:	ADAMS COUNTY	TVD Reference:	KB 25' @ 5105.00usft
Reference Site:	Sec 13-T1S-R66W	MD Reference:	KB 25' @ 5105.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	WARBLER 13W-27-03	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT_32Bit_ODBC
Reference Design:	PROPOSAL 1	Offset TVD Reference:	Offset Datum

Offset Design Sec 13-T1S-R66W - EXIST VERT JOHN ROCK 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						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		
0.00	0.00	0.00	0.00	0.00	0.00	12.45	2,589.34	571.79	2,652.24					
100.00	100.00	48.00	48.00	0.13	0.63	12.45	2,589.34	571.79	2,651.73	2,650.96	0.77	3,456.873		
200.00	200.00	148.00	148.00	0.49	2.40	12.45	2,589.34	571.79	2,651.73	2,648.83	2.90	915.133		
300.00	300.00	248.00	248.00	0.85	4.58	12.45	2,589.34	571.79	2,651.73	2,646.30	5.43	488.365		
400.00	400.00	348.00	348.00	1.21	6.64	12.45	2,589.34	571.79	2,651.73	2,643.88	7.85	337.900		
500.00	500.00	448.00	448.00	1.57	8.67	12.45	2,589.34	571.79	2,651.73	2,641.48	10.24	258.919		
600.00	600.00	548.00	548.00	1.93	10.70	12.45	2,589.34	571.79	2,651.73	2,639.10	12.63	210.024		
700.00	699.98	647.98	647.98	2.28	12.72	81.09	2,589.34	571.79	2,651.46	2,636.46	15.00	176.762		
800.00	799.84	747.84	747.84	2.63	14.73	81.22	2,589.34	571.79	2,650.65	2,633.28	17.37	152.609		
900.00	899.45	847.45	847.45	3.00	16.74	81.43	2,589.34	571.79	2,649.33	2,629.59	19.74	134.213		
1,000.00	998.70	946.70	946.70	3.37	18.74	81.72	2,589.34	571.79	2,647.53	2,625.42	22.12	119.715		
1,100.00	1,097.47	1,045.47	1,045.47	3.77	20.73	82.10	2,589.34	571.79	2,645.30	2,620.80	24.50	107.976		
1,200.00	1,195.62	1,143.62	1,143.62	4.19	22.71	82.55	2,589.34	571.79	2,642.71	2,615.81	26.89	98.261		
1,300.00	1,293.06	1,241.06	1,241.06	4.64	24.67	83.08	2,589.34	571.79	2,639.82	2,610.51	29.31	90.075		
1,400.00	1,389.64	1,337.64	1,337.64	5.12	26.62	83.68	2,589.34	571.79	2,636.74	2,605.00	31.74	83.075		
1,500.00	1,485.27	1,433.27	1,433.27	5.66	28.54	84.35	2,589.34	571.79	2,633.55	2,599.35	34.20	77.014		
1,600.00	1,579.82	1,527.82	1,527.82	6.24	30.44	85.08	2,589.34	571.79	2,630.38	2,593.70	36.68	71.711		
1,700.00	1,673.17	1,621.17	1,621.17	6.88	32.32	85.87	2,589.34	571.79	2,627.36	2,588.16	39.20	67.031		
1,800.00	1,765.22	1,713.22	1,713.22	7.57	34.17	86.70	2,589.34	571.79	2,624.61	2,582.87	41.74	62.874		
1,900.00	1,856.73	1,804.73	1,804.73	8.31	36.02	87.51	2,589.34	571.79	2,622.38	2,578.06	44.32	59.167		
2,000.00	1,948.24	1,903.76	1,896.24	9.06	38.01	88.31	2,589.34	571.79	2,620.78	2,573.71	47.07	55.680		
2,100.00	2,039.75	1,987.75	1,987.75	9.83	39.70	89.12	2,589.34	571.79	2,619.79	2,570.26	49.53	52.896		
2,200.00	2,131.26	2,079.26	2,079.26	10.61	41.54	89.93	2,589.34	571.79	2,619.42	2,567.27	52.15	50.231		
2,209.23	2,139.71	2,087.71	2,087.71	10.68	41.71	90.00	2,589.34	571.79	2,619.42	2,567.03	52.39	49.998 CC		
2,300.00	2,222.77	2,170.77	2,170.77	11.40	43.38	90.73	2,589.34	571.79	2,619.67	2,564.90	54.78	47.826		
2,400.00	2,314.28	2,262.28	2,262.28	12.20	45.22	91.54	2,589.34	571.79	2,620.55	2,563.14	57.41	45.647		
2,500.00	2,405.79	2,353.79	2,353.79	13.00	47.06	92.35	2,589.34	571.79	2,622.04	2,561.99	60.05	43.667		
2,600.00	2,497.30	2,445.30	2,445.30	13.81	48.90	93.15	2,589.34	571.79	2,624.15	2,561.47	62.69	41.862 ES		
2,700.00	2,588.81	2,536.81	2,536.81	14.62	50.74	93.95	2,589.34	571.79	2,626.88	2,561.56	65.33	40.212		
2,800.00	2,680.31	2,628.31	2,628.31	15.44	52.58	94.76	2,589.34	571.79	2,630.23	2,562.26	67.97	38.699		
2,900.00	2,771.82	2,719.82	2,719.82	16.25	54.42	95.56	2,589.34	571.79	2,634.19	2,563.58	70.60	37.309		
3,000.00	2,863.33	2,811.33	2,811.33	17.08	56.26	96.36	2,589.34	571.79	2,638.76	2,565.51	73.24	36.028		
3,100.00	2,954.84	2,902.84	2,902.84	17.90	58.10	97.15	2,589.34	571.79	2,643.93	2,568.06	75.88	34.845		
3,200.00	3,046.35	3,005.65	2,994.35	18.72	60.17	97.95	2,589.34	571.79	2,649.71	2,570.98	78.73	33.654		
3,300.00	3,137.86	3,085.86	3,085.86	19.55	61.79	98.74	2,589.34	571.79	2,656.09	2,574.96	81.13	32.737		
3,400.00	3,229.37	3,177.37	3,177.37	20.38	63.63	99.52	2,589.34	571.79	2,663.07	2,579.31	83.76	31.795		
3,500.00	3,320.88	3,268.88	3,268.88	21.21	65.47	100.31	2,589.34	571.79	2,670.63	2,584.25	86.38	30.919		
3,600.00	3,412.39	3,360.39	3,360.39	22.04	67.31	101.09	2,589.34	571.79	2,678.78	2,589.79	88.99	30.102		
3,700.00	3,503.90	3,451.90	3,451.90	22.87	69.15	101.86	2,589.34	571.79	2,687.51	2,595.92	91.60	29.341		
3,800.00	3,595.41	3,543.41	3,543.41	23.70	70.99	102.63	2,589.34	571.79	2,696.82	2,602.62	94.20	28.629		
3,900.00	3,686.91	3,634.91	3,634.91	24.54	72.83	103.40	2,589.34	571.79	2,706.69	2,609.90	96.79	27.964		
4,000.00	3,778.42	3,726.42	3,726.42	25.37	74.67	104.16	2,589.34	571.79	2,717.13	2,617.75	99.38	27.341		
4,100.00	3,869.93	3,817.93	3,817.93	26.20	76.51	104.92	2,589.34	571.79	2,728.13	2,626.17	101.96	26.756		
4,200.00	3,961.44	3,909.44	3,909.44	27.04	78.35	105.67	2,589.34	571.79	2,739.67	2,635.13	104.54	26.208		
4,300.00	4,052.95	4,000.95	4,000.95	27.88	80.19	106.41	2,589.34	571.79	2,751.76	2,644.65	107.10	25.693		
4,400.00	4,144.46	4,107.54	4,092.46	28.71	82.33	107.15	2,589.34	571.79	2,764.38	2,654.41	109.97	25.139		
4,500.00	4,235.97	4,183.97	4,183.97	29.55	83.87	107.89	2,589.34	571.79	2,777.53	2,665.31	112.21	24.752		
4,600.00	4,327.48	4,275.48	4,275.48	30.39	85.71	108.61	2,589.34	571.79	2,791.20	2,676.44	114.76	24.323		
4,700.00	4,418.99	4,366.99	4,366.99	31.22	87.55	109.34	2,589.34	571.79	2,805.38	2,688.09	117.29	23.918		
4,800.00	4,510.50	4,458.50	4,458.50	32.06	89.39	110.05	2,589.34	571.79	2,820.07	2,700.25	119.82	23.536		
4,900.00	4,602.01	4,550.01	4,550.01	32.90	91.23	110.76	2,589.34	571.79	2,835.25	2,712.91	122.34	23.175		
5,000.00	4,693.51	4,641.51	4,641.51	33.74	93.07	111.46	2,589.34	571.79	2,850.93	2,726.08	124.85	22.834		

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 WARBLER 13W-27-03
Project:	ADAMS COUNTY	TVD Reference:	KB 25' @ 5105.00usft
Reference Site:	Sec 13-T1S-R66W	MD Reference:	KB 25' @ 5105.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	WARBLER 13W-27-03	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT_32Bit_ODBC
Reference Design:	PROPOSAL 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-INC													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		
5,100.00	4,785.02	4,733.02	4,733.02	34.58	94.91	112.16	2,589.34	571.79	2,867.09	2,739.73	127.36	22.512		
5,200.00	4,876.53	4,824.53	4,824.53	35.42	96.75	112.85	2,589.34	571.79	2,883.72	2,753.86	129.85	22.208		
5,300.00	4,968.04	4,916.04	4,916.04	36.26	98.59	113.53	2,589.34	571.79	2,900.81	2,768.47	132.34	21.919		
5,400.00	5,059.55	5,007.55	5,007.55	37.10	100.43	114.20	2,589.34	571.79	2,918.37	2,783.55	134.82	21.646		
5,500.00	5,151.06	5,100.94	5,099.06	37.94	102.31	114.87	2,589.34	571.79	2,936.37	2,799.04	137.33	21.382		
5,600.00	5,242.57	5,209.43	5,190.57	38.78	104.49	115.53	2,589.34	571.79	2,954.81	2,814.68	140.14	21.085		
5,700.00	5,334.08	5,282.08	5,282.08	39.62	105.95	116.19	2,589.34	571.79	2,973.69	2,831.47	142.21	20.910		
5,800.00	5,425.59	5,373.59	5,373.59	40.46	107.80	116.83	2,589.34	571.79	2,992.98	2,848.32	144.66	20.690		
5,900.00	5,517.10	5,465.10	5,465.10	41.30	109.64	117.47	2,589.34	571.79	3,012.70	2,865.60	147.10	20.480		
6,000.00	5,608.61	5,556.61	5,556.61	42.14	111.48	118.10	2,589.34	571.79	3,032.82	2,883.29	149.53	20.282		
6,100.00	5,700.12	5,648.12	5,648.12	42.98	113.32	118.73	2,589.34	571.79	3,053.35	2,901.39	151.96	20.093		
6,200.00	5,791.62	5,739.62	5,739.62	43.82	115.16	119.34	2,589.34	571.79	3,074.26	2,919.88	154.38	19.914		
6,300.00	5,883.13	5,831.13	5,831.13	44.66	117.00	119.95	2,589.34	571.79	3,095.56	2,938.77	156.79	19.744		
6,400.00	5,974.64	5,922.64	5,922.64	45.50	118.84	120.56	2,589.34	571.79	3,117.24	2,958.04	159.19	19.582		
6,500.00	6,066.15	6,014.15	6,014.15	46.35	120.68	121.15	2,589.34	571.79	3,139.28	2,977.69	161.59	19.428		
6,600.00	6,157.66	6,105.66	6,105.66	47.19	122.52	121.74	2,589.34	571.79	3,161.68	2,997.70	163.98	19.281		
6,700.00	6,249.17	6,202.83	6,197.17	48.03	124.47	122.32	2,589.34	571.79	3,184.44	3,017.96	166.48	19.128		
6,800.00	6,340.68	6,288.68	6,288.68	48.87	126.20	122.89	2,589.34	571.79	3,207.54	3,038.80	168.74	19.009		
6,900.00	6,432.19	6,380.19	6,380.19	49.71	128.04	123.46	2,589.34	571.79	3,230.99	3,059.87	171.11	18.882		
7,000.00	6,523.70	6,471.70	6,471.70	50.55	129.88	124.02	2,589.34	571.79	3,254.76	3,081.28	173.48	18.762		
7,100.00	6,615.21	6,563.21	6,563.21	51.40	131.72	124.57	2,589.34	571.79	3,278.85	3,103.02	175.83	18.647		
7,200.00	6,706.72	6,654.72	6,654.72	52.24	133.56	125.11	2,589.34	571.79	3,303.26	3,125.08	178.19	18.538		
7,300.00	6,798.22	6,746.22	6,746.22	53.08	135.40	125.65	2,589.34	571.79	3,327.99	3,147.45	180.53	18.434		
7,400.00	6,886.25	6,834.25	6,834.25	54.07	137.17	130.71	2,589.34	571.79	3,359.75	3,176.90	182.86	18.373 SF		
7,500.00	6,965.23	6,913.23	6,913.23	55.35	138.76	131.96	2,589.34	571.79	3,405.50	3,220.40	185.09	18.399		
7,600.00	7,032.75	6,980.75	6,980.75	56.90	140.12	130.45	2,589.34	571.79	3,464.00	3,276.85	187.15	18.510		
7,700.00	7,086.77	7,034.77	7,034.77	58.68	141.20	126.14	2,589.34	571.79	3,533.61	3,344.67	188.94	18.702		
7,800.00	7,125.64	7,073.64	7,073.64	60.64	141.98	118.18	2,589.34	571.79	3,612.27	3,421.88	190.39	18.973		
7,900.00	7,148.19	7,103.81	7,096.19	62.69	142.59	105.14	2,589.34	571.79	3,697.59	3,505.99	191.60	19.298		
8,000.00	7,154.00	7,102.00	7,102.00	64.75	142.55	90.00	2,589.34	571.79	3,786.90	3,594.83	192.07	19.716		
8,100.00	7,154.00	7,102.00	7,102.00	66.83	142.55	90.00	2,589.34	571.79	3,877.36	3,684.83	192.53	20.139		
8,200.00	7,154.00	7,102.00	7,102.00	68.96	142.55	90.00	2,589.34	571.79	3,968.29	3,775.32	192.97	20.564		
8,300.00	7,154.00	7,102.00	7,102.00	71.12	142.55	90.00	2,589.34	571.79	4,059.63	3,866.24	193.39	20.992		
8,400.00	7,154.00	7,102.00	7,102.00	73.32	142.55	90.00	2,589.34	571.79	4,151.38	3,957.58	193.80	21.421		
8,500.00	7,154.00	7,102.00	7,102.00	75.55	142.55	90.00	2,589.34	571.79	4,243.50	4,049.31	194.19	21.852		
8,600.00	7,154.00	7,102.00	7,102.00	77.81	142.55	90.00	2,589.34	571.79	4,335.97	4,141.40	194.57	22.285		
8,700.00	7,154.00	7,102.00	7,102.00	80.10	142.55	90.00	2,589.34	571.79	4,428.77	4,233.83	194.94	22.719		
8,800.00	7,154.00	7,102.00	7,102.00	82.41	142.55	90.00	2,589.34	571.79	4,521.87	4,326.58	195.29	23.155		
8,900.00	7,154.00	7,102.00	7,102.00	84.75	142.55	90.00	2,589.34	571.79	4,615.26	4,419.64	195.63	23.592		
9,000.00	7,154.00	7,102.00	7,102.00	87.11	142.55	90.00	2,589.34	571.79	4,708.93	4,512.97	195.95	24.031		
9,100.00	7,154.00	7,102.00	7,102.00	89.48	142.55	90.00	2,589.34	571.79	4,802.85	4,606.58	196.27	24.471		
9,200.00	7,154.00	7,102.00	7,102.00	91.88	142.55	90.00	2,589.34	571.79	4,897.01	4,700.43	196.58	24.912		
9,300.00	7,154.00	7,102.00	7,102.00	94.29	142.55	90.00	2,589.34	571.79	4,991.39	4,794.52	196.87	25.354		
9,400.00	7,154.00	7,102.00	7,102.00	96.72	142.55	90.00	2,589.34	571.79	5,085.99	4,888.84	197.16	25.797		
9,500.00	7,154.00	7,102.00	7,102.00	99.16	142.55	90.00	2,589.34	571.79	5,180.80	4,983.37	197.43	26.241		
9,600.00	7,154.00	7,102.00	7,102.00	101.61	142.55	90.00	2,589.34	571.79	5,275.79	5,078.10	197.70	26.686		
9,700.00	7,154.00	7,102.00	7,102.00	104.08	142.55	90.00	2,589.34	571.79	5,370.97	5,173.02	197.96	27.132		
9,800.00	7,154.00	7,102.00	7,102.00	106.56	142.55	90.00	2,589.34	571.79	5,466.32	5,268.11	198.21	27.579		
9,900.00	7,154.00	7,102.00	7,102.00	109.05	142.55	90.00	2,589.34	571.79	5,561.84	5,363.38	198.45	28.026		
10,000.00	7,154.00	7,102.00	7,102.00	111.55	142.55	90.00	2,589.34	571.79	5,657.50	5,458.82	198.69	28.474		
10,100.00	7,154.00	7,102.00	7,102.00	114.06	142.55	90.00	2,589.34	571.79	5,753.32	5,554.40	198.92	28.923		
10,200.00	7,154.00	7,102.00	7,102.00	116.57	142.55	90.00	2,589.34	571.79	5,849.28	5,650.14	199.14	29.373		

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 WARBLER 13W-27-03
Project:	ADAMS COUNTY	TVD Reference:	KB 25' @ 5105.00usft
Reference Site:	Sec 13-T1S-R66W	MD Reference:	KB 25' @ 5105.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	WARBLER 13W-27-03	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT_32Bit_ODBC
Reference Design:	PROPOSAL 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-INC													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		
10,300.00	7,154.00	7,102.00	7,102.00	119.10	142.55	90.00	2,589.34	571.79	5,945.37	5,746.01	199.35	29.823		
10,400.00	7,154.00	7,102.00	7,102.00	121.63	142.55	90.00	2,589.34	571.79	6,041.58	5,842.02	199.57	30.274		
10,500.00	7,154.00	7,102.00	7,102.00	124.17	142.55	90.00	2,589.34	571.79	6,137.92	5,938.15	199.77	30.725		
10,600.00	7,154.00	7,102.00	7,102.00	126.72	142.55	90.00	2,589.34	571.79	6,234.37	6,034.40	199.97	31.177		
10,700.00	7,154.00	7,102.00	7,102.00	129.28	142.55	90.00	2,589.34	571.79	6,330.93	6,130.77	200.16	31.629		
10,800.00	7,154.00	7,102.00	7,102.00	131.84	142.55	90.00	2,589.34	571.79	6,427.60	6,227.25	200.35	32.081		
10,900.00	7,154.00	7,102.00	7,102.00	134.40	142.55	90.00	2,589.34	571.79	6,524.37	6,323.83	200.54	32.535		
11,000.00	7,154.00	7,102.00	7,102.00	136.97	142.55	90.00	2,589.34	571.79	6,621.23	6,420.52	200.72	32.988		
11,100.00	7,154.00	7,102.00	7,102.00	139.55	142.55	90.00	2,589.34	571.79	6,718.19	6,517.30	200.89	33.442		
11,200.00	7,154.00	7,102.00	7,102.00	142.13	142.55	90.00	2,589.34	571.79	6,815.23	6,614.17	201.06	33.896		
11,300.00	7,154.00	7,102.00	7,102.00	144.72	142.55	90.00	2,589.34	571.79	6,912.36	6,711.13	201.23	34.350		
11,400.00	7,154.00	7,102.00	7,102.00	147.30	142.55	90.00	2,589.34	571.79	7,009.57	6,808.18	201.40	34.805		
11,500.00	7,154.00	7,102.00	7,102.00	149.90	142.55	90.00	2,589.34	571.79	7,106.86	6,905.30	201.56	35.260		
11,600.00	7,154.00	7,102.00	7,102.00	152.50	142.55	90.00	2,589.34	571.79	7,204.22	7,002.51	201.71	35.715		
11,700.00	7,154.00	7,102.00	7,102.00	155.10	142.55	90.00	2,589.34	571.79	7,301.65	7,099.78	201.87	36.171		
11,800.00	7,154.00	7,102.00	7,102.00	157.70	142.55	90.00	2,589.34	571.79	7,399.15	7,197.13	202.02	36.626		
11,900.00	7,154.00	7,102.00	7,102.00	160.31	142.55	90.00	2,589.34	571.79	7,496.72	7,294.55	202.16	37.082		
12,000.00	7,154.00	7,102.00	7,102.00	162.92	142.55	90.00	2,589.34	571.79	7,594.35	7,392.04	202.31	37.538		
12,100.00	7,154.00	7,102.00	7,102.00	165.54	142.55	90.00	2,589.34	571.79	7,692.04	7,489.59	202.45	37.995		
12,200.00	7,154.00	7,102.00	7,102.00	168.15	142.55	90.00	2,589.34	571.79	7,789.79	7,587.20	202.59	38.451		
12,300.00	7,154.00	7,102.00	7,102.00	170.77	142.55	90.00	2,589.34	571.79	7,887.59	7,684.87	202.73	38.907		
12,400.00	7,154.00	7,102.00	7,102.00	173.39	142.55	90.00	2,589.34	571.79	7,985.45	7,782.59	202.86	39.364		
12,500.00	7,154.00	7,102.00	7,102.00	176.02	142.55	90.00	2,589.34	571.79	8,083.37	7,880.37	202.99	39.821		
12,600.00	7,154.00	7,102.00	7,102.00	178.65	142.55	90.00	2,589.34	571.79	8,181.33	7,978.21	203.12	40.278		
12,700.00	7,154.00	7,102.00	7,102.00	181.28	142.55	90.00	2,589.34	571.79	8,279.34	8,076.09	203.25	40.735		
12,800.00	7,154.00	7,102.00	7,102.00	183.91	142.55	90.00	2,589.34	571.79	8,377.40	8,174.02	203.38	41.192		
12,900.00	7,154.00	7,102.00	7,102.00	186.54	142.55	90.00	2,589.34	571.79	8,475.50	8,272.00	203.50	41.649		
13,000.00	7,154.00	7,102.00	7,102.00	189.18	142.55	90.00	2,589.34	571.79	8,573.65	8,370.03	203.62	42.106		
13,100.00	7,154.00	7,102.00	7,102.00	191.81	142.55	90.00	2,589.34	571.79	8,671.84	8,468.10	203.74	42.563		
13,200.00	7,154.00	7,102.00	7,102.00	194.45	142.55	90.00	2,589.34	571.79	8,770.07	8,566.21	203.86	43.020		
13,300.00	7,154.00	7,102.00	7,102.00	197.10	142.55	90.00	2,589.34	571.79	8,868.34	8,664.37	203.98	43.477		
13,400.00	7,154.00	7,102.00	7,102.00	199.74	142.55	90.00	2,589.34	571.79	8,966.65	8,762.56	204.09	43.935		
13,500.00	7,154.00	7,102.00	7,102.00	202.38	142.55	90.00	2,589.34	571.79	9,065.00	8,860.79	204.20	44.392		
13,600.00	7,154.00	7,102.00	7,102.00	205.03	142.55	90.00	2,589.34	571.79	9,163.38	8,959.06	204.32	44.849		
13,700.00	7,154.00	7,102.00	7,102.00	207.68	142.55	90.00	2,589.34	571.79	9,261.79	9,057.37	204.43	45.306		
13,800.00	7,154.00	7,102.00	7,102.00	210.33	142.55	90.00	2,589.34	571.79	9,360.24	9,155.71	204.54	45.763		
13,900.00	7,154.00	7,102.00	7,102.00	212.98	142.55	90.00	2,589.34	571.79	9,458.73	9,254.08	204.64	46.220		
14,000.00	7,154.00	7,102.00	7,102.00	215.63	142.55	90.00	2,589.34	571.79	9,557.24	9,352.49	204.75	46.678		
14,100.00	7,154.00	7,102.00	7,102.00	218.28	142.55	90.00	2,589.34	571.79	9,655.79	9,450.93	204.86	47.135		
14,200.00	7,154.00	7,102.00	7,102.00	220.93	142.55	90.00	2,589.34	571.79	9,754.36	9,549.40	204.96	47.592		
14,300.00	7,154.00	7,102.00	7,102.00	223.59	142.55	90.00	2,589.34	571.79	9,852.96	9,647.90	205.06	48.049		
14,400.00	7,154.00	7,102.00	7,102.00	226.25	142.55	90.00	2,589.34	571.79	9,951.59	9,746.43	205.16	48.505		

Anticollision Report

Company:	EXTRACTION OIL & GAS	Local Co-ordinate Reference:	Well WARBLER 13W-27-03
Project:	ADAMS COUNTY	TVD Reference:	KB 25' @ 5105.00usft
Reference Site:	Sec 13-T1S-R66W	MD Reference:	KB 25' @ 5105.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	WARBLER 13W-27-03	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT_32Bit_ODBC
Reference Design:	PROPOSAL 1	Offset TVD Reference:	Offset Datum

Offset Design Sec 13-T1S-R66W - EXIST VERT PETE ROCK 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						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		
0.00	0.00	0.00	0.00	0.00	0.00	-96.84	-247.25	-2,062.62	2,077.71					
100.00	100.00	63.00	63.00	0.13	0.75	-96.84	-247.25	-2,062.62	2,077.38	2,076.50	0.89	2,335.959		
200.00	200.00	163.00	163.00	0.49	2.64	-96.84	-247.25	-2,062.62	2,077.38	2,074.25	3.13	662.938		
300.00	300.00	263.00	263.00	0.85	4.80	-96.84	-247.25	-2,062.62	2,077.38	2,071.74	5.65	367.771		
400.00	400.00	363.00	363.00	1.21	6.85	-96.84	-247.25	-2,062.62	2,077.38	2,069.32	8.06	257.656		
500.00	500.00	463.00	463.00	1.57	8.89	-96.84	-247.25	-2,062.62	2,077.38	2,066.93	10.46	198.698		
600.00	600.00	563.00	563.00	1.93	10.91	-96.84	-247.25	-2,062.62	2,077.38	2,064.55	12.84	161.808		
700.00	699.98	662.98	662.98	2.28	12.93	-28.28	-247.25	-2,062.62	2,075.85	2,060.64	15.21	136.460		
800.00	799.84	762.84	762.84	2.63	14.95	-28.39	-247.25	-2,062.62	2,071.24	2,053.66	17.58	117.821		
900.00	899.45	862.45	862.45	3.00	16.96	-28.58	-247.25	-2,062.62	2,063.57	2,043.63	19.94	103.467		
1,000.00	998.70	961.70	961.70	3.37	18.96	-28.85	-247.25	-2,062.62	2,052.87	2,030.56	22.30	92.037		
1,100.00	1,097.47	1,060.47	1,060.47	3.77	20.94	-29.19	-247.25	-2,062.62	2,039.15	2,014.49	24.66	82.688		
1,200.00	1,195.62	1,158.62	1,158.62	4.19	22.92	-29.62	-247.25	-2,062.62	2,022.45	1,995.44	27.01	74.875		
1,300.00	1,293.06	1,256.06	1,256.06	4.64	24.88	-30.14	-247.25	-2,062.62	2,002.82	1,973.47	29.36	68.224		
1,400.00	1,389.64	1,352.64	1,352.64	5.12	26.83	-30.75	-247.25	-2,062.62	1,980.31	1,948.62	31.70	62.477		
1,500.00	1,485.27	1,448.27	1,448.27	5.66	28.75	-31.45	-247.25	-2,062.62	1,954.99	1,920.96	34.03	57.444		
1,600.00	1,579.82	1,542.82	1,542.82	6.24	30.65	-32.26	-247.25	-2,062.62	1,926.92	1,890.55	36.37	52.987		
1,700.00	1,673.17	1,636.17	1,636.17	6.88	32.53	-33.18	-247.25	-2,062.62	1,896.18	1,857.49	38.70	49.000		
1,800.00	1,765.22	1,728.22	1,728.22	7.57	34.39	-34.17	-247.25	-2,062.62	1,862.90	1,821.87	41.03	45.400		
1,900.00	1,856.73	1,819.73	1,819.73	8.31	36.23	-34.86	-247.25	-2,062.62	1,828.77	1,785.40	43.37	42.164		
2,000.00	1,948.24	1,911.24	1,911.24	9.06	38.07	-35.58	-247.25	-2,062.62	1,794.90	1,749.16	45.73	39.246		
2,100.00	2,039.75	2,002.75	2,002.75	9.83	39.91	-36.32	-247.25	-2,062.62	1,761.29	1,713.18	48.11	36.606		
2,200.00	2,131.26	2,105.74	2,094.26	10.61	41.98	-37.08	-247.25	-2,062.62	1,727.98	1,677.23	50.75	34.052		
2,300.00	2,222.77	2,185.77	2,185.77	11.40	43.59	-37.88	-247.25	-2,062.62	1,694.97	1,642.04	52.93	32.021		
2,400.00	2,314.28	2,277.28	2,277.28	12.20	45.43	-38.71	-247.25	-2,062.62	1,662.29	1,606.91	55.37	30.020		
2,500.00	2,405.79	2,368.79	2,368.79	13.00	47.27	-39.56	-247.25	-2,062.62	1,629.94	1,572.11	57.83	28.186		
2,600.00	2,497.30	2,460.30	2,460.30	13.81	49.11	-40.45	-247.25	-2,062.62	1,597.96	1,537.66	60.30	26.498		
2,700.00	2,588.81	2,551.81	2,551.81	14.62	50.95	-41.37	-247.25	-2,062.62	1,566.36	1,503.57	62.80	24.942		
2,800.00	2,680.31	2,643.31	2,643.31	15.44	52.79	-42.33	-247.25	-2,062.62	1,535.18	1,469.86	65.31	23.505		
2,900.00	2,771.82	2,734.82	2,734.82	16.25	54.63	-43.33	-247.25	-2,062.62	1,504.42	1,436.58	67.85	22.173		
3,000.00	2,863.33	2,826.33	2,826.33	17.08	56.48	-44.36	-247.25	-2,062.62	1,474.13	1,403.73	70.40	20.938		
3,100.00	2,954.84	2,917.84	2,917.84	17.90	58.32	-45.43	-247.25	-2,062.62	1,444.33	1,371.35	72.98	19.790		
3,200.00	3,046.35	3,009.35	3,009.35	18.72	60.16	-46.54	-247.25	-2,062.62	1,415.06	1,339.47	75.58	18.722		
3,300.00	3,137.86	3,100.86	3,100.86	19.55	62.00	-47.70	-247.25	-2,062.62	1,386.33	1,308.13	78.20	17.727		
3,400.00	3,229.37	3,207.63	3,192.37	20.38	64.14	-48.90	-247.25	-2,062.62	1,358.20	1,277.04	81.15	16.736		
3,500.00	3,320.88	3,283.88	3,283.88	21.21	65.68	-50.14	-247.25	-2,062.62	1,330.69	1,247.17	83.52	15.933		
3,600.00	3,412.39	3,375.39	3,375.39	22.04	67.52	-51.43	-247.25	-2,062.62	1,303.85	1,217.64	86.21	15.124		
3,700.00	3,503.90	3,466.90	3,466.90	22.87	69.36	-52.77	-247.25	-2,062.62	1,277.72	1,188.80	88.92	14.369		
3,800.00	3,595.41	3,558.41	3,558.41	23.70	71.20	-54.16	-247.25	-2,062.62	1,252.34	1,160.68	91.66	13.662		
3,900.00	3,686.91	3,649.91	3,649.91	24.54	73.04	-55.60	-247.25	-2,062.62	1,227.77	1,133.34	94.43	13.002		
4,000.00	3,778.42	3,741.42	3,741.42	25.37	74.88	-57.09	-247.25	-2,062.62	1,204.04	1,106.82	97.21	12.385		
4,100.00	3,869.93	3,832.93	3,832.93	26.20	76.72	-58.63	-247.25	-2,062.62	1,181.21	1,081.19	100.02	11.809		
4,200.00	3,961.44	3,924.44	3,924.44	27.04	78.56	-60.22	-247.25	-2,062.62	1,159.34	1,056.48	102.85	11.272		
4,300.00	4,052.95	4,015.95	4,015.95	27.88	80.40	-61.87	-247.25	-2,062.62	1,138.47	1,032.77	105.70	10.770		
4,400.00	4,144.46	4,107.46	4,107.46	28.71	82.24	-63.57	-247.25	-2,062.62	1,118.67	1,010.10	108.57	10.303		
4,500.00	4,235.97	4,201.03	4,198.97	29.55	84.12	-65.32	-247.25	-2,062.62	1,099.99	988.49	111.50	9.866		
4,600.00	4,327.48	4,309.52	4,290.48	30.39	86.31	-67.12	-247.25	-2,062.62	1,082.49	967.76	114.73	9.435		
4,700.00	4,418.99	4,381.99	4,381.99	31.22	87.76	-68.97	-247.25	-2,062.62	1,066.24	948.98	117.26	9.093		
4,800.00	4,510.50	4,473.50	4,473.50	32.06	89.60	-70.87	-247.25	-2,062.62	1,051.27	931.11	120.17	8.748		
4,900.00	4,602.01	4,565.01	4,565.01	32.90	91.44	-72.81	-247.25	-2,062.62	1,037.66	914.58	123.08	8.431		
5,000.00	4,693.51	4,656.51	4,656.51	33.74	93.28	-74.79	-247.25	-2,062.62	1,025.46	899.47	125.98	8.140		
5,100.00	4,785.02	4,748.02	4,748.02	34.58	95.12	-76.81	-247.25	-2,062.62	1,014.71	885.83	128.88	7.873		

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 WARBLER 13W-27-03
Project:	ADAMS COUNTY	TVD Reference:	KB 25' @ 5105.00usft
Reference Site:	Sec 13-T1S-R66W	MD Reference:	KB 25' @ 5105.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	WARBLER 13W-27-03	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT_32Bit_ODBC
Reference Design:	PROPOSAL 1	Offset TVD Reference:	Offset Datum

Offset Design Sec 13-T1S-R66W - EXIST VERT PETE ROCK 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						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		
5,200.00	4,876.53	4,839.53	4,839.53	35.42	96.96	-78.87	-247.25	-2,062.62	1,005.46	873.70	131.77	7.631		
5,300.00	4,968.04	4,931.04	4,931.04	36.26	98.80	-80.95	-247.25	-2,062.62	997.77	863.14	134.63	7.411		
5,400.00	5,059.55	5,022.55	5,022.55	37.10	100.65	-83.06	-247.25	-2,062.62	991.65	854.18	137.47	7.214		
5,500.00	5,151.06	5,114.06	5,114.06	37.94	102.49	-85.19	-247.25	-2,062.62	987.14	846.87	140.27	7.037		
5,600.00	5,242.57	5,205.57	5,205.57	38.78	104.33	-87.33	-247.25	-2,062.62	984.27	841.22	143.04	6.881		
5,700.00	5,334.08	5,302.92	5,297.08	39.62	106.28	-89.48	-247.25	-2,062.62	983.04	837.15	145.89	6.738		
5,724.25	5,356.27	5,319.27	5,319.27	39.82	106.61	-90.00	-247.25	-2,062.62	982.99	836.56	146.43	6.713 CC		
5,800.00	5,425.59	5,388.59	5,388.59	40.46	108.01	-91.63	-247.25	-2,062.62	983.46	835.00	148.46	6.624		
5,900.00	5,517.10	5,480.10	5,480.10	41.30	109.85	-93.77	-247.25	-2,062.62	985.54	834.44	151.10	6.522 ES		
6,000.00	5,608.61	5,571.61	5,571.61	42.14	111.69	-95.91	-247.25	-2,062.62	989.26	835.57	153.69	6.437		
6,100.00	5,700.12	5,663.12	5,663.12	42.98	113.53	-98.03	-247.25	-2,062.62	994.60	838.37	156.23	6.366		
6,200.00	5,791.62	5,754.62	5,754.62	43.82	115.37	-100.13	-247.25	-2,062.62	1,001.53	842.82	158.72	6.310		
6,300.00	5,883.13	5,846.13	5,846.13	44.66	117.21	-102.20	-247.25	-2,062.62	1,010.03	848.88	161.15	6.268		
6,400.00	5,974.64	5,937.64	5,937.64	45.50	119.05	-104.23	-247.25	-2,062.62	1,020.06	856.52	163.54	6.237		
6,500.00	6,066.15	6,029.15	6,029.15	46.35	120.89	-106.24	-247.25	-2,062.62	1,031.56	865.69	165.88	6.219		
6,600.00	6,157.66	6,120.66	6,120.66	47.19	122.73	-108.20	-247.25	-2,062.62	1,044.50	876.33	168.17	6.211 SF		
6,700.00	6,249.17	6,212.17	6,212.17	48.03	124.57	-110.12	-247.25	-2,062.62	1,058.81	888.40	170.42	6.213		
6,800.00	6,340.68	6,303.68	6,303.68	48.87	126.41	-111.99	-247.25	-2,062.62	1,074.45	901.83	172.62	6.224		
6,900.00	6,432.19	6,404.81	6,395.19	49.71	128.44	-113.82	-247.25	-2,062.62	1,091.35	916.36	174.99	6.237		
7,000.00	6,523.70	6,486.70	6,486.70	50.55	130.09	-115.59	-247.25	-2,062.62	1,109.47	932.53	176.93	6.271		
7,100.00	6,615.21	6,578.21	6,578.21	51.40	131.93	-117.31	-247.25	-2,062.62	1,128.73	949.69	179.04	6.304		
7,200.00	6,706.72	6,669.72	6,669.72	52.24	133.77	-118.99	-247.25	-2,062.62	1,149.09	967.96	181.13	6.344		
7,300.00	6,798.22	6,761.22	6,761.22	53.08	135.61	-120.61	-247.25	-2,062.62	1,170.48	987.29	183.18	6.390		
7,400.00	6,886.25	6,849.25	6,849.25	54.07	137.38	-113.90	-247.25	-2,062.62	1,194.02	1,008.85	185.17	6.448		
7,500.00	6,965.23	6,928.23	6,928.23	55.35	138.97	-109.86	-247.25	-2,062.62	1,221.54	1,034.56	186.98	6.533		
7,600.00	7,032.75	7,004.25	6,995.75	56.90	140.50	-106.76	-247.25	-2,062.62	1,253.90	1,065.20	188.69	6.645		
7,700.00	7,086.77	7,049.77	7,049.77	58.68	141.41	-103.58	-247.25	-2,062.62	1,291.71	1,101.99	189.72	6.809		
7,800.00	7,125.64	7,088.64	7,088.64	60.64	142.19	-99.72	-247.25	-2,062.62	1,335.15	1,144.65	190.50	7.009		
7,900.00	7,148.19	7,111.19	7,111.19	62.69	142.65	-94.83	-247.25	-2,062.62	1,383.74	1,192.94	190.80	7.252		
8,000.00	7,154.00	7,117.00	7,117.00	64.75	142.77	-90.00	-247.25	-2,062.62	1,436.39	1,245.77	190.61	7.536		
8,100.00	7,154.00	7,117.00	7,117.00	66.83	142.77	-90.00	-247.25	-2,062.62	1,493.25	1,303.02	190.24	7.849		
8,200.00	7,154.00	7,117.00	7,117.00	68.96	142.77	-90.00	-247.25	-2,062.62	1,554.48	1,364.64	189.83	8.189		
8,300.00	7,154.00	7,117.00	7,117.00	71.12	142.77	-90.00	-247.25	-2,062.62	1,619.57	1,430.15	189.42	8.550		
8,400.00	7,154.00	7,117.00	7,117.00	73.32	142.77	-90.00	-247.25	-2,062.62	1,688.08	1,499.07	189.00	8.931		
8,500.00	7,154.00	7,117.00	7,117.00	75.55	142.77	-90.00	-247.25	-2,062.62	1,759.60	1,571.01	188.59	9.330		
8,600.00	7,154.00	7,117.00	7,117.00	77.81	142.77	-90.00	-247.25	-2,062.62	1,833.79	1,645.60	188.20	9.744		
8,700.00	7,154.00	7,117.00	7,117.00	80.10	142.77	-90.00	-247.25	-2,062.62	1,910.34	1,722.52	187.82	10.171		
8,800.00	7,154.00	7,117.00	7,117.00	82.41	142.77	-90.00	-247.25	-2,062.62	1,988.97	1,801.51	187.45	10.610		
8,900.00	7,154.00	7,117.00	7,117.00	84.75	142.77	-90.00	-247.25	-2,062.62	2,069.44	1,882.33	187.11	11.060		
9,000.00	7,154.00	7,117.00	7,117.00	87.11	142.77	-90.00	-247.25	-2,062.62	2,151.56	1,964.76	186.79	11.518		
9,100.00	7,154.00	7,117.00	7,117.00	89.48	142.77	-90.00	-247.25	-2,062.62	2,235.13	2,048.64	186.49	11.985		
9,200.00	7,154.00	7,117.00	7,117.00	91.88	142.77	-90.00	-247.25	-2,062.62	2,320.00	2,133.79	186.21	12.459		
9,300.00	7,154.00	7,117.00	7,117.00	94.29	142.77	-90.00	-247.25	-2,062.62	2,406.03	2,220.08	185.95	12.939		
9,400.00	7,154.00	7,117.00	7,117.00	96.72	142.77	-90.00	-247.25	-2,062.62	2,493.11	2,307.40	185.70	13.425		
9,500.00	7,154.00	7,117.00	7,117.00	99.16	142.77	-90.00	-247.25	-2,062.62	2,581.12	2,395.64	185.48	13.916		
9,600.00	7,154.00	7,117.00	7,117.00	101.61	142.77	-90.00	-247.25	-2,062.62	2,669.98	2,484.71	185.27	14.412		
9,700.00	7,154.00	7,117.00	7,117.00	104.08	142.77	-90.00	-247.25	-2,062.62	2,759.60	2,574.53	185.07	14.911		
9,800.00	7,154.00	7,117.00	7,117.00	106.56	142.77	-90.00	-247.25	-2,062.62	2,849.91	2,665.02	184.89	15.414		
9,900.00	7,154.00	7,117.00	7,117.00	109.05	142.77	-90.00	-247.25	-2,062.62	2,940.85	2,756.12	184.72	15.920		
10,000.00	7,154.00	7,117.00	7,117.00	111.55	142.77	-90.00	-247.25	-2,062.62	3,032.36	2,847.79	184.57	16.429		
10,100.00	7,154.00	7,117.00	7,117.00	114.06	142.77	-90.00	-247.25	-2,062.62	3,124.38	2,939.96	184.43	16.941		
10,200.00	7,154.00	7,117.00	7,117.00	116.57	142.77	-90.00	-247.25	-2,062.62	3,216.89	3,032.60	184.29	17.455		

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 WARBLER 13W-27-03
Project:	ADAMS COUNTY	TVD Reference:	KB 25' @ 5105.00usft
Reference Site:	Sec 13-T1S-R66W	MD Reference:	KB 25' @ 5105.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	WARBLER 13W-27-03	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT_32Bit_ODBC
Reference Design:	PROPOSAL 1	Offset TVD Reference:	Offset Datum

Offset Design Sec 13-T1S-R66W - EXIST VERT PETE ROCK 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						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		
10,300.00	7,154.00	7,117.00	7,117.00	119.10	142.77	-90.00	-247.25	-2,062.62	3,309.83	3,125.66	184.17	17.972		
10,400.00	7,154.00	7,117.00	7,117.00	121.63	142.77	-90.00	-247.25	-2,062.62	3,403.17	3,219.11	184.06	18.490		
10,500.00	7,154.00	7,117.00	7,117.00	124.17	142.77	-90.00	-247.25	-2,062.62	3,496.88	3,312.93	183.95	19.010		
10,600.00	7,154.00	7,117.00	7,117.00	126.72	142.77	-90.00	-247.25	-2,062.62	3,590.93	3,407.07	183.86	19.531		
10,700.00	7,154.00	7,117.00	7,117.00	129.28	142.77	-90.00	-247.25	-2,062.62	3,685.29	3,501.52	183.77	20.054		
10,800.00	7,154.00	7,117.00	7,117.00	131.84	142.77	-90.00	-247.25	-2,062.62	3,779.94	3,596.25	183.69	20.578		
10,900.00	7,154.00	7,117.00	7,117.00	134.40	142.77	-90.00	-247.25	-2,062.62	3,874.86	3,691.25	183.62	21.103		
11,000.00	7,154.00	7,117.00	7,117.00	136.97	142.77	-90.00	-247.25	-2,062.62	3,970.03	3,786.49	183.55	21.629		
11,100.00	7,154.00	7,117.00	7,117.00	139.55	142.77	-90.00	-247.25	-2,062.62	4,065.44	3,881.95	183.49	22.157		
11,200.00	7,154.00	7,117.00	7,117.00	142.13	142.77	-90.00	-247.25	-2,062.62	4,161.05	3,977.62	183.43	22.685		
11,300.00	7,154.00	7,117.00	7,117.00	144.72	142.77	-90.00	-247.25	-2,062.62	4,256.87	4,073.49	183.38	23.214		
11,400.00	7,154.00	7,117.00	7,117.00	147.30	142.77	-90.00	-247.25	-2,062.62	4,352.88	4,169.55	183.33	23.743		
11,500.00	7,154.00	7,117.00	7,117.00	149.90	142.77	-90.00	-247.25	-2,062.62	4,449.06	4,265.77	183.29	24.273		
11,600.00	7,154.00	7,117.00	7,117.00	152.50	142.77	-90.00	-247.25	-2,062.62	4,545.41	4,362.16	183.25	24.804		
11,700.00	7,154.00	7,117.00	7,117.00	155.10	142.77	-90.00	-247.25	-2,062.62	4,641.91	4,458.69	183.22	25.335		
11,800.00	7,154.00	7,117.00	7,117.00	157.70	142.77	-90.00	-247.25	-2,062.62	4,738.56	4,555.37	183.19	25.867		
11,900.00	7,154.00	7,117.00	7,117.00	160.31	142.77	-90.00	-247.25	-2,062.62	4,835.34	4,652.18	183.17	26.399		
12,000.00	7,154.00	7,117.00	7,117.00	162.92	142.77	-90.00	-247.25	-2,062.62	4,932.26	4,749.11	183.15	26.931		
12,100.00	7,154.00	7,117.00	7,117.00	165.54	142.77	-90.00	-247.25	-2,062.62	5,029.29	4,846.16	183.13	27.463		
12,200.00	7,154.00	7,117.00	7,117.00	168.15	142.77	-90.00	-247.25	-2,062.62	5,126.44	4,943.32	183.11	27.996		
12,300.00	7,154.00	7,117.00	7,117.00	170.77	142.77	-90.00	-247.25	-2,062.62	5,223.69	5,040.59	183.10	28.529		
12,400.00	7,154.00	7,117.00	7,117.00	173.39	142.77	-90.00	-247.25	-2,062.62	5,321.05	5,137.96	183.09	29.062		
12,500.00	7,154.00	7,117.00	7,117.00	176.02	142.77	-90.00	-247.25	-2,062.62	5,418.50	5,235.42	183.09	29.596		
12,600.00	7,154.00	7,117.00	7,117.00	178.65	142.77	-90.00	-247.25	-2,062.62	5,516.04	5,332.96	183.08	30.129		
12,700.00	7,154.00	7,117.00	7,117.00	181.28	142.77	-90.00	-247.25	-2,062.62	5,613.67	5,430.59	183.08	30.662		
12,800.00	7,154.00	7,117.00	7,117.00	183.91	142.77	-90.00	-247.25	-2,062.62	5,711.39	5,528.30	183.08	31.196		
12,900.00	7,154.00	7,117.00	7,117.00	186.54	142.77	-90.00	-247.25	-2,062.62	5,809.18	5,626.09	183.09	31.729		
13,000.00	7,154.00	7,117.00	7,117.00	189.18	142.77	-90.00	-247.25	-2,062.62	5,907.04	5,723.95	183.09	32.263		
13,100.00	7,154.00	7,117.00	7,117.00	191.81	142.77	-90.00	-247.25	-2,062.62	6,004.98	5,821.88	183.10	32.796		
13,200.00	7,154.00	7,117.00	7,117.00	194.45	142.77	-90.00	-247.25	-2,062.62	6,102.98	5,919.87	183.11	33.329		
13,300.00	7,154.00	7,117.00	7,117.00	197.10	142.77	-90.00	-247.25	-2,062.62	6,201.04	6,017.92	183.12	33.863		
13,400.00	7,154.00	7,117.00	7,117.00	199.74	142.77	-90.00	-247.25	-2,062.62	6,299.17	6,116.03	183.14	34.396		
13,500.00	7,154.00	7,117.00	7,117.00	202.38	142.77	-90.00	-247.25	-2,062.62	6,397.35	6,214.20	183.15	34.929		
13,600.00	7,154.00	7,117.00	7,117.00	205.03	142.77	-90.00	-247.25	-2,062.62	6,495.59	6,312.42	183.17	35.462		
13,700.00	7,154.00	7,117.00	7,117.00	207.68	142.77	-90.00	-247.25	-2,062.62	6,593.89	6,410.69	183.19	35.994		
13,800.00	7,154.00	7,117.00	7,117.00	210.33	142.77	-90.00	-247.25	-2,062.62	6,692.23	6,509.02	183.21	36.527		
13,900.00	7,154.00	7,117.00	7,117.00	212.98	142.77	-90.00	-247.25	-2,062.62	6,790.62	6,607.38	183.24	37.059		
14,000.00	7,154.00	7,117.00	7,117.00	215.63	142.77	-90.00	-247.25	-2,062.62	6,889.06	6,705.80	183.26	37.591		
14,100.00	7,154.00	7,117.00	7,117.00	218.28	142.77	-90.00	-247.25	-2,062.62	6,987.54	6,804.25	183.29	38.123		
14,200.00	7,154.00	7,117.00	7,117.00	220.93	142.77	-90.00	-247.25	-2,062.62	7,086.07	6,902.75	183.32	38.655		
14,300.00	7,154.00	7,117.00	7,117.00	223.59	142.77	-90.00	-247.25	-2,062.62	7,184.63	7,001.29	183.34	39.187		
14,400.00	7,154.00	7,117.00	7,117.00	226.25	142.77	-90.00	-247.25	-2,062.62	7,283.24	7,099.86	183.37	39.718		
14,500.00	7,154.00	7,117.00	7,117.00	228.90	142.77	-90.00	-247.25	-2,062.62	7,381.88	7,198.47	183.41	40.249		
14,600.00	7,154.00	7,117.00	7,117.00	231.56	142.77	-90.00	-247.25	-2,062.62	7,480.56	7,297.12	183.44	40.779		
14,700.00	7,154.00	7,117.00	7,117.00	234.22	142.77	-90.00	-247.25	-2,062.62	7,579.27	7,395.79	183.47	41.310		
14,800.00	7,154.00	7,117.00	7,117.00	236.88	142.77	-90.00	-247.25	-2,062.62	7,678.02	7,494.50	183.51	41.840		
14,900.00	7,154.00	7,117.00	7,117.00	239.55	142.77	-90.00	-247.25	-2,062.62	7,776.79	7,593.25	183.55	42.369		
15,000.00	7,154.00	7,117.00	7,117.00	242.21	142.77	-90.00	-247.25	-2,062.62	7,875.60	7,692.02	183.59	42.899		
15,100.00	7,154.00	7,117.00	7,117.00	244.87	142.77	-90.00	-247.25	-2,062.62	7,974.44	7,790.82	183.63	43.428		
15,200.00	7,154.00	7,117.00	7,117.00	247.54	142.77	-90.00	-247.25	-2,062.62	8,073.31	7,889.64	183.67	43.957		
15,300.00	7,154.00	7,117.00	7,117.00	250.20	142.77	-90.00	-247.25	-2,062.62	8,172.20	7,988.50	183.71	44.485		
15,400.00	7,154.00	7,117.00	7,117.00	252.87	142.77	-90.00	-247.25	-2,062.62	8,271.12	8,087.38	183.75	45.013		

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 WARBLER 13W-27-03
Project:	ADAMS COUNTY	TVD Reference:	KB 25' @ 5105.00usft
Reference Site:	Sec 13-T1S-R66W	MD Reference:	KB 25' @ 5105.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	WARBLER 13W-27-03	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT_32Bit_ODBC
Reference Design:	PROPOSAL 1	Offset TVD Reference:	Offset Datum

Offset Design Sec 13-T1S-R66W - EXIST VERT PETE ROCK 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						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	
15,500.00	7,154.00	7,117.00	7,117.00	255.53	142.77	-90.00	-247.25	-2,062.62	8,370.07	8,186.28	183.79	45.541	
15,600.00	7,154.00	7,117.00	7,117.00	258.20	142.77	-90.00	-247.25	-2,062.62	8,469.04	8,285.21	183.84	46.068	
15,700.00	7,154.00	7,117.00	7,117.00	260.87	142.77	-90.00	-247.25	-2,062.62	8,568.04	8,384.16	183.88	46.595	
15,800.00	7,154.00	7,117.00	7,117.00	263.54	142.77	-90.00	-247.25	-2,062.62	8,667.06	8,483.13	183.93	47.121	
15,900.00	7,154.00	7,117.00	7,117.00	266.21	142.77	-90.00	-247.25	-2,062.62	8,766.10	8,582.12	183.98	47.647	
16,000.00	7,154.00	7,117.00	7,117.00	268.88	142.77	-90.00	-247.25	-2,062.62	8,865.16	8,681.13	184.03	48.173	
16,100.00	7,154.00	7,117.00	7,117.00	271.55	142.77	-90.00	-247.25	-2,062.62	8,964.25	8,780.17	184.08	48.698	
16,200.00	7,154.00	7,117.00	7,117.00	274.22	142.77	-90.00	-247.25	-2,062.62	9,063.35	8,879.22	184.13	49.223	
16,300.00	7,154.00	7,117.00	7,117.00	276.90	142.77	-90.00	-247.25	-2,062.62	9,162.47	8,978.29	184.18	49.747	
16,400.00	7,154.00	7,117.00	7,117.00	279.57	142.77	-90.00	-247.25	-2,062.62	9,261.61	9,077.38	184.23	50.271	
16,500.00	7,154.00	7,117.00	7,117.00	282.24	142.77	-90.00	-247.25	-2,062.62	9,360.77	9,176.49	184.29	50.795	
16,600.00	7,154.00	7,117.00	7,117.00	284.92	142.77	-90.00	-247.25	-2,062.62	9,459.95	9,275.61	184.34	51.318	
16,700.00	7,154.00	7,117.00	7,117.00	287.59	142.77	-90.00	-247.25	-2,062.62	9,559.15	9,374.75	184.39	51.841	
16,800.00	7,154.00	7,117.00	7,117.00	290.27	142.77	-90.00	-247.25	-2,062.62	9,658.36	9,473.91	184.45	52.363	
16,900.00	7,154.00	7,117.00	7,117.00	292.94	142.77	-90.00	-247.25	-2,062.62	9,757.59	9,573.08	184.51	52.885	
17,000.00	7,154.00	7,117.00	7,117.00	295.62	142.77	-90.00	-247.25	-2,062.62	9,856.83	9,672.26	184.56	53.406	
17,100.00	7,154.00	7,117.00	7,117.00	298.29	142.77	-90.00	-247.25	-2,062.62	9,956.09	9,771.46	184.62	53.927	

Anticollision Report

Company:	EXTRACTION OIL & GAS	Local Co-ordinate Reference:	Well WARBLER 13W-27-03
Project:	ADAMS COUNTY	TVD Reference:	KB 25' @ 5105.00usft
Reference Site:	Sec 13-T1S-R66W	MD Reference:	KB 25' @ 5105.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	WARBLER 13W-27-03	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT_32Bit_ODBC
Reference Design:	PROPOSAL 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-MWD OWSG													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		
0.00	0.00	0.00	0.00	0.00	0.00	0.57	56.10	0.56	56.10					
100.00	100.00	100.00	100.00	0.13	0.13	0.57	56.10	0.56	56.10	55.83	0.27	208.673		
200.00	200.00	200.00	200.00	0.49	0.49	0.57	56.10	0.56	56.10	55.12	0.99	56.911	CC, ES	
300.00	300.00	298.40	298.38	0.85	0.85	-0.41	57.48	-0.42	57.50	55.80	1.70	33.839		
400.00	400.00	396.57	396.41	1.21	1.20	-3.10	61.60	-3.33	61.80	59.38	2.41	25.592		
500.00	500.00	494.27	493.76	1.57	1.56	-6.80	68.43	-8.16	69.20	66.07	3.13	22.108		
600.00	600.00	591.30	590.08	1.93	1.94	-10.79	77.88	-14.85	79.90	76.06	3.84	20.796		
700.00	699.98	687.65	685.30	2.28	2.33	54.67	89.90	-23.35	93.04	88.49	4.54	20.480		
800.00	799.84	783.45	779.42	2.63	2.75	53.13	104.44	-33.63	107.40	102.16	5.24	20.504		
900.00	899.45	878.65	872.32	3.00	3.20	52.65	121.42	-45.64	122.82	116.88	5.94	20.671		
1,000.00	998.70	973.22	963.87	3.37	3.68	52.88	140.78	-59.33	139.23	132.57	6.66	20.901		
1,100.00	1,097.47	1,067.13	1,053.95	3.77	4.19	53.57	162.43	-74.64	156.63	149.24	7.39	21.189		
1,200.00	1,195.62	1,160.34	1,142.45	4.19	4.74	54.56	186.29	-91.52	175.06	166.89	8.17	21.427		
1,300.00	1,293.06	1,252.82	1,229.28	4.64	5.33	55.74	212.28	-109.89	194.55	185.56	8.98	21.653		
1,400.00	1,389.64	1,344.54	1,314.34	5.12	5.96	57.02	240.30	-129.71	215.14	205.29	9.85	21.834		
1,500.00	1,485.27	1,435.49	1,397.55	5.66	6.62	58.34	270.26	-150.91	236.87	226.09	10.79	21.958		
1,600.00	1,579.82	1,525.65	1,478.84	6.24	7.33	59.67	302.08	-173.41	259.78	247.98	11.80	22.019		
1,700.00	1,673.17	1,615.00	1,558.16	6.88	8.08	60.98	335.66	-197.16	283.88	270.98	12.89	22.017		
1,800.00	1,765.22	1,703.54	1,635.46	7.57	8.86	62.29	370.90	-222.08	309.19	295.11	14.08	21.956		
1,900.00	1,856.73	1,791.15	1,710.59	8.31	9.69	63.69	407.69	-248.10	336.62	321.29	15.33	21.956		
2,000.00	1,948.24	1,877.68	1,783.42	9.06	10.55	64.62	445.84	-275.08	366.59	350.00	16.59	22.091		
2,100.00	2,039.75	1,966.43	1,856.72	9.83	11.47	65.22	486.68	-303.97	398.80	380.89	17.92	22.259		
2,200.00	2,131.26	2,060.86	1,934.41	10.61	12.48	65.71	530.51	-334.97	431.51	412.14	19.37	22.278		
2,300.00	2,222.77	2,155.30	2,012.10	11.40	13.50	66.14	574.35	-365.97	464.25	443.41	20.84	22.275		
2,400.00	2,314.28	2,249.74	2,089.79	12.20	14.52	66.51	618.18	-396.97	497.00	474.68	22.33	22.258		
2,500.00	2,405.79	2,344.18	2,167.48	13.00	15.55	66.84	662.02	-427.98	529.78	505.95	23.83	22.232		
2,600.00	2,497.30	2,438.61	2,245.17	13.81	16.59	67.12	705.85	-458.98	562.56	537.22	25.34	22.200		
2,700.00	2,588.81	2,533.05	2,322.86	14.62	17.63	67.38	749.69	-489.98	595.36	568.50	26.86	22.165		
2,800.00	2,680.31	2,627.49	2,400.55	15.44	18.67	67.61	793.52	-520.98	628.17	599.78	28.39	22.128		
2,900.00	2,771.82	2,721.93	2,478.24	16.25	19.71	67.81	837.36	-551.99	660.98	631.06	29.92	22.090		
3,000.00	2,863.33	2,816.36	2,555.93	17.08	20.76	68.00	881.19	-582.99	693.80	662.34	31.46	22.053		
3,100.00	2,954.84	2,910.80	2,633.62	17.90	21.81	68.17	925.03	-613.99	726.63	693.62	33.00	22.016		
3,200.00	3,046.35	3,005.24	2,711.31	18.72	22.86	68.32	968.86	-644.99	759.46	724.91	34.55	21.980		
3,300.00	3,137.86	3,100.32	2,789.00	19.55	23.92	68.47	1,012.70	-675.99	792.30	756.19	36.11	21.941		
3,400.00	3,229.37	3,205.89	2,866.69	20.38	25.10	68.60	1,056.53	-707.00	825.14	787.38	37.76	21.855		
3,500.00	3,320.88	3,288.55	2,944.38	21.21	26.02	68.72	1,100.37	-738.00	857.98	818.77	39.22	21.878		
3,600.00	3,412.39	3,382.99	3,022.08	22.04	27.08	68.83	1,144.20	-769.00	890.83	850.05	40.78	21.846		
3,700.00	3,503.90	3,477.43	3,099.77	22.87	28.14	68.93	1,188.04	-800.00	923.68	881.34	42.34	21.816		
3,800.00	3,595.41	3,571.86	3,177.46	23.70	29.19	69.03	1,231.87	-831.01	956.53	912.63	43.90	21.787		
3,900.00	3,686.91	3,666.30	3,255.15	24.54	30.25	69.12	1,275.71	-862.01	989.39	943.92	45.47	21.759		
4,000.00	3,778.42	3,760.74	3,332.84	25.37	31.31	69.21	1,319.54	-893.01	1,022.25	975.21	47.04	21.732		
4,100.00	3,869.93	3,855.17	3,410.53	26.20	32.37	69.29	1,363.38	-924.01	1,055.11	1,006.50	48.61	21.707		
4,200.00	3,961.44	3,949.61	3,488.22	27.04	33.43	69.36	1,407.21	-955.01	1,087.97	1,037.79	50.18	21.682		
4,300.00	4,052.95	4,044.05	3,565.91	27.88	34.49	69.43	1,451.05	-986.02	1,120.83	1,069.08	51.75	21.659		
4,400.00	4,144.46	4,138.49	3,643.60	28.71	35.55	69.50	1,494.88	-1,017.02	1,153.69	1,100.37	53.32	21.636		
4,500.00	4,235.97	4,232.92	3,721.29	29.55	36.61	69.56	1,538.72	-1,048.02	1,186.56	1,131.66	54.90	21.614		
4,600.00	4,327.48	4,327.36	3,798.98	30.39	37.67	69.62	1,582.55	-1,079.02	1,219.42	1,162.95	56.47	21.594		
4,700.00	4,418.99	4,421.80	3,876.67	31.22	38.74	69.67	1,626.39	-1,110.03	1,252.29	1,194.24	58.05	21.574		
4,800.00	4,510.50	4,516.24	3,954.36	32.06	39.80	69.73	1,670.22	-1,141.03	1,285.16	1,225.54	59.62	21.554		
4,900.00	4,602.01	4,610.67	4,032.05	32.90	40.86	69.78	1,714.05	-1,172.03	1,318.03	1,256.83	61.20	21.536		
5,000.00	4,693.51	4,705.11	4,109.74	33.74	41.93	69.83	1,757.89	-1,203.03	1,350.90	1,288.12	62.78	21.518		
5,100.00	4,785.02	4,800.45	4,187.43	34.58	43.00	69.87	1,801.72	-1,234.03	1,383.77	1,319.41	64.37	21.498		

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 WARBLER 13W-27-03
Project:	ADAMS COUNTY	TVD Reference:	KB 25' @ 5105.00usft
Reference Site:	Sec 13-T1S-R66W	MD Reference:	KB 25' @ 5105.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	WARBLER 13W-27-03	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT_32Bit_ODBC
Reference Design:	PROPOSAL 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-MWD OWSG													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		
5,200.00	4,876.53	4,906.01	4,265.12	35.42	44.19	69.92	1,845.56	-1,265.04	1,416.64	1,350.60	66.04	21.452		
5,300.00	4,968.04	4,988.42	4,342.81	36.26	45.12	69.96	1,889.39	-1,296.04	1,449.52	1,382.00	67.52	21.469		
5,400.00	5,059.55	5,082.86	4,420.50	37.10	46.18	70.00	1,933.23	-1,327.04	1,482.39	1,413.29	69.10	21.453		
5,500.00	5,151.06	5,177.30	4,498.19	37.94	47.24	70.04	1,977.06	-1,358.04	1,515.26	1,444.58	70.68	21.439		
5,600.00	5,242.57	5,271.74	4,575.88	38.78	48.31	70.07	2,020.90	-1,389.05	1,548.14	1,475.88	72.26	21.424		
5,700.00	5,334.08	5,366.17	4,653.57	39.62	49.37	70.11	2,064.73	-1,420.05	1,581.01	1,507.17	73.84	21.410		
5,800.00	5,425.59	5,460.61	4,731.26	40.46	50.44	70.14	2,108.57	-1,451.05	1,613.89	1,538.46	75.43	21.397		
5,900.00	5,517.10	5,555.05	4,808.95	41.30	51.50	70.17	2,152.40	-1,482.05	1,646.76	1,569.76	77.01	21.384		
6,000.00	5,608.61	5,649.49	4,886.64	42.14	52.57	70.20	2,196.24	-1,513.06	1,679.64	1,601.05	78.59	21.372		
6,100.00	5,700.12	5,743.92	4,964.33	42.98	53.63	70.23	2,240.07	-1,544.06	1,712.52	1,632.34	80.18	21.360		
6,200.00	5,791.62	5,838.36	5,042.02	43.82	54.70	70.26	2,283.91	-1,575.06	1,745.39	1,663.64	81.76	21.348		
6,300.00	5,883.13	5,932.80	5,119.72	44.66	55.76	70.29	2,327.74	-1,606.06	1,778.27	1,694.93	83.34	21.337		
6,400.00	5,974.64	6,027.24	5,197.41	45.50	56.83	70.32	2,371.58	-1,637.06	1,811.15	1,726.22	84.93	21.326		
6,500.00	6,066.15	6,121.67	5,275.10	46.35	57.89	70.34	2,415.41	-1,668.07	1,844.03	1,757.51	86.51	21.315		
6,600.00	6,157.66	6,216.11	5,352.79	47.19	58.96	70.37	2,459.25	-1,699.07	1,876.91	1,788.81	88.10	21.305		
6,700.00	6,249.17	6,310.55	5,430.48	48.03	60.02	70.39	2,503.08	-1,730.07	1,909.79	1,820.10	89.68	21.295		
6,800.00	6,340.68	6,404.99	5,508.17	48.87	61.09	70.41	2,546.92	-1,761.07	1,942.66	1,851.40	91.27	21.285		
6,900.00	6,432.19	6,499.42	5,585.86	49.71	62.15	70.44	2,590.75	-1,792.08	1,975.54	1,882.69	92.86	21.276		
7,000.00	6,523.70	6,606.14	5,663.55	50.55	63.36	70.46	2,634.59	-1,823.08	2,008.42	1,913.88	94.55	21.243		
7,100.00	6,615.21	6,688.30	5,741.24	51.40	64.28	70.48	2,678.42	-1,854.08	2,041.30	1,945.28	96.03	21.257		
7,200.00	6,706.72	6,782.73	5,818.93	52.24	65.35	70.50	2,722.26	-1,885.08	2,074.18	1,976.57	97.61	21.249		
7,300.00	6,798.22	6,877.17	5,896.62	53.08	66.42	70.52	2,766.09	-1,916.08	2,107.06	2,007.86	99.20	21.240		
7,400.00	6,886.25	6,970.94	5,973.76	54.07	67.47	73.54	2,809.61	-1,946.87	2,140.31	2,039.22	101.09	21.173		
7,500.00	6,965.23	7,061.44	6,048.21	55.35	68.50	74.08	2,851.62	-1,976.58	2,173.88	2,070.31	103.57	20.990		
7,600.00	7,032.75	7,145.93	6,117.71	56.90	69.45	73.57	2,890.84	-2,004.31	2,207.31	2,100.74	106.58	20.711		
7,700.00	7,086.77	7,221.83	6,180.16	58.68	70.31	72.53	2,926.07	-2,029.23	2,240.45	2,130.45	110.00	20.368		
7,800.00	7,125.64	7,286.86	6,233.65	60.64	71.04	71.08	2,956.25	-2,050.58	2,273.29	2,159.60	113.68	19.997		
7,900.00	7,148.19	7,339.01	6,276.56	62.69	71.63	69.22	2,980.46	-2,067.70	2,305.85	2,188.38	117.46	19.631		
8,000.00	7,154.00	7,376.97	6,307.79	64.75	72.06	67.48	2,998.08	-2,080.16	2,338.14	2,216.99	121.15	19.300		
8,100.00	7,154.00	7,409.81	6,334.81	66.83	72.43	68.28	3,013.33	-2,090.94	2,372.50	2,247.81	124.69	19.027		
8,200.00	7,154.00	7,442.65	6,361.82	68.96	72.80	69.07	3,028.57	-2,101.72	2,410.07	2,281.98	128.09	18.815		
8,300.00	7,154.00	7,475.49	6,388.84	71.12	73.17	69.86	3,043.81	-2,112.50	2,450.71	2,319.35	131.36	18.657		
8,400.00	7,154.00	7,508.33	6,415.85	73.32	73.54	70.65	3,059.06	-2,123.28	2,494.26	2,359.79	134.47	18.548		
8,500.00	7,154.00	9,222.80	7,154.00	75.55	97.81	90.00	3,476.98	-3,341.36	2,519.70	2,369.92	149.78	16.823		
8,600.00	7,154.00	9,322.80	7,154.00	77.81	99.50	90.00	3,477.14	-3,441.36	2,519.84	2,365.50	154.34	16.327		
8,700.00	7,154.00	9,422.80	7,154.00	80.10	101.24	90.00	3,477.30	-3,541.36	2,519.97	2,361.01	158.95	15.854		
8,800.00	7,154.00	9,522.80	7,154.00	82.41	103.01	90.00	3,477.45	-3,641.36	2,520.10	2,356.48	163.61	15.403		
8,900.00	7,154.00	9,622.80	7,154.00	84.75	104.82	90.00	3,477.61	-3,741.36	2,520.23	2,351.91	168.32	14.973		
9,000.00	7,154.00	9,722.80	7,154.00	87.11	106.67	90.00	3,477.77	-3,841.36	2,520.36	2,347.29	173.07	14.563		
9,100.00	7,154.00	9,822.80	7,154.00	89.48	108.55	90.00	3,477.92	-3,941.36	2,520.49	2,342.64	177.85	14.172		
9,200.00	7,154.00	9,922.80	7,154.00	91.88	110.47	90.00	3,478.08	-4,041.36	2,520.62	2,337.95	182.67	13.799		
9,300.00	7,154.00	10,022.80	7,154.00	94.29	112.42	90.00	3,478.24	-4,141.36	2,520.75	2,333.23	187.52	13.443		
9,400.00	7,154.00	10,122.80	7,154.00	96.72	114.40	90.00	3,478.39	-4,241.36	2,520.89	2,328.48	192.40	13.102		
9,500.00	7,154.00	10,222.80	7,154.00	99.16	116.41	90.00	3,478.55	-4,341.36	2,521.02	2,323.71	197.31	12.777		
9,600.00	7,154.00	10,322.80	7,154.00	101.61	118.45	90.00	3,478.71	-4,441.36	2,521.15	2,318.90	202.24	12.466		
9,700.00	7,154.00	10,422.80	7,154.00	104.08	120.51	90.00	3,478.86	-4,541.36	2,521.28	2,314.08	207.20	12.168		
9,800.00	7,154.00	10,522.80	7,154.00	106.56	122.60	90.00	3,479.02	-4,641.36	2,521.41	2,309.23	212.18	11.883		
9,900.00	7,154.00	10,622.80	7,154.00	109.05	124.71	90.00	3,479.18	-4,741.36	2,521.54	2,304.36	217.18	11.610		
10,000.00	7,154.00	10,722.80	7,154.00	111.55	126.85	90.00	3,479.33	-4,841.36	2,521.67	2,299.47	222.20	11.349		
10,100.00	7,154.00	10,822.80	7,154.00	114.06	129.01	90.00	3,479.49	-4,941.36	2,521.80	2,294.57	227.24	11.098		
10,200.00	7,154.00	10,922.80	7,154.00	116.57	131.19	90.00	3,479.65	-5,041.36	2,521.94	2,289.65	232.29	10.857		
10,300.00	7,154.00	11,022.80	7,154.00	119.10	133.39	90.00	3,479.80	-5,141.36	2,522.07	2,284.71	237.36	10.626		

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 Warbler 13W-27-03
Project:	ADAMS COUNTY	TVD Reference:	KB 25' @ 5105.00usft
Reference Site:	Sec 13-T1S-R66W	MD Reference:	KB 25' @ 5105.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	Warbler 13W-27-03	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT_32Bit_ODBC
Reference Design:	PROPOSAL 1	Offset TVD Reference:	Offset Datum

Offset Design Sec 13-T1S-R66W - WARBLER 13W-27-01 - OWB - PROPOSAL 1													Offset Site Error:	0.00 usft
Survey Program: 0-MWD OWSG													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		
10,400.00	7,154.00	11,122.80	7,154.00	121.63	135.61	90.00	3,479.96	-5,241.36	2,522.20	2,279.76	242.44	10.403		
10,500.00	7,154.00	11,222.80	7,154.00	124.17	137.85	90.00	3,480.12	-5,341.36	2,522.33	2,274.79	247.54	10.190		
10,600.00	7,154.00	11,322.80	7,154.00	126.72	140.10	90.00	3,480.27	-5,441.36	2,522.46	2,269.81	252.65	9.984		
10,700.00	7,154.00	11,422.80	7,154.00	129.28	142.37	90.00	3,480.43	-5,541.36	2,522.59	2,264.82	257.77	9.786		
10,800.00	7,154.00	11,522.80	7,154.00	131.84	144.66	90.00	3,480.59	-5,641.35	2,522.72	2,259.82	262.90	9.596		
10,900.00	7,154.00	11,622.80	7,154.00	134.40	146.96	90.00	3,480.74	-5,741.35	2,522.86	2,254.81	268.05	9.412		
11,000.00	7,154.00	11,722.80	7,154.00	136.97	149.28	90.00	3,480.90	-5,841.35	2,522.99	2,249.78	273.20	9.235		
11,100.00	7,154.00	11,822.80	7,154.00	139.55	151.61	90.00	3,481.06	-5,941.35	2,523.12	2,244.75	278.37	9.064		
11,200.00	7,154.00	11,922.80	7,154.00	142.13	153.95	90.00	3,481.21	-6,041.35	2,523.25	2,239.71	283.54	8.899		
11,300.00	7,154.00	12,022.80	7,154.00	144.72	156.31	90.00	3,481.37	-6,141.35	2,523.38	2,234.66	288.72	8.740		
11,400.00	7,154.00	12,122.80	7,154.00	147.30	158.68	90.00	3,481.52	-6,241.35	2,523.51	2,229.60	293.91	8.586		
11,500.00	7,154.00	12,222.80	7,154.00	149.90	161.05	90.00	3,481.68	-6,341.35	2,523.64	2,224.53	299.11	8.437		
11,600.00	7,154.00	12,322.80	7,154.00	152.50	163.44	90.00	3,481.84	-6,441.35	2,523.77	2,219.46	304.31	8.293		
11,700.00	7,154.00	12,422.80	7,154.00	155.10	165.84	90.00	3,481.99	-6,541.35	2,523.91	2,214.38	309.53	8.154		
11,800.00	7,154.00	12,522.80	7,154.00	157.70	168.25	90.00	3,482.15	-6,641.35	2,524.04	2,209.29	314.74	8.019		
11,900.00	7,154.00	12,622.80	7,154.00	160.31	170.67	90.00	3,482.31	-6,741.35	2,524.17	2,204.20	319.97	7.889		
12,000.00	7,154.00	12,722.80	7,154.00	162.92	173.10	90.00	3,482.46	-6,841.35	2,524.30	2,199.10	325.20	7.762		
12,100.00	7,154.00	12,822.80	7,154.00	165.54	175.54	90.00	3,482.62	-6,941.35	2,524.43	2,194.00	330.44	7.640		
12,200.00	7,154.00	12,922.80	7,154.00	168.15	177.98	90.00	3,482.78	-7,041.35	2,524.56	2,188.89	335.68	7.521		
12,300.00	7,154.00	13,022.80	7,154.00	170.77	180.44	90.00	3,482.93	-7,141.35	2,524.69	2,183.77	340.92	7.405		
12,400.00	7,154.00	13,122.80	7,154.00	173.39	182.90	90.00	3,483.09	-7,241.35	2,524.82	2,178.65	346.18	7.293		
12,500.00	7,154.00	13,222.80	7,154.00	176.02	185.37	90.00	3,483.25	-7,341.35	2,524.96	2,173.52	351.43	7.185		
12,600.00	7,154.00	13,322.80	7,154.00	178.65	187.84	90.00	3,483.40	-7,441.35	2,525.09	2,168.39	356.69	7.079		
12,700.00	7,154.00	13,422.80	7,154.00	181.28	190.32	90.00	3,483.56	-7,541.35	2,525.22	2,163.26	361.96	6.977		
12,800.00	7,154.00	13,522.80	7,154.00	183.91	192.81	90.00	3,483.72	-7,641.35	2,525.35	2,158.12	367.23	6.877		
12,900.00	7,154.00	13,622.80	7,154.00	186.54	195.30	90.00	3,483.87	-7,741.35	2,525.48	2,152.98	372.50	6.780		
13,000.00	7,154.00	13,722.80	7,154.00	189.18	197.80	90.00	3,484.03	-7,841.35	2,525.61	2,147.83	377.78	6.685		
13,100.00	7,154.00	13,822.80	7,154.00	191.81	200.31	90.00	3,484.19	-7,941.35	2,525.74	2,142.68	383.06	6.594		
13,200.00	7,154.00	13,922.80	7,154.00	194.45	202.82	90.00	3,484.34	-8,041.35	2,525.88	2,137.53	388.34	6.504		
13,300.00	7,154.00	14,022.80	7,154.00	197.10	205.34	90.00	3,484.50	-8,141.35	2,526.01	2,132.38	393.63	6.417		
13,400.00	7,154.00	14,122.80	7,154.00	199.74	207.86	90.00	3,484.66	-8,241.35	2,526.14	2,127.22	398.92	6.332		
13,500.00	7,154.00	14,222.80	7,154.00	202.38	210.38	90.00	3,484.81	-8,341.35	2,526.27	2,122.05	404.22	6.250		
13,600.00	7,154.00	14,322.80	7,154.00	205.03	212.92	90.00	3,484.97	-8,441.35	2,526.40	2,116.89	409.51	6.169		
13,700.00	7,154.00	14,422.80	7,154.00	207.68	215.45	90.00	3,485.13	-8,541.35	2,526.53	2,111.72	414.81	6.091		
13,800.00	7,154.00	14,522.80	7,154.00	210.33	217.99	90.00	3,485.28	-8,641.35	2,526.66	2,106.55	420.11	6.014		
13,900.00	7,154.00	14,622.80	7,154.00	212.98	220.53	90.00	3,485.44	-8,741.35	2,526.79	2,101.37	425.42	5.940		
14,000.00	7,154.00	14,722.80	7,154.00	215.63	223.08	90.00	3,485.60	-8,841.35	2,526.93	2,096.20	430.73	5.867		
14,100.00	7,154.00	14,822.80	7,154.00	218.28	225.63	90.00	3,485.75	-8,941.35	2,527.06	2,091.02	436.04	5.796		
14,200.00	7,154.00	14,922.80	7,154.00	220.93	228.19	90.00	3,485.91	-9,041.35	2,527.19	2,085.84	441.35	5.726		
14,300.00	7,154.00	15,022.80	7,154.00	223.59	230.75	90.00	3,486.07	-9,141.35	2,527.32	2,080.66	446.66	5.658		
14,400.00	7,154.00	15,122.80	7,154.00	226.25	233.31	90.00	3,486.22	-9,241.35	2,527.45	2,075.47	451.98	5.592		
14,500.00	7,154.00	15,222.80	7,154.00	228.90	235.88	90.00	3,486.38	-9,341.35	2,527.58	2,070.28	457.30	5.527		
14,600.00	7,154.00	15,322.80	7,154.00	231.56	238.45	90.00	3,486.54	-9,441.35	2,527.71	2,065.09	462.62	5.464		
14,700.00	7,154.00	15,422.80	7,154.00	234.22	241.02	90.00	3,486.69	-9,541.35	2,527.84	2,059.90	467.94	5.402		
14,800.00	7,154.00	15,522.80	7,154.00	236.88	243.59	90.00	3,486.85	-9,641.35	2,527.98	2,054.71	473.27	5.342		
14,900.00	7,154.00	15,622.80	7,154.00	239.55	246.17	90.00	3,487.01	-9,741.35	2,528.11	2,049.51	478.60	5.282		
15,000.00	7,154.00	15,722.80	7,154.00	242.21	248.75	90.00	3,487.16	-9,841.35	2,528.24	2,044.31	483.92	5.224		
15,100.00	7,154.00	15,822.80	7,154.00	244.87	251.34	90.00	3,487.32	-9,941.35	2,528.37	2,039.11	489.26	5.168		
15,200.00	7,154.00	15,922.80	7,154.00	247.54	253.92	90.00	3,487.48	-10,041.35	2,528.50	2,033.91	494.59	5.112		
15,300.00	7,154.00	16,022.80	7,154.00	250.20	256.51	90.00	3,487.63	-10,141.35	2,528.63	2,028.71	499.92	5.058		
15,400.00	7,154.00	16,122.79	7,154.00	252.87	259.10	90.00	3,487.79	-10,241.35	2,528.76	2,023.51	505.26	5.005		
15,500.00	7,154.00	16,222.79	7,154.00	255.53	261.70	90.00	3,487.95	-10,341.35	2,528.90	2,018.30	510.59	4.953		

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 WARBLER 13W-27-03
Project:	ADAMS COUNTY	TVD Reference:	KB 25' @ 5105.00usft
Reference Site:	Sec 13-T1S-R66W	MD Reference:	KB 25' @ 5105.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	WARBLER 13W-27-03	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT_32Bit_ODBC
Reference Design:	PROPOSAL 1	Offset TVD Reference:	Offset Datum

Offset Design													Sec 13-T1S-R66W - WARBLER 13W-27-01 - OWB - PROPOSAL 1		Offset Site Error: 0.00 usft	
Survey Program: 0-MWD OWSG													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				
15,600.00	7,154.00	16,322.79	7,154.00	258.20	264.29	90.00	3,488.10	-10,441.34	2,529.03	2,013.10	515.93	4.902				
15,700.00	7,154.00	16,422.79	7,154.00	260.87	266.89	90.00	3,488.26	-10,541.34	2,529.16	2,007.89	521.27	4.852				
15,800.00	7,154.00	16,522.79	7,154.00	263.54	269.49	90.00	3,488.42	-10,641.34	2,529.29	2,002.68	526.61	4.803				
15,900.00	7,154.00	16,622.79	7,154.00	266.21	272.10	90.00	3,488.57	-10,741.34	2,529.42	1,997.47	531.95	4.755				
16,000.00	7,154.00	16,722.79	7,154.00	268.88	274.70	90.00	3,488.73	-10,841.34	2,529.55	1,992.25	537.30	4.708				
16,100.00	7,154.00	16,822.79	7,154.00	271.55	277.31	90.00	3,488.89	-10,941.34	2,529.68	1,987.04	542.64	4.662				
16,200.00	7,154.00	16,922.79	7,154.00	274.22	279.92	90.00	3,489.04	-11,041.34	2,529.81	1,981.83	547.99	4.617				
16,300.00	7,154.00	17,022.79	7,154.00	276.90	282.53	90.00	3,489.20	-11,141.34	2,529.95	1,976.61	553.34	4.572				
16,400.00	7,154.00	17,122.79	7,154.00	279.57	285.14	90.00	3,489.36	-11,241.34	2,530.08	1,971.39	558.68	4.529				
16,500.00	7,154.00	17,222.79	7,154.00	282.24	287.75	90.00	3,489.51	-11,341.34	2,530.21	1,966.18	564.03	4.486				
16,600.00	7,154.00	17,322.79	7,154.00	284.92	290.37	90.00	3,489.67	-11,441.34	2,530.34	1,960.96	569.38	4.444				
16,700.00	7,154.00	17,422.79	7,154.00	287.59	292.99	90.00	3,489.83	-11,541.34	2,530.47	1,955.74	574.74	4.403				
16,800.00	7,154.00	17,522.79	7,154.00	290.27	295.61	90.00	3,489.98	-11,641.34	2,530.60	1,950.51	580.09	4.362				
16,900.00	7,154.00	17,622.79	7,154.00	292.94	298.23	90.00	3,490.14	-11,741.34	2,530.73	1,945.29	585.44	4.323				
17,000.00	7,154.00	17,722.79	7,154.00	295.62	300.85	90.00	3,490.30	-11,841.34	2,530.87	1,940.07	590.80	4.284				
17,100.00	7,154.00	17,822.79	7,154.00	298.29	303.48	90.00	3,490.45	-11,941.34	2,531.00	1,934.84	596.15	4.246				
17,200.00	7,154.00	17,922.79	7,154.00	300.97	306.10	90.00	3,490.61	-12,041.34	2,531.13	1,929.62	601.51	4.208				
17,300.00	7,154.00	18,022.79	7,154.00	303.65	308.73	90.00	3,490.77	-12,141.34	2,531.26	1,924.39	606.87	4.171				
17,400.00	7,154.00	18,122.79	7,154.00	306.33	311.36	90.00	3,490.92	-12,241.34	2,531.39	1,919.17	612.22	4.135				
17,500.00	7,154.00	18,222.79	7,154.00	309.01	313.99	90.00	3,491.08	-12,341.34	2,531.52	1,913.94	617.58	4.099				
17,600.00	7,154.00	18,322.79	7,154.00	311.69	316.62	90.00	3,491.24	-12,441.34	2,531.65	1,908.71	622.94	4.064				
17,700.00	7,154.00	18,422.79	7,154.00	314.37	319.25	90.00	3,491.39	-12,541.34	2,531.78	1,903.48	628.30	4.030				
17,800.00	7,154.00	18,522.79	7,154.00	317.05	321.88	90.00	3,491.55	-12,641.34	2,531.92	1,898.25	633.67	3.996				
17,900.00	7,154.00	18,622.79	7,154.00	319.73	324.52	90.00	3,491.71	-12,741.34	2,532.05	1,893.02	639.03	3.962				
18,000.00	7,154.00	18,722.79	7,154.00	322.41	327.15	90.00	3,491.86	-12,841.34	2,532.18	1,887.79	644.39	3.930				
18,100.00	7,154.00	18,822.79	7,154.00	325.09	329.79	90.00	3,492.02	-12,941.34	2,532.31	1,882.55	649.76	3.897				
18,200.00	7,154.00	18,922.79	7,154.00	327.77	332.43	90.00	3,492.18	-13,041.34	2,532.44	1,877.32	655.12	3.866				
18,300.00	7,154.00	19,022.79	7,154.00	330.45	335.07	90.00	3,492.33	-13,141.34	2,532.57	1,872.09	660.49	3.834				
18,400.00	7,154.00	19,122.79	7,154.00	333.13	337.71	90.00	3,492.49	-13,241.34	2,532.70	1,866.85	665.85	3.804				
18,500.00	7,154.00	19,222.79	7,154.00	335.82	340.35	90.00	3,492.65	-13,341.34	2,532.83	1,861.62	671.22	3.773				
18,600.00	7,154.00	19,322.79	7,154.00	338.50	342.99	90.00	3,492.80	-13,441.34	2,532.97	1,856.38	676.59	3.744				
18,700.00	7,154.00	19,422.79	7,154.00	341.18	345.64	90.00	3,492.96	-13,541.34	2,533.10	1,851.14	681.95	3.714				
18,800.00	7,154.00	19,522.79	7,154.00	343.86	348.28	90.00	3,493.11	-13,641.34	2,533.23	1,845.91	687.32	3.686				
18,900.00	7,154.00	19,622.79	7,154.00	346.55	350.92	90.00	3,493.27	-13,741.34	2,533.36	1,840.67	692.69	3.657				
19,000.00	7,154.00	19,722.79	7,154.00	349.23	353.57	90.00	3,493.43	-13,841.34	2,533.49	1,835.43	698.06	3.629				
19,100.00	7,154.00	19,822.79	7,154.00	351.92	356.22	90.00	3,493.58	-13,941.34	2,533.62	1,830.19	703.43	3.602				
19,200.00	7,154.00	19,922.79	7,154.00	354.60	358.87	90.00	3,493.74	-14,041.34	2,533.75	1,824.95	708.80	3.575				
19,300.00	7,154.00	20,022.79	7,154.00	357.29	361.52	90.00	3,493.90	-14,141.34	2,533.89	1,819.71	714.17	3.548				
19,400.00	7,154.00	20,122.79	7,154.00	359.97	364.16	90.00	3,494.05	-14,241.34	2,534.02	1,814.47	719.55	3.522				
19,500.00	7,154.00	20,222.79	7,154.00	362.66	366.82	90.00	3,494.21	-14,341.34	2,534.15	1,809.23	724.92	3.496				
19,600.00	7,154.00	20,322.79	7,154.00	365.34	369.47	90.00	3,494.37	-14,441.34	2,534.28	1,803.99	730.29	3.470				
19,700.00	7,154.00	20,422.79	7,154.00	368.03	372.12	90.00	3,494.52	-14,541.34	2,534.41	1,798.75	735.66	3.445				
19,800.00	7,154.00	20,522.79	7,154.00	370.72	374.77	90.00	3,494.68	-14,641.34	2,534.54	1,793.50	741.04	3.420				
19,900.00	7,154.00	20,622.79	7,154.00	373.40	377.43	90.00	3,494.84	-14,741.34	2,534.67	1,788.26	746.41	3.396				
20,000.00	7,154.00	20,722.79	7,154.00	376.09	380.08	90.00	3,494.99	-14,841.34	2,534.80	1,783.02	751.79	3.372				
20,100.00	7,154.00	20,822.79	7,154.00	378.78	382.74	90.00	3,495.15	-14,941.34	2,534.94	1,777.77	757.16	3.348				
20,200.00	7,154.00	20,922.79	7,154.00	381.46	385.39	90.00	3,495.31	-15,041.34	2,535.07	1,772.53	762.54	3.325				
20,300.00	7,154.00	21,022.79	7,154.00	384.15	388.05	90.00	3,495.46	-15,141.34	2,535.20	1,767.28	767.91	3.301				
20,400.00	7,154.00	21,122.79	7,154.00	386.84	390.71	90.00	3,495.62	-15,241.34	2,535.33	1,762.04	773.29	3.279				
20,500.00	7,154.00	21,222.79	7,154.00	389.53	393.36	90.00	3,495.78	-15,341.33	2,535.46	1,756.79	778.67	3.256				
20,600.00	7,154.00	21,322.79	7,154.00	392.21	396.02	90.00	3,495.93	-15,441.33	2,535.59	1,751.55	784.05	3.234				
20,700.00	7,154.00	21,422.79	7,154.00	394.90	398.68	90.00	3,496.09	-15,541.33	2,535.72	1,746.30	789.42	3.212				

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 WARBLER 13W-27-03
Project:	ADAMS COUNTY	TVD Reference:	KB 25' @ 5105.00usft
Reference Site:	Sec 13-T1S-R66W	MD Reference:	KB 25' @ 5105.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	WARBLER 13W-27-03	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT_32Bit_ODBC
Reference Design:	PROPOSAL 1	Offset TVD Reference:	Offset Datum

Offset Design Sec 13-T1S-R66W - WARBLER 13W-27-01 - OWB - PROPOSAL 1												Offset Site Error:	0.00 usft
Survey Program: 0-MWD OWSG												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	
20,800.00	7,154.00	21,522.79	7,154.00	397.59	401.34	90.00	3,496.25	-15,641.33	2,535.85	1,741.05	794.80	3.191	
20,900.00	7,154.00	21,622.79	7,154.00	400.28	404.00	90.00	3,496.40	-15,741.33	2,535.99	1,735.81	800.18	3.169	
21,000.00	7,154.00	21,722.79	7,154.00	402.97	406.66	90.00	3,496.56	-15,841.33	2,536.12	1,730.56	805.56	3.148	
21,100.00	7,154.00	21,822.79	7,154.00	405.66	409.32	90.00	3,496.72	-15,941.33	2,536.25	1,725.31	810.94	3.128	
21,200.00	7,154.00	21,922.79	7,154.00	408.35	411.99	90.00	3,496.87	-16,041.33	2,536.38	1,720.06	816.32	3.107	
21,300.00	7,154.00	22,022.79	7,154.00	411.04	414.65	90.00	3,497.03	-16,141.33	2,536.51	1,714.81	821.70	3.087	
21,400.00	7,154.00	22,122.79	7,154.00	413.73	417.31	90.00	3,497.19	-16,241.33	2,536.64	1,709.56	827.08	3.067	
21,500.00	7,154.00	22,222.79	7,154.00	416.42	419.98	90.00	3,497.34	-16,341.33	2,536.77	1,704.31	832.46	3.047	
21,573.27	7,154.00	22,296.06	7,154.00	418.39	421.93	90.00	3,497.46	-16,414.60	2,536.87	1,700.47	836.40	3.033 SF	

Anticollision Report

Company:	EXTRACTION OIL & GAS	Local Co-ordinate Reference:	Well WARBLER 13W-27-03
Project:	ADAMS COUNTY	TVD Reference:	KB 25' @ 5105.00usft
Reference Site:	Sec 13-T1S-R66W	MD Reference:	KB 25' @ 5105.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	WARBLER 13W-27-03	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT_32Bit_ODBC
Reference Design:	PROPOSAL 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-MWD OWSG													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		
0.00	0.00	0.00	0.00	0.00	0.00	0.57	28.05	0.28	28.05					
100.00	100.00	100.00	100.00	0.13	0.13	0.57	28.05	0.28	28.05	27.78	0.27	104.336		
200.00	200.00	200.00	200.00	0.49	0.49	0.57	28.05	0.28	28.05	27.07	0.99	28.455		
300.00	300.00	300.00	300.00	0.85	0.85	0.57	28.05	0.28	28.05	26.35	1.70	16.474		
400.00	400.00	400.00	400.00	1.21	1.21	0.57	28.05	0.28	28.05	25.63	2.42	11.593	CC, ES	
500.00	500.00	499.32	499.30	1.57	1.56	-1.96	29.20	-1.00	29.23	26.10	3.13	9.330		
600.00	600.00	598.39	598.23	1.93	1.92	-8.39	32.65	-4.82	33.05	29.21	3.85	8.596		
700.00	699.98	697.14	696.61	2.28	2.28	54.31	38.37	-11.15	39.06	34.51	4.55	8.583		
800.00	799.84	795.63	794.37	2.63	2.66	51.20	46.33	-19.96	46.13	40.88	5.25	8.782		
900.00	899.45	893.82	891.38	3.00	3.05	49.94	56.51	-31.23	54.04	48.07	5.96	9.062		
1,000.00	998.70	991.71	987.51	3.37	3.47	49.86	68.86	-44.91	62.68	55.99	6.69	9.373		
1,100.00	1,097.47	1,089.28	1,082.65	3.77	3.91	50.54	83.36	-60.96	72.05	64.61	7.43	9.691		
1,200.00	1,195.62	1,186.51	1,176.66	4.19	4.39	51.69	99.96	-79.34	82.15	73.94	8.21	10.002		
1,300.00	1,293.06	1,283.38	1,269.45	4.64	4.92	53.12	118.62	-100.00	93.04	83.99	9.04	10.288		
1,400.00	1,389.64	1,379.90	1,360.90	5.12	5.48	54.69	139.29	-122.88	104.72	94.79	9.93	10.544		
1,500.00	1,485.27	1,476.03	1,450.91	5.66	6.09	56.33	161.92	-147.93	117.25	106.35	10.89	10.763		
1,600.00	1,579.82	1,571.78	1,539.38	6.24	6.75	57.97	186.45	-175.10	130.63	118.69	11.94	10.937		
1,700.00	1,673.17	1,667.13	1,626.22	6.88	7.45	59.58	212.84	-204.32	144.90	131.81	13.09	11.067		
1,800.00	1,765.22	1,762.09	1,711.34	7.57	8.22	61.15	241.03	-235.53	160.07	145.72	14.35	11.154		
1,900.00	1,856.73	1,857.86	1,795.83	8.31	9.03	62.37	271.26	-269.00	176.97	161.28	15.69	11.278		
2,000.00	1,948.24	1,956.27	1,882.29	9.06	9.91	63.25	302.77	-303.89	194.48	177.35	17.13	11.352		
2,100.00	2,039.75	2,054.69	1,968.75	9.83	10.80	63.98	334.28	-338.77	212.03	193.43	18.60	11.398		
2,200.00	2,131.26	2,153.10	2,055.22	10.61	11.70	64.60	365.78	-373.66	229.60	209.51	20.10	11.425		
2,300.00	2,222.77	2,251.52	2,141.68	11.40	12.60	65.14	397.29	-408.54	247.20	225.59	21.61	11.439		
2,400.00	2,314.28	2,349.93	2,228.14	12.20	13.52	65.60	428.80	-443.42	264.82	241.68	23.14	11.445		
2,500.00	2,405.79	2,448.35	2,314.61	13.00	14.44	66.00	460.31	-478.31	282.45	257.76	24.68	11.444		
2,600.00	2,497.30	2,546.76	2,401.07	13.81	15.37	66.36	491.81	-513.19	300.09	273.85	26.23	11.439		
2,700.00	2,588.81	2,645.18	2,487.53	14.62	16.29	66.68	523.32	-548.08	317.74	289.94	27.80	11.431		
2,800.00	2,680.31	2,743.59	2,574.00	15.44	17.23	66.96	554.83	-582.96	335.40	306.04	29.37	11.422		
2,900.00	2,771.82	2,842.01	2,660.46	16.25	18.16	67.22	586.34	-617.85	353.07	322.13	30.94	11.411		
3,000.00	2,863.33	2,940.43	2,746.93	17.08	19.10	67.45	617.84	-652.73	370.74	338.22	32.52	11.399		
3,100.00	2,954.84	3,038.84	2,833.39	17.90	20.04	67.66	649.35	-687.61	388.42	354.31	34.11	11.388		
3,200.00	3,046.35	3,137.26	2,919.85	18.72	20.98	67.85	680.86	-722.50	406.11	370.41	35.70	11.376		
3,300.00	3,137.86	3,235.67	3,006.32	19.55	21.92	68.02	712.36	-757.38	423.79	386.50	37.29	11.364		
3,400.00	3,229.37	3,334.09	3,092.78	20.38	22.86	68.19	743.87	-792.27	441.48	402.59	38.89	11.352		
3,500.00	3,320.88	3,432.50	3,179.24	21.21	23.81	68.34	775.38	-827.15	459.18	418.69	40.49	11.340		
3,600.00	3,412.39	3,530.92	3,265.71	22.04	24.75	68.47	806.89	-862.04	476.88	434.78	42.09	11.329		
3,700.00	3,503.90	3,629.33	3,352.17	22.87	25.70	68.60	838.39	-896.92	494.58	450.88	43.70	11.318		
3,800.00	3,595.41	3,727.75	3,438.63	23.70	26.65	68.72	869.90	-931.81	512.28	466.97	45.30	11.308		
3,900.00	3,686.91	3,826.16	3,525.10	24.54	27.60	68.83	901.41	-966.69	529.98	483.07	46.91	11.297		
4,000.00	3,778.42	3,924.58	3,611.56	25.37	28.54	68.94	932.91	-1,001.57	547.69	499.17	48.52	11.287		
4,100.00	3,869.93	4,022.99	3,698.02	26.20	29.49	69.03	964.42	-1,036.46	565.40	515.26	50.13	11.278		
4,200.00	3,961.44	4,121.41	3,784.49	27.04	30.44	69.13	995.93	-1,071.34	583.11	531.36	51.75	11.269		
4,300.00	4,052.95	4,219.82	3,870.95	27.88	31.39	69.21	1,027.44	-1,106.23	600.82	547.46	53.36	11.260		
4,400.00	4,144.46	4,318.24	3,957.41	28.71	32.34	69.29	1,058.94	-1,141.11	618.53	563.55	54.98	11.251		
4,500.00	4,235.97	4,416.65	4,043.88	29.55	33.30	69.37	1,090.45	-1,176.00	636.24	579.65	56.59	11.243		
4,600.00	4,327.48	4,515.07	4,130.34	30.39	34.25	69.44	1,121.96	-1,210.88	653.95	595.75	58.21	11.235		
4,700.00	4,418.99	4,613.49	4,216.81	31.22	35.20	69.51	1,153.47	-1,245.76	671.67	611.84	59.83	11.227		
4,800.00	4,510.50	4,711.90	4,303.27	32.06	36.15	69.58	1,184.97	-1,280.65	689.38	627.94	61.45	11.220		
4,900.00	4,602.01	4,810.32	4,389.73	32.90	37.10	69.64	1,216.48	-1,315.53	707.10	644.04	63.06	11.212		
5,000.00	4,693.51	4,908.73	4,476.20	33.74	38.06	69.70	1,247.99	-1,350.42	724.82	660.13	64.68	11.205		
5,100.00	4,785.02	5,007.15	4,562.66	34.58	39.01	69.76	1,279.49	-1,385.30	742.54	676.23	66.31	11.199		

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 WARBLER 13W-27-03
Project:	ADAMS COUNTY	TVD Reference:	KB 25' @ 5105.00usft
Reference Site:	Sec 13-T1S-R66W	MD Reference:	KB 25' @ 5105.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	WARBLER 13W-27-03	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT_32Bit_ODBC
Reference Design:	PROPOSAL 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-MWD OWSG													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		
5,200.00	4,876.53	5,105.56	4,649.12	35.42	39.96	69.81	1,311.00	-1,420.19	760.26	692.33	67.93	11.192		
5,300.00	4,968.04	5,203.98	4,735.59	36.26	40.92	69.86	1,342.51	-1,455.07	777.97	708.43	69.55	11.186		
5,400.00	5,059.55	5,302.39	4,822.05	37.10	41.87	69.91	1,374.02	-1,489.96	795.69	724.52	71.17	11.180		
5,500.00	5,151.06	5,400.81	4,908.51	37.94	42.82	69.96	1,405.52	-1,524.84	813.41	740.62	72.79	11.174		
5,600.00	5,242.57	5,500.78	4,994.98	38.78	43.79	70.00	1,437.03	-1,559.72	831.14	756.71	74.43	11.167		
5,700.00	5,334.08	5,602.36	5,081.44	39.62	44.78	70.04	1,468.54	-1,594.61	848.86	772.78	76.08	11.157		
5,800.00	5,425.59	5,703.95	5,167.90	40.46	45.76	70.08	1,500.04	-1,629.49	866.58	788.85	77.73	11.149		
5,900.00	5,517.10	5,805.53	5,254.37	41.30	46.75	70.12	1,531.55	-1,664.38	884.30	804.92	79.38	11.140		
6,000.00	5,608.61	5,892.88	5,340.83	42.14	47.59	70.16	1,563.06	-1,699.26	902.02	821.11	80.91	11.148		
6,100.00	5,700.12	6,008.70	5,427.30	42.98	48.72	70.20	1,594.57	-1,734.15	919.75	837.06	82.68	11.124		
6,200.00	5,791.62	6,089.71	5,513.76	43.82	49.50	70.23	1,626.07	-1,769.03	937.47	853.31	84.16	11.139		
6,300.00	5,883.13	6,188.13	5,600.22	44.66	50.46	70.27	1,657.58	-1,803.91	955.19	869.40	85.79	11.134		
6,400.00	5,974.64	6,286.55	5,686.69	45.50	51.41	70.30	1,689.09	-1,838.80	972.92	885.50	87.42	11.130		
6,500.00	6,066.15	6,384.96	5,773.15	46.35	52.37	70.33	1,720.60	-1,873.68	990.64	901.60	89.04	11.125		
6,600.00	6,157.66	6,483.38	5,859.61	47.19	53.32	70.36	1,752.10	-1,908.57	1,008.37	917.70	90.67	11.121		
6,700.00	6,249.17	6,581.79	5,946.08	48.03	54.28	70.39	1,783.61	-1,943.45	1,026.09	933.80	92.30	11.117		
6,800.00	6,340.68	6,680.21	6,032.54	48.87	55.23	70.42	1,815.12	-1,978.34	1,043.82	949.89	93.92	11.114		
6,900.00	6,432.19	6,778.62	6,119.00	49.71	56.19	70.45	1,846.62	-2,013.22	1,061.54	965.99	95.55	11.110		
7,000.00	6,523.70	6,877.04	6,205.47	50.55	57.15	70.47	1,878.13	-2,048.11	1,079.27	982.09	97.18	11.106		
7,100.00	6,615.21	6,975.45	6,291.93	51.40	58.10	70.50	1,909.64	-2,082.99	1,096.99	998.19	98.81	11.103		
7,200.00	6,706.72	7,073.87	6,378.39	52.24	59.06	70.52	1,941.15	-2,117.87	1,114.72	1,014.29	100.43	11.099		
7,300.00	6,798.22	7,172.28	6,464.86	53.08	60.01	70.55	1,972.65	-2,152.76	1,132.44	1,030.38	102.06	11.096		
7,400.00	6,886.25	7,270.11	6,550.80	54.07	60.96	75.39	2,003.97	-2,187.43	1,150.65	1,046.57	104.08	11.055		
7,500.00	6,965.23	7,364.76	6,633.96	55.35	61.88	78.07	2,034.27	-2,220.98	1,169.87	1,062.99	106.88	10.946		
7,600.00	7,032.75	7,453.36	6,711.80	56.90	62.74	79.80	2,062.64	-2,252.39	1,190.57	1,080.25	110.32	10.792		
7,700.00	7,086.77	7,533.22	6,781.96	58.68	63.52	80.87	2,088.21	-2,280.70	1,213.68	1,099.47	114.21	10.626		
7,800.00	7,125.64	7,672.43	6,900.07	60.64	65.03	83.38	2,131.25	-2,339.85	1,239.12	1,119.78	119.33	10.384		
7,900.00	7,148.19	7,939.18	7,075.00	62.69	69.07	87.89	2,195.11	-2,527.47	1,260.09	1,135.58	124.51	10.120		
8,000.00	7,154.00	8,271.44	7,154.00	64.75	75.03	90.00	2,224.15	-2,844.17	1,266.99	1,140.60	126.39	10.024		
8,100.00	7,154.00	8,371.44	7,154.00	66.83	76.82	90.00	2,224.24	-2,944.17	1,267.06	1,136.39	130.66	9.697		
8,200.00	7,154.00	8,471.44	7,154.00	68.96	78.65	90.00	2,224.33	-3,044.17	1,267.12	1,132.11	135.01	9.385		
8,300.00	7,154.00	8,571.44	7,154.00	71.12	80.54	90.00	2,224.42	-3,144.17	1,267.18	1,127.75	139.44	9.088		
8,400.00	7,154.00	8,671.44	7,154.00	73.32	82.46	90.00	2,224.50	-3,244.17	1,267.25	1,123.32	143.93	8.805		
8,500.00	7,154.00	8,771.44	7,154.00	75.55	84.43	90.00	2,224.59	-3,344.17	1,267.31	1,118.83	148.48	8.535		
8,600.00	7,154.00	8,871.44	7,154.00	77.81	86.43	90.00	2,224.68	-3,444.17	1,267.38	1,114.29	153.09	8.279		
8,700.00	7,154.00	8,971.44	7,154.00	80.10	88.47	90.00	2,224.77	-3,544.17	1,267.44	1,109.69	157.75	8.035		
8,800.00	7,154.00	9,071.44	7,154.00	82.41	90.55	90.00	2,224.86	-3,644.17	1,267.51	1,105.05	162.45	7.802		
8,900.00	7,154.00	9,171.44	7,154.00	84.75	92.65	90.00	2,224.95	-3,744.17	1,267.57	1,100.37	167.20	7.581		
9,000.00	7,154.00	9,271.44	7,154.00	87.11	94.79	90.00	2,225.04	-3,844.17	1,267.63	1,095.65	171.99	7.371		
9,100.00	7,154.00	9,371.44	7,154.00	89.48	96.95	90.00	2,225.13	-3,944.17	1,267.70	1,090.89	176.81	7.170		
9,200.00	7,154.00	9,471.44	7,154.00	91.88	99.14	90.00	2,225.22	-4,044.17	1,267.76	1,086.10	181.66	6.979		
9,300.00	7,154.00	9,571.44	7,154.00	94.29	101.36	90.00	2,225.31	-4,144.17	1,267.83	1,081.28	186.55	6.796		
9,400.00	7,154.00	9,671.44	7,154.00	96.72	103.60	90.00	2,225.40	-4,244.17	1,267.89	1,076.43	191.46	6.622		
9,500.00	7,154.00	9,771.44	7,154.00	99.16	105.86	90.00	2,225.49	-4,344.17	1,267.96	1,071.55	196.40	6.456		
9,600.00	7,154.00	9,871.44	7,154.00	101.61	108.14	90.00	2,225.58	-4,444.17	1,268.02	1,066.65	201.37	6.297		
9,700.00	7,154.00	9,971.44	7,154.00	104.08	110.45	90.00	2,225.67	-4,544.17	1,268.08	1,061.73	206.35	6.145		
9,800.00	7,154.00	10,071.44	7,154.00	106.56	112.77	90.00	2,225.76	-4,644.17	1,268.15	1,056.79	211.36	6.000		
9,900.00	7,154.00	10,171.44	7,154.00	109.05	115.10	90.00	2,225.85	-4,744.17	1,268.21	1,051.83	216.39	5.861		
10,000.00	7,154.00	10,271.44	7,154.00	111.55	117.46	90.00	2,225.94	-4,844.17	1,268.28	1,046.85	221.43	5.728		
10,100.00	7,154.00	10,371.44	7,154.00	114.06	119.83	90.00	2,226.03	-4,944.17	1,268.34	1,041.85	226.49	5.600		
10,200.00	7,154.00	10,471.44	7,154.00	116.57	122.21	90.00	2,226.12	-5,044.17	1,268.41	1,036.84	231.57	5.478		
10,300.00	7,154.00	10,571.44	7,154.00	119.10	124.61	90.00	2,226.21	-5,144.17	1,268.47	1,031.81	236.66	5.360		

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 Warbler 13W-27-03
Project:	ADAMS COUNTY	TVD Reference:	KB 25' @ 5105.00usft
Reference Site:	Sec 13-T1S-R66W	MD Reference:	KB 25' @ 5105.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	Warbler 13W-27-03	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT_32Bit_ODBC
Reference Design:	PROPOSAL 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-MWD OWSG													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		
10,400.00	7,154.00	10,671.44	7,154.00	121.63	127.02	90.00	2,226.30	-5,244.17	1,268.53	1,026.77	241.76	5.247		
10,500.00	7,154.00	10,771.44	7,154.00	124.17	129.44	90.00	2,226.39	-5,344.17	1,268.60	1,021.72	246.88	5.139		
10,600.00	7,154.00	10,871.44	7,154.00	126.72	131.87	90.00	2,226.48	-5,444.17	1,268.66	1,016.65	252.01	5.034		
10,700.00	7,154.00	10,971.44	7,154.00	129.28	134.31	90.00	2,226.57	-5,544.17	1,268.73	1,011.58	257.15	4.934		
10,800.00	7,154.00	11,071.44	7,154.00	131.84	136.77	90.00	2,226.66	-5,644.17	1,268.79	1,006.49	262.30	4.837		
10,900.00	7,154.00	11,171.44	7,154.00	134.40	139.23	90.00	2,226.74	-5,744.17	1,268.86	1,001.39	267.46	4.744		
11,000.00	7,154.00	11,271.44	7,154.00	136.97	141.70	90.00	2,226.83	-5,844.17	1,268.92	996.29	272.63	4.654		
11,100.00	7,154.00	11,371.44	7,154.00	139.55	144.18	90.00	2,226.92	-5,944.17	1,268.98	991.17	277.81	4.568		
11,200.00	7,154.00	11,471.44	7,154.00	142.13	146.67	90.00	2,227.01	-6,044.17	1,269.05	986.05	283.00	4.484		
11,300.00	7,154.00	11,571.44	7,154.00	144.72	149.17	90.00	2,227.10	-6,144.17	1,269.11	980.91	288.20	4.404		
11,400.00	7,154.00	11,671.44	7,154.00	147.30	151.68	90.00	2,227.19	-6,244.17	1,269.18	975.77	293.40	4.326		
11,500.00	7,154.00	11,771.44	7,154.00	149.90	154.19	90.00	2,227.28	-6,344.17	1,269.24	970.63	298.62	4.250		
11,600.00	7,154.00	11,871.44	7,154.00	152.50	156.71	90.00	2,227.37	-6,444.17	1,269.31	965.47	303.83	4.178		
11,700.00	7,154.00	11,971.44	7,154.00	155.10	159.23	90.00	2,227.46	-6,544.17	1,269.37	960.31	309.06	4.107		
11,800.00	7,154.00	12,071.44	7,154.00	157.70	161.76	90.00	2,227.55	-6,644.17	1,269.43	955.14	314.29	4.039		
11,900.00	7,154.00	12,171.44	7,154.00	160.31	164.30	90.00	2,227.64	-6,744.17	1,269.50	949.97	319.53	3.973		
12,000.00	7,154.00	12,271.44	7,154.00	162.92	166.84	90.00	2,227.73	-6,844.17	1,269.56	944.79	324.77	3.909		
12,100.00	7,154.00	12,371.44	7,154.00	165.54	169.39	90.00	2,227.82	-6,944.17	1,269.63	939.61	330.02	3.847		
12,200.00	7,154.00	12,471.44	7,154.00	168.15	171.94	90.00	2,227.91	-7,044.17	1,269.69	934.42	335.27	3.787		
12,300.00	7,154.00	12,571.44	7,154.00	170.77	174.49	90.00	2,228.00	-7,144.17	1,269.76	929.23	340.53	3.729		
12,400.00	7,154.00	12,671.44	7,154.00	173.39	177.06	90.00	2,228.09	-7,244.17	1,269.82	924.03	345.79	3.672		
12,500.00	7,154.00	12,771.44	7,154.00	176.02	179.62	90.00	2,228.18	-7,344.17	1,269.88	918.83	351.06	3.617		
12,600.00	7,154.00	12,871.44	7,154.00	178.65	182.19	90.00	2,228.27	-7,444.17	1,269.95	913.62	356.33	3.564		
12,700.00	7,154.00	12,971.44	7,154.00	181.28	184.77	90.00	2,228.36	-7,544.17	1,270.01	908.41	361.60	3.512		
12,800.00	7,154.00	13,071.44	7,154.00	183.91	187.34	90.00	2,228.45	-7,644.17	1,270.08	903.20	366.88	3.462		
12,900.00	7,154.00	13,171.44	7,154.00	186.54	189.92	90.00	2,228.54	-7,744.17	1,270.14	897.98	372.16	3.413		
13,000.00	7,154.00	13,271.44	7,154.00	189.18	192.51	90.00	2,228.63	-7,844.17	1,270.21	892.76	377.45	3.365		
13,100.00	7,154.00	13,371.44	7,154.00	191.81	195.10	90.00	2,228.72	-7,944.17	1,270.27	887.53	382.74	3.319		
13,200.00	7,154.00	13,471.44	7,154.00	194.45	197.69	90.00	2,228.81	-8,044.17	1,270.33	882.30	388.03	3.274		
13,300.00	7,154.00	13,571.44	7,154.00	197.10	200.28	90.00	2,228.90	-8,144.17	1,270.40	877.07	393.33	3.230		
13,400.00	7,154.00	13,671.44	7,154.00	199.74	202.88	90.00	2,228.99	-8,244.17	1,270.46	871.84	398.63	3.187		
13,500.00	7,154.00	13,771.44	7,154.00	202.38	205.48	90.00	2,229.07	-8,344.17	1,270.53	866.60	403.93	3.145		
13,600.00	7,154.00	13,871.44	7,154.00	205.03	208.08	90.00	2,229.16	-8,444.17	1,270.59	861.36	409.23	3.105		
13,700.00	7,154.00	13,971.44	7,154.00	207.68	210.69	90.00	2,229.25	-8,544.17	1,270.66	856.12	414.54	3.065		
13,800.00	7,154.00	14,071.44	7,154.00	210.33	213.30	90.00	2,229.34	-8,644.17	1,270.72	850.87	419.85	3.027		
13,900.00	7,154.00	14,171.44	7,154.00	212.98	215.91	90.00	2,229.43	-8,744.17	1,270.78	845.62	425.16	2.989		
14,000.00	7,154.00	14,271.44	7,154.00	215.63	218.52	90.00	2,229.52	-8,844.17	1,270.85	840.37	430.48	2.952		
14,100.00	7,154.00	14,371.44	7,154.00	218.28	221.14	90.00	2,229.61	-8,944.17	1,270.91	835.12	435.79	2.916		
14,200.00	7,154.00	14,471.44	7,154.00	220.93	223.75	90.00	2,229.70	-9,044.17	1,270.98	829.87	441.11	2.881		
14,300.00	7,154.00	14,571.44	7,154.00	223.59	226.37	90.00	2,229.79	-9,144.17	1,271.04	824.61	446.43	2.847		
14,400.00	7,154.00	14,671.44	7,154.00	226.25	228.99	90.00	2,229.88	-9,244.17	1,271.11	819.35	451.76	2.814		
14,500.00	7,154.00	14,771.44	7,154.00	228.90	231.62	90.00	2,229.97	-9,344.17	1,271.17	814.09	457.08	2.781		
14,600.00	7,154.00	14,871.44	7,154.00	231.56	234.24	90.00	2,230.06	-9,444.17	1,271.23	808.83	462.41	2.749		
14,700.00	7,154.00	14,971.44	7,154.00	234.22	236.87	90.00	2,230.15	-9,544.17	1,271.30	803.56	467.74	2.718		
14,800.00	7,154.00	15,071.44	7,154.00	236.88	239.50	90.00	2,230.24	-9,644.17	1,271.36	798.30	473.07	2.687		
14,900.00	7,154.00	15,171.44	7,154.00	239.55	242.13	90.00	2,230.33	-9,744.17	1,271.43	793.03	478.40	2.658		
15,000.00	7,154.00	15,271.44	7,154.00	242.21	244.76	90.00	2,230.42	-9,844.17	1,271.49	787.76	483.73	2.628		
15,100.00	7,154.00	15,371.44	7,154.00	244.87	247.40	90.00	2,230.51	-9,944.17	1,271.56	782.49	489.07	2.600		
15,200.00	7,154.00	15,471.44	7,154.00	247.54	250.03	90.00	2,230.60	-10,044.17	1,271.62	777.21	494.41	2.572		
15,300.00	7,154.00	15,571.44	7,154.00	250.20	252.67	90.00	2,230.69	-10,144.17	1,271.68	771.94	499.74	2.545		
15,400.00	7,154.00	15,671.44	7,154.00	252.87	255.31	90.00	2,230.78	-10,244.17	1,271.75	766.66	505.08	2.518		
15,500.00	7,154.00	15,771.44	7,154.00	255.53	257.95	90.00	2,230.87	-10,344.17	1,271.81	761.39	510.43	2.492		

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 WARBLER 13W-27-03
Project:	ADAMS COUNTY	TVD Reference:	KB 25' @ 5105.00usft
Reference Site:	Sec 13-T1S-R66W	MD Reference:	KB 25' @ 5105.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	WARBLER 13W-27-03	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT_32Bit_ODBC
Reference Design:	PROPOSAL 1	Offset TVD Reference:	Offset Datum

Offset Design													Sec 13-T1S-R66W - WARBLER 13W-27-02 - OWB - PROPOSAL 1		Offset Site Error: 0.00 usft	
Survey Program: 0-MWD OWSG													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				
15,600.00	7,154.00	15,871.44	7,154.00	258.20	260.59	90.00	2,230.96	-10,444.17	1,271.88	756.11	515.77	2.466				
15,700.00	7,154.00	15,971.44	7,154.00	260.87	263.23	90.00	2,231.05	-10,544.17	1,271.94	750.83	521.11	2.441				
15,800.00	7,154.00	16,071.44	7,154.00	263.54	265.87	90.00	2,231.14	-10,644.17	1,272.01	745.55	526.46	2.416				
15,900.00	7,154.00	16,171.44	7,154.00	266.21	268.52	90.00	2,231.23	-10,744.17	1,272.07	740.27	531.80	2.392				
16,000.00	7,154.00	16,271.44	7,154.00	268.88	271.16	90.00	2,231.31	-10,844.17	1,272.13	734.98	537.15	2.368				
16,100.00	7,154.00	16,371.44	7,154.00	271.55	273.81	90.00	2,231.40	-10,944.17	1,272.20	729.70	542.50	2.345				
16,200.00	7,154.00	16,471.44	7,154.00	274.22	276.46	90.00	2,231.49	-11,044.17	1,272.26	724.41	547.85	2.322				
16,300.00	7,154.00	16,571.44	7,154.00	276.90	279.11	90.00	2,231.58	-11,144.17	1,272.33	719.12	553.20	2.300				
16,400.00	7,154.00	16,671.44	7,154.00	279.57	281.76	90.00	2,231.67	-11,244.17	1,272.39	713.84	558.56	2.278				
16,500.00	7,154.00	16,771.44	7,154.00	282.24	284.41	90.00	2,231.76	-11,344.17	1,272.46	708.55	563.91	2.256				
16,600.00	7,154.00	16,871.44	7,154.00	284.92	287.06	90.00	2,231.85	-11,444.17	1,272.52	703.26	569.26	2.235				
16,700.00	7,154.00	16,971.44	7,154.00	287.59	289.72	90.00	2,231.94	-11,544.17	1,272.58	697.97	574.62	2.215				
16,800.00	7,154.00	17,071.44	7,154.00	290.27	292.37	90.00	2,232.03	-11,644.17	1,272.65	692.67	579.98	2.194				
16,900.00	7,154.00	17,171.44	7,154.00	292.94	295.03	90.00	2,232.12	-11,744.17	1,272.71	687.38	585.33	2.174				
17,000.00	7,154.00	17,271.44	7,154.00	295.62	297.68	90.00	2,232.21	-11,844.17	1,272.78	682.09	590.69	2.155				
17,100.00	7,154.00	17,371.44	7,154.00	298.29	300.34	90.00	2,232.30	-11,944.17	1,272.84	676.79	596.05	2.135				
17,200.00	7,154.00	17,471.44	7,154.00	300.97	303.00	90.00	2,232.39	-12,044.17	1,272.91	671.50	601.41	2.117				
17,300.00	7,154.00	17,571.44	7,154.00	303.65	305.66	90.00	2,232.48	-12,144.17	1,272.97	666.20	606.77	2.098				
17,400.00	7,154.00	17,671.44	7,154.00	306.33	308.32	90.00	2,232.57	-12,244.17	1,273.03	660.90	612.13	2.080				
17,500.00	7,154.00	17,771.44	7,154.00	309.01	310.98	90.00	2,232.66	-12,344.17	1,273.10	655.60	617.50	2.062				
17,600.00	7,154.00	17,871.44	7,154.00	311.69	313.64	90.00	2,232.75	-12,444.17	1,273.16	650.31	622.86	2.044				
17,700.00	7,154.00	17,971.44	7,154.00	314.37	316.30	90.00	2,232.84	-12,544.17	1,273.23	645.01	628.22	2.027				
17,800.00	7,154.00	18,071.44	7,154.00	317.05	318.96	90.00	2,232.93	-12,644.16	1,273.29	639.71	633.59	2.010				
17,900.00	7,154.00	18,171.44	7,154.00	319.73	321.63	90.00	2,233.02	-12,744.16	1,273.36	634.40	638.95	1.993				
18,000.00	7,154.00	18,271.44	7,154.00	322.41	324.29	90.00	2,233.11	-12,844.16	1,273.42	629.10	644.32	1.976				
18,100.00	7,154.00	18,371.44	7,154.00	325.09	326.96	90.00	2,233.20	-12,944.16	1,273.48	623.80	649.69	1.960				
18,200.00	7,154.00	18,471.44	7,154.00	327.77	329.62	90.00	2,233.29	-13,044.16	1,273.55	618.50	655.05	1.944				
18,300.00	7,154.00	18,571.44	7,154.00	330.45	332.29	90.00	2,233.38	-13,144.16	1,273.61	613.19	660.42	1.928				
18,400.00	7,154.00	18,671.44	7,154.00	333.13	334.95	90.00	2,233.47	-13,244.16	1,273.68	607.89	665.79	1.913				
18,500.00	7,154.00	18,771.44	7,154.00	335.82	337.62	90.00	2,233.56	-13,344.16	1,273.74	602.58	671.16	1.898				
18,600.00	7,154.00	18,871.44	7,154.00	338.50	340.29	90.00	2,233.64	-13,444.16	1,273.81	597.28	676.53	1.883				
18,700.00	7,154.00	18,971.44	7,154.00	341.18	342.96	90.00	2,233.73	-13,544.16	1,273.87	591.97	681.90	1.868				
18,800.00	7,154.00	19,071.44	7,154.00	343.86	345.63	90.00	2,233.82	-13,644.16	1,273.93	586.66	687.27	1.854				
18,900.00	7,154.00	19,171.44	7,154.00	346.55	348.30	90.00	2,233.91	-13,744.16	1,274.00	581.36	692.64	1.839				
19,000.00	7,154.00	19,271.44	7,154.00	349.23	350.97	90.00	2,234.00	-13,844.16	1,274.06	576.05	698.01	1.825				
19,100.00	7,154.00	19,371.44	7,154.00	351.92	353.64	90.00	2,234.09	-13,944.16	1,274.13	570.74	703.39	1.811				
19,200.00	7,154.00	19,471.44	7,154.00	354.60	356.31	90.00	2,234.18	-14,044.16	1,274.19	565.43	708.76	1.798				
19,300.00	7,154.00	19,571.44	7,154.00	357.29	358.98	90.00	2,234.27	-14,144.16	1,274.26	560.12	714.13	1.784				
19,400.00	7,154.00	19,671.44	7,154.00	359.97	361.65	90.00	2,234.36	-14,244.16	1,274.32	554.81	719.51	1.771				
19,500.00	7,154.00	19,771.44	7,154.00	362.66	364.32	90.00	2,234.45	-14,344.16	1,274.39	549.50	724.88	1.758				
19,600.00	7,154.00	19,871.44	7,154.00	365.34	367.00	90.00	2,234.54	-14,444.16	1,274.45	544.19	730.26	1.745				
19,700.00	7,154.00	19,971.44	7,154.00	368.03	369.67	90.00	2,234.63	-14,544.16	1,274.51	538.88	735.63	1.733				
19,800.00	7,154.00	20,071.44	7,154.00	370.72	372.34	90.00	2,234.72	-14,644.16	1,274.58	533.57	741.01	1.720				
19,900.00	7,154.00	20,171.44	7,154.00	373.40	375.02	90.00	2,234.81	-14,744.16	1,274.64	528.26	746.39	1.708				
20,000.00	7,154.00	20,271.44	7,154.00	376.09	377.69	90.00	2,234.90	-14,844.16	1,274.71	522.94	751.76	1.696				
20,100.00	7,154.00	20,371.44	7,154.00	378.78	380.37	90.00	2,234.99	-14,944.16	1,274.77	517.63	757.14	1.684				
20,200.00	7,154.00	20,471.44	7,154.00	381.46	383.04	90.00	2,235.08	-15,044.16	1,274.84	512.32	762.52	1.672				
20,300.00	7,154.00	20,571.44	7,154.00	384.15	385.72	90.00	2,235.17	-15,144.16	1,274.90	507.00	767.90	1.660				
20,400.00	7,154.00	20,671.44	7,154.00	386.84	388.40	90.00	2,235.26	-15,244.16	1,274.96	501.69	773.28	1.649				
20,500.00	7,154.00	20,771.44	7,154.00	389.53	391.07	90.00	2,235.35	-15,344.16	1,275.03	496.37	778.66	1.637				
20,600.00	7,154.00	20,871.44	7,154.00	392.21	393.75	90.00	2,235.44	-15,444.16	1,275.09	491.06	784.03	1.626				
20,700.00	7,154.00	20,971.44	7,154.00	394.90	396.43	90.00	2,235.53	-15,544.16	1,275.16	485.74	789.41	1.615				

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 WARBLER 13W-27-03
Project:	ADAMS COUNTY	TVD Reference:	KB 25' @ 5105.00usft
Reference Site:	Sec 13-T1S-R66W	MD Reference:	KB 25' @ 5105.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	WARBLER 13W-27-03	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT_32Bit_ODBC
Reference Design:	PROPOSAL 1	Offset TVD Reference:	Offset Datum

Offset Design Sec 13-T1S-R66W - WARBLER 13W-27-02 - OWB - PROPOSAL 1												Offset Site Error:	0.00 usft
Survey Program: 0-MWD OWSG												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	
20,800.00	7,154.00	21,071.44	7,154.00	397.59	399.11	90.00	2,235.62	-15,644.16	1,275.22	480.43	794.79	1.604	
20,900.00	7,154.00	21,171.44	7,154.00	400.28	401.79	90.00	2,235.71	-15,744.16	1,275.29	475.11	800.18	1.594	
21,000.00	7,154.00	21,271.44	7,154.00	402.97	404.46	90.00	2,235.80	-15,844.16	1,275.35	469.79	805.56	1.583	
21,100.00	7,154.00	21,371.44	7,154.00	405.66	407.14	90.00	2,235.88	-15,944.16	1,275.41	464.48	810.94	1.573	
21,200.00	7,154.00	21,471.44	7,154.00	408.35	409.82	90.00	2,235.97	-16,044.16	1,275.48	459.16	816.32	1.562	
21,300.00	7,154.00	21,571.44	7,154.00	411.04	412.50	90.00	2,236.06	-16,144.16	1,275.54	453.84	821.70	1.552	
21,400.00	7,154.00	21,671.44	7,154.00	413.73	415.18	90.00	2,236.15	-16,244.16	1,275.61	448.52	827.08	1.542	
21,500.00	7,154.00	21,771.44	7,154.00	416.42	417.86	90.00	2,236.24	-16,344.16	1,275.67	443.20	832.47	1.532	
21,573.27	7,154.00	21,844.70	7,154.00	418.39	419.83	90.00	2,236.31	-16,417.43	1,275.72	439.31	836.41	1.525 SF	

Anticollision Report

Company:	EXTRACTION OIL & GAS	Local Co-ordinate Reference:	Well WARBLER 13W-27-03
Project:	ADAMS COUNTY	TVD Reference:	KB 25' @ 5105.00usft
Reference Site:	Sec 13-T1S-R66W	MD Reference:	KB 25' @ 5105.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	WARBLER 13W-27-03	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT_32Bit_ODBC
Reference Design:	PROPOSAL 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-MWD OWSG													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		
0.00	0.00	0.00	0.00	0.00	0.00	-179.43	-28.05	-0.28	28.05					
100.00	100.00	100.00	100.00	0.13	0.13	-179.43	-28.05	-0.28	28.05	27.78	0.27	104.336		
200.00	200.00	200.00	200.00	0.49	0.49	-179.43	-28.05	-0.28	28.05	27.07	0.99	28.455		
300.00	300.00	300.00	300.00	0.85	0.85	-179.43	-28.05	-0.28	28.05	26.35	1.70	16.474		
400.00	400.00	400.00	400.00	1.21	1.21	-179.43	-28.05	-0.28	28.05	25.63	2.42	11.593		
500.00	500.00	500.00	500.00	1.57	1.57	-179.43	-28.05	-0.28	28.05	24.91	3.14	8.943		
600.00	600.00	600.00	600.00	1.93	1.93	-179.43	-28.05	-0.28	28.05	24.20	3.85	7.279	CC, ES	
700.00	699.98	699.87	699.85	2.28	2.28	-110.62	-28.25	-2.01	28.89	24.34	4.56	6.341		
800.00	799.84	799.70	799.53	2.63	2.62	-110.06	-28.86	-7.19	31.42	26.16	5.26	5.976		
900.00	899.45	899.44	898.89	3.00	2.98	-109.29	-29.87	-15.81	35.62	29.65	5.98	5.962		
1,000.00	998.70	999.05	997.76	3.37	3.35	-108.46	-31.28	-27.84	41.51	34.79	6.72	6.177		
1,100.00	1,097.47	1,098.50	1,095.99	3.77	3.74	-107.67	-33.09	-43.25	49.07	41.57	7.50	6.542		
1,200.00	1,195.62	1,197.74	1,193.41	4.19	4.16	-106.96	-35.29	-61.99	58.30	49.97	8.33	7.000		
1,300.00	1,293.06	1,296.73	1,289.88	4.64	4.61	-106.33	-37.87	-84.01	69.17	59.96	9.21	7.507		
1,400.00	1,389.64	1,395.44	1,385.26	5.12	5.09	-105.78	-40.84	-109.26	81.67	71.51	10.17	8.032		
1,500.00	1,485.27	1,493.84	1,479.41	5.66	5.61	-105.29	-44.17	-137.65	95.79	84.58	11.20	8.551		
1,600.00	1,579.82	1,591.89	1,572.19	6.24	6.19	-104.85	-47.86	-169.13	111.49	99.16	12.33	9.045		
1,700.00	1,673.17	1,689.56	1,663.48	6.88	6.81	-104.45	-51.91	-203.59	128.75	115.20	13.55	9.504		
1,800.00	1,765.22	1,787.55	1,754.17	7.57	7.48	-104.44	-56.23	-240.46	147.37	132.49	14.87	9.909		
1,900.00	1,856.73	1,885.71	1,844.97	8.31	8.17	-105.11	-60.58	-277.51	166.37	150.11	16.26	10.232		
2,000.00	1,948.24	1,983.87	1,935.76	9.06	8.88	-105.65	-64.93	-314.56	185.38	167.70	17.68	10.486		
2,100.00	2,039.75	2,082.04	2,026.56	9.83	9.60	-106.08	-69.27	-351.61	204.41	185.29	19.12	10.688		
2,200.00	2,131.26	2,180.20	2,117.36	10.61	10.33	-106.44	-73.62	-388.66	223.45	202.86	20.59	10.853		
2,300.00	2,222.77	2,278.36	2,208.16	11.40	11.07	-106.75	-77.97	-425.71	242.50	220.43	22.07	10.988		
2,400.00	2,314.28	2,376.52	2,298.95	12.20	11.81	-107.00	-82.32	-462.76	261.55	237.98	23.56	11.100		
2,500.00	2,405.79	2,474.68	2,389.75	13.00	12.56	-107.23	-86.66	-499.81	280.60	255.54	25.07	11.195		
2,600.00	2,497.30	2,572.85	2,480.55	13.81	13.31	-107.42	-91.01	-536.86	299.66	273.08	26.58	11.275		
2,700.00	2,588.81	2,671.01	2,571.35	14.62	14.07	-107.60	-95.36	-573.91	318.72	290.63	28.10	11.344		
2,800.00	2,680.31	2,769.17	2,662.14	15.44	14.83	-107.75	-99.71	-610.96	337.79	308.17	29.62	11.403		
2,900.00	2,771.82	2,867.33	2,752.94	16.25	15.59	-107.89	-104.05	-648.01	356.86	325.70	31.15	11.455		
3,000.00	2,863.33	2,965.49	2,843.74	17.08	16.35	-108.01	-108.40	-685.06	375.93	343.24	32.69	11.500		
3,100.00	2,954.84	3,063.66	2,934.54	17.90	17.12	-108.12	-112.75	-722.11	395.00	360.77	34.23	11.540		
3,200.00	3,046.35	3,161.82	3,025.34	18.72	17.89	-108.22	-117.09	-759.16	414.07	378.30	35.77	11.576		
3,300.00	3,137.86	3,259.98	3,116.13	19.55	18.65	-108.31	-121.44	-796.21	433.14	395.82	37.32	11.607		
3,400.00	3,229.37	3,358.14	3,206.93	20.38	19.43	-108.40	-125.79	-833.26	452.21	413.35	38.86	11.636		
3,500.00	3,320.88	3,456.30	3,297.73	21.21	20.20	-108.47	-130.14	-870.31	471.29	430.87	40.41	11.661		
3,600.00	3,412.39	3,554.47	3,388.53	22.04	20.97	-108.55	-134.48	-907.35	490.36	448.40	41.97	11.684		
3,700.00	3,503.90	3,652.63	3,479.32	22.87	21.74	-108.61	-138.83	-944.40	509.44	465.92	43.52	11.705		
3,800.00	3,595.41	3,750.79	3,570.12	23.70	22.52	-108.67	-143.18	-981.45	528.51	483.44	45.08	11.725		
3,900.00	3,686.91	3,848.95	3,660.92	24.54	23.29	-108.73	-147.53	-1,018.50	547.59	500.96	46.64	11.742		
4,000.00	3,778.42	3,947.11	3,751.72	25.37	24.07	-108.78	-151.87	-1,055.55	566.67	518.48	48.19	11.758		
4,100.00	3,869.93	4,045.28	3,842.51	26.20	24.84	-108.83	-156.22	-1,092.60	585.75	535.99	49.75	11.773		
4,200.00	3,961.44	4,143.44	3,933.31	27.04	25.62	-108.88	-160.57	-1,129.65	604.83	553.51	51.32	11.786		
4,300.00	4,052.95	4,241.60	4,024.11	27.88	26.40	-108.92	-164.92	-1,166.70	623.90	571.03	52.88	11.799		
4,400.00	4,144.46	4,339.76	4,114.91	28.71	27.18	-108.96	-169.26	-1,203.75	642.98	588.54	54.44	11.811		
4,500.00	4,235.97	4,437.92	4,205.70	29.55	27.95	-109.00	-173.61	-1,240.80	662.06	606.06	56.01	11.821		
4,600.00	4,327.48	4,536.09	4,296.50	30.39	28.73	-109.04	-177.96	-1,277.85	681.14	623.57	57.57	11.831		
4,700.00	4,418.99	4,634.25	4,387.30	31.22	29.51	-109.07	-182.30	-1,314.90	700.22	641.09	59.14	11.841		
4,800.00	4,510.50	4,732.41	4,478.10	32.06	30.29	-109.11	-186.65	-1,351.95	719.30	658.60	60.70	11.850		
4,900.00	4,602.01	4,830.57	4,568.90	32.90	31.07	-109.14	-191.00	-1,389.00	738.38	676.11	62.27	11.858		
5,000.00	4,693.51	4,928.74	4,659.69	33.74	31.85	-109.17	-195.35	-1,426.05	757.46	693.63	63.84	11.866		
5,100.00	4,785.02	5,026.90	4,750.49	34.58	32.63	-109.19	-199.69	-1,463.10	776.54	711.14	65.40	11.873		

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 WARBLER 13W-27-03
Project:	ADAMS COUNTY	TVD Reference:	KB 25' @ 5105.00usft
Reference Site:	Sec 13-T1S-R66W	MD Reference:	KB 25' @ 5105.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	WARBLER 13W-27-03	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT_32Bit_ODBC
Reference Design:	PROPOSAL 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-MWD OWSG													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		
5,200.00	4,876.53	5,125.06	4,841.29	35.42	33.41	-109.22	-204.04	-1,500.15	795.62	728.65	66.97	11.880		
5,300.00	4,968.04	5,223.22	4,932.09	36.26	34.19	-109.25	-208.39	-1,537.20	814.71	746.16	68.54	11.886		
5,400.00	5,059.55	5,321.38	5,022.88	37.10	34.97	-109.27	-212.74	-1,574.25	833.79	763.68	70.11	11.892		
5,500.00	5,151.06	5,419.55	5,113.68	37.94	35.75	-109.29	-217.08	-1,611.30	852.87	781.19	71.68	11.898		
5,600.00	5,242.57	5,517.71	5,204.48	38.78	36.53	-109.32	-221.43	-1,648.35	871.95	798.70	73.25	11.904		
5,700.00	5,334.08	5,615.87	5,295.28	39.62	37.31	-109.34	-225.78	-1,685.40	891.03	816.21	74.82	11.909		
5,800.00	5,425.59	5,714.03	5,386.07	40.46	38.09	-109.36	-230.12	-1,722.45	910.11	833.72	76.39	11.914		
5,900.00	5,517.10	5,812.19	5,476.87	41.30	38.88	-109.38	-234.47	-1,759.50	929.19	851.23	77.96	11.918		
6,000.00	5,608.61	5,910.36	5,567.67	42.14	39.66	-109.39	-238.82	-1,796.55	948.28	868.74	79.54	11.923		
6,100.00	5,700.12	6,008.52	5,658.47	42.98	40.44	-109.41	-243.17	-1,833.60	967.36	886.25	81.11	11.927		
6,200.00	5,791.62	6,106.68	5,749.27	43.82	41.22	-109.43	-247.51	-1,870.65	986.44	903.76	82.68	11.931		
6,300.00	5,883.13	6,204.84	5,840.06	44.66	42.00	-109.45	-251.86	-1,907.70	1,005.52	921.27	84.25	11.935		
6,400.00	5,974.64	6,303.00	5,930.86	45.50	42.79	-109.46	-256.21	-1,944.75	1,024.60	938.78	85.82	11.938		
6,500.00	6,066.15	6,401.17	6,021.66	46.35	43.57	-109.48	-260.56	-1,981.80	1,043.69	956.29	87.40	11.942		
6,600.00	6,157.66	6,500.67	6,112.46	47.19	44.36	-109.49	-264.90	-2,018.84	1,062.77	973.79	88.98	11.944		
6,700.00	6,249.17	6,602.51	6,203.25	48.03	45.17	-109.51	-269.25	-2,055.89	1,081.85	991.27	90.58	11.943		
6,800.00	6,340.68	6,704.35	6,294.05	48.87	45.98	-109.52	-273.60	-2,092.94	1,100.93	1,008.75	92.19	11.943		
6,900.00	6,432.19	6,806.19	6,384.85	49.71	46.80	-109.53	-277.95	-2,129.99	1,120.02	1,026.23	93.79	11.942		
7,000.00	6,523.70	6,908.02	6,475.65	50.55	47.61	-109.55	-282.29	-2,167.04	1,139.10	1,043.71	95.39	11.941		
7,100.00	6,615.21	7,009.86	6,566.44	51.40	48.42	-109.56	-286.64	-2,204.09	1,158.18	1,061.19	96.99	11.941		
7,200.00	6,706.72	7,088.30	6,657.24	52.24	49.05	-109.57	-290.99	-2,241.14	1,177.26	1,078.85	98.41	11.963		
7,300.00	6,798.22	7,186.46	6,748.04	53.08	49.83	-109.58	-295.33	-2,278.19	1,196.35	1,096.36	99.99	11.965		
7,400.00	6,886.25	7,286.31	6,839.65	54.07	50.67	-101.88	-299.72	-2,317.58	1,214.83	1,113.08	101.74	11.940		
7,500.00	6,965.23	7,389.89	6,927.30	55.35	51.80	-97.24	-303.93	-2,372.34	1,231.53	1,127.40	104.13	11.826		
7,600.00	7,032.75	7,495.67	7,005.17	56.90	53.29	-94.20	-307.67	-2,443.62	1,245.90	1,138.70	107.20	11.622		
7,700.00	7,086.77	7,603.56	7,069.75	58.68	55.12	-92.17	-310.79	-2,529.79	1,257.46	1,146.58	110.89	11.340		
7,800.00	7,125.64	7,713.27	7,117.71	60.64	57.23	-90.87	-313.11	-2,628.25	1,265.85	1,150.78	115.07	11.001		
7,900.00	7,148.19	7,824.30	7,146.30	62.69	59.53	-90.17	-314.52	-2,735.35	1,270.76	1,151.19	119.57	10.628		
8,000.00	7,154.00	7,934.17	7,154.00	64.75	61.85	-90.00	-314.93	-2,844.79	1,272.09	1,147.97	124.12	10.249		
8,100.00	7,154.00	8,034.17	7,154.00	66.83	64.00	-90.00	-314.97	-2,944.79	1,272.16	1,143.72	128.43	9.905		
8,200.00	7,154.00	8,134.17	7,154.00	68.96	66.18	-90.00	-315.01	-3,044.79	1,272.22	1,139.40	132.82	9.578		
8,300.00	7,154.00	8,234.17	7,154.00	71.12	68.41	-90.00	-315.06	-3,144.79	1,272.29	1,135.00	137.29	9.267		
8,400.00	7,154.00	8,334.17	7,154.00	73.32	70.66	-90.00	-315.10	-3,244.79	1,272.35	1,130.54	141.82	8.972		
8,500.00	7,154.00	8,434.17	7,154.00	75.55	72.95	-90.00	-315.14	-3,344.79	1,272.42	1,126.01	146.40	8.691		
8,600.00	7,154.00	8,534.17	7,154.00	77.81	75.26	-90.00	-315.18	-3,444.79	1,272.48	1,121.44	151.05	8.424		
8,700.00	7,154.00	8,634.17	7,154.00	80.10	77.60	-90.00	-315.22	-3,544.79	1,272.55	1,116.81	155.74	8.171		
8,800.00	7,154.00	8,734.17	7,154.00	82.41	79.96	-90.00	-315.26	-3,644.79	1,272.62	1,112.14	160.48	7.930		
8,900.00	7,154.00	8,834.17	7,154.00	84.75	82.34	-90.00	-315.30	-3,744.79	1,272.68	1,107.43	165.26	7.701		
9,000.00	7,154.00	8,934.17	7,154.00	87.11	84.74	-90.00	-315.34	-3,844.79	1,272.75	1,102.68	170.07	7.484		
9,100.00	7,154.00	9,034.17	7,154.00	89.48	87.16	-90.00	-315.38	-3,944.79	1,272.81	1,097.89	174.92	7.276		
9,200.00	7,154.00	9,134.17	7,154.00	91.88	89.60	-90.00	-315.42	-4,044.79	1,272.88	1,093.07	179.80	7.079		
9,300.00	7,154.00	9,234.17	7,154.00	94.29	92.05	-90.00	-315.46	-4,144.79	1,272.94	1,088.23	184.72	6.891		
9,400.00	7,154.00	9,334.17	7,154.00	96.72	94.52	-90.00	-315.50	-4,244.79	1,273.01	1,083.36	189.65	6.712		
9,500.00	7,154.00	9,434.17	7,154.00	99.16	96.99	-90.00	-315.54	-4,344.79	1,273.08	1,078.46	194.62	6.541		
9,600.00	7,154.00	9,534.17	7,154.00	101.61	99.48	-90.00	-315.58	-4,444.79	1,273.14	1,073.54	199.60	6.378		
9,700.00	7,154.00	9,634.17	7,154.00	104.08	101.98	-90.00	-315.62	-4,544.79	1,273.21	1,068.60	204.61	6.223		
9,800.00	7,154.00	9,734.17	7,154.00	106.56	104.50	-90.00	-315.66	-4,644.79	1,273.27	1,063.63	209.64	6.074		
9,900.00	7,154.00	9,834.17	7,154.00	109.05	107.02	-90.00	-315.70	-4,744.79	1,273.34	1,058.65	214.68	5.931		
10,000.00	7,154.00	9,934.17	7,154.00	111.55	109.54	-90.00	-315.74	-4,844.79	1,273.40	1,053.66	219.75	5.795		
10,100.00	7,154.00	10,034.17	7,154.00	114.06	112.08	-90.00	-315.78	-4,944.79	1,273.47	1,048.64	224.83	5.664		
10,200.00	7,154.00	10,134.17	7,154.00	116.57	114.63	-90.00	-315.82	-5,044.79	1,273.54	1,043.61	229.92	5.539		
10,300.00	7,154.00	10,234.17	7,154.00	119.10	117.18	-90.00	-315.86	-5,144.79	1,273.60	1,038.57	235.03	5.419		

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 WARBLER 13W-27-03
Project:	ADAMS COUNTY	TVD Reference:	KB 25' @ 5105.00usft
Reference Site:	Sec 13-T1S-R66W	MD Reference:	KB 25' @ 5105.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	WARBLER 13W-27-03	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT_32Bit_ODBC
Reference Design:	PROPOSAL 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-MWD OWSG													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		
10,400.00	7,154.00	10,334.17	7,154.00	121.63	119.74	-90.00	-315.90	-5,244.79	1,273.67	1,033.52	240.15	5.304		
10,500.00	7,154.00	10,434.17	7,154.00	124.17	122.30	-90.00	-315.94	-5,344.79	1,273.73	1,028.45	245.28	5.193		
10,600.00	7,154.00	10,534.17	7,154.00	126.72	124.87	-90.00	-315.98	-5,444.79	1,273.80	1,023.37	250.43	5.086		
10,700.00	7,154.00	10,634.17	7,154.00	129.28	127.45	-90.00	-316.03	-5,544.79	1,273.86	1,018.28	255.58	4.984		
10,800.00	7,154.00	10,734.17	7,154.00	131.84	130.03	-90.00	-316.07	-5,644.79	1,273.93	1,013.18	260.75	4.886		
10,900.00	7,154.00	10,834.17	7,154.00	134.40	132.61	-90.00	-316.11	-5,744.79	1,274.00	1,008.07	265.93	4.791		
11,000.00	7,154.00	10,934.17	7,154.00	136.97	135.21	-90.00	-316.15	-5,844.79	1,274.06	1,002.95	271.11	4.699		
11,100.00	7,154.00	11,034.17	7,154.00	139.55	137.80	-90.00	-316.19	-5,944.79	1,274.13	997.82	276.30	4.611		
11,200.00	7,154.00	11,134.17	7,154.00	142.13	140.40	-90.00	-316.23	-6,044.79	1,274.19	992.69	281.50	4.526		
11,300.00	7,154.00	11,234.17	7,154.00	144.72	143.00	-90.00	-316.27	-6,144.79	1,274.26	987.55	286.71	4.444		
11,400.00	7,154.00	11,334.17	7,154.00	147.30	145.61	-90.00	-316.31	-6,244.79	1,274.32	982.40	291.93	4.365		
11,500.00	7,154.00	11,434.17	7,154.00	149.90	148.22	-90.00	-316.35	-6,344.79	1,274.39	977.24	297.15	4.289		
11,600.00	7,154.00	11,534.17	7,154.00	152.50	150.83	-90.00	-316.39	-6,444.79	1,274.46	972.07	302.38	4.215		
11,700.00	7,154.00	11,634.17	7,154.00	155.10	153.45	-90.00	-316.43	-6,544.79	1,274.52	966.91	307.62	4.143		
11,800.00	7,154.00	11,734.17	7,154.00	157.70	156.07	-90.00	-316.47	-6,644.79	1,274.59	961.73	312.86	4.074		
11,900.00	7,154.00	11,834.17	7,154.00	160.31	158.69	-90.00	-316.51	-6,744.79	1,274.65	956.55	318.10	4.007		
12,000.00	7,154.00	11,934.17	7,154.00	162.92	161.32	-90.00	-316.55	-6,844.79	1,274.72	951.36	323.36	3.942		
12,100.00	7,154.00	12,034.17	7,154.00	165.54	163.94	-90.00	-316.59	-6,944.79	1,274.78	946.17	328.61	3.879		
12,200.00	7,154.00	12,134.17	7,154.00	168.15	166.57	-90.00	-316.63	-7,044.79	1,274.85	940.98	333.88	3.818		
12,300.00	7,154.00	12,234.17	7,154.00	170.77	169.21	-90.00	-316.67	-7,144.79	1,274.92	935.77	339.14	3.759		
12,400.00	7,154.00	12,334.17	7,154.00	173.39	171.84	-90.00	-316.71	-7,244.79	1,274.98	930.57	344.41	3.702		
12,500.00	7,154.00	12,434.17	7,154.00	176.02	174.48	-90.00	-316.75	-7,344.79	1,275.05	925.36	349.69	3.646		
12,600.00	7,154.00	12,534.17	7,154.00	178.65	177.12	-90.00	-316.79	-7,444.79	1,275.11	920.15	354.97	3.592		
12,700.00	7,154.00	12,634.17	7,154.00	181.28	179.76	-90.00	-316.83	-7,544.79	1,275.18	914.93	360.25	3.540		
12,800.00	7,154.00	12,734.17	7,154.00	183.91	182.40	-90.00	-316.87	-7,644.79	1,275.25	909.71	365.54	3.489		
12,900.00	7,154.00	12,834.17	7,154.00	186.54	185.04	-90.00	-316.91	-7,744.79	1,275.31	904.49	370.83	3.439		
13,000.00	7,154.00	12,934.17	7,154.00	189.18	187.69	-90.00	-316.96	-7,844.79	1,275.38	899.26	376.12	3.391		
13,100.00	7,154.00	13,034.17	7,154.00	191.81	190.34	-90.00	-317.00	-7,944.79	1,275.44	894.03	381.41	3.344		
13,200.00	7,154.00	13,134.17	7,154.00	194.45	192.99	-90.00	-317.04	-8,044.79	1,275.51	888.79	386.71	3.298		
13,300.00	7,154.00	13,234.17	7,154.00	197.10	195.64	-90.00	-317.08	-8,144.79	1,275.57	883.56	392.02	3.254		
13,400.00	7,154.00	13,334.17	7,154.00	199.74	198.29	-90.00	-317.12	-8,244.79	1,275.64	878.32	397.32	3.211		
13,500.00	7,154.00	13,434.17	7,154.00	202.38	200.94	-90.00	-317.16	-8,344.79	1,275.71	873.08	402.63	3.168		
13,600.00	7,154.00	13,534.17	7,154.00	205.03	203.60	-90.00	-317.20	-8,444.79	1,275.77	867.83	407.94	3.127		
13,700.00	7,154.00	13,634.17	7,154.00	207.68	206.25	-90.00	-317.24	-8,544.79	1,275.84	862.58	413.25	3.087		
13,800.00	7,154.00	13,734.17	7,154.00	210.33	208.91	-90.00	-317.28	-8,644.79	1,275.90	857.33	418.57	3.048		
13,900.00	7,154.00	13,834.17	7,154.00	212.98	211.57	-90.00	-317.32	-8,744.79	1,275.97	852.08	423.89	3.010		
14,000.00	7,154.00	13,934.17	7,154.00	215.63	214.23	-90.00	-317.36	-8,844.79	1,276.03	846.83	429.21	2.973		
14,100.00	7,154.00	14,034.17	7,154.00	218.28	216.89	-90.00	-317.40	-8,944.79	1,276.10	841.57	434.53	2.937		
14,200.00	7,154.00	14,134.17	7,154.00	220.93	219.55	-90.00	-317.44	-9,044.79	1,276.17	836.31	439.85	2.901		
14,300.00	7,154.00	14,234.17	7,154.00	223.59	222.21	-90.00	-317.48	-9,144.79	1,276.23	831.05	445.18	2.867		
14,400.00	7,154.00	14,334.17	7,154.00	226.25	224.88	-90.00	-317.52	-9,244.79	1,276.30	825.79	450.51	2.833		
14,500.00	7,154.00	14,434.17	7,154.00	228.90	227.54	-90.00	-317.56	-9,344.79	1,276.36	820.53	455.84	2.800		
14,600.00	7,154.00	14,534.17	7,154.00	231.56	230.21	-90.00	-317.60	-9,444.79	1,276.43	815.26	461.17	2.768		
14,700.00	7,154.00	14,634.17	7,154.00	234.22	232.87	-90.00	-317.64	-9,544.79	1,276.49	809.99	466.50	2.736		
14,800.00	7,154.00	14,734.17	7,154.00	236.88	235.54	-90.00	-317.68	-9,644.79	1,276.56	804.72	471.84	2.706		
14,900.00	7,154.00	14,834.17	7,154.00	239.55	238.21	-90.00	-317.72	-9,744.79	1,276.63	799.45	477.17	2.675		
15,000.00	7,154.00	14,934.17	7,154.00	242.21	240.88	-90.00	-317.76	-9,844.79	1,276.69	794.18	482.51	2.646		
15,100.00	7,154.00	15,034.17	7,154.00	244.87	243.55	-90.00	-317.80	-9,944.79	1,276.76	788.91	487.85	2.617		
15,200.00	7,154.00	15,134.17	7,154.00	247.54	246.22	-90.00	-317.84	-10,044.79	1,276.82	783.63	493.19	2.589		
15,300.00	7,154.00	15,234.17	7,154.00	250.20	248.89	-90.00	-317.89	-10,144.79	1,276.89	778.35	498.53	2.561		
15,400.00	7,154.00	15,334.17	7,154.00	252.87	251.56	-90.00	-317.93	-10,244.79	1,276.95	773.08	503.88	2.534		
15,500.00	7,154.00	15,434.17	7,154.00	255.53	254.23	-90.00	-317.97	-10,344.79	1,277.02	767.80	509.22	2.508		

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 WARBLER 13W-27-03
Project:	ADAMS COUNTY	TVD Reference:	KB 25' @ 5105.00usft
Reference Site:	Sec 13-T1S-R66W	MD Reference:	KB 25' @ 5105.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	WARBLER 13W-27-03	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT_32Bit_ODBC
Reference Design:	PROPOSAL 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-MWD OWSG													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		
15,600.00	7,154.00	15,534.17	7,154.00	258.20	256.90	-90.00	-318.01	-10,444.79	1,277.09	762.52	514.57	2.482		
15,700.00	7,154.00	15,634.17	7,154.00	260.87	259.58	-90.00	-318.05	-10,544.79	1,277.15	757.23	519.92	2.456		
15,800.00	7,154.00	15,734.17	7,154.00	263.54	262.25	-90.00	-318.09	-10,644.79	1,277.22	751.95	525.27	2.432		
15,900.00	7,154.00	15,834.17	7,154.00	266.21	264.93	-90.00	-318.13	-10,744.79	1,277.28	746.67	530.62	2.407		
16,000.00	7,154.00	15,934.17	7,154.00	268.88	267.60	-90.00	-318.17	-10,844.79	1,277.35	741.38	535.97	2.383		
16,100.00	7,154.00	16,034.17	7,154.00	271.55	270.28	-90.00	-318.21	-10,944.79	1,277.41	736.09	541.32	2.360		
16,200.00	7,154.00	16,134.17	7,154.00	274.22	272.96	-90.00	-318.25	-11,044.79	1,277.48	730.81	546.67	2.337		
16,300.00	7,154.00	16,234.17	7,154.00	276.90	275.63	-90.00	-318.29	-11,144.79	1,277.55	725.52	552.03	2.314		
16,400.00	7,154.00	16,334.17	7,154.00	279.57	278.31	-90.00	-318.33	-11,244.79	1,277.61	720.23	557.38	2.292		
16,500.00	7,154.00	16,434.17	7,154.00	282.24	280.99	-90.00	-318.37	-11,344.79	1,277.68	714.94	562.74	2.270		
16,600.00	7,154.00	16,534.17	7,154.00	284.92	283.67	-90.00	-318.41	-11,444.79	1,277.74	709.64	568.10	2.249		
16,700.00	7,154.00	16,634.17	7,154.00	287.59	286.35	-90.00	-318.45	-11,544.79	1,277.81	704.35	573.46	2.228		
16,800.00	7,154.00	16,734.17	7,154.00	290.27	289.03	-90.00	-318.49	-11,644.79	1,277.87	699.06	578.82	2.208		
16,900.00	7,154.00	16,834.17	7,154.00	292.94	291.71	-90.00	-318.53	-11,744.79	1,277.94	693.76	584.18	2.188		
17,000.00	7,154.00	16,934.17	7,154.00	295.62	294.39	-90.00	-318.57	-11,844.79	1,278.01	688.47	589.54	2.168		
17,100.00	7,154.00	17,034.17	7,154.00	298.29	297.07	-90.00	-318.61	-11,944.79	1,278.07	683.17	594.90	2.148		
17,200.00	7,154.00	17,134.17	7,154.00	300.97	299.75	-90.00	-318.65	-12,044.79	1,278.14	677.88	600.26	2.129		
17,300.00	7,154.00	17,234.17	7,154.00	303.65	302.43	-90.00	-318.69	-12,144.79	1,278.20	672.58	605.63	2.111		
17,400.00	7,154.00	17,334.17	7,154.00	306.33	305.11	-90.00	-318.73	-12,244.79	1,278.27	667.28	610.99	2.092		
17,500.00	7,154.00	17,434.17	7,154.00	309.01	307.79	-90.00	-318.77	-12,344.79	1,278.33	661.98	616.35	2.074		
17,600.00	7,154.00	17,534.16	7,154.00	311.69	310.48	-90.00	-318.81	-12,444.79	1,278.40	656.68	621.72	2.056		
17,700.00	7,154.00	17,634.16	7,154.00	314.37	313.16	-90.00	-318.86	-12,544.79	1,278.47	651.38	627.09	2.039		
17,800.00	7,154.00	17,734.16	7,154.00	317.05	315.84	-90.00	-318.90	-12,644.79	1,278.53	646.08	632.45	2.022		
17,900.00	7,154.00	17,834.16	7,154.00	319.73	318.53	-90.00	-318.94	-12,744.79	1,278.60	640.78	637.82	2.005		
18,000.00	7,154.00	17,934.16	7,154.00	322.41	321.21	-90.00	-318.98	-12,844.79	1,278.66	635.47	643.19	1.988		
18,100.00	7,154.00	18,034.16	7,154.00	325.09	323.89	-90.00	-319.02	-12,944.79	1,278.73	630.17	648.56	1.972		
18,200.00	7,154.00	18,134.16	7,154.00	327.77	326.58	-90.00	-319.06	-13,044.79	1,278.80	624.87	653.93	1.956		
18,300.00	7,154.00	18,234.16	7,154.00	330.45	329.26	-90.00	-319.10	-13,144.79	1,278.86	619.56	659.30	1.940		
18,400.00	7,154.00	18,334.16	7,154.00	333.13	331.95	-90.00	-319.14	-13,244.79	1,278.93	614.26	664.67	1.924		
18,500.00	7,154.00	18,434.16	7,154.00	335.82	334.63	-90.00	-319.18	-13,344.79	1,278.99	608.95	670.04	1.909		
18,600.00	7,154.00	18,534.16	7,154.00	338.50	337.32	-90.00	-319.22	-13,444.79	1,279.06	603.64	675.41	1.894		
18,700.00	7,154.00	18,634.16	7,154.00	341.18	340.01	-90.00	-319.26	-13,544.79	1,279.12	598.34	680.79	1.879		
18,800.00	7,154.00	18,734.16	7,154.00	343.86	342.69	-90.00	-319.30	-13,644.79	1,279.19	593.03	686.16	1.864		
18,900.00	7,154.00	18,834.16	7,154.00	346.55	345.38	-90.00	-319.34	-13,744.79	1,279.26	587.72	691.53	1.850		
19,000.00	7,154.00	18,934.16	7,154.00	349.23	348.07	-90.00	-319.38	-13,844.79	1,279.32	582.41	696.91	1.836		
19,100.00	7,154.00	19,034.16	7,154.00	351.92	350.75	-90.00	-319.42	-13,944.79	1,279.39	577.10	702.28	1.822		
19,200.00	7,154.00	19,134.16	7,154.00	354.60	353.44	-90.00	-319.46	-14,044.79	1,279.45	571.80	707.66	1.808		
19,300.00	7,154.00	19,234.16	7,154.00	357.29	356.13	-90.00	-319.50	-14,144.79	1,279.52	566.49	713.03	1.794		
19,400.00	7,154.00	19,334.16	7,154.00	359.97	358.82	-90.00	-319.54	-14,244.79	1,279.58	561.18	718.41	1.781		
19,500.00	7,154.00	19,434.16	7,154.00	362.66	361.51	-90.00	-319.58	-14,344.79	1,279.65	555.86	723.79	1.768		
19,600.00	7,154.00	19,534.16	7,154.00	365.34	364.19	-90.00	-319.62	-14,444.79	1,279.72	550.55	729.16	1.755		
19,700.00	7,154.00	19,634.16	7,154.00	368.03	366.88	-90.00	-319.66	-14,544.79	1,279.78	545.24	734.54	1.742		
19,800.00	7,154.00	19,734.16	7,154.00	370.72	369.57	-90.00	-319.70	-14,644.79	1,279.85	539.93	739.92	1.730		
19,900.00	7,154.00	19,834.16	7,154.00	373.40	372.26	-90.00	-319.74	-14,744.79	1,279.91	534.62	745.30	1.717		
20,000.00	7,154.00	19,934.16	7,154.00	376.09	374.95	-90.00	-319.79	-14,844.79	1,279.98	529.30	750.67	1.705		
20,100.00	7,154.00	20,034.16	7,154.00	378.78	377.64	-90.00	-319.83	-14,944.79	1,280.04	523.99	756.05	1.693		
20,200.00	7,154.00	20,134.16	7,154.00	381.46	380.33	-90.00	-319.87	-15,044.79	1,280.11	518.68	761.43	1.681		
20,300.00	7,154.00	20,234.16	7,154.00	384.15	383.02	-90.00	-319.91	-15,144.79	1,280.18	513.36	766.81	1.669		
20,400.00	7,154.00	20,334.16	7,154.00	386.84	385.71	-90.00	-319.95	-15,244.79	1,280.24	508.05	772.19	1.658		
20,500.00	7,154.00	20,434.16	7,154.00	389.53	388.40	-90.00	-319.99	-15,344.79	1,280.31	502.73	777.57	1.647		
20,600.00	7,154.00	20,534.16	7,154.00	392.21	391.09	-90.00	-320.03	-15,444.79	1,280.37	497.42	782.96	1.635		
20,700.00	7,154.00	20,634.16	7,154.00	394.90	393.78	-90.00	-320.07	-15,544.79	1,280.44	492.10	788.34	1.624		

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 WARBLER 13W-27-03
Project:	ADAMS COUNTY	TVD Reference:	KB 25' @ 5105.00usft
Reference Site:	Sec 13-T1S-R66W	MD Reference:	KB 25' @ 5105.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	WARBLER 13W-27-03	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT_32Bit_ODBC
Reference Design:	PROPOSAL 1	Offset TVD Reference:	Offset Datum

Offset Design Sec 13-T1S-R66W - WARBLER 13W-27-04 - OWB - PROPOSAL 1												Offset Site Error:	0.00 usft
Survey Program: 0-MWD OWSG												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
20,800.00	7,154.00	20,734.16	7,154.00	397.59	396.47	-90.00	-320.11	-15,644.79	1,280.50	486.79	793.72	1.613	
20,900.00	7,154.00	20,834.16	7,154.00	400.28	399.16	-90.00	-320.15	-15,744.79	1,280.57	481.47	799.10	1.603	
21,000.00	7,154.00	20,934.16	7,154.00	402.97	401.85	-90.00	-320.19	-15,844.79	1,280.64	476.15	804.48	1.592	
21,100.00	7,154.00	21,034.16	7,154.00	405.66	404.54	-90.00	-320.23	-15,944.79	1,280.70	470.84	809.87	1.581	
21,200.00	7,154.00	21,134.16	7,154.00	408.35	407.23	-90.00	-320.27	-16,044.79	1,280.77	465.52	815.25	1.571	
21,300.00	7,154.00	21,234.16	7,154.00	411.04	409.93	-90.00	-320.31	-16,144.79	1,280.83	460.20	820.63	1.561	
21,400.00	7,154.00	21,334.16	7,154.00	413.73	412.62	-90.00	-320.35	-16,244.79	1,280.90	454.88	826.02	1.551	
21,500.00	7,154.00	21,434.16	7,154.00	416.42	415.31	-90.00	-320.39	-16,344.79	1,280.96	449.57	831.40	1.541	
21,573.27	7,154.00	21,507.43	7,154.00	418.39	417.28	-90.00	-320.42	-16,418.05	1,281.01	445.67	835.34	1.534 SF	

Anticollision Report

Company:	EXTRACTION OIL & GAS	Local Co-ordinate Reference:	Well WARBLER 13W-27-03
Project:	ADAMS COUNTY	TVD Reference:	KB 25' @ 5105.00usft
Reference Site:	Sec 13-T1S-R66W	MD Reference:	KB 25' @ 5105.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	WARBLER 13W-27-03	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT_32Bit_ODBC
Reference Design:	PROPOSAL 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-MWD OWSG													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		
0.00	0.00	1.00	1.00	0.00	0.00	74.97	40.43	150.53	155.87					
100.00	100.00	101.03	101.03	0.13	0.14	74.97	40.43	150.53	155.87	155.59	0.27	571.917		
200.00	200.00	203.55	203.52	0.49	0.51	74.35	41.81	149.27	155.03	154.04	1.00	155.115		
300.00	300.00	305.80	305.63	0.85	0.88	72.50	45.88	145.55	152.68	150.95	1.73	88.275		
400.00	400.00	407.54	406.95	1.21	1.26	69.33	52.60	139.41	149.12	146.65	2.47	60.369		
500.00	500.00	508.50	507.12	1.57	1.66	64.70	61.89	130.92	144.94	141.72	3.23	44.934		
600.00	600.00	608.45	605.79	1.93	2.09	58.50	73.65	120.18	141.03	137.02	4.01	35.178		
691.16	691.15	698.75	694.40	2.25	2.50	120.57	86.46	108.48	139.47	134.73	4.74	29.400 CC		
700.00	699.98	707.48	702.93	2.28	2.54	119.92	87.80	107.25	139.48	134.67	4.82	28.954 ES		
800.00	799.84	805.80	798.68	2.63	3.02	112.61	104.29	92.19	141.76	136.10	5.66	25.060		
900.00	899.45	903.41	892.92	3.00	3.54	105.60	123.06	75.05	147.86	141.33	6.53	22.652		
1,000.00	998.70	1,000.28	985.53	3.37	4.10	99.24	144.01	55.90	157.52	150.10	7.42	21.219		
1,100.00	1,097.47	1,096.39	1,076.42	3.77	4.70	93.71	167.07	34.83	170.36	162.01	8.35	20.408		
1,200.00	1,195.62	1,191.74	1,165.51	4.19	5.34	89.07	192.16	11.91	185.91	176.61	9.30	19.985		
1,300.00	1,293.06	1,286.32	1,252.70	4.64	6.03	85.24	219.20	-12.78	203.77	193.47	10.30	19.791		
1,400.00	1,389.64	1,380.11	1,337.93	5.12	6.76	82.13	248.09	-39.18	223.58	212.24	11.34	19.720		
1,500.00	1,485.27	1,473.12	1,421.14	5.66	7.54	79.62	278.77	-67.20	245.05	232.62	12.44	19.704		
1,600.00	1,579.82	1,565.33	1,502.27	6.24	8.36	77.61	311.13	-96.77	267.99	254.39	13.60	19.707		
1,700.00	1,673.17	1,661.72	1,586.13	6.88	9.26	76.14	346.21	-128.82	291.49	276.58	14.91	19.547		
1,800.00	1,765.22	1,759.09	1,670.83	7.57	10.18	75.51	381.66	-161.20	314.25	297.91	16.34	19.232		
1,900.00	1,856.73	1,856.54	1,755.61	8.31	11.10	75.54	417.15	-193.62	336.67	318.84	17.83	18.881		
2,000.00	1,948.24	1,953.99	1,840.39	9.06	12.04	75.57	452.63	-226.04	359.10	339.75	19.35	18.561		
2,100.00	2,039.75	2,051.45	1,925.16	9.83	12.98	75.60	488.11	-258.45	381.52	360.64	20.88	18.271		
2,200.00	2,131.26	2,148.90	2,009.94	10.61	13.92	75.62	523.60	-290.87	403.95	381.52	22.43	18.009		
2,300.00	2,222.77	2,246.35	2,094.72	11.40	14.87	75.64	559.08	-323.29	426.37	402.38	23.99	17.772		
2,400.00	2,314.28	2,343.81	2,179.50	12.20	15.81	75.66	594.57	-355.70	448.79	423.23	25.56	17.557		
2,500.00	2,405.79	2,441.26	2,264.27	13.00	16.77	75.67	630.05	-388.12	471.22	444.08	27.14	17.362		
2,600.00	2,497.30	2,538.71	2,349.05	13.81	17.72	75.69	665.54	-420.54	493.64	464.92	28.73	17.185		
2,700.00	2,588.81	2,636.17	2,433.83	14.62	18.67	75.70	701.02	-452.95	516.07	485.75	30.32	17.023		
2,800.00	2,680.31	2,733.62	2,518.60	15.44	19.63	75.72	736.50	-485.37	538.49	506.58	31.91	16.874		
2,900.00	2,771.82	2,831.07	2,603.38	16.25	20.58	75.73	771.99	-517.79	560.92	527.40	33.51	16.738		
3,000.00	2,863.33	2,928.53	2,688.16	17.08	21.54	75.74	807.47	-550.20	583.34	548.23	35.11	16.613		
3,100.00	2,954.84	3,025.98	2,772.94	17.90	22.50	75.75	842.96	-582.62	605.76	569.04	36.72	16.497		
3,200.00	3,046.35	3,123.43	2,857.71	18.72	23.46	75.76	878.44	-615.04	628.19	589.86	38.33	16.390		
3,300.00	3,137.86	3,220.89	2,942.49	19.55	24.42	75.77	913.92	-647.45	650.61	610.67	39.94	16.290		
3,400.00	3,229.37	3,318.34	3,027.27	20.38	25.38	75.78	949.41	-679.87	673.04	631.48	41.55	16.198		
3,500.00	3,320.88	3,415.79	3,112.05	21.21	26.34	75.78	984.89	-712.29	695.46	652.29	43.17	16.111		
3,600.00	3,412.39	3,513.25	3,196.82	22.04	27.30	75.79	1,020.38	-744.70	717.89	673.10	44.78	16.031		
3,700.00	3,503.90	3,610.70	3,281.60	22.87	28.26	75.80	1,055.86	-777.12	740.31	693.91	46.40	15.955		
3,800.00	3,595.41	3,708.15	3,366.38	23.70	29.22	75.80	1,091.34	-809.54	762.73	714.72	48.02	15.884		
3,900.00	3,686.91	3,805.61	3,451.15	24.54	30.18	75.81	1,126.83	-841.95	785.16	735.52	49.64	15.817		
4,000.00	3,778.42	3,903.06	3,535.93	25.37	31.15	75.81	1,162.31	-874.37	807.58	756.32	51.26	15.755		
4,100.00	3,869.93	4,000.51	3,620.71	26.20	32.11	75.82	1,197.80	-906.79	830.01	777.13	52.88	15.696		
4,200.00	3,961.44	4,097.97	3,705.49	27.04	33.07	75.82	1,233.28	-939.20	852.43	797.93	54.50	15.640		
4,300.00	4,052.95	4,204.58	3,790.26	27.88	34.13	75.83	1,268.76	-971.62	874.86	818.65	56.21	15.565		
4,400.00	4,144.46	4,307.13	3,875.04	28.71	35.14	75.83	1,304.25	-1,004.04	897.28	839.41	57.87	15.504		
4,500.00	4,235.97	4,409.68	3,959.82	29.55	36.15	75.84	1,339.73	-1,036.45	919.71	860.16	59.54	15.447		
4,600.00	4,327.48	4,487.78	4,044.60	30.39	36.93	75.84	1,375.22	-1,068.87	942.13	881.13	61.00	15.444		
4,700.00	4,418.99	4,585.23	4,129.37	31.22	37.89	75.85	1,410.70	-1,101.29	964.55	901.92	62.63	15.401		
4,800.00	4,510.50	4,682.68	4,214.15	32.06	38.86	75.85	1,446.18	-1,133.70	986.98	922.72	64.26	15.360		
4,900.00	4,602.01	4,780.14	4,298.93	32.90	39.82	75.85	1,481.67	-1,166.12	1,009.40	943.52	65.88	15.321		
5,000.00	4,693.51	4,877.59	4,383.70	33.74	40.78	75.86	1,517.15	-1,198.54	1,031.83	964.32	67.51	15.284		

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 Warbler 13W-27-03
Project:	ADAMS COUNTY	TVD Reference:	KB 25' @ 5105.00usft
Reference Site:	Sec 13-T1S-R66W	MD Reference:	KB 25' @ 5105.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	Warbler 13W-27-03	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT_32Bit_ODBC
Reference Design:	PROPOSAL 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-MWD OWSG													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		
5,100.00	4,785.02	4,975.04	4,468.48	34.58	41.75	75.86	1,552.64	-1,230.95	1,054.25	985.11	69.14	15.248		
5,200.00	4,876.53	5,072.50	4,553.26	35.42	42.71	75.86	1,588.12	-1,263.37	1,076.68	1,005.91	70.77	15.214		
5,300.00	4,968.04	5,169.95	4,638.04	36.26	43.68	75.87	1,623.61	-1,295.79	1,099.10	1,026.70	72.40	15.182		
5,400.00	5,059.55	5,267.40	4,722.81	37.10	44.64	75.87	1,659.09	-1,328.20	1,121.53	1,047.50	74.03	15.150		
5,500.00	5,151.06	5,364.86	4,807.59	37.94	45.61	75.87	1,694.57	-1,360.62	1,143.95	1,068.29	75.66	15.120		
5,600.00	5,242.57	5,462.31	4,892.37	38.78	46.57	75.88	1,730.06	-1,393.04	1,166.37	1,089.09	77.29	15.092		
5,700.00	5,334.08	5,559.76	4,977.14	39.62	47.54	75.88	1,765.54	-1,425.45	1,188.80	1,109.88	78.92	15.064		
5,800.00	5,425.59	5,657.22	5,061.92	40.46	48.50	75.88	1,801.03	-1,457.87	1,211.22	1,130.68	80.55	15.038		
5,900.00	5,517.10	5,754.67	5,146.70	41.30	49.47	75.88	1,836.51	-1,490.28	1,233.65	1,151.47	82.18	15.012		
6,000.00	5,608.61	5,852.12	5,231.48	42.14	50.43	75.88	1,871.99	-1,522.70	1,256.07	1,172.26	83.81	14.987		
6,100.00	5,700.12	5,949.58	5,316.25	42.98	51.40	75.89	1,907.48	-1,555.12	1,278.50	1,193.06	85.44	14.964		
6,200.00	5,791.62	6,047.03	5,401.03	43.82	52.36	75.89	1,942.96	-1,587.53	1,300.92	1,213.85	87.07	14.941		
6,300.00	5,883.13	6,144.48	5,485.81	44.66	53.33	75.89	1,978.45	-1,619.95	1,323.35	1,234.64	88.70	14.919		
6,400.00	5,974.64	6,241.94	5,570.59	45.50	54.30	75.89	2,013.93	-1,652.37	1,345.77	1,255.44	90.33	14.898		
6,500.00	6,066.15	6,339.39	5,655.36	46.35	55.26	75.90	2,049.41	-1,684.78	1,368.20	1,276.23	91.97	14.877		
6,600.00	6,157.66	6,436.84	5,740.14	47.19	56.23	75.90	2,084.90	-1,717.20	1,390.62	1,297.02	93.60	14.857		
6,700.00	6,249.17	6,534.30	5,824.92	48.03	57.19	75.90	2,120.38	-1,749.62	1,413.04	1,317.81	95.23	14.838		
6,800.00	6,340.68	6,631.75	5,909.69	48.87	58.16	75.90	2,155.87	-1,782.03	1,435.47	1,338.61	96.86	14.819		
6,900.00	6,432.19	6,729.20	5,994.47	49.71	59.12	75.90	2,191.35	-1,814.45	1,457.89	1,359.40	98.50	14.801		
7,000.00	6,523.70	6,826.66	6,079.25	50.55	60.09	75.90	2,226.83	-1,846.87	1,480.32	1,380.19	100.13	14.784		
7,100.00	6,615.21	6,924.11	6,164.03	51.40	61.06	75.91	2,262.32	-1,879.28	1,502.74	1,400.98	101.76	14.767		
7,200.00	6,706.72	7,021.56	6,248.80	52.24	62.02	75.91	2,297.80	-1,911.70	1,525.17	1,421.77	103.40	14.751		
7,300.00	6,798.22	7,119.02	6,333.58	53.08	62.99	75.91	2,333.29	-1,944.12	1,547.59	1,442.56	105.03	14.735		
7,400.00	6,886.25	7,215.72	6,417.71	54.07	63.95	80.07	2,368.50	-1,976.28	1,571.20	1,464.23	106.97	14.688		
7,500.00	6,965.23	7,308.94	6,498.80	55.35	64.87	81.71	2,402.44	-2,007.29	1,597.09	1,487.56	109.53	14.581		
7,600.00	7,032.75	7,404.15	6,574.41	56.90	65.81	82.14	2,434.09	-2,036.20	1,625.23	1,512.55	112.67	14.424		
7,700.00	7,086.77	7,473.81	6,642.22	58.68	66.50	81.78	2,462.47	-2,062.13	1,655.85	1,539.81	116.04	14.270		
7,800.00	7,125.64	7,540.44	6,700.19	60.64	67.17	80.67	2,486.73	-2,084.30	1,689.31	1,569.66	119.64	14.120		
7,900.00	7,148.19	7,593.72	6,746.54	62.69	67.69	78.69	2,506.13	-2,102.02	1,725.86	1,602.67	123.20	14.009		
8,000.00	7,154.00	7,632.29	6,780.09	64.75	68.08	76.51	2,520.18	-2,114.85	1,765.55	1,639.07	126.48	13.959		
8,100.00	7,154.00	7,665.56	6,809.04	66.83	68.41	77.61	2,532.29	-2,125.92	1,808.88	1,679.42	129.47	13.972		
8,200.00	7,154.00	7,698.84	6,837.98	68.96	68.74	78.71	2,544.41	-2,136.99	1,856.00	1,723.80	132.20	14.039		
8,300.00	7,154.00	7,732.11	6,866.93	71.12	69.07	79.79	2,556.52	-2,148.06	1,906.63	1,771.94	134.69	14.156		
8,400.00	7,154.00	9,268.19	7,579.00	73.32	91.01	102.59	2,855.59	-3,242.94	1,945.11	1,802.98	142.13	13.685		
8,500.00	7,154.00	9,368.19	7,579.00	75.55	92.84	102.59	2,855.71	-3,342.94	1,945.21	1,798.66	146.54	13.274		
8,600.00	7,154.00	9,468.19	7,579.00	77.81	94.70	102.59	2,855.84	-3,442.94	1,945.30	1,794.29	151.01	12.882		
8,700.00	7,154.00	9,568.19	7,579.00	80.10	96.60	102.59	2,855.96	-3,542.94	1,945.40	1,789.87	155.53	12.508		
8,800.00	7,154.00	9,668.19	7,579.00	82.41	98.53	102.59	2,856.09	-3,642.94	1,945.50	1,785.40	160.09	12.152		
8,900.00	7,154.00	9,768.19	7,579.00	84.75	100.50	102.59	2,856.21	-3,742.94	1,945.59	1,780.89	164.70	11.813		
9,000.00	7,154.00	9,868.19	7,579.00	87.11	102.50	102.59	2,856.34	-3,842.94	1,945.69	1,776.34	169.35	11.489		
9,100.00	7,154.00	9,968.19	7,579.00	89.48	104.54	102.59	2,856.46	-3,942.94	1,945.79	1,771.75	174.04	11.180		
9,200.00	7,154.00	10,068.19	7,579.00	91.88	106.60	102.59	2,856.58	-4,042.94	1,945.88	1,767.13	178.75	10.886		
9,300.00	7,154.00	10,168.19	7,579.00	94.29	108.69	102.58	2,856.71	-4,142.94	1,945.98	1,762.48	183.50	10.605		
9,400.00	7,154.00	10,268.19	7,579.00	96.72	110.81	102.58	2,856.83	-4,242.94	1,946.08	1,757.80	188.28	10.336		
9,500.00	7,154.00	10,368.19	7,579.00	99.16	112.96	102.58	2,856.96	-4,342.94	1,946.17	1,753.09	193.08	10.079		
9,600.00	7,154.00	10,468.19	7,579.00	101.61	115.12	102.58	2,857.08	-4,442.94	1,946.27	1,748.36	197.91	9.834		
9,700.00	7,154.00	10,568.19	7,579.00	104.08	117.31	102.58	2,857.21	-4,542.94	1,946.37	1,743.60	202.77	9.599		
9,800.00	7,154.00	10,668.19	7,579.00	106.56	119.53	102.58	2,857.33	-4,642.94	1,946.46	1,738.82	207.64	9.374		
9,900.00	7,154.00	10,768.19	7,579.00	109.05	121.76	102.58	2,857.46	-4,742.94	1,946.56	1,734.03	212.53	9.159		
10,000.00	7,154.00	10,868.19	7,579.00	111.55	124.01	102.58	2,857.58	-4,842.94	1,946.66	1,729.21	217.44	8.953		
10,100.00	7,154.00	10,968.19	7,579.00	114.06	126.28	102.58	2,857.71	-4,942.94	1,946.75	1,724.38	222.37	8.755		
10,200.00	7,154.00	11,068.19	7,579.00	116.57	128.57	102.58	2,857.83	-5,042.94	1,946.85	1,719.54	227.32	8.565		

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 WARBLER 13W-27-03
Project:	ADAMS COUNTY	TVD Reference:	KB 25' @ 5105.00usft
Reference Site:	Sec 13-T1S-R66W	MD Reference:	KB 25' @ 5105.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	WARBLER 13W-27-03	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT_32Bit_ODBC
Reference Design:	PROPOSAL 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-MWD OWSG													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		
10,300.00	7,154.00	11,168.19	7,579.00	119.10	130.87	102.58	2,857.95	-5,142.94	1,946.95	1,714.67	232.27	8.382		
10,400.00	7,154.00	11,268.19	7,579.00	121.63	133.19	102.58	2,858.08	-5,242.94	1,947.04	1,709.80	237.25	8.207		
10,500.00	7,154.00	11,368.19	7,579.00	124.17	135.53	102.58	2,858.20	-5,342.94	1,947.14	1,704.91	242.24	8.038		
10,600.00	7,154.00	11,468.19	7,579.00	126.72	137.87	102.58	2,858.33	-5,442.94	1,947.24	1,700.00	247.23	7.876		
10,700.00	7,154.00	11,568.19	7,579.00	129.28	140.24	102.58	2,858.45	-5,542.94	1,947.33	1,695.09	252.25	7.720		
10,800.00	7,154.00	11,668.19	7,579.00	131.84	142.61	102.58	2,858.58	-5,642.94	1,947.43	1,690.16	257.27	7.570		
10,900.00	7,154.00	11,768.19	7,579.00	134.40	145.00	102.57	2,858.70	-5,742.94	1,947.53	1,685.23	262.30	7.425		
11,000.00	7,154.00	11,868.19	7,579.00	136.97	147.40	102.57	2,858.83	-5,842.94	1,947.62	1,680.28	267.34	7.285		
11,100.00	7,154.00	11,968.19	7,579.00	139.55	149.81	102.57	2,858.95	-5,942.94	1,947.72	1,675.33	272.39	7.150		
11,200.00	7,154.00	12,068.19	7,579.00	142.13	152.23	102.57	2,859.07	-6,042.94	1,947.82	1,670.36	277.46	7.020		
11,300.00	7,154.00	12,168.19	7,579.00	144.72	154.66	102.57	2,859.20	-6,142.94	1,947.91	1,665.39	282.52	6.895		
11,400.00	7,154.00	12,268.19	7,579.00	147.30	157.10	102.57	2,859.32	-6,242.94	1,948.01	1,660.41	287.60	6.773		
11,500.00	7,154.00	12,368.19	7,579.00	149.90	159.54	102.57	2,859.45	-6,342.94	1,948.11	1,655.42	292.68	6.656		
11,600.00	7,154.00	12,468.19	7,579.00	152.50	162.00	102.57	2,859.57	-6,442.94	1,948.21	1,650.43	297.78	6.543		
11,700.00	7,154.00	12,568.19	7,579.00	155.10	164.46	102.57	2,859.70	-6,542.94	1,948.30	1,645.43	302.87	6.433		
11,800.00	7,154.00	12,668.19	7,579.00	157.70	166.94	102.57	2,859.82	-6,642.94	1,948.40	1,640.42	307.98	6.326		
11,900.00	7,154.00	12,768.19	7,579.00	160.31	169.42	102.57	2,859.95	-6,742.94	1,948.50	1,635.41	313.09	6.223		
12,000.00	7,154.00	12,868.19	7,579.00	162.92	171.90	102.57	2,860.07	-6,842.94	1,948.59	1,630.39	318.20	6.124		
12,100.00	7,154.00	12,968.19	7,579.00	165.54	174.40	102.57	2,860.19	-6,942.94	1,948.69	1,625.36	323.33	6.027		
12,200.00	7,154.00	13,068.19	7,579.00	168.15	176.90	102.57	2,860.32	-7,042.94	1,948.79	1,620.33	328.45	5.933		
12,300.00	7,154.00	13,168.19	7,579.00	170.77	179.41	102.57	2,860.44	-7,142.94	1,948.88	1,615.30	333.59	5.842		
12,400.00	7,154.00	13,268.19	7,579.00	173.39	181.92	102.57	2,860.57	-7,242.94	1,948.98	1,610.26	338.72	5.754		
12,500.00	7,154.00	13,368.19	7,579.00	176.02	184.44	102.56	2,860.69	-7,342.94	1,949.08	1,605.21	343.86	5.668		
12,600.00	7,154.00	13,468.19	7,579.00	178.65	186.96	102.56	2,860.82	-7,442.94	1,949.17	1,600.16	349.01	5.585		
12,700.00	7,154.00	13,568.19	7,579.00	181.28	189.49	102.56	2,860.94	-7,542.94	1,949.27	1,595.11	354.16	5.504		
12,800.00	7,154.00	13,668.19	7,579.00	183.91	192.02	102.56	2,861.07	-7,642.94	1,949.37	1,590.05	359.31	5.425		
12,900.00	7,154.00	13,768.19	7,579.00	186.54	194.56	102.56	2,861.19	-7,742.94	1,949.46	1,584.99	364.47	5.349		
13,000.00	7,154.00	13,868.19	7,579.00	189.18	197.11	102.56	2,861.31	-7,842.94	1,949.56	1,579.93	369.63	5.274		
13,100.00	7,154.00	13,968.19	7,579.00	191.81	199.65	102.56	2,861.44	-7,942.94	1,949.66	1,574.86	374.80	5.202		
13,200.00	7,154.00	14,068.19	7,579.00	194.45	202.21	102.56	2,861.56	-8,042.94	1,949.75	1,569.79	379.97	5.131		
13,300.00	7,154.00	14,168.19	7,579.00	197.10	204.76	102.56	2,861.69	-8,142.94	1,949.85	1,564.71	385.14	5.063		
13,400.00	7,154.00	14,268.19	7,579.00	199.74	207.32	102.56	2,861.81	-8,242.94	1,949.95	1,559.64	390.31	4.996		
13,500.00	7,154.00	14,368.19	7,579.00	202.38	209.89	102.56	2,861.94	-8,342.94	1,950.04	1,554.55	395.49	4.931		
13,600.00	7,154.00	14,468.19	7,579.00	205.03	212.45	102.56	2,862.06	-8,442.94	1,950.14	1,549.47	400.67	4.867		
13,700.00	7,154.00	14,568.19	7,579.00	207.68	215.03	102.56	2,862.19	-8,542.94	1,950.24	1,544.38	405.85	4.805		
13,800.00	7,154.00	14,668.19	7,579.00	210.33	217.60	102.56	2,862.31	-8,642.94	1,950.33	1,539.29	411.04	4.745		
13,900.00	7,154.00	14,768.19	7,579.00	212.98	220.18	102.56	2,862.43	-8,742.94	1,950.43	1,534.20	416.23	4.686		
14,000.00	7,154.00	14,868.19	7,579.00	215.63	222.76	102.56	2,862.56	-8,842.94	1,950.53	1,529.11	421.42	4.628		
14,100.00	7,154.00	14,968.19	7,579.00	218.28	225.34	102.55	2,862.68	-8,942.94	1,950.62	1,524.01	426.61	4.572		
14,200.00	7,154.00	15,068.19	7,579.00	220.93	227.93	102.55	2,862.81	-9,042.94	1,950.72	1,518.91	431.81	4.518		
14,300.00	7,154.00	15,168.19	7,579.00	223.59	230.52	102.55	2,862.93	-9,142.94	1,950.82	1,513.81	437.01	4.464		
14,400.00	7,154.00	15,268.19	7,579.00	226.25	233.11	102.55	2,863.06	-9,242.94	1,950.91	1,508.71	442.21	4.412		
14,500.00	7,154.00	15,368.19	7,579.00	228.90	235.71	102.55	2,863.18	-9,342.94	1,951.01	1,503.60	447.41	4.361		
14,600.00	7,154.00	15,468.19	7,579.00	231.56	238.30	102.55	2,863.31	-9,442.94	1,951.11	1,498.50	452.61	4.311		
14,700.00	7,154.00	15,568.19	7,579.00	234.22	240.91	102.55	2,863.43	-9,542.94	1,951.20	1,493.39	457.82	4.262		
14,800.00	7,154.00	15,668.19	7,579.00	236.88	243.51	102.55	2,863.55	-9,642.94	1,951.30	1,488.27	463.03	4.214		
14,900.00	7,154.00	15,768.19	7,579.00	239.55	246.11	102.55	2,863.68	-9,742.94	1,951.40	1,483.16	468.24	4.168		
15,000.00	7,154.00	15,868.19	7,579.00	242.21	248.72	102.55	2,863.80	-9,842.94	1,951.50	1,478.05	473.45	4.122		
15,100.00	7,154.00	15,968.19	7,579.00	244.87	251.33	102.55	2,863.93	-9,942.94	1,951.59	1,472.93	478.66	4.077		
15,200.00	7,154.00	16,068.19	7,579.00	247.54	253.94	102.55	2,864.05	-10,042.94	1,951.69	1,467.81	483.88	4.033		
15,300.00	7,154.00	16,168.19	7,579.00	250.20	256.55	102.55	2,864.18	-10,142.93	1,951.79	1,462.69	489.09	3.991		
15,400.00	7,154.00	16,268.19	7,579.00	252.87	259.17	102.55	2,864.30	-10,242.93	1,951.88	1,457.57	494.31	3.949		

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 WARBLER 13W-27-03
Project:	ADAMS COUNTY	TVD Reference:	KB 25' @ 5105.00usft
Reference Site:	Sec 13-T1S-R66W	MD Reference:	KB 25' @ 5105.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	WARBLER 13W-27-03	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT_32Bit_ODBC
Reference Design:	PROPOSAL 1	Offset TVD Reference:	Offset Datum

Offset Design Sec 13-T1S-R66W - WARBLER 13W-27-07 - OWB - PROPOSAL 1													Offset Site Error:	0.00 usft
Survey Program: 0-MWD OWSG													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		
15,500.00	7,154.00	16,368.19	7,579.00	255.53	261.78	102.55	2,864.43	-10,342.93	1,951.98	1,452.45	499.53	3.908		
15,600.00	7,154.00	16,468.19	7,579.00	258.20	264.40	102.54	2,864.55	-10,442.93	1,952.08	1,447.32	504.75	3.867		
15,700.00	7,154.00	16,568.19	7,579.00	260.87	267.02	102.54	2,864.67	-10,542.93	1,952.17	1,442.20	509.97	3.828		
15,800.00	7,154.00	16,668.19	7,579.00	263.54	269.65	102.54	2,864.80	-10,642.93	1,952.27	1,437.07	515.20	3.789		
15,900.00	7,154.00	16,768.19	7,579.00	266.21	272.27	102.54	2,864.92	-10,742.93	1,952.37	1,431.94	520.42	3.751		
16,000.00	7,154.00	16,868.19	7,579.00	268.88	274.90	102.54	2,865.05	-10,842.93	1,952.46	1,426.81	525.65	3.714		
16,100.00	7,154.00	16,968.19	7,579.00	271.55	277.52	102.54	2,865.17	-10,942.93	1,952.56	1,421.68	530.88	3.678		
16,200.00	7,154.00	17,068.19	7,579.00	274.22	280.15	102.54	2,865.30	-11,042.93	1,952.66	1,416.55	536.11	3.642		
16,300.00	7,154.00	17,168.19	7,579.00	276.90	282.78	102.54	2,865.42	-11,142.93	1,952.75	1,411.42	541.34	3.607		
16,400.00	7,154.00	17,268.19	7,579.00	279.57	285.41	102.54	2,865.55	-11,242.93	1,952.85	1,406.28	546.57	3.573		
16,500.00	7,154.00	17,368.19	7,579.00	282.24	288.05	102.54	2,865.67	-11,342.93	1,952.95	1,401.15	551.80	3.539		
16,600.00	7,154.00	17,468.19	7,579.00	284.92	290.68	102.54	2,865.79	-11,442.93	1,953.04	1,396.01	557.03	3.506		
16,700.00	7,154.00	17,568.19	7,579.00	287.59	293.32	102.54	2,865.92	-11,542.93	1,953.14	1,390.87	562.27	3.474		
16,800.00	7,154.00	17,668.19	7,579.00	290.27	295.95	102.54	2,866.04	-11,642.93	1,953.24	1,385.73	567.50	3.442		
16,900.00	7,154.00	17,768.19	7,579.00	292.94	298.59	102.54	2,866.17	-11,742.93	1,953.33	1,380.60	572.74	3.411		
17,000.00	7,154.00	17,868.19	7,579.00	295.62	301.23	102.54	2,866.29	-11,842.93	1,953.43	1,375.45	577.98	3.380		
17,100.00	7,154.00	17,968.19	7,579.00	298.29	303.87	102.54	2,866.42	-11,942.93	1,953.53	1,370.31	583.21	3.350		
17,200.00	7,154.00	18,068.19	7,579.00	300.97	306.51	102.53	2,866.54	-12,042.93	1,953.62	1,365.17	588.45	3.320		
17,300.00	7,154.00	18,168.19	7,579.00	303.65	309.16	102.53	2,866.67	-12,142.93	1,953.72	1,360.03	593.69	3.291		
17,400.00	7,154.00	18,268.19	7,579.00	306.33	311.80	102.53	2,866.79	-12,242.93	1,953.82	1,354.88	598.93	3.262		
17,500.00	7,154.00	18,368.19	7,579.00	309.01	314.44	102.53	2,866.91	-12,342.93	1,953.91	1,349.74	604.18	3.234		
17,600.00	7,154.00	18,468.19	7,579.00	311.69	317.09	102.53	2,867.04	-12,442.93	1,954.01	1,344.59	609.42	3.206		
17,700.00	7,154.00	18,568.19	7,579.00	314.37	319.74	102.53	2,867.16	-12,542.93	1,954.11	1,339.45	614.66	3.179		
17,800.00	7,154.00	18,668.19	7,579.00	317.05	322.38	102.53	2,867.29	-12,642.93	1,954.20	1,334.30	619.91	3.152		
17,900.00	7,154.00	18,768.19	7,579.00	319.73	325.03	102.53	2,867.41	-12,742.93	1,954.30	1,329.15	625.15	3.126		
18,000.00	7,154.00	18,868.19	7,579.00	322.41	327.68	102.53	2,867.54	-12,842.93	1,954.40	1,324.00	630.40	3.100		
18,100.00	7,154.00	18,968.19	7,579.00	325.09	330.33	102.53	2,867.66	-12,942.93	1,954.50	1,318.85	635.64	3.075		
18,200.00	7,154.00	19,068.19	7,579.00	327.77	332.99	102.53	2,867.79	-13,042.93	1,954.59	1,313.70	640.89	3.050		
18,300.00	7,154.00	19,168.19	7,579.00	330.45	335.64	102.53	2,867.91	-13,142.93	1,954.69	1,308.55	646.14	3.025		
18,400.00	7,154.00	19,268.19	7,579.00	333.13	338.29	102.53	2,868.03	-13,242.93	1,954.79	1,303.40	651.39	3.001		
18,500.00	7,154.00	19,368.19	7,579.00	335.82	340.95	102.53	2,868.16	-13,342.93	1,954.88	1,298.25	656.64	2.977		
18,600.00	7,154.00	19,468.19	7,579.00	338.50	343.60	102.53	2,868.28	-13,442.93	1,954.98	1,293.09	661.89	2.954		
18,700.00	7,154.00	19,568.19	7,579.00	341.18	346.26	102.53	2,868.41	-13,542.93	1,955.08	1,287.94	667.14	2.931		
18,800.00	7,154.00	19,668.19	7,579.00	343.86	348.91	102.52	2,868.53	-13,642.93	1,955.17	1,282.78	672.39	2.908		
18,900.00	7,154.00	19,768.19	7,579.00	346.55	351.57	102.52	2,868.66	-13,742.93	1,955.27	1,277.63	677.64	2.885		
19,000.00	7,154.00	19,868.19	7,579.00	349.23	354.23	102.52	2,868.78	-13,842.93	1,955.37	1,272.47	682.89	2.863		
19,100.00	7,154.00	19,968.19	7,579.00	351.92	356.89	102.52	2,868.91	-13,942.93	1,955.46	1,267.32	688.15	2.842		
19,200.00	7,154.00	20,068.19	7,579.00	354.60	359.55	102.52	2,869.03	-14,042.93	1,955.56	1,262.16	693.40	2.820		
19,300.00	7,154.00	20,168.19	7,579.00	357.29	362.21	102.52	2,869.15	-14,142.93	1,955.66	1,257.00	698.65	2.799		
19,400.00	7,154.00	20,268.19	7,579.00	359.97	364.87	102.52	2,869.28	-14,242.93	1,955.75	1,251.85	703.91	2.778		
19,500.00	7,154.00	20,368.19	7,579.00	362.66	367.53	102.52	2,869.40	-14,342.93	1,955.85	1,246.69	709.16	2.758		
19,600.00	7,154.00	20,468.19	7,579.00	365.34	370.19	102.52	2,869.53	-14,442.93	1,955.95	1,241.53	714.42	2.738		
19,700.00	7,154.00	20,568.19	7,579.00	368.03	372.85	102.52	2,869.65	-14,542.93	1,956.04	1,236.37	719.67	2.718		
19,800.00	7,154.00	20,668.19	7,579.00	370.72	375.52	102.52	2,869.78	-14,642.93	1,956.14	1,231.21	724.93	2.698		
19,900.00	7,154.00	20,768.19	7,579.00	373.40	378.18	102.52	2,869.90	-14,742.93	1,956.24	1,226.05	730.19	2.679		
20,000.00	7,154.00	20,868.19	7,579.00	376.09	380.84	102.52	2,870.03	-14,842.93	1,956.33	1,220.89	735.45	2.660		
20,100.00	7,154.00	20,968.19	7,579.00	378.78	383.51	102.52	2,870.15	-14,942.93	1,956.43	1,215.73	740.70	2.641		
20,200.00	7,154.00	21,068.19	7,579.00	381.46	386.18	102.52	2,870.27	-15,042.93	1,956.53	1,210.57	745.96	2.623		
20,300.00	7,154.00	21,168.19	7,579.00	384.15	388.84	102.52	2,870.40	-15,142.93	1,956.62	1,205.40	751.22	2.605		
20,400.00	7,154.00	21,268.19	7,579.00	386.84	391.51	102.51	2,870.52	-15,242.93	1,956.72	1,200.24	756.48	2.587		
20,500.00	7,154.00	21,368.19	7,579.00	389.53	394.18	102.51	2,870.65	-15,342.93	1,956.82	1,195.08	761.74	2.569		
20,600.00	7,154.00	21,468.19	7,579.00	392.21	396.84	102.51	2,870.77	-15,442.93	1,956.91	1,189.91	767.00	2.551		

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 WARBLER 13W-27-03
Project:	ADAMS COUNTY	TVD Reference:	KB 25' @ 5105.00usft
Reference Site:	Sec 13-T1S-R66W	MD Reference:	KB 25' @ 5105.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	WARBLER 13W-27-03	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT_32Bit_ODBC
Reference Design:	PROPOSAL 1	Offset TVD Reference:	Offset Datum

Offset Design Sec 13-T1S-R66W - WARBLER 13W-27-07 - OWB - PROPOSAL 1												Offset Site Error:	0.00 usft
Survey Program: 0-MWD OWSG												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	
20,700.00	7,154.00	21,568.19	7,579.00	394.90	399.51	102.51	2,870.90	-15,542.93	1,957.01	1,184.75	772.26	2.534	
20,800.00	7,154.00	21,668.19	7,579.00	397.59	402.18	102.51	2,871.02	-15,642.93	1,957.11	1,179.59	777.52	2.517	
20,900.00	7,154.00	21,768.19	7,579.00	400.28	404.85	102.51	2,871.15	-15,742.93	1,957.21	1,174.42	782.78	2.500	
21,000.00	7,154.00	21,868.19	7,579.00	402.97	407.52	102.51	2,871.27	-15,842.93	1,957.30	1,169.26	788.05	2.484	
21,100.00	7,154.00	21,968.19	7,579.00	405.66	410.19	102.51	2,871.40	-15,942.93	1,957.40	1,164.09	793.31	2.467	
21,200.00	7,154.00	22,068.19	7,579.00	408.35	412.86	102.51	2,871.52	-16,042.93	1,957.50	1,158.92	798.57	2.451	
21,300.00	7,154.00	22,168.19	7,579.00	411.04	415.53	102.51	2,871.64	-16,142.93	1,957.59	1,153.76	803.83	2.435	
21,400.00	7,154.00	22,268.19	7,579.00	413.73	418.20	102.51	2,871.77	-16,242.93	1,957.69	1,148.59	809.10	2.420	
21,500.00	7,154.00	22,368.19	7,579.00	416.42	420.87	102.51	2,871.89	-16,342.93	1,957.79	1,143.42	814.36	2.404	
21,573.27	7,154.00	22,441.45	7,579.00	418.39	422.83	102.51	2,871.98	-16,416.19	1,957.86	1,139.64	818.22	2.393 SF	

Anticollision Report

Company:	EXTRACTION OIL & GAS	Local Co-ordinate Reference:	Well WARBLER 13W-27-03
Project:	ADAMS COUNTY	TVD Reference:	KB 25' @ 5105.00usft
Reference Site:	Sec 13-T1S-R66W	MD Reference:	KB 25' @ 5105.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	WARBLER 13W-27-03	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT_32Bit_ODBC
Reference Design:	PROPOSAL 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-MWD OWSG													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		
0.00	0.00	1.00	1.00	0.00	0.00	85.29	12.38	150.25	150.76					
100.00	100.00	101.00	101.00	0.13	0.14	85.29	12.38	150.25	150.76	150.49	0.27	553.376		
200.00	200.00	201.04	201.04	0.49	0.50	85.29	12.38	150.25	150.76	149.77	0.99	152.358		
300.00	300.00	305.44	305.41	0.85	0.87	84.85	13.39	148.60	149.26	147.54	1.72	86.676		
400.00	400.00	409.55	409.36	1.21	1.25	83.50	16.38	143.71	144.89	142.43	2.45	59.030		
500.00	500.00	513.11	512.49	1.57	1.63	81.08	21.29	135.67	137.81	134.61	3.19	43.183		
600.00	600.00	615.85	614.40	1.93	2.04	77.29	28.09	124.54	128.37	124.44	3.93	32.631		
700.00	699.98	717.83	715.02	2.28	2.47	140.88	36.72	110.42	118.55	113.86	4.69	25.299		
800.00	799.84	819.26	814.44	2.63	2.93	134.81	47.14	93.36	110.21	104.74	5.47	20.150		
900.00	899.45	920.13	912.57	3.00	3.42	127.67	59.32	73.42	103.77	97.46	6.31	16.435		
1,000.00	998.70	1,020.45	1,009.28	3.37	3.96	119.59	73.22	50.68	99.70	92.46	7.24	13.771		
1,097.20	1,094.71	1,117.44	1,101.84	3.75	4.52	111.17	88.32	25.96	98.34	90.12	8.22	11.961 CC		
1,100.00	1,097.47	1,120.23	1,104.48	3.77	4.54	110.92	88.78	25.21	98.34	90.09	8.25	11.918		
1,200.00	1,195.62	1,219.46	1,198.08	4.19	5.17	102.18	105.96	-2.91	99.88	90.54	9.34	10.697		
1,300.00	1,293.06	1,318.16	1,289.98	4.64	5.85	93.89	124.71	-33.61	104.26	93.79	10.47	9.956		
1,400.00	1,389.64	1,416.44	1,380.23	5.12	6.58	86.45	145.00	-66.82	111.18	99.55	11.63	9.559		
1,500.00	1,485.27	1,515.50	1,470.68	5.66	7.35	80.93	166.06	-101.27	119.57	106.75	12.83	9.323		
1,600.00	1,579.82	1,614.90	1,561.45	6.24	8.14	77.64	187.19	-135.85	128.10	114.02	14.08	9.099		
1,700.00	1,673.17	1,714.53	1,652.42	6.88	8.94	76.17	208.36	-170.51	136.08	120.66	15.42	8.825		
1,800.00	1,765.22	1,814.26	1,743.49	7.57	9.75	76.22	229.56	-205.21	143.28	126.41	16.87	8.491		
1,900.00	1,856.73	1,914.01	1,834.57	8.31	10.56	76.90	250.76	-239.91	150.16	131.76	18.40	8.162		
2,000.00	1,948.24	2,013.76	1,925.66	9.06	11.38	77.52	271.96	-274.61	157.06	137.11	19.95	7.874		
2,100.00	2,039.75	2,113.51	2,016.74	9.83	12.20	78.08	293.16	-309.31	163.97	142.46	21.52	7.621		
2,200.00	2,131.26	2,213.26	2,107.82	10.61	13.02	78.60	314.36	-344.01	170.90	147.80	23.10	7.397		
2,300.00	2,222.77	2,313.00	2,198.91	11.40	13.84	79.08	335.56	-378.71	177.84	153.14	24.70	7.200		
2,400.00	2,314.28	2,412.75	2,289.99	12.20	14.67	79.52	356.77	-413.41	184.80	158.49	26.31	7.023		
2,500.00	2,405.79	2,512.50	2,381.07	13.00	15.50	79.93	377.97	-448.11	191.76	163.83	27.93	6.866		
2,600.00	2,497.30	2,612.25	2,472.16	13.81	16.33	80.31	399.17	-482.81	198.73	169.18	29.56	6.724		
2,700.00	2,588.81	2,712.00	2,563.24	14.62	17.16	80.67	420.37	-517.51	205.71	174.53	31.19	6.596		
2,800.00	2,680.31	2,811.74	2,654.32	15.44	17.99	81.00	441.57	-552.21	212.70	179.88	32.83	6.480		
2,900.00	2,771.82	2,911.49	2,745.40	16.25	18.82	81.31	462.77	-586.91	219.70	185.23	34.47	6.374		
3,000.00	2,863.33	3,011.24	2,836.49	17.08	19.66	81.60	483.97	-621.61	226.70	190.58	36.11	6.277		
3,100.00	2,954.84	3,110.99	2,927.57	17.90	20.49	81.88	505.17	-656.31	233.71	195.94	37.76	6.189		
3,200.00	3,046.35	3,210.74	3,018.65	18.72	21.33	82.14	526.37	-691.01	240.72	201.30	39.42	6.107		
3,300.00	3,137.86	3,310.49	3,109.74	19.55	22.16	82.38	547.57	-725.71	247.73	206.66	41.07	6.032		
3,400.00	3,229.37	3,410.23	3,200.82	20.38	23.00	82.61	568.77	-760.41	254.75	212.03	42.73	5.963		
3,500.00	3,320.88	3,509.98	3,291.90	21.21	23.83	82.83	589.98	-795.11	261.78	217.39	44.38	5.898		
3,600.00	3,412.39	3,609.73	3,382.99	22.04	24.67	83.04	611.18	-829.81	268.81	222.76	46.04	5.838		
3,700.00	3,503.90	3,709.48	3,474.07	22.87	25.51	83.23	632.38	-864.51	275.84	228.13	47.71	5.782		
3,800.00	3,595.41	3,809.23	3,565.15	23.70	26.34	83.42	653.58	-899.21	282.87	233.50	49.37	5.730		
3,900.00	3,686.91	3,908.97	3,656.24	24.54	27.18	83.60	674.78	-933.91	289.91	238.88	51.03	5.681		
4,000.00	3,778.42	4,008.72	3,747.32	25.37	28.02	83.76	695.98	-968.61	296.95	244.25	52.70	5.635		
4,100.00	3,869.93	4,108.47	3,838.40	26.20	28.86	83.93	717.18	-1,003.31	303.99	249.63	54.37	5.592		
4,200.00	3,961.44	4,208.22	3,929.48	27.04	29.69	84.08	738.38	-1,038.01	311.04	255.00	56.03	5.551		
4,300.00	4,052.95	4,307.97	4,020.57	27.88	30.53	84.23	759.58	-1,072.71	318.08	260.38	57.70	5.513		
4,400.00	4,144.46	4,407.72	4,111.65	28.71	31.37	84.37	780.78	-1,107.41	325.13	265.76	59.37	5.476		
4,500.00	4,235.97	4,507.46	4,202.73	29.55	32.21	84.50	801.99	-1,142.11	332.18	271.14	61.04	5.442		
4,600.00	4,327.48	4,607.21	4,293.82	30.39	33.05	84.63	823.19	-1,176.81	339.23	276.52	62.71	5.410		
4,700.00	4,418.99	4,706.96	4,384.90	31.22	33.89	84.76	844.39	-1,211.51	346.29	281.91	64.38	5.379		
4,800.00	4,510.50	4,806.71	4,475.98	32.06	34.73	84.87	865.59	-1,246.21	353.34	287.29	66.05	5.350		
4,900.00	4,602.01	4,906.46	4,567.07	32.90	35.57	84.99	886.79	-1,280.91	360.40	292.68	67.72	5.322		
5,000.00	4,693.51	5,006.20	4,658.15	33.74	36.40	85.10	907.99	-1,315.61	367.46	298.06	69.39	5.295		

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 WARBLER 13W-27-03
Project:	ADAMS COUNTY	TVD Reference:	KB 25' @ 5105.00usft
Reference Site:	Sec 13-T1S-R66W	MD Reference:	KB 25' @ 5105.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	WARBLER 13W-27-03	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT_32Bit_ODBC
Reference Design:	PROPOSAL 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-MWD OWSG													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		
5,100.00	4,785.02	5,105.95	4,749.23	34.58	37.24	85.20	929.19	-1,350.31	374.52	303.45	71.07	5.270		
5,200.00	4,876.53	5,205.70	4,840.31	35.42	38.08	85.31	950.39	-1,385.01	381.58	308.84	72.74	5.246		
5,300.00	4,968.04	5,305.45	4,931.40	36.26	38.92	85.40	971.59	-1,419.71	388.64	314.23	74.41	5.223		
5,400.00	5,059.55	5,405.20	5,022.48	37.10	39.76	85.50	992.79	-1,454.41	395.70	319.62	76.08	5.201		
5,500.00	5,151.06	5,504.95	5,113.56	37.94	40.60	85.59	1,013.99	-1,489.11	402.77	325.01	77.76	5.180		
5,600.00	5,242.57	5,604.69	5,204.65	38.78	41.44	85.68	1,035.20	-1,523.81	409.83	330.40	79.43	5.160		
5,700.00	5,334.08	5,704.44	5,295.73	39.62	42.28	85.76	1,056.40	-1,558.51	416.90	335.79	81.11	5.140		
5,800.00	5,425.59	5,804.19	5,386.81	40.46	43.12	85.84	1,077.60	-1,593.21	423.96	341.18	82.78	5.122		
5,900.00	5,517.10	5,903.94	5,477.90	41.30	43.96	85.92	1,098.80	-1,627.91	431.03	346.58	84.45	5.104		
6,000.00	5,608.61	6,003.69	5,568.98	42.14	44.80	86.00	1,120.00	-1,662.61	438.10	351.97	86.13	5.087		
6,100.00	5,700.12	6,103.43	5,660.06	42.98	45.64	86.08	1,141.20	-1,697.31	445.17	357.37	87.80	5.070		
6,200.00	5,791.62	6,203.18	5,751.15	43.82	46.48	86.15	1,162.40	-1,732.01	452.24	362.76	89.48	5.054		
6,300.00	5,883.13	6,302.93	5,842.23	44.66	47.32	86.22	1,183.60	-1,766.71	459.31	368.16	91.15	5.039		
6,400.00	5,974.64	6,402.68	5,933.31	45.50	48.16	86.29	1,204.80	-1,801.41	466.38	373.55	92.83	5.024		
6,500.00	6,066.15	6,502.43	6,024.39	46.35	49.00	86.35	1,226.00	-1,836.11	473.45	378.95	94.50	5.010		
6,600.00	6,157.66	6,602.18	6,115.48	47.19	49.84	86.42	1,247.20	-1,870.81	480.53	384.35	96.18	4.996		
6,700.00	6,249.17	6,701.92	6,206.56	48.03	50.68	86.48	1,268.41	-1,905.51	487.60	389.74	97.86	4.983		
6,800.00	6,340.68	6,801.67	6,297.64	48.87	51.52	86.54	1,289.61	-1,940.21	494.67	395.14	99.53	4.970		
6,900.00	6,432.19	6,901.42	6,388.73	49.71	52.36	86.60	1,310.81	-1,974.91	501.75	400.54	101.21	4.958		
7,000.00	6,523.70	7,001.17	6,479.81	50.55	53.20	86.65	1,332.01	-2,009.61	508.82	405.94	102.88	4.946		
7,100.00	6,615.21	7,100.92	6,570.89	51.40	54.04	86.71	1,353.21	-2,044.31	515.90	411.34	104.56	4.934		
7,200.00	6,706.72	7,200.66	6,661.98	52.24	54.88	86.76	1,374.41	-2,079.01	522.97	416.74	106.24	4.923		
7,300.00	6,798.22	7,300.41	6,753.06	53.08	55.73	86.82	1,395.61	-2,113.71	530.05	422.13	107.91	4.912		
7,400.00	6,886.25	7,400.54	6,843.50	54.07	56.57	92.97	1,416.66	-2,148.17	539.96	430.11	109.85	4.915		
7,500.00	6,965.23	7,504.92	6,930.81	55.35	57.45	97.26	1,436.99	-2,181.43	556.35	444.08	112.26	4.956		
7,600.00	7,032.75	7,584.37	7,012.34	56.90	58.12	100.53	1,455.96	-2,212.50	580.57	466.00	114.58	5.067		
7,700.00	7,086.77	7,664.61	7,085.62	58.68	58.79	102.69	1,473.02	-2,240.41	614.35	497.76	116.59	5.269		
7,800.00	7,125.64	7,733.37	7,148.40	60.64	59.37	103.24	1,487.63	-2,264.33	658.99	541.12	117.88	5.591		
7,900.00	7,148.19	7,788.55	7,198.79	62.69	59.84	101.49	1,499.36	-2,283.53	714.84	596.58	118.26	6.045		
8,000.00	7,154.00	8,520.90	7,579.00	64.75	71.42	123.90	1,588.10	-2,844.94	760.18	654.92	105.25	7.222		
8,100.00	7,154.00	8,620.90	7,579.00	66.83	73.37	123.90	1,588.16	-2,944.94	760.20	651.38	108.83	6.986		
8,200.00	7,154.00	8,720.90	7,579.00	68.96	75.36	123.90	1,588.22	-3,044.94	760.23	647.76	112.47	6.759		
8,300.00	7,154.00	8,820.90	7,579.00	71.12	77.39	123.90	1,588.27	-3,144.94	760.26	644.08	116.18	6.544		
8,400.00	7,154.00	8,920.90	7,579.00	73.32	79.46	123.90	1,588.33	-3,244.94	760.28	640.34	119.95	6.339		
8,500.00	7,154.00	9,020.90	7,579.00	75.55	81.57	123.89	1,588.39	-3,344.94	760.31	636.54	123.77	6.143		
8,600.00	7,154.00	9,120.90	7,579.00	77.81	83.71	123.89	1,588.45	-3,444.94	760.34	632.70	127.64	5.957		
8,700.00	7,154.00	9,220.90	7,579.00	80.10	85.88	123.89	1,588.50	-3,544.94	760.36	628.81	131.56	5.780		
8,800.00	7,154.00	9,320.90	7,579.00	82.41	88.08	123.89	1,588.56	-3,644.94	760.39	624.88	135.51	5.611		
8,900.00	7,154.00	9,420.90	7,579.00	84.75	90.31	123.89	1,588.62	-3,744.94	760.42	620.91	139.51	5.451		
9,000.00	7,154.00	9,520.90	7,579.00	87.11	92.56	123.89	1,588.68	-3,844.94	760.44	616.90	143.54	5.298		
9,100.00	7,154.00	9,620.90	7,579.00	89.48	94.84	123.89	1,588.73	-3,944.94	760.47	612.87	147.60	5.152		
9,200.00	7,154.00	9,720.90	7,579.00	91.88	97.13	123.89	1,588.79	-4,044.94	760.50	608.81	151.69	5.014		
9,300.00	7,154.00	9,820.90	7,579.00	94.29	99.45	123.88	1,588.85	-4,144.94	760.52	604.72	155.81	4.881		
9,400.00	7,154.00	9,920.90	7,579.00	96.72	101.79	123.88	1,588.91	-4,244.94	760.55	600.60	159.95	4.755		
9,500.00	7,154.00	10,020.90	7,579.00	99.16	104.15	123.88	1,588.96	-4,344.94	760.58	596.47	164.11	4.635		
9,600.00	7,154.00	10,120.90	7,579.00	101.61	106.52	123.88	1,589.02	-4,444.94	760.60	592.31	168.30	4.519		
9,700.00	7,154.00	10,220.90	7,579.00	104.08	108.91	123.88	1,589.08	-4,544.94	760.63	588.13	172.50	4.409		
9,800.00	7,154.00	10,320.90	7,579.00	106.56	111.31	123.88	1,589.14	-4,644.94	760.66	583.93	176.72	4.304		
9,900.00	7,154.00	10,420.90	7,579.00	109.05	113.73	123.88	1,589.19	-4,744.94	760.68	579.72	180.96	4.204		
10,000.00	7,154.00	10,520.90	7,579.00	111.55	116.16	123.87	1,589.25	-4,844.94	760.71	575.49	185.22	4.107		
10,100.00	7,154.00	10,620.90	7,579.00	114.06	118.60	123.87	1,589.31	-4,944.94	760.74	571.25	189.49	4.015		
10,200.00	7,154.00	10,720.90	7,579.00	116.57	121.05	123.87	1,589.36	-5,044.94	760.76	566.99	193.77	3.926		

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 WARBLER 13W-27-03
Project:	ADAMS COUNTY	TVD Reference:	KB 25' @ 5105.00usft
Reference Site:	Sec 13-T1S-R66W	MD Reference:	KB 25' @ 5105.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	WARBLER 13W-27-03	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT_32Bit_ODBC
Reference Design:	PROPOSAL 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-MWD OWSG													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		
10,300.00	7,154.00	10,820.90	7,579.00	119.10	123.52	123.87	1,589.42	-5,144.94	760.79	562.72	198.07	3.841		
10,400.00	7,154.00	10,920.90	7,579.00	121.63	125.99	123.87	1,589.48	-5,244.94	760.82	558.44	202.38	3.759		
10,500.00	7,154.00	11,020.90	7,579.00	124.17	128.47	123.87	1,589.54	-5,344.94	760.84	554.14	206.70	3.681		
10,600.00	7,154.00	11,120.90	7,579.00	126.72	130.97	123.87	1,589.59	-5,444.94	760.87	549.84	211.03	3.605		
10,700.00	7,154.00	11,220.90	7,579.00	129.28	133.47	123.86	1,589.65	-5,544.94	760.90	545.52	215.37	3.533		
10,800.00	7,154.00	11,320.90	7,579.00	131.84	135.97	123.86	1,589.71	-5,644.94	760.92	541.20	219.72	3.463		
10,900.00	7,154.00	11,420.90	7,579.00	134.40	138.49	123.86	1,589.77	-5,744.94	760.95	536.87	224.08	3.396		
11,000.00	7,154.00	11,520.90	7,579.00	136.97	141.01	123.86	1,589.82	-5,844.94	760.98	532.52	228.45	3.331		
11,100.00	7,154.00	11,620.90	7,579.00	139.55	143.54	123.86	1,589.88	-5,944.94	761.00	528.18	232.83	3.269		
11,200.00	7,154.00	11,720.90	7,579.00	142.13	146.08	123.86	1,589.94	-6,044.94	761.03	523.82	237.21	3.208		
11,300.00	7,154.00	11,820.90	7,579.00	144.72	148.62	123.86	1,590.00	-6,144.94	761.06	519.45	241.60	3.150		
11,400.00	7,154.00	11,920.90	7,579.00	147.30	151.17	123.86	1,590.05	-6,244.94	761.08	515.08	246.00	3.094		
11,500.00	7,154.00	12,020.90	7,579.00	149.90	153.72	123.85	1,590.11	-6,344.94	761.11	510.71	250.40	3.040		
11,600.00	7,154.00	12,120.90	7,579.00	152.50	156.28	123.85	1,590.17	-6,444.94	761.14	506.32	254.81	2.987		
11,700.00	7,154.00	12,220.90	7,579.00	155.10	158.85	123.85	1,590.23	-6,544.94	761.16	501.93	259.23	2.936		
11,800.00	7,154.00	12,320.90	7,579.00	157.70	161.41	123.85	1,590.28	-6,644.94	761.19	497.54	263.65	2.887		
11,900.00	7,154.00	12,420.90	7,579.00	160.31	163.99	123.85	1,590.34	-6,744.94	761.22	493.14	268.08	2.840		
12,000.00	7,154.00	12,520.90	7,579.00	162.92	166.56	123.85	1,590.40	-6,844.94	761.24	488.74	272.51	2.793		
12,100.00	7,154.00	12,620.90	7,579.00	165.54	169.14	123.85	1,590.46	-6,944.94	761.27	484.33	276.94	2.749		
12,200.00	7,154.00	12,720.90	7,579.00	168.15	171.73	123.84	1,590.51	-7,044.94	761.30	479.91	281.38	2.706		
12,300.00	7,154.00	12,820.90	7,579.00	170.77	174.32	123.84	1,590.57	-7,144.94	761.32	475.50	285.83	2.664		
12,400.00	7,154.00	12,920.90	7,579.00	173.39	176.91	123.84	1,590.63	-7,244.94	761.35	471.07	290.28	2.623		
12,500.00	7,154.00	13,020.90	7,579.00	176.02	179.50	123.84	1,590.69	-7,344.94	761.38	466.65	294.73	2.583		
12,600.00	7,154.00	13,120.90	7,579.00	178.65	182.10	123.84	1,590.74	-7,444.94	761.40	462.22	299.19	2.545		
12,700.00	7,154.00	13,220.90	7,579.00	181.28	184.70	123.84	1,590.80	-7,544.94	761.43	457.78	303.65	2.508		
12,800.00	7,154.00	13,320.90	7,579.00	183.91	187.31	123.84	1,590.86	-7,644.94	761.46	453.35	308.11	2.471		
12,900.00	7,154.00	13,420.90	7,579.00	186.54	189.92	123.84	1,590.92	-7,744.94	761.48	448.91	312.58	2.436		
13,000.00	7,154.00	13,520.90	7,579.00	189.18	192.53	123.83	1,590.97	-7,844.94	761.51	444.46	317.05	2.402		
13,100.00	7,154.00	13,620.90	7,579.00	191.81	195.14	123.83	1,591.03	-7,944.94	761.54	440.02	321.52	2.369		
13,200.00	7,154.00	13,720.90	7,579.00	194.45	197.76	123.83	1,591.09	-8,044.94	761.56	435.57	326.00	2.336		
13,300.00	7,154.00	13,820.90	7,579.00	197.10	200.37	123.83	1,591.15	-8,144.94	761.59	431.12	330.47	2.305		
13,400.00	7,154.00	13,920.90	7,579.00	199.74	202.99	123.83	1,591.20	-8,244.94	761.62	426.66	334.96	2.274		
13,500.00	7,154.00	14,020.90	7,579.00	202.38	205.62	123.83	1,591.26	-8,344.94	761.64	422.20	339.44	2.244		
13,600.00	7,154.00	14,120.90	7,579.00	205.03	208.24	123.83	1,591.32	-8,444.94	761.67	417.74	343.93	2.215		
13,700.00	7,154.00	14,220.90	7,579.00	207.68	210.87	123.82	1,591.38	-8,544.94	761.70	413.28	348.42	2.186		
13,800.00	7,154.00	14,320.90	7,579.00	210.33	213.49	123.82	1,591.43	-8,644.94	761.72	408.82	352.91	2.158		
13,900.00	7,154.00	14,420.90	7,579.00	212.98	216.12	123.82	1,591.49	-8,744.94	761.75	404.35	357.40	2.131		
14,000.00	7,154.00	14,520.90	7,579.00	215.63	218.76	123.82	1,591.55	-8,844.94	761.78	399.88	361.90	2.105		
14,100.00	7,154.00	14,620.90	7,579.00	218.28	221.39	123.82	1,591.61	-8,944.94	761.80	395.41	366.39	2.079		
14,200.00	7,154.00	14,720.90	7,579.00	220.93	224.03	123.82	1,591.66	-9,044.94	761.83	390.94	370.89	2.054		
14,300.00	7,154.00	14,820.90	7,579.00	223.59	226.66	123.82	1,591.72	-9,144.94	761.86	386.46	375.40	2.029		
14,400.00	7,154.00	14,920.90	7,579.00	226.25	229.30	123.82	1,591.78	-9,244.94	761.88	381.98	379.90	2.005		
14,500.00	7,154.00	15,020.90	7,579.00	228.90	231.94	123.81	1,591.83	-9,344.94	761.91	377.51	384.41	1.982		
14,600.00	7,154.00	15,120.90	7,579.00	231.56	234.58	123.81	1,591.89	-9,444.94	761.94	373.02	388.91	1.959		
14,700.00	7,154.00	15,220.90	7,579.00	234.22	237.23	123.81	1,591.95	-9,544.94	761.96	368.54	393.42	1.937		
14,800.00	7,154.00	15,320.90	7,579.00	236.88	239.87	123.81	1,592.01	-9,644.94	761.99	364.06	397.93	1.915		
14,900.00	7,154.00	15,420.90	7,579.00	239.55	242.52	123.81	1,592.06	-9,744.94	762.02	359.57	402.44	1.893		
15,000.00	7,154.00	15,520.90	7,579.00	242.21	245.16	123.81	1,592.12	-9,844.94	762.04	355.09	406.96	1.873		
15,100.00	7,154.00	15,620.90	7,579.00	244.87	247.81	123.81	1,592.18	-9,944.94	762.07	350.60	411.47	1.852		
15,200.00	7,154.00	15,720.90	7,579.00	247.54	250.46	123.80	1,592.24	-10,044.94	762.10	346.11	415.99	1.832		
15,300.00	7,154.00	15,820.90	7,579.00	250.20	253.11	123.80	1,592.29	-10,144.94	762.12	341.62	420.51	1.812		
15,400.00	7,154.00	15,920.90	7,579.00	252.87	255.77	123.80	1,592.35	-10,244.94	762.15	337.12	425.03	1.793		

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 Warbler 13W-27-03
Project:	ADAMS COUNTY	TVD Reference:	KB 25' @ 5105.00usft
Reference Site:	Sec 13-T1S-R66W	MD Reference:	KB 25' @ 5105.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	Warbler 13W-27-03	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT_32Bit_ODBC
Reference Design:	PROPOSAL 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-MWD OWSG													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		
15,500.00	7,154.00	16,020.90	7,579.00	255.53	258.42	123.80	1,592.41	-10,344.94	762.18	332.63	429.55	1.774		
15,600.00	7,154.00	16,120.90	7,579.00	258.20	261.07	123.80	1,592.47	-10,444.94	762.20	328.13	434.07	1.756		
15,700.00	7,154.00	16,220.90	7,579.00	260.87	263.73	123.80	1,592.52	-10,544.94	762.23	323.64	438.60	1.738		
15,800.00	7,154.00	16,320.90	7,579.00	263.54	266.38	123.80	1,592.58	-10,644.94	762.26	319.14	443.12	1.720		
15,900.00	7,154.00	16,420.90	7,579.00	266.21	269.04	123.79	1,592.64	-10,744.94	762.28	314.64	447.65	1.703		
16,000.00	7,154.00	16,520.90	7,579.00	268.88	271.70	123.79	1,592.70	-10,844.94	762.31	310.14	452.17	1.686		
16,100.00	7,154.00	16,620.90	7,579.00	271.55	274.36	123.79	1,592.75	-10,944.94	762.34	305.64	456.70	1.669		
16,200.00	7,154.00	16,720.90	7,579.00	274.22	277.02	123.79	1,592.81	-11,044.94	762.36	301.13	461.23	1.653		
16,300.00	7,154.00	16,820.90	7,579.00	276.90	279.68	123.79	1,592.87	-11,144.94	762.39	296.63	465.76	1.637		
16,400.00	7,154.00	16,920.90	7,579.00	279.57	282.34	123.79	1,592.93	-11,244.94	762.42	292.12	470.29	1.621		
16,500.00	7,154.00	17,020.90	7,579.00	282.24	285.00	123.79	1,592.98	-11,344.94	762.44	287.62	474.83	1.606		
16,600.00	7,154.00	17,120.90	7,579.00	284.92	287.66	123.79	1,593.04	-11,444.94	762.47	283.11	479.36	1.591		
16,700.00	7,154.00	17,220.90	7,579.00	287.59	290.33	123.78	1,593.10	-11,544.94	762.50	278.60	483.89	1.576		
16,800.00	7,154.00	17,320.90	7,579.00	290.27	292.99	123.78	1,593.16	-11,644.94	762.52	274.10	488.43	1.561		
16,900.00	7,154.00	17,420.90	7,579.00	292.94	295.66	123.78	1,593.21	-11,744.94	762.55	269.59	492.97	1.547		
17,000.00	7,154.00	17,520.90	7,579.00	295.62	298.32	123.78	1,593.27	-11,844.94	762.58	265.08	497.50	1.533		
17,100.00	7,154.00	17,620.90	7,579.00	298.29	300.99	123.78	1,593.33	-11,944.94	762.61	260.56	502.04	1.519		
17,200.00	7,154.00	17,720.90	7,579.00	300.97	303.66	123.78	1,593.39	-12,044.94	762.63	256.05	506.58	1.505		
17,300.00	7,154.00	17,820.90	7,579.00	303.65	306.33	123.78	1,593.44	-12,144.94	762.66	251.54	511.12	1.492 Level 3		
17,400.00	7,154.00	17,920.90	7,579.00	306.33	308.99	123.77	1,593.50	-12,244.94	762.69	247.02	515.66	1.479 Level 3		
17,500.00	7,154.00	18,020.90	7,579.00	309.01	311.66	123.77	1,593.56	-12,344.94	762.71	242.51	520.20	1.466 Level 3		
17,600.00	7,154.00	18,120.90	7,579.00	311.69	314.33	123.77	1,593.62	-12,444.94	762.74	237.99	524.74	1.454 Level 3		
17,700.00	7,154.00	18,220.90	7,579.00	314.37	317.00	123.77	1,593.67	-12,544.94	762.77	233.48	529.29	1.441 Level 3		
17,800.00	7,154.00	18,320.90	7,579.00	317.05	319.68	123.77	1,593.73	-12,644.94	762.79	228.96	533.83	1.429 Level 3		
17,900.00	7,154.00	18,420.90	7,579.00	319.73	322.35	123.77	1,593.79	-12,744.94	762.82	224.44	538.38	1.417 Level 3		
18,000.00	7,154.00	18,520.90	7,579.00	322.41	325.02	123.77	1,593.85	-12,844.94	762.85	219.92	542.92	1.405 Level 3		
18,100.00	7,154.00	18,620.90	7,579.00	325.09	327.69	123.77	1,593.90	-12,944.94	762.87	215.40	547.47	1.393 Level 3		
18,200.00	7,154.00	18,720.90	7,579.00	327.77	330.36	123.76	1,593.96	-13,044.94	762.90	210.88	552.01	1.382 Level 3		
18,300.00	7,154.00	18,820.90	7,579.00	330.45	333.04	123.76	1,594.02	-13,144.94	762.93	206.36	556.56	1.371 Level 3		
18,400.00	7,154.00	18,920.90	7,579.00	333.13	335.71	123.76	1,594.08	-13,244.94	762.95	201.84	561.11	1.360 Level 3		
18,500.00	7,154.00	19,020.90	7,579.00	335.82	338.39	123.76	1,594.13	-13,344.94	762.98	197.32	565.66	1.349 Level 3		
18,600.00	7,154.00	19,120.90	7,579.00	338.50	341.06	123.76	1,594.19	-13,444.94	763.01	192.80	570.21	1.338 Level 3		
18,700.00	7,154.00	19,220.90	7,579.00	341.18	343.74	123.76	1,594.25	-13,544.94	763.03	188.27	574.76	1.328 Level 3		
18,800.00	7,154.00	19,320.90	7,579.00	343.86	346.41	123.76	1,594.30	-13,644.94	763.06	183.75	579.31	1.317 Level 3		
18,900.00	7,154.00	19,420.90	7,579.00	346.55	349.09	123.75	1,594.36	-13,744.94	763.09	179.23	583.86	1.307 Level 3		
19,000.00	7,154.00	19,520.90	7,579.00	349.23	351.77	123.75	1,594.42	-13,844.94	763.11	174.70	588.41	1.297 Level 3		
19,100.00	7,154.00	19,620.90	7,579.00	351.92	354.44	123.75	1,594.48	-13,944.94	763.14	170.18	592.96	1.287 Level 3		
19,200.00	7,154.00	19,720.90	7,579.00	354.60	357.12	123.75	1,594.53	-14,044.94	763.17	165.65	597.52	1.277 Level 3		
19,300.00	7,154.00	19,820.90	7,579.00	357.29	359.80	123.75	1,594.59	-14,144.94	763.19	161.12	602.07	1.268 Level 3		
19,400.00	7,154.00	19,920.90	7,579.00	359.97	362.48	123.75	1,594.65	-14,244.94	763.22	156.60	606.62	1.258 Level 3		
19,500.00	7,154.00	20,020.90	7,579.00	362.66	365.16	123.75	1,594.71	-14,344.94	763.25	152.07	611.18	1.249 Level 2		
19,600.00	7,154.00	20,120.90	7,579.00	365.34	367.83	123.75	1,594.76	-14,444.94	763.27	147.54	615.73	1.240 Level 2		
19,700.00	7,154.00	20,220.90	7,579.00	368.03	370.51	123.74	1,594.82	-14,544.94	763.30	143.01	620.29	1.231 Level 2		
19,800.00	7,154.00	20,320.90	7,579.00	370.72	373.19	123.74	1,594.88	-14,644.94	763.33	138.48	624.85	1.222 Level 2		
19,900.00	7,154.00	20,420.90	7,579.00	373.40	375.87	123.74	1,594.94	-14,744.94	763.35	133.95	629.40	1.213 Level 2		
20,000.00	7,154.00	20,520.90	7,579.00	376.09	378.55	123.74	1,594.99	-14,844.94	763.38	129.42	633.96	1.204 Level 2		
20,100.00	7,154.00	20,620.90	7,579.00	378.78	381.24	123.74	1,595.05	-14,944.94	763.41	124.89	638.52	1.196 Level 2		
20,200.00	7,154.00	20,720.90	7,579.00	381.46	383.92	123.74	1,595.11	-15,044.94	763.43	120.36	643.08	1.187 Level 2		
20,300.00	7,154.00	20,820.90	7,579.00	384.15	386.60	123.74	1,595.17	-15,144.94	763.46	115.83	647.63	1.179 Level 2		
20,400.00	7,154.00	20,920.90	7,579.00	386.84	389.28	123.73	1,595.22	-15,244.94	763.49	111.29	652.19	1.171 Level 2		
20,500.00	7,154.00	21,020.90	7,579.00	389.53	391.96	123.73	1,595.28	-15,344.94	763.51	106.76	656.75	1.163 Level 2		
20,600.00	7,154.00	21,120.90	7,579.00	392.21	394.64	123.73	1,595.34	-15,444.94	763.54	102.23	661.31	1.155 Level 2		

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 WARBLER 13W-27-03
Project:	ADAMS COUNTY	TVD Reference:	KB 25' @ 5105.00usft
Reference Site:	Sec 13-T1S-R66W	MD Reference:	KB 25' @ 5105.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	WARBLER 13W-27-03	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT_32Bit_ODBC
Reference Design:	PROPOSAL 1	Offset TVD Reference:	Offset Datum

Offset Design Sec 13-T1S-R66W - WARBLER 13W-27-08 - OWB - PROPOSAL 1												Offset Site Error:	0.00 usft
Survey Program: 0-MWD OWSG												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
20,700.00	7,154.00	21,220.90	7,579.00	394.90	397.33	123.73	1,595.40	-15,544.94	763.57	97.69	665.87	1.147	Level 2
20,800.00	7,154.00	21,320.90	7,579.00	397.59	400.01	123.73	1,595.45	-15,644.94	763.59	93.16	670.43	1.139	Level 2
20,900.00	7,154.00	21,420.90	7,579.00	400.28	402.69	123.73	1,595.51	-15,744.94	763.62	88.62	675.00	1.131	Level 2
21,000.00	7,154.00	21,520.90	7,579.00	402.97	405.38	123.73	1,595.57	-15,844.94	763.65	84.09	679.56	1.124	Level 2
21,100.00	7,154.00	21,620.90	7,579.00	405.66	408.06	123.73	1,595.63	-15,944.94	763.67	79.55	684.12	1.116	Level 2
21,200.00	7,154.00	21,720.90	7,579.00	408.35	410.74	123.72	1,595.68	-16,044.94	763.70	75.02	688.68	1.109	Level 2
21,300.00	7,154.00	21,820.90	7,579.00	411.04	413.43	123.72	1,595.74	-16,144.94	763.73	70.48	693.24	1.102	Level 2
21,400.00	7,154.00	21,920.90	7,579.00	413.73	416.11	123.72	1,595.80	-16,244.94	763.75	65.95	697.81	1.095	Level 2
21,500.00	7,154.00	22,020.90	7,579.00	416.42	418.80	123.72	1,595.86	-16,344.94	763.78	61.41	702.37	1.087	Level 2
21,573.27	7,154.00	22,094.16	7,579.00	418.39	420.77	123.72	1,595.90	-16,418.21	763.80	58.08	705.72	1.082	Level 2, ES, SF

Anticollision Report

Company:	EXTRACTION OIL & GAS	Local Co-ordinate Reference:	Well WARBLER 13W-27-03
Project:	ADAMS COUNTY	TVD Reference:	KB 25' @ 5105.00usft
Reference Site:	Sec 13-T1S-R66W	MD Reference:	KB 25' @ 5105.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	WARBLER 13W-27-03	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT_32Bit_ODBC
Reference Design:	PROPOSAL 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-MWD OWSG													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		
0.00	0.00	2.00	2.00	0.00	0.00	95.96	-15.67	149.97	150.79					
100.00	100.00	102.00	102.00	0.13	0.14	95.96	-15.67	149.97	150.79	150.51	0.28	546.286		
200.00	200.00	202.00	202.00	0.49	0.50	95.96	-15.67	149.97	150.79	149.79	0.99	151.856		
300.00	300.00	302.11	302.11	0.85	0.86	95.96	-15.67	149.97	150.79	149.08	1.71	88.170		
400.00	400.00	407.61	407.59	1.21	1.23	95.94	-15.41	147.97	148.87	146.43	2.44	60.945		
500.00	500.00	512.83	512.63	1.57	1.61	95.88	-14.65	142.14	143.28	140.11	3.17	45.180		
600.00	600.00	617.47	616.82	1.93	1.99	95.77	-13.40	132.55	134.04	130.14	3.90	34.365		
700.00	699.98	721.50	719.98	2.28	2.40	164.48	-11.67	119.28	122.85	118.24	4.61	26.623		
800.00	799.84	825.07	822.14	2.63	2.83	165.05	-9.47	102.39	111.41	106.09	5.32	20.950		
900.00	899.45	928.17	923.15	3.00	3.30	166.23	-6.80	81.95	99.76	93.74	6.02	16.568		
1,000.00	998.70	1,030.79	1,022.89	3.37	3.80	168.28	-3.68	58.04	87.98	81.25	6.73	13.074		
1,100.00	1,097.47	1,132.92	1,121.23	3.77	4.35	171.56	-0.13	30.75	76.22	68.79	7.43	10.256		
1,200.00	1,195.62	1,234.54	1,218.06	4.19	4.94	176.75	3.86	0.15	64.75	56.59	8.17	7.929		
1,300.00	1,293.06	1,335.67	1,313.26	4.64	5.58	-175.12	8.27	-33.65	54.11	45.13	8.98	6.024		
1,400.00	1,389.64	1,435.19	1,406.11	5.12	6.27	-163.36	12.90	-69.15	46.26	36.19	10.06	4.596		
1,490.71	1,476.42	1,525.36	1,490.23	5.61	6.90	-151.35	17.10	-101.37	43.97	32.66	11.31	3.888 CC		
1,500.00	1,485.27	1,534.61	1,498.86	5.66	6.96	-150.17	17.53	-104.67	43.99	32.55	11.45	3.843 ES		
1,600.00	1,579.82	1,634.19	1,591.75	6.24	7.67	-139.23	22.16	-140.26	46.85	33.88	12.97	3.613		
1,700.00	1,673.17	1,733.80	1,684.67	6.88	8.39	-132.62	26.81	-175.85	53.48	39.05	14.43	3.705		
1,800.00	1,765.22	1,833.33	1,777.50	7.57	9.12	-129.98	31.44	-211.42	62.83	47.01	15.82	3.972		
1,900.00	1,856.73	1,932.79	1,870.28	8.31	9.85	-128.97	36.07	-246.96	73.12	55.94	17.17	4.257		
2,000.00	1,948.24	2,032.25	1,963.06	9.06	10.58	-128.20	40.71	-282.50	83.42	64.87	18.55	4.497		
2,100.00	2,039.75	2,131.71	2,055.84	9.83	11.32	-127.61	45.34	-318.04	93.74	73.80	19.94	4.700		
2,200.00	2,131.26	2,231.18	2,148.62	10.61	12.06	-127.14	49.97	-353.59	104.07	82.72	21.35	4.875		
2,300.00	2,222.77	2,330.64	2,241.40	11.40	12.80	-126.75	54.61	-389.13	114.40	91.64	22.76	5.026		
2,400.00	2,314.28	2,430.10	2,334.18	12.20	13.55	-126.42	59.24	-424.67	124.74	100.55	24.19	5.157		
2,500.00	2,405.79	2,529.56	2,426.96	13.00	14.29	-126.14	63.87	-460.21	135.08	109.46	25.62	5.273		
2,600.00	2,497.30	2,629.02	2,519.74	13.81	15.04	-125.91	68.51	-495.75	145.42	118.37	27.05	5.375		
2,700.00	2,588.81	2,728.49	2,612.52	14.62	15.79	-125.70	73.14	-531.30	155.77	127.27	28.50	5.466		
2,800.00	2,680.31	2,827.95	2,705.30	15.44	16.54	-125.52	77.77	-566.84	166.11	136.17	29.94	5.548		
2,900.00	2,771.82	2,927.41	2,798.08	16.25	17.29	-125.36	82.41	-602.38	176.46	145.07	31.39	5.621		
3,000.00	2,863.33	3,026.87	2,890.85	17.08	18.04	-125.22	87.04	-637.92	186.81	153.97	32.84	5.688		
3,100.00	2,954.84	3,126.33	2,983.63	17.90	18.79	-125.10	91.67	-673.47	197.16	162.86	34.30	5.748		
3,200.00	3,046.35	3,225.80	3,076.41	18.72	19.54	-124.98	96.30	-709.01	207.51	171.76	35.76	5.803		
3,300.00	3,137.86	3,325.26	3,169.19	19.55	20.29	-124.88	100.94	-744.55	217.87	180.65	37.22	5.854		
3,400.00	3,229.37	3,424.72	3,261.97	20.38	21.04	-124.79	105.57	-780.09	228.22	189.54	38.68	5.900		
3,500.00	3,320.88	3,524.18	3,354.75	21.21	21.80	-124.70	110.20	-815.63	238.57	198.43	40.14	5.943		
3,600.00	3,412.39	3,623.64	3,447.53	22.04	22.55	-124.62	114.84	-851.18	248.92	207.32	41.61	5.982		
3,700.00	3,503.90	3,723.11	3,540.31	22.87	23.30	-124.55	119.47	-886.72	259.28	216.20	43.08	6.019		
3,800.00	3,595.41	3,822.57	3,633.09	23.70	24.06	-124.49	124.10	-922.26	269.63	225.09	44.54	6.053		
3,900.00	3,686.91	3,922.03	3,725.87	24.54	24.81	-124.42	128.74	-957.80	279.99	233.98	46.01	6.085		
4,000.00	3,778.42	4,021.49	3,818.65	25.37	25.57	-124.37	133.37	-993.34	290.34	242.86	47.48	6.115		
4,100.00	3,869.93	4,120.95	3,911.43	26.20	26.32	-124.31	138.00	-1,028.89	300.70	251.75	48.95	6.143		
4,200.00	3,961.44	4,220.42	4,004.21	27.04	27.08	-124.26	142.64	-1,064.43	311.05	260.63	50.42	6.169		
4,300.00	4,052.95	4,319.88	4,096.99	27.88	27.83	-124.22	147.27	-1,099.97	321.41	269.51	51.90	6.193		
4,400.00	4,144.46	4,419.34	4,189.76	28.71	28.59	-124.17	151.90	-1,135.51	331.77	278.40	53.37	6.216		
4,500.00	4,235.97	4,518.80	4,282.54	29.55	29.34	-124.13	156.53	-1,171.05	342.12	287.28	54.84	6.238		
4,600.00	4,327.48	4,618.26	4,375.32	30.39	30.10	-124.10	161.17	-1,206.60	352.48	296.16	56.32	6.259		
4,700.00	4,418.99	4,717.73	4,468.10	31.22	30.86	-124.06	165.80	-1,242.14	362.83	305.04	57.79	6.278		
4,800.00	4,510.50	4,817.19	4,560.88	32.06	31.61	-124.02	170.43	-1,277.68	373.19	313.92	59.27	6.297		
4,900.00	4,602.01	4,916.65	4,653.66	32.90	32.37	-123.99	175.07	-1,313.22	383.55	322.80	60.74	6.314		
5,000.00	4,693.51	5,016.11	4,746.44	33.74	33.12	-123.96	179.70	-1,348.76	393.90	331.68	62.22	6.331		

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 WARBLER 13W-27-03
Project:	ADAMS COUNTY	TVD Reference:	KB 25' @ 5105.00usft
Reference Site:	Sec 13-T1S-R66W	MD Reference:	KB 25' @ 5105.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	WARBLER 13W-27-03	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT_32Bit_ODBC
Reference Design:	PROPOSAL 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-MWD OWSG													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		
5,100.00	4,785.02	5,115.57	4,839.22	34.58	33.88	-123.93	184.33	-1,384.31	404.26	340.57	63.70	6.347		
5,200.00	4,876.53	5,215.04	4,932.00	35.42	34.64	-123.90	188.97	-1,419.85	414.62	349.45	65.17	6.362		
5,300.00	4,968.04	5,314.50	5,024.78	36.26	35.39	-123.88	193.60	-1,455.39	424.98	358.33	66.65	6.376		
5,400.00	5,059.55	5,413.96	5,117.56	37.10	36.15	-123.85	198.23	-1,490.93	435.33	367.20	68.13	6.390		
5,500.00	5,151.06	5,513.42	5,210.34	37.94	36.91	-123.83	202.87	-1,526.48	445.69	376.08	69.61	6.403		
5,600.00	5,242.57	5,612.88	5,303.12	38.78	37.66	-123.81	207.50	-1,562.02	456.05	384.96	71.08	6.416		
5,700.00	5,334.08	5,712.35	5,395.89	39.62	38.42	-123.78	212.13	-1,597.56	466.40	393.84	72.56	6.428		
5,800.00	5,425.59	5,811.81	5,488.67	40.46	39.18	-123.76	216.77	-1,633.10	476.76	402.72	74.04	6.439		
5,900.00	5,517.10	5,911.27	5,581.45	41.30	39.94	-123.74	221.40	-1,668.64	487.12	411.60	75.52	6.450		
6,000.00	5,608.61	6,010.73	5,674.23	42.14	40.69	-123.72	226.03	-1,704.19	497.48	420.48	77.00	6.461		
6,100.00	5,700.12	6,110.19	5,767.01	42.98	41.45	-123.71	230.66	-1,739.73	507.84	429.36	78.48	6.471		
6,200.00	5,791.62	6,209.66	5,859.79	43.82	42.21	-123.69	235.30	-1,775.27	518.19	438.23	79.96	6.481		
6,300.00	5,883.13	6,309.12	5,952.57	44.66	42.96	-123.67	239.93	-1,810.81	528.55	447.11	81.44	6.490		
6,400.00	5,974.64	6,408.58	6,045.35	45.50	43.72	-123.66	244.56	-1,846.35	538.91	455.99	82.92	6.499		
6,500.00	6,066.15	6,508.04	6,138.13	46.35	44.48	-123.64	249.20	-1,881.90	549.27	464.87	84.40	6.508		
6,600.00	6,157.66	6,607.50	6,230.91	47.19	45.24	-123.62	253.83	-1,917.44	559.62	473.75	85.88	6.516		
6,700.00	6,249.17	6,706.97	6,323.69	48.03	45.99	-123.61	258.46	-1,952.98	569.98	482.62	87.36	6.525		
6,800.00	6,340.68	6,806.43	6,416.47	48.87	46.75	-123.60	263.10	-1,988.52	580.34	491.50	88.84	6.532		
6,900.00	6,432.19	6,905.89	6,509.25	49.71	47.51	-123.58	267.73	-2,024.06	590.70	500.38	90.32	6.540		
7,000.00	6,523.70	7,005.35	6,602.02	50.55	48.27	-123.57	272.36	-2,059.61	601.06	509.25	91.80	6.547		
7,100.00	6,615.21	7,104.81	6,694.80	51.40	49.02	-123.56	277.00	-2,095.15	611.41	518.13	93.28	6.554		
7,200.00	6,706.72	7,204.28	6,787.58	52.24	49.78	-123.54	281.63	-2,130.69	621.77	527.01	94.76	6.561		
7,300.00	6,798.22	7,303.74	6,880.36	53.08	50.54	-123.53	286.26	-2,166.23	632.13	535.89	96.25	6.568		
7,400.00	6,886.25	7,402.59	6,972.58	54.07	51.29	-116.89	290.87	-2,201.56	643.96	546.47	97.50	6.605		
7,500.00	6,965.23	7,498.22	7,061.78	55.35	52.02	-114.06	295.32	-2,235.73	659.28	561.07	98.21	6.713		
7,600.00	7,032.75	7,587.72	7,145.27	56.90	52.70	-113.19	299.49	-2,267.71	679.35	581.09	98.26	6.914		
7,700.00	7,086.77	7,677.75	7,229.12	58.68	53.40	-113.50	303.68	-2,300.18	705.95	608.29	97.66	7.228		
7,800.00	7,125.64	7,854.27	7,378.54	60.64	55.32	-117.60	311.14	-2,392.56	734.71	636.12	98.59	7.452		
7,900.00	7,148.19	8,098.17	7,525.00	62.69	59.41	-121.98	318.44	-2,585.15	756.94	654.62	102.32	7.398		
8,000.00	7,154.00	8,366.21	7,579.00	64.75	64.95	-123.63	321.11	-2,845.25	763.86	654.15	109.71	6.963		
8,100.00	7,154.00	8,466.21	7,579.00	66.83	67.08	-123.62	321.10	-2,945.25	763.89	650.56	113.33	6.741		
8,200.00	7,154.00	8,566.21	7,579.00	68.96	69.24	-123.62	321.09	-3,045.25	763.92	646.91	117.01	6.529		
8,300.00	7,154.00	8,666.21	7,579.00	71.12	71.45	-123.62	321.08	-3,145.25	763.95	643.19	120.76	6.326		
8,400.00	7,154.00	8,766.21	7,579.00	73.32	73.68	-123.62	321.07	-3,245.25	763.98	639.41	124.56	6.133		
8,500.00	7,154.00	8,866.21	7,579.00	75.55	75.95	-123.62	321.06	-3,345.25	764.01	635.59	128.42	5.949		
8,600.00	7,154.00	8,966.21	7,579.00	77.81	78.25	-123.62	321.05	-3,445.25	764.03	631.71	132.32	5.774		
8,700.00	7,154.00	9,066.21	7,579.00	80.10	80.57	-123.62	321.04	-3,545.25	764.06	627.80	136.27	5.607		
8,800.00	7,154.00	9,166.21	7,579.00	82.41	82.91	-123.61	321.03	-3,645.25	764.09	623.84	140.25	5.448		
8,900.00	7,154.00	9,266.21	7,579.00	84.75	85.27	-123.61	321.02	-3,745.25	764.12	619.85	144.27	5.296		
9,000.00	7,154.00	9,366.21	7,579.00	87.11	87.66	-123.61	321.01	-3,845.25	764.15	615.82	148.33	5.152		
9,100.00	7,154.00	9,466.21	7,579.00	89.48	90.06	-123.61	321.01	-3,945.25	764.18	611.77	152.41	5.014		
9,200.00	7,154.00	9,566.21	7,579.00	91.88	92.48	-123.61	321.00	-4,045.25	764.21	607.68	156.53	4.882		
9,300.00	7,154.00	9,666.21	7,579.00	94.29	94.91	-123.61	320.99	-4,145.25	764.24	603.57	160.67	4.757		
9,400.00	7,154.00	9,766.21	7,579.00	96.72	97.36	-123.61	320.98	-4,245.25	764.27	599.43	164.83	4.637		
9,500.00	7,154.00	9,866.21	7,579.00	99.16	99.82	-123.60	320.97	-4,345.25	764.30	595.28	169.02	4.522		
9,600.00	7,154.00	9,966.21	7,579.00	101.61	102.30	-123.60	320.96	-4,445.25	764.33	591.10	173.23	4.412		
9,700.00	7,154.00	10,066.21	7,579.00	104.08	104.78	-123.60	320.95	-4,545.25	764.35	586.90	177.46	4.307		
9,800.00	7,154.00	10,166.21	7,579.00	106.56	107.28	-123.60	320.94	-4,645.25	764.38	582.68	181.70	4.207		
9,900.00	7,154.00	10,266.21	7,579.00	109.05	109.78	-123.60	320.93	-4,745.25	764.41	578.45	185.96	4.111		
10,000.00	7,154.00	10,366.21	7,579.00	111.55	112.30	-123.60	320.92	-4,845.25	764.44	574.20	190.24	4.018		
10,100.00	7,154.00	10,466.21	7,579.00	114.06	114.82	-123.60	320.91	-4,945.25	764.47	569.94	194.53	3.930		
10,200.00	7,154.00	10,566.21	7,579.00	116.57	117.35	-123.59	320.90	-5,045.25	764.50	565.66	198.84	3.845		

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 WARBLER 13W-27-03
Project:	ADAMS COUNTY	TVD Reference:	KB 25' @ 5105.00usft
Reference Site:	Sec 13-T1S-R66W	MD Reference:	KB 25' @ 5105.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	WARBLER 13W-27-03	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT_32Bit_ODBC
Reference Design:	PROPOSAL 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-MWD OWSG													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		
10,300.00	7,154.00	10,666.21	7,579.00	119.10	119.89	-123.59	320.89	-5,145.25	764.53	561.37	203.16	3.763		
10,400.00	7,154.00	10,766.21	7,579.00	121.63	122.44	-123.59	320.88	-5,245.25	764.56	557.07	207.49	3.685		
10,500.00	7,154.00	10,866.21	7,579.00	124.17	124.99	-123.59	320.87	-5,345.25	764.59	552.76	211.83	3.609		
10,600.00	7,154.00	10,966.21	7,579.00	126.72	127.55	-123.59	320.86	-5,445.25	764.62	548.43	216.18	3.537		
10,700.00	7,154.00	11,066.21	7,579.00	129.28	130.11	-123.59	320.85	-5,545.25	764.64	544.10	220.54	3.467		
10,800.00	7,154.00	11,166.21	7,579.00	131.84	132.68	-123.59	320.84	-5,645.25	764.67	539.76	224.92	3.400		
10,900.00	7,154.00	11,266.21	7,579.00	134.40	135.26	-123.58	320.83	-5,745.25	764.70	535.41	229.30	3.335		
11,000.00	7,154.00	11,366.21	7,579.00	136.97	137.84	-123.58	320.82	-5,845.25	764.73	531.05	233.69	3.272		
11,100.00	7,154.00	11,466.21	7,579.00	139.55	140.42	-123.58	320.81	-5,945.25	764.76	526.68	238.08	3.212		
11,200.00	7,154.00	11,566.21	7,579.00	142.13	143.01	-123.58	320.80	-6,045.25	764.79	522.30	242.49	3.154		
11,300.00	7,154.00	11,666.21	7,579.00	144.72	145.61	-123.58	320.79	-6,145.25	764.82	517.92	246.90	3.098		
11,400.00	7,154.00	11,766.21	7,579.00	147.30	148.20	-123.58	320.79	-6,245.25	764.85	513.53	251.32	3.043		
11,500.00	7,154.00	11,866.21	7,579.00	149.90	150.80	-123.58	320.78	-6,345.25	764.88	509.13	255.74	2.991		
11,600.00	7,154.00	11,966.21	7,579.00	152.50	153.41	-123.57	320.77	-6,445.25	764.91	504.73	260.17	2.940		
11,700.00	7,154.00	12,066.21	7,579.00	155.10	156.02	-123.57	320.76	-6,545.25	764.94	500.32	264.61	2.891		
11,800.00	7,154.00	12,166.21	7,579.00	157.70	158.63	-123.57	320.75	-6,645.25	764.96	495.91	269.05	2.843		
11,900.00	7,154.00	12,266.21	7,579.00	160.31	161.24	-123.57	320.74	-6,745.25	764.99	491.49	273.50	2.797		
12,000.00	7,154.00	12,366.21	7,579.00	162.92	163.86	-123.57	320.73	-6,845.25	765.02	487.07	277.95	2.752		
12,100.00	7,154.00	12,466.21	7,579.00	165.54	166.48	-123.57	320.72	-6,945.25	765.05	482.64	282.41	2.709		
12,200.00	7,154.00	12,566.21	7,579.00	168.15	169.10	-123.57	320.71	-7,045.25	765.08	478.21	286.87	2.667		
12,300.00	7,154.00	12,666.21	7,579.00	170.77	171.73	-123.56	320.70	-7,145.25	765.11	473.77	291.34	2.626		
12,400.00	7,154.00	12,766.21	7,579.00	173.39	174.35	-123.56	320.69	-7,245.25	765.14	469.33	295.81	2.587		
12,500.00	7,154.00	12,866.21	7,579.00	176.02	176.98	-123.56	320.68	-7,345.25	765.17	464.88	300.29	2.548		
12,600.00	7,154.00	12,966.21	7,579.00	178.65	179.62	-123.56	320.67	-7,445.25	765.20	460.43	304.76	2.511		
12,700.00	7,154.00	13,066.21	7,579.00	181.28	182.25	-123.56	320.66	-7,545.25	765.23	455.98	309.25	2.474		
12,800.00	7,154.00	13,166.21	7,579.00	183.91	184.89	-123.56	320.65	-7,645.25	765.25	451.52	313.73	2.439		
12,900.00	7,154.00	13,266.21	7,579.00	186.54	187.52	-123.55	320.64	-7,745.25	765.28	447.06	318.22	2.405		
13,000.00	7,154.00	13,366.21	7,579.00	189.18	190.16	-123.55	320.63	-7,845.25	765.31	442.60	322.71	2.371		
13,100.00	7,154.00	13,466.21	7,579.00	191.81	192.80	-123.55	320.62	-7,945.25	765.34	438.13	327.21	2.339		
13,200.00	7,154.00	13,566.21	7,579.00	194.45	195.45	-123.55	320.61	-8,045.25	765.37	433.66	331.71	2.307		
13,300.00	7,154.00	13,666.21	7,579.00	197.10	198.09	-123.55	320.60	-8,145.25	765.40	429.19	336.21	2.277		
13,400.00	7,154.00	13,766.21	7,579.00	199.74	200.74	-123.55	320.59	-8,245.25	765.43	424.72	340.71	2.247		
13,500.00	7,154.00	13,866.21	7,579.00	202.38	203.39	-123.55	320.58	-8,345.25	765.46	420.24	345.22	2.217		
13,600.00	7,154.00	13,966.21	7,579.00	205.03	206.04	-123.54	320.57	-8,445.25	765.49	415.76	349.73	2.189		
13,700.00	7,154.00	14,066.21	7,579.00	207.68	208.69	-123.54	320.57	-8,545.25	765.52	411.28	354.24	2.161		
13,800.00	7,154.00	14,166.21	7,579.00	210.33	211.34	-123.54	320.56	-8,645.25	765.55	406.79	358.75	2.134		
13,900.00	7,154.00	14,266.21	7,579.00	212.98	213.99	-123.54	320.55	-8,745.25	765.57	402.30	363.27	2.107		
14,000.00	7,154.00	14,366.21	7,579.00	215.63	216.65	-123.54	320.54	-8,845.25	765.60	397.82	367.79	2.082		
14,100.00	7,154.00	14,466.21	7,579.00	218.28	219.30	-123.54	320.53	-8,945.25	765.63	393.32	372.31	2.056		
14,200.00	7,154.00	14,566.21	7,579.00	220.93	221.96	-123.54	320.52	-9,045.24	765.66	388.83	376.83	2.032		
14,300.00	7,154.00	14,666.21	7,579.00	223.59	224.62	-123.53	320.51	-9,145.24	765.69	384.33	381.36	2.008		
14,400.00	7,154.00	14,766.21	7,579.00	226.25	227.28	-123.53	320.50	-9,245.24	765.72	379.84	385.88	1.984		
14,500.00	7,154.00	14,866.21	7,579.00	228.90	229.94	-123.53	320.49	-9,345.24	765.75	375.34	390.41	1.961		
14,600.00	7,154.00	14,966.21	7,579.00	231.56	232.60	-123.53	320.48	-9,445.24	765.78	370.84	394.94	1.939		
14,700.00	7,154.00	15,066.21	7,579.00	234.22	235.26	-123.53	320.47	-9,545.24	765.81	366.33	399.47	1.917		
14,800.00	7,154.00	15,166.21	7,579.00	236.88	237.92	-123.53	320.46	-9,645.24	765.84	361.83	404.01	1.896		
14,900.00	7,154.00	15,266.21	7,579.00	239.55	240.59	-123.53	320.45	-9,745.24	765.87	357.32	408.54	1.875		
15,000.00	7,154.00	15,366.21	7,579.00	242.21	243.25	-123.52	320.44	-9,845.24	765.89	352.81	413.08	1.854		
15,100.00	7,154.00	15,466.21	7,579.00	244.87	245.92	-123.52	320.43	-9,945.24	765.92	348.30	417.62	1.834		
15,200.00	7,154.00	15,566.21	7,579.00	247.54	248.58	-123.52	320.42	-10,045.24	765.95	343.79	422.16	1.814		
15,300.00	7,154.00	15,666.21	7,579.00	250.20	251.25	-123.52	320.41	-10,145.24	765.98	339.28	426.70	1.795		
15,400.00	7,154.00	15,766.21	7,579.00	252.87	253.92	-123.52	320.40	-10,245.24	766.01	334.77	431.24	1.776		

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 Warbler 13W-27-03
Project:	ADAMS COUNTY	TVD Reference:	KB 25' @ 5105.00usft
Reference Site:	Sec 13-T1S-R66W	MD Reference:	KB 25' @ 5105.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	Warbler 13W-27-03	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT_32Bit_ODBC
Reference Design:	PROPOSAL 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-MWD OWSG													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		
15,500.00	7,154.00	15,866.21	7,579.00	255.53	256.59	-123.52	320.39	-10,345.24	766.04	330.25	435.79	1.758		
15,600.00	7,154.00	15,966.21	7,579.00	258.20	259.26	-123.52	320.38	-10,445.24	766.07	325.73	440.33	1.740		
15,700.00	7,154.00	16,066.21	7,579.00	260.87	261.93	-123.51	320.37	-10,545.24	766.10	321.22	444.88	1.722		
15,800.00	7,154.00	16,166.21	7,579.00	263.54	264.60	-123.51	320.36	-10,645.24	766.13	316.70	449.43	1.705		
15,900.00	7,154.00	16,266.21	7,579.00	266.21	267.27	-123.51	320.36	-10,745.24	766.16	312.18	453.98	1.688		
16,000.00	7,154.00	16,366.21	7,579.00	268.88	269.94	-123.51	320.35	-10,845.24	766.18	307.65	458.53	1.671		
16,100.00	7,154.00	16,466.21	7,579.00	271.55	272.61	-123.51	320.34	-10,945.24	766.21	303.13	463.08	1.655		
16,200.00	7,154.00	16,566.21	7,579.00	274.22	275.29	-123.51	320.33	-11,045.24	766.24	298.61	467.64	1.639		
16,300.00	7,154.00	16,666.21	7,579.00	276.90	277.96	-123.51	320.32	-11,145.24	766.27	294.08	472.19	1.623		
16,400.00	7,154.00	16,766.21	7,579.00	279.57	280.64	-123.50	320.31	-11,245.24	766.30	289.56	476.74	1.607		
16,500.00	7,154.00	16,866.21	7,579.00	282.24	283.31	-123.50	320.30	-11,345.24	766.33	285.03	481.30	1.592		
16,600.00	7,154.00	16,966.21	7,579.00	284.92	285.99	-123.50	320.29	-11,445.24	766.36	280.50	485.86	1.577		
16,700.00	7,154.00	17,066.21	7,579.00	287.59	288.66	-123.50	320.28	-11,545.24	766.39	275.97	490.42	1.563		
16,800.00	7,154.00	17,166.21	7,579.00	290.27	291.34	-123.50	320.27	-11,645.24	766.42	271.44	494.98	1.548		
16,900.00	7,154.00	17,266.21	7,579.00	292.94	294.02	-123.50	320.26	-11,745.24	766.45	266.91	499.54	1.534		
17,000.00	7,154.00	17,366.21	7,579.00	295.62	296.69	-123.50	320.25	-11,845.24	766.48	262.38	504.10	1.520		
17,100.00	7,154.00	17,466.21	7,579.00	298.29	299.37	-123.49	320.24	-11,945.24	766.50	257.84	508.66	1.507		
17,200.00	7,154.00	17,566.21	7,579.00	300.97	302.05	-123.49	320.23	-12,045.24	766.53	253.31	513.22	1.494	Level 3	
17,300.00	7,154.00	17,666.21	7,579.00	303.65	304.73	-123.49	320.22	-12,145.24	766.56	248.78	517.79	1.480	Level 3	
17,400.00	7,154.00	17,766.21	7,579.00	306.33	307.41	-123.49	320.21	-12,245.24	766.59	244.24	522.35	1.468	Level 3	
17,500.00	7,154.00	17,866.21	7,579.00	309.01	310.09	-123.49	320.20	-12,345.24	766.62	239.70	526.92	1.455	Level 3	
17,600.00	7,154.00	17,966.21	7,579.00	311.69	312.77	-123.49	320.19	-12,445.24	766.65	235.17	531.48	1.442	Level 3	
17,700.00	7,154.00	18,066.21	7,579.00	314.37	315.45	-123.49	320.18	-12,545.24	766.68	230.63	536.05	1.430	Level 3	
17,800.00	7,154.00	18,166.21	7,579.00	317.05	318.13	-123.48	320.17	-12,645.24	766.71	226.09	540.62	1.418	Level 3	
17,900.00	7,154.00	18,266.21	7,579.00	319.73	320.81	-123.48	320.16	-12,745.24	766.74	221.55	545.19	1.406	Level 3	
18,000.00	7,154.00	18,366.21	7,579.00	322.41	323.49	-123.48	320.15	-12,845.24	766.77	217.01	549.76	1.395	Level 3	
18,100.00	7,154.00	18,466.21	7,579.00	325.09	326.18	-123.48	320.14	-12,945.24	766.80	212.47	554.33	1.383	Level 3	
18,200.00	7,154.00	18,566.21	7,579.00	327.77	328.86	-123.48	320.14	-13,045.24	766.82	207.93	558.90	1.372	Level 3	
18,300.00	7,154.00	18,666.21	7,579.00	330.45	331.54	-123.48	320.13	-13,145.24	766.85	203.38	563.47	1.361	Level 3	
18,400.00	7,154.00	18,766.21	7,579.00	333.13	334.22	-123.48	320.12	-13,245.24	766.88	198.84	568.04	1.350	Level 3	
18,500.00	7,154.00	18,866.21	7,579.00	335.82	336.91	-123.47	320.11	-13,345.24	766.91	194.30	572.62	1.339	Level 3	
18,600.00	7,154.00	18,966.21	7,579.00	338.50	339.59	-123.47	320.10	-13,445.24	766.94	189.75	577.19	1.329	Level 3	
18,700.00	7,154.00	19,066.21	7,579.00	341.18	342.28	-123.47	320.09	-13,545.24	766.97	185.21	581.76	1.318	Level 3	
18,800.00	7,154.00	19,166.21	7,579.00	343.86	344.96	-123.47	320.08	-13,645.24	767.00	180.66	586.34	1.308	Level 3	
18,900.00	7,154.00	19,266.21	7,579.00	346.55	347.64	-123.47	320.07	-13,745.24	767.03	176.11	590.91	1.298	Level 3	
19,000.00	7,154.00	19,366.21	7,579.00	349.23	350.33	-123.47	320.06	-13,845.24	767.06	171.57	595.49	1.288	Level 3	
19,100.00	7,154.00	19,466.21	7,579.00	351.92	353.01	-123.47	320.05	-13,945.24	767.09	167.02	600.07	1.278	Level 3	
19,200.00	7,154.00	19,566.21	7,579.00	354.60	355.70	-123.46	320.04	-14,045.24	767.12	162.47	604.65	1.269	Level 3	
19,300.00	7,154.00	19,666.21	7,579.00	357.29	358.39	-123.46	320.03	-14,145.24	767.14	157.92	609.22	1.259	Level 3	
19,400.00	7,154.00	19,766.21	7,579.00	359.97	361.07	-123.46	320.02	-14,245.24	767.17	153.37	613.80	1.250	Level 2	
19,500.00	7,154.00	19,866.21	7,579.00	362.66	363.76	-123.46	320.01	-14,345.24	767.20	148.82	618.38	1.241	Level 2	
19,600.00	7,154.00	19,966.21	7,579.00	365.34	366.44	-123.46	320.00	-14,445.24	767.23	144.27	622.96	1.232	Level 2	
19,700.00	7,154.00	20,066.21	7,579.00	368.03	369.13	-123.46	319.99	-14,545.24	767.26	139.72	627.54	1.223	Level 2	
19,800.00	7,154.00	20,166.21	7,579.00	370.72	371.82	-123.46	319.98	-14,645.24	767.29	135.17	632.12	1.214	Level 2	
19,900.00	7,154.00	20,266.21	7,579.00	373.40	374.51	-123.45	319.97	-14,745.24	767.32	130.62	636.70	1.205	Level 2	
20,000.00	7,154.00	20,366.21	7,579.00	376.09	377.19	-123.45	319.96	-14,845.24	767.35	126.06	641.29	1.197	Level 2	
20,100.00	7,154.00	20,466.21	7,579.00	378.78	379.88	-123.45	319.95	-14,945.24	767.38	121.51	645.87	1.188	Level 2	
20,200.00	7,154.00	20,566.21	7,579.00	381.46	382.57	-123.45	319.94	-15,045.24	767.41	116.96	650.45	1.180	Level 2	
20,300.00	7,154.00	20,666.21	7,579.00	384.15	385.26	-123.45	319.93	-15,145.24	767.44	112.40	655.03	1.172	Level 2	
20,400.00	7,154.00	20,766.21	7,579.00	386.84	387.95	-123.45	319.93	-15,245.24	767.46	107.85	659.62	1.163	Level 2	
20,500.00	7,154.00	20,866.21	7,579.00	389.53	390.63	-123.45	319.92	-15,345.24	767.49	103.29	664.20	1.156	Level 2	
20,600.00	7,154.00	20,966.21	7,579.00	392.21	393.32	-123.44	319.91	-15,445.24	767.52	98.74	668.79	1.148	Level 2	

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 WARBLER 13W-27-03
Project:	ADAMS COUNTY	TVD Reference:	KB 25' @ 5105.00usft
Reference Site:	Sec 13-T1S-R66W	MD Reference:	KB 25' @ 5105.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	WARBLER 13W-27-03	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT_32Bit_ODBC
Reference Design:	PROPOSAL 1	Offset TVD Reference:	Offset Datum

Offset Design Sec 13-T1S-R66W - WARBLER 13W-27-09 - OWB - PROPOSAL 1												Offset Site Error:	0.00 usft
Survey Program: 0-MWD OWSG												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
20,700.00	7,154.00	21,066.21	7,579.00	394.90	396.01	-123.44	319.90	-15,545.24	767.55	94.18	673.37	1.140	Level 2
20,800.00	7,154.00	21,166.21	7,579.00	397.59	398.70	-123.44	319.89	-15,645.24	767.58	89.62	677.96	1.132	Level 2
20,900.00	7,154.00	21,266.21	7,579.00	400.28	401.39	-123.44	319.88	-15,745.24	767.61	85.07	682.54	1.125	Level 2
21,000.00	7,154.00	21,366.21	7,579.00	402.97	404.08	-123.44	319.87	-15,845.24	767.64	80.51	687.13	1.117	Level 2
21,100.00	7,154.00	21,466.21	7,579.00	405.66	406.77	-123.44	319.86	-15,945.24	767.67	75.95	691.72	1.110	Level 2
21,200.00	7,154.00	21,566.21	7,579.00	408.35	409.46	-123.44	319.85	-16,045.24	767.70	71.39	696.31	1.103	Level 2
21,300.00	7,154.00	21,666.21	7,579.00	411.04	412.15	-123.43	319.84	-16,145.24	767.73	66.83	700.89	1.095	Level 2
21,400.00	7,154.00	21,766.21	7,579.00	413.73	414.84	-123.43	319.83	-16,245.24	767.76	62.27	705.48	1.088	Level 2
21,500.00	7,154.00	21,866.21	7,579.00	416.42	417.53	-123.43	319.82	-16,345.24	767.78	57.71	710.07	1.081	Level 2
21,573.27	7,154.00	21,939.48	7,579.00	418.39	419.50	-123.43	319.81	-16,418.51	767.81	54.37	713.43	1.076	Level 2, SF

Anticollision Report

Company:	EXTRACTION OIL & GAS	Local Co-ordinate Reference:	Well WARBLER 13W-27-03
Project:	ADAMS COUNTY	TVD Reference:	KB 25' @ 5105.00usft
Reference Site:	Sec 13-T1S-R66W	MD Reference:	KB 25' @ 5105.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	WARBLER 13W-27-03	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT_32Bit_ODBC
Reference Design:	PROPOSAL 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-MWD OWSG													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		
0.00	0.00	3.00	3.00	0.00	0.00	106.28	-43.72	149.69	155.94					
100.00	100.00	103.00	103.00	0.13	0.15	106.28	-43.72	149.69	155.94	155.67	0.28	557.726		
200.00	200.00	203.00	203.00	0.49	0.50	106.28	-43.72	149.69	155.94	154.95	1.00	156.484		
300.00	300.00	303.14	303.14	0.85	0.86	106.28	-43.72	149.69	155.94	154.23	1.71	90.998		
400.00	400.00	407.72	407.69	1.21	1.23	106.72	-44.39	147.78	154.37	151.94	2.44	63.321		
500.00	500.00	512.01	511.82	1.57	1.59	108.03	-46.31	142.29	149.90	146.74	3.16	47.420		
600.00	600.00	615.74	615.11	1.93	1.98	110.36	-49.47	133.29	142.69	138.80	3.89	36.671		
700.00	699.98	718.83	717.34	2.28	2.38	-177.44	-53.84	120.85	134.81	130.19	4.62	29.162		
800.00	799.84	821.31	818.43	2.63	2.80	-172.42	-59.38	105.06	128.54	123.17	5.37	23.928		
900.00	899.45	923.08	918.18	3.00	3.26	-166.01	-66.06	86.01	124.60	118.44	6.16	20.213		
971.80	970.76	995.68	988.86	3.27	3.61	-160.68	-71.55	70.38	123.68	116.91	6.77	18.270 CC		
1,000.00	998.70	1,024.08	1,016.39	3.37	3.76	-158.45	-73.85	63.81	123.83	116.81	7.02	17.640 ES		
1,100.00	1,097.47	1,124.22	1,112.89	3.77	4.29	-150.26	-82.71	38.58	127.01	119.06	7.95	15.978		
1,200.00	1,195.62	1,223.44	1,207.53	4.19	4.86	-142.06	-92.57	10.47	134.64	125.68	8.95	15.035		
1,300.00	1,293.06	1,321.67	1,300.15	4.64	5.48	-134.45	-103.40	-20.40	146.82	136.79	10.03	14.641		
1,400.00	1,389.64	1,418.88	1,390.66	5.12	6.14	-127.78	-115.14	-53.86	163.33	152.17	11.16	14.640		
1,500.00	1,485.27	1,515.79	1,480.40	5.66	6.84	-122.71	-127.26	-88.39	183.51	171.18	12.33	14.882		
1,600.00	1,579.82	1,612.66	1,570.09	6.24	7.55	-119.37	-139.37	-122.90	206.34	192.79	13.55	15.228		
1,700.00	1,673.17	1,709.35	1,659.62	6.88	8.26	-117.35	-151.46	-157.35	231.15	216.33	14.82	15.594		
1,800.00	1,765.22	1,805.76	1,748.90	7.57	8.98	-116.36	-163.51	-191.70	257.58	241.43	16.15	15.946		
1,900.00	1,856.73	1,902.03	1,838.04	8.31	9.71	-116.17	-175.55	-226.00	284.62	267.10	17.52	16.245		
2,000.00	1,948.24	2,001.70	1,927.19	9.06	10.47	-116.02	-187.58	-260.30	311.66	292.73	18.94	16.459		
2,100.00	2,039.75	2,094.58	2,016.33	9.83	11.18	-115.88	-199.62	-294.60	338.71	318.39	20.32	16.671		
2,200.00	2,131.26	2,209.15	2,105.48	10.61	12.05	-115.77	-211.66	-328.90	365.75	343.87	21.88	16.718		
2,300.00	2,222.77	2,287.12	2,194.62	11.40	12.65	-115.67	-223.69	-363.21	392.80	369.62	23.17	16.951		
2,400.00	2,314.28	2,383.39	2,283.77	12.20	13.39	-115.59	-235.73	-397.51	419.84	395.23	24.62	17.056		
2,500.00	2,405.79	2,479.66	2,372.91	13.00	14.14	-115.52	-247.76	-431.81	446.89	420.82	26.07	17.145		
2,600.00	2,497.30	2,575.93	2,462.06	13.81	14.88	-115.45	-259.80	-466.11	473.94	446.41	27.52	17.220		
2,700.00	2,588.81	2,672.20	2,551.20	14.62	15.63	-115.39	-271.84	-500.41	500.99	472.00	28.98	17.284		
2,800.00	2,680.31	2,768.47	2,640.34	15.44	16.37	-115.34	-283.87	-534.71	528.03	497.58	30.45	17.340		
2,900.00	2,771.82	2,864.75	2,729.49	16.25	17.12	-115.29	-295.91	-569.01	555.08	523.16	31.92	17.388		
3,000.00	2,863.33	2,961.02	2,818.63	17.08	17.87	-115.25	-307.94	-603.31	582.13	548.73	33.40	17.430		
3,100.00	2,954.84	3,057.29	2,907.78	17.90	18.62	-115.21	-319.98	-637.61	609.18	574.31	34.88	17.467		
3,200.00	3,046.35	3,153.56	2,996.92	18.72	19.37	-115.17	-332.02	-671.91	636.23	599.88	36.36	17.500		
3,300.00	3,137.86	3,249.83	3,086.07	19.55	20.12	-115.14	-344.05	-706.21	663.28	625.44	37.84	17.529		
3,400.00	3,229.37	3,346.10	3,175.21	20.38	20.87	-115.11	-356.09	-740.51	690.33	651.01	39.32	17.555		
3,500.00	3,320.88	3,442.37	3,264.36	21.21	21.62	-115.08	-368.12	-774.81	717.38	676.57	40.81	17.578		
3,600.00	3,412.39	3,538.64	3,353.50	22.04	22.38	-115.06	-380.16	-809.11	744.43	702.14	42.30	17.599		
3,700.00	3,503.90	3,634.92	3,442.65	22.87	23.13	-115.03	-392.20	-843.41	771.48	727.70	43.79	17.618		
3,800.00	3,595.41	3,731.19	3,531.79	23.70	23.88	-115.01	-404.23	-877.72	798.54	753.26	45.28	17.635		
3,900.00	3,686.91	3,827.46	3,620.93	24.54	24.64	-114.99	-416.27	-912.02	825.59	778.81	46.77	17.651		
4,000.00	3,778.42	3,923.73	3,710.08	25.37	25.39	-114.97	-428.30	-946.32	852.64	804.37	48.27	17.665		
4,100.00	3,869.93	4,020.00	3,799.22	26.20	26.14	-114.95	-440.34	-980.62	879.69	829.93	49.76	17.679		
4,200.00	3,961.44	4,116.27	3,888.37	27.04	26.90	-114.93	-452.38	-1,014.92	906.74	855.48	51.26	17.691		
4,300.00	4,052.95	4,212.54	3,977.51	27.88	27.65	-114.92	-464.41	-1,049.22	933.79	881.04	52.75	17.702		
4,400.00	4,144.46	4,308.81	4,066.66	28.71	28.40	-114.90	-476.45	-1,083.52	960.84	906.59	54.25	17.712		
4,500.00	4,235.97	4,405.09	4,155.80	29.55	29.16	-114.89	-488.49	-1,117.82	987.89	932.15	55.75	17.721		
4,600.00	4,327.48	4,501.36	4,244.95	30.39	29.91	-114.87	-500.52	-1,152.12	1,014.95	957.70	57.24	17.730		
4,700.00	4,418.99	4,602.37	4,334.09	31.22	30.71	-114.86	-512.56	-1,186.42	1,042.00	983.22	58.78	17.727		
4,800.00	4,510.50	4,706.10	4,423.24	32.06	31.52	-114.85	-524.59	-1,220.72	1,069.05	1,008.71	60.34	17.718		
4,900.00	4,602.01	4,809.83	4,512.38	32.90	32.33	-114.83	-536.63	-1,255.02	1,096.10	1,034.21	61.89	17.709		
5,000.00	4,693.51	4,886.44	4,601.53	33.74	32.93	-114.82	-548.67	-1,289.32	1,123.15	1,059.91	63.24	17.759		

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 WARBLER 13W-27-03
Project:	ADAMS COUNTY	TVD Reference:	KB 25' @ 5105.00usft
Reference Site:	Sec 13-T1S-R66W	MD Reference:	KB 25' @ 5105.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	WARBLER 13W-27-03	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT_32Bit_ODBC
Reference Design:	PROPOSAL 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-MWD OWSG													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		
5,100.00	4,785.02	4,982.71	4,690.67	34.58	33.69	-114.81	-560.70	-1,323.62	1,150.21	1,085.46	64.74	17.765		
5,200.00	4,876.53	5,078.98	4,779.81	35.42	34.44	-114.80	-572.74	-1,357.92	1,177.26	1,111.01	66.25	17.771		
5,300.00	4,968.04	5,175.26	4,868.96	36.26	35.20	-114.79	-584.77	-1,392.23	1,204.31	1,136.56	67.75	17.776		
5,400.00	5,059.55	5,271.53	4,958.10	37.10	35.95	-114.78	-596.81	-1,426.53	1,231.36	1,162.11	69.25	17.781		
5,500.00	5,151.06	5,367.80	5,047.25	37.94	36.71	-114.77	-608.85	-1,460.83	1,258.41	1,187.66	70.75	17.786		
5,600.00	5,242.57	5,464.07	5,136.39	38.78	37.47	-114.76	-620.88	-1,495.13	1,285.46	1,213.21	72.26	17.791		
5,700.00	5,334.08	5,560.34	5,225.54	39.62	38.22	-114.76	-632.92	-1,529.43	1,312.52	1,238.76	73.76	17.795		
5,800.00	5,425.59	5,656.61	5,314.68	40.46	38.98	-114.75	-644.95	-1,563.73	1,339.57	1,264.31	75.26	17.799		
5,900.00	5,517.10	5,752.88	5,403.83	41.30	39.73	-114.74	-656.99	-1,598.03	1,366.62	1,289.86	76.77	17.803		
6,000.00	5,608.61	5,849.16	5,492.97	42.14	40.49	-114.73	-669.03	-1,632.33	1,393.67	1,315.40	78.27	17.806		
6,100.00	5,700.12	5,945.43	5,582.12	42.98	41.25	-114.73	-681.06	-1,666.63	1,420.72	1,340.95	79.77	17.809		
6,200.00	5,791.62	6,041.70	5,671.26	43.82	42.00	-114.72	-693.10	-1,700.93	1,447.78	1,366.50	81.28	17.813		
6,300.00	5,883.13	6,137.97	5,760.40	44.66	42.76	-114.71	-705.13	-1,735.23	1,474.83	1,392.05	82.78	17.816		
6,400.00	5,974.64	6,234.24	5,849.55	45.50	43.51	-114.71	-717.17	-1,769.53	1,501.88	1,417.59	84.29	17.818		
6,500.00	6,066.15	6,330.51	5,938.69	46.35	44.27	-114.70	-729.21	-1,803.83	1,528.93	1,443.14	85.79	17.821		
6,600.00	6,157.66	6,426.78	6,027.84	47.19	45.03	-114.69	-741.24	-1,838.13	1,555.99	1,468.69	87.30	17.824		
6,700.00	6,249.17	6,523.05	6,116.98	48.03	45.78	-114.69	-753.28	-1,872.43	1,583.04	1,494.23	88.80	17.826		
6,800.00	6,340.68	6,619.33	6,206.13	48.87	46.54	-114.68	-765.31	-1,906.74	1,610.09	1,519.78	90.31	17.829		
6,900.00	6,432.19	6,715.60	6,295.27	49.71	47.30	-114.68	-777.35	-1,941.04	1,637.14	1,545.33	91.82	17.831		
7,000.00	6,523.70	6,811.87	6,384.42	50.55	48.05	-114.67	-789.39	-1,975.34	1,664.19	1,570.87	93.32	17.833		
7,100.00	6,615.21	6,908.14	6,473.56	51.40	48.81	-114.67	-801.42	-2,009.64	1,691.25	1,596.42	94.83	17.835		
7,200.00	6,706.72	7,004.41	6,562.71	52.24	49.56	-114.66	-813.46	-2,043.94	1,718.30	1,621.96	96.33	17.837		
7,300.00	6,798.22	7,100.68	6,651.85	53.08	50.32	-114.66	-825.49	-2,078.24	1,745.35	1,647.51	97.84	17.839		
7,400.00	6,886.25	7,196.46	6,740.54	54.07	51.07	-105.98	-837.47	-2,112.36	1,772.50	1,673.04	99.46	17.821		
7,500.00	6,965.23	7,289.30	6,826.51	55.35	51.80	-100.56	-849.08	-2,145.44	1,799.56	1,698.26	101.29	17.766		
7,600.00	7,032.75	7,376.40	6,907.16	56.90	52.49	-97.00	-859.97	-2,176.48	1,826.37	1,723.10	103.27	17.685		
7,700.00	7,086.77	7,455.10	6,980.03	58.68	53.11	-94.46	-869.80	-2,204.52	1,853.14	1,747.85	105.30	17.599		
7,800.00	7,125.64	7,523.02	7,042.92	60.64	53.64	-92.45	-878.30	-2,228.71	1,880.28	1,773.03	107.24	17.533		
7,900.00	7,148.19	7,578.08	7,093.91	62.69	54.07	-90.61	-885.18	-2,248.33	1,908.20	1,799.21	108.98	17.509		
8,000.00	7,154.00	7,618.87	7,131.67	64.75	54.39	-89.21	-890.28	-2,262.86	1,937.24	1,826.84	110.40	17.547		
8,100.00	7,154.00	8,512.72	7,579.00	66.83	68.42	-102.47	-951.05	-2,943.90	1,954.34	1,825.97	128.37	15.225		
8,200.00	7,154.00	8,612.72	7,579.00	68.96	70.50	-102.47	-951.12	-3,043.90	1,954.43	1,821.82	132.62	14.738		
8,300.00	7,154.00	8,712.72	7,579.00	71.12	72.62	-102.47	-951.20	-3,143.90	1,954.53	1,817.59	136.94	14.273		
8,400.00	7,154.00	8,812.72	7,579.00	73.32	74.77	-102.47	-951.27	-3,243.90	1,954.63	1,813.30	141.33	13.830		
8,500.00	7,154.00	8,912.72	7,579.00	75.55	76.97	-102.47	-951.35	-3,343.90	1,954.72	1,808.95	145.78	13.409		
8,600.00	7,154.00	9,012.72	7,579.00	77.81	79.19	-102.47	-951.42	-3,443.90	1,954.82	1,804.54	150.28	13.008		
8,700.00	7,154.00	9,112.72	7,579.00	80.10	81.44	-102.47	-951.49	-3,543.90	1,954.92	1,800.08	154.84	12.626		
8,800.00	7,154.00	9,212.72	7,579.00	82.41	83.72	-102.47	-951.57	-3,643.90	1,955.02	1,795.58	159.44	12.262		
8,900.00	7,154.00	9,312.72	7,579.00	84.75	86.03	-102.47	-951.64	-3,743.90	1,955.11	1,791.03	164.08	11.916		
9,000.00	7,154.00	9,412.72	7,579.00	87.11	88.36	-102.46	-951.72	-3,843.90	1,955.21	1,786.45	168.76	11.586		
9,100.00	7,154.00	9,512.72	7,579.00	89.48	90.70	-102.46	-951.79	-3,943.90	1,955.31	1,781.83	173.47	11.271		
9,200.00	7,154.00	9,612.72	7,579.00	91.88	93.07	-102.46	-951.86	-4,043.90	1,955.40	1,777.18	178.22	10.972		
9,300.00	7,154.00	9,712.72	7,579.00	94.29	95.46	-102.46	-951.94	-4,143.90	1,955.50	1,772.50	183.00	10.686		
9,400.00	7,154.00	9,812.72	7,579.00	96.72	97.86	-102.46	-952.01	-4,243.90	1,955.60	1,767.79	187.81	10.413		
9,500.00	7,154.00	9,912.72	7,579.00	99.16	100.28	-102.46	-952.08	-4,343.90	1,955.69	1,763.06	192.64	10.152		
9,600.00	7,154.00	10,012.72	7,579.00	101.61	102.71	-102.46	-952.16	-4,443.90	1,955.79	1,758.30	197.49	9.903		
9,700.00	7,154.00	10,112.72	7,579.00	104.08	105.16	-102.46	-952.23	-4,543.90	1,955.89	1,753.52	202.37	9.665		
9,800.00	7,154.00	10,212.72	7,579.00	106.56	107.62	-102.46	-952.31	-4,643.90	1,955.98	1,748.72	207.26	9.437		
9,900.00	7,154.00	10,312.72	7,579.00	109.05	110.09	-102.46	-952.38	-4,743.90	1,956.08	1,743.90	212.18	9.219		
10,000.00	7,154.00	10,412.72	7,579.00	111.55	112.57	-102.46	-952.45	-4,843.90	1,956.18	1,739.06	217.11	9.010		
10,100.00	7,154.00	10,512.72	7,579.00	114.06	115.06	-102.46	-952.53	-4,943.90	1,956.27	1,734.21	222.07	8.809		
10,200.00	7,154.00	10,612.72	7,579.00	116.57	117.56	-102.46	-952.60	-5,043.90	1,956.37	1,729.34	227.03	8.617		

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 WARBLER 13W-27-03
Project:	ADAMS COUNTY	TVD Reference:	KB 25' @ 5105.00usft
Reference Site:	Sec 13-T1S-R66W	MD Reference:	KB 25' @ 5105.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	WARBLER 13W-27-03	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT_32Bit_ODBC
Reference Design:	PROPOSAL 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-MWD OWSG													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		
10,300.00	7,154.00	10,712.72	7,579.00	119.10	120.07	-102.46	-952.68	-5,143.90	1,956.47	1,724.46	232.01	8.433		
10,400.00	7,154.00	10,812.72	7,579.00	121.63	122.59	-102.46	-952.75	-5,243.90	1,956.56	1,719.56	237.01	8.255		
10,500.00	7,154.00	10,912.72	7,579.00	124.17	125.12	-102.46	-952.82	-5,343.90	1,956.66	1,714.65	242.01	8.085		
10,600.00	7,154.00	11,012.72	7,579.00	126.72	127.65	-102.45	-952.90	-5,443.90	1,956.76	1,709.73	247.03	7.921		
10,700.00	7,154.00	11,112.72	7,579.00	129.28	130.19	-102.45	-952.97	-5,543.90	1,956.85	1,704.79	252.06	7.763		
10,800.00	7,154.00	11,212.72	7,579.00	131.84	132.74	-102.45	-953.04	-5,643.89	1,956.95	1,699.85	257.10	7.612		
10,900.00	7,154.00	11,312.72	7,579.00	134.40	135.29	-102.45	-953.12	-5,743.89	1,957.05	1,694.90	262.15	7.465		
11,000.00	7,154.00	11,412.72	7,579.00	136.97	137.85	-102.45	-953.19	-5,843.89	1,957.15	1,689.93	267.21	7.324		
11,100.00	7,154.00	11,512.72	7,579.00	139.55	140.42	-102.45	-953.27	-5,943.89	1,957.24	1,684.96	272.28	7.188		
11,200.00	7,154.00	11,612.72	7,579.00	142.13	142.99	-102.45	-953.34	-6,043.89	1,957.34	1,679.98	277.36	7.057		
11,300.00	7,154.00	11,712.72	7,579.00	144.72	145.56	-102.45	-953.41	-6,143.89	1,957.44	1,674.99	282.44	6.930		
11,400.00	7,154.00	11,812.72	7,579.00	147.30	148.14	-102.45	-953.49	-6,243.89	1,957.53	1,670.00	287.54	6.808		
11,500.00	7,154.00	11,912.72	7,579.00	149.90	150.72	-102.45	-953.56	-6,343.89	1,957.63	1,664.99	292.64	6.690		
11,600.00	7,154.00	12,012.72	7,579.00	152.50	153.31	-102.45	-953.64	-6,443.89	1,957.73	1,659.98	297.74	6.575		
11,700.00	7,154.00	12,112.72	7,579.00	155.10	155.90	-102.45	-953.71	-6,543.89	1,957.82	1,654.97	302.86	6.465		
11,800.00	7,154.00	12,212.72	7,579.00	157.70	158.50	-102.45	-953.78	-6,643.89	1,957.92	1,649.94	307.98	6.357		
11,900.00	7,154.00	12,312.72	7,579.00	160.31	161.10	-102.45	-953.86	-6,743.89	1,958.02	1,644.92	313.10	6.254		
12,000.00	7,154.00	12,412.72	7,579.00	162.92	163.70	-102.45	-953.93	-6,843.89	1,958.11	1,639.88	318.23	6.153		
12,100.00	7,154.00	12,512.72	7,579.00	165.54	166.31	-102.45	-954.00	-6,943.89	1,958.21	1,634.84	323.37	6.056		
12,200.00	7,154.00	12,612.72	7,579.00	168.15	168.92	-102.44	-954.08	-7,043.89	1,958.31	1,629.80	328.51	5.961		
12,300.00	7,154.00	12,712.72	7,579.00	170.77	171.53	-102.44	-954.15	-7,143.89	1,958.40	1,624.75	333.65	5.870		
12,400.00	7,154.00	12,812.72	7,579.00	173.39	174.14	-102.44	-954.23	-7,243.89	1,958.50	1,619.70	338.80	5.781		
12,500.00	7,154.00	12,912.72	7,579.00	176.02	176.76	-102.44	-954.30	-7,343.89	1,958.60	1,614.64	343.96	5.694		
12,600.00	7,154.00	13,012.72	7,579.00	178.65	179.38	-102.44	-954.37	-7,443.89	1,958.69	1,609.58	349.12	5.610		
12,700.00	7,154.00	13,112.72	7,579.00	181.28	182.00	-102.44	-954.45	-7,543.89	1,958.79	1,604.51	354.28	5.529		
12,800.00	7,154.00	13,212.72	7,579.00	183.91	184.63	-102.44	-954.52	-7,643.89	1,958.89	1,599.44	359.45	5.450		
12,900.00	7,154.00	13,312.72	7,579.00	186.54	187.25	-102.44	-954.60	-7,743.89	1,958.98	1,594.37	364.62	5.373		
13,000.00	7,154.00	13,412.72	7,579.00	189.18	189.88	-102.44	-954.67	-7,843.89	1,959.08	1,589.29	369.79	5.298		
13,100.00	7,154.00	13,512.72	7,579.00	191.81	192.52	-102.44	-954.74	-7,943.89	1,959.18	1,584.21	374.97	5.225		
13,200.00	7,154.00	13,612.72	7,579.00	194.45	195.15	-102.44	-954.82	-8,043.89	1,959.28	1,579.13	380.15	5.154		
13,300.00	7,154.00	13,712.72	7,579.00	197.10	197.78	-102.44	-954.89	-8,143.89	1,959.37	1,574.04	385.33	5.085		
13,400.00	7,154.00	13,812.72	7,579.00	199.74	200.42	-102.44	-954.96	-8,243.89	1,959.47	1,568.95	390.52	5.018		
13,500.00	7,154.00	13,912.72	7,579.00	202.38	203.06	-102.44	-955.04	-8,343.89	1,959.57	1,563.86	395.71	4.952		
13,600.00	7,154.00	14,012.72	7,579.00	205.03	205.70	-102.44	-955.11	-8,443.89	1,959.66	1,558.76	400.90	4.888		
13,700.00	7,154.00	14,112.72	7,579.00	207.68	208.34	-102.44	-955.19	-8,543.89	1,959.76	1,553.66	406.10	4.826		
13,800.00	7,154.00	14,212.72	7,579.00	210.33	210.99	-102.43	-955.26	-8,643.89	1,959.86	1,548.56	411.29	4.765		
13,900.00	7,154.00	14,312.72	7,579.00	212.98	213.63	-102.43	-955.33	-8,743.89	1,959.95	1,543.46	416.49	4.706		
14,000.00	7,154.00	14,412.72	7,579.00	215.63	216.28	-102.43	-955.41	-8,843.89	1,960.05	1,538.36	421.69	4.648		
14,100.00	7,154.00	14,512.72	7,579.00	218.28	218.93	-102.43	-955.48	-8,943.89	1,960.15	1,533.25	426.90	4.592		
14,200.00	7,154.00	14,612.72	7,579.00	220.93	221.58	-102.43	-955.56	-9,043.89	1,960.24	1,528.14	432.11	4.536		
14,300.00	7,154.00	14,712.72	7,579.00	223.59	224.23	-102.43	-955.63	-9,143.89	1,960.34	1,523.03	437.31	4.483		
14,400.00	7,154.00	14,812.72	7,579.00	226.25	226.88	-102.43	-955.70	-9,243.89	1,960.44	1,517.91	442.53	4.430		
14,500.00	7,154.00	14,912.72	7,579.00	228.90	229.53	-102.43	-955.78	-9,343.89	1,960.53	1,512.80	447.74	4.379		
14,600.00	7,154.00	15,012.72	7,579.00	231.56	232.19	-102.43	-955.85	-9,443.89	1,960.63	1,507.68	452.95	4.329		
14,700.00	7,154.00	15,112.72	7,579.00	234.22	234.84	-102.43	-955.92	-9,543.89	1,960.73	1,502.56	458.17	4.279		
14,800.00	7,154.00	15,212.72	7,579.00	236.88	237.50	-102.43	-956.00	-9,643.89	1,960.82	1,497.44	463.39	4.231		
14,900.00	7,154.00	15,312.72	7,579.00	239.55	240.16	-102.43	-956.07	-9,743.89	1,960.92	1,492.31	468.61	4.185		
15,000.00	7,154.00	15,412.72	7,579.00	242.21	242.82	-102.43	-956.15	-9,843.89	1,961.02	1,487.19	473.83	4.139		
15,100.00	7,154.00	15,512.72	7,579.00	244.87	245.48	-102.43	-956.22	-9,943.89	1,961.12	1,482.06	479.05	4.094		
15,200.00	7,154.00	15,612.72	7,579.00	247.54	248.14	-102.43	-956.29	-10,043.89	1,961.21	1,476.93	484.28	4.050		
15,300.00	7,154.00	15,712.72	7,579.00	250.20	250.80	-102.43	-956.37	-10,143.89	1,961.31	1,471.80	489.50	4.007		
15,400.00	7,154.00	15,812.72	7,579.00	252.87	253.46	-102.42	-956.44	-10,243.89	1,961.41	1,466.67	494.73	3.965		

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 WARBLER 13W-27-03
Project:	ADAMS COUNTY	TVD Reference:	KB 25' @ 5105.00usft
Reference Site:	Sec 13-T1S-R66W	MD Reference:	KB 25' @ 5105.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	WARBLER 13W-27-03	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT_32Bit_ODBC
Reference Design:	PROPOSAL 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-MWD OWSG													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		
15,500.00	7,154.00	15,912.72	7,579.00	255.53	256.13	-102.42	-956.52	-10,343.89	1,961.50	1,461.54	499.96	3.923		
15,600.00	7,154.00	16,012.72	7,579.00	258.20	258.79	-102.42	-956.59	-10,443.89	1,961.60	1,456.41	505.19	3.883		
15,700.00	7,154.00	16,112.72	7,579.00	260.87	261.45	-102.42	-956.66	-10,543.89	1,961.70	1,451.27	510.42	3.843		
15,800.00	7,154.00	16,212.72	7,579.00	263.54	264.12	-102.42	-956.74	-10,643.89	1,961.79	1,446.14	515.66	3.804		
15,900.00	7,154.00	16,312.72	7,579.00	266.21	266.79	-102.42	-956.81	-10,743.89	1,961.89	1,441.00	520.89	3.766		
16,000.00	7,154.00	16,412.72	7,579.00	268.88	269.45	-102.42	-956.88	-10,843.89	1,961.99	1,435.86	526.13	3.729		
16,100.00	7,154.00	16,512.72	7,579.00	271.55	272.12	-102.42	-956.96	-10,943.89	1,962.08	1,430.72	531.37	3.693		
16,200.00	7,154.00	16,612.72	7,579.00	274.22	274.79	-102.42	-957.03	-11,043.89	1,962.18	1,425.58	536.60	3.657		
16,300.00	7,154.00	16,712.72	7,579.00	276.90	277.46	-102.42	-957.11	-11,143.89	1,962.28	1,420.43	541.84	3.621		
16,400.00	7,154.00	16,812.72	7,579.00	279.57	280.13	-102.42	-957.18	-11,243.89	1,962.37	1,415.29	547.08	3.587		
16,500.00	7,154.00	16,912.72	7,579.00	282.24	282.80	-102.42	-957.25	-11,343.89	1,962.47	1,410.15	552.32	3.553		
16,600.00	7,154.00	17,012.72	7,579.00	284.92	285.47	-102.42	-957.33	-11,443.89	1,962.57	1,405.00	557.57	3.520		
16,700.00	7,154.00	17,112.72	7,579.00	287.59	288.14	-102.42	-957.40	-11,543.89	1,962.66	1,399.85	562.81	3.487		
16,800.00	7,154.00	17,212.72	7,579.00	290.27	290.82	-102.42	-957.48	-11,643.89	1,962.76	1,394.71	568.05	3.455		
16,900.00	7,154.00	17,312.72	7,579.00	292.94	293.49	-102.42	-957.55	-11,743.89	1,962.86	1,389.56	573.30	3.424		
17,000.00	7,154.00	17,412.72	7,579.00	295.62	296.16	-102.41	-957.62	-11,843.89	1,962.96	1,384.41	578.55	3.393		
17,100.00	7,154.00	17,512.72	7,579.00	298.29	298.84	-102.41	-957.70	-11,943.89	1,963.05	1,379.26	583.79	3.363		
17,200.00	7,154.00	17,612.72	7,579.00	300.97	301.51	-102.41	-957.77	-12,043.89	1,963.15	1,374.11	589.04	3.333		
17,300.00	7,154.00	17,712.72	7,579.00	303.65	304.19	-102.41	-957.84	-12,143.89	1,963.25	1,368.95	594.29	3.304		
17,400.00	7,154.00	17,812.72	7,579.00	306.33	306.86	-102.41	-957.92	-12,243.89	1,963.34	1,363.80	599.54	3.275		
17,500.00	7,154.00	17,912.72	7,579.00	309.01	309.54	-102.41	-957.99	-12,343.89	1,963.44	1,358.65	604.79	3.246		
17,600.00	7,154.00	18,012.72	7,579.00	311.69	312.22	-102.41	-958.07	-12,443.89	1,963.54	1,353.49	610.04	3.219		
17,700.00	7,154.00	18,112.72	7,579.00	314.37	314.89	-102.41	-958.14	-12,543.89	1,963.63	1,348.34	615.29	3.191		
17,800.00	7,154.00	18,212.72	7,579.00	317.05	317.57	-102.41	-958.21	-12,643.89	1,963.73	1,343.18	620.55	3.165		
17,900.00	7,154.00	18,312.72	7,579.00	319.73	320.25	-102.41	-958.29	-12,743.89	1,963.83	1,338.03	625.80	3.138		
18,000.00	7,154.00	18,412.72	7,579.00	322.41	322.93	-102.41	-958.36	-12,843.89	1,963.92	1,332.87	631.06	3.112		
18,100.00	7,154.00	18,512.72	7,579.00	325.09	325.61	-102.41	-958.44	-12,943.89	1,964.02	1,327.71	636.31	3.087		
18,200.00	7,154.00	18,612.72	7,579.00	327.77	328.29	-102.41	-958.51	-13,043.89	1,964.12	1,322.55	641.57	3.061		
18,300.00	7,154.00	18,712.72	7,579.00	330.45	330.97	-102.41	-958.58	-13,143.89	1,964.21	1,317.39	646.82	3.037		
18,400.00	7,154.00	18,812.72	7,579.00	333.13	333.65	-102.41	-958.66	-13,243.89	1,964.31	1,312.23	652.08	3.012		
18,500.00	7,154.00	18,912.72	7,579.00	335.82	336.33	-102.41	-958.73	-13,343.89	1,964.41	1,307.07	657.34	2.988		
18,600.00	7,154.00	19,012.72	7,579.00	338.50	339.01	-102.40	-958.80	-13,443.89	1,964.50	1,301.91	662.60	2.965		
18,700.00	7,154.00	19,112.72	7,579.00	341.18	341.69	-102.40	-958.88	-13,543.89	1,964.60	1,296.75	667.85	2.942		
18,800.00	7,154.00	19,212.72	7,579.00	343.86	344.37	-102.40	-958.95	-13,643.89	1,964.70	1,291.58	673.11	2.919		
18,900.00	7,154.00	19,312.72	7,579.00	346.55	347.05	-102.40	-959.03	-13,743.89	1,964.80	1,286.42	678.37	2.896		
19,000.00	7,154.00	19,412.72	7,579.00	349.23	349.73	-102.40	-959.10	-13,843.89	1,964.89	1,281.26	683.63	2.874		
19,100.00	7,154.00	19,512.72	7,579.00	351.92	352.42	-102.40	-959.17	-13,943.89	1,964.99	1,276.09	688.90	2.852		
19,200.00	7,154.00	19,612.72	7,579.00	354.60	355.10	-102.40	-959.25	-14,043.89	1,965.09	1,270.93	694.16	2.831		
19,300.00	7,154.00	19,712.72	7,579.00	357.29	357.78	-102.40	-959.32	-14,143.89	1,965.18	1,265.76	699.42	2.810		
19,400.00	7,154.00	19,812.72	7,579.00	359.97	360.46	-102.40	-959.40	-14,243.89	1,965.28	1,260.60	704.68	2.789		
19,500.00	7,154.00	19,912.72	7,579.00	362.66	363.15	-102.40	-959.47	-14,343.89	1,965.38	1,255.43	709.95	2.768		
19,600.00	7,154.00	20,012.72	7,579.00	365.34	365.83	-102.40	-959.54	-14,443.89	1,965.47	1,250.26	715.21	2.748		
19,700.00	7,154.00	20,112.72	7,579.00	368.03	368.52	-102.40	-959.62	-14,543.89	1,965.57	1,245.10	720.47	2.728		
19,800.00	7,154.00	20,212.72	7,579.00	370.72	371.20	-102.40	-959.69	-14,643.89	1,965.67	1,239.93	725.74	2.709		
19,900.00	7,154.00	20,312.72	7,579.00	373.40	373.89	-102.40	-959.76	-14,743.89	1,965.76	1,234.76	731.00	2.689		
20,000.00	7,154.00	20,412.72	7,579.00	376.09	376.57	-102.40	-959.84	-14,843.89	1,965.86	1,229.59	736.27	2.670		
20,100.00	7,154.00	20,512.72	7,579.00	378.78	379.26	-102.40	-959.91	-14,943.89	1,965.96	1,224.42	741.53	2.651		
20,200.00	7,154.00	20,612.72	7,579.00	381.46	381.94	-102.39	-959.99	-15,043.89	1,966.05	1,219.25	746.80	2.633		
20,300.00	7,154.00	20,712.72	7,579.00	384.15	384.63	-102.39	-960.06	-15,143.89	1,966.15	1,214.08	752.07	2.614		
20,400.00	7,154.00	20,812.72	7,579.00	386.84	387.31	-102.39	-960.13	-15,243.89	1,966.25	1,208.91	757.34	2.596		
20,500.00	7,154.00	20,912.72	7,579.00	389.53	390.00	-102.39	-960.21	-15,343.89	1,966.34	1,203.74	762.60	2.578		
20,600.00	7,154.00	21,012.72	7,579.00	392.21	392.69	-102.39	-960.28	-15,443.89	1,966.44	1,198.57	767.87	2.561		

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 WARBLER 13W-27-03
Project:	ADAMS COUNTY	TVD Reference:	KB 25' @ 5105.00usft
Reference Site:	Sec 13-T1S-R66W	MD Reference:	KB 25' @ 5105.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	WARBLER 13W-27-03	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT_32Bit_ODBC
Reference Design:	PROPOSAL 1	Offset TVD Reference:	Offset Datum

Offset Design Sec 13-T1S-R66W - WARBLER 13W-27-10 - OWB - PROPOSAL 1												Offset Site Error:	0.00 usft
Survey Program: 0-MWD OWSG												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	
20,700.00	7,154.00	21,112.72	7,579.00	394.90	395.37	-102.39	-960.36	-15,543.89	1,966.54	1,193.40	773.14	2.544	
20,800.00	7,154.00	21,212.72	7,579.00	397.59	398.06	-102.39	-960.43	-15,643.89	1,966.64	1,188.23	778.41	2.526	
20,900.00	7,154.00	21,312.72	7,579.00	400.28	400.75	-102.39	-960.50	-15,743.89	1,966.73	1,183.05	783.68	2.510	
21,000.00	7,154.00	21,412.72	7,579.00	402.97	403.44	-102.39	-960.58	-15,843.89	1,966.83	1,177.88	788.95	2.493	
21,100.00	7,154.00	21,512.72	7,579.00	405.66	406.12	-102.39	-960.65	-15,943.89	1,966.93	1,172.71	794.22	2.477	
21,200.00	7,154.00	21,612.72	7,579.00	408.35	408.81	-102.39	-960.72	-16,043.89	1,967.02	1,167.53	799.49	2.460	
21,300.00	7,154.00	21,712.72	7,579.00	411.04	411.50	-102.39	-960.80	-16,143.89	1,967.12	1,162.36	804.76	2.444	
21,400.00	7,154.00	21,812.72	7,579.00	413.73	414.19	-102.39	-960.87	-16,243.89	1,967.22	1,157.19	810.03	2.429	
21,500.00	7,154.00	21,912.72	7,579.00	416.42	416.88	-102.39	-960.95	-16,343.89	1,967.31	1,152.01	815.30	2.413	
21,573.27	7,154.00	21,985.98	7,579.00	418.39	418.85	-102.39	-961.00	-16,417.15	1,967.38	1,148.22	819.16	2.402 SF	

Anticollision Report

Company:	EXTRACTION OIL & GAS	Local Co-ordinate Reference:	Well Warbler 13W-27-03
Project:	ADAMS COUNTY	TVD Reference:	KB 25' @ 5105.00usft
Reference Site:	Sec 13-T1S-R66W	MD Reference:	KB 25' @ 5105.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	Warbler 13W-27-03	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT_32Bit_ODBC
Reference Design:	PROPOSAL 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-MWD OWSG													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	5.00	5.00	0.00	0.01	130.58	-127.50	148.85	195.99					
100.00	100.00	105.00	105.00	0.13	0.15	130.58	-127.50	148.85	195.99	195.71	0.29	683.435		
200.00	200.00	205.00	205.00	0.49	0.51	130.58	-127.50	148.85	195.99	194.99	1.00	195.267		
300.00	300.00	305.00	305.00	0.85	0.87	130.58	-127.50	148.85	195.99	194.27	1.72	113.906		
400.00	400.00	405.00	405.00	1.21	1.23	130.58	-127.50	148.85	195.99	193.56	2.44	80.404		
500.00	500.00	505.00	505.00	1.57	1.59	130.58	-127.50	148.85	195.99	192.84	3.15	62.131		
600.00	600.00	605.00	605.00	1.93	1.94	130.58	-127.50	148.85	195.99	192.12	3.87	50.625 CC, ES		
700.00	699.98	705.34	705.34	2.28	2.30	-160.98	-127.50	148.85	197.64	193.05	4.58	43.108		
800.00	799.84	812.57	812.54	2.63	2.69	-161.61	-125.76	147.49	200.58	195.27	5.32	37.731		
900.00	899.45	919.84	919.62	3.00	3.07	-162.79	-120.87	143.65	203.23	197.19	6.04	33.626		
1,000.00	998.70	1,027.07	1,026.36	3.37	3.46	-164.51	-112.83	137.34	205.69	198.92	6.77	30.383		
1,100.00	1,097.47	1,134.19	1,132.53	3.77	3.87	-166.74	-101.66	128.58	208.13	200.63	7.49	27.770		
1,200.00	1,195.62	1,241.15	1,237.94	4.19	4.29	-169.46	-87.40	117.40	210.75	202.53	8.22	25.634		
1,300.00	1,293.06	1,347.87	1,342.36	4.64	4.74	-172.64	-70.10	103.83	213.79	204.84	8.95	23.881		
1,400.00	1,389.64	1,454.30	1,445.61	5.12	5.23	-176.23	-49.81	87.92	217.55	207.85	9.70	22.428		
1,500.00	1,485.27	1,560.37	1,547.49	5.66	5.75	179.83	-26.60	69.72	222.33	211.85	10.48	21.221		
1,600.00	1,579.82	1,666.03	1,647.83	6.24	6.32	175.60	-0.55	49.29	228.42	217.11	11.30	20.208		
1,700.00	1,673.17	1,771.23	1,746.44	6.88	6.93	171.18	28.27	26.69	236.11	223.91	12.21	19.344		
1,800.00	1,765.22	1,875.92	1,843.17	7.57	7.61	166.67	59.75	2.00	245.66	232.44	13.22	18.588		
1,900.00	1,856.73	1,980.13	1,937.95	8.31	8.33	162.05	93.83	-24.73	255.29	240.92	14.36	17.776		
2,000.00	1,948.24	2,083.71	2,030.53	9.06	9.12	157.21	130.37	-53.39	264.05	248.37	15.68	16.840		
2,100.00	2,039.75	2,186.39	2,120.59	9.83	9.96	152.13	169.17	-83.82	272.45	255.25	17.20	15.843		
2,200.00	2,131.26	2,287.93	2,207.86	10.61	10.86	146.81	210.02	-115.85	281.05	262.12	18.92	14.851		
2,300.00	2,222.77	2,388.09	2,292.08	11.40	11.82	141.28	252.66	-149.30	290.45	269.60	20.85	13.930		
2,400.00	2,314.28	2,486.67	2,373.08	12.20	12.82	135.62	296.87	-183.97	301.28	278.34	22.94	13.134		
2,500.00	2,405.79	2,583.17	2,450.46	13.00	13.86	129.93	342.23	-219.54	314.18	289.06	25.12	12.506		
2,600.00	2,497.30	2,676.97	2,524.97	13.81	14.91	124.63	387.06	-254.70	329.89	302.62	27.28	12.095		
2,700.00	2,588.81	2,770.76	2,599.48	14.62	15.97	119.82	431.90	-289.86	348.36	319.00	29.36	11.864		
2,800.00	2,680.31	2,864.56	2,673.99	15.44	17.05	115.47	476.74	-325.03	369.16	337.79	31.37	11.766		
2,900.00	2,771.82	2,958.36	2,748.50	16.25	18.14	111.58	521.57	-360.19	391.94	358.62	33.31	11.766		
3,000.00	2,863.33	3,052.16	2,823.01	17.08	19.23	108.10	566.41	-395.35	416.35	381.17	35.18	11.835		
3,100.00	2,954.84	3,145.96	2,897.52	17.90	20.33	104.99	611.24	-430.51	442.14	405.15	36.99	11.953		
3,200.00	3,046.35	3,239.76	2,972.03	18.72	21.44	102.21	656.08	-465.67	469.07	430.33	38.75	12.106		
3,300.00	3,137.86	3,333.56	3,046.54	19.55	22.55	99.72	700.91	-500.84	496.97	456.50	40.46	12.281		
3,400.00	3,229.37	3,427.36	3,121.05	20.38	23.67	97.50	745.75	-536.00	525.67	483.52	42.15	12.472		
3,500.00	3,320.88	3,521.16	3,195.56	21.21	24.79	95.49	790.58	-571.16	555.05	511.25	43.80	12.671		
3,600.00	3,412.39	3,614.95	3,270.06	22.04	25.91	93.69	835.42	-606.32	585.01	539.57	45.44	12.875		
3,700.00	3,503.90	3,708.75	3,344.57	22.87	27.03	92.05	880.25	-641.49	615.46	568.41	47.05	13.081		
3,800.00	3,595.41	3,802.55	3,419.08	23.70	28.16	90.57	925.09	-676.65	646.34	597.69	48.65	13.285		
3,900.00	3,686.91	3,896.35	3,493.59	24.54	29.29	89.22	969.92	-711.81	677.59	627.35	50.24	13.487		
4,000.00	3,778.42	3,990.15	3,568.10	25.37	30.43	87.98	1,014.76	-746.97	709.15	657.33	51.82	13.685		
4,100.00	3,869.93	4,083.95	3,642.61	26.20	31.56	86.85	1,059.60	-782.14	740.99	687.60	53.39	13.878		
4,200.00	3,961.44	4,177.75	3,717.12	27.04	32.69	85.81	1,104.43	-817.30	773.08	718.12	54.96	14.067		
4,300.00	4,052.95	4,271.55	3,791.63	27.88	33.83	84.85	1,149.27	-852.46	805.38	748.86	56.52	14.250		
4,400.00	4,144.46	4,365.35	3,866.14	28.71	34.97	83.97	1,194.10	-887.62	837.86	779.79	58.07	14.428		
4,500.00	4,235.97	4,459.15	3,940.65	29.55	36.11	83.15	1,238.94	-922.78	870.52	810.89	59.62	14.600		
4,600.00	4,327.48	4,552.94	4,015.16	30.39	37.25	82.39	1,283.77	-957.95	903.32	842.15	61.17	14.766		
4,700.00	4,418.99	4,646.74	4,089.67	31.22	38.39	81.68	1,328.61	-993.11	936.26	873.54	62.72	14.927		
4,800.00	4,510.50	4,740.54	4,164.18	32.06	39.53	81.02	1,373.44	-1,028.27	969.32	905.06	64.27	15.083		
4,900.00	4,602.01	4,834.34	4,238.69	32.90	40.68	80.40	1,418.28	-1,063.43	1,002.49	936.68	65.81	15.233		
5,000.00	4,693.51	4,928.14	4,313.19	33.74	41.82	79.82	1,463.11	-1,098.60	1,035.76	968.41	67.35	15.378		
5,100.00	4,785.02	5,021.94	4,387.70	34.58	42.97	79.28	1,507.95	-1,133.76	1,069.12	1,000.22	68.89	15.518		

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 WARBLER 13W-27-03
Project:	ADAMS COUNTY	TVD Reference:	KB 25' @ 5105.00usft
Reference Site:	Sec 13-T1S-R66W	MD Reference:	KB 25' @ 5105.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	WARBLER 13W-27-03	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT_32Bit_ODBC
Reference Design:	PROPOSAL 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-MWD OWSG													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		
5,200.00	4,876.53	5,115.74	4,462.21	35.42	44.11	78.77	1,552.78	-1,168.92	1,102.55	1,032.12	70.44	15.653		
5,300.00	4,968.04	5,209.54	4,536.72	36.26	45.26	78.29	1,597.62	-1,204.08	1,136.06	1,064.09	71.98	15.784		
5,400.00	5,059.55	5,303.34	4,611.23	37.10	46.40	77.84	1,642.46	-1,239.25	1,169.64	1,096.12	73.51	15.910		
5,500.00	5,151.06	5,402.87	4,685.74	37.94	47.62	77.41	1,687.29	-1,274.41	1,203.28	1,128.17	75.11	16.020		
5,600.00	5,242.57	5,509.07	4,760.25	38.78	48.92	77.01	1,732.13	-1,309.57	1,236.98	1,160.20	76.77	16.112		
5,700.00	5,334.08	5,584.73	4,834.76	39.62	49.84	76.62	1,776.96	-1,344.73	1,270.72	1,192.59	78.13	16.264		
5,800.00	5,425.59	5,678.53	4,909.27	40.46	50.99	76.26	1,821.80	-1,379.89	1,304.52	1,224.85	79.67	16.374		
5,900.00	5,517.10	5,772.33	4,983.78	41.30	52.14	75.91	1,866.63	-1,415.06	1,338.36	1,257.15	81.21	16.481		
6,000.00	5,608.61	5,866.13	5,058.29	42.14	53.29	75.58	1,911.47	-1,450.22	1,372.24	1,289.50	82.75	16.584		
6,100.00	5,700.12	5,959.93	5,132.80	42.98	54.44	75.27	1,956.30	-1,485.38	1,406.16	1,321.88	84.29	16.683		
6,200.00	5,791.62	6,053.73	5,207.31	43.82	55.59	74.97	2,001.14	-1,520.54	1,440.12	1,354.30	85.82	16.780		
6,300.00	5,883.13	6,147.53	5,281.82	44.66	56.74	74.69	2,045.97	-1,555.71	1,474.11	1,386.75	87.36	16.873		
6,400.00	5,974.64	6,241.32	5,356.32	45.50	57.89	74.42	2,090.81	-1,590.87	1,508.13	1,419.23	88.90	16.964		
6,500.00	6,066.15	6,335.12	5,430.83	46.35	59.04	74.16	2,135.65	-1,626.03	1,542.18	1,451.74	90.44	17.052		
6,600.00	6,157.66	6,428.92	5,505.34	47.19	60.19	73.91	2,180.48	-1,661.19	1,576.25	1,484.27	91.98	17.137		
6,700.00	6,249.17	6,522.72	5,579.85	48.03	61.34	73.67	2,225.32	-1,696.36	1,610.35	1,516.84	93.52	17.220		
6,800.00	6,340.68	6,616.52	5,654.36	48.87	62.49	73.44	2,270.15	-1,731.52	1,644.48	1,549.42	95.06	17.300		
6,900.00	6,432.19	6,710.32	5,728.87	49.71	63.64	73.22	2,314.99	-1,766.68	1,678.62	1,582.03	96.60	17.378		
7,000.00	6,523.70	6,804.12	5,803.38	50.55	64.79	73.01	2,359.82	-1,801.84	1,712.79	1,614.66	98.14	17.453		
7,100.00	6,615.21	6,902.08	5,877.89	51.40	65.99	72.81	2,404.66	-1,837.00	1,746.98	1,647.26	99.72	17.519		
7,200.00	6,706.72	7,008.28	5,952.40	52.24	67.30	72.62	2,449.49	-1,872.17	1,781.19	1,679.81	101.38	17.570		
7,300.00	6,798.22	7,085.51	6,026.91	53.08	68.24	72.43	2,494.33	-1,907.33	1,815.41	1,712.65	102.76	17.667		
7,400.00	6,886.25	7,179.08	6,101.23	54.07	69.39	75.12	2,539.05	-1,942.40	1,850.24	1,745.61	104.63	17.684		
7,500.00	6,965.23	7,270.30	6,173.70	55.35	70.51	75.35	2,582.66	-1,976.60	1,885.77	1,778.61	107.16	17.598		
7,600.00	7,032.75	7,356.42	6,242.10	56.90	71.57	74.60	2,623.82	-2,008.88	1,921.44	1,811.16	110.28	17.424		
7,700.00	7,086.77	7,434.81	6,304.37	58.68	72.53	73.38	2,661.29	-2,038.27	1,957.02	1,843.17	113.85	17.190		
7,800.00	7,125.64	7,503.10	6,358.62	60.64	73.37	71.78	2,693.93	-2,063.87	1,992.50	1,874.79	117.71	16.927		
7,900.00	7,148.19	7,559.20	6,403.18	62.69	74.06	69.79	2,720.75	-2,084.90	2,027.97	1,906.29	121.68	16.667		
8,000.00	7,154.00	7,601.65	6,436.90	64.75	74.58	67.96	2,741.04	-2,100.81	2,063.48	1,937.95	125.53	16.438		
8,100.00	7,154.00	7,639.15	6,466.69	66.83	75.05	68.98	2,758.96	-2,114.87	2,101.27	1,972.08	129.19	16.264		
8,200.00	7,154.00	7,676.65	6,496.48	68.96	75.51	70.00	2,776.89	-2,128.93	2,142.41	2,009.73	132.68	16.147		
8,300.00	7,154.00	7,714.15	6,526.26	71.12	75.97	71.00	2,794.81	-2,142.98	2,186.71	2,050.73	135.99	16.080		
8,400.00	7,154.00	9,214.70	7,154.00	73.32	98.70	89.87	3,173.68	-3,242.19	2,216.43	2,067.68	148.75	14.900		
8,500.00	7,154.00	9,314.70	7,154.00	75.55	100.43	89.87	3,173.82	-3,342.19	2,216.54	2,063.24	153.30	14.459		
8,600.00	7,154.00	9,414.70	7,154.00	77.81	102.21	89.87	3,173.96	-3,442.19	2,216.66	2,058.75	157.90	14.038		
8,700.00	7,154.00	9,514.70	7,154.00	80.10	104.02	89.87	3,174.10	-3,542.19	2,216.77	2,054.22	162.56	13.637		
8,800.00	7,154.00	9,614.70	7,154.00	82.41	105.86	89.87	3,174.24	-3,642.19	2,216.89	2,049.63	167.25	13.255		
8,900.00	7,154.00	9,714.70	7,154.00	84.75	107.75	89.87	3,174.38	-3,742.19	2,217.00	2,045.01	171.99	12.890		
9,000.00	7,154.00	9,814.70	7,154.00	87.11	109.66	89.87	3,174.52	-3,842.19	2,217.12	2,040.35	176.77	12.542		
9,100.00	7,154.00	9,914.70	7,154.00	89.48	111.61	89.87	3,174.66	-3,942.19	2,217.23	2,035.65	181.59	12.210		
9,200.00	7,154.00	10,014.70	7,154.00	91.88	113.58	89.87	3,174.80	-4,042.19	2,217.35	2,030.92	186.43	11.894		
9,300.00	7,154.00	10,114.70	7,154.00	94.29	115.59	89.87	3,174.94	-4,142.19	2,217.46	2,026.16	191.31	11.591		
9,400.00	7,154.00	10,214.70	7,154.00	96.72	117.62	89.87	3,175.08	-4,242.19	2,217.58	2,021.37	196.21	11.302		
9,500.00	7,154.00	10,314.70	7,154.00	99.16	119.68	89.87	3,175.22	-4,342.19	2,217.69	2,016.55	201.14	11.026		
9,600.00	7,154.00	10,414.70	7,154.00	101.61	121.77	89.87	3,175.36	-4,442.19	2,217.81	2,011.71	206.10	10.761		
9,700.00	7,154.00	10,514.70	7,154.00	104.08	123.88	89.87	3,175.50	-4,542.19	2,217.92	2,006.85	211.07	10.508		
9,800.00	7,154.00	10,614.70	7,154.00	106.56	126.01	89.87	3,175.64	-4,642.19	2,218.04	2,001.97	216.07	10.265		
9,900.00	7,154.00	10,714.70	7,154.00	109.05	128.16	89.87	3,175.78	-4,742.19	2,218.15	1,997.07	221.08	10.033		
10,000.00	7,154.00	10,814.70	7,154.00	111.55	130.34	89.87	3,175.92	-4,842.19	2,218.27	1,992.15	226.12	9.810		
10,100.00	7,154.00	10,914.70	7,154.00	114.06	132.54	89.87	3,176.06	-4,942.19	2,218.39	1,987.22	231.17	9.596		
10,200.00	7,154.00	11,014.70	7,154.00	116.57	134.75	89.87	3,176.21	-5,042.19	2,218.50	1,982.27	236.23	9.391		
10,300.00	7,154.00	11,114.70	7,154.00	119.10	136.98	89.87	3,176.35	-5,142.19	2,218.62	1,977.30	241.32	9.194		

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 WARBLER 13W-27-03
Project:	ADAMS COUNTY	TVD Reference:	KB 25' @ 5105.00usft
Reference Site:	Sec 13-T1S-R66W	MD Reference:	KB 25' @ 5105.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	WARBLER 13W-27-03	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT_32Bit_ODBC
Reference Design:	PROPOSAL 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-MWD OWSG													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		
10,400.00	7,154.00	11,214.70	7,154.00	121.63	139.23	89.87	3,176.49	-5,242.19	2,218.73	1,972.32	246.41	9.004		
10,500.00	7,154.00	11,314.70	7,154.00	124.17	141.50	89.87	3,176.63	-5,342.19	2,218.85	1,967.33	251.52	8.822		
10,600.00	7,154.00	11,414.70	7,154.00	126.72	143.78	89.87	3,176.77	-5,442.19	2,218.96	1,962.32	256.64	8.646		
10,700.00	7,154.00	11,514.70	7,154.00	129.28	146.08	89.87	3,176.91	-5,542.19	2,219.08	1,957.31	261.77	8.477		
10,800.00	7,154.00	11,614.70	7,154.00	131.84	148.39	89.87	3,177.05	-5,642.19	2,219.19	1,952.28	266.91	8.314		
10,900.00	7,154.00	11,714.70	7,154.00	134.40	150.72	89.87	3,177.19	-5,742.19	2,219.31	1,947.24	272.07	8.157		
11,000.00	7,154.00	11,814.70	7,154.00	136.97	153.06	89.87	3,177.33	-5,842.19	2,219.42	1,942.19	277.23	8.006		
11,100.00	7,154.00	11,914.70	7,154.00	139.55	155.41	89.87	3,177.47	-5,942.19	2,219.54	1,937.14	282.40	7.860		
11,200.00	7,154.00	12,014.70	7,154.00	142.13	157.77	89.87	3,177.61	-6,042.19	2,219.65	1,932.07	287.58	7.718		
11,300.00	7,154.00	12,114.70	7,154.00	144.72	160.15	89.87	3,177.75	-6,142.19	2,219.77	1,927.00	292.77	7.582		
11,400.00	7,154.00	12,214.70	7,154.00	147.30	162.53	89.87	3,177.89	-6,242.19	2,219.88	1,921.92	297.97	7.450		
11,500.00	7,154.00	12,314.70	7,154.00	149.90	164.93	89.87	3,178.03	-6,342.19	2,220.00	1,916.83	303.17	7.323		
11,600.00	7,154.00	12,414.70	7,154.00	152.50	167.34	89.87	3,178.17	-6,442.19	2,220.11	1,911.73	308.38	7.199		
11,700.00	7,154.00	12,514.70	7,154.00	155.10	169.75	89.87	3,178.31	-6,542.19	2,220.23	1,906.63	313.60	7.080		
11,800.00	7,154.00	12,614.70	7,154.00	157.70	172.18	89.87	3,178.45	-6,642.19	2,220.34	1,901.52	318.82	6.964		
11,900.00	7,154.00	12,714.70	7,154.00	160.31	174.61	89.87	3,178.59	-6,742.19	2,220.46	1,896.41	324.05	6.852		
12,000.00	7,154.00	12,814.70	7,154.00	162.92	177.05	89.87	3,178.73	-6,842.19	2,220.57	1,891.29	329.29	6.744		
12,100.00	7,154.00	12,914.70	7,154.00	165.54	179.50	89.87	3,178.88	-6,942.19	2,220.69	1,886.16	334.53	6.638		
12,200.00	7,154.00	13,014.70	7,154.00	168.15	181.96	89.87	3,179.02	-7,042.18	2,220.81	1,881.03	339.77	6.536		
12,300.00	7,154.00	13,114.70	7,154.00	170.77	184.42	89.87	3,179.16	-7,142.18	2,220.92	1,875.89	345.03	6.437		
12,400.00	7,154.00	13,214.70	7,154.00	173.39	186.89	89.87	3,179.30	-7,242.18	2,221.04	1,870.75	350.28	6.341		
12,500.00	7,154.00	13,314.70	7,154.00	176.02	189.37	89.87	3,179.44	-7,342.18	2,221.15	1,865.61	355.54	6.247		
12,600.00	7,154.00	13,414.70	7,154.00	178.65	191.86	89.87	3,179.58	-7,442.18	2,221.27	1,860.46	360.81	6.156		
12,700.00	7,154.00	13,514.70	7,154.00	181.28	194.35	89.87	3,179.72	-7,542.18	2,221.38	1,855.31	366.08	6.068		
12,800.00	7,154.00	13,614.70	7,154.00	183.91	196.84	89.87	3,179.86	-7,642.18	2,221.50	1,850.15	371.35	5.982		
12,900.00	7,154.00	13,714.70	7,154.00	186.54	199.35	89.87	3,180.00	-7,742.18	2,221.61	1,844.99	376.62	5.899		
13,000.00	7,154.00	13,814.70	7,154.00	189.18	201.85	89.87	3,180.14	-7,842.18	2,221.73	1,839.82	381.90	5.817		
13,100.00	7,154.00	13,914.70	7,154.00	191.81	204.37	89.87	3,180.28	-7,942.18	2,221.84	1,834.65	387.19	5.738		
13,200.00	7,154.00	14,014.69	7,154.00	194.45	206.89	89.87	3,180.42	-8,042.18	2,221.96	1,829.48	392.48	5.661		
13,300.00	7,154.00	14,114.69	7,154.00	197.10	209.41	89.87	3,180.56	-8,142.18	2,222.07	1,824.31	397.77	5.586		
13,400.00	7,154.00	14,214.69	7,154.00	199.74	211.94	89.87	3,180.70	-8,242.18	2,222.19	1,819.13	403.06	5.513		
13,500.00	7,154.00	14,314.69	7,154.00	202.38	214.47	89.87	3,180.84	-8,342.18	2,222.30	1,813.95	408.36	5.442		
13,600.00	7,154.00	14,414.69	7,154.00	205.03	217.01	89.87	3,180.98	-8,442.18	2,222.42	1,808.76	413.66	5.373		
13,700.00	7,154.00	14,514.69	7,154.00	207.68	219.55	89.87	3,181.12	-8,542.18	2,222.53	1,803.58	418.96	5.305		
13,800.00	7,154.00	14,614.69	7,154.00	210.33	222.09	89.87	3,181.26	-8,642.18	2,222.65	1,798.39	424.26	5.239		
13,900.00	7,154.00	14,714.69	7,154.00	212.98	224.64	89.87	3,181.41	-8,742.18	2,222.76	1,793.19	429.57	5.174		
14,000.00	7,154.00	14,814.69	7,154.00	215.63	227.20	89.87	3,181.55	-8,842.18	2,222.88	1,788.00	434.88	5.111		
14,100.00	7,154.00	14,914.69	7,154.00	218.28	229.75	89.87	3,181.69	-8,942.18	2,222.99	1,782.80	440.19	5.050		
14,200.00	7,154.00	15,014.69	7,154.00	220.93	232.31	89.87	3,181.83	-9,042.18	2,223.11	1,777.60	445.51	4.990		
14,300.00	7,154.00	15,114.69	7,154.00	223.59	234.88	89.87	3,181.97	-9,142.18	2,223.22	1,772.40	450.82	4.931		
14,400.00	7,154.00	15,214.69	7,154.00	226.25	237.44	89.87	3,182.11	-9,242.18	2,223.34	1,767.20	456.14	4.874		
14,500.00	7,154.00	15,314.69	7,154.00	228.90	240.01	89.87	3,182.25	-9,342.18	2,223.46	1,761.99	461.46	4.818		
14,600.00	7,154.00	15,414.69	7,154.00	231.56	242.59	89.87	3,182.39	-9,442.18	2,223.57	1,756.79	466.78	4.764		
14,700.00	7,154.00	15,514.69	7,154.00	234.22	245.16	89.87	3,182.53	-9,542.18	2,223.69	1,751.58	472.11	4.710		
14,800.00	7,154.00	15,614.69	7,154.00	236.88	247.74	89.87	3,182.67	-9,642.18	2,223.80	1,746.37	477.44	4.658		
14,900.00	7,154.00	15,714.69	7,154.00	239.55	250.32	89.87	3,182.81	-9,742.18	2,223.92	1,741.15	482.76	4.607		
15,000.00	7,154.00	15,814.69	7,154.00	242.21	252.91	89.87	3,182.95	-9,842.18	2,224.03	1,735.94	488.09	4.557		
15,100.00	7,154.00	15,914.69	7,154.00	244.87	255.49	89.87	3,183.09	-9,942.18	2,224.15	1,730.72	493.43	4.508		
15,200.00	7,154.00	16,014.69	7,154.00	247.54	258.08	89.87	3,183.23	-10,042.18	2,224.26	1,725.50	498.76	4.460		
15,300.00	7,154.00	16,114.69	7,154.00	250.20	260.68	89.87	3,183.37	-10,142.18	2,224.38	1,720.28	504.09	4.413		
15,400.00	7,154.00	16,214.69	7,154.00	252.87	263.27	89.87	3,183.51	-10,242.18	2,224.49	1,715.06	509.43	4.367		
15,500.00	7,154.00	16,314.69	7,154.00	255.53	265.87	89.87	3,183.65	-10,342.18	2,224.61	1,709.84	514.77	4.322		

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 WARBLER 13W-27-03
Project:	ADAMS COUNTY	TVD Reference:	KB 25' @ 5105.00usft
Reference Site:	Sec 13-T1S-R66W	MD Reference:	KB 25' @ 5105.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	WARBLER 13W-27-03	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT_32Bit_ODBC
Reference Design:	PROPOSAL 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-MWD OWSG													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		
15,600.00	7,154.00	16,414.69	7,154.00	258.20	268.47	89.87	3,183.79	-10,442.18	2,224.72	1,704.62	520.11	4.277		
15,700.00	7,154.00	16,514.69	7,154.00	260.87	271.07	89.87	3,183.93	-10,542.18	2,224.84	1,699.39	525.45	4.234		
15,800.00	7,154.00	16,614.69	7,154.00	263.54	273.67	89.87	3,184.08	-10,642.18	2,224.95	1,694.16	530.79	4.192		
15,900.00	7,154.00	16,714.69	7,154.00	266.21	276.28	89.87	3,184.22	-10,742.18	2,225.07	1,688.93	536.13	4.150		
16,000.00	7,154.00	16,814.69	7,154.00	268.88	278.88	89.87	3,184.36	-10,842.18	2,225.18	1,683.71	541.48	4.109		
16,100.00	7,154.00	16,914.69	7,154.00	271.55	281.49	89.87	3,184.50	-10,942.18	2,225.30	1,678.47	546.82	4.069		
16,200.00	7,154.00	17,014.69	7,154.00	274.22	284.10	89.87	3,184.64	-11,042.18	2,225.41	1,673.24	552.17	4.030		
16,300.00	7,154.00	17,114.69	7,154.00	276.90	286.72	89.87	3,184.78	-11,142.18	2,225.53	1,668.01	557.52	3.992		
16,400.00	7,154.00	17,214.69	7,154.00	279.57	289.33	89.87	3,184.92	-11,242.18	2,225.64	1,662.78	562.87	3.954		
16,500.00	7,154.00	17,314.69	7,154.00	282.24	291.95	89.87	3,185.06	-11,342.18	2,225.76	1,657.54	568.22	3.917		
16,600.00	7,154.00	17,414.69	7,154.00	284.92	294.56	89.87	3,185.20	-11,442.18	2,225.87	1,652.30	573.57	3.881		
16,700.00	7,154.00	17,514.69	7,154.00	287.59	297.18	89.87	3,185.34	-11,542.18	2,225.99	1,647.07	578.92	3.845		
16,800.00	7,154.00	17,614.69	7,154.00	290.27	299.81	89.87	3,185.48	-11,642.18	2,226.11	1,641.83	584.28	3.810		
16,900.00	7,154.00	17,714.69	7,154.00	292.94	302.43	89.87	3,185.62	-11,742.18	2,226.22	1,636.59	589.63	3.776		
17,000.00	7,154.00	17,814.69	7,154.00	295.62	305.05	89.87	3,185.76	-11,842.18	2,226.34	1,631.35	594.99	3.742		
17,100.00	7,154.00	17,914.69	7,154.00	298.29	307.68	89.87	3,185.90	-11,942.18	2,226.45	1,626.11	600.34	3.709		
17,200.00	7,154.00	18,014.69	7,154.00	300.97	310.30	89.87	3,186.04	-12,042.18	2,226.57	1,620.87	605.70	3.676		
17,300.00	7,154.00	18,114.69	7,154.00	303.65	312.93	89.87	3,186.18	-12,142.18	2,226.68	1,615.62	611.06	3.644		
17,400.00	7,154.00	18,214.69	7,154.00	306.33	315.56	89.87	3,186.32	-12,242.18	2,226.80	1,610.38	616.42	3.612		
17,500.00	7,154.00	18,314.69	7,154.00	309.01	318.19	89.87	3,186.46	-12,342.18	2,226.91	1,605.13	621.78	3.582		
17,600.00	7,154.00	18,414.69	7,154.00	311.69	320.83	89.87	3,186.61	-12,442.18	2,227.03	1,599.89	627.14	3.551		
17,700.00	7,154.00	18,514.69	7,154.00	314.37	323.46	89.87	3,186.75	-12,542.18	2,227.14	1,594.64	632.50	3.521		
17,800.00	7,154.00	18,614.69	7,154.00	317.05	326.09	89.87	3,186.89	-12,642.18	2,227.26	1,589.40	637.86	3.492		
17,900.00	7,154.00	18,714.69	7,154.00	319.73	328.73	89.87	3,187.03	-12,742.18	2,227.37	1,584.15	643.23	3.463		
18,000.00	7,154.00	18,814.69	7,154.00	322.41	331.37	89.87	3,187.17	-12,842.18	2,227.49	1,578.90	648.59	3.434		
18,100.00	7,154.00	18,914.69	7,154.00	325.09	334.00	89.87	3,187.31	-12,942.18	2,227.60	1,573.65	653.95	3.406		
18,200.00	7,154.00	19,014.69	7,154.00	327.77	336.64	89.87	3,187.45	-13,042.18	2,227.72	1,568.40	659.32	3.379		
18,300.00	7,154.00	19,114.69	7,154.00	330.45	339.28	89.87	3,187.59	-13,142.18	2,227.83	1,563.15	664.68	3.352		
18,400.00	7,154.00	19,214.69	7,154.00	333.13	341.93	89.87	3,187.73	-13,242.17	2,227.95	1,557.90	670.05	3.325		
18,500.00	7,154.00	19,314.69	7,154.00	335.82	344.57	89.87	3,187.87	-13,342.17	2,228.06	1,552.65	675.42	3.299		
18,600.00	7,154.00	19,414.69	7,154.00	338.50	347.21	89.87	3,188.01	-13,442.17	2,228.18	1,547.39	680.79	3.273		
18,700.00	7,154.00	19,514.69	7,154.00	341.18	349.86	89.87	3,188.15	-13,542.17	2,228.29	1,542.14	686.15	3.248		
18,800.00	7,154.00	19,614.69	7,154.00	343.86	352.50	89.87	3,188.29	-13,642.17	2,228.41	1,536.89	691.52	3.222		
18,900.00	7,154.00	19,714.69	7,154.00	346.55	355.15	89.87	3,188.43	-13,742.17	2,228.53	1,531.63	696.89	3.198		
19,000.00	7,154.00	19,814.69	7,154.00	349.23	357.79	89.87	3,188.57	-13,842.17	2,228.64	1,526.38	702.26	3.174		
19,100.00	7,154.00	19,914.69	7,154.00	351.92	360.44	89.87	3,188.71	-13,942.17	2,228.76	1,521.12	707.63	3.150		
19,200.00	7,154.00	20,014.69	7,154.00	354.60	363.09	89.87	3,188.85	-14,042.17	2,228.87	1,515.87	713.01	3.126		
19,300.00	7,154.00	20,114.69	7,154.00	357.29	365.74	89.87	3,188.99	-14,142.17	2,228.99	1,510.61	718.38	3.103		
19,400.00	7,154.00	20,214.69	7,154.00	359.97	368.39	89.87	3,189.13	-14,242.17	2,229.10	1,505.35	723.75	3.080		
19,500.00	7,154.00	20,314.69	7,154.00	362.66	371.04	89.87	3,189.28	-14,342.17	2,229.22	1,500.09	729.12	3.057		
19,600.00	7,154.00	20,414.69	7,154.00	365.34	373.69	89.87	3,189.42	-14,442.17	2,229.33	1,494.84	734.50	3.035		
19,700.00	7,154.00	20,514.69	7,154.00	368.03	376.35	89.87	3,189.56	-14,542.17	2,229.45	1,489.58	739.87	3.013		
19,800.00	7,154.00	20,614.69	7,154.00	370.72	379.00	89.87	3,189.70	-14,642.17	2,229.56	1,484.32	745.24	2.992		
19,900.00	7,154.00	20,714.69	7,154.00	373.40	381.65	89.87	3,189.84	-14,742.17	2,229.68	1,479.06	750.62	2.970		
20,000.00	7,154.00	20,814.69	7,154.00	376.09	384.31	89.87	3,189.98	-14,842.17	2,229.79	1,473.80	755.99	2.949		
20,100.00	7,154.00	20,914.69	7,154.00	378.78	386.97	89.87	3,190.12	-14,942.17	2,229.91	1,468.54	761.37	2.929		
20,200.00	7,154.00	21,014.69	7,154.00	381.46	389.62	89.87	3,190.26	-15,042.17	2,230.02	1,463.28	766.75	2.908		
20,300.00	7,154.00	21,114.69	7,154.00	384.15	392.28	89.87	3,190.40	-15,142.17	2,230.14	1,458.02	772.12	2.888		
20,400.00	7,154.00	21,214.69	7,154.00	386.84	394.94	89.87	3,190.54	-15,242.17	2,230.25	1,452.75	777.50	2.868		
20,500.00	7,154.00	21,314.69	7,154.00	389.53	397.59	89.87	3,190.68	-15,342.17	2,230.37	1,447.49	782.88	2.849		
20,600.00	7,154.00	21,414.69	7,154.00	392.21	400.25	89.87	3,190.82	-15,442.17	2,230.48	1,442.23	788.25	2.830		
20,700.00	7,154.00	21,514.69	7,154.00	394.90	402.91	89.87	3,190.96	-15,542.17	2,230.60	1,436.97	793.63	2.811		

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 WARBLER 13W-27-03
Project:	ADAMS COUNTY	TVD Reference:	KB 25' @ 5105.00usft
Reference Site:	Sec 13-T1S-R66W	MD Reference:	KB 25' @ 5105.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	WARBLER 13W-27-03	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT_32Bit_ODBC
Reference Design:	PROPOSAL 1	Offset TVD Reference:	Offset Datum

Offset Design Sec 13-T1S-R66W - WARBLER 13W-27-13 - OWB - PROPOSAL 1												Offset Site Error:	0.00 usft
Survey Program: 0-MWD OWSG												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	
20,800.00	7,154.00	21,614.69	7,154.00	397.59	405.57	89.87	3,191.10	-15,642.17	2,230.71	1,431.70	799.01	2.792	
20,900.00	7,154.00	21,714.69	7,154.00	400.28	408.23	89.87	3,191.24	-15,742.17	2,230.83	1,426.44	804.39	2.773	
21,000.00	7,154.00	21,814.69	7,154.00	402.97	410.90	89.87	3,191.38	-15,842.17	2,230.94	1,421.17	809.77	2.755	
21,100.00	7,154.00	21,914.69	7,154.00	405.66	413.56	89.87	3,191.52	-15,942.17	2,231.06	1,415.91	815.15	2.737	
21,200.00	7,154.00	22,014.69	7,154.00	408.35	416.22	89.87	3,191.66	-16,042.17	2,231.18	1,410.65	820.53	2.719	
21,300.00	7,154.00	22,114.69	7,154.00	411.04	418.88	89.87	3,191.80	-16,142.17	2,231.29	1,405.38	825.91	2.702	
21,400.00	7,154.00	22,214.69	7,154.00	413.73	421.55	89.87	3,191.95	-16,242.17	2,231.41	1,400.11	831.29	2.684	
21,500.00	7,154.00	22,314.69	7,154.00	416.42	424.21	89.87	3,192.09	-16,342.17	2,231.52	1,394.85	836.67	2.667	
21,573.27	7,154.00	22,387.96	7,154.00	418.39	426.16	89.87	3,192.19	-16,415.44	2,231.61	1,390.99	840.61	2.655 SF	

Anticollision Report

Company:	EXTRACTION OIL & GAS	Local Co-ordinate Reference:	Well WARBLER 13W-27-03
Project:	ADAMS COUNTY	TVD Reference:	KB 25' @ 5105.00usft
Reference Site:	Sec 13-T1S-R66W	MD Reference:	KB 25' @ 5105.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	WARBLER 13W-27-03	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT_32Bit_ODBC
Reference Design:	PROPOSAL 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-MWD OWSG													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		
0.00	0.00	5.00	5.00	0.00	0.01	136.32	-155.55	148.57	215.10					
100.00	100.00	105.00	105.00	0.13	0.15	136.32	-155.55	148.57	215.10	214.82	0.29	750.075		
200.00	200.00	205.00	205.00	0.49	0.51	136.32	-155.55	148.57	215.10	214.10	1.00	214.307		
300.00	300.00	305.00	305.00	0.85	0.87	136.32	-155.55	148.57	215.10	213.38	1.72	125.013		
400.00	400.00	405.00	405.00	1.21	1.23	136.32	-155.55	148.57	215.10	212.67	2.44	88.244		
500.00	500.00	505.00	505.00	1.57	1.59	136.32	-155.55	148.57	215.10	211.95	3.15	68.189		
600.00	600.00	605.00	605.00	1.93	1.94	136.32	-155.55	148.57	215.10	211.23	3.87	55.561	CC, ES	
700.00	699.98	704.98	704.98	2.28	2.30	-155.27	-155.55	148.57	216.69	212.10	4.58	47.274		
800.00	799.84	805.24	805.24	2.63	2.66	-155.80	-155.55	148.57	221.45	216.15	5.30	41.812		
900.00	899.45	913.49	913.46	3.00	3.05	-156.73	-153.95	146.99	227.36	221.33	6.03	37.684		
1,000.00	998.70	1,021.93	1,021.71	3.37	3.44	-157.99	-149.44	142.54	232.79	226.02	6.77	34.397		
1,100.00	1,097.47	1,130.52	1,129.79	3.77	3.83	-159.58	-141.99	135.20	237.80	230.30	7.50	31.702		
1,200.00	1,195.62	1,239.22	1,237.50	4.19	4.24	-161.48	-131.63	124.97	242.50	234.27	8.23	29.456		
1,300.00	1,293.06	1,347.98	1,344.64	4.64	4.67	-163.68	-118.35	111.88	247.01	238.05	8.96	27.557		
1,400.00	1,389.64	1,456.74	1,451.00	5.12	5.13	-166.15	-102.19	95.95	251.48	241.80	9.69	25.956		
1,500.00	1,485.27	1,565.46	1,556.38	5.66	5.62	-168.90	-83.17	77.19	256.07	245.65	10.42	24.570		
1,600.00	1,579.82	1,674.09	1,660.59	6.24	6.16	-171.88	-61.34	55.66	260.95	249.79	11.16	23.380		
1,700.00	1,673.17	1,782.59	1,763.44	6.88	6.74	-175.09	-36.74	31.40	266.30	254.38	11.92	22.345		
1,800.00	1,765.22	1,890.93	1,864.75	7.57	7.38	-178.49	-9.43	4.47	272.30	259.59	12.71	21.428		
1,900.00	1,856.73	1,999.14	1,964.43	8.31	8.08	-177.94	20.55	-25.09	277.05	263.50	13.55	20.446		
2,000.00	1,948.24	2,107.06	2,062.18	9.06	8.85	-174.13	53.10	-57.19	279.39	264.91	14.48	19.293		
2,100.00	2,039.75	2,214.39	2,157.62	9.83	9.68	-170.01	88.04	-91.65	279.61	264.07	15.54	17.997		
2,200.00	2,131.26	2,320.83	2,250.39	10.61	10.59	-165.47	125.19	-128.28	278.10	261.32	16.78	16.571		
2,300.00	2,222.77	2,426.10	2,340.17	11.40	11.56	-160.46	164.31	-166.87	275.40	257.13	18.27	15.074		
2,400.00	2,314.28	2,528.04	2,425.21	12.20	12.56	-155.02	204.34	-206.34	272.26	252.20	20.06	13.572		
2,500.00	2,405.79	2,624.49	2,505.15	13.00	13.54	-149.65	242.77	-244.24	270.94	248.85	22.09	12.264		
2,501.21	2,406.89	2,625.66	2,506.12	13.01	13.55	-149.59	243.23	-244.70	270.94	248.82	22.12	12.249		
2,600.00	2,497.30	2,720.95	2,585.10	13.81	14.55	-144.29	281.20	-282.13	272.19	247.90	24.29	11.204		
2,700.00	2,588.81	2,817.41	2,665.04	14.62	15.56	-139.01	319.62	-320.03	275.97	249.36	26.61	10.372		
2,800.00	2,680.31	2,913.87	2,744.99	15.44	16.59	-133.91	358.05	-357.92	282.18	253.20	28.98	9.738		
2,900.00	2,771.82	3,010.32	2,824.94	16.25	17.63	-129.06	396.48	-395.82	290.65	259.30	31.35	9.271		
3,000.00	2,863.33	3,106.78	2,904.88	17.08	18.68	-124.49	434.90	-433.71	301.21	267.52	33.68	8.942		
3,100.00	2,954.84	3,203.24	2,984.83	17.90	19.73	-120.24	473.33	-471.61	313.63	277.67	35.96	8.722		
3,200.00	3,046.35	3,300.31	3,064.78	18.72	20.80	-116.31	511.76	-509.50	327.71	289.55	38.16	8.588		
3,300.00	3,137.86	3,403.85	3,144.72	19.55	21.94	-112.71	550.18	-547.40	343.25	302.89	40.36	8.505		
3,400.00	3,229.37	3,507.39	3,224.67	20.38	23.09	-109.42	588.61	-585.29	360.05	317.57	42.47	8.477		
3,500.00	3,320.88	3,589.07	3,304.61	21.21	23.99	-106.42	627.04	-623.19	377.94	333.66	44.28	8.536		
3,600.00	3,412.39	3,685.52	3,384.56	22.04	25.07	-103.69	665.46	-661.08	396.78	350.61	46.18	8.592		
3,700.00	3,503.90	3,781.98	3,464.51	22.87	26.15	-101.20	703.89	-698.98	416.45	368.42	48.02	8.671		
3,800.00	3,595.41	3,878.44	3,544.45	23.70	27.23	-98.93	742.32	-736.87	436.82	387.00	49.82	8.768		
3,900.00	3,686.91	3,974.90	3,624.40	24.54	28.31	-96.87	780.75	-774.77	457.80	406.23	51.58	8.876		
4,000.00	3,778.42	4,071.35	3,704.34	25.37	29.39	-94.98	819.17	-812.66	479.32	426.02	53.30	8.993		
4,100.00	3,869.93	4,167.81	3,784.29	26.20	30.48	-93.25	857.60	-850.56	501.31	446.32	54.99	9.116		
4,200.00	3,961.44	4,264.27	3,864.24	27.04	31.57	-91.67	896.03	-888.45	523.70	467.04	56.66	9.243		
4,300.00	4,052.95	4,360.73	3,944.18	27.88	32.66	-90.21	934.45	-926.35	546.45	488.14	58.30	9.372		
4,400.00	4,144.46	4,457.18	4,024.13	28.71	33.75	-88.87	972.88	-964.24	569.51	509.57	59.93	9.502		
4,500.00	4,235.97	4,553.64	4,104.07	29.55	34.84	-87.63	1,011.31	-1,002.13	592.84	531.29	61.55	9.632		
4,600.00	4,327.48	4,650.10	4,184.02	30.39	35.93	-86.49	1,049.73	-1,040.03	616.43	553.27	63.15	9.761		
4,700.00	4,418.99	4,746.56	4,263.97	31.22	37.02	-85.43	1,088.16	-1,077.92	640.23	575.48	64.74	9.889		
4,800.00	4,510.50	4,843.01	4,343.91	32.06	38.12	-84.44	1,126.59	-1,115.82	664.22	597.90	66.33	10.014		
4,900.00	4,602.01	4,939.47	4,423.86	32.90	39.21	-83.52	1,165.01	-1,153.71	688.39	620.49	67.90	10.138		
5,000.00	4,693.51	5,035.93	4,503.81	33.74	40.31	-82.67	1,203.44	-1,191.61	712.72	643.25	69.47	10.259		

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 WARBLER 13W-27-03
Project:	ADAMS COUNTY	TVD Reference:	KB 25' @ 5105.00usft
Reference Site:	Sec 13-T1S-R66W	MD Reference:	KB 25' @ 5105.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	WARBLER 13W-27-03	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT_32Bit_ODBC
Reference Design:	PROPOSAL 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-MWD OWSG													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		
5,100.00	4,785.02	5,132.39	4,583.75	34.58	41.40	81.87	1,241.87	-1,229.50	737.19	666.15	71.04	10.377		
5,200.00	4,876.53	5,228.84	4,663.70	35.42	42.50	81.12	1,280.29	-1,267.40	761.79	689.19	72.60	10.493		
5,300.00	4,968.04	5,325.30	4,743.64	36.26	43.60	80.42	1,318.72	-1,305.29	786.50	712.34	74.16	10.606		
5,400.00	5,059.55	5,421.76	4,823.59	37.10	44.69	79.76	1,357.15	-1,343.19	811.32	735.61	75.71	10.716		
5,500.00	5,151.06	5,518.21	4,903.54	37.94	45.79	79.14	1,395.58	-1,381.08	836.23	758.97	77.26	10.823		
5,600.00	5,242.57	5,614.67	4,983.48	38.78	46.89	78.55	1,434.00	-1,418.98	861.23	782.42	78.81	10.928		
5,700.00	5,334.08	5,711.13	5,063.43	39.62	47.99	78.00	1,472.43	-1,456.87	886.31	805.95	80.36	11.029		
5,800.00	5,425.59	5,807.59	5,143.37	40.46	49.09	77.48	1,510.86	-1,494.77	911.47	829.56	81.90	11.128		
5,900.00	5,517.10	5,904.04	5,223.32	41.30	50.19	76.98	1,549.28	-1,532.66	936.69	853.24	83.45	11.225		
6,000.00	5,608.61	6,000.50	5,303.27	42.14	51.29	76.52	1,587.71	-1,570.56	961.97	876.98	84.99	11.318		
6,100.00	5,700.12	6,096.96	5,383.21	42.98	52.39	76.07	1,626.14	-1,608.45	987.31	900.78	86.53	11.409		
6,200.00	5,791.62	6,193.42	5,463.16	43.82	53.49	75.65	1,664.56	-1,646.35	1,012.71	924.63	88.08	11.498		
6,300.00	5,883.13	6,289.87	5,543.10	44.66	54.59	75.25	1,702.99	-1,684.24	1,038.15	948.53	89.62	11.584		
6,400.00	5,974.64	6,386.33	5,623.05	45.50	55.70	74.86	1,741.42	-1,722.14	1,063.64	972.48	91.16	11.668		
6,500.00	6,066.15	6,482.79	5,703.00	46.35	56.80	74.50	1,779.84	-1,760.03	1,089.17	996.47	92.70	11.750		
6,600.00	6,157.66	6,579.25	5,782.94	47.19	57.90	74.15	1,818.27	-1,797.93	1,114.74	1,020.51	94.24	11.829		
6,700.00	6,249.17	6,675.70	5,862.89	48.03	59.00	73.82	1,856.70	-1,835.82	1,140.35	1,044.57	95.78	11.906		
6,800.00	6,340.68	6,772.16	5,942.84	48.87	60.10	73.50	1,895.12	-1,873.72	1,165.99	1,068.68	97.32	11.982		
6,900.00	6,432.19	6,868.62	6,022.78	49.71	61.21	73.20	1,933.55	-1,911.61	1,191.67	1,092.81	98.85	12.055		
7,000.00	6,523.70	6,965.08	6,102.73	50.55	62.31	72.90	1,971.98	-1,949.51	1,217.37	1,116.98	100.39	12.126		
7,100.00	6,615.21	7,061.53	6,182.67	51.40	63.41	72.63	2,010.41	-1,987.40	1,243.11	1,141.17	101.93	12.196		
7,200.00	6,706.72	7,157.99	6,262.62	52.24	64.52	72.36	2,048.83	-2,025.30	1,268.87	1,165.40	103.47	12.263		
7,300.00	6,798.22	7,254.45	6,342.57	53.08	65.62	72.10	2,087.26	-2,063.19	1,294.65	1,189.64	105.01	12.329		
7,400.00	6,886.25	7,350.73	6,422.37	54.07	66.72	71.77	2,125.62	-2,101.02	1,321.06	1,214.13	106.93	12.354		
7,500.00	6,965.23	7,444.74	6,500.29	55.35	67.80	71.19	2,163.07	-2,137.95	1,348.42	1,238.78	109.64	12.299		
7,600.00	7,032.75	7,533.63	6,573.96	56.90	68.81	70.70	2,198.48	-2,172.87	1,376.62	1,263.60	113.02	12.180		
7,700.00	7,086.77	7,614.70	6,641.15	58.68	69.74	70.69	2,230.77	-2,204.72	1,405.99	1,289.09	116.90	12.027		
7,800.00	7,125.64	7,685.47	6,699.81	60.64	70.55	70.14	2,258.97	-2,232.53	1,437.11	1,316.05	121.05	11.872		
7,900.00	7,148.19	7,743.81	6,748.16	62.69	71.22	70.89	2,282.21	-2,255.45	1,470.58	1,345.36	125.22	11.744		
8,000.00	7,154.00	7,788.18	6,784.94	64.75	71.73	70.43	2,299.89	-2,272.88	1,506.83	1,377.71	129.12	11.670		
8,100.00	7,154.00	8,641.62	7,154.00	66.83	85.59	89.81	2,477.79	-2,943.74	1,520.62	1,385.74	134.88	11.274		
8,200.00	7,154.00	8,741.62	7,154.00	68.96	87.37	89.81	2,477.90	-3,043.74	1,520.70	1,381.43	139.27	10.919		
8,300.00	7,154.00	8,841.62	7,154.00	71.12	89.19	89.81	2,478.00	-3,143.74	1,520.78	1,377.06	143.72	10.581		
8,400.00	7,154.00	8,941.62	7,154.00	73.32	91.05	89.81	2,478.10	-3,243.74	1,520.85	1,372.62	148.24	10.260		
8,500.00	7,154.00	9,041.62	7,154.00	75.55	92.96	89.81	2,478.21	-3,343.74	1,520.93	1,368.12	152.81	9.953		
8,600.00	7,154.00	9,141.62	7,154.00	77.81	94.90	89.81	2,478.31	-3,443.74	1,521.01	1,363.57	157.44	9.661		
8,700.00	7,154.00	9,241.62	7,154.00	80.10	96.87	89.81	2,478.41	-3,543.74	1,521.09	1,358.97	162.12	9.383		
8,800.00	7,154.00	9,341.62	7,154.00	82.41	98.88	89.81	2,478.51	-3,643.74	1,521.16	1,354.33	166.84	9.118		
8,900.00	7,154.00	9,441.62	7,154.00	84.75	100.92	89.81	2,478.62	-3,743.74	1,521.24	1,349.64	171.60	8.865		
9,000.00	7,154.00	9,541.62	7,154.00	87.11	102.99	89.81	2,478.72	-3,843.74	1,521.32	1,344.92	176.40	8.624		
9,100.00	7,154.00	9,641.62	7,154.00	89.48	105.08	89.81	2,478.82	-3,943.74	1,521.40	1,340.17	181.23	8.395		
9,200.00	7,154.00	9,741.62	7,154.00	91.88	107.21	89.81	2,478.93	-4,043.74	1,521.48	1,335.38	186.09	8.176		
9,300.00	7,154.00	9,841.62	7,154.00	94.29	109.36	89.81	2,479.03	-4,143.74	1,521.55	1,330.57	190.99	7.967		
9,400.00	7,154.00	9,941.62	7,154.00	96.72	111.53	89.81	2,479.13	-4,243.74	1,521.63	1,325.72	195.91	7.767		
9,500.00	7,154.00	10,041.62	7,154.00	99.16	113.73	89.81	2,479.24	-4,343.74	1,521.71	1,320.86	200.85	7.576		
9,600.00	7,154.00	10,141.62	7,154.00	101.61	115.95	89.81	2,479.34	-4,443.74	1,521.79	1,315.96	205.82	7.394		
9,700.00	7,154.00	10,241.62	7,154.00	104.08	118.19	89.81	2,479.44	-4,543.74	1,521.86	1,311.05	210.81	7.219		
9,800.00	7,154.00	10,341.62	7,154.00	106.56	120.45	89.81	2,479.54	-4,643.74	1,521.94	1,306.12	215.82	7.052		
9,900.00	7,154.00	10,441.62	7,154.00	109.05	122.73	89.81	2,479.65	-4,743.74	1,522.02	1,301.17	220.85	6.892		
10,000.00	7,154.00	10,541.62	7,154.00	111.55	125.02	89.81	2,479.75	-4,843.74	1,522.10	1,296.20	225.90	6.738		
10,100.00	7,154.00	10,641.62	7,154.00	114.06	127.33	89.81	2,479.85	-4,943.74	1,522.18	1,291.21	230.96	6.591		
10,200.00	7,154.00	10,741.62	7,154.00	116.57	129.66	89.81	2,479.96	-5,043.74	1,522.25	1,286.21	236.04	6.449		

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 WARBLER 13W-27-03
Project:	ADAMS COUNTY	TVD Reference:	KB 25' @ 5105.00usft
Reference Site:	Sec 13-T1S-R66W	MD Reference:	KB 25' @ 5105.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	WARBLER 13W-27-03	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT_32Bit_ODBC
Reference Design:	PROPOSAL 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-MWD OWSG													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		
10,300.00	7,154.00	10,841.62	7,154.00	119.10	132.00	89.81	2,480.06	-5,143.74	1,522.33	1,281.20	241.13	6.313		
10,400.00	7,154.00	10,941.62	7,154.00	121.63	134.36	89.81	2,480.16	-5,243.74	1,522.41	1,276.17	246.24	6.183		
10,500.00	7,154.00	11,041.62	7,154.00	124.17	136.73	89.81	2,480.27	-5,343.74	1,522.49	1,271.13	251.36	6.057		
10,600.00	7,154.00	11,141.62	7,154.00	126.72	139.11	89.81	2,480.37	-5,443.74	1,522.56	1,266.08	256.49	5.936		
10,700.00	7,154.00	11,241.62	7,154.00	129.28	141.50	89.81	2,480.47	-5,543.74	1,522.64	1,261.01	261.63	5.820		
10,800.00	7,154.00	11,341.62	7,154.00	131.84	143.91	89.81	2,480.57	-5,643.74	1,522.72	1,255.94	266.78	5.708		
10,900.00	7,154.00	11,441.62	7,154.00	134.40	146.32	89.81	2,480.68	-5,743.74	1,522.80	1,250.85	271.94	5.600		
11,000.00	7,154.00	11,541.62	7,154.00	136.97	148.75	89.81	2,480.78	-5,843.74	1,522.87	1,245.76	277.11	5.496		
11,100.00	7,154.00	11,641.62	7,154.00	139.55	151.19	89.81	2,480.88	-5,943.74	1,522.95	1,240.66	282.29	5.395		
11,200.00	7,154.00	11,741.62	7,154.00	142.13	153.63	89.81	2,480.99	-6,043.74	1,523.03	1,235.55	287.48	5.298		
11,300.00	7,154.00	11,841.62	7,154.00	144.72	156.09	89.81	2,481.09	-6,143.74	1,523.11	1,230.43	292.68	5.204		
11,400.00	7,154.00	11,941.62	7,154.00	147.30	158.55	89.81	2,481.19	-6,243.74	1,523.19	1,225.30	297.88	5.113		
11,500.00	7,154.00	12,041.62	7,154.00	149.90	161.02	89.81	2,481.30	-6,343.74	1,523.26	1,220.17	303.09	5.026		
11,600.00	7,154.00	12,141.62	7,154.00	152.50	163.50	89.81	2,481.40	-6,443.74	1,523.34	1,215.03	308.31	4.941		
11,700.00	7,154.00	12,241.62	7,154.00	155.10	165.99	89.81	2,481.50	-6,543.74	1,523.42	1,209.88	313.53	4.859		
11,800.00	7,154.00	12,341.62	7,154.00	157.70	168.48	89.81	2,481.60	-6,643.74	1,523.50	1,204.73	318.76	4.779		
11,900.00	7,154.00	12,441.62	7,154.00	160.31	170.98	89.81	2,481.71	-6,743.74	1,523.57	1,199.57	324.00	4.702		
12,000.00	7,154.00	12,541.62	7,154.00	162.92	173.49	89.81	2,481.81	-6,843.74	1,523.65	1,194.41	329.24	4.628		
12,100.00	7,154.00	12,641.62	7,154.00	165.54	176.00	89.81	2,481.91	-6,943.74	1,523.73	1,189.24	334.49	4.555		
12,200.00	7,154.00	12,741.62	7,154.00	168.15	178.52	89.81	2,482.02	-7,043.74	1,523.81	1,184.07	339.74	4.485		
12,300.00	7,154.00	12,841.62	7,154.00	170.77	181.04	89.81	2,482.12	-7,143.74	1,523.88	1,178.89	345.00	4.417		
12,400.00	7,154.00	12,941.62	7,154.00	173.39	183.57	89.81	2,482.22	-7,243.74	1,523.96	1,173.70	350.26	4.351		
12,500.00	7,154.00	13,041.62	7,154.00	176.02	186.10	89.81	2,482.33	-7,343.74	1,524.04	1,168.52	355.52	4.287		
12,600.00	7,154.00	13,141.62	7,154.00	178.65	188.64	89.81	2,482.43	-7,443.74	1,524.12	1,163.32	360.79	4.224		
12,700.00	7,154.00	13,241.62	7,154.00	181.28	191.19	89.81	2,482.53	-7,543.74	1,524.20	1,158.13	366.07	4.164		
12,800.00	7,154.00	13,341.62	7,154.00	183.91	193.73	89.81	2,482.63	-7,643.74	1,524.27	1,152.93	371.34	4.105		
12,900.00	7,154.00	13,441.62	7,154.00	186.54	196.29	89.81	2,482.74	-7,743.74	1,524.35	1,147.72	376.63	4.047		
13,000.00	7,154.00	13,541.62	7,154.00	189.18	198.84	89.81	2,482.84	-7,843.74	1,524.43	1,142.52	381.91	3.992		
13,100.00	7,154.00	13,641.62	7,154.00	191.81	201.41	89.81	2,482.94	-7,943.74	1,524.51	1,137.31	387.20	3.937		
13,200.00	7,154.00	13,741.62	7,154.00	194.45	203.97	89.81	2,483.05	-8,043.74	1,524.58	1,132.09	392.49	3.884		
13,300.00	7,154.00	13,841.62	7,154.00	197.10	206.54	89.81	2,483.15	-8,143.74	1,524.66	1,126.88	397.78	3.833		
13,400.00	7,154.00	13,941.62	7,154.00	199.74	209.11	89.81	2,483.25	-8,243.74	1,524.74	1,121.66	403.08	3.783		
13,500.00	7,154.00	14,041.62	7,154.00	202.38	211.69	89.81	2,483.36	-8,343.74	1,524.82	1,116.43	408.38	3.734		
13,600.00	7,154.00	14,141.62	7,154.00	205.03	214.27	89.81	2,483.46	-8,443.74	1,524.89	1,111.21	413.69	3.686		
13,700.00	7,154.00	14,241.62	7,154.00	207.68	216.85	89.81	2,483.56	-8,543.74	1,524.97	1,105.98	418.99	3.640		
13,800.00	7,154.00	14,341.62	7,154.00	210.33	219.43	89.81	2,483.66	-8,643.74	1,525.05	1,100.75	424.30	3.594		
13,900.00	7,154.00	14,441.62	7,154.00	212.98	222.02	89.81	2,483.77	-8,743.73	1,525.13	1,095.52	429.61	3.550		
14,000.00	7,154.00	14,541.62	7,154.00	215.63	224.61	89.81	2,483.87	-8,843.73	1,525.21	1,090.28	434.92	3.507		
14,100.00	7,154.00	14,641.62	7,154.00	218.28	227.21	89.81	2,483.97	-8,943.73	1,525.28	1,085.04	440.24	3.465		
14,200.00	7,154.00	14,741.62	7,154.00	220.93	229.80	89.81	2,484.08	-9,043.73	1,525.36	1,079.80	445.56	3.423		
14,300.00	7,154.00	14,841.62	7,154.00	223.59	232.40	89.81	2,484.18	-9,143.73	1,525.44	1,074.56	450.88	3.383		
14,400.00	7,154.00	14,941.62	7,154.00	226.25	235.00	89.81	2,484.28	-9,243.73	1,525.52	1,069.32	456.20	3.344		
14,500.00	7,154.00	15,041.62	7,154.00	228.90	237.61	89.81	2,484.39	-9,343.73	1,525.59	1,064.07	461.52	3.306		
14,600.00	7,154.00	15,141.62	7,154.00	231.56	240.21	89.81	2,484.49	-9,443.73	1,525.67	1,058.82	466.85	3.268		
14,700.00	7,154.00	15,241.62	7,154.00	234.22	242.82	89.81	2,484.59	-9,543.73	1,525.75	1,053.57	472.18	3.231		
14,800.00	7,154.00	15,341.62	7,154.00	236.88	245.43	89.81	2,484.69	-9,643.73	1,525.83	1,048.32	477.50	3.195		
14,900.00	7,154.00	15,441.62	7,154.00	239.55	248.04	89.81	2,484.80	-9,743.73	1,525.90	1,043.07	482.84	3.160		
15,000.00	7,154.00	15,541.62	7,154.00	242.21	250.66	89.81	2,484.90	-9,843.73	1,525.98	1,037.81	488.17	3.126		
15,100.00	7,154.00	15,641.62	7,154.00	244.87	253.27	89.81	2,485.00	-9,943.73	1,526.06	1,032.56	493.50	3.092		
15,200.00	7,154.00	15,741.62	7,154.00	247.54	255.89	89.81	2,485.11	-10,043.73	1,526.14	1,027.30	498.84	3.059		
15,300.00	7,154.00	15,841.62	7,154.00	250.20	258.51	89.81	2,485.21	-10,143.73	1,526.22	1,022.04	504.18	3.027		
15,400.00	7,154.00	15,941.62	7,154.00	252.87	261.13	89.81	2,485.31	-10,243.73	1,526.29	1,016.78	509.52	2.996		

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 WARBLER 13W-27-03
Project:	ADAMS COUNTY	TVD Reference:	KB 25' @ 5105.00usft
Reference Site:	Sec 13-T1S-R66W	MD Reference:	KB 25' @ 5105.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	WARBLER 13W-27-03	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT_32Bit_ODBC
Reference Design:	PROPOSAL 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-MWD OWSG													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		
15,500.00	7,154.00	16,041.62	7,154.00	255.53	263.76	89.81	2,485.42	-10,343.73	1,526.37	1,011.51	514.86	2.965		
15,600.00	7,154.00	16,141.62	7,154.00	258.20	266.38	89.81	2,485.52	-10,443.73	1,526.45	1,006.25	520.20	2.934		
15,700.00	7,154.00	16,241.62	7,154.00	260.87	269.01	89.81	2,485.62	-10,543.73	1,526.53	1,000.99	525.54	2.905		
15,800.00	7,154.00	16,341.62	7,154.00	263.54	271.64	89.81	2,485.72	-10,643.73	1,526.60	995.72	530.89	2.876		
15,900.00	7,154.00	16,441.62	7,154.00	266.21	274.27	89.81	2,485.83	-10,743.73	1,526.68	990.45	536.23	2.847		
16,000.00	7,154.00	16,541.62	7,154.00	268.88	276.90	89.81	2,485.93	-10,843.73	1,526.76	985.18	541.58	2.819		
16,100.00	7,154.00	16,641.62	7,154.00	271.55	279.53	89.81	2,486.03	-10,943.73	1,526.84	979.91	546.93	2.792		
16,200.00	7,154.00	16,741.62	7,154.00	274.22	282.17	89.81	2,486.14	-11,043.73	1,526.91	974.64	552.27	2.765		
16,300.00	7,154.00	16,841.62	7,154.00	276.90	284.80	89.81	2,486.24	-11,143.73	1,526.99	969.37	557.63	2.738		
16,400.00	7,154.00	16,941.62	7,154.00	279.57	287.44	89.81	2,486.34	-11,243.73	1,527.07	964.09	562.98	2.712		
16,500.00	7,154.00	17,041.62	7,154.00	282.24	290.08	89.81	2,486.45	-11,343.73	1,527.15	958.82	568.33	2.687		
16,600.00	7,154.00	17,141.62	7,154.00	284.92	292.72	89.81	2,486.55	-11,443.73	1,527.23	953.54	573.68	2.662		
16,700.00	7,154.00	17,241.62	7,154.00	287.59	295.36	89.81	2,486.65	-11,543.73	1,527.30	948.27	579.04	2.638		
16,800.00	7,154.00	17,341.62	7,154.00	290.27	298.00	89.81	2,486.75	-11,643.73	1,527.38	942.99	584.39	2.614		
16,900.00	7,154.00	17,441.62	7,154.00	292.94	300.64	89.81	2,486.86	-11,743.73	1,527.46	937.71	589.75	2.590		
17,000.00	7,154.00	17,541.62	7,154.00	295.62	303.29	89.81	2,486.96	-11,843.73	1,527.54	932.43	595.11	2.567		
17,100.00	7,154.00	17,641.62	7,154.00	298.29	305.93	89.81	2,487.06	-11,943.73	1,527.61	927.15	600.46	2.544		
17,200.00	7,154.00	17,741.62	7,154.00	300.97	308.58	89.81	2,487.17	-12,043.73	1,527.69	921.87	605.82	2.522		
17,300.00	7,154.00	17,841.62	7,154.00	303.65	311.23	89.81	2,487.27	-12,143.73	1,527.77	916.59	611.18	2.500		
17,400.00	7,154.00	17,941.62	7,154.00	306.33	313.88	89.81	2,487.37	-12,243.73	1,527.85	911.30	616.54	2.478		
17,500.00	7,154.00	18,041.62	7,154.00	309.01	316.52	89.81	2,487.48	-12,343.73	1,527.92	906.02	621.91	2.457		
17,600.00	7,154.00	18,141.62	7,154.00	311.69	319.17	89.81	2,487.58	-12,443.73	1,528.00	900.73	627.27	2.436		
17,700.00	7,154.00	18,241.62	7,154.00	314.37	321.83	89.81	2,487.68	-12,543.73	1,528.08	895.45	632.63	2.415		
17,800.00	7,154.00	18,341.62	7,154.00	317.05	324.48	89.81	2,487.78	-12,643.73	1,528.16	890.16	637.99	2.395		
17,900.00	7,154.00	18,441.62	7,154.00	319.73	327.13	89.81	2,487.89	-12,743.73	1,528.24	884.88	643.36	2.375		
18,000.00	7,154.00	18,541.62	7,154.00	322.41	329.78	89.81	2,487.99	-12,843.73	1,528.31	879.59	648.72	2.356		
18,100.00	7,154.00	18,641.62	7,154.00	325.09	332.44	89.81	2,488.09	-12,943.73	1,528.39	874.30	654.09	2.337		
18,200.00	7,154.00	18,741.62	7,154.00	327.77	335.09	89.81	2,488.20	-13,043.73	1,528.47	869.01	659.46	2.318		
18,300.00	7,154.00	18,841.62	7,154.00	330.45	337.75	89.81	2,488.30	-13,143.73	1,528.55	863.72	664.82	2.299		
18,400.00	7,154.00	18,941.62	7,154.00	333.13	340.41	89.81	2,488.40	-13,243.73	1,528.62	858.43	670.19	2.281		
18,500.00	7,154.00	19,041.62	7,154.00	335.82	343.07	89.81	2,488.51	-13,343.73	1,528.70	853.14	675.56	2.263		
18,600.00	7,154.00	19,141.62	7,154.00	338.50	345.72	89.81	2,488.61	-13,443.73	1,528.78	847.85	680.93	2.245		
18,700.00	7,154.00	19,241.62	7,154.00	341.18	348.38	89.81	2,488.71	-13,543.73	1,528.86	842.56	686.30	2.228		
18,800.00	7,154.00	19,341.62	7,154.00	343.86	351.04	89.81	2,488.82	-13,643.73	1,528.93	837.26	691.67	2.210		
18,900.00	7,154.00	19,441.62	7,154.00	346.55	353.70	89.81	2,488.92	-13,743.73	1,529.01	831.97	697.04	2.194		
19,000.00	7,154.00	19,541.62	7,154.00	349.23	356.36	89.81	2,489.02	-13,843.73	1,529.09	826.68	702.41	2.177		
19,100.00	7,154.00	19,641.62	7,154.00	351.92	359.03	89.81	2,489.12	-13,943.73	1,529.17	821.38	707.78	2.160		
19,200.00	7,154.00	19,741.62	7,154.00	354.60	361.69	89.81	2,489.23	-14,043.73	1,529.25	816.09	713.16	2.144		
19,300.00	7,154.00	19,841.62	7,154.00	357.29	364.35	89.81	2,489.33	-14,143.73	1,529.32	810.79	718.53	2.128		
19,400.00	7,154.00	19,941.62	7,154.00	359.97	367.02	89.81	2,489.43	-14,243.73	1,529.40	805.50	723.90	2.113		
19,500.00	7,154.00	20,041.62	7,154.00	362.66	369.68	89.81	2,489.54	-14,343.73	1,529.48	800.20	729.28	2.097		
19,600.00	7,154.00	20,141.62	7,154.00	365.34	372.35	89.81	2,489.64	-14,443.73	1,529.56	794.90	734.65	2.082		
19,700.00	7,154.00	20,241.62	7,154.00	368.03	375.01	89.81	2,489.74	-14,543.73	1,529.63	789.61	740.03	2.067		
19,800.00	7,154.00	20,341.62	7,154.00	370.72	377.68	89.81	2,489.85	-14,643.73	1,529.71	784.31	745.40	2.052		
19,900.00	7,154.00	20,441.62	7,154.00	373.40	380.34	89.81	2,489.95	-14,743.73	1,529.79	779.01	750.78	2.038		
20,000.00	7,154.00	20,541.62	7,154.00	376.09	383.01	89.81	2,490.05	-14,843.73	1,529.87	773.71	756.15	2.023		
20,100.00	7,154.00	20,641.62	7,154.00	378.78	385.68	89.81	2,490.15	-14,943.73	1,529.94	768.41	761.53	2.009		
20,200.00	7,154.00	20,741.62	7,154.00	381.46	388.35	89.81	2,490.26	-15,043.73	1,530.02	763.11	766.91	1.995		
20,300.00	7,154.00	20,841.62	7,154.00	384.15	391.02	89.81	2,490.36	-15,143.73	1,530.10	757.81	772.29	1.981		
20,400.00	7,154.00	20,941.62	7,154.00	386.84	393.68	89.81	2,490.46	-15,243.73	1,530.18	752.51	777.66	1.968		
20,500.00	7,154.00	21,041.62	7,154.00	389.53	396.35	89.81	2,490.57	-15,343.73	1,530.26	747.21	783.04	1.954		
20,600.00	7,154.00	21,141.62	7,154.00	392.21	399.02	89.81	2,490.67	-15,443.73	1,530.33	741.91	788.42	1.941		

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 WARBLER 13W-27-03
Project:	ADAMS COUNTY	TVD Reference:	KB 25' @ 5105.00usft
Reference Site:	Sec 13-T1S-R66W	MD Reference:	KB 25' @ 5105.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	WARBLER 13W-27-03	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT_32Bit_ODBC
Reference Design:	PROPOSAL 1	Offset TVD Reference:	Offset Datum

Offset Design Sec 13-T1S-R66W - WARBLER 13W-27-14 - OWB - PROPOSAL 1												Offset Site Error:	0.00 usft
Survey Program: 0-MWD OWSG												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	
20,700.00	7,154.00	21,241.62	7,154.00	394.90	401.69	89.81	2,490.77	-15,543.73	1,530.41	736.61	793.80	1.928	
20,800.00	7,154.00	21,341.62	7,154.00	397.59	404.37	89.81	2,490.88	-15,643.73	1,530.49	731.31	799.18	1.915	
20,900.00	7,154.00	21,441.62	7,154.00	400.28	407.04	89.81	2,490.98	-15,743.73	1,530.57	726.01	804.56	1.902	
21,000.00	7,154.00	21,541.62	7,154.00	402.97	409.71	89.81	2,491.08	-15,843.73	1,530.64	720.70	809.94	1.890	
21,100.00	7,154.00	21,641.62	7,154.00	405.66	412.38	89.81	2,491.18	-15,943.73	1,530.72	715.40	815.32	1.877	
21,200.00	7,154.00	21,741.62	7,154.00	408.35	415.05	89.81	2,491.29	-16,043.73	1,530.80	710.10	820.70	1.865	
21,300.00	7,154.00	21,841.62	7,154.00	411.04	417.73	89.81	2,491.39	-16,143.73	1,530.88	704.79	826.08	1.853	
21,400.00	7,154.00	21,941.62	7,154.00	413.73	420.40	89.81	2,491.49	-16,243.73	1,530.95	699.49	831.47	1.841	
21,500.00	7,154.00	22,041.62	7,154.00	416.42	423.07	89.81	2,491.60	-16,343.73	1,531.03	694.18	836.85	1.830	
21,573.27	7,154.00	22,114.88	7,154.00	418.39	425.03	89.81	2,491.67	-16,416.99	1,531.09	690.30	840.79	1.821 SF	

Anticollision Report

Company:	EXTRACTION OIL & GAS	Local Co-ordinate Reference:	Well WARBLER 13W-27-03
Project:	ADAMS COUNTY	TVD Reference:	KB 25' @ 5105.00usft
Reference Site:	Sec 13-T1S-R66W	MD Reference:	KB 25' @ 5105.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	WARBLER 13W-27-03	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT_32Bit_ODBC
Reference Design:	PROPOSAL 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-MWD OWSG													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		
0.00	0.00	6.00	6.00	0.00	0.01	141.07	-183.60	148.29	236.01					
100.00	100.00	106.00	106.00	0.13	0.16	141.07	-183.60	148.29	236.01	235.72	0.29	812.807		
200.00	200.00	206.00	206.00	0.49	0.51	141.07	-183.60	148.29	236.01	235.00	1.01	234.297		
300.00	300.00	306.00	306.00	0.85	0.87	141.07	-183.60	148.29	236.01	234.28	1.72	136.876		
400.00	400.00	406.00	406.00	1.21	1.23	141.07	-183.60	148.29	236.01	233.57	2.44	96.678		
500.00	500.00	506.00	506.00	1.57	1.59	141.07	-183.60	148.29	236.01	232.85	3.16	74.730		
600.00	600.00	606.00	606.00	1.93	1.95	141.07	-183.60	148.29	236.01	232.13	3.88	60.904 CC		
700.00	699.98	705.98	705.98	2.28	2.31	-150.53	-183.60	148.29	237.53	232.94	4.59	51.780		
800.00	799.84	805.84	805.84	2.63	2.66	-151.09	-183.60	148.29	242.10	236.80	5.30	45.689		
900.00	899.45	905.96	905.96	3.00	3.02	-151.99	-183.60	148.29	249.76	243.74	6.02	41.518		
1,000.00	998.70	1,014.97	1,014.94	3.37	3.41	-153.20	-182.16	146.49	258.53	251.77	6.76	38.245		
1,100.00	1,097.47	1,124.36	1,124.13	3.77	3.80	-154.57	-178.11	141.44	266.78	259.27	7.50	35.559		
1,200.00	1,195.62	1,234.11	1,233.36	4.19	4.20	-156.08	-171.42	133.11	274.56	266.31	8.25	33.295		
1,300.00	1,293.06	1,344.20	1,342.42	4.64	4.61	-157.73	-162.09	121.49	281.91	272.92	8.99	31.358		
1,400.00	1,389.64	1,454.58	1,451.12	5.12	5.05	-159.52	-150.11	106.56	288.89	279.16	9.73	29.678		
1,500.00	1,485.27	1,565.22	1,559.26	5.66	5.51	-161.44	-135.47	88.33	295.57	285.10	10.47	28.223		
1,600.00	1,579.82	1,676.10	1,666.64	6.24	6.01	-163.49	-118.20	66.81	302.02	290.80	11.21	26.935		
1,700.00	1,673.17	1,787.17	1,773.05	6.88	6.56	-165.66	-98.30	42.02	308.30	296.35	11.95	25.799		
1,800.00	1,765.22	1,898.40	1,878.31	7.57	7.16	-167.96	-75.80	13.98	314.47	301.79	12.69	24.789		
1,900.00	1,856.73	2,009.90	1,982.34	8.31	7.83	-170.33	-50.70	-17.30	318.58	305.15	13.42	23.734		
2,000.00	1,948.24	2,121.49	2,084.82	9.06	8.56	-172.74	-23.05	-51.74	319.28	305.11	14.17	22.539		
2,100.00	2,039.75	2,232.84	2,185.28	9.83	9.37	-175.28	7.00	-89.18	316.64	301.72	14.92	21.219		
2,200.00	2,131.26	2,343.61	2,283.29	10.61	10.26	-178.03	39.30	-129.42	310.77	295.06	15.71	19.783		
2,300.00	2,222.77	2,453.48	2,378.46	11.40	11.21	178.91	73.65	-172.22	301.85	285.30	16.55	18.237		
2,400.00	2,314.28	2,553.82	2,464.05	12.20	12.14	175.78	106.43	-213.06	291.26	273.68	17.58	16.566		
2,500.00	2,405.79	2,651.96	2,547.72	13.00	13.08	172.49	138.53	-253.05	281.50	262.75	18.75	15.014		
2,600.00	2,497.30	2,750.09	2,631.39	13.81	14.03	168.99	170.63	-293.05	272.76	252.69	20.06	13.595		
2,700.00	2,588.81	2,848.23	2,715.05	14.62	15.00	165.28	202.73	-333.04	265.12	243.57	21.55	12.304		
2,800.00	2,680.31	2,946.36	2,798.72	15.44	15.98	161.37	234.83	-373.03	258.68	235.46	23.22	11.139		
2,900.00	2,771.82	3,044.49	2,882.39	16.25	16.97	157.29	266.93	-413.03	253.55	228.45	25.10	10.101		
3,000.00	2,863.33	3,142.63	2,966.06	17.08	17.97	153.07	299.04	-453.02	249.79	222.61	27.18	9.190		
3,100.00	2,954.84	3,240.76	3,049.73	17.90	18.98	148.75	331.14	-493.02	247.48	218.03	29.45	8.405		
3,200.00	3,046.35	3,338.90	3,133.39	18.72	19.99	144.38	363.24	-533.01	246.64	214.78	31.86	7.741		
3,205.71	3,051.57	3,344.50	3,138.17	18.77	20.05	144.13	365.07	-535.29	246.64	214.64	32.00	7.706		
3,300.00	3,137.86	3,437.03	3,217.06	19.55	21.01	140.00	395.34	-573.01	247.31	212.91	34.39	7.190		
3,400.00	3,229.37	3,535.16	3,300.73	20.38	22.03	135.67	427.44	-613.00	249.45	212.46	37.00	6.743		
3,500.00	3,320.88	3,633.30	3,384.40	21.21	23.06	131.44	459.54	-653.00	253.05	213.43	39.62	6.387		
3,600.00	3,412.39	3,731.43	3,468.06	22.04	24.08	127.34	491.64	-692.99	258.03	215.80	42.23	6.110		
3,700.00	3,503.90	3,829.57	3,551.73	22.87	25.12	123.42	523.74	-732.98	264.32	219.52	44.80	5.900		
3,800.00	3,595.41	3,927.70	3,635.40	23.70	26.15	119.68	555.84	-772.98	271.83	224.53	47.29	5.748		
3,900.00	3,686.91	4,025.83	3,719.07	24.54	27.19	116.15	587.95	-812.97	280.45	230.75	49.70	5.643		
4,000.00	3,778.42	4,123.97	3,802.73	25.37	28.23	112.84	620.05	-852.97	290.10	238.07	52.02	5.576		
4,100.00	3,869.93	4,222.10	3,886.40	26.20	29.27	109.75	652.15	-892.96	300.66	246.42	54.25	5.542		
4,200.00	3,961.44	4,320.24	3,970.07	27.04	30.31	106.87	684.25	-932.96	312.06	255.67	56.39	5.534		
4,300.00	4,052.95	4,418.37	4,053.74	27.88	31.35	104.19	716.35	-972.95	324.19	265.75	58.44	5.548		
4,400.00	4,144.46	4,516.51	4,137.40	28.71	32.40	101.71	748.45	-1,012.94	336.99	276.57	60.42	5.578		
4,500.00	4,235.97	4,614.64	4,221.07	29.55	33.44	99.41	780.55	-1,052.94	350.38	288.05	62.33	5.622		
4,600.00	4,327.48	4,712.77	4,304.74	30.39	34.49	97.28	812.65	-1,092.93	364.28	300.11	64.18	5.676		
4,700.00	4,418.99	4,810.91	4,388.41	31.22	35.54	95.31	844.75	-1,132.93	378.66	312.68	65.97	5.739		
4,800.00	4,510.50	4,909.04	4,472.08	32.06	36.59	93.48	876.85	-1,172.92	393.45	325.72	67.73	5.809		
4,900.00	4,602.01	5,007.18	4,555.74	32.90	37.64	91.78	908.96	-1,212.92	408.60	339.17	69.44	5.884		
5,000.00	4,693.51	5,105.31	4,639.41	33.74	38.69	90.20	941.06	-1,252.91	424.09	352.98	71.12	5.963		

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 WARBLER 13W-27-03
Project:	ADAMS COUNTY	TVD Reference:	KB 25' @ 5105.00usft
Reference Site:	Sec 13-T1S-R66W	MD Reference:	KB 25' @ 5105.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	WARBLER 13W-27-03	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT_32Bit_ODBC
Reference Design:	PROPOSAL 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-MWD OWSG													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		
5,100.00	4,785.02	5,203.44	4,723.08	34.58	39.74	88.74	973.16	-1,292.90	439.88	367.11	72.77	6.045		
5,200.00	4,876.53	5,301.58	4,806.75	35.42	40.79	87.37	1,005.26	-1,332.90	455.92	381.53	74.39	6.129		
5,300.00	4,968.04	5,400.29	4,890.41	36.26	41.85	86.10	1,037.36	-1,372.89	472.21	396.21	76.00	6.213		
5,400.00	5,059.55	5,502.15	4,974.08	37.10	42.94	84.91	1,069.46	-1,412.89	488.71	411.08	77.62	6.296		
5,500.00	5,151.06	5,595.98	5,057.75	37.94	43.95	83.80	1,101.56	-1,452.88	505.40	426.25	79.15	6.385		
5,600.00	5,242.57	5,705.89	5,141.42	38.78	45.13	82.76	1,133.66	-1,492.88	522.27	441.44	80.83	6.462		
5,700.00	5,334.08	5,807.75	5,225.08	39.62	46.22	81.79	1,165.76	-1,532.87	539.29	456.88	82.41	6.544		
5,800.00	5,425.59	5,909.62	5,308.75	40.46	47.32	80.87	1,197.87	-1,572.87	556.46	472.48	83.98	6.626		
5,900.00	5,517.10	5,988.52	5,392.42	41.30	48.17	80.01	1,229.97	-1,612.86	573.76	488.44	85.32	6.725		
6,000.00	5,608.61	6,086.65	5,476.09	42.14	49.22	79.20	1,262.07	-1,652.85	591.18	504.34	86.84	6.808		
6,100.00	5,700.12	6,184.79	5,559.76	42.98	50.28	78.43	1,294.17	-1,692.85	608.70	520.35	88.36	6.889		
6,200.00	5,791.62	6,282.92	5,643.42	43.82	51.34	77.71	1,326.27	-1,732.84	626.33	536.47	89.87	6.970		
6,300.00	5,883.13	6,381.05	5,727.09	44.66	52.39	77.03	1,358.37	-1,772.84	644.05	552.68	91.37	7.049		
6,400.00	5,974.64	6,479.19	5,810.76	45.50	53.45	76.38	1,390.47	-1,812.83	661.85	568.98	92.87	7.126		
6,500.00	6,066.15	6,577.32	5,894.43	46.35	54.51	75.77	1,422.57	-1,852.83	679.73	585.36	94.37	7.203		
6,600.00	6,157.66	6,675.46	5,978.09	47.19	55.56	75.19	1,454.67	-1,892.82	697.68	601.81	95.87	7.277		
6,700.00	6,249.17	6,773.59	6,061.76	48.03	56.62	74.64	1,486.77	-1,932.81	715.70	618.34	97.37	7.351		
6,800.00	6,340.68	6,871.72	6,145.43	48.87	57.68	74.11	1,518.88	-1,972.81	733.78	634.92	98.86	7.423		
6,900.00	6,432.19	6,969.86	6,229.10	49.71	58.74	73.61	1,550.98	-2,012.80	751.92	651.57	100.35	7.493		
7,000.00	6,523.70	7,067.99	6,312.76	50.55	59.79	73.14	1,583.08	-2,052.80	770.11	668.27	101.84	7.562		
7,100.00	6,615.21	7,166.13	6,396.43	51.40	60.85	72.68	1,615.18	-2,092.79	788.35	685.02	103.33	7.629		
7,200.00	6,706.72	7,264.26	6,480.10	52.24	61.91	72.25	1,647.28	-2,132.79	806.63	701.81	104.82	7.696		
7,300.00	6,798.22	7,362.40	6,563.77	53.08	62.97	71.84	1,679.38	-2,172.78	824.96	718.65	106.31	7.760		
7,400.00	6,886.25	7,460.42	6,647.34	54.07	64.03	76.33	1,711.45	-2,212.73	843.93	735.65	108.28	7.794		
7,500.00	6,965.23	7,556.28	6,729.07	55.35	65.06	78.98	1,742.80	-2,251.80	864.12	752.89	111.23	7.769		
7,600.00	7,032.75	7,647.07	6,806.48	56.90	66.04	80.95	1,772.50	-2,288.80	886.00	771.03	114.97	7.706		
7,700.00	7,086.77	7,767.22	6,906.31	58.68	67.44	83.51	1,810.81	-2,343.28	909.77	789.93	119.84	7.591		
7,800.00	7,125.64	7,939.28	7,026.95	60.64	70.03	86.56	1,857.14	-2,455.89	930.75	805.85	124.89	7.452		
7,900.00	7,148.19	8,149.42	7,123.94	62.69	73.88	88.92	1,894.45	-2,637.19	944.98	816.60	128.38	7.361		
8,000.00	7,154.00	8,360.48	7,154.00	64.75	77.90	89.64	1,906.12	-2,844.61	948.99	818.89	130.10	7.294		
8,100.00	7,154.00	8,460.48	7,154.00	66.83	79.78	89.64	1,906.20	-2,944.61	949.04	814.60	134.44	7.059		
8,200.00	7,154.00	8,560.48	7,154.00	68.96	81.71	89.64	1,906.27	-3,044.61	949.08	810.24	138.84	6.836		
8,300.00	7,154.00	8,660.48	7,154.00	71.12	83.67	89.64	1,906.34	-3,144.61	949.13	805.81	143.32	6.623		
8,400.00	7,154.00	8,760.48	7,154.00	73.32	85.68	89.64	1,906.42	-3,244.61	949.18	801.32	147.86	6.420		
8,500.00	7,154.00	8,860.48	7,154.00	75.55	87.71	89.64	1,906.49	-3,344.61	949.23	796.78	152.45	6.226		
8,600.00	7,154.00	8,960.48	7,154.00	77.81	89.79	89.64	1,906.56	-3,444.61	949.28	792.18	157.10	6.043		
8,700.00	7,154.00	9,060.48	7,154.00	80.10	91.89	89.64	1,906.64	-3,544.61	949.32	787.53	161.79	5.868		
8,800.00	7,154.00	9,160.48	7,154.00	82.41	94.03	89.64	1,906.71	-3,644.61	949.37	782.84	166.53	5.701		
8,900.00	7,154.00	9,260.48	7,154.00	84.75	96.19	89.64	1,906.79	-3,744.61	949.42	778.11	171.31	5.542		
9,000.00	7,154.00	9,360.48	7,154.00	87.11	98.38	89.64	1,906.86	-3,844.61	949.47	773.35	176.12	5.391		
9,100.00	7,154.00	9,460.48	7,154.00	89.48	100.59	89.64	1,906.93	-3,944.61	949.52	768.55	180.97	5.247		
9,200.00	7,154.00	9,560.48	7,154.00	91.88	102.83	89.64	1,907.01	-4,044.61	949.57	763.72	185.84	5.109		
9,300.00	7,154.00	9,660.48	7,154.00	94.29	105.09	89.64	1,907.08	-4,144.61	949.61	758.86	190.75	4.978		
9,400.00	7,154.00	9,760.48	7,154.00	96.72	107.37	89.64	1,907.15	-4,244.61	949.66	753.98	195.68	4.853		
9,500.00	7,154.00	9,860.48	7,154.00	99.16	109.67	89.64	1,907.23	-4,344.61	949.71	749.07	200.64	4.733		
9,600.00	7,154.00	9,960.48	7,154.00	101.61	111.99	89.64	1,907.30	-4,444.61	949.76	744.14	205.62	4.619		
9,700.00	7,154.00	10,060.48	7,154.00	104.08	114.32	89.64	1,907.37	-4,544.61	949.81	739.18	210.62	4.510		
9,800.00	7,154.00	10,160.48	7,154.00	106.56	116.67	89.64	1,907.45	-4,644.61	949.85	734.21	215.64	4.405		
9,900.00	7,154.00	10,260.48	7,154.00	109.05	119.04	89.64	1,907.52	-4,744.61	949.90	729.22	220.68	4.304		
10,000.00	7,154.00	10,360.48	7,154.00	111.55	121.42	89.64	1,907.59	-4,844.61	949.95	724.21	225.74	4.208		
10,100.00	7,154.00	10,460.48	7,154.00	114.06	123.81	89.64	1,907.67	-4,944.61	950.00	719.19	230.81	4.116		
10,200.00	7,154.00	10,560.48	7,154.00	116.57	126.22	89.64	1,907.74	-5,044.61	950.05	714.15	235.90	4.027		

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 WARBLER 13W-27-03
Project:	ADAMS COUNTY	TVD Reference:	KB 25' @ 5105.00usft
Reference Site:	Sec 13-T1S-R66W	MD Reference:	KB 25' @ 5105.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	WARBLER 13W-27-03	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT_32Bit_ODBC
Reference Design:	PROPOSAL 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-MWD OWSG													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		
10,300.00	7,154.00	10,660.48	7,154.00	119.10	128.64	89.64	1,907.81	-5,144.61	950.10	709.10	241.00	3.942		
10,400.00	7,154.00	10,760.48	7,154.00	121.63	131.07	89.64	1,907.89	-5,244.61	950.14	704.03	246.11	3.861		
10,500.00	7,154.00	10,860.48	7,154.00	124.17	133.51	89.64	1,907.96	-5,344.61	950.19	698.95	251.24	3.782		
10,600.00	7,154.00	10,960.48	7,154.00	126.72	135.96	89.64	1,908.04	-5,444.61	950.24	693.87	256.38	3.706		
10,700.00	7,154.00	11,060.48	7,154.00	129.28	138.42	89.64	1,908.11	-5,544.61	950.29	688.76	261.52	3.634		
10,800.00	7,154.00	11,160.48	7,154.00	131.84	140.89	89.64	1,908.18	-5,644.61	950.34	683.65	266.68	3.564		
10,900.00	7,154.00	11,260.48	7,154.00	134.40	143.37	89.64	1,908.26	-5,744.61	950.39	678.53	271.85	3.496		
11,000.00	7,154.00	11,360.48	7,154.00	136.97	145.86	89.64	1,908.33	-5,844.61	950.43	673.40	277.03	3.431		
11,100.00	7,154.00	11,460.48	7,154.00	139.55	148.36	89.64	1,908.40	-5,944.61	950.48	668.27	282.21	3.368		
11,200.00	7,154.00	11,560.48	7,154.00	142.13	150.86	89.64	1,908.48	-6,044.61	950.53	663.12	287.41	3.307		
11,300.00	7,154.00	11,660.48	7,154.00	144.72	153.37	89.64	1,908.55	-6,144.61	950.58	657.97	292.61	3.249		
11,400.00	7,154.00	11,760.48	7,154.00	147.30	155.89	89.64	1,908.62	-6,244.61	950.63	652.81	297.82	3.192		
11,500.00	7,154.00	11,860.48	7,154.00	149.90	158.41	89.64	1,908.70	-6,344.61	950.67	647.64	303.04	3.137		
11,600.00	7,154.00	11,960.48	7,154.00	152.50	160.94	89.64	1,908.77	-6,444.61	950.72	642.46	308.26	3.084		
11,700.00	7,154.00	12,060.48	7,154.00	155.10	163.47	89.64	1,908.84	-6,544.61	950.77	637.28	313.49	3.033		
11,800.00	7,154.00	12,160.48	7,154.00	157.70	166.01	89.64	1,908.92	-6,644.61	950.82	632.10	318.72	2.983		
11,900.00	7,154.00	12,260.48	7,154.00	160.31	168.56	89.64	1,908.99	-6,744.61	950.87	626.90	323.96	2.935		
12,000.00	7,154.00	12,360.48	7,154.00	162.92	171.11	89.64	1,909.06	-6,844.61	950.92	621.71	329.21	2.888		
12,100.00	7,154.00	12,460.48	7,154.00	165.54	173.66	89.64	1,909.14	-6,944.61	950.96	616.50	334.46	2.843		
12,200.00	7,154.00	12,560.48	7,154.00	168.15	176.22	89.64	1,909.21	-7,044.61	951.01	611.30	339.72	2.799		
12,300.00	7,154.00	12,660.48	7,154.00	170.77	178.79	89.64	1,909.29	-7,144.61	951.06	606.08	344.98	2.757		
12,400.00	7,154.00	12,760.48	7,154.00	173.39	181.36	89.64	1,909.36	-7,244.61	951.11	600.87	350.24	2.716		
12,500.00	7,154.00	12,860.48	7,154.00	176.02	183.93	89.64	1,909.43	-7,344.61	951.16	595.64	355.51	2.675		
12,600.00	7,154.00	12,960.48	7,154.00	178.65	186.50	89.64	1,909.51	-7,444.61	951.20	590.42	360.79	2.636		
12,700.00	7,154.00	13,060.48	7,154.00	181.28	189.08	89.64	1,909.58	-7,544.61	951.25	585.19	366.06	2.599		
12,800.00	7,154.00	13,160.48	7,154.00	183.91	191.67	89.64	1,909.65	-7,644.61	951.30	579.96	371.34	2.562		
12,900.00	7,154.00	13,260.48	7,154.00	186.54	194.25	89.64	1,909.73	-7,744.61	951.35	574.72	376.63	2.526		
13,000.00	7,154.00	13,360.48	7,154.00	189.18	196.84	89.64	1,909.80	-7,844.61	951.40	569.48	381.92	2.491		
13,100.00	7,154.00	13,460.48	7,154.00	191.81	199.44	89.64	1,909.87	-7,944.61	951.45	564.24	387.21	2.457		
13,200.00	7,154.00	13,560.48	7,154.00	194.45	202.03	89.64	1,909.95	-8,044.61	951.49	558.99	392.50	2.424		
13,300.00	7,154.00	13,660.48	7,154.00	197.10	204.63	89.64	1,910.02	-8,144.61	951.54	553.74	397.80	2.392		
13,400.00	7,154.00	13,760.48	7,154.00	199.74	207.24	89.64	1,910.09	-8,244.61	951.59	548.49	403.10	2.361		
13,500.00	7,154.00	13,860.48	7,154.00	202.38	209.84	89.64	1,910.17	-8,344.61	951.64	543.23	408.40	2.330		
13,600.00	7,154.00	13,960.48	7,154.00	205.03	212.45	89.64	1,910.24	-8,444.61	951.69	537.98	413.71	2.300		
13,700.00	7,154.00	14,060.48	7,154.00	207.68	215.06	89.64	1,910.31	-8,544.61	951.74	532.72	419.02	2.271		
13,800.00	7,154.00	14,160.48	7,154.00	210.33	217.67	89.64	1,910.39	-8,644.61	951.78	527.45	424.33	2.243		
13,900.00	7,154.00	14,260.48	7,154.00	212.98	220.28	89.64	1,910.46	-8,744.61	951.83	522.19	429.64	2.215		
14,000.00	7,154.00	14,360.48	7,154.00	215.63	222.90	89.64	1,910.54	-8,844.61	951.88	516.92	434.96	2.188		
14,100.00	7,154.00	14,460.48	7,154.00	218.28	225.52	89.64	1,910.61	-8,944.61	951.93	511.65	440.28	2.162		
14,200.00	7,154.00	14,560.48	7,154.00	220.93	228.14	89.64	1,910.68	-9,044.61	951.98	506.38	445.60	2.136		
14,300.00	7,154.00	14,660.48	7,154.00	223.59	230.76	89.64	1,910.76	-9,144.61	952.02	501.11	450.92	2.111		
14,400.00	7,154.00	14,760.48	7,154.00	226.25	233.38	89.64	1,910.83	-9,244.61	952.07	495.83	456.24	2.087		
14,500.00	7,154.00	14,860.48	7,154.00	228.90	236.01	89.64	1,910.90	-9,344.61	952.12	490.55	461.57	2.063		
14,600.00	7,154.00	14,960.48	7,154.00	231.56	238.64	89.64	1,910.98	-9,444.61	952.17	485.27	466.90	2.039		
14,700.00	7,154.00	15,060.48	7,154.00	234.22	241.27	89.64	1,911.05	-9,544.61	952.22	479.99	472.23	2.016		
14,800.00	7,154.00	15,160.48	7,154.00	236.88	243.90	89.64	1,911.12	-9,644.61	952.27	474.71	477.56	1.994		
14,900.00	7,154.00	15,260.48	7,154.00	239.55	246.53	89.64	1,911.20	-9,744.61	952.31	469.42	482.89	1.972		
15,000.00	7,154.00	15,360.48	7,154.00	242.21	249.17	89.64	1,911.27	-9,844.61	952.36	464.14	488.23	1.951		
15,100.00	7,154.00	15,460.48	7,154.00	244.87	251.80	89.64	1,911.34	-9,944.61	952.41	458.85	493.56	1.930		
15,200.00	7,154.00	15,560.48	7,154.00	247.54	254.44	89.64	1,911.42	-10,044.61	952.46	453.56	498.90	1.909		
15,300.00	7,154.00	15,660.48	7,154.00	250.20	257.08	89.64	1,911.49	-10,144.61	952.51	448.27	504.24	1.889		
15,400.00	7,154.00	15,760.48	7,154.00	252.87	259.72	89.64	1,911.56	-10,244.61	952.55	442.97	509.58	1.869		

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 WARBLER 13W-27-03
Project:	ADAMS COUNTY	TVD Reference:	KB 25' @ 5105.00usft
Reference Site:	Sec 13-T1S-R66W	MD Reference:	KB 25' @ 5105.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	WARBLER 13W-27-03	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT_32Bit_ODBC
Reference Design:	PROPOSAL 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-MWD OWSG													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		
15,500.00	7,154.00	15,860.48	7,154.00	255.53	262.36	89.64	1,911.64	-10,344.61	952.60	437.68	514.92	1.850		
15,600.00	7,154.00	15,960.48	7,154.00	258.20	265.01	89.64	1,911.71	-10,444.61	952.65	432.39	520.27	1.831		
15,700.00	7,154.00	16,060.48	7,154.00	260.87	267.65	89.64	1,911.79	-10,544.61	952.70	427.09	525.61	1.813		
15,800.00	7,154.00	16,160.48	7,154.00	263.54	270.30	89.64	1,911.86	-10,644.61	952.75	421.79	530.96	1.794		
15,900.00	7,154.00	16,260.48	7,154.00	266.21	272.94	89.64	1,911.93	-10,744.61	952.80	416.49	536.30	1.777		
16,000.00	7,154.00	16,360.48	7,154.00	268.88	275.59	89.64	1,912.01	-10,844.61	952.84	411.19	541.65	1.759		
16,100.00	7,154.00	16,460.48	7,154.00	271.55	278.24	89.64	1,912.08	-10,944.61	952.89	405.89	547.00	1.742		
16,200.00	7,154.00	16,560.48	7,154.00	274.22	280.89	89.64	1,912.15	-11,044.61	952.94	400.59	552.35	1.725		
16,300.00	7,154.00	16,660.48	7,154.00	276.90	283.54	89.64	1,912.23	-11,144.61	952.99	395.28	557.70	1.709		
16,400.00	7,154.00	16,760.48	7,154.00	279.57	286.19	89.64	1,912.30	-11,244.61	953.04	389.98	563.06	1.693		
16,500.00	7,154.00	16,860.48	7,154.00	282.24	288.84	89.64	1,912.37	-11,344.61	953.09	384.67	568.41	1.677		
16,600.00	7,154.00	16,960.48	7,154.00	284.92	291.50	89.64	1,912.45	-11,444.61	953.13	379.37	573.77	1.661		
16,700.00	7,154.00	17,060.48	7,154.00	287.59	294.15	89.64	1,912.52	-11,544.61	953.18	374.06	579.12	1.646		
16,800.00	7,154.00	17,160.48	7,154.00	290.27	296.81	89.64	1,912.59	-11,644.61	953.23	368.75	584.48	1.631		
16,900.00	7,154.00	17,260.48	7,154.00	292.94	299.47	89.64	1,912.67	-11,744.61	953.28	363.44	589.84	1.616		
17,000.00	7,154.00	17,360.48	7,154.00	295.62	302.12	89.64	1,912.74	-11,844.61	953.33	358.13	595.20	1.602		
17,100.00	7,154.00	17,460.48	7,154.00	298.29	304.78	89.64	1,912.81	-11,944.61	953.37	352.82	600.55	1.587		
17,200.00	7,154.00	17,560.48	7,154.00	300.97	307.44	89.64	1,912.89	-12,044.60	953.42	347.51	605.92	1.574		
17,300.00	7,154.00	17,660.48	7,154.00	303.65	310.10	89.64	1,912.96	-12,144.60	953.47	342.19	611.28	1.560		
17,400.00	7,154.00	17,760.48	7,154.00	306.33	312.76	89.64	1,913.04	-12,244.60	953.52	336.88	616.64	1.546		
17,500.00	7,154.00	17,860.48	7,154.00	309.01	315.42	89.64	1,913.11	-12,344.60	953.57	331.57	622.00	1.533		
17,600.00	7,154.00	17,960.48	7,154.00	311.69	318.09	89.64	1,913.18	-12,444.60	953.62	326.25	627.36	1.520		
17,700.00	7,154.00	18,060.48	7,154.00	314.37	320.75	89.64	1,913.26	-12,544.60	953.66	320.94	632.73	1.507		
17,800.00	7,154.00	18,160.48	7,154.00	317.05	323.41	89.64	1,913.33	-12,644.60	953.71	315.62	638.09	1.495 Level 3		
17,900.00	7,154.00	18,260.48	7,154.00	319.73	326.08	89.64	1,913.40	-12,744.60	953.76	310.30	643.46	1.482 Level 3		
18,000.00	7,154.00	18,360.48	7,154.00	322.41	328.74	89.64	1,913.48	-12,844.60	953.81	304.98	648.83	1.470 Level 3		
18,100.00	7,154.00	18,460.48	7,154.00	325.09	331.41	89.64	1,913.55	-12,944.60	953.86	299.66	654.19	1.458 Level 3		
18,200.00	7,154.00	18,560.48	7,154.00	327.77	334.07	89.64	1,913.62	-13,044.60	953.90	294.34	659.56	1.446 Level 3		
18,300.00	7,154.00	18,660.48	7,154.00	330.45	336.74	89.64	1,913.70	-13,144.60	953.95	289.02	664.93	1.435 Level 3		
18,400.00	7,154.00	18,760.48	7,154.00	333.13	339.41	89.64	1,913.77	-13,244.60	954.00	283.70	670.30	1.423 Level 3		
18,500.00	7,154.00	18,860.48	7,154.00	335.82	342.07	89.64	1,913.84	-13,344.60	954.05	278.38	675.67	1.412 Level 3		
18,600.00	7,154.00	18,960.48	7,154.00	338.50	344.74	89.64	1,913.92	-13,444.60	954.10	273.06	681.04	1.401 Level 3		
18,700.00	7,154.00	19,060.48	7,154.00	341.18	347.41	89.64	1,913.99	-13,544.60	954.15	267.74	686.41	1.390 Level 3		
18,800.00	7,154.00	19,160.48	7,154.00	343.86	350.08	89.64	1,914.06	-13,644.60	954.19	262.41	691.78	1.379 Level 3		
18,900.00	7,154.00	19,260.48	7,154.00	346.55	352.75	89.64	1,914.14	-13,744.60	954.24	257.09	697.15	1.369 Level 3		
19,000.00	7,154.00	19,360.48	7,154.00	349.23	355.42	89.64	1,914.21	-13,844.60	954.29	251.77	702.52	1.358 Level 3		
19,100.00	7,154.00	19,460.48	7,154.00	351.92	358.09	89.64	1,914.28	-13,944.60	954.34	246.44	707.90	1.348 Level 3		
19,200.00	7,154.00	19,560.48	7,154.00	354.60	360.77	89.64	1,914.36	-14,044.60	954.39	241.12	713.27	1.338 Level 3		
19,300.00	7,154.00	19,660.48	7,154.00	357.29	363.44	89.64	1,914.43	-14,144.60	954.44	235.79	718.64	1.328 Level 3		
19,400.00	7,154.00	19,760.48	7,154.00	359.97	366.11	89.64	1,914.51	-14,244.60	954.48	230.47	724.02	1.318 Level 3		
19,500.00	7,154.00	19,860.48	7,154.00	362.66	368.78	89.64	1,914.58	-14,344.60	954.53	225.14	729.39	1.309 Level 3		
19,600.00	7,154.00	19,960.48	7,154.00	365.34	371.46	89.64	1,914.65	-14,444.60	954.58	219.81	734.77	1.299 Level 3		
19,700.00	7,154.00	20,060.48	7,154.00	368.03	374.13	89.64	1,914.73	-14,544.60	954.63	214.48	740.14	1.290 Level 3		
19,800.00	7,154.00	20,160.48	7,154.00	370.72	376.81	89.64	1,914.80	-14,644.60	954.68	209.16	745.52	1.281 Level 3		
19,900.00	7,154.00	20,260.48	7,154.00	373.40	379.48	89.64	1,914.87	-14,744.60	954.72	203.83	750.90	1.271 Level 3		
20,000.00	7,154.00	20,360.48	7,154.00	376.09	382.16	89.64	1,914.95	-14,844.60	954.77	198.50	756.27	1.262 Level 3		
20,100.00	7,154.00	20,460.48	7,154.00	378.78	384.83	89.64	1,915.02	-14,944.60	954.82	193.17	761.65	1.254 Level 3		
20,200.00	7,154.00	20,560.48	7,154.00	381.46	387.51	89.64	1,915.09	-15,044.60	954.87	187.84	767.03	1.245 Level 2		
20,300.00	7,154.00	20,660.48	7,154.00	384.15	390.18	89.64	1,915.17	-15,144.60	954.92	182.51	772.41	1.236 Level 2		
20,400.00	7,154.00	20,760.48	7,154.00	386.84	392.86	89.64	1,915.24	-15,244.60	954.97	177.18	777.79	1.228 Level 2		
20,500.00	7,154.00	20,860.48	7,154.00	389.53	395.54	89.64	1,915.31	-15,344.60	955.01	171.85	783.17	1.219 Level 2		
20,600.00	7,154.00	20,960.48	7,154.00	392.21	398.22	89.64	1,915.39	-15,444.60	955.06	166.52	788.55	1.211 Level 2		

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 WARBLER 13W-27-03
Project:	ADAMS COUNTY	TVD Reference:	KB 25' @ 5105.00usft
Reference Site:	Sec 13-T1S-R66W	MD Reference:	KB 25' @ 5105.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	WARBLER 13W-27-03	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT_32Bit_ODBC
Reference Design:	PROPOSAL 1	Offset TVD Reference:	Offset Datum

Offset Design Sec 13-T1S-R66W - WARBLER 13W-27-15 - OWB - PROPOSAL 1												Offset Site Error:	0.00 usft
Survey Program: 0-MWD OWSG												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	
20,700.00	7,154.00	21,060.48	7,154.00	394.90	400.89	89.64	1,915.46	-15,544.60	955.11	161.18	793.93	1.203	Level 2
20,800.00	7,154.00	21,160.48	7,154.00	397.59	403.57	89.64	1,915.53	-15,644.60	955.16	155.85	799.31	1.195	Level 2
20,900.00	7,154.00	21,260.48	7,154.00	400.28	406.25	89.64	1,915.61	-15,744.60	955.21	150.52	804.69	1.187	Level 2
21,000.00	7,154.00	21,360.48	7,154.00	402.97	408.93	89.64	1,915.68	-15,844.60	955.25	145.19	810.07	1.179	Level 2
21,100.00	7,154.00	21,460.48	7,154.00	405.66	411.61	89.64	1,915.76	-15,944.60	955.30	139.85	815.45	1.172	Level 2
21,200.00	7,154.00	21,560.48	7,154.00	408.35	414.29	89.64	1,915.83	-16,044.60	955.35	134.52	820.83	1.164	Level 2
21,300.00	7,154.00	21,660.48	7,154.00	411.04	416.97	89.64	1,915.90	-16,144.60	955.40	129.19	826.21	1.156	Level 2
21,400.00	7,154.00	21,760.48	7,154.00	413.73	419.65	89.64	1,915.98	-16,244.60	955.45	123.85	831.59	1.149	Level 2
21,500.00	7,154.00	21,860.48	7,154.00	416.42	422.33	89.64	1,916.05	-16,344.60	955.50	118.52	836.98	1.142	Level 2
21,573.27	7,154.00	21,933.75	7,154.00	418.39	424.29	89.64	1,916.10	-16,417.87	955.53	114.61	840.92	1.136	Level 2, ES, SF

Anticollision Report

Company:	EXTRACTION OIL & GAS	Local Co-ordinate Reference:	Well WARBLER 13W-27-03
Project:	ADAMS COUNTY	TVD Reference:	KB 25' @ 5105.00usft
Reference Site:	Sec 13-T1S-R66W	MD Reference:	KB 25' @ 5105.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	WARBLER 13W-27-03	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT_32Bit_ODBC
Reference Design:	PROPOSAL 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-MWD OWSG													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		
0.00	0.00	6.00	6.00	0.00	0.01	145.03	-211.65	148.01	258.27					
100.00	100.00	106.00	106.00	0.13	0.16	145.03	-211.65	148.01	258.27	257.98	0.29	889.478		
200.00	200.00	206.00	206.00	0.49	0.51	145.03	-211.65	148.01	258.27	257.26	1.01	256.398		
300.00	300.00	306.00	306.00	0.85	0.87	145.03	-211.65	148.01	258.27	256.55	1.72	149.788		
400.00	400.00	406.00	406.00	1.21	1.23	145.03	-211.65	148.01	258.27	255.83	2.44	105.797		
500.00	500.00	506.00	506.00	1.57	1.59	145.03	-211.65	148.01	258.27	255.11	3.16	81.780		
600.00	600.00	606.00	606.00	1.93	1.95	145.03	-211.65	148.01	258.27	254.40	3.88	66.649		
700.00	699.98	705.98	705.98	2.28	2.31	-146.57	-211.65	148.01	259.73	255.14	4.59	56.619		
800.00	799.84	805.84	805.84	2.63	2.66	-147.15	-211.65	148.01	264.11	258.81	5.30	49.843		
900.00	899.45	905.45	905.45	3.00	3.02	-148.06	-211.65	148.01	271.48	265.46	6.01	45.135		
1,000.00	998.70	1,005.17	1,005.17	3.37	3.38	-149.27	-211.65	148.01	281.90	275.17	6.74	41.850		
1,100.00	1,097.47	1,114.45	1,114.42	3.77	3.77	-150.70	-210.52	146.02	293.56	286.07	7.49	39.205		
1,200.00	1,195.62	1,224.34	1,224.11	4.19	4.16	-152.10	-207.31	140.38	304.87	296.63	8.24	36.998		
1,300.00	1,293.06	1,334.81	1,334.05	4.64	4.56	-153.47	-201.98	131.03	315.81	306.82	9.00	35.099		
1,400.00	1,389.64	1,445.86	1,444.06	5.12	4.97	-154.83	-194.51	117.92	326.38	316.62	9.76	33.441		
1,500.00	1,485.27	1,557.47	1,553.95	5.66	5.41	-156.18	-184.89	101.03	336.57	326.05	10.53	31.975		
1,600.00	1,579.82	1,669.62	1,663.54	6.24	5.88	-157.52	-173.09	80.32	346.37	335.07	11.30	30.661		
1,700.00	1,673.17	1,782.30	1,772.62	6.88	6.39	-158.86	-159.11	55.77	355.76	343.69	12.07	29.473		
1,800.00	1,765.22	1,895.50	1,880.99	7.57	6.94	-160.20	-142.94	27.38	364.73	351.88	12.85	28.388		
1,900.00	1,856.73	2,009.37	1,988.62	8.31	7.56	-161.49	-124.54	-4.91	371.30	357.68	13.62	27.257		
2,000.00	1,948.24	2,123.78	2,095.18	9.06	8.25	-162.62	-103.94	-41.07	374.09	359.69	14.40	25.983		
2,100.00	2,039.75	2,238.36	2,200.15	9.83	9.02	-163.62	-81.22	-80.96	373.05	357.88	15.17	24.599		
2,200.00	2,131.26	2,352.75	2,303.04	10.61	9.86	-164.53	-56.48	-124.39	368.14	352.22	15.92	23.119		
2,300.00	2,222.77	2,464.69	2,401.72	11.40	10.76	-165.36	-30.33	-170.28	359.41	342.72	16.68	21.541		
2,400.00	2,314.28	2,564.07	2,488.62	12.20	11.62	-166.10	-6.47	-212.18	349.26	331.72	17.55	19.904		
2,500.00	2,405.79	2,663.45	2,575.51	13.00	12.49	-166.89	17.40	-254.08	339.18	320.77	18.41	18.424		
2,600.00	2,497.30	2,762.83	2,662.41	13.81	13.39	-167.73	41.27	-295.98	329.17	309.90	19.27	17.082		
2,700.00	2,588.81	2,862.20	2,749.30	14.62	14.30	-168.62	65.14	-337.88	319.23	299.10	20.13	15.859		
2,800.00	2,680.31	2,961.58	2,836.20	15.44	15.23	-169.57	89.01	-379.78	309.37	288.38	20.99	14.741		
2,900.00	2,771.82	3,060.96	2,923.09	16.25	16.16	-170.58	112.88	-421.68	299.60	277.76	21.84	13.715		
3,000.00	2,863.33	3,160.34	3,009.99	17.08	17.10	-171.66	136.74	-463.58	289.93	267.23	22.70	12.771		
3,100.00	2,954.84	3,259.72	3,096.88	17.90	18.05	-172.81	160.61	-505.48	280.37	256.81	23.56	11.899		
3,200.00	3,046.35	3,359.09	3,183.78	18.72	19.01	-174.04	184.48	-547.38	270.93	246.50	24.43	11.090		
3,300.00	3,137.86	3,458.47	3,270.67	19.55	19.97	-175.36	208.35	-589.28	261.62	236.31	25.31	10.337		
3,400.00	3,229.37	3,557.85	3,357.57	20.38	20.94	-176.77	232.22	-631.18	252.46	226.25	26.21	9.633		
3,500.00	3,320.88	3,657.23	3,444.46	21.21	21.91	-178.29	256.09	-673.08	243.47	216.33	27.14	8.972		
3,600.00	3,412.39	3,756.61	3,531.36	22.04	22.88	-179.93	279.95	-714.98	234.65	206.55	28.10	8.350		
3,700.00	3,503.90	3,855.98	3,618.25	22.87	23.86	-178.31	303.82	-756.87	226.05	196.93	29.12	7.763		
3,800.00	3,595.41	3,955.36	3,705.15	23.70	24.84	-176.42	327.69	-798.77	217.67	187.46	30.21	7.206		
3,900.00	3,686.91	4,054.74	3,792.04	24.54	25.82	-174.37	351.56	-840.67	209.55	178.17	31.39	6.676		
4,000.00	3,778.42	4,154.12	3,878.94	25.37	26.81	-172.16	375.43	-882.57	201.72	169.04	32.68	6.173		
4,100.00	3,869.93	4,253.50	3,965.83	26.20	27.79	-169.79	399.30	-924.47	194.21	160.10	34.11	5.693		
4,200.00	3,961.44	4,352.87	4,052.73	27.04	28.78	-167.22	423.16	-966.37	187.07	151.35	35.71	5.238		
4,300.00	4,052.95	4,452.25	4,139.62	27.88	29.77	-164.46	447.03	-1,008.27	180.33	142.81	37.51	4.807		
4,400.00	4,144.46	4,551.63	4,226.52	28.71	30.76	-161.49	470.90	-1,050.17	174.04	134.50	39.54	4.402		
4,500.00	4,235.97	4,651.01	4,313.41	29.55	31.75	-158.32	494.77	-1,092.07	168.25	126.44	41.81	4.024		
4,600.00	4,327.48	4,750.39	4,400.31	30.39	32.75	-154.93	518.64	-1,133.97	163.02	118.68	44.34	3.676		
4,700.00	4,418.99	4,849.76	4,487.20	31.22	33.74	-151.33	542.51	-1,175.87	158.40	111.26	47.14	3.360		
4,800.00	4,510.50	4,949.14	4,574.10	32.06	34.73	-147.53	566.37	-1,217.77	154.45	104.25	50.20	3.077		
4,900.00	4,602.01	5,048.52	4,660.99	32.90	35.73	-143.56	590.24	-1,259.67	151.22	97.74	53.48	2.828		
5,000.00	4,693.51	5,147.90	4,747.89	33.74	36.73	-139.43	614.11	-1,301.57	148.75	91.81	56.94	2.612		
5,100.00	4,785.02	5,247.28	4,834.78	34.58	37.73	-135.19	637.98	-1,343.46	147.08	86.56	60.53	2.430		

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 WARBLER 13W-27-03
Project:	ADAMS COUNTY	TVD Reference:	KB 25' @ 5105.00usft
Reference Site:	Sec 13-T1S-R66W	MD Reference:	KB 25' @ 5105.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	WARBLER 13W-27-03	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT_32Bit_ODBC
Reference Design:	PROPOSAL 1	Offset TVD Reference:	Offset Datum

Offset Design													Sec 13-T1S-R66W - WARBLER 13W-27-16 - OWB - PROPOSAL 1		Offset Site Error: 0.00 usft	
Survey Program: 0-MWD OWSG													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)	Centre +E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor				
5,200.00	4,876.53	5,346.65	4,921.68	35.42	38.72	130.88	661.85	-1,385.36	146.25	82.08	64.16	2.279	CC			
5,248.59	4,921.00	5,405.06	4,963.90	35.83	39.31	128.77	673.44	-1,405.72	146.15	80.13	66.02	2.214				
5,300.00	4,968.04	5,446.03	5,008.57	36.26	39.72	126.54	685.72	-1,427.26	146.26	78.48	67.78	2.158				
5,400.00	5,059.55	5,545.41	5,095.47	37.10	40.72	122.23	709.58	-1,469.16	147.12	75.80	71.31	2.063				
5,500.00	5,151.06	5,644.79	5,182.36	37.94	41.72	117.99	733.45	-1,511.06	148.81	74.11	74.69	1.992				
5,600.00	5,242.57	5,744.17	5,269.26	38.78	42.72	113.87	757.32	-1,552.96	151.30	73.42	77.88	1.943				
5,700.00	5,334.08	5,843.54	5,356.15	39.62	43.72	109.90	781.19	-1,594.86	154.55	73.71	80.85	1.912				
5,800.00	5,425.59	5,942.92	5,443.05	40.46	44.72	106.11	805.06	-1,636.76	158.52	74.95	83.58	1.897				
5,900.00	5,517.10	6,042.30	5,529.94	41.30	45.73	102.52	828.92	-1,678.66	163.16	77.08	86.08	1.896				
6,000.00	5,608.61	6,141.68	5,616.84	42.14	46.73	99.13	852.79	-1,720.56	168.41	80.05	88.35	1.906				
6,100.00	5,700.12	6,241.06	5,703.73	42.98	47.73	95.96	876.66	-1,762.46	174.21	83.78	90.43	1.926				
6,200.00	5,791.62	6,340.43	5,790.63	43.82	48.73	93.00	900.53	-1,804.36	180.51	88.19	92.33	1.955				
6,300.00	5,883.13	6,439.81	5,877.52	44.66	49.74	90.25	924.40	-1,846.26	187.26	93.20	94.07	1.991				
6,400.00	5,974.64	6,539.19	5,964.42	45.50	50.74	87.69	948.27	-1,888.16	194.42	98.75	95.67	2.032				
6,500.00	6,066.15	6,638.57	6,051.31	46.35	51.74	85.31	972.13	-1,930.05	201.94	104.77	97.17	2.078				
6,600.00	6,157.66	6,737.95	6,138.21	47.19	52.75	83.11	996.00	-1,971.95	209.78	111.20	98.58	2.128				
6,700.00	6,249.17	6,837.32	6,225.10	48.03	53.75	81.07	1,019.87	-2,013.85	217.91	117.99	99.91	2.181				
6,800.00	6,340.68	6,936.70	6,312.00	48.87	54.76	79.18	1,043.74	-2,055.75	226.29	125.10	101.18	2.236				
6,900.00	6,432.19	7,036.08	6,398.89	49.71	55.76	77.42	1,067.61	-2,097.65	234.90	132.49	102.41	2.294				
7,000.00	6,523.70	7,135.46	6,485.79	50.55	56.76	75.79	1,091.48	-2,139.55	243.72	140.12	103.60	2.353				
7,100.00	6,615.21	7,234.84	6,572.69	51.40	57.77	74.27	1,115.34	-2,181.45	252.72	147.96	104.76	2.412				
7,200.00	6,706.72	7,334.22	6,659.58	52.24	58.77	72.86	1,139.21	-2,223.35	261.88	155.98	105.90	2.473				
7,300.00	6,798.22	7,433.59	6,746.48	53.08	59.78	71.54	1,163.08	-2,265.25	271.19	164.17	107.02	2.534				
7,400.00	6,886.25	7,532.94	6,833.34	54.07	60.79	70.22	1,186.94	-2,307.13	281.21	172.08	109.14	2.577				
7,500.00	6,965.23	7,639.72	6,922.25	55.35	62.04	68.84	1,211.37	-2,360.68	291.54	178.92	112.62	2.589				
7,600.00	7,032.75	7,749.18	7,001.84	56.90	63.64	66.83	1,233.24	-2,432.32	300.73	184.47	116.26	2.587				
7,700.00	7,086.77	7,861.00	7,068.08	58.68	65.59	64.81	1,251.46	-2,520.32	308.32	188.43	119.89	2.572				
7,800.00	7,125.64	7,974.76	7,117.28	60.64	67.78	62.88	1,265.01	-2,621.79	313.92	190.58	123.34	2.545				
7,900.00	7,148.19	8,089.90	7,146.44	62.69	70.12	60.95	1,273.06	-2,732.68	317.22	190.72	126.50	2.508				
8,000.00	7,154.00	8,202.82	7,154.00	64.75	72.41	58.92	1,275.18	-2,845.17	318.08	188.46	129.62	2.454				
8,100.00	7,154.00	8,302.82	7,154.00	66.83	74.44	58.92	1,275.22	-2,945.17	318.10	184.12	133.98	2.374				
8,200.00	7,154.00	8,402.82	7,154.00	68.96	76.51	58.92	1,275.26	-3,045.17	318.11	179.71	138.40	2.298				
8,300.00	7,154.00	8,502.82	7,154.00	71.12	78.62	58.92	1,275.30	-3,145.17	318.13	175.23	142.90	2.226				
8,400.00	7,154.00	8,602.82	7,154.00	73.32	80.77	58.92	1,275.34	-3,245.17	318.14	170.69	147.46	2.158				
8,500.00	7,154.00	8,702.82	7,154.00	75.55	82.94	58.92	1,275.39	-3,345.17	318.16	166.09	152.07	2.092				
8,600.00	7,154.00	8,802.82	7,154.00	77.81	85.15	58.92	1,275.43	-3,445.17	318.18	161.44	156.73	2.030				
8,700.00	7,154.00	8,902.82	7,154.00	80.10	87.38	58.92	1,275.47	-3,545.17	318.19	156.75	161.44	1.971				
8,800.00	7,154.00	9,002.82	7,154.00	82.41	89.64	58.92	1,275.51	-3,645.17	318.21	152.01	166.19	1.915				
8,900.00	7,154.00	9,102.82	7,154.00	84.75	91.92	58.92	1,275.55	-3,745.17	318.22	147.24	170.98	1.861				
9,000.00	7,154.00	9,202.82	7,154.00	87.11	94.23	58.92	1,275.59	-3,845.17	318.24	142.43	175.81	1.810				
9,100.00	7,154.00	9,302.82	7,154.00	89.48	96.55	58.92	1,275.63	-3,945.17	318.26	137.58	180.67	1.762				
9,200.00	7,154.00	9,402.82	7,154.00	91.88	98.90	58.92	1,275.67	-4,045.17	318.27	132.71	185.56	1.715				
9,300.00	7,154.00	9,502.82	7,154.00	94.29	101.26	58.92	1,275.72	-4,145.17	318.29	127.81	190.48	1.671				
9,400.00	7,154.00	9,602.82	7,154.00	96.72	103.64	58.92	1,275.76	-4,245.17	318.30	122.88	195.42	1.629				
9,500.00	7,154.00	9,702.82	7,154.00	99.16	106.03	58.92	1,275.80	-4,345.17	318.32	117.93	200.39	1.588				
9,600.00	7,154.00	9,802.82	7,154.00	101.61	108.44	58.92	1,275.84	-4,445.17	318.34	112.96	205.38	1.550				
9,700.00	7,154.00	9,902.82	7,154.00	104.08	110.86	58.92	1,275.88	-4,545.17	318.35	107.96	210.39	1.513				
9,800.00	7,154.00	10,002.82	7,154.00	106.56	113.30	58.92	1,275.92	-4,645.17	318.37	102.95	215.42	1.478				
9,900.00	7,154.00	10,102.82	7,154.00	109.05	115.75	58.92	1,275.96	-4,745.17	318.38	97.92	220.47	1.444	Level 3			
10,000.00	7,154.00	10,202.82	7,154.00	111.55	118.21	58.92	1,276.01	-4,845.17	318.40	92.87	225.53	1.412	Level 3			
10,100.00	7,154.00	10,302.82	7,154.00	114.06	120.68	58.92	1,276.05	-4,945.17	318.42	87.80	230.61	1.381	Level 3			
10,200.00	7,154.00	10,402.82	7,154.00	116.57	123.16	58.92	1,276.09	-5,045.17	318.43	82.73	235.71	1.351	Level 3			

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 WARBLER 13W-27-03
Project:	ADAMS COUNTY	TVD Reference:	KB 25' @ 5105.00usft
Reference Site:	Sec 13-T1S-R66W	MD Reference:	KB 25' @ 5105.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	WARBLER 13W-27-03	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT_32Bit_ODBC
Reference Design:	PROPOSAL 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-MWD OWSG													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		
10,300.00	7,154.00	10,502.82	7,154.00	119.10	125.64	88.92	1,276.13	-5,145.17	318.45	77.63	240.81	1.322	Level 3	
10,400.00	7,154.00	10,602.82	7,154.00	121.63	128.14	88.92	1,276.17	-5,245.17	318.46	72.53	245.93	1.295	Level 3	
10,500.00	7,154.00	10,702.82	7,154.00	124.17	130.65	88.92	1,276.21	-5,345.17	318.48	67.41	251.07	1.269	Level 3	
10,600.00	7,154.00	10,802.82	7,154.00	126.72	133.16	88.92	1,276.25	-5,445.17	318.50	62.29	256.21	1.243	Level 2	
10,700.00	7,154.00	10,902.82	7,154.00	129.28	135.68	88.92	1,276.30	-5,545.17	318.51	57.15	261.37	1.219	Level 2	
10,800.00	7,154.00	11,002.82	7,154.00	131.84	138.21	88.92	1,276.34	-5,645.17	318.53	52.00	266.53	1.195	Level 2	
10,900.00	7,154.00	11,102.82	7,154.00	134.40	140.75	88.92	1,276.38	-5,745.17	318.54	46.84	271.70	1.172	Level 2	
11,000.00	7,154.00	11,202.82	7,154.00	136.97	143.29	88.92	1,276.42	-5,845.17	318.56	41.67	276.89	1.151	Level 2	
11,100.00	7,154.00	11,302.82	7,154.00	139.55	145.84	88.92	1,276.46	-5,945.17	318.58	36.50	282.08	1.129	Level 2	
11,200.00	7,154.00	11,402.82	7,154.00	142.13	148.39	88.92	1,276.50	-6,045.17	318.59	31.32	287.28	1.109	Level 2	
11,300.00	7,154.00	11,502.82	7,154.00	144.72	150.95	88.92	1,276.54	-6,145.17	318.61	26.13	292.48	1.089	Level 2	
11,400.00	7,154.00	11,602.82	7,154.00	147.30	153.51	88.92	1,276.58	-6,245.17	318.62	20.93	297.70	1.070	Level 2	
11,500.00	7,154.00	11,702.82	7,154.00	149.90	156.08	88.92	1,276.63	-6,345.17	318.64	15.72	302.92	1.052	Level 2	
11,600.00	7,154.00	11,802.82	7,154.00	152.50	158.65	88.92	1,276.67	-6,445.17	318.66	10.51	308.14	1.034	Level 2	
11,700.00	7,154.00	11,902.82	7,154.00	155.10	161.23	88.92	1,276.71	-6,545.17	318.67	5.30	313.38	1.017	Level 2	
11,800.00	7,154.00	12,002.82	7,154.00	157.70	163.81	88.92	1,276.75	-6,645.17	318.69	0.07	318.62	1.000	Level 2	
11,900.00	7,154.00	12,102.82	7,154.00	160.31	166.40	88.92	1,276.79	-6,745.17	318.71	-5.16	323.86	0.984	Level 1	
12,000.00	7,154.00	12,202.82	7,154.00	162.92	168.99	88.92	1,276.83	-6,845.17	318.72	-10.39	329.11	0.968	Level 1	
12,100.00	7,154.00	12,302.82	7,154.00	165.54	171.58	88.92	1,276.87	-6,945.17	318.74	-15.63	334.36	0.953	Level 1	
12,200.00	7,154.00	12,402.82	7,154.00	168.15	174.18	88.92	1,276.92	-7,045.17	318.75	-20.87	339.62	0.939	Level 1	
12,300.00	7,154.00	12,502.82	7,154.00	170.77	176.77	88.92	1,276.96	-7,145.17	318.77	-26.12	344.89	0.924	Level 1	
12,400.00	7,154.00	12,602.82	7,154.00	173.39	179.38	88.92	1,277.00	-7,245.17	318.79	-31.37	350.16	0.910	Level 1	
12,500.00	7,154.00	12,702.82	7,154.00	176.02	181.98	88.92	1,277.04	-7,345.17	318.80	-36.63	355.43	0.897	Level 1	
12,600.00	7,154.00	12,802.82	7,154.00	178.65	184.59	88.92	1,277.08	-7,445.17	318.82	-41.89	360.70	0.884	Level 1	
12,700.00	7,154.00	12,902.82	7,154.00	181.28	187.20	88.92	1,277.12	-7,545.17	318.83	-47.15	365.98	0.871	Level 1	
12,800.00	7,154.00	13,002.82	7,154.00	183.91	189.82	88.92	1,277.16	-7,645.17	318.85	-52.42	371.27	0.859	Level 1	
12,900.00	7,154.00	13,102.82	7,154.00	186.54	192.43	88.92	1,277.21	-7,745.17	318.87	-57.69	376.56	0.847	Level 1	
13,000.00	7,154.00	13,202.82	7,154.00	189.18	195.05	88.92	1,277.25	-7,845.17	318.88	-62.96	381.85	0.835	Level 1	
13,100.00	7,154.00	13,302.82	7,154.00	191.81	197.67	88.92	1,277.29	-7,945.17	318.90	-68.24	387.14	0.824	Level 1	
13,200.00	7,154.00	13,402.82	7,154.00	194.45	200.30	88.92	1,277.33	-8,045.17	318.91	-73.52	392.44	0.813	Level 1	
13,300.00	7,154.00	13,502.82	7,154.00	197.10	202.92	88.92	1,277.37	-8,145.17	318.93	-78.81	397.74	0.802	Level 1	
13,400.00	7,154.00	13,602.82	7,154.00	199.74	205.55	88.92	1,277.41	-8,245.17	318.95	-84.09	403.04	0.791	Level 1	
13,500.00	7,154.00	13,702.82	7,154.00	202.38	208.18	88.92	1,277.45	-8,345.17	318.96	-89.38	408.34	0.781	Level 1	
13,600.00	7,154.00	13,802.82	7,154.00	205.03	210.81	88.92	1,277.49	-8,445.17	318.98	-94.67	413.65	0.771	Level 1	
13,700.00	7,154.00	13,902.82	7,154.00	207.68	213.44	88.92	1,277.54	-8,545.17	318.99	-99.97	418.96	0.761	Level 1	
13,800.00	7,154.00	14,002.82	7,154.00	210.33	216.08	88.92	1,277.58	-8,645.17	319.01	-105.27	424.28	0.752	Level 1	
13,900.00	7,154.00	14,102.82	7,154.00	212.98	218.72	88.92	1,277.62	-8,745.17	319.03	-110.56	429.59	0.743	Level 1	
14,000.00	7,154.00	14,202.82	7,154.00	215.63	221.35	88.92	1,277.66	-8,845.17	319.04	-115.87	434.91	0.734	Level 1	
14,100.00	7,154.00	14,302.82	7,154.00	218.28	223.99	88.92	1,277.70	-8,945.17	319.06	-121.17	440.23	0.725	Level 1	
14,200.00	7,154.00	14,402.82	7,154.00	220.93	226.64	88.92	1,277.74	-9,045.17	319.07	-126.48	445.55	0.716	Level 1	
14,300.00	7,154.00	14,502.82	7,154.00	223.59	229.28	88.92	1,277.78	-9,145.17	319.09	-131.78	450.87	0.708	Level 1	
14,400.00	7,154.00	14,602.82	7,154.00	226.25	231.92	88.92	1,277.83	-9,245.17	319.11	-137.09	456.20	0.699	Level 1	
14,500.00	7,154.00	14,702.82	7,154.00	228.90	234.57	88.92	1,277.87	-9,345.17	319.12	-142.40	461.53	0.691	Level 1	
14,600.00	7,154.00	14,802.82	7,154.00	231.56	237.22	88.92	1,277.91	-9,445.17	319.14	-147.72	466.86	0.684	Level 1	
14,700.00	7,154.00	14,902.82	7,154.00	234.22	239.86	88.92	1,277.95	-9,545.17	319.15	-153.03	472.19	0.676	Level 1	
14,800.00	7,154.00	15,002.82	7,154.00	236.88	242.51	88.92	1,277.99	-9,645.17	319.17	-158.35	477.52	0.668	Level 1	
14,900.00	7,154.00	15,102.82	7,154.00	239.55	245.16	88.92	1,278.03	-9,745.17	319.19	-163.67	482.85	0.661	Level 1	
15,000.00	7,154.00	15,202.82	7,154.00	242.21	247.82	88.92	1,278.07	-9,845.17	319.20	-168.99	488.19	0.654	Level 1	
15,100.00	7,154.00	15,302.82	7,154.00	244.87	250.47	88.92	1,278.11	-9,945.17	319.22	-174.31	493.53	0.647	Level 1	
15,200.00	7,154.00	15,402.82	7,154.00	247.54	253.12	88.92	1,278.16	-10,045.17	319.23	-179.63	498.87	0.640	Level 1	
15,300.00	7,154.00	15,502.82	7,154.00	250.20	255.78	88.92	1,278.20	-10,145.17	319.25	-184.96	504.21	0.633	Level 1	
15,400.00	7,154.00	15,602.82	7,154.00	252.87	258.44	88.92	1,278.24	-10,245.17	319.27	-190.28	509.55	0.627	Level 1	

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 WARBLER 13W-27-03
Project:	ADAMS COUNTY	TVD Reference:	KB 25' @ 5105.00usft
Reference Site:	Sec 13-T1S-R66W	MD Reference:	KB 25' @ 5105.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	WARBLER 13W-27-03	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT_32Bit_ODBC
Reference Design:	PROPOSAL 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-MWD OWSG													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		
15,500.00	7,154.00	15,702.82	7,154.00	255.53	261.09	88.92	1,278.28	-10,345.17	319.28	-195.61	514.89	0.620	Level 1	
15,600.00	7,154.00	15,802.82	7,154.00	258.20	263.75	88.92	1,278.32	-10,445.17	319.30	-200.94	520.24	0.614	Level 1	
15,700.00	7,154.00	15,902.82	7,154.00	260.87	266.41	88.92	1,278.36	-10,545.17	319.31	-206.27	525.58	0.608	Level 1	
15,800.00	7,154.00	16,002.82	7,154.00	263.54	269.07	88.92	1,278.40	-10,645.17	319.33	-211.60	530.93	0.601	Level 1	
15,900.00	7,154.00	16,102.82	7,154.00	266.21	271.73	88.92	1,278.45	-10,745.17	319.35	-216.93	536.28	0.595	Level 1	
16,000.00	7,154.00	16,202.82	7,154.00	268.88	274.39	88.92	1,278.49	-10,845.17	319.36	-222.26	541.63	0.590	Level 1	
16,100.00	7,154.00	16,302.82	7,154.00	271.55	277.06	88.92	1,278.53	-10,945.17	319.38	-227.60	546.98	0.584	Level 1	
16,200.00	7,154.00	16,402.82	7,154.00	274.22	279.72	88.92	1,278.57	-11,045.17	319.40	-232.93	552.33	0.578	Level 1	
16,300.00	7,154.00	16,502.82	7,154.00	276.90	282.38	88.92	1,278.61	-11,145.17	319.41	-238.27	557.68	0.573	Level 1	
16,400.00	7,154.00	16,602.82	7,154.00	279.57	285.05	88.92	1,278.65	-11,245.17	319.43	-243.61	563.03	0.567	Level 1	
16,500.00	7,154.00	16,702.82	7,154.00	282.24	287.71	88.92	1,278.69	-11,345.17	319.44	-248.95	568.39	0.562	Level 1	
16,600.00	7,154.00	16,802.82	7,154.00	284.92	290.38	88.92	1,278.74	-11,445.17	319.46	-254.29	573.74	0.557	Level 1	
16,700.00	7,154.00	16,902.82	7,154.00	287.59	293.05	88.92	1,278.78	-11,545.17	319.48	-259.63	579.10	0.552	Level 1	
16,800.00	7,154.00	17,002.82	7,154.00	290.27	295.72	88.92	1,278.82	-11,645.17	319.49	-264.97	584.46	0.547	Level 1	
16,900.00	7,154.00	17,102.82	7,154.00	292.94	298.38	88.92	1,278.86	-11,745.17	319.51	-270.31	589.82	0.542	Level 1	
17,000.00	7,154.00	17,202.82	7,154.00	295.62	301.05	88.92	1,278.90	-11,845.17	319.52	-275.65	595.18	0.537	Level 1	
17,100.00	7,154.00	17,302.82	7,154.00	298.29	303.72	88.92	1,278.94	-11,945.17	319.54	-281.00	600.54	0.532	Level 1	
17,200.00	7,154.00	17,402.82	7,154.00	300.97	306.39	88.92	1,278.98	-12,045.17	319.56	-286.34	605.90	0.527	Level 1	
17,300.00	7,154.00	17,502.82	7,154.00	303.65	309.06	88.92	1,279.02	-12,145.17	319.57	-291.69	611.26	0.523	Level 1	
17,400.00	7,154.00	17,602.82	7,154.00	306.33	311.73	88.92	1,279.07	-12,245.17	319.59	-297.03	616.62	0.518	Level 1	
17,500.00	7,154.00	17,702.82	7,154.00	309.01	314.41	88.92	1,279.11	-12,345.17	319.60	-302.38	621.98	0.514	Level 1	
17,600.00	7,154.00	17,802.82	7,154.00	311.69	317.08	88.92	1,279.15	-12,445.17	319.62	-307.73	627.35	0.509	Level 1	
17,700.00	7,154.00	17,902.82	7,154.00	314.37	319.75	88.92	1,279.19	-12,545.17	319.64	-313.08	632.71	0.505	Level 1	
17,800.00	7,154.00	18,002.82	7,154.00	317.05	322.43	88.92	1,279.23	-12,645.17	319.65	-318.43	638.08	0.501	Level 1	
17,900.00	7,154.00	18,102.82	7,154.00	319.73	325.10	88.92	1,279.27	-12,745.17	319.67	-323.78	643.44	0.497	Level 1	
18,000.00	7,154.00	18,202.82	7,154.00	322.41	327.77	88.92	1,279.31	-12,845.17	319.68	-329.13	648.81	0.493	Level 1	
18,100.00	7,154.00	18,302.82	7,154.00	325.09	330.45	88.92	1,279.36	-12,945.17	319.70	-334.48	654.18	0.489	Level 1	
18,200.00	7,154.00	18,402.82	7,154.00	327.77	333.13	88.92	1,279.40	-13,045.17	319.72	-339.83	659.55	0.485	Level 1	
18,300.00	7,154.00	18,502.82	7,154.00	330.45	335.80	88.92	1,279.44	-13,145.17	319.73	-345.18	664.92	0.481	Level 1	
18,400.00	7,154.00	18,602.82	7,154.00	333.13	338.48	88.92	1,279.48	-13,245.17	319.75	-350.54	670.28	0.477	Level 1	
18,500.00	7,154.00	18,702.82	7,154.00	335.82	341.15	88.92	1,279.52	-13,345.17	319.76	-355.89	675.65	0.473	Level 1	
18,600.00	7,154.00	18,802.82	7,154.00	338.50	343.83	88.92	1,279.56	-13,445.17	319.78	-361.24	681.02	0.470	Level 1	
18,700.00	7,154.00	18,902.82	7,154.00	341.18	346.51	88.92	1,279.60	-13,545.17	319.80	-366.60	686.40	0.466	Level 1	
18,800.00	7,154.00	19,002.82	7,154.00	343.86	349.19	88.93	1,279.65	-13,645.17	319.81	-371.95	691.77	0.462	Level 1	
18,900.00	7,154.00	19,102.82	7,154.00	346.55	351.87	88.93	1,279.69	-13,745.17	319.83	-377.31	697.14	0.459	Level 1	
19,000.00	7,154.00	19,202.82	7,154.00	349.23	354.54	88.93	1,279.73	-13,845.17	319.84	-382.67	702.51	0.455	Level 1	
19,100.00	7,154.00	19,302.82	7,154.00	351.92	357.22	88.93	1,279.77	-13,945.17	319.86	-388.02	707.88	0.452	Level 1	
19,200.00	7,154.00	19,402.82	7,154.00	354.60	359.90	88.93	1,279.81	-14,045.17	319.88	-393.38	713.26	0.448	Level 1	
19,300.00	7,154.00	19,502.82	7,154.00	357.29	362.58	88.93	1,279.85	-14,145.17	319.89	-398.74	718.63	0.445	Level 1	
19,400.00	7,154.00	19,602.82	7,154.00	359.97	365.26	88.93	1,279.89	-14,245.17	319.91	-404.10	724.01	0.442	Level 1	
19,500.00	7,154.00	19,702.82	7,154.00	362.66	367.94	88.93	1,279.93	-14,345.17	319.92	-409.46	729.38	0.439	Level 1	
19,600.00	7,154.00	19,802.82	7,154.00	365.34	370.63	88.93	1,279.98	-14,445.17	319.94	-414.82	734.76	0.435	Level 1	
19,700.00	7,154.00	19,902.82	7,154.00	368.03	373.31	88.93	1,280.02	-14,545.17	319.96	-420.18	740.13	0.432	Level 1	
19,800.00	7,154.00	20,002.82	7,154.00	370.72	375.99	88.93	1,280.06	-14,645.17	319.97	-425.54	745.51	0.429	Level 1	
19,900.00	7,154.00	20,102.82	7,154.00	373.40	378.67	88.93	1,280.10	-14,745.17	319.99	-430.90	750.89	0.426	Level 1	
20,000.00	7,154.00	20,202.83	7,154.00	376.09	381.35	88.93	1,280.14	-14,845.17	320.00	-436.26	756.26	0.423	Level 1	
20,100.00	7,154.00	20,302.83	7,154.00	378.78	384.04	88.93	1,280.18	-14,945.17	320.02	-441.62	761.64	0.420	Level 1	
20,200.00	7,154.00	20,402.83	7,154.00	381.46	386.72	88.93	1,280.22	-15,045.17	320.04	-446.98	767.02	0.417	Level 1	
20,300.00	7,154.00	20,502.83	7,154.00	384.15	389.40	88.93	1,280.27	-15,145.17	320.05	-452.35	772.40	0.414	Level 1	
20,400.00	7,154.00	20,602.83	7,154.00	386.84	392.08	88.93	1,280.31	-15,245.17	320.07	-457.71	777.78	0.412	Level 1	
20,500.00	7,154.00	20,702.83	7,154.00	389.53	394.77	88.93	1,280.35	-15,345.17	320.09	-463.07	783.16	0.409	Level 1	
20,600.00	7,154.00	20,802.83	7,154.00	392.21	397.45	88.93	1,280.39	-15,445.17	320.10	-468.44	788.54	0.406	Level 1	

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 WARBLER 13W-27-03
Project:	ADAMS COUNTY	TVD Reference:	KB 25' @ 5105.00usft
Reference Site:	Sec 13-T1S-R66W	MD Reference:	KB 25' @ 5105.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	WARBLER 13W-27-03	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT_32Bit_ODBC
Reference Design:	PROPOSAL 1	Offset TVD Reference:	Offset Datum

Offset Design Sec 13-T1S-R66W - WARBLER 13W-27-16 - OWB - PROPOSAL 1												Offset Site Error:	0.00 usft
Survey Program: 0-MWD OWSG												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
20,700.00	7,154.00	20,902.83	7,154.00	394.90	400.14	88.93	1,280.43	-15,545.17	320.12	-473.80	793.92	0.403	Level 1
20,800.00	7,154.00	21,002.83	7,154.00	397.59	402.82	88.93	1,280.47	-15,645.17	320.13	-479.16	799.30	0.401	Level 1
20,900.00	7,154.00	21,102.83	7,154.00	400.28	405.51	88.93	1,280.51	-15,745.17	320.15	-484.53	804.68	0.398	Level 1
21,000.00	7,154.00	21,202.83	7,154.00	402.97	408.19	88.93	1,280.56	-15,845.17	320.17	-489.89	810.06	0.395	Level 1
21,100.00	7,154.00	21,302.83	7,154.00	405.66	410.88	88.93	1,280.60	-15,945.17	320.18	-495.26	815.44	0.393	Level 1
21,200.00	7,154.00	21,402.83	7,154.00	408.35	413.56	88.93	1,280.64	-16,045.17	320.20	-500.62	820.82	0.390	Level 1
21,300.00	7,154.00	21,502.83	7,154.00	411.04	416.25	88.93	1,280.68	-16,145.17	320.21	-505.99	826.20	0.388	Level 1
21,400.00	7,154.00	21,602.83	7,154.00	413.73	418.93	88.93	1,280.72	-16,245.17	320.23	-511.36	831.59	0.385	Level 1
21,500.00	7,154.00	21,702.83	7,154.00	416.42	421.62	88.93	1,280.76	-16,345.17	320.25	-516.72	836.97	0.383	Level 1
21,573.27	7,154.00	21,776.09	7,154.00	418.39	423.59	88.93	1,280.79	-16,418.44	320.26	-520.65	840.91	0.381	Level 1, ES, SF

Anticollision Report

Company:	EXTRACTION OIL & GAS	Local Co-ordinate Reference:	Well WARBLER 13W-27-03
Project:	ADAMS COUNTY	TVD Reference:	KB 25' @ 5105.00usft
Reference Site:	Sec 13-T1S-R66W	MD Reference:	KB 25' @ 5105.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	WARBLER 13W-27-03	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT_32Bit_ODBC
Reference Design:	PROPOSAL 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-MWD OWSG													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		
0.00	0.00	6.00	6.00	0.00	0.01	148.35	-239.70	147.73	281.57					
100.00	100.00	106.00	106.00	0.13	0.16	148.35	-239.70	147.73	281.57	281.28	0.29	969.706		
200.00	200.00	206.00	206.00	0.49	0.51	148.35	-239.70	147.73	281.57	280.56	1.01	279.524		
300.00	300.00	306.00	306.00	0.85	0.87	148.35	-239.70	147.73	281.57	279.84	1.72	163.298		
400.00	400.00	406.00	406.00	1.21	1.23	148.35	-239.70	147.73	281.57	279.12	2.44	115.340		
500.00	500.00	506.00	506.00	1.57	1.59	148.35	-239.70	147.73	281.57	278.41	3.16	89.156		
600.00	600.00	606.00	606.00	1.93	1.95	148.35	-239.70	147.73	281.57	277.69	3.88	72.661 CC		
700.00	699.98	705.98	705.98	2.28	2.31	-143.25	-239.70	147.73	282.96	278.38	4.59	61.684		
800.00	799.84	805.84	805.84	2.63	2.66	-143.82	-239.70	147.73	287.17	281.87	5.30	54.195		
900.00	899.45	905.45	905.45	3.00	3.02	-144.74	-239.70	147.73	294.26	288.24	6.02	48.920		
1,000.00	998.70	1,004.70	1,004.70	3.37	3.38	-145.95	-239.70	147.73	304.31	297.57	6.74	45.175		
1,100.00	1,097.47	1,103.81	1,103.81	3.77	3.73	-147.39	-239.70	147.73	317.43	309.96	7.46	42.533		
1,200.00	1,195.62	1,212.53	1,212.50	4.19	4.12	-148.96	-238.99	145.64	332.06	323.84	8.22	40.389		
1,300.00	1,293.06	1,322.01	1,321.79	4.64	4.50	-150.35	-236.96	139.58	346.74	337.75	8.98	38.596		
1,400.00	1,389.64	1,432.27	1,431.52	5.12	4.90	-151.57	-233.57	129.49	361.39	351.63	9.76	37.039		
1,500.00	1,485.27	1,543.29	1,541.53	5.66	5.31	-152.64	-228.80	115.28	375.95	365.41	10.54	35.661		
1,600.00	1,579.82	1,655.08	1,651.61	6.24	5.75	-153.58	-222.62	96.91	390.36	379.02	11.34	34.422		
1,700.00	1,673.17	1,767.63	1,761.60	6.88	6.21	-154.40	-215.03	74.32	404.58	392.42	12.16	33.279		
1,800.00	1,765.22	1,880.93	1,871.29	7.57	6.72	-155.12	-206.01	47.46	418.53	405.53	12.99	32.209		
1,900.00	1,856.73	1,995.24	1,980.74	8.31	7.28	-155.71	-195.51	16.21	430.27	416.42	13.85	31.071		
2,000.00	1,948.24	2,110.50	2,089.68	9.06	7.90	-156.00	-183.52	-19.46	438.48	423.76	14.73	29.774		
2,100.00	2,039.75	2,226.34	2,197.54	9.83	8.60	-156.01	-170.08	-59.47	443.10	427.46	15.64	28.329		
2,200.00	2,131.26	2,342.38	2,303.80	10.61	9.37	-155.76	-155.23	-103.66	444.10	427.51	16.59	26.768		
2,300.00	2,222.77	2,458.24	2,407.92	11.40	10.22	-155.22	-139.05	-151.81	441.51	423.93	17.58	25.109		
2,400.00	2,314.28	2,558.54	2,497.10	12.20	11.02	-154.62	-124.43	-195.32	437.05	418.38	18.67	23.410		
2,500.00	2,405.79	2,658.33	2,585.83	13.00	11.84	-154.01	-109.89	-238.62	432.64	412.85	19.79	21.863		
2,600.00	2,497.30	2,758.13	2,674.56	13.81	12.68	-153.39	-95.34	-281.92	428.28	407.34	20.94	20.454		
2,700.00	2,588.81	2,857.92	2,763.29	14.62	13.53	-152.76	-80.79	-325.22	423.96	401.84	22.12	19.166		
2,800.00	2,680.31	2,957.72	2,852.01	15.44	14.40	-152.11	-66.24	-368.51	419.71	396.37	23.33	17.987		
2,900.00	2,771.82	3,057.51	2,940.74	16.25	15.28	-151.45	-51.69	-411.81	415.50	390.93	24.58	16.907		
3,000.00	2,863.33	3,157.31	3,029.47	17.08	16.17	-150.77	-37.15	-455.11	411.36	385.51	25.85	15.914		
3,100.00	2,954.84	3,257.11	3,118.20	17.90	17.07	-150.09	-22.60	-498.41	407.27	380.11	27.15	15.000		
3,200.00	3,046.35	3,356.90	3,206.93	18.72	17.98	-149.38	-8.05	-541.70	403.24	374.75	28.48	14.156		
3,300.00	3,137.86	3,456.70	3,295.66	19.55	18.89	-148.67	6.50	-585.00	399.27	369.42	29.85	13.377		
3,400.00	3,229.37	3,556.49	3,384.39	20.38	19.81	-147.94	21.04	-628.30	395.37	364.13	31.24	12.656		
3,500.00	3,320.88	3,656.29	3,473.12	21.21	20.73	-147.19	35.59	-671.60	391.53	358.86	32.66	11.987		
3,600.00	3,412.39	3,756.08	3,561.85	22.04	21.65	-146.44	50.14	-714.89	387.76	353.64	34.12	11.365		
3,700.00	3,503.90	3,855.88	3,650.57	22.87	22.58	-145.66	64.69	-758.19	384.06	348.45	35.60	10.787		
3,800.00	3,595.41	3,955.67	3,739.30	23.70	23.51	-144.87	79.24	-801.49	380.43	343.31	37.12	10.249		
3,900.00	3,686.91	4,055.47	3,828.03	24.54	24.45	-144.07	93.78	-844.79	376.87	338.20	38.67	9.746		
4,000.00	3,778.42	4,155.26	3,916.76	25.37	25.38	-143.25	108.33	-888.08	373.39	333.14	40.25	9.277		
4,100.00	3,869.93	4,255.06	4,005.49	26.20	26.32	-142.42	122.88	-931.38	369.98	328.13	41.86	8.839		
4,200.00	3,961.44	4,354.86	4,094.22	27.04	27.26	-141.57	137.43	-974.68	366.66	323.16	43.50	8.429		
4,300.00	4,052.95	4,454.65	4,182.95	27.88	28.20	-140.71	151.98	-1,017.98	363.42	318.24	45.18	8.044		
4,400.00	4,144.46	4,554.45	4,271.68	28.71	29.15	-139.83	166.52	-1,061.27	360.26	313.38	46.89	7.684		
4,500.00	4,235.97	4,654.24	4,360.40	29.55	30.09	-138.93	181.07	-1,104.57	357.19	308.56	48.63	7.346		
4,600.00	4,327.48	4,754.04	4,449.13	30.39	31.04	-138.02	195.62	-1,147.87	354.21	303.81	50.40	7.028		
4,700.00	4,418.99	4,853.83	4,537.86	31.22	31.98	-137.10	210.17	-1,191.17	351.32	299.12	52.20	6.730		
4,800.00	4,510.50	4,953.63	4,626.59	32.06	32.93	-136.16	224.71	-1,234.47	348.52	294.48	54.04	6.449		
4,900.00	4,602.01	5,053.42	4,715.32	32.90	33.88	-135.20	239.26	-1,277.76	345.82	289.91	55.91	6.186		
5,000.00	4,693.51	5,153.22	4,804.05	33.74	34.83	-134.23	253.81	-1,321.06	343.22	285.41	57.80	5.938		
5,100.00	4,785.02	5,253.01	4,892.78	34.58	35.78	-133.25	268.36	-1,364.36	340.71	280.98	59.73	5.704		

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 WARBLER 13W-27-03
Project:	ADAMS COUNTY	TVD Reference:	KB 25' @ 5105.00usft
Reference Site:	Sec 13-T1S-R66W	MD Reference:	KB 25' @ 5105.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	WARBLER 13W-27-03	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT_32Bit_ODBC
Reference Design:	PROPOSAL 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-MWD OWSG													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		
5,200.00	4,876.53	5,352.81	4,981.51	35.42	36.73	-132.25	282.91	-1,407.66	338.31	276.63	61.69	5.484		
5,300.00	4,968.04	5,452.60	5,070.24	36.26	37.69	-131.24	297.45	-1,450.95	336.01	272.34	63.67	5.277		
5,400.00	5,059.55	5,552.40	5,158.96	37.10	38.64	-130.21	312.00	-1,494.25	333.82	268.14	65.68	5.082		
5,500.00	5,151.06	5,652.20	5,247.69	37.94	39.59	-129.17	326.55	-1,537.55	331.74	264.02	67.72	4.899		
5,600.00	5,242.57	5,751.99	5,336.42	38.78	40.55	-128.12	341.10	-1,580.85	329.77	259.99	69.78	4.726		
5,700.00	5,334.08	5,851.79	5,425.15	39.62	41.50	-127.06	355.65	-1,624.14	327.91	256.05	71.87	4.563		
5,800.00	5,425.59	5,951.58	5,513.88	40.46	42.46	-125.98	370.19	-1,667.44	326.17	252.20	73.97	4.409		
5,900.00	5,517.10	6,051.38	5,602.61	41.30	43.41	-124.89	384.74	-1,710.74	324.54	248.44	76.10	4.265		
6,000.00	5,608.61	6,151.17	5,691.34	42.14	44.37	-123.80	399.29	-1,754.04	323.03	244.79	78.24	4.129		
6,100.00	5,700.12	6,250.97	5,780.07	42.98	45.33	-122.69	413.84	-1,797.33	321.65	241.24	80.40	4.000		
6,200.00	5,791.62	6,350.76	5,868.79	43.82	46.28	-121.57	428.38	-1,840.63	320.38	237.80	82.58	3.880		
6,300.00	5,883.13	6,450.56	5,957.52	44.66	47.24	-120.45	442.93	-1,883.93	319.24	234.47	84.77	3.766		
6,400.00	5,974.64	6,550.35	6,046.25	45.50	48.20	-119.32	457.48	-1,927.23	318.22	231.25	86.96	3.659		
6,500.00	6,066.15	6,650.15	6,134.98	46.35	49.15	-118.18	472.03	-1,970.52	317.32	228.16	89.17	3.559		
6,600.00	6,157.66	6,749.95	6,223.71	47.19	50.11	-117.03	486.58	-2,013.82	316.56	225.18	91.38	3.464		
6,700.00	6,249.17	6,849.74	6,312.44	48.03	51.07	-115.88	501.12	-2,057.12	315.92	222.33	93.59	3.376		
6,800.00	6,340.68	6,949.54	6,401.17	48.87	52.03	-114.73	515.67	-2,100.42	315.40	219.60	95.80	3.292		
6,900.00	6,432.19	7,049.33	6,489.90	49.71	52.99	-113.57	530.22	-2,143.71	315.02	217.01	98.01	3.214		
7,000.00	6,523.70	7,149.13	6,578.63	50.55	53.95	-112.41	544.77	-2,187.01	314.77	214.55	100.22	3.141		
7,100.00	6,615.21	7,248.92	6,667.35	51.40	54.91	-111.25	559.32	-2,230.31	314.65	212.23	102.42	3.072		
7,144.86	6,656.25	7,306.31	6,707.15	51.77	55.46	-110.73	565.84	-2,249.73	314.63	211.11	103.52	3.039		
7,200.00	6,706.72	7,348.72	6,756.08	52.24	55.86	-110.09	573.86	-2,273.61	314.65	210.04	104.61	3.008		
7,300.00	6,798.22	7,448.02	6,844.32	53.08	56.82	-108.91	588.33	-2,316.80	314.80	208.00	106.80	2.948		
7,400.00	6,886.25	7,542.98	6,924.01	54.07	57.92	-101.19	601.40	-2,366.56	315.29	205.96	109.33	2.884		
7,500.00	6,965.23	7,636.77	6,993.70	55.35	59.28	-96.45	612.83	-2,428.11	315.91	203.69	112.22	2.815		
7,600.00	7,032.75	7,729.57	7,052.01	56.90	60.85	-93.32	622.39	-2,499.54	316.58	201.21	115.36	2.744		
7,700.00	7,086.77	7,821.60	7,097.85	58.68	62.61	-91.21	629.91	-2,578.87	317.19	198.52	118.67	2.673		
7,800.00	7,125.64	7,913.05	7,130.42	60.64	64.49	-89.84	635.25	-2,664.05	317.68	195.62	122.06	2.603		
7,900.00	7,148.19	8,004.13	7,149.17	62.69	66.43	-89.10	638.33	-2,753.03	317.99	192.54	125.45	2.535		
8,000.00	7,154.00	8,103.36	7,154.00	64.75	68.56	-88.92	639.13	-2,845.33	318.08	188.98	129.10	2.464		
8,100.00	7,154.00	8,203.36	7,154.00	66.83	70.72	-88.92	639.14	-2,945.33	318.10	184.63	133.47	2.383		
8,200.00	7,154.00	8,303.36	7,154.00	68.96	72.91	-88.92	639.15	-3,045.33	318.12	180.20	137.92	2.307		
8,300.00	7,154.00	8,403.36	7,154.00	71.12	75.14	-88.92	639.15	-3,145.33	318.13	175.71	142.43	2.234		
8,400.00	7,154.00	8,503.36	7,154.00	73.32	77.39	-88.92	639.16	-3,245.33	318.15	171.15	147.00	2.164		
8,500.00	7,154.00	8,603.36	7,154.00	75.55	79.67	-88.92	639.17	-3,345.33	318.17	166.54	151.63	2.098		
8,600.00	7,154.00	8,703.36	7,154.00	77.81	81.98	-88.92	639.18	-3,445.33	318.19	161.88	156.30	2.036		
8,700.00	7,154.00	8,803.36	7,154.00	80.10	84.31	-88.92	639.18	-3,545.33	318.21	157.18	161.03	1.976		
8,800.00	7,154.00	8,903.36	7,154.00	82.41	86.67	-88.92	639.19	-3,645.33	318.22	152.43	165.79	1.919		
8,900.00	7,154.00	9,003.36	7,154.00	84.75	89.04	-88.92	639.20	-3,745.33	318.24	147.65	170.60	1.865		
9,000.00	7,154.00	9,103.36	7,154.00	87.11	91.43	-88.92	639.21	-3,845.33	318.26	142.83	175.43	1.814		
9,100.00	7,154.00	9,203.36	7,154.00	89.48	93.84	-88.92	639.21	-3,945.33	318.28	137.97	180.31	1.765		
9,200.00	7,154.00	9,303.36	7,154.00	91.88	96.26	-88.92	639.22	-4,045.33	318.30	133.09	185.21	1.719		
9,300.00	7,154.00	9,403.36	7,154.00	94.29	98.70	-88.92	639.23	-4,145.33	318.31	128.18	190.13	1.674		
9,400.00	7,154.00	9,503.36	7,154.00	96.72	101.15	-88.92	639.23	-4,245.33	318.33	123.25	195.09	1.632		
9,500.00	7,154.00	9,603.36	7,154.00	99.16	103.62	-88.92	639.24	-4,345.33	318.35	118.29	200.06	1.591		
9,600.00	7,154.00	9,703.36	7,154.00	101.61	106.09	-88.92	639.25	-4,445.33	318.37	113.31	205.06	1.553		
9,700.00	7,154.00	9,803.36	7,154.00	104.08	108.58	-88.92	639.26	-4,545.33	318.39	108.31	210.08	1.516		
9,800.00	7,154.00	9,903.36	7,154.00	106.56	111.08	-88.92	639.26	-4,645.33	318.40	103.29	215.12	1.480 Level 3		
9,900.00	7,154.00	10,003.36	7,154.00	109.05	113.58	-88.92	639.27	-4,745.33	318.42	98.25	220.17	1.446 Level 3		
10,000.00	7,154.00	10,103.36	7,154.00	111.55	116.10	-88.92	639.28	-4,845.33	318.44	93.20	225.24	1.414 Level 3		
10,100.00	7,154.00	10,203.36	7,154.00	114.06	118.62	-88.92	639.28	-4,945.33	318.46	88.13	230.33	1.383 Level 3		
10,200.00	7,154.00	10,303.36	7,154.00	116.57	121.15	-88.92	639.29	-5,045.33	318.48	83.05	235.43	1.353 Level 3		

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 WARBLER 13W-27-03
Project:	ADAMS COUNTY	TVD Reference:	KB 25' @ 5105.00usft
Reference Site:	Sec 13-T1S-R66W	MD Reference:	KB 25' @ 5105.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	WARBLER 13W-27-03	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT_32Bit_ODBC
Reference Design:	PROPOSAL 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-MWD OWSG													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		
10,300.00	7,154.00	10,403.36	7,154.00	119.10	123.69	-88.92	639.30	-5,145.33	318.49	77.95	240.55	1.324	Level 3	
10,400.00	7,154.00	10,503.36	7,154.00	121.63	126.24	-88.92	639.31	-5,245.33	318.51	72.84	245.67	1.296	Level 3	
10,500.00	7,154.00	10,603.36	7,154.00	124.17	128.79	-88.92	639.31	-5,345.33	318.53	67.72	250.81	1.270	Level 3	
10,600.00	7,154.00	10,703.36	7,154.00	126.72	131.35	-88.92	639.32	-5,445.33	318.55	62.59	255.96	1.245	Level 2	
10,700.00	7,154.00	10,803.36	7,154.00	129.28	133.91	-88.92	639.33	-5,545.33	318.57	57.45	261.12	1.220	Level 2	
10,800.00	7,154.00	10,903.36	7,154.00	131.84	136.48	-88.92	639.34	-5,645.33	318.59	52.30	266.29	1.196	Level 2	
10,900.00	7,154.00	11,003.36	7,154.00	134.40	139.06	-88.92	639.34	-5,745.33	318.60	47.14	271.47	1.174	Level 2	
11,000.00	7,154.00	11,103.36	7,154.00	136.97	141.64	-88.92	639.35	-5,845.33	318.62	41.97	276.65	1.152	Level 2	
11,100.00	7,154.00	11,203.36	7,154.00	139.55	144.22	-88.92	639.36	-5,945.33	318.64	36.79	281.85	1.131	Level 2	
11,200.00	7,154.00	11,303.36	7,154.00	142.13	146.81	-88.92	639.36	-6,045.33	318.66	31.60	287.05	1.110	Level 2	
11,300.00	7,154.00	11,403.36	7,154.00	144.72	149.40	-88.92	639.37	-6,145.33	318.68	26.41	292.26	1.090	Level 2	
11,400.00	7,154.00	11,503.36	7,154.00	147.30	152.00	-88.92	639.38	-6,245.33	318.69	21.21	297.48	1.071	Level 2	
11,500.00	7,154.00	11,603.36	7,154.00	149.90	154.60	-88.92	639.39	-6,345.33	318.71	16.01	302.71	1.053	Level 2	
11,600.00	7,154.00	11,703.36	7,154.00	152.50	157.20	-88.92	639.39	-6,445.33	318.73	10.79	307.94	1.035	Level 2	
11,700.00	7,154.00	11,803.36	7,154.00	155.10	159.81	-88.92	639.40	-6,545.33	318.75	5.57	313.17	1.018	Level 2	
11,800.00	7,154.00	11,903.36	7,154.00	157.70	162.42	-88.92	639.41	-6,645.33	318.77	0.35	318.42	1.001	Level 2	
11,900.00	7,154.00	12,003.36	7,154.00	160.31	165.03	-88.92	639.42	-6,745.33	318.78	-4.88	323.66	0.985	Level 1	
12,000.00	7,154.00	12,103.36	7,154.00	162.92	167.65	-88.92	639.42	-6,845.33	318.80	-10.11	328.92	0.969	Level 1	
12,100.00	7,154.00	12,203.36	7,154.00	165.54	170.27	-88.92	639.43	-6,945.33	318.82	-15.35	334.17	0.954	Level 1	
12,200.00	7,154.00	12,303.36	7,154.00	168.15	172.89	-88.92	639.44	-7,045.33	318.84	-20.60	339.44	0.939	Level 1	
12,300.00	7,154.00	12,403.36	7,154.00	170.77	175.51	-88.92	639.44	-7,145.33	318.86	-25.85	344.70	0.925	Level 1	
12,400.00	7,154.00	12,503.36	7,154.00	173.39	178.14	-88.92	639.45	-7,245.33	318.87	-31.10	349.97	0.911	Level 1	
12,500.00	7,154.00	12,603.36	7,154.00	176.02	180.77	-88.92	639.46	-7,345.33	318.89	-36.36	355.25	0.898	Level 1	
12,600.00	7,154.00	12,696.64	7,154.00	178.65	183.22	-88.92	639.47	-7,445.33	318.91	-41.44	360.35	0.885	Level 1	
12,700.00	7,154.00	12,803.36	7,154.00	181.28	186.03	-88.92	639.47	-7,545.33	318.93	-46.88	365.81	0.872	Level 1	
12,800.00	7,154.00	12,903.36	7,154.00	183.91	188.66	-88.92	639.48	-7,645.33	318.95	-52.15	371.10	0.859	Level 1	
12,900.00	7,154.00	13,003.36	7,154.00	186.54	191.30	-88.92	639.49	-7,745.33	318.96	-57.42	376.39	0.847	Level 1	
13,000.00	7,154.00	13,103.36	7,154.00	189.18	193.94	-88.92	639.50	-7,845.33	318.98	-62.70	381.68	0.836	Level 1	
13,100.00	7,154.00	13,203.36	7,154.00	191.81	196.58	-88.92	639.50	-7,945.33	319.00	-67.97	386.97	0.824	Level 1	
13,200.00	7,154.00	13,303.36	7,154.00	194.45	199.22	-88.92	639.51	-8,045.33	319.02	-73.25	392.27	0.813	Level 1	
13,300.00	7,154.00	13,403.36	7,154.00	197.10	201.87	-88.92	639.52	-8,145.33	319.04	-78.54	397.58	0.802	Level 1	
13,400.00	7,154.00	13,503.36	7,154.00	199.74	204.51	-88.92	639.52	-8,245.33	319.05	-83.82	402.88	0.792	Level 1	
13,500.00	7,154.00	13,603.36	7,154.00	202.38	207.16	-88.92	639.53	-8,345.33	319.07	-89.11	408.19	0.782	Level 1	
13,600.00	7,154.00	13,703.36	7,154.00	205.03	209.81	-88.92	639.54	-8,445.33	319.09	-94.41	413.50	0.772	Level 1	
13,700.00	7,154.00	13,803.36	7,154.00	207.68	212.46	-88.92	639.55	-8,545.33	319.11	-99.70	418.81	0.762	Level 1	
13,800.00	7,154.00	13,903.36	7,154.00	210.33	215.11	-88.92	639.55	-8,645.33	319.13	-105.00	424.12	0.752	Level 1	
13,900.00	7,154.00	14,003.36	7,154.00	212.98	217.76	-88.92	639.56	-8,745.33	319.15	-110.30	429.44	0.743	Level 1	
14,000.00	7,154.00	14,103.36	7,154.00	215.63	220.41	-88.92	639.57	-8,845.33	319.16	-115.60	434.76	0.734	Level 1	
14,100.00	7,154.00	14,203.36	7,154.00	218.28	223.07	-88.92	639.57	-8,945.33	319.18	-120.90	440.08	0.725	Level 1	
14,200.00	7,154.00	14,303.36	7,154.00	220.93	225.72	-88.92	639.58	-9,045.33	319.20	-126.20	445.40	0.717	Level 1	
14,300.00	7,154.00	14,403.36	7,154.00	223.59	228.38	-88.92	639.59	-9,145.33	319.22	-131.51	450.73	0.708	Level 1	
14,400.00	7,154.00	14,503.36	7,154.00	226.25	231.04	-88.92	639.60	-9,245.33	319.24	-136.82	456.06	0.700	Level 1	
14,500.00	7,154.00	14,603.36	7,154.00	228.90	233.70	-88.92	639.60	-9,345.33	319.25	-142.13	461.39	0.692	Level 1	
14,600.00	7,154.00	14,703.36	7,154.00	231.56	236.36	-88.92	639.61	-9,445.33	319.27	-147.44	466.72	0.684	Level 1	
14,700.00	7,154.00	14,803.36	7,154.00	234.22	239.02	-88.92	639.62	-9,545.33	319.29	-152.76	472.05	0.676	Level 1	
14,800.00	7,154.00	14,903.36	7,154.00	236.88	241.68	-88.92	639.63	-9,645.33	319.31	-158.07	477.38	0.669	Level 1	
14,900.00	7,154.00	15,003.36	7,154.00	239.55	244.34	-88.92	639.63	-9,745.33	319.33	-163.39	482.72	0.662	Level 1	
15,000.00	7,154.00	15,103.36	7,154.00	242.21	247.01	-88.92	639.64	-9,845.33	319.34	-168.71	488.06	0.654	Level 1	
15,100.00	7,154.00	15,203.36	7,154.00	244.87	249.67	-88.92	639.65	-9,945.33	319.36	-174.03	493.39	0.647	Level 1	
15,200.00	7,154.00	15,303.36	7,154.00	247.54	252.34	-88.92	639.65	-10,045.33	319.38	-179.35	498.73	0.640	Level 1	
15,300.00	7,154.00	15,396.64	7,154.00	250.20	255.03	-88.92	639.66	-10,145.33	319.40	-184.67	504.06	0.634	Level 1	
15,400.00	7,154.00	15,503.36	7,154.00	252.87	257.67	-88.92	639.67	-10,245.33	319.42	-190.00	509.42	0.627	Level 1	

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 WARBLER 13W-27-03
Project:	ADAMS COUNTY	TVD Reference:	KB 25' @ 5105.00usft
Reference Site:	Sec 13-T1S-R66W	MD Reference:	KB 25' @ 5105.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	WARBLER 13W-27-03	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT_32Bit_ODBC
Reference Design:	PROPOSAL 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-MWD OWSG													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		
15,500.00	7,154.00	15,603.36	7,154.00	255.53	260.34	-88.92	639.68	-10,345.33	319.43	-195.33	514.76	0.621	Level 1	
15,600.00	7,154.00	15,703.36	7,154.00	258.20	263.01	-88.92	639.68	-10,445.33	319.45	-200.66	520.11	0.614	Level 1	
15,700.00	7,154.00	15,803.36	7,154.00	260.87	265.68	-88.92	639.69	-10,545.33	319.47	-205.99	525.46	0.608	Level 1	
15,800.00	7,154.00	15,903.36	7,154.00	263.54	268.35	-88.92	639.70	-10,645.33	319.49	-211.31	530.80	0.602	Level 1	
15,900.00	7,154.00	16,003.36	7,154.00	266.21	271.02	-88.92	639.71	-10,745.33	319.51	-216.65	536.15	0.596	Level 1	
16,000.00	7,154.00	16,103.36	7,154.00	268.88	273.69	-88.92	639.71	-10,845.33	319.52	-221.98	541.50	0.590	Level 1	
16,100.00	7,154.00	16,203.36	7,154.00	271.55	276.36	-88.92	639.72	-10,945.33	319.54	-227.31	546.85	0.584	Level 1	
16,200.00	7,154.00	16,303.36	7,154.00	274.22	279.04	-88.92	639.73	-11,045.33	319.56	-232.65	552.21	0.579	Level 1	
16,300.00	7,154.00	16,403.36	7,154.00	276.90	281.71	-88.92	639.73	-11,145.33	319.58	-237.98	557.56	0.573	Level 1	
16,400.00	7,154.00	16,503.36	7,154.00	279.57	284.38	-88.92	639.74	-11,245.33	319.60	-243.32	562.91	0.568	Level 1	
16,500.00	7,154.00	16,603.36	7,154.00	282.24	287.06	-88.92	639.75	-11,345.33	319.61	-248.65	568.27	0.562	Level 1	
16,600.00	7,154.00	16,703.36	7,154.00	284.92	289.73	-88.92	639.76	-11,445.33	319.63	-253.99	573.63	0.557	Level 1	
16,700.00	7,154.00	16,803.36	7,154.00	287.59	292.41	-88.92	639.76	-11,545.33	319.65	-259.33	578.98	0.552	Level 1	
16,800.00	7,154.00	16,903.36	7,154.00	290.27	295.08	-88.92	639.77	-11,645.33	319.67	-264.67	584.34	0.547	Level 1	
16,900.00	7,154.00	17,003.36	7,154.00	292.94	297.76	-88.92	639.78	-11,745.33	319.69	-270.01	589.70	0.542	Level 1	
17,000.00	7,154.00	17,103.36	7,154.00	295.62	300.44	-88.92	639.79	-11,845.33	319.71	-275.36	595.06	0.537	Level 1	
17,100.00	7,154.00	17,203.36	7,154.00	298.29	303.11	-88.92	639.79	-11,945.33	319.72	-280.70	600.42	0.532	Level 1	
17,200.00	7,154.00	17,303.36	7,154.00	300.97	305.79	-88.92	639.80	-12,045.33	319.74	-286.04	605.78	0.528	Level 1	
17,300.00	7,154.00	17,403.36	7,154.00	303.65	308.47	-88.92	639.81	-12,145.33	319.76	-291.39	611.14	0.523	Level 1	
17,400.00	7,154.00	17,503.36	7,154.00	306.33	311.15	-88.92	639.81	-12,245.33	319.78	-296.73	616.51	0.519	Level 1	
17,500.00	7,154.00	17,603.36	7,154.00	309.01	313.83	-88.92	639.82	-12,345.33	319.80	-302.08	621.87	0.514	Level 1	
17,600.00	7,154.00	17,703.36	7,154.00	311.69	316.51	-88.93	639.83	-12,445.33	319.81	-307.42	627.24	0.510	Level 1	
17,700.00	7,154.00	17,803.36	7,154.00	314.37	319.19	-88.93	639.84	-12,545.33	319.83	-312.77	632.60	0.506	Level 1	
17,800.00	7,154.00	17,903.36	7,154.00	317.05	321.87	-88.93	639.84	-12,645.33	319.85	-318.12	637.97	0.501	Level 1	
17,900.00	7,154.00	18,003.36	7,154.00	319.73	324.55	-88.93	639.85	-12,745.33	319.87	-323.47	643.33	0.497	Level 1	
18,000.00	7,154.00	18,103.36	7,154.00	322.41	327.23	-88.93	639.86	-12,845.33	319.89	-328.82	648.70	0.493	Level 1	
18,100.00	7,154.00	18,203.36	7,154.00	325.09	329.91	-88.93	639.86	-12,945.33	319.90	-334.16	654.07	0.489	Level 1	
18,200.00	7,154.00	18,303.36	7,154.00	327.77	332.59	-88.93	639.87	-13,045.33	319.92	-339.52	659.44	0.485	Level 1	
18,300.00	7,154.00	18,403.36	7,154.00	330.45	335.28	-88.93	639.88	-13,145.33	319.94	-344.87	664.81	0.481	Level 1	
18,400.00	7,154.00	18,503.36	7,154.00	333.13	337.96	-88.93	639.89	-13,245.33	319.96	-350.22	670.18	0.477	Level 1	
18,500.00	7,154.00	18,603.36	7,154.00	335.82	340.64	-88.93	639.89	-13,345.33	319.98	-355.57	675.55	0.474	Level 1	
18,600.00	7,154.00	18,703.36	7,154.00	338.50	343.32	-88.93	639.90	-13,445.33	319.99	-360.92	680.92	0.470	Level 1	
18,700.00	7,154.00	18,803.36	7,154.00	341.18	346.01	-88.93	639.91	-13,545.33	320.01	-366.28	686.29	0.466	Level 1	
18,800.00	7,154.00	18,903.36	7,154.00	343.86	348.69	-88.93	639.92	-13,645.33	320.03	-371.63	691.66	0.463	Level 1	
18,900.00	7,154.00	19,003.36	7,154.00	346.55	351.38	-88.93	639.92	-13,745.33	320.05	-376.98	697.03	0.459	Level 1	
19,000.00	7,154.00	19,096.64	7,154.00	349.23	353.88	-88.93	639.93	-13,845.33	320.07	-382.16	702.23	0.456	Level 1	
19,100.00	7,154.00	19,203.36	7,154.00	351.92	356.74	-88.93	639.94	-13,945.33	320.08	-387.69	707.78	0.452	Level 1	
19,200.00	7,154.00	19,303.36	7,154.00	354.60	359.43	-88.93	639.94	-14,045.33	320.10	-393.05	713.15	0.449	Level 1	
19,300.00	7,154.00	19,403.36	7,154.00	357.29	362.11	-88.93	639.95	-14,145.33	320.12	-398.41	718.53	0.446	Level 1	
19,400.00	7,154.00	19,503.36	7,154.00	359.97	364.80	-88.93	639.96	-14,245.33	320.14	-403.76	723.90	0.442	Level 1	
19,500.00	7,154.00	19,603.36	7,154.00	362.66	367.49	-88.93	639.97	-14,345.33	320.16	-409.12	729.28	0.439	Level 1	
19,600.00	7,154.00	19,703.36	7,154.00	365.34	370.17	-88.93	639.97	-14,445.33	320.17	-414.48	734.65	0.436	Level 1	
19,700.00	7,154.00	19,803.36	7,154.00	368.03	372.86	-88.93	639.98	-14,545.33	320.19	-419.84	740.03	0.433	Level 1	
19,800.00	7,154.00	19,903.36	7,154.00	370.72	375.55	-88.93	639.99	-14,645.33	320.21	-425.20	745.41	0.430	Level 1	
19,900.00	7,154.00	20,003.36	7,154.00	373.40	378.23	-88.93	640.00	-14,745.33	320.23	-430.55	750.78	0.427	Level 1	
20,000.00	7,154.00	20,103.36	7,154.00	376.09	380.92	-88.93	640.00	-14,845.33	320.25	-435.91	756.16	0.424	Level 1	
20,100.00	7,154.00	20,203.36	7,154.00	378.78	383.61	-88.93	640.01	-14,945.33	320.26	-441.27	761.54	0.421	Level 1	
20,200.00	7,154.00	20,303.36	7,154.00	381.46	386.29	-88.93	640.02	-15,045.33	320.28	-446.63	766.92	0.418	Level 1	
20,300.00	7,154.00	20,403.36	7,154.00	384.15	388.98	-88.93	640.02	-15,145.33	320.30	-451.99	772.30	0.415	Level 1	
20,400.00	7,154.00	20,503.36	7,154.00	386.84	391.67	-88.93	640.03	-15,245.33	320.32	-457.36	777.67	0.412	Level 1	
20,500.00	7,154.00	20,603.36	7,154.00	389.53	394.36	-88.93	640.04	-15,345.33	320.34	-462.72	783.05	0.409	Level 1	
20,600.00	7,154.00	20,703.36	7,154.00	392.21	397.05	-88.93	640.05	-15,445.33	320.36	-468.08	788.43	0.406	Level 1	

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 WARBLER 13W-27-03
Project:	ADAMS COUNTY	TVD Reference:	KB 25' @ 5105.00usft
Reference Site:	Sec 13-T1S-R66W	MD Reference:	KB 25' @ 5105.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	WARBLER 13W-27-03	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT_32Bit_ODBC
Reference Design:	PROPOSAL 1	Offset TVD Reference:	Offset Datum

Offset Design Sec 13-T1S-R66W - WARBLER 13W-27-17 - OWB - PROPOSAL 1												Offset Site Error:	0.00 usft
Survey Program: 0-MWD OWSG												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	
20,700.00	7,154.00	20,803.36	7,154.00	394.90	399.73	-88.93	640.05	-15,545.33	320.37	-473.44	793.81	0.404	Level 1
20,800.00	7,154.00	20,903.36	7,154.00	397.59	402.42	-88.93	640.06	-15,645.33	320.39	-478.80	799.19	0.401	Level 1
20,900.00	7,154.00	21,003.36	7,154.00	400.28	405.11	-88.93	640.07	-15,745.33	320.41	-484.17	804.58	0.398	Level 1
21,000.00	7,154.00	21,103.36	7,154.00	402.97	407.80	-88.93	640.07	-15,845.33	320.43	-489.53	809.96	0.396	Level 1
21,100.00	7,154.00	21,203.36	7,154.00	405.66	410.49	-88.93	640.08	-15,945.33	320.45	-494.89	815.34	0.393	Level 1
21,200.00	7,154.00	21,303.36	7,154.00	408.35	413.18	-88.93	640.09	-16,045.33	320.46	-500.26	820.72	0.390	Level 1
21,300.00	7,154.00	21,403.36	7,154.00	411.04	415.87	-88.93	640.10	-16,145.33	320.48	-505.62	826.10	0.388	Level 1
21,400.00	7,154.00	21,503.36	7,154.00	413.73	418.56	-88.93	640.10	-16,245.33	320.50	-510.98	831.48	0.385	Level 1
21,406.90	7,154.00	21,503.54	7,154.00	413.91	418.56	-88.93	640.10	-16,252.23	320.50	-511.17	831.67	0.385	Level 1
21,500.00	7,154.00	30,158.98	7,154.00	416.42	651.47	-88.93	640.12	-16,344.88	320.51	-746.57	1,067.08	0.300	Level 1, ES, SF
21,573.27	7,154.00	21,669.46	7,154.00	418.39	423.03	-88.93	640.02	-16,418.15	320.63	-519.95	840.57	0.381	Level 1

Anticollision Report

Company:	EXTRACTION OIL & GAS	Local Co-ordinate Reference:	Well WARBLER 13W-27-03
Project:	ADAMS COUNTY	TVD Reference:	KB 25' @ 5105.00usft
Reference Site:	Sec 13-T1S-R66W	MD Reference:	KB 25' @ 5105.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	WARBLER 13W-27-03	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT_32Bit_ODBC
Reference Design:	PROPOSAL 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-MWD OWSG													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		
0.00	0.00	1.00	1.00	0.00	0.00	-179.43	-111.83	-1.12	111.83					
100.00	100.00	101.00	101.00	0.13	0.14	-179.43	-111.83	-1.12	111.83	111.56	0.27	410.486		
200.00	200.00	201.00	201.00	0.49	0.50	-179.43	-111.83	-1.12	111.83	110.84	0.99	113.032		
300.00	300.00	301.00	301.00	0.85	0.85	-179.43	-111.83	-1.12	111.83	110.13	1.71	65.540		
400.00	400.00	401.00	401.00	1.21	1.21	-179.43	-111.83	-1.12	111.83	109.41	2.42	46.149		
500.00	500.00	501.00	501.00	1.57	1.57	-179.43	-111.83	-1.12	111.83	108.69	3.14	35.614		
600.00	600.00	601.10	601.08	1.93	1.92	-178.51	-111.74	-2.90	111.78	107.93	3.85	29.032		
606.08	606.08	607.19	607.16	1.95	1.94	-109.81	-111.73	-3.12	111.78	107.89	3.89	28.712 CC		
700.00	699.98	701.06	700.89	2.28	2.27	-108.06	-111.49	-8.17	112.32	107.77	4.55	24.662 ES		
800.00	799.84	800.86	800.31	2.63	2.63	-106.13	-111.08	-16.89	114.11	108.84	5.27	21.657		
900.00	899.45	900.50	899.19	3.00	3.01	-104.19	-110.51	-29.04	117.14	111.13	6.01	19.501		
1,000.00	998.70	999.95	997.42	3.37	3.41	-102.31	-109.78	-44.59	121.41	114.64	6.78	17.916		
1,100.00	1,097.47	1,099.20	1,094.84	3.77	3.83	-100.53	-108.89	-63.49	126.92	119.33	7.59	16.722		
1,200.00	1,195.62	1,198.24	1,191.34	4.19	4.29	-98.89	-107.84	-85.70	133.64	125.18	8.46	15.802		
1,300.00	1,293.06	1,297.04	1,286.80	4.64	4.78	-97.40	-106.64	-111.16	141.54	132.15	9.39	15.074		
1,400.00	1,389.64	1,395.59	1,381.08	5.12	5.32	-96.07	-105.29	-139.82	150.59	140.20	10.40	14.484		
1,500.00	1,485.27	1,493.89	1,474.07	5.66	5.90	-94.90	-103.79	-171.62	160.78	149.29	11.49	13.992		
1,600.00	1,579.82	1,591.94	1,565.69	6.24	6.54	-93.88	-102.14	-206.49	172.05	159.37	12.68	13.572		
1,700.00	1,673.17	1,708.78	1,657.86	6.88	7.34	-93.53	-100.41	-243.33	183.97	169.87	14.10	13.052		
1,800.00	1,765.22	1,809.58	1,749.97	7.57	8.06	-94.23	-98.67	-280.15	196.12	180.63	15.50	12.656		
1,900.00	1,856.73	1,889.57	1,842.02	8.31	8.64	-95.42	-96.93	-316.95	208.45	191.64	16.81	12.404		
2,000.00	1,948.24	1,988.72	1,934.07	9.06	9.36	-96.48	-95.20	-353.75	220.85	202.58	18.28	12.085		
2,100.00	2,039.75	2,087.87	2,026.12	9.83	10.09	-97.42	-93.46	-390.54	233.32	213.56	19.77	11.804		
2,200.00	2,131.26	2,187.02	2,118.17	10.61	10.83	-98.28	-91.73	-427.34	245.85	224.58	21.27	11.557		
2,300.00	2,222.77	2,286.17	2,210.23	11.40	11.57	-99.04	-89.99	-464.14	258.43	235.63	22.79	11.338		
2,400.00	2,314.28	2,385.32	2,302.28	12.20	12.32	-99.74	-88.26	-500.94	271.04	246.72	24.32	11.144		
2,500.00	2,405.79	2,484.47	2,394.33	13.00	13.07	-100.37	-86.52	-537.73	283.70	257.84	25.86	10.972		
2,600.00	2,497.30	2,583.62	2,486.38	13.81	13.83	-100.95	-84.79	-574.53	296.38	268.98	27.40	10.817		
2,700.00	2,588.81	2,682.77	2,578.43	14.62	14.59	-101.49	-83.05	-611.33	309.09	280.15	28.95	10.679		
2,800.00	2,680.31	2,781.92	2,670.49	15.44	15.35	-101.98	-81.32	-648.13	321.83	291.33	30.50	10.553		
2,900.00	2,771.82	2,881.07	2,762.54	16.25	16.11	-102.43	-79.58	-684.92	334.59	302.54	32.05	10.440		
3,000.00	2,863.33	2,980.22	2,854.59	17.08	16.87	-102.85	-77.85	-721.72	347.36	313.76	33.60	10.337		
3,100.00	2,954.84	3,079.37	2,946.64	17.90	17.63	-103.24	-76.11	-758.52	360.16	324.99	35.16	10.243		
3,200.00	3,046.35	3,178.52	3,038.69	18.72	18.40	-103.60	-74.38	-795.32	372.97	336.24	36.72	10.156		
3,300.00	3,137.86	3,277.67	3,130.75	19.55	19.17	-103.94	-72.64	-832.11	385.79	347.51	38.28	10.077		
3,400.00	3,229.37	3,376.82	3,222.80	20.38	19.93	-104.26	-70.91	-868.91	398.62	358.78	39.85	10.004		
3,500.00	3,320.88	3,475.97	3,314.85	21.21	20.70	-104.56	-69.17	-905.71	411.47	370.06	41.41	9.937		
3,600.00	3,412.39	3,575.11	3,406.90	22.04	21.47	-104.84	-67.44	-942.51	424.33	381.35	42.97	9.874		
3,700.00	3,503.90	3,674.26	3,498.95	22.87	22.24	-105.10	-65.70	-979.30	437.19	392.65	44.54	9.816		
3,800.00	3,595.41	3,773.41	3,591.00	23.70	23.01	-105.35	-63.97	-1,016.10	450.07	403.96	46.10	9.762		
3,900.00	3,686.91	3,872.56	3,683.06	24.54	23.78	-105.58	-62.23	-1,052.90	462.95	415.28	47.67	9.711		
4,000.00	3,778.42	3,971.71	3,775.11	25.37	24.55	-105.81	-60.50	-1,089.70	475.84	426.60	49.24	9.664		
4,100.00	3,869.93	4,070.86	3,867.16	26.20	25.32	-106.02	-58.76	-1,126.49	488.74	437.93	50.80	9.620		
4,200.00	3,961.44	4,170.01	3,959.21	27.04	26.09	-106.21	-57.03	-1,163.29	501.64	449.27	52.37	9.578		
4,300.00	4,052.95	4,269.16	4,051.26	27.88	26.87	-106.40	-55.29	-1,200.09	514.55	460.61	53.94	9.539		
4,400.00	4,144.46	4,368.31	4,143.32	28.71	27.64	-106.58	-53.56	-1,236.89	527.46	471.95	55.51	9.503		
4,500.00	4,235.97	4,467.46	4,235.37	29.55	28.41	-106.75	-51.82	-1,273.69	540.38	483.30	57.08	9.468		
4,600.00	4,327.48	4,566.61	4,327.42	30.39	29.19	-106.92	-50.09	-1,310.48	553.30	494.66	58.64	9.435		
4,700.00	4,418.99	4,665.76	4,419.47	31.22	29.96	-107.07	-48.35	-1,347.28	566.23	506.02	60.21	9.404		
4,800.00	4,510.50	4,764.91	4,511.52	32.06	30.73	-107.22	-46.62	-1,384.08	579.16	517.38	61.78	9.375		
4,900.00	4,602.01	4,864.06	4,603.57	32.90	31.51	-107.36	-44.88	-1,420.88	592.09	528.75	63.35	9.347		
5,000.00	4,693.51	4,963.21	4,695.63	33.74	32.28	-107.50	-43.15	-1,457.67	605.03	540.12	64.92	9.320		

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 WARBLER 13W-27-03
Project:	ADAMS COUNTY	TVD Reference:	KB 25' @ 5105.00usft
Reference Site:	Sec 13-T1S-R66W	MD Reference:	KB 25' @ 5105.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	WARBLER 13W-27-03	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT_32Bit_ODBC
Reference Design:	PROPOSAL 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-MWD OWSG													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		
5,100.00	4,785.02	5,062.36	4,787.68	34.58	33.06	-107.63	-41.41	-1,494.47	617.97	551.49	66.49	9.295		
5,200.00	4,876.53	5,161.51	4,879.73	35.42	33.83	-107.76	-39.68	-1,531.27	630.92	562.86	68.06	9.271		
5,300.00	4,968.04	5,260.66	4,971.78	36.26	34.61	-107.88	-37.94	-1,568.07	643.87	574.24	69.62	9.248		
5,400.00	5,059.55	5,359.80	5,063.83	37.10	35.38	-107.99	-36.21	-1,604.86	656.82	585.62	71.19	9.226		
5,500.00	5,151.06	5,458.95	5,155.89	37.94	36.16	-108.10	-34.47	-1,641.66	669.77	597.01	72.76	9.205		
5,600.00	5,242.57	5,558.10	5,247.94	38.78	36.93	-108.21	-32.74	-1,678.46	682.72	608.39	74.33	9.185		
5,700.00	5,334.08	5,657.25	5,339.99	39.62	37.71	-108.31	-31.00	-1,715.26	695.68	619.78	75.90	9.166		
5,800.00	5,425.59	5,756.40	5,432.04	40.46	38.48	-108.41	-29.27	-1,752.05	708.64	631.17	77.47	9.147		
5,900.00	5,517.10	5,855.55	5,524.09	41.30	39.26	-108.51	-27.53	-1,788.85	721.60	642.56	79.04	9.130		
6,000.00	5,608.61	5,954.70	5,616.15	42.14	40.03	-108.60	-25.80	-1,825.65	734.56	653.95	80.61	9.113		
6,100.00	5,700.12	6,053.85	5,708.20	42.98	40.81	-108.69	-24.06	-1,862.45	747.53	665.35	82.18	9.097		
6,200.00	5,791.62	6,153.00	5,800.25	43.82	41.58	-108.77	-22.33	-1,899.24	760.49	676.75	83.75	9.081		
6,300.00	5,883.13	6,252.15	5,892.30	44.66	42.36	-108.86	-20.59	-1,936.04	773.46	688.15	85.32	9.066		
6,400.00	5,974.64	6,351.30	5,984.35	45.50	43.14	-108.94	-18.86	-1,972.84	786.43	699.55	86.89	9.051		
6,500.00	6,066.15	6,450.45	6,076.40	46.35	43.91	-109.02	-17.12	-2,009.64	799.40	710.95	88.45	9.037		
6,600.00	6,157.66	6,549.60	6,168.46	47.19	44.69	-109.09	-15.39	-2,046.43	812.38	722.35	90.02	9.024		
6,700.00	6,249.17	6,648.75	6,260.51	48.03	45.47	-109.16	-13.65	-2,083.23	825.35	733.76	91.59	9.011		
6,800.00	6,340.68	6,747.90	6,352.56	48.87	46.24	-109.23	-11.91	-2,120.03	838.32	745.16	93.16	8.999		
6,900.00	6,432.19	6,847.05	6,444.61	49.71	47.02	-109.30	-10.18	-2,156.83	851.30	756.57	94.73	8.986		
7,000.00	6,523.70	6,946.20	6,536.66	50.55	47.80	-109.37	-8.44	-2,193.62	864.28	767.98	96.30	8.975		
7,100.00	6,615.21	7,045.35	6,628.72	51.40	48.57	-109.43	-6.71	-2,230.42	877.26	779.39	97.87	8.963		
7,200.00	6,706.72	7,144.49	6,720.77	52.24	49.35	-109.50	-4.97	-2,267.22	890.24	790.80	99.44	8.953		
7,300.00	6,798.22	7,243.30	6,812.37	53.08	50.13	-109.53	-3.25	-2,304.22	903.22	802.20	101.02	8.941		
7,400.00	6,886.25	7,340.55	6,897.58	54.07	51.11	-101.94	-1.65	-2,350.82	915.76	812.79	102.96	8.894		
7,500.00	6,965.23	7,437.54	6,973.50	55.35	52.37	-97.27	-0.22	-2,410.96	927.01	821.53	105.49	8.788		
7,600.00	7,032.75	7,534.36	7,038.11	56.90	53.89	-94.21	0.98	-2,482.91	936.65	828.11	108.55	8.629		
7,700.00	7,086.77	7,631.11	7,089.67	58.68	55.64	-92.16	1.94	-2,564.63	944.37	832.30	112.07	8.427		
7,800.00	7,125.64	7,727.84	7,126.76	60.64	57.57	-90.83	2.62	-2,653.84	949.94	834.00	115.94	8.193		
7,900.00	7,148.19	7,824.58	7,148.33	62.69	59.59	-90.12	3.01	-2,748.03	953.20	833.17	120.02	7.942		
8,000.00	7,154.00	7,921.88	7,154.00	64.75	61.67	-89.94	3.09	-2,845.06	954.07	829.89	124.18	7.683		
8,100.00	7,154.00	8,021.88	7,154.00	66.83	63.82	-89.94	3.06	-2,945.06	954.12	825.63	128.49	7.425		
8,200.00	7,154.00	8,121.88	7,154.00	68.96	66.02	-89.94	3.04	-3,045.06	954.17	821.29	132.88	7.181		
8,300.00	7,154.00	8,221.88	7,154.00	71.12	68.25	-89.94	3.01	-3,145.06	954.22	816.88	137.35	6.948		
8,400.00	7,154.00	8,321.88	7,154.00	73.32	70.51	-89.94	2.99	-3,245.06	954.27	812.40	141.87	6.726		
8,500.00	7,154.00	8,421.88	7,154.00	75.55	72.80	-89.94	2.96	-3,345.06	954.32	807.86	146.46	6.516		
8,600.00	7,154.00	8,521.88	7,154.00	77.81	75.13	-89.94	2.93	-3,445.06	954.37	803.27	151.10	6.316		
8,700.00	7,154.00	8,621.88	7,154.00	80.10	77.47	-89.94	2.91	-3,545.06	954.43	798.63	155.80	6.126		
8,800.00	7,154.00	8,721.88	7,154.00	82.41	79.84	-89.94	2.88	-3,645.06	954.48	793.94	160.53	5.946		
8,900.00	7,154.00	8,821.88	7,154.00	84.75	82.23	-89.94	2.86	-3,745.06	954.53	789.22	165.31	5.774		
9,000.00	7,154.00	8,921.88	7,154.00	87.11	84.64	-89.94	2.83	-3,845.06	954.58	784.45	170.13	5.611		
9,100.00	7,154.00	9,021.88	7,154.00	89.48	87.06	-89.94	2.81	-3,945.06	954.63	779.65	174.98	5.456		
9,200.00	7,154.00	9,121.88	7,154.00	91.88	89.50	-89.94	2.78	-4,045.06	954.68	774.82	179.86	5.308		
9,300.00	7,154.00	9,221.88	7,154.00	94.29	91.96	-89.94	2.75	-4,145.06	954.73	769.96	184.77	5.167		
9,400.00	7,154.00	9,321.88	7,154.00	96.72	94.43	-89.94	2.73	-4,245.06	954.78	765.08	189.71	5.033		
9,500.00	7,154.00	9,421.88	7,154.00	99.16	96.91	-89.94	2.70	-4,345.06	954.83	760.16	194.67	4.905		
9,600.00	7,154.00	9,521.88	7,154.00	101.61	99.40	-89.94	2.68	-4,445.06	954.88	755.23	199.65	4.783		
9,700.00	7,154.00	9,621.88	7,154.00	104.08	101.91	-89.94	2.65	-4,545.06	954.93	750.27	204.66	4.666		
9,800.00	7,154.00	9,721.88	7,154.00	106.56	104.42	-89.94	2.63	-4,645.06	954.99	745.30	209.69	4.554		
9,900.00	7,154.00	9,821.88	7,154.00	109.05	106.95	-89.94	2.60	-4,745.06	955.04	740.30	214.73	4.448		
10,000.00	7,154.00	9,921.88	7,154.00	111.55	109.48	-89.94	2.58	-4,845.06	955.09	735.29	219.80	4.345		
10,100.00	7,154.00	10,021.88	7,154.00	114.06	112.02	-89.94	2.55	-4,945.06	955.14	730.26	224.88	4.247		
10,200.00	7,154.00	10,121.88	7,154.00	116.57	114.57	-89.94	2.52	-5,045.06	955.19	725.22	229.97	4.154		

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 WARBLER 13W-27-03
Project:	ADAMS COUNTY	TVD Reference:	KB 25' @ 5105.00usft
Reference Site:	Sec 13-T1S-R66W	MD Reference:	KB 25' @ 5105.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	WARBLER 13W-27-03	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT_32Bit_ODBC
Reference Design:	PROPOSAL 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-MWD OWSG													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		
10,300.00	7,154.00	10,221.88	7,154.00	119.10	117.12	-89.94	2.50	-5,145.06	955.24	720.16	235.08	4.064		
10,400.00	7,154.00	10,321.88	7,154.00	121.63	119.68	-89.94	2.47	-5,245.06	955.29	715.09	240.20	3.977		
10,500.00	7,154.00	10,421.88	7,154.00	124.17	122.25	-89.94	2.45	-5,345.06	955.34	710.01	245.33	3.894		
10,600.00	7,154.00	10,521.88	7,154.00	126.72	124.82	-89.94	2.42	-5,445.06	955.39	704.92	250.48	3.814		
10,700.00	7,154.00	10,621.88	7,154.00	129.28	127.40	-89.94	2.40	-5,545.06	955.44	699.81	255.63	3.738		
10,800.00	7,154.00	10,721.88	7,154.00	131.84	129.98	-89.94	2.37	-5,645.06	955.49	694.70	260.80	3.664		
10,900.00	7,154.00	10,821.88	7,154.00	134.40	132.57	-89.94	2.34	-5,745.06	955.55	689.57	265.97	3.593		
11,000.00	7,154.00	10,921.88	7,154.00	136.97	135.16	-89.94	2.32	-5,845.06	955.60	684.44	271.16	3.524		
11,100.00	7,154.00	11,021.88	7,154.00	139.55	137.76	-89.94	2.29	-5,945.06	955.65	679.30	276.35	3.458		
11,200.00	7,154.00	11,121.88	7,154.00	142.13	140.36	-89.94	2.27	-6,045.06	955.70	674.15	281.55	3.394		
11,300.00	7,154.00	11,221.88	7,154.00	144.72	142.97	-89.94	2.24	-6,145.06	955.75	668.99	286.76	3.333		
11,400.00	7,154.00	11,321.88	7,154.00	147.30	145.57	-89.94	2.22	-6,245.06	955.80	663.83	291.97	3.274		
11,500.00	7,154.00	11,421.88	7,154.00	149.90	148.19	-89.94	2.19	-6,345.06	955.85	658.65	297.20	3.216		
11,600.00	7,154.00	11,521.88	7,154.00	152.50	150.80	-89.94	2.16	-6,445.06	955.90	653.48	302.43	3.161		
11,700.00	7,154.00	11,621.88	7,154.00	155.10	153.42	-89.94	2.14	-6,545.06	955.95	648.29	307.66	3.107		
11,800.00	7,154.00	11,721.88	7,154.00	157.70	156.04	-89.94	2.11	-6,645.06	956.00	643.10	312.90	3.055		
11,900.00	7,154.00	11,821.88	7,154.00	160.31	158.66	-89.94	2.09	-6,745.06	956.06	637.91	318.15	3.005		
12,000.00	7,154.00	11,921.88	7,154.00	162.92	161.29	-89.94	2.06	-6,845.06	956.11	632.71	323.40	2.956		
12,100.00	7,154.00	12,021.88	7,154.00	165.54	163.92	-89.94	2.04	-6,945.06	956.16	627.50	328.66	2.909		
12,200.00	7,154.00	12,121.88	7,154.00	168.15	166.55	-89.94	2.01	-7,045.06	956.21	622.29	333.92	2.864		
12,300.00	7,154.00	12,221.88	7,154.00	170.77	169.18	-89.94	1.99	-7,145.06	956.26	617.07	339.19	2.819		
12,400.00	7,154.00	12,321.88	7,154.00	173.39	171.82	-89.94	1.96	-7,245.06	956.31	611.85	344.46	2.776		
12,500.00	7,154.00	12,421.88	7,154.00	176.02	174.46	-89.94	1.93	-7,345.06	956.36	606.63	349.73	2.735		
12,600.00	7,154.00	12,521.88	7,154.00	178.65	177.10	-89.94	1.91	-7,445.06	956.41	601.40	355.01	2.694		
12,700.00	7,154.00	12,621.88	7,154.00	181.28	179.74	-89.94	1.88	-7,545.06	956.46	596.17	360.29	2.655		
12,800.00	7,154.00	12,721.88	7,154.00	183.91	182.38	-89.94	1.86	-7,645.06	956.51	590.94	365.58	2.616		
12,900.00	7,154.00	12,821.88	7,154.00	186.54	185.03	-89.94	1.83	-7,745.06	956.56	585.70	370.87	2.579		
13,000.00	7,154.00	12,921.88	7,154.00	189.18	187.67	-89.94	1.81	-7,845.06	956.62	580.45	376.16	2.543		
13,100.00	7,154.00	13,021.88	7,154.00	191.81	190.32	-89.94	1.78	-7,945.06	956.67	575.21	381.46	2.508		
13,200.00	7,154.00	13,121.88	7,154.00	194.45	192.97	-89.94	1.75	-8,045.06	956.72	569.96	386.76	2.474		
13,300.00	7,154.00	13,221.88	7,154.00	197.10	195.62	-89.94	1.73	-8,145.06	956.77	564.71	392.06	2.440		
13,400.00	7,154.00	13,321.88	7,154.00	199.74	198.28	-89.94	1.70	-8,245.06	956.82	559.46	397.36	2.408		
13,500.00	7,154.00	13,421.88	7,154.00	202.38	200.93	-89.94	1.68	-8,345.06	956.87	554.20	402.67	2.376		
13,600.00	7,154.00	13,521.88	7,154.00	205.03	203.59	-89.94	1.65	-8,445.06	956.92	548.94	407.98	2.346		
13,700.00	7,154.00	13,621.88	7,154.00	207.68	206.24	-89.94	1.63	-8,545.06	956.97	543.68	413.29	2.315		
13,800.00	7,154.00	13,721.88	7,154.00	210.33	208.90	-89.94	1.60	-8,645.06	957.02	538.41	418.61	2.286		
13,900.00	7,154.00	13,821.88	7,154.00	212.98	211.56	-89.94	1.58	-8,745.06	957.07	533.15	423.93	2.258		
14,000.00	7,154.00	13,921.88	7,154.00	215.63	214.22	-89.94	1.55	-8,845.06	957.13	527.88	429.25	2.230		
14,100.00	7,154.00	14,021.88	7,154.00	218.28	216.88	-89.94	1.52	-8,945.06	957.18	522.61	434.57	2.203		
14,200.00	7,154.00	14,121.88	7,154.00	220.93	219.54	-89.94	1.50	-9,045.06	957.23	517.33	439.89	2.176		
14,300.00	7,154.00	14,221.88	7,154.00	223.59	222.21	-89.94	1.47	-9,145.06	957.28	512.06	445.22	2.150		
14,400.00	7,154.00	14,321.88	7,154.00	226.25	224.87	-89.94	1.45	-9,245.06	957.33	506.78	450.55	2.125		
14,500.00	7,154.00	14,421.88	7,154.00	228.90	227.54	-89.94	1.42	-9,345.06	957.38	501.50	455.88	2.100		
14,600.00	7,154.00	14,521.88	7,154.00	231.56	230.20	-89.94	1.40	-9,445.06	957.43	496.22	461.21	2.076		
14,700.00	7,154.00	14,621.88	7,154.00	234.22	232.87	-89.94	1.37	-9,545.06	957.48	490.94	466.54	2.052		
14,800.00	7,154.00	14,721.88	7,154.00	236.88	235.54	-89.94	1.34	-9,645.06	957.53	485.66	471.88	2.029		
14,900.00	7,154.00	14,821.88	7,154.00	239.55	238.20	-89.94	1.32	-9,745.06	957.58	480.37	477.21	2.007		
15,000.00	7,154.00	14,921.88	7,154.00	242.21	240.87	-89.94	1.29	-9,845.06	957.63	475.08	482.55	1.985		
15,100.00	7,154.00	15,021.88	7,154.00	244.87	243.54	-89.94	1.27	-9,945.06	957.69	469.80	487.89	1.963		
15,200.00	7,154.00	15,121.88	7,154.00	247.54	246.21	-89.94	1.24	-10,045.06	957.74	464.51	493.23	1.942		
15,300.00	7,154.00	15,221.88	7,154.00	250.20	248.89	-89.94	1.22	-10,145.06	957.79	459.21	498.57	1.921		
15,400.00	7,154.00	15,321.88	7,154.00	252.87	251.56	-89.94	1.19	-10,245.06	957.84	453.92	503.92	1.901		

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 WARBLER 13W-27-03
Project:	ADAMS COUNTY	TVD Reference:	KB 25' @ 5105.00usft
Reference Site:	Sec 13-T1S-R66W	MD Reference:	KB 25' @ 5105.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	WARBLER 13W-27-03	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT_32Bit_ODBC
Reference Design:	PROPOSAL 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-MWD OWSG													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		
15,500.00	7,154.00	15,421.88	7,154.00	255.53	254.23	-89.94	1.17	-10,345.06	957.89	448.63	509.26	1.881		
15,600.00	7,154.00	15,521.88	7,154.00	258.20	256.90	-89.94	1.14	-10,445.06	957.94	443.33	514.61	1.861		
15,700.00	7,154.00	15,621.88	7,154.00	260.87	259.58	-89.94	1.11	-10,545.06	957.99	438.03	519.96	1.842		
15,800.00	7,154.00	15,721.88	7,154.00	263.54	262.25	-89.94	1.09	-10,645.06	958.04	432.74	525.31	1.824		
15,900.00	7,154.00	15,821.88	7,154.00	266.21	264.93	-89.94	1.06	-10,745.06	958.09	427.44	530.66	1.805		
16,000.00	7,154.00	15,921.88	7,154.00	268.88	267.60	-89.94	1.04	-10,845.06	958.14	422.14	536.01	1.788		
16,100.00	7,154.00	16,021.88	7,154.00	271.55	270.28	-89.94	1.01	-10,945.06	958.20	416.84	541.36	1.770		
16,200.00	7,154.00	16,121.88	7,154.00	274.22	272.96	-89.94	0.99	-11,045.06	958.25	411.53	546.71	1.753		
16,300.00	7,154.00	16,221.88	7,154.00	276.90	275.63	-89.94	0.96	-11,145.06	958.30	406.23	552.07	1.736		
16,400.00	7,154.00	16,321.88	7,154.00	279.57	278.31	-89.94	0.93	-11,245.06	958.35	400.92	557.42	1.719		
16,500.00	7,154.00	16,421.88	7,154.00	282.24	280.99	-89.94	0.91	-11,345.06	958.40	395.62	562.78	1.703		
16,600.00	7,154.00	16,521.88	7,154.00	284.92	283.67	-89.94	0.88	-11,445.06	958.45	390.31	568.14	1.687		
16,700.00	7,154.00	16,621.88	7,154.00	287.59	286.35	-89.94	0.86	-11,545.06	958.50	385.01	573.50	1.671		
16,800.00	7,154.00	16,721.88	7,154.00	290.27	289.03	-89.94	0.83	-11,645.06	958.55	379.70	578.86	1.656		
16,900.00	7,154.00	16,821.88	7,154.00	292.94	291.71	-89.94	0.81	-11,745.06	958.60	374.39	584.22	1.641		
17,000.00	7,154.00	16,921.88	7,154.00	295.62	294.39	-89.94	0.78	-11,845.06	958.65	369.08	589.58	1.626		
17,100.00	7,154.00	17,021.88	7,154.00	298.29	297.07	-89.94	0.75	-11,945.06	958.70	363.77	594.94	1.611		
17,200.00	7,154.00	17,121.88	7,154.00	300.97	299.75	-89.94	0.73	-12,045.06	958.76	358.45	600.30	1.597		
17,300.00	7,154.00	17,221.88	7,154.00	303.65	302.43	-89.94	0.70	-12,145.06	958.81	353.14	605.66	1.583		
17,400.00	7,154.00	17,321.88	7,154.00	306.33	305.12	-89.94	0.68	-12,245.06	958.86	347.83	611.03	1.569		
17,500.00	7,154.00	17,421.88	7,154.00	309.01	307.80	-89.94	0.65	-12,345.06	958.91	342.52	616.39	1.556		
17,600.00	7,154.00	17,521.88	7,154.00	311.69	310.48	-89.94	0.63	-12,445.06	958.96	337.20	621.76	1.542		
17,700.00	7,154.00	17,621.88	7,154.00	314.37	313.17	-89.94	0.60	-12,545.06	959.01	331.89	627.13	1.529		
17,800.00	7,154.00	17,721.88	7,154.00	317.05	315.85	-89.94	0.58	-12,645.06	959.06	326.57	632.49	1.516		
17,900.00	7,154.00	17,821.88	7,154.00	319.73	318.53	-89.94	0.55	-12,745.06	959.11	321.25	637.86	1.504		
18,000.00	7,154.00	17,921.88	7,154.00	322.41	321.22	-89.94	0.52	-12,845.06	959.16	315.93	643.23	1.491 Level 3		
18,100.00	7,154.00	18,021.88	7,154.00	325.09	323.90	-89.94	0.50	-12,945.06	959.21	310.62	648.60	1.479 Level 3		
18,200.00	7,154.00	18,121.88	7,154.00	327.77	326.59	-89.94	0.47	-13,045.06	959.27	305.30	653.97	1.467 Level 3		
18,300.00	7,154.00	18,221.88	7,154.00	330.45	329.27	-89.94	0.45	-13,145.06	959.32	299.98	659.34	1.455 Level 3		
18,400.00	7,154.00	18,321.88	7,154.00	333.13	331.96	-89.94	0.42	-13,245.06	959.37	294.66	664.71	1.443 Level 3		
18,500.00	7,154.00	18,421.88	7,154.00	335.82	334.64	-89.94	0.40	-13,345.06	959.42	289.34	670.08	1.432 Level 3		
18,600.00	7,154.00	18,521.88	7,154.00	338.50	337.33	-89.94	0.37	-13,445.06	959.47	284.02	675.45	1.420 Level 3		
18,700.00	7,154.00	18,621.88	7,154.00	341.18	340.02	-89.94	0.34	-13,545.06	959.52	278.70	680.82	1.409 Level 3		
18,800.00	7,154.00	18,721.88	7,154.00	343.86	342.70	-89.94	0.32	-13,645.06	959.57	273.37	686.20	1.398 Level 3		
18,900.00	7,154.00	18,821.88	7,154.00	346.55	345.39	-89.94	0.29	-13,745.06	959.62	268.05	691.57	1.388 Level 3		
19,000.00	7,154.00	18,921.88	7,154.00	349.23	348.08	-89.94	0.27	-13,845.06	959.67	262.73	696.95	1.377 Level 3		
19,100.00	7,154.00	19,021.88	7,154.00	351.92	350.76	-89.94	0.24	-13,945.06	959.72	257.40	702.32	1.367 Level 3		
19,200.00	7,154.00	19,121.88	7,154.00	354.60	353.45	-89.94	0.22	-14,045.06	959.77	252.08	707.69	1.356 Level 3		
19,300.00	7,154.00	19,221.88	7,154.00	357.29	356.14	-89.94	0.19	-14,145.06	959.83	246.76	713.07	1.346 Level 3		
19,400.00	7,154.00	19,321.88	7,154.00	359.97	358.83	-89.94	0.17	-14,245.06	959.88	241.43	718.45	1.336 Level 3		
19,500.00	7,154.00	19,421.88	7,154.00	362.66	361.52	-89.94	0.14	-14,345.06	959.93	236.10	723.82	1.326 Level 3		
19,600.00	7,154.00	19,521.88	7,154.00	365.34	364.20	-89.94	0.11	-14,445.06	959.98	230.78	729.20	1.316 Level 3		
19,700.00	7,154.00	19,621.88	7,154.00	368.03	366.89	-89.94	0.09	-14,545.06	960.03	225.45	734.58	1.307 Level 3		
19,800.00	7,154.00	19,721.88	7,154.00	370.72	369.58	-89.94	0.06	-14,645.06	960.08	220.13	739.96	1.297 Level 3		
19,900.00	7,154.00	19,821.88	7,154.00	373.40	372.27	-89.94	0.04	-14,745.06	960.13	214.80	745.33	1.288 Level 3		
20,000.00	7,154.00	19,921.88	7,154.00	376.09	374.96	-89.94	0.01	-14,845.06	960.18	209.47	750.71	1.279 Level 3		
20,100.00	7,154.00	20,021.88	7,154.00	378.78	377.65	-89.94	-0.01	-14,945.06	960.23	204.14	756.09	1.270 Level 3		
20,200.00	7,154.00	20,121.88	7,154.00	381.46	380.34	-89.94	-0.04	-15,045.06	960.28	198.81	761.47	1.261 Level 3		
20,300.00	7,154.00	20,221.88	7,154.00	384.15	383.03	-89.94	-0.07	-15,145.06	960.34	193.48	766.85	1.252 Level 3		
20,400.00	7,154.00	20,321.88	7,154.00	386.84	385.72	-89.94	-0.09	-15,245.06	960.39	188.16	772.23	1.244 Level 2		
20,500.00	7,154.00	20,421.88	7,154.00	389.53	388.41	-89.94	-0.12	-15,345.06	960.44	182.83	777.61	1.235 Level 2		
20,600.00	7,154.00	20,521.88	7,154.00	392.21	391.10	-89.94	-0.14	-15,445.06	960.49	177.50	782.99	1.227 Level 2		

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 WARBLER 13W-27-03
Project:	ADAMS COUNTY	TVD Reference:	KB 25' @ 5105.00usft
Reference Site:	Sec 13-T1S-R66W	MD Reference:	KB 25' @ 5105.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	WARBLER 13W-27-03	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT_32Bit_ODBC
Reference Design:	PROPOSAL 1	Offset TVD Reference:	Offset Datum

Offset Design Sec 13-T1S-R66W - WARBLER 13W-27-18 - OWB - PROPOSAL 1												Offset Site Error:	0.00 usft
Survey Program: 0-MWD OWSG												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	
20,700.00	7,154.00	20,621.88	7,154.00	394.90	393.79	-89.94	-0.17	-15,545.06	960.54	172.17	788.37	1.218	Level 2
20,800.00	7,154.00	20,721.88	7,154.00	397.59	396.48	-89.94	-0.19	-15,645.06	960.59	166.83	793.76	1.210	Level 2
20,900.00	7,154.00	20,821.88	7,154.00	400.28	399.17	-89.94	-0.22	-15,745.06	960.64	161.50	799.14	1.202	Level 2
21,000.00	7,154.00	20,921.88	7,154.00	402.97	401.87	-89.94	-0.24	-15,845.06	960.69	156.17	804.52	1.194	Level 2
21,100.00	7,154.00	21,021.88	7,154.00	405.66	404.56	-89.94	-0.27	-15,945.06	960.74	150.84	809.90	1.186	Level 2
21,200.00	7,154.00	21,121.88	7,154.00	408.35	407.25	-89.94	-0.30	-16,045.06	960.79	145.51	815.29	1.178	Level 2
21,300.00	7,154.00	21,221.88	7,154.00	411.04	409.94	-89.94	-0.32	-16,145.06	960.84	140.18	820.67	1.171	Level 2
21,400.00	7,154.00	21,321.88	7,154.00	413.73	412.63	-89.94	-0.35	-16,245.06	960.90	134.84	826.05	1.163	Level 2
21,500.00	7,154.00	21,421.88	7,154.00	416.42	415.32	-89.94	-0.37	-16,345.06	960.95	129.51	831.44	1.156	Level 2
21,573.27	7,154.00	21,495.14	7,154.00	418.39	417.30	-89.94	-0.39	-16,418.32	960.98	125.60	835.38	1.150	Level 2, SF

Anticollision Report

Company:	EXTRACTION OIL & GAS	Local Co-ordinate Reference:	Well WARBLER 13W-27-03
Project:	ADAMS COUNTY	TVD Reference:	KB 25' @ 5105.00usft
Reference Site:	Sec 13-T1S-R66W	MD Reference:	KB 25' @ 5105.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	WARBLER 13W-27-03	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT_32Bit_ODBC
Reference Design:	PROPOSAL 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-MWD OWSG													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		
0.00	0.00	1.00	1.00	0.00	0.00	-179.43	-139.88	-1.40	139.89					
100.00	100.00	101.00	101.00	0.13	0.14	-179.43	-139.88	-1.40	139.89	139.62	0.27	513.480		
200.00	200.00	201.00	201.00	0.49	0.50	-179.43	-139.88	-1.40	139.89	138.90	0.99	141.393		
300.00	300.00	301.00	301.00	0.85	0.85	-179.43	-139.88	-1.40	139.89	138.19	1.71	81.984		
400.00	400.00	401.00	401.00	1.21	1.21	-179.43	-139.88	-1.40	139.89	137.47	2.42	57.729 CC		
500.00	500.00	499.94	499.92	1.57	1.56	-178.73	-140.23	-3.11	140.27	137.14	3.13	44.852 ES		
600.00	600.00	598.65	598.49	1.93	1.90	-176.70	-141.26	-8.15	141.51	137.68	3.83	36.948		
700.00	699.98	697.02	696.49	2.28	2.26	-105.43	-142.95	-16.48	144.42	139.88	4.54	31.820		
800.00	799.84	795.07	793.82	2.63	2.63	-102.90	-145.30	-28.06	149.57	144.31	5.26	28.437		
900.00	899.45	892.75	890.32	3.00	3.03	-100.58	-148.30	-42.83	156.92	150.91	6.00	26.134		
1,000.00	998.70	990.00	985.84	3.37	3.44	-98.55	-151.94	-60.73	166.38	159.60	6.78	24.542		
1,100.00	1,097.47	1,086.79	1,080.23	3.77	3.89	-96.81	-156.19	-81.69	177.87	170.28	7.59	23.426		
1,200.00	1,195.62	1,183.07	1,173.35	4.19	4.38	-95.36	-161.05	-105.63	191.32	182.87	8.45	22.632		
1,300.00	1,293.06	1,278.79	1,265.07	4.64	4.90	-94.18	-166.50	-132.46	206.65	197.28	9.37	22.051		
1,400.00	1,389.64	1,373.93	1,355.28	5.12	5.47	-93.23	-172.52	-162.08	223.79	213.44	10.36	21.609		
1,500.00	1,485.27	1,470.45	1,445.87	5.66	6.09	-92.56	-179.15	-194.70	242.48	231.04	11.43	21.212		
1,600.00	1,579.82	1,568.60	1,537.88	6.24	6.74	-92.63	-185.95	-228.20	261.50	248.89	12.61	20.743		
1,700.00	1,673.17	1,666.59	1,629.73	6.88	7.40	-93.36	-192.74	-261.64	280.74	266.88	13.87	20.248		
1,800.00	1,765.22	1,764.30	1,721.33	7.57	8.08	-94.64	-199.52	-294.99	300.35	285.14	15.21	19.751		
1,900.00	1,856.73	1,861.87	1,812.79	8.31	8.75	-96.33	-206.28	-328.30	320.31	303.72	16.60	19.299		
2,000.00	1,948.24	1,959.44	1,904.25	9.06	9.44	-97.82	-213.04	-361.60	340.52	322.51	18.01	18.907		
2,100.00	2,039.75	2,057.02	1,995.72	9.83	10.13	-99.14	-219.81	-394.91	360.92	341.48	19.44	18.566		
2,200.00	2,131.26	2,154.59	2,087.18	10.61	10.82	-100.33	-226.57	-428.21	381.49	360.61	20.88	18.270		
2,300.00	2,222.77	2,252.17	2,178.65	11.40	11.52	-101.39	-233.34	-461.51	402.19	379.86	22.33	18.012		
2,400.00	2,314.28	2,349.74	2,270.11	12.20	12.21	-102.34	-240.10	-494.82	423.02	399.23	23.78	17.785		
2,500.00	2,405.79	2,447.31	2,361.58	13.00	12.92	-103.21	-246.86	-528.12	443.95	418.70	25.25	17.585		
2,600.00	2,497.30	2,544.89	2,453.04	13.81	13.62	-104.00	-253.63	-561.42	464.97	438.26	26.71	17.408		
2,700.00	2,588.81	2,642.46	2,544.50	14.62	14.32	-104.72	-260.39	-594.73	486.06	457.89	28.18	17.251		
2,800.00	2,680.31	2,740.03	2,635.97	15.44	15.03	-105.39	-267.16	-628.03	507.23	477.58	29.65	17.110		
2,900.00	2,771.82	2,837.61	2,727.43	16.25	15.73	-105.99	-273.92	-661.33	528.45	497.34	31.12	16.983		
3,000.00	2,863.33	2,935.18	2,818.90	17.08	16.44	-106.56	-280.69	-694.64	549.73	517.14	32.59	16.869		
3,100.00	2,954.84	3,032.75	2,910.36	17.90	17.15	-107.08	-287.45	-727.94	571.05	536.99	34.06	16.766		
3,200.00	3,046.35	3,130.33	3,001.83	18.72	17.86	-107.56	-294.21	-761.24	592.42	556.88	35.53	16.672		
3,300.00	3,137.86	3,227.90	3,093.29	19.55	18.57	-108.01	-300.98	-794.55	613.82	576.81	37.01	16.586		
3,400.00	3,229.37	3,325.47	3,184.75	20.38	19.28	-108.43	-307.74	-827.85	635.25	596.77	38.48	16.508		
3,500.00	3,320.88	3,423.05	3,276.22	21.21	19.99	-108.82	-314.51	-861.15	656.72	616.76	39.96	16.436		
3,600.00	3,412.39	3,520.62	3,367.68	22.04	20.70	-109.19	-321.27	-894.46	678.21	636.78	41.43	16.370		
3,700.00	3,503.90	3,618.19	3,459.15	22.87	21.42	-109.53	-328.03	-927.76	699.73	656.83	42.91	16.309		
3,800.00	3,595.41	3,715.77	3,550.61	23.70	22.13	-109.85	-334.80	-961.06	721.27	676.89	44.38	16.252		
3,900.00	3,686.91	3,813.34	3,642.07	24.54	22.84	-110.16	-341.56	-994.37	742.84	696.98	45.86	16.200		
4,000.00	3,778.42	3,910.91	3,733.54	25.37	23.55	-110.45	-348.33	-1,027.67	764.42	717.09	47.33	16.151		
4,100.00	3,869.93	4,008.49	3,825.00	26.20	24.27	-110.72	-355.09	-1,060.97	786.02	737.21	48.80	16.105		
4,200.00	3,961.44	4,106.06	3,916.47	27.04	24.98	-110.98	-361.86	-1,094.28	807.63	757.35	50.28	16.063		
4,300.00	4,052.95	4,203.63	4,007.93	27.88	25.70	-111.22	-368.62	-1,127.58	829.26	777.50	51.75	16.023		
4,400.00	4,144.46	4,301.21	4,099.40	28.71	26.41	-111.45	-375.38	-1,160.88	850.90	797.67	53.23	15.986		
4,500.00	4,235.97	4,401.22	4,190.86	29.55	27.14	-111.67	-382.15	-1,194.19	872.56	817.84	54.72	15.945		
4,600.00	4,327.48	4,503.65	4,282.32	30.39	27.89	-111.88	-388.91	-1,227.49	894.23	837.99	56.23	15.903		
4,700.00	4,418.99	4,606.07	4,373.79	31.22	28.64	-112.08	-395.68	-1,260.79	915.90	858.16	57.74	15.862		
4,800.00	4,510.50	4,691.50	4,465.25	32.06	29.27	-112.27	-402.44	-1,294.10	937.59	878.46	59.13	15.857		
4,900.00	4,602.01	4,789.07	4,556.72	32.90	29.98	-112.45	-409.20	-1,327.40	959.29	898.69	60.60	15.829		
5,000.00	4,693.51	4,886.65	4,648.18	33.74	30.70	-112.63	-415.97	-1,360.70	981.00	918.92	62.08	15.803		
5,100.00	4,785.02	4,984.22	4,739.65	34.58	31.41	-112.79	-422.73	-1,394.01	1,002.71	939.16	63.55	15.778		

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 WARBLER 13W-27-03
Project:	ADAMS COUNTY	TVD Reference:	KB 25' @ 5105.00usft
Reference Site:	Sec 13-T1S-R66W	MD Reference:	KB 25' @ 5105.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	WARBLER 13W-27-03	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT_32Bit_ODBC
Reference Design:	PROPOSAL 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-MWD OWSG													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		
5,200.00	4,876.53	5,081.79	4,831.11	35.42	32.13	-112.95	-429.50	-1,427.31	1,024.43	959.41	65.02	15.755		
5,300.00	4,968.04	5,179.37	4,922.57	36.26	32.85	-113.11	-436.26	-1,460.61	1,046.16	979.66	66.50	15.732		
5,400.00	5,059.55	5,276.94	5,014.04	37.10	33.56	-113.25	-443.03	-1,493.92	1,067.90	999.93	67.97	15.711		
5,500.00	5,151.06	5,374.51	5,105.50	37.94	34.28	-113.39	-449.79	-1,527.22	1,089.64	1,020.20	69.45	15.690		
5,600.00	5,242.57	5,472.09	5,196.97	38.78	34.99	-113.53	-456.55	-1,560.52	1,111.39	1,040.47	70.92	15.671		
5,700.00	5,334.08	5,569.66	5,288.43	39.62	35.71	-113.66	-463.32	-1,593.83	1,133.14	1,060.75	72.39	15.653		
5,800.00	5,425.59	5,667.23	5,379.90	40.46	36.43	-113.78	-470.08	-1,627.13	1,154.90	1,081.04	73.87	15.635		
5,900.00	5,517.10	5,764.81	5,471.36	41.30	37.14	-113.90	-476.85	-1,660.43	1,176.67	1,101.33	75.34	15.618		
6,000.00	5,608.61	5,862.38	5,562.82	42.14	37.86	-114.02	-483.61	-1,693.74	1,198.44	1,121.62	76.81	15.602		
6,100.00	5,700.12	5,959.96	5,654.29	42.98	38.57	-114.13	-490.37	-1,727.04	1,220.21	1,141.93	78.29	15.586		
6,200.00	5,791.62	6,057.53	5,745.75	43.82	39.29	-114.24	-497.14	-1,760.34	1,241.99	1,162.23	79.76	15.571		
6,300.00	5,883.13	6,155.10	5,837.22	44.66	40.01	-114.34	-503.90	-1,793.65	1,263.77	1,182.54	81.23	15.557		
6,400.00	5,974.64	6,252.68	5,928.68	45.50	40.72	-114.44	-510.67	-1,826.95	1,285.56	1,202.85	82.71	15.543		
6,500.00	6,066.15	6,350.25	6,020.14	46.35	41.44	-114.54	-517.43	-1,860.25	1,307.35	1,223.17	84.18	15.530		
6,600.00	6,157.66	6,447.82	6,111.61	47.19	42.16	-114.63	-524.20	-1,893.56	1,329.14	1,243.49	85.65	15.518		
6,700.00	6,249.17	6,545.40	6,203.07	48.03	42.87	-114.73	-530.96	-1,926.86	1,350.94	1,263.81	87.13	15.505		
6,800.00	6,340.68	6,642.97	6,294.54	48.87	43.59	-114.81	-537.72	-1,960.16	1,372.74	1,284.14	88.60	15.494		
6,900.00	6,432.19	6,740.54	6,386.00	49.71	44.31	-114.90	-544.49	-1,993.47	1,394.54	1,304.47	90.07	15.482		
7,000.00	6,523.70	6,838.12	6,477.47	50.55	45.03	-114.98	-551.25	-2,026.77	1,416.35	1,324.80	91.55	15.471		
7,100.00	6,615.21	6,935.69	6,568.93	51.40	45.74	-115.06	-558.02	-2,060.07	1,438.16	1,345.14	93.02	15.461		
7,200.00	6,706.72	7,033.26	6,660.39	52.24	46.46	-115.14	-564.78	-2,093.38	1,459.97	1,365.48	94.49	15.451		
7,300.00	6,798.22	7,130.84	6,751.86	53.08	47.18	-115.22	-571.54	-2,126.68	1,481.78	1,385.82	95.97	15.441		
7,400.00	6,886.25	7,227.73	6,842.69	54.07	47.89	-107.21	-578.26	-2,159.75	1,503.82	1,406.30	97.52	15.421		
7,500.00	6,965.23	7,321.29	6,930.39	55.35	48.58	-102.50	-584.75	-2,191.69	1,526.19	1,426.99	99.21	15.384		
7,600.00	7,032.75	7,408.68	7,012.30	56.90	49.22	-99.61	-590.81	-2,221.51	1,549.08	1,448.13	100.96	15.344		
7,700.00	7,086.77	7,487.23	7,085.93	58.68	49.80	-97.65	-596.25	-2,248.32	1,573.03	1,470.36	102.66	15.322		
7,800.00	7,125.64	7,554.56	7,149.05	60.64	50.29	-96.06	-600.92	-2,271.30	1,598.73	1,494.53	104.20	15.343		
7,900.00	7,148.19	7,608.63	7,199.73	62.69	50.69	-94.41	-604.67	-2,289.76	1,626.85	1,521.42	105.43	15.431		
8,000.00	7,154.00	8,327.18	7,579.00	64.75	62.11	-104.93	-632.96	-2,844.39	1,645.67	1,525.16	120.51	13.656		
8,100.00	7,154.00	8,427.18	7,579.00	66.83	64.18	-104.93	-633.01	-2,944.39	1,645.75	1,521.13	124.63	13.206		
8,200.00	7,154.00	8,527.18	7,579.00	68.96	66.29	-104.93	-633.07	-3,044.39	1,645.83	1,517.01	128.82	12.776		
8,300.00	7,154.00	8,627.18	7,579.00	71.12	68.45	-104.93	-633.13	-3,144.39	1,645.91	1,512.82	133.10	12.366		
8,400.00	7,154.00	8,727.18	7,579.00	73.32	70.64	-104.93	-633.19	-3,244.39	1,645.99	1,508.56	137.43	11.977		
8,500.00	7,154.00	8,827.18	7,579.00	75.55	72.87	-104.93	-633.24	-3,344.39	1,646.07	1,504.24	141.84	11.605		
8,600.00	7,154.00	8,927.18	7,579.00	77.81	75.13	-104.93	-633.30	-3,444.39	1,646.15	1,499.86	146.29	11.253		
8,700.00	7,154.00	9,027.18	7,579.00	80.10	77.42	-104.93	-633.36	-3,544.39	1,646.23	1,495.43	150.80	10.917		
8,800.00	7,154.00	9,127.18	7,579.00	82.41	79.73	-104.92	-633.42	-3,644.39	1,646.31	1,490.96	155.35	10.597		
8,900.00	7,154.00	9,227.18	7,579.00	84.75	82.07	-104.92	-633.48	-3,744.39	1,646.39	1,486.44	159.95	10.293		
9,000.00	7,154.00	9,327.18	7,579.00	87.11	84.43	-104.92	-633.53	-3,844.39	1,646.47	1,481.89	164.58	10.004		
9,100.00	7,154.00	9,427.18	7,579.00	89.48	86.81	-104.92	-633.59	-3,944.39	1,646.55	1,477.30	169.25	9.728		
9,200.00	7,154.00	9,527.18	7,579.00	91.88	89.21	-104.92	-633.65	-4,044.39	1,646.63	1,472.68	173.96	9.466		
9,300.00	7,154.00	9,627.18	7,579.00	94.29	91.62	-104.92	-633.71	-4,144.39	1,646.71	1,468.03	178.69	9.216		
9,400.00	7,154.00	9,727.18	7,579.00	96.72	94.05	-104.92	-633.76	-4,244.39	1,646.79	1,463.35	183.45	8.977		
9,500.00	7,154.00	9,827.18	7,579.00	99.16	96.50	-104.92	-633.82	-4,344.39	1,646.87	1,458.64	188.24	8.749		
9,600.00	7,154.00	9,927.18	7,579.00	101.61	98.96	-104.92	-633.88	-4,444.39	1,646.95	1,453.91	193.05	8.531		
9,700.00	7,154.00	10,027.18	7,579.00	104.08	101.43	-104.92	-633.94	-4,544.39	1,647.04	1,449.16	197.88	8.323		
9,800.00	7,154.00	10,127.18	7,579.00	106.56	103.92	-104.92	-634.00	-4,644.39	1,647.12	1,444.38	202.73	8.125		
9,900.00	7,154.00	10,227.18	7,579.00	109.05	106.41	-104.92	-634.05	-4,744.39	1,647.20	1,439.59	207.60	7.934		
10,000.00	7,154.00	10,327.18	7,579.00	111.55	108.91	-104.92	-634.11	-4,844.39	1,647.28	1,434.78	212.49	7.752		
10,100.00	7,154.00	10,427.18	7,579.00	114.06	111.43	-104.91	-634.17	-4,944.39	1,647.36	1,429.96	217.40	7.578		
10,200.00	7,154.00	10,527.18	7,579.00	116.57	113.95	-104.91	-634.23	-5,044.39	1,647.44	1,425.12	222.32	7.410		
10,300.00	7,154.00	10,627.18	7,579.00	119.10	116.48	-104.91	-634.28	-5,144.39	1,647.52	1,420.26	227.26	7.250		

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 WARBLER 13W-27-03
Project:	ADAMS COUNTY	TVD Reference:	KB 25' @ 5105.00usft
Reference Site:	Sec 13-T1S-R66W	MD Reference:	KB 25' @ 5105.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	WARBLER 13W-27-03	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT_32Bit_ODBC
Reference Design:	PROPOSAL 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-MWD OWSG													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		
10,400.00	7,154.00	10,727.18	7,579.00	121.63	119.02	-104.91	-634.34	-5,244.39	1,647.60	1,415.39	232.21	7.095		
10,500.00	7,154.00	10,827.18	7,579.00	124.17	121.57	-104.91	-634.40	-5,344.39	1,647.68	1,410.51	237.17	6.947		
10,600.00	7,154.00	10,927.18	7,579.00	126.72	124.12	-104.91	-634.46	-5,444.39	1,647.76	1,405.62	242.14	6.805		
10,700.00	7,154.00	11,027.18	7,579.00	129.28	126.68	-104.91	-634.52	-5,544.39	1,647.84	1,400.71	247.13	6.668		
10,800.00	7,154.00	11,127.18	7,579.00	131.84	129.24	-104.91	-634.57	-5,644.39	1,647.92	1,395.79	252.12	6.536		
10,900.00	7,154.00	11,227.18	7,579.00	134.40	131.81	-104.91	-634.63	-5,744.39	1,648.00	1,390.87	257.13	6.409		
11,000.00	7,154.00	11,327.18	7,579.00	136.97	134.39	-104.91	-634.69	-5,844.39	1,648.08	1,385.93	262.14	6.287		
11,100.00	7,154.00	11,427.18	7,579.00	139.55	136.97	-104.91	-634.75	-5,944.39	1,648.16	1,380.99	267.17	6.169		
11,200.00	7,154.00	11,527.18	7,579.00	142.13	139.55	-104.91	-634.80	-6,044.39	1,648.24	1,376.04	272.20	6.055		
11,300.00	7,154.00	11,627.18	7,579.00	144.72	142.14	-104.91	-634.86	-6,144.39	1,648.32	1,371.08	277.24	5.945		
11,400.00	7,154.00	11,727.18	7,579.00	147.30	144.74	-104.91	-634.92	-6,244.39	1,648.40	1,366.11	282.29	5.839		
11,500.00	7,154.00	11,827.18	7,579.00	149.90	147.33	-104.90	-634.98	-6,344.39	1,648.48	1,361.14	287.34	5.737		
11,600.00	7,154.00	11,927.18	7,579.00	152.50	149.94	-104.90	-635.04	-6,444.39	1,648.56	1,356.16	292.40	5.638		
11,700.00	7,154.00	12,027.18	7,579.00	155.10	152.54	-104.90	-635.09	-6,544.39	1,648.64	1,351.17	297.47	5.542		
11,800.00	7,154.00	12,127.18	7,579.00	157.70	155.15	-104.90	-635.15	-6,644.39	1,648.72	1,346.17	302.55	5.449		
11,900.00	7,154.00	12,227.18	7,579.00	160.31	157.76	-104.90	-635.21	-6,744.39	1,648.80	1,341.18	307.63	5.360		
12,000.00	7,154.00	12,327.18	7,579.00	162.92	160.37	-104.90	-635.27	-6,844.39	1,648.88	1,336.17	312.71	5.273		
12,100.00	7,154.00	12,427.18	7,579.00	165.54	162.99	-104.90	-635.32	-6,944.39	1,648.96	1,331.16	317.80	5.189		
12,200.00	7,154.00	12,527.18	7,579.00	168.15	165.61	-104.90	-635.38	-7,044.39	1,649.04	1,326.15	322.90	5.107		
12,300.00	7,154.00	12,627.18	7,579.00	170.77	168.24	-104.90	-635.44	-7,144.39	1,649.12	1,321.13	328.00	5.028		
12,400.00	7,154.00	12,727.18	7,579.00	173.39	170.86	-104.90	-635.50	-7,244.39	1,649.20	1,316.10	333.10	4.951		
12,500.00	7,154.00	12,827.18	7,579.00	176.02	173.49	-104.90	-635.56	-7,344.39	1,649.28	1,311.07	338.21	4.877		
12,600.00	7,154.00	12,927.18	7,579.00	178.65	176.12	-104.90	-635.61	-7,444.39	1,649.36	1,306.04	343.32	4.804		
12,700.00	7,154.00	13,027.18	7,579.00	181.28	178.75	-104.90	-635.67	-7,544.39	1,649.44	1,301.00	348.44	4.734		
12,800.00	7,154.00	13,127.18	7,579.00	183.91	181.39	-104.89	-635.73	-7,644.39	1,649.52	1,295.96	353.56	4.665		
12,900.00	7,154.00	13,227.18	7,579.00	186.54	184.02	-104.89	-635.79	-7,744.39	1,649.60	1,290.92	358.68	4.599		
13,000.00	7,154.00	13,327.18	7,579.00	189.18	186.66	-104.89	-635.84	-7,844.39	1,649.68	1,285.87	363.81	4.534		
13,100.00	7,154.00	13,427.18	7,579.00	191.81	189.30	-104.89	-635.90	-7,944.39	1,649.76	1,280.82	368.94	4.472		
13,200.00	7,154.00	13,527.18	7,579.00	194.45	191.94	-104.89	-635.96	-8,044.38	1,649.84	1,275.77	374.08	4.410		
13,300.00	7,154.00	13,627.18	7,579.00	197.10	194.59	-104.89	-636.02	-8,144.38	1,649.93	1,270.71	379.22	4.351		
13,400.00	7,154.00	13,727.18	7,579.00	199.74	197.23	-104.89	-636.07	-8,244.38	1,650.01	1,265.65	384.36	4.293		
13,500.00	7,154.00	13,827.18	7,579.00	202.38	199.88	-104.89	-636.13	-8,344.38	1,650.09	1,260.59	389.50	4.236		
13,600.00	7,154.00	13,927.18	7,579.00	205.03	202.53	-104.89	-636.19	-8,444.38	1,650.17	1,255.52	394.64	4.181		
13,700.00	7,154.00	14,027.18	7,579.00	207.68	205.18	-104.89	-636.25	-8,544.38	1,650.25	1,250.45	399.79	4.128		
13,800.00	7,154.00	14,127.18	7,579.00	210.33	207.83	-104.89	-636.31	-8,644.38	1,650.33	1,245.38	404.94	4.075		
13,900.00	7,154.00	14,227.18	7,579.00	212.98	210.48	-104.89	-636.36	-8,744.38	1,650.41	1,240.31	410.10	4.024		
14,000.00	7,154.00	14,327.18	7,579.00	215.63	213.14	-104.89	-636.42	-8,844.38	1,650.49	1,235.23	415.25	3.975		
14,100.00	7,154.00	14,427.18	7,579.00	218.28	215.79	-104.89	-636.48	-8,944.38	1,650.57	1,230.16	420.41	3.926		
14,200.00	7,154.00	14,527.18	7,579.00	220.93	218.45	-104.88	-636.54	-9,044.38	1,650.65	1,225.08	425.57	3.879		
14,300.00	7,154.00	14,627.18	7,579.00	223.59	221.10	-104.88	-636.59	-9,144.38	1,650.73	1,220.00	430.73	3.832		
14,400.00	7,154.00	14,727.18	7,579.00	226.25	223.76	-104.88	-636.65	-9,244.38	1,650.81	1,214.91	435.90	3.787		
14,500.00	7,154.00	14,827.18	7,579.00	228.90	226.42	-104.88	-636.71	-9,344.38	1,650.89	1,209.83	441.06	3.743		
14,600.00	7,154.00	14,927.18	7,579.00	231.56	229.08	-104.88	-636.77	-9,444.38	1,650.97	1,204.74	446.23	3.700		
14,700.00	7,154.00	15,027.18	7,579.00	234.22	231.74	-104.88	-636.83	-9,544.38	1,651.05	1,199.65	451.40	3.658		
14,800.00	7,154.00	15,127.18	7,579.00	236.88	234.41	-104.88	-636.88	-9,644.38	1,651.13	1,194.56	456.57	3.616		
14,900.00	7,154.00	15,227.18	7,579.00	239.55	237.07	-104.88	-636.94	-9,744.38	1,651.21	1,189.47	461.74	3.576		
15,000.00	7,154.00	15,327.18	7,579.00	242.21	239.73	-104.88	-637.00	-9,844.38	1,651.29	1,184.37	466.92	3.537		
15,100.00	7,154.00	15,427.18	7,579.00	244.87	242.40	-104.88	-637.06	-9,944.38	1,651.37	1,179.27	472.10	3.498		
15,200.00	7,154.00	15,527.18	7,579.00	247.54	245.07	-104.88	-637.11	-10,044.38	1,651.45	1,174.18	477.27	3.460		
15,300.00	7,154.00	15,627.18	7,579.00	250.20	247.73	-104.88	-637.17	-10,144.38	1,651.53	1,169.08	482.45	3.423		
15,400.00	7,154.00	15,727.18	7,579.00	252.87	250.40	-104.88	-637.23	-10,244.38	1,651.61	1,163.98	487.63	3.387		
15,500.00	7,154.00	15,827.18	7,579.00	255.53	253.07	-104.87	-637.29	-10,344.38	1,651.69	1,158.87	492.82	3.352		

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 WARBLER 13W-27-03
Project:	ADAMS COUNTY	TVD Reference:	KB 25' @ 5105.00usft
Reference Site:	Sec 13-T1S-R66W	MD Reference:	KB 25' @ 5105.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	WARBLER 13W-27-03	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT_32Bit_ODBC
Reference Design:	PROPOSAL 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-MWD OWSG													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		
15,600.00	7,154.00	15,927.18	7,579.00	258.20	255.74	-104.87	-637.35	-10,444.38	1,651.77	1,153.77	498.00	3.317		
15,700.00	7,154.00	16,027.18	7,579.00	260.87	258.41	-104.87	-637.40	-10,544.38	1,651.85	1,148.67	503.19	3.283		
15,800.00	7,154.00	16,127.18	7,579.00	263.54	261.08	-104.87	-637.46	-10,644.38	1,651.93	1,143.56	508.37	3.249		
15,900.00	7,154.00	16,227.18	7,579.00	266.21	263.75	-104.87	-637.52	-10,744.38	1,652.01	1,138.45	513.56	3.217		
16,000.00	7,154.00	16,327.18	7,579.00	268.88	266.42	-104.87	-637.58	-10,844.38	1,652.09	1,133.35	518.75	3.185		
16,100.00	7,154.00	16,427.18	7,579.00	271.55	269.09	-104.87	-637.63	-10,944.38	1,652.17	1,128.24	523.94	3.153		
16,200.00	7,154.00	16,527.18	7,579.00	274.22	271.77	-104.87	-637.69	-11,044.38	1,652.25	1,123.13	529.13	3.123		
16,300.00	7,154.00	16,627.18	7,579.00	276.90	274.44	-104.87	-637.75	-11,144.38	1,652.33	1,118.01	534.32	3.092		
16,400.00	7,154.00	16,727.18	7,579.00	279.57	277.12	-104.87	-637.81	-11,244.38	1,652.41	1,112.90	539.51	3.063		
16,500.00	7,154.00	16,827.18	7,579.00	282.24	279.79	-104.87	-637.87	-11,344.38	1,652.49	1,107.79	544.71	3.034		
16,600.00	7,154.00	16,927.18	7,579.00	284.92	282.47	-104.87	-637.92	-11,444.38	1,652.57	1,102.67	549.90	3.005		
16,700.00	7,154.00	17,027.18	7,579.00	287.59	285.14	-104.87	-637.98	-11,544.38	1,652.66	1,097.56	555.10	2.977		
16,800.00	7,154.00	17,127.18	7,579.00	290.27	287.82	-104.87	-638.04	-11,644.38	1,652.74	1,092.44	560.30	2.950		
16,900.00	7,154.00	17,227.18	7,579.00	292.94	290.50	-104.86	-638.10	-11,744.38	1,652.82	1,087.32	565.49	2.923		
17,000.00	7,154.00	17,327.18	7,579.00	295.62	293.17	-104.86	-638.15	-11,844.38	1,652.90	1,082.20	570.69	2.896		
17,100.00	7,154.00	17,427.18	7,579.00	298.29	295.85	-104.86	-638.21	-11,944.38	1,652.98	1,077.08	575.89	2.870		
17,200.00	7,154.00	17,527.18	7,579.00	300.97	298.53	-104.86	-638.27	-12,044.38	1,653.06	1,071.96	581.09	2.845		
17,300.00	7,154.00	17,627.18	7,579.00	303.65	301.21	-104.86	-638.33	-12,144.38	1,653.14	1,066.84	586.30	2.820		
17,400.00	7,154.00	17,727.18	7,579.00	306.33	303.89	-104.86	-638.39	-12,244.38	1,653.22	1,061.72	591.50	2.795		
17,500.00	7,154.00	17,827.18	7,579.00	309.01	306.57	-104.86	-638.44	-12,344.38	1,653.30	1,056.60	596.70	2.771		
17,600.00	7,154.00	17,927.18	7,579.00	311.69	309.25	-104.86	-638.50	-12,444.38	1,653.38	1,051.47	601.91	2.747		
17,700.00	7,154.00	18,027.18	7,579.00	314.37	311.93	-104.86	-638.56	-12,544.38	1,653.46	1,046.35	607.11	2.723		
17,800.00	7,154.00	18,127.18	7,579.00	317.05	314.61	-104.86	-638.62	-12,644.38	1,653.54	1,041.22	612.32	2.700		
17,900.00	7,154.00	18,227.18	7,579.00	319.73	317.29	-104.86	-638.67	-12,744.38	1,653.62	1,036.10	617.52	2.678		
18,000.00	7,154.00	18,327.18	7,579.00	322.41	319.97	-104.86	-638.73	-12,844.38	1,653.70	1,030.97	622.73	2.656		
18,100.00	7,154.00	18,427.18	7,579.00	325.09	322.65	-104.86	-638.79	-12,944.38	1,653.78	1,025.84	627.94	2.634		
18,200.00	7,154.00	18,527.18	7,579.00	327.77	325.34	-104.85	-638.85	-13,044.38	1,653.86	1,020.72	633.14	2.612		
18,300.00	7,154.00	18,627.18	7,579.00	330.45	328.02	-104.85	-638.91	-13,144.38	1,653.94	1,015.59	638.35	2.591		
18,400.00	7,154.00	18,727.18	7,579.00	333.13	330.70	-104.85	-638.96	-13,244.38	1,654.02	1,010.46	643.56	2.570		
18,500.00	7,154.00	18,827.18	7,579.00	335.82	333.38	-104.85	-639.02	-13,344.38	1,654.10	1,005.33	648.77	2.550		
18,600.00	7,154.00	18,927.18	7,579.00	338.50	336.07	-104.85	-639.08	-13,444.38	1,654.18	1,000.20	653.98	2.529		
18,700.00	7,154.00	19,027.18	7,579.00	341.18	338.75	-104.85	-639.14	-13,544.38	1,654.26	995.07	659.19	2.510		
18,800.00	7,154.00	19,127.18	7,579.00	343.86	341.44	-104.85	-639.19	-13,644.38	1,654.34	989.93	664.41	2.490		
18,900.00	7,154.00	19,227.18	7,579.00	346.55	344.12	-104.85	-639.25	-13,744.38	1,654.42	984.80	669.62	2.471		
19,000.00	7,154.00	19,327.18	7,579.00	349.23	346.81	-104.85	-639.31	-13,844.38	1,654.50	979.67	674.83	2.452		
19,100.00	7,154.00	19,427.18	7,579.00	351.92	349.49	-104.85	-639.37	-13,944.38	1,654.58	974.54	680.05	2.433		
19,200.00	7,154.00	19,527.18	7,579.00	354.60	352.18	-104.85	-639.43	-14,044.38	1,654.66	969.40	685.26	2.415		
19,300.00	7,154.00	19,627.18	7,579.00	357.29	354.86	-104.85	-639.48	-14,144.38	1,654.74	964.27	690.47	2.397		
19,400.00	7,154.00	19,727.18	7,579.00	359.97	357.55	-104.85	-639.54	-14,244.38	1,654.82	959.13	695.69	2.379		
19,500.00	7,154.00	19,827.18	7,579.00	362.66	360.23	-104.85	-639.60	-14,344.38	1,654.90	954.00	700.91	2.361		
19,600.00	7,154.00	19,927.18	7,579.00	365.34	362.92	-104.84	-639.66	-14,444.38	1,654.98	948.86	706.12	2.344		
19,700.00	7,154.00	20,027.18	7,579.00	368.03	365.61	-104.84	-639.71	-14,544.38	1,655.06	943.73	711.34	2.327		
19,800.00	7,154.00	20,127.18	7,579.00	370.72	368.29	-104.84	-639.77	-14,644.38	1,655.14	938.59	716.56	2.310		
19,900.00	7,154.00	20,227.18	7,579.00	373.40	370.98	-104.84	-639.83	-14,744.38	1,655.22	933.45	721.77	2.293		
20,000.00	7,154.00	20,327.18	7,579.00	376.09	373.67	-104.84	-639.89	-14,844.38	1,655.31	928.31	726.99	2.277		
20,100.00	7,154.00	20,427.18	7,579.00	378.78	376.36	-104.84	-639.95	-14,944.38	1,655.39	923.18	732.21	2.261		
20,200.00	7,154.00	20,527.18	7,579.00	381.46	379.05	-104.84	-640.00	-15,044.38	1,655.47	918.04	737.43	2.245		
20,300.00	7,154.00	20,627.18	7,579.00	384.15	381.73	-104.84	-640.06	-15,144.38	1,655.55	912.90	742.65	2.229		
20,400.00	7,154.00	20,727.18	7,579.00	386.84	384.42	-104.84	-640.12	-15,244.38	1,655.63	907.76	747.87	2.214		
20,500.00	7,154.00	20,827.18	7,579.00	389.53	387.11	-104.84	-640.18	-15,344.38	1,655.71	902.62	753.09	2.199		
20,600.00	7,154.00	20,927.18	7,579.00	392.21	389.80	-104.84	-640.23	-15,444.38	1,655.79	897.48	758.31	2.184		
20,700.00	7,154.00	21,027.18	7,579.00	394.90	392.49	-104.84	-640.29	-15,544.38	1,655.87	892.34	763.53	2.169		

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 WARBLER 13W-27-03
Project:	ADAMS COUNTY	TVD Reference:	KB 25' @ 5105.00usft
Reference Site:	Sec 13-T1S-R66W	MD Reference:	KB 25' @ 5105.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	WARBLER 13W-27-03	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT_32Bit_ODBC
Reference Design:	PROPOSAL 1	Offset TVD Reference:	Offset Datum

Offset Design Sec 13-T1S-R66W - WARBLER 13W-27-19 - OWB - PROPOSAL 1												Offset Site Error:	0.00 usft
Survey Program: 0-MWD OWSG												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	
20,800.00	7,154.00	21,127.18	7,579.00	397.59	395.18	-104.84	-640.35	-15,644.38	1,655.95	887.20	768.75	2.154	
20,900.00	7,154.00	21,227.18	7,579.00	400.28	397.87	-104.83	-640.41	-15,744.38	1,656.03	882.06	773.97	2.140	
21,000.00	7,154.00	21,327.18	7,579.00	402.97	400.56	-104.83	-640.47	-15,844.38	1,656.11	876.91	779.19	2.125	
21,100.00	7,154.00	21,427.18	7,579.00	405.66	403.25	-104.83	-640.52	-15,944.38	1,656.19	871.77	784.42	2.111	
21,200.00	7,154.00	21,527.18	7,579.00	408.35	405.94	-104.83	-640.58	-16,044.38	1,656.27	866.63	789.64	2.097	
21,300.00	7,154.00	21,627.18	7,579.00	411.04	408.63	-104.83	-640.64	-16,144.38	1,656.35	861.49	794.86	2.084	
21,400.00	7,154.00	21,727.18	7,579.00	413.73	411.32	-104.83	-640.70	-16,244.38	1,656.43	856.34	800.09	2.070	
21,500.00	7,154.00	21,827.18	7,579.00	416.42	414.01	-104.83	-640.75	-16,344.38	1,656.51	851.20	805.31	2.057	
21,573.27	7,154.00	21,900.44	7,579.00	418.39	415.98	-104.83	-640.80	-16,417.65	1,656.57	847.43	809.14	2.047 SF	

Anticollision Report

Company:	EXTRACTION OIL & GAS	Local Co-ordinate Reference:	Well WARBLER 13W-27-03
Project:	ADAMS COUNTY	TVD Reference:	KB 25' @ 5105.00usft
Reference Site:	Sec 13-T1S-R66W	MD Reference:	KB 25' @ 5105.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	WARBLER 13W-27-03	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT_32Bit_ODBC
Reference Design:	PROPOSAL 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-MWD OWSG													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		
0.00	0.00	1.00	1.00	0.00	0.00	-179.43	-167.93	-1.68	167.94					
100.00	100.00	101.00	101.00	0.13	0.14	-179.43	-167.93	-1.68	167.94	167.67	0.27	616.444		
200.00	200.00	201.00	201.00	0.49	0.50	-179.43	-167.93	-1.68	167.94	166.95	0.99	169.746		
300.00	300.00	301.00	301.00	0.85	0.85	-179.43	-167.93	-1.68	167.94	166.24	1.71	98.424 CC, ES		
400.00	400.00	398.53	398.51	1.21	1.19	-178.90	-168.63	-3.23	168.68	166.28	2.40	70.149		
500.00	500.00	495.85	495.70	1.57	1.53	-177.39	-170.69	-7.78	170.95	167.85	3.10	55.102		
600.00	600.00	592.73	592.22	1.93	1.89	-174.98	-174.09	-15.30	174.98	171.17	3.81	45.926		
700.00	699.98	689.07	687.88	2.28	2.26	-103.61	-178.80	-25.72	181.52	177.00	4.52	40.132		
800.00	799.84	784.90	782.59	2.63	2.65	-101.16	-184.80	-38.99	191.01	185.77	5.25	36.409		
900.00	899.45	880.12	876.17	3.00	3.06	-99.09	-192.04	-55.02	203.31	197.33	5.99	33.951		
1,000.00	998.70	974.65	968.43	3.37	3.51	-97.40	-200.50	-73.74	218.28	211.52	6.76	32.312		
1,100.00	1,097.47	1,068.41	1,059.23	3.77	3.98	-96.06	-210.13	-95.03	235.78	228.22	7.55	31.210		
1,200.00	1,195.62	1,161.32	1,148.41	4.19	4.49	-95.02	-220.86	-118.79	255.70	247.31	8.39	30.475		
1,300.00	1,293.06	1,253.33	1,235.83	4.64	5.04	-94.24	-232.67	-144.90	277.94	268.66	9.28	29.953		
1,400.00	1,389.64	1,344.36	1,321.38	5.12	5.62	-93.66	-245.48	-173.23	302.44	292.22	10.22	29.588		
1,500.00	1,485.27	1,438.53	1,409.04	5.66	6.27	-93.34	-259.65	-204.60	328.73	317.45	11.27	29.166		
1,600.00	1,579.82	1,534.82	1,498.59	6.24	6.94	-93.53	-274.22	-236.83	355.37	342.95	12.42	28.611		
1,700.00	1,673.17	1,630.83	1,587.89	6.88	7.63	-94.15	-288.75	-268.98	382.33	368.68	13.65	28.009		
1,800.00	1,765.22	1,726.46	1,676.83	7.57	8.32	-95.16	-303.22	-300.99	409.73	394.77	14.96	27.389		
1,900.00	1,856.73	1,821.92	1,765.61	8.31	9.02	-96.67	-317.67	-332.95	437.52	421.20	16.32	26.812		
2,000.00	1,948.24	1,917.37	1,854.38	9.06	9.72	-98.00	-332.11	-364.91	465.56	447.86	17.70	26.305		
2,100.00	2,039.75	2,012.82	1,943.16	9.83	10.42	-99.19	-346.55	-396.86	493.81	474.72	19.10	25.859		
2,200.00	2,131.26	2,108.27	2,031.94	10.61	11.13	-100.24	-361.00	-428.82	522.24	501.73	20.51	25.468		
2,300.00	2,222.77	2,203.72	2,120.71	11.40	11.84	-101.19	-375.44	-460.77	550.81	528.89	21.93	25.121		
2,400.00	2,314.28	2,300.83	2,209.49	12.20	12.57	-102.04	-389.88	-492.73	579.51	556.14	23.36	24.803		
2,500.00	2,405.79	2,394.62	2,298.26	13.00	13.27	-102.82	-404.33	-524.69	608.31	583.53	24.79	24.543		
2,600.00	2,497.30	2,509.93	2,387.04	13.81	14.13	-103.52	-418.77	-556.64	637.21	610.85	26.36	24.173		
2,700.00	2,588.81	2,585.53	2,475.81	14.62	14.70	-104.16	-433.22	-588.60	666.19	638.53	27.66	24.081		
2,800.00	2,680.31	2,680.98	2,564.59	15.44	15.42	-104.75	-447.66	-620.55	695.24	666.13	29.11	23.884		
2,900.00	2,771.82	2,776.43	2,653.37	16.25	16.14	-105.29	-462.10	-652.51	724.35	693.80	30.56	23.706		
3,000.00	2,863.33	2,871.88	2,742.14	17.08	16.86	-105.80	-476.55	-684.47	753.52	721.52	32.00	23.545		
3,100.00	2,954.84	2,967.33	2,830.92	17.90	17.58	-106.26	-490.99	-716.42	782.74	749.29	33.45	23.398		
3,200.00	3,046.35	3,062.78	2,919.69	18.72	18.30	-106.69	-505.44	-748.38	812.00	777.09	34.91	23.263		
3,300.00	3,137.86	3,158.23	3,008.47	19.55	19.02	-107.09	-519.88	-780.33	841.30	804.94	36.36	23.140		
3,400.00	3,229.37	3,253.68	3,097.24	20.38	19.75	-107.46	-534.32	-812.29	870.63	832.82	37.81	23.026		
3,500.00	3,320.88	3,349.14	3,186.02	21.21	20.47	-107.81	-548.77	-844.25	900.00	860.73	39.27	22.921		
3,600.00	3,412.39	3,444.59	3,274.80	22.04	21.19	-108.14	-563.21	-876.20	929.39	888.67	40.72	22.824		
3,700.00	3,503.90	3,540.04	3,363.57	22.87	21.92	-108.45	-577.66	-908.16	958.82	916.64	42.18	22.734		
3,800.00	3,595.41	3,635.49	3,452.35	23.70	22.64	-108.74	-592.10	-940.12	988.26	944.63	43.63	22.650		
3,900.00	3,686.91	3,730.94	3,541.12	24.54	23.37	-109.01	-606.54	-972.07	1,017.73	972.64	45.09	22.572		
4,000.00	3,778.42	3,826.39	3,629.90	25.37	24.09	-109.27	-620.99	-1,004.03	1,047.21	1,000.67	46.54	22.499		
4,100.00	3,869.93	3,921.84	3,718.67	26.20	24.82	-109.51	-635.43	-1,035.98	1,076.72	1,028.72	48.00	22.431		
4,200.00	3,961.44	4,017.29	3,807.45	27.04	25.54	-109.74	-649.88	-1,067.94	1,106.24	1,056.78	49.46	22.367		
4,300.00	4,052.95	4,112.75	3,896.23	27.88	26.27	-109.96	-664.32	-1,099.90	1,135.78	1,084.86	50.92	22.307		
4,400.00	4,144.46	4,208.20	3,985.00	28.71	26.99	-110.16	-678.76	-1,131.85	1,165.33	1,112.95	52.37	22.251		
4,500.00	4,235.97	4,303.65	4,073.78	29.55	27.72	-110.36	-693.21	-1,163.81	1,194.89	1,141.06	53.83	22.197		
4,600.00	4,327.48	4,399.10	4,162.55	30.39	28.44	-110.55	-707.65	-1,195.76	1,224.47	1,169.18	55.29	22.147		
4,700.00	4,418.99	4,505.45	4,251.33	31.22	29.25	-110.73	-722.10	-1,227.72	1,254.06	1,197.23	56.83	22.068		
4,800.00	4,510.50	4,610.00	4,340.10	32.06	30.05	-110.90	-736.54	-1,259.68	1,283.65	1,225.30	58.35	21.999		
4,900.00	4,602.01	4,685.45	4,428.88	32.90	30.62	-111.06	-750.98	-1,291.63	1,313.26	1,253.60	59.66	22.011		
5,000.00	4,693.51	4,780.90	4,517.66	33.74	31.35	-111.21	-765.43	-1,323.59	1,342.88	1,281.76	61.12	21.971		
5,100.00	4,785.02	4,876.36	4,606.43	34.58	32.07	-111.36	-779.87	-1,355.54	1,372.51	1,309.93	62.58	21.932		

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 WARBLER 13W-27-03
Project:	ADAMS COUNTY	TVD Reference:	KB 25' @ 5105.00usft
Reference Site:	Sec 13-T1S-R66W	MD Reference:	KB 25' @ 5105.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	WARBLER 13W-27-03	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT_32Bit_ODBC
Reference Design:	PROPOSAL 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-MWD OWSG													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		
5,200.00	4,876.53	4,971.81	4,695.21	35.42	32.80	-111.51	-794.31	-1,387.50	1,402.14	1,338.10	64.04	21.895		
5,300.00	4,968.04	5,067.26	4,783.98	36.26	33.53	-111.64	-808.76	-1,419.46	1,431.78	1,366.29	65.50	21.860		
5,400.00	5,059.55	5,162.71	4,872.76	37.10	34.26	-111.77	-823.20	-1,451.41	1,461.43	1,394.48	66.96	21.827		
5,500.00	5,151.06	5,258.16	4,961.53	37.94	34.98	-111.90	-837.65	-1,483.37	1,491.09	1,422.67	68.41	21.795		
5,600.00	5,242.57	5,353.61	5,050.31	38.78	35.71	-112.02	-852.09	-1,515.32	1,520.75	1,450.88	69.87	21.764		
5,700.00	5,334.08	5,449.06	5,139.09	39.62	36.44	-112.14	-866.53	-1,547.28	1,550.42	1,479.09	71.33	21.735		
5,800.00	5,425.59	5,544.51	5,227.86	40.46	37.16	-112.25	-880.98	-1,579.24	1,580.09	1,507.30	72.79	21.707		
5,900.00	5,517.10	5,639.97	5,316.64	41.30	37.89	-112.36	-895.42	-1,611.19	1,609.77	1,535.52	74.25	21.680		
6,000.00	5,608.61	5,735.42	5,405.41	42.14	38.62	-112.46	-909.87	-1,643.15	1,639.45	1,563.74	75.71	21.654		
6,100.00	5,700.12	5,830.87	5,494.19	42.98	39.35	-112.56	-924.31	-1,675.11	1,669.14	1,591.97	77.17	21.630		
6,200.00	5,791.62	5,926.32	5,582.96	43.82	40.07	-112.66	-938.75	-1,707.06	1,698.84	1,620.21	78.63	21.606		
6,300.00	5,883.13	6,021.77	5,671.74	44.66	40.80	-112.75	-953.20	-1,739.02	1,728.53	1,648.45	80.09	21.583		
6,400.00	5,974.64	6,117.22	5,760.51	45.50	41.53	-112.84	-967.64	-1,770.97	1,758.24	1,676.69	81.55	21.561		
6,500.00	6,066.15	6,212.67	5,849.29	46.35	42.26	-112.93	-982.09	-1,802.93	1,787.94	1,704.93	83.01	21.540		
6,600.00	6,157.66	6,308.12	5,938.07	47.19	42.98	-113.01	-996.53	-1,834.89	1,817.65	1,733.18	84.47	21.519		
6,700.00	6,249.17	6,403.58	6,026.84	48.03	43.71	-113.09	-1,010.97	-1,866.84	1,847.36	1,761.44	85.92	21.500		
6,800.00	6,340.68	6,499.03	6,115.62	48.87	44.44	-113.17	-1,025.42	-1,898.80	1,877.08	1,789.69	87.38	21.481		
6,900.00	6,432.19	6,605.52	6,204.39	49.71	45.25	-113.25	-1,039.86	-1,930.75	1,906.80	1,817.87	88.92	21.443		
7,000.00	6,523.70	6,689.93	6,293.17	50.55	45.89	-113.32	-1,054.31	-1,962.71	1,936.52	1,846.22	90.30	21.445		
7,100.00	6,615.21	6,785.38	6,381.94	51.40	46.62	-113.40	-1,068.75	-1,994.67	1,966.24	1,874.48	91.76	21.427		
7,200.00	6,706.72	6,880.83	6,470.72	52.24	47.35	-113.47	-1,083.19	-2,026.62	1,995.97	1,902.75	93.22	21.411		
7,300.00	6,798.22	6,976.28	6,559.50	53.08	48.08	-113.53	-1,097.64	-2,058.58	2,025.70	1,931.02	94.68	21.395		
7,400.00	6,886.25	7,071.08	6,647.66	54.07	48.80	-104.61	-1,111.98	-2,090.31	2,055.37	1,959.10	96.27	21.351		
7,500.00	6,965.23	7,162.63	6,732.81	55.35	49.50	-98.91	-1,125.84	-2,120.96	2,084.56	1,986.47	98.09	21.251		
7,600.00	7,032.75	7,248.15	6,812.35	56.90	50.15	-95.04	-1,138.78	-2,149.60	2,113.02	2,012.92	100.10	21.109		
7,700.00	7,086.77	7,325.05	6,883.87	58.68	50.74	-92.24	-1,150.41	-2,175.34	2,140.80	2,038.60	102.20	20.948		
7,800.00	7,125.64	7,409.02	6,945.19	60.64	51.38	-90.02	-1,160.39	-2,197.42	2,168.13	2,063.72	104.41	20.766		
7,900.00	7,148.19	7,443.95	6,994.46	62.69	51.64	-88.06	-1,168.41	-2,215.15	2,195.28	2,089.07	106.21	20.669		
8,000.00	7,154.00	7,482.59	7,030.39	64.75	51.94	-86.65	-1,174.25	-2,228.09	2,222.47	2,114.59	107.89	20.600		
8,100.00	7,154.00	7,516.07	7,061.53	66.83	52.19	-87.49	-1,179.32	-2,239.29	2,252.07	2,142.68	109.39	20.587		
8,200.00	7,154.00	7,550.62	7,093.00	68.96	53.36	-100.81	-1,264.08	-3,043.25	2,261.40	2,131.15	130.25	17.362		
8,300.00	7,154.00	7,585.62	7,124.00	71.12	54.51	-100.81	-1,264.18	-3,143.25	2,261.51	2,126.95	134.57	16.806		
8,400.00	7,154.00	7,620.62	7,155.00	73.32	55.66	-100.81	-1,264.27	-3,243.25	2,261.63	2,122.67	138.95	16.276		
8,500.00	7,154.00	7,655.62	7,186.00	75.55	56.81	-100.80	-1,264.36	-3,343.25	2,261.74	2,118.34	143.40	15.772		
8,600.00	7,154.00	7,690.62	7,217.00	77.81	57.96	-100.80	-1,264.45	-3,443.25	2,261.86	2,113.95	147.91	15.292		
8,700.00	7,154.00	7,725.62	7,248.00	80.10	59.11	-100.80	-1,264.55	-3,543.25	2,261.97	2,109.50	152.47	14.835		
8,800.00	7,154.00	7,760.62	7,279.00	82.41	60.26	-100.80	-1,264.64	-3,643.25	2,262.09	2,105.01	157.08	14.401		
8,900.00	7,154.00	7,795.62	7,310.00	84.75	61.41	-100.80	-1,264.73	-3,743.25	2,262.21	2,100.47	161.73	13.987		
9,000.00	7,154.00	7,830.62	7,341.00	87.11	62.56	-100.80	-1,264.82	-3,843.25	2,262.32	2,095.90	166.42	13.594		
9,100.00	7,154.00	7,865.62	7,372.00	89.48	63.71	-100.80	-1,264.92	-3,943.25	2,262.44	2,091.28	171.15	13.219		
9,200.00	7,154.00	7,900.62	7,403.00	91.88	64.86	-100.80	-1,265.01	-4,043.25	2,262.55	2,086.64	175.92	12.862		
9,300.00	7,154.00	7,935.62	7,434.00	94.29	66.01	-100.80	-1,265.10	-4,143.25	2,262.67	2,081.96	180.71	12.521		
9,400.00	7,154.00	7,970.62	7,465.00	96.72	67.16	-100.80	-1,265.20	-4,243.25	2,262.79	2,077.25	185.53	12.196		
9,500.00	7,154.00	8,005.62	7,496.00	99.16	68.31	-100.80	-1,265.29	-4,343.25	2,262.90	2,072.52	190.38	11.886		
9,600.00	7,154.00	8,040.62	7,527.00	101.61	69.46	-100.80	-1,265.38	-4,443.25	2,263.02	2,067.76	195.26	11.590		
9,700.00	7,154.00	8,075.62	7,558.00	104.08	70.61	-100.80	-1,265.47	-4,543.25	2,263.13	2,062.98	200.16	11.307		
9,800.00	7,154.00	8,110.62	7,589.00	106.56	71.76	-100.80	-1,265.57	-4,643.25	2,263.25	2,058.18	205.07	11.036		
9,900.00	7,154.00	8,145.62	7,620.00	109.05	72.91	-100.80	-1,265.66	-4,743.25	2,263.36	2,053.35	210.01	10.777		
10,000.00	7,154.00	8,180.62	7,651.00	111.55	74.06	-100.80	-1,265.75	-4,843.25	2,263.48	2,048.51	214.97	10.529		
10,100.00	7,154.00	8,215.62	7,682.00	114.06	75.21	-100.80	-1,265.84	-4,943.25	2,263.60	2,043.66	219.94	10.292		
10,200.00	7,154.00	8,250.62	7,713.00	116.57	76.36	-100.80	-1,265.94	-5,043.25	2,263.71	2,038.78	224.93	10.064		
10,300.00	7,154.00	8,285.62	7,744.00	119.10	77.51	-100.79	-1,266.03	-5,143.25	2,263.83	2,033.89	229.94	9.846		

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 WARBLER 13W-27-03
Project:	ADAMS COUNTY	TVD Reference:	KB 25' @ 5105.00usft
Reference Site:	Sec 13-T1S-R66W	MD Reference:	KB 25' @ 5105.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	WARBLER 13W-27-03	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT_32Bit_ODBC
Reference Design:	PROPOSAL 1	Offset TVD Reference:	Offset Datum

Offset Design Sec 13-T1S-R66W - WARBLER 13W-27-20 - OWB - PROPOSAL 1													Offset Site Error:	0.00 usft
Survey Program: 0-MWD OWSG													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		
10,400.00	7,154.00	10,785.62	7,579.00	121.63	119.71	-100.79	-1,266.12	-5,243.25	2,263.94	2,028.99	234.95	9.636		
10,500.00	7,154.00	10,885.62	7,579.00	124.17	122.22	-100.79	-1,266.21	-5,343.25	2,264.06	2,024.08	239.99	9.434		
10,600.00	7,154.00	10,985.62	7,579.00	126.72	124.74	-100.79	-1,266.31	-5,443.25	2,264.18	2,019.15	245.03	9.240		
10,700.00	7,154.00	11,085.62	7,579.00	129.28	127.27	-100.79	-1,266.40	-5,543.25	2,264.29	2,014.21	250.08	9.054		
10,800.00	7,154.00	11,185.62	7,579.00	131.84	129.81	-100.79	-1,266.49	-5,643.25	2,264.41	2,009.26	255.15	8.875		
10,900.00	7,154.00	11,285.62	7,579.00	134.40	132.35	-100.79	-1,266.58	-5,743.25	2,264.52	2,004.30	260.23	8.702		
11,000.00	7,154.00	11,385.62	7,579.00	136.97	134.90	-100.79	-1,266.68	-5,843.25	2,264.64	1,999.33	265.31	8.536		
11,100.00	7,154.00	11,485.62	7,579.00	139.55	137.45	-100.79	-1,266.77	-5,943.25	2,264.76	1,994.35	270.41	8.375		
11,200.00	7,154.00	11,585.62	7,579.00	142.13	140.01	-100.79	-1,266.86	-6,043.25	2,264.87	1,989.36	275.51	8.221		
11,300.00	7,154.00	11,685.62	7,579.00	144.72	142.58	-100.79	-1,266.96	-6,143.25	2,264.99	1,984.36	280.62	8.071		
11,400.00	7,154.00	11,785.62	7,579.00	147.30	145.15	-100.79	-1,267.05	-6,243.24	2,265.10	1,979.36	285.74	7.927		
11,500.00	7,154.00	11,885.62	7,579.00	149.90	147.73	-100.79	-1,267.14	-6,343.24	2,265.22	1,974.35	290.87	7.788		
11,600.00	7,154.00	11,985.62	7,579.00	152.50	150.31	-100.79	-1,267.23	-6,443.24	2,265.33	1,969.33	296.00	7.653		
11,700.00	7,154.00	12,085.62	7,579.00	155.10	152.89	-100.79	-1,267.33	-6,543.24	2,265.45	1,964.31	301.14	7.523		
11,800.00	7,154.00	12,185.62	7,579.00	157.70	155.48	-100.79	-1,267.42	-6,643.24	2,265.57	1,959.28	306.29	7.397		
11,900.00	7,154.00	12,285.62	7,579.00	160.31	158.07	-100.79	-1,267.51	-6,743.24	2,265.68	1,954.24	311.44	7.275		
12,000.00	7,154.00	12,385.62	7,579.00	162.92	160.67	-100.79	-1,267.60	-6,843.24	2,265.80	1,949.20	316.60	7.157		
12,100.00	7,154.00	12,485.62	7,579.00	165.54	163.27	-100.78	-1,267.70	-6,943.24	2,265.91	1,944.15	321.76	7.042		
12,200.00	7,154.00	12,585.62	7,579.00	168.15	165.87	-100.78	-1,267.79	-7,043.24	2,266.03	1,939.10	326.93	6.931		
12,300.00	7,154.00	12,685.62	7,579.00	170.77	168.48	-100.78	-1,267.88	-7,143.24	2,266.15	1,934.04	332.11	6.824		
12,400.00	7,154.00	12,785.62	7,579.00	173.39	171.09	-100.78	-1,267.97	-7,243.24	2,266.26	1,928.98	337.28	6.719		
12,500.00	7,154.00	12,885.62	7,579.00	176.02	173.70	-100.78	-1,268.07	-7,343.24	2,266.38	1,923.91	342.47	6.618		
12,600.00	7,154.00	12,985.62	7,579.00	178.65	176.31	-100.78	-1,268.16	-7,443.24	2,266.49	1,918.84	347.65	6.519		
12,700.00	7,154.00	13,085.62	7,579.00	181.28	178.93	-100.78	-1,268.25	-7,543.24	2,266.61	1,913.77	352.84	6.424		
12,800.00	7,154.00	13,185.62	7,579.00	183.91	181.55	-100.78	-1,268.34	-7,643.24	2,266.72	1,908.69	358.04	6.331		
12,900.00	7,154.00	13,285.62	7,579.00	186.54	184.18	-100.78	-1,268.44	-7,743.24	2,266.84	1,903.60	363.24	6.241		
13,000.00	7,154.00	13,385.62	7,579.00	189.18	186.80	-100.78	-1,268.53	-7,843.24	2,266.96	1,898.52	368.44	6.153		
13,100.00	7,154.00	13,485.62	7,579.00	191.81	189.43	-100.78	-1,268.62	-7,943.24	2,267.07	1,893.43	373.64	6.067		
13,200.00	7,154.00	13,585.62	7,579.00	194.45	192.06	-100.78	-1,268.72	-8,043.24	2,267.19	1,888.34	378.85	5.984		
13,300.00	7,154.00	13,685.62	7,579.00	197.10	194.69	-100.78	-1,268.81	-8,143.24	2,267.30	1,883.24	384.06	5.903		
13,400.00	7,154.00	13,785.62	7,579.00	199.74	197.32	-100.78	-1,268.90	-8,243.24	2,267.42	1,878.14	389.28	5.825		
13,500.00	7,154.00	13,885.62	7,579.00	202.38	199.96	-100.78	-1,268.99	-8,343.24	2,267.54	1,873.04	394.50	5.748		
13,600.00	7,154.00	13,985.62	7,579.00	205.03	202.60	-100.78	-1,269.09	-8,443.24	2,267.65	1,867.94	399.72	5.673		
13,700.00	7,154.00	14,085.62	7,579.00	207.68	205.24	-100.78	-1,269.18	-8,543.24	2,267.77	1,862.83	404.94	5.600		
13,800.00	7,154.00	14,185.62	7,579.00	210.33	207.88	-100.78	-1,269.27	-8,643.24	2,267.88	1,857.72	410.16	5.529		
13,900.00	7,154.00	14,285.62	7,579.00	212.98	210.52	-100.77	-1,269.36	-8,743.24	2,268.00	1,852.61	415.39	5.460		
14,000.00	7,154.00	14,385.62	7,579.00	215.63	213.16	-100.77	-1,269.46	-8,843.24	2,268.12	1,847.49	420.62	5.392		
14,100.00	7,154.00	14,485.62	7,579.00	218.28	215.81	-100.77	-1,269.55	-8,943.24	2,268.23	1,842.38	425.86	5.326		
14,200.00	7,154.00	14,585.62	7,579.00	220.93	218.45	-100.77	-1,269.64	-9,043.24	2,268.35	1,837.26	431.09	5.262		
14,300.00	7,154.00	14,685.62	7,579.00	223.59	221.10	-100.77	-1,269.73	-9,143.24	2,268.46	1,832.14	436.33	5.199		
14,400.00	7,154.00	14,785.62	7,579.00	226.25	223.75	-100.77	-1,269.83	-9,243.24	2,268.58	1,827.01	441.57	5.138		
14,500.00	7,154.00	14,885.62	7,579.00	228.90	226.40	-100.77	-1,269.92	-9,343.24	2,268.69	1,821.89	446.81	5.078		
14,600.00	7,154.00	14,985.62	7,579.00	231.56	229.06	-100.77	-1,270.01	-9,443.24	2,268.81	1,816.76	452.05	5.019		
14,700.00	7,154.00	15,085.62	7,579.00	234.22	231.71	-100.77	-1,270.10	-9,543.24	2,268.93	1,811.63	457.30	4.962		
14,800.00	7,154.00	15,185.62	7,579.00	236.88	234.36	-100.77	-1,270.20	-9,643.24	2,269.04	1,806.50	462.54	4.906		
14,900.00	7,154.00	15,285.62	7,579.00	239.55	237.02	-100.77	-1,270.29	-9,743.24	2,269.16	1,801.37	467.79	4.851		
15,000.00	7,154.00	15,385.62	7,579.00	242.21	239.68	-100.77	-1,270.38	-9,843.24	2,269.27	1,796.23	473.04	4.797		
15,100.00	7,154.00	15,485.62	7,579.00	244.87	242.33	-100.77	-1,270.48	-9,943.24	2,269.39	1,791.10	478.29	4.745		
15,200.00	7,154.00	15,585.62	7,579.00	247.54	244.99	-100.77	-1,270.57	-10,043.24	2,269.51	1,785.96	483.55	4.693		
15,300.00	7,154.00	15,685.62	7,579.00	250.20	247.65	-100.77	-1,270.66	-10,143.24	2,269.62	1,780.82	488.80	4.643		
15,400.00	7,154.00	15,785.62	7,579.00	252.87	250.31	-100.77	-1,270.75	-10,243.24	2,269.74	1,775.68	494.06	4.594		
15,500.00	7,154.00	15,885.62	7,579.00	255.53	252.97	-100.77	-1,270.85	-10,343.24	2,269.85	1,770.54	499.31	4.546		

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 WARBLER 13W-27-03
Project:	ADAMS COUNTY	TVD Reference:	KB 25' @ 5105.00usft
Reference Site:	Sec 13-T1S-R66W	MD Reference:	KB 25' @ 5105.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	WARBLER 13W-27-03	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT_32Bit_ODBC
Reference Design:	PROPOSAL 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-MWD OWSG													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		
15,600.00	7,154.00	15,985.62	7,579.00	258.20	255.64	-100.77	-1,270.94	-10,443.24	2,269.97	1,765.40	504.57	4.499		
15,700.00	7,154.00	16,085.62	7,579.00	260.87	258.30	-100.76	-1,271.03	-10,543.24	2,270.08	1,760.25	509.83	4.453		
15,800.00	7,154.00	16,185.62	7,579.00	263.54	260.96	-100.76	-1,271.12	-10,643.24	2,270.20	1,755.11	515.10	4.407		
15,900.00	7,154.00	16,285.62	7,579.00	266.21	263.63	-100.76	-1,271.22	-10,743.24	2,270.32	1,749.96	520.36	4.363		
16,000.00	7,154.00	16,385.62	7,579.00	268.88	266.30	-100.76	-1,271.31	-10,843.24	2,270.43	1,744.81	525.62	4.320		
16,100.00	7,154.00	16,485.62	7,579.00	271.55	268.96	-100.76	-1,271.40	-10,943.24	2,270.55	1,739.66	530.89	4.277		
16,200.00	7,154.00	16,585.62	7,579.00	274.22	271.63	-100.76	-1,271.49	-11,043.24	2,270.66	1,734.51	536.15	4.235		
16,300.00	7,154.00	16,685.62	7,579.00	276.90	274.30	-100.76	-1,271.59	-11,143.24	2,270.78	1,729.36	541.42	4.194		
16,400.00	7,154.00	16,785.62	7,579.00	279.57	276.97	-100.76	-1,271.68	-11,243.24	2,270.90	1,724.21	546.69	4.154		
16,500.00	7,154.00	16,885.62	7,579.00	282.24	279.64	-100.76	-1,271.77	-11,343.24	2,271.01	1,719.05	551.96	4.114		
16,600.00	7,154.00	16,985.62	7,579.00	284.92	282.31	-100.76	-1,271.86	-11,443.24	2,271.13	1,713.90	557.23	4.076		
16,700.00	7,154.00	17,085.62	7,579.00	287.59	284.98	-100.76	-1,271.96	-11,543.24	2,271.24	1,708.74	562.50	4.038		
16,800.00	7,154.00	17,185.62	7,579.00	290.27	287.65	-100.76	-1,272.05	-11,643.24	2,271.36	1,703.58	567.78	4.000		
16,900.00	7,154.00	17,285.62	7,579.00	292.94	290.32	-100.76	-1,272.14	-11,743.24	2,271.48	1,698.43	573.05	3.964		
17,000.00	7,154.00	17,385.62	7,579.00	295.62	292.99	-100.76	-1,272.23	-11,843.24	2,271.59	1,693.27	578.32	3.928		
17,100.00	7,154.00	17,485.62	7,579.00	298.29	295.66	-100.76	-1,272.33	-11,943.24	2,271.71	1,688.11	583.60	3.893		
17,200.00	7,154.00	17,585.62	7,579.00	300.97	298.34	-100.76	-1,272.42	-12,043.24	2,271.82	1,682.95	588.88	3.858		
17,300.00	7,154.00	17,685.62	7,579.00	303.65	301.01	-100.76	-1,272.51	-12,143.24	2,271.94	1,677.79	594.15	3.824		
17,400.00	7,154.00	17,785.62	7,579.00	306.33	303.69	-100.76	-1,272.61	-12,243.24	2,272.05	1,672.62	599.43	3.790		
17,500.00	7,154.00	17,885.62	7,579.00	309.01	306.36	-100.75	-1,272.70	-12,343.24	2,272.17	1,667.46	604.71	3.757		
17,600.00	7,154.00	17,985.62	7,579.00	311.69	309.04	-100.75	-1,272.79	-12,443.24	2,272.29	1,662.30	609.99	3.725		
17,700.00	7,154.00	18,085.62	7,579.00	314.37	311.71	-100.75	-1,272.88	-12,543.24	2,272.40	1,657.13	615.27	3.693		
17,800.00	7,154.00	18,185.62	7,579.00	317.05	314.39	-100.75	-1,272.98	-12,643.24	2,272.52	1,651.97	620.55	3.662		
17,900.00	7,154.00	18,285.62	7,579.00	319.73	317.07	-100.75	-1,273.07	-12,743.24	2,272.63	1,646.80	625.83	3.631		
18,000.00	7,154.00	18,385.62	7,579.00	322.41	319.74	-100.75	-1,273.16	-12,843.24	2,272.75	1,641.64	631.11	3.601		
18,100.00	7,154.00	18,485.62	7,579.00	325.09	322.42	-100.75	-1,273.25	-12,943.24	2,272.87	1,636.47	636.40	3.571		
18,200.00	7,154.00	18,585.62	7,579.00	327.77	325.10	-100.75	-1,273.35	-13,043.24	2,272.98	1,631.30	641.68	3.542		
18,300.00	7,154.00	18,685.62	7,579.00	330.45	327.78	-100.75	-1,273.44	-13,143.24	2,273.10	1,626.13	646.97	3.513		
18,400.00	7,154.00	18,785.62	7,579.00	333.13	330.46	-100.75	-1,273.53	-13,243.24	2,273.21	1,620.96	652.25	3.485		
18,500.00	7,154.00	18,885.62	7,579.00	335.82	333.14	-100.75	-1,273.62	-13,343.24	2,273.33	1,615.79	657.54	3.457		
18,600.00	7,154.00	18,985.62	7,579.00	338.50	335.82	-100.75	-1,273.72	-13,443.24	2,273.44	1,610.62	662.82	3.430		
18,700.00	7,154.00	19,085.62	7,579.00	341.18	338.50	-100.75	-1,273.81	-13,543.24	2,273.56	1,605.45	668.11	3.403		
18,800.00	7,154.00	19,185.62	7,579.00	343.86	341.18	-100.75	-1,273.90	-13,643.24	2,273.68	1,600.28	673.40	3.376		
18,900.00	7,154.00	19,285.62	7,579.00	346.55	343.86	-100.75	-1,273.99	-13,743.24	2,273.79	1,595.11	678.69	3.350		
19,000.00	7,154.00	19,385.62	7,579.00	349.23	346.54	-100.75	-1,274.09	-13,843.24	2,273.91	1,589.93	683.98	3.325		
19,100.00	7,154.00	19,485.62	7,579.00	351.92	349.22	-100.75	-1,274.18	-13,943.24	2,274.02	1,584.76	689.26	3.299		
19,200.00	7,154.00	19,585.62	7,579.00	354.60	351.91	-100.75	-1,274.27	-14,043.24	2,274.14	1,579.59	694.55	3.274		
19,300.00	7,154.00	19,685.62	7,579.00	357.29	354.59	-100.74	-1,274.37	-14,143.24	2,274.26	1,574.41	699.84	3.250		
19,400.00	7,154.00	19,785.61	7,579.00	359.97	357.27	-100.74	-1,274.46	-14,243.24	2,274.37	1,569.24	705.14	3.225		
19,500.00	7,154.00	19,885.61	7,579.00	362.66	359.95	-100.74	-1,274.55	-14,343.24	2,274.49	1,564.06	710.43	3.202		
19,600.00	7,154.00	19,985.61	7,579.00	365.34	362.64	-100.74	-1,274.64	-14,443.24	2,274.60	1,558.88	715.72	3.178		
19,700.00	7,154.00	20,085.61	7,579.00	368.03	365.32	-100.74	-1,274.74	-14,543.24	2,274.72	1,553.71	721.01	3.155		
19,800.00	7,154.00	20,185.61	7,579.00	370.72	368.00	-100.74	-1,274.83	-14,643.24	2,274.84	1,548.53	726.30	3.132		
19,900.00	7,154.00	20,285.61	7,579.00	373.40	370.69	-100.74	-1,274.92	-14,743.24	2,274.95	1,543.35	731.60	3.110		
20,000.00	7,154.00	20,385.61	7,579.00	376.09	373.37	-100.74	-1,275.01	-14,843.24	2,275.07	1,538.18	736.89	3.087		
20,100.00	7,154.00	20,485.61	7,579.00	378.78	376.06	-100.74	-1,275.11	-14,943.24	2,275.18	1,533.00	742.19	3.066		
20,200.00	7,154.00	20,585.61	7,579.00	381.46	378.74	-100.74	-1,275.20	-15,043.24	2,275.30	1,527.82	747.48	3.044		
20,300.00	7,154.00	20,685.61	7,579.00	384.15	381.43	-100.74	-1,275.29	-15,143.24	2,275.41	1,522.64	752.77	3.023		
20,400.00	7,154.00	20,785.61	7,579.00	386.84	384.11	-100.74	-1,275.38	-15,243.24	2,275.53	1,517.46	758.07	3.002		
20,500.00	7,154.00	20,885.61	7,579.00	389.53	386.80	-100.74	-1,275.48	-15,343.23	2,275.65	1,512.28	763.37	2.981		
20,600.00	7,154.00	20,985.61	7,579.00	392.21	389.49	-100.74	-1,275.57	-15,443.23	2,275.76	1,507.10	768.66	2.961		
20,700.00	7,154.00	21,085.61	7,579.00	394.90	392.17	-100.74	-1,275.66	-15,543.23	2,275.88	1,501.92	773.96	2.941		

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 WARBLER 13W-27-03
Project:	ADAMS COUNTY	TVD Reference:	KB 25' @ 5105.00usft
Reference Site:	Sec 13-T1S-R66W	MD Reference:	KB 25' @ 5105.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	WARBLER 13W-27-03	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT_32Bit_ODBC
Reference Design:	PROPOSAL 1	Offset TVD Reference:	Offset Datum

Offset Design Sec 13-T1S-R66W - WARBLER 13W-27-20 - OWB - PROPOSAL 1												Offset Site Error:	0.00 usft
Survey Program: 0-MWD OWSG												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	
20,800.00	7,154.00	21,185.61	7,579.00	397.59	394.86	-100.74	-1,275.75	-15,643.23	2,275.99	1,496.74	779.26	2.921	
20,900.00	7,154.00	21,285.61	7,579.00	400.28	397.54	-100.74	-1,275.85	-15,743.23	2,276.11	1,491.56	784.55	2.901	
21,000.00	7,154.00	21,385.61	7,579.00	402.97	400.23	-100.74	-1,275.94	-15,843.23	2,276.23	1,486.37	789.85	2.882	
21,100.00	7,154.00	21,485.61	7,579.00	405.66	402.92	-100.73	-1,276.03	-15,943.23	2,276.34	1,481.19	795.15	2.863	
21,200.00	7,154.00	21,585.61	7,579.00	408.35	405.61	-100.73	-1,276.13	-16,043.23	2,276.46	1,476.01	800.45	2.844	
21,300.00	7,154.00	21,685.61	7,579.00	411.04	408.29	-100.73	-1,276.22	-16,143.23	2,276.57	1,470.83	805.75	2.825	
21,400.00	7,154.00	21,785.61	7,579.00	413.73	410.98	-100.73	-1,276.31	-16,243.23	2,276.69	1,465.64	811.05	2.807	
21,500.00	7,154.00	21,885.61	7,579.00	416.42	413.67	-100.73	-1,276.40	-16,343.23	2,276.81	1,460.46	816.35	2.789	
21,573.27	7,154.00	21,958.88	7,579.00	418.39	415.64	-100.73	-1,276.47	-16,416.50	2,276.89	1,456.66	820.23	2.776 SF	

Anticollision Report

Company:	EXTRACTION OIL & GAS	Local Co-ordinate Reference:	Well WARBLER 13W-27-03
Project:	ADAMS COUNTY	TVD Reference:	KB 25' @ 5105.00usft
Reference Site:	Sec 13-T1S-R66W	MD Reference:	KB 25' @ 5105.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	WARBLER 13W-27-03	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT_32Bit_ODBC
Reference Design:	PROPOSAL 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-MWD OWSG													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		
0.00	0.00	0.00	0.00	0.00	0.00	-179.43	-56.10	-0.56	56.10					
100.00	100.00	100.00	100.00	0.13	0.13	-179.43	-56.10	-0.56	56.10	55.83	0.27	208.673		
200.00	200.00	200.00	200.00	0.49	0.49	-179.43	-56.10	-0.56	56.10	55.12	0.99	56.911		
300.00	300.00	300.00	300.00	0.85	0.85	-179.43	-56.10	-0.56	56.10	54.40	1.70	32.948		
400.00	400.00	400.00	400.00	1.21	1.21	-179.43	-56.10	-0.56	56.10	53.68	2.42	23.186	CC, ES	
500.00	500.00	498.92	498.90	1.57	1.55	-177.98	-57.01	-2.01	57.05	53.93	3.12	18.279		
600.00	600.00	597.60	597.44	1.93	1.89	-173.95	-59.72	-6.33	60.11	56.29	3.82	15.740		
700.00	699.98	695.89	695.37	2.28	2.24	-100.89	-64.21	-13.50	66.08	61.57	4.52	14.625		
800.00	799.84	793.73	792.49	2.63	2.61	-97.92	-70.45	-23.45	75.30	70.07	5.22	14.416		
900.00	899.45	890.97	888.57	3.00	3.00	-96.28	-78.39	-36.12	87.50	81.56	5.94	14.729		
1,000.00	998.70	987.48	983.37	3.37	3.42	-95.59	-87.98	-51.42	102.56	95.88	6.68	15.353		
1,100.00	1,097.47	1,083.15	1,076.70	3.77	3.86	-95.54	-99.15	-69.25	120.38	112.93	7.45	16.162		
1,200.00	1,195.62	1,177.87	1,168.35	4.19	4.33	-95.84	-111.84	-89.50	140.92	132.67	8.25	17.073		
1,300.00	1,293.06	1,271.53	1,258.15	4.64	4.84	-96.32	-125.96	-112.03	164.16	155.05	9.11	18.022		
1,400.00	1,389.64	1,364.04	1,345.95	5.12	5.38	-96.88	-141.43	-136.71	190.06	180.04	10.02	18.969		
1,500.00	1,485.27	1,455.31	1,431.61	5.66	5.96	-97.43	-158.16	-163.41	218.59	207.60	10.99	19.884		
1,600.00	1,579.82	1,545.28	1,515.02	6.24	6.57	-97.94	-176.07	-191.97	249.69	237.66	12.04	20.747		
1,700.00	1,673.17	1,633.88	1,596.08	6.88	7.22	-98.38	-195.05	-222.25	283.31	270.17	13.15	21.552		
1,800.00	1,765.22	1,725.39	1,678.94	7.57	7.93	-98.98	-215.68	-255.18	318.95	304.55	14.40	22.154		
1,900.00	1,856.73	1,818.41	1,763.10	8.31	8.67	-100.24	-236.71	-288.73	355.00	339.28	15.73	22.573		
2,000.00	1,948.24	1,911.43	1,847.27	9.06	9.41	-101.26	-257.74	-322.29	391.18	374.10	17.08	22.899		
2,100.00	2,039.75	2,004.44	1,931.44	9.83	10.17	-102.12	-278.77	-355.84	427.45	408.99	18.46	23.155		
2,200.00	2,131.26	2,097.46	2,015.60	10.61	10.94	-102.83	-299.80	-389.40	463.79	443.94	19.85	23.360		
2,300.00	2,222.77	2,209.52	2,099.77	11.40	11.86	-103.45	-320.83	-422.95	500.19	478.79	21.40	23.375		
2,400.00	2,314.28	2,283.50	2,183.94	12.20	12.48	-103.98	-341.86	-456.51	536.62	513.95	22.68	23.662		
2,500.00	2,405.79	2,376.51	2,268.10	13.00	13.26	-104.44	-362.90	-490.06	573.10	548.99	24.11	23.774		
2,600.00	2,497.30	2,469.53	2,352.27	13.81	14.04	-104.85	-383.93	-523.62	609.60	584.06	25.54	23.869		
2,700.00	2,588.81	2,562.55	2,436.44	14.62	14.82	-105.21	-404.96	-557.17	646.12	619.14	26.98	23.949		
2,800.00	2,680.31	2,655.57	2,520.60	15.44	15.61	-105.54	-425.99	-590.73	682.67	654.24	28.42	24.017		
2,900.00	2,771.82	2,748.58	2,604.77	16.25	16.40	-105.83	-447.02	-624.28	719.23	689.36	29.87	24.076		
3,000.00	2,863.33	2,841.60	2,688.94	17.08	17.19	-106.09	-468.05	-657.84	755.81	724.48	31.33	24.127		
3,100.00	2,954.84	2,934.62	2,773.10	17.90	17.98	-106.33	-489.08	-691.39	792.39	759.61	32.78	24.171		
3,200.00	3,046.35	3,027.64	2,857.27	18.72	18.77	-106.55	-510.11	-724.95	828.99	794.75	34.24	24.210		
3,300.00	3,137.86	3,120.65	2,941.44	19.55	19.56	-106.75	-531.14	-758.50	865.60	829.90	35.70	24.244		
3,400.00	3,229.37	3,213.67	3,025.60	20.38	20.36	-106.93	-552.17	-792.06	902.22	865.05	37.17	24.274		
3,500.00	3,320.88	3,306.69	3,109.77	21.21	21.15	-107.10	-573.20	-825.62	938.85	900.21	38.63	24.301		
3,600.00	3,412.39	3,399.71	3,193.94	22.04	21.95	-107.25	-594.23	-859.17	975.48	935.38	40.10	24.325		
3,700.00	3,503.90	3,507.28	3,278.10	22.87	22.87	-107.40	-615.26	-892.73	1,012.11	970.43	41.68	24.282		
3,800.00	3,595.41	3,585.74	3,362.27	23.70	23.54	-107.53	-636.30	-926.28	1,048.76	1,005.71	43.04	24.366		
3,900.00	3,686.91	3,678.76	3,446.44	24.54	24.34	-107.66	-657.33	-959.84	1,085.40	1,040.89	44.51	24.383		
4,000.00	3,778.42	3,771.78	3,530.60	25.37	25.13	-107.78	-678.36	-993.39	1,122.05	1,076.07	45.99	24.399		
4,100.00	3,869.93	3,864.80	3,614.77	26.20	25.93	-107.89	-699.39	-1,026.95	1,158.71	1,111.25	47.46	24.413		
4,200.00	3,961.44	3,957.81	3,698.94	27.04	26.73	-107.99	-720.42	-1,060.50	1,195.37	1,146.43	48.94	24.426		
4,300.00	4,052.95	4,050.83	3,783.10	27.88	27.53	-108.09	-741.45	-1,094.06	1,232.03	1,181.62	50.41	24.438		
4,400.00	4,144.46	4,143.85	3,867.27	28.71	28.33	-108.18	-762.48	-1,127.61	1,268.69	1,216.80	51.89	24.449		
4,500.00	4,235.97	4,236.87	3,951.43	29.55	29.13	-108.26	-783.51	-1,161.17	1,305.36	1,251.99	53.37	24.459		
4,600.00	4,327.48	4,329.88	4,035.60	30.39	29.93	-108.35	-804.54	-1,194.72	1,342.03	1,287.18	54.85	24.469		
4,700.00	4,418.99	4,422.90	4,119.77	31.22	30.73	-108.42	-825.57	-1,228.28	1,378.70	1,322.38	56.33	24.477		
4,800.00	4,510.50	4,515.92	4,203.93	32.06	31.53	-108.50	-846.60	-1,261.83	1,415.38	1,357.57	57.81	24.485		
4,900.00	4,602.01	4,608.94	4,288.10	32.90	32.33	-108.57	-867.63	-1,295.39	1,452.05	1,392.77	59.29	24.492		
5,000.00	4,693.51	4,701.95	4,372.27	33.74	33.13	-108.63	-888.66	-1,328.94	1,488.73	1,427.96	60.77	24.499		
5,100.00	4,785.02	4,805.03	4,456.43	34.58	34.02	-108.70	-909.70	-1,362.50	1,525.41	1,463.08	62.33	24.474		

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 WARBLER 13W-27-03
Project:	ADAMS COUNTY	TVD Reference:	KB 25' @ 5105.00usft
Reference Site:	Sec 13-T1S-R66W	MD Reference:	KB 25' @ 5105.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	WARBLER 13W-27-03	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT_32Bit_ODBC
Reference Design:	PROPOSAL 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-MWD OWSG													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		
5,200.00	4,876.53	4,887.99	4,540.60	35.42	34.74	-108.76	-930.73	-1,396.05	1,562.09	1,498.36	63.73	24.511		
5,300.00	4,968.04	4,981.01	4,624.77	36.26	35.54	-108.81	-951.76	-1,429.61	1,598.77	1,533.56	65.21	24.516		
5,400.00	5,059.55	5,074.02	4,708.93	37.10	36.34	-108.87	-972.79	-1,463.17	1,635.46	1,568.76	66.70	24.521		
5,500.00	5,151.06	5,167.04	4,793.10	37.94	37.14	-108.92	-993.82	-1,496.72	1,672.14	1,603.96	68.18	24.526		
5,600.00	5,242.57	5,260.06	4,877.27	38.78	37.94	-108.97	-1,014.85	-1,530.28	1,708.83	1,639.16	69.66	24.530		
5,700.00	5,334.08	5,353.08	4,961.43	39.62	38.74	-109.02	-1,035.88	-1,563.83	1,745.51	1,674.37	71.15	24.534		
5,800.00	5,425.59	5,446.09	5,045.60	40.46	39.55	-109.06	-1,056.91	-1,597.39	1,782.20	1,709.57	72.63	24.538		
5,900.00	5,517.10	5,539.11	5,129.77	41.30	40.35	-109.11	-1,077.94	-1,630.94	1,818.89	1,744.77	74.12	24.541		
6,000.00	5,608.61	5,632.13	5,213.93	42.14	41.15	-109.15	-1,098.97	-1,664.50	1,855.58	1,779.98	75.60	24.545		
6,100.00	5,700.12	5,725.15	5,298.10	42.98	41.95	-109.19	-1,120.00	-1,698.05	1,892.27	1,815.19	77.09	24.548		
6,200.00	5,791.62	5,818.16	5,382.27	43.82	42.76	-109.23	-1,141.03	-1,731.61	1,928.96	1,850.39	78.57	24.551		
6,300.00	5,883.13	5,911.18	5,466.43	44.66	43.56	-109.27	-1,162.06	-1,765.16	1,965.65	1,885.60	80.06	24.553		
6,400.00	5,974.64	6,004.20	5,550.60	45.50	44.36	-109.30	-1,183.10	-1,798.72	2,002.35	1,920.80	81.54	24.556		
6,500.00	6,066.15	6,097.22	5,634.77	46.35	45.16	-109.34	-1,204.13	-1,832.27	2,039.04	1,956.01	83.03	24.558		
6,600.00	6,157.66	6,209.77	5,718.93	47.19	46.14	-109.37	-1,225.16	-1,865.83	2,075.73	1,991.07	84.67	24.516		
6,700.00	6,249.17	6,283.25	5,803.10	48.03	46.77	-109.40	-1,246.19	-1,899.38	2,112.43	2,026.43	86.00	24.563		
6,800.00	6,340.68	6,376.27	5,887.27	48.87	47.57	-109.44	-1,267.22	-1,932.94	2,149.12	2,061.64	87.49	24.565		
6,900.00	6,432.19	6,469.29	5,971.43	49.71	48.38	-109.47	-1,288.25	-1,966.49	2,185.82	2,096.84	88.98	24.566		
7,000.00	6,523.70	6,562.30	6,055.60	50.55	49.18	-109.50	-1,309.28	-2,000.05	2,222.52	2,132.05	90.46	24.568		
7,100.00	6,615.21	6,655.32	6,139.77	51.40	49.98	-109.52	-1,330.31	-2,033.60	2,259.21	2,167.26	91.95	24.570		
7,200.00	6,706.72	6,748.34	6,223.93	52.24	50.79	-109.55	-1,351.34	-2,067.16	2,295.91	2,202.47	93.44	24.571		
7,300.00	6,798.22	6,841.36	6,308.10	53.08	51.59	-109.58	-1,372.37	-2,100.72	2,332.61	2,237.68	94.93	24.573		
7,400.00	6,886.25	6,934.04	6,391.97	54.07	52.39	-99.87	-1,393.33	-2,134.15	2,368.67	2,272.10	96.58	24.527		
7,500.00	6,965.23	7,024.20	6,473.55	55.35	53.17	-93.50	-1,413.71	-2,166.68	2,402.88	2,304.34	98.54	24.385		
7,600.00	7,032.75	7,109.10	6,550.36	56.90	53.90	-89.14	-1,432.91	-2,197.30	2,434.73	2,333.96	100.76	24.163		
7,700.00	7,086.77	7,186.15	6,620.08	58.68	54.57	-86.04	-1,450.33	-2,225.10	2,464.02	2,360.86	103.16	23.885		
7,800.00	7,125.64	7,253.02	6,680.59	60.64	55.15	-83.77	-1,465.45	-2,249.22	2,490.80	2,385.18	105.62	23.582		
7,900.00	7,148.19	7,307.67	6,730.04	62.69	55.62	-82.04	-1,477.80	-2,268.93	2,515.23	2,407.20	108.03	23.282		
8,000.00	7,154.00	7,348.68	6,767.15	64.75	55.97	-81.01	-1,487.08	-2,283.73	2,537.58	2,427.32	110.26	23.014		
8,100.00	7,154.00	8,184.46	7,154.00	66.83	69.05	-90.00	-1,584.19	-2,943.02	2,541.37	2,413.31	128.06	19.845		
8,200.00	7,154.00	8,284.46	7,154.00	68.96	71.00	-90.00	-1,584.28	-3,043.02	2,541.49	2,409.09	132.40	19.195		
8,300.00	7,154.00	8,384.46	7,154.00	71.12	72.99	-90.00	-1,584.37	-3,143.02	2,541.60	2,404.79	136.82	18.577		
8,400.00	7,154.00	8,484.46	7,154.00	73.32	75.02	-90.00	-1,584.46	-3,243.02	2,541.72	2,400.42	141.30	17.988		
8,500.00	7,154.00	8,584.46	7,154.00	75.55	77.10	-90.00	-1,584.55	-3,343.02	2,541.84	2,395.99	145.85	17.428		
8,600.00	7,154.00	8,684.46	7,154.00	77.81	79.21	-90.00	-1,584.64	-3,443.02	2,541.95	2,391.50	150.45	16.896		
8,700.00	7,154.00	8,784.46	7,154.00	80.10	81.36	-90.00	-1,584.73	-3,543.02	2,542.07	2,386.96	155.10	16.390		
8,800.00	7,154.00	8,884.46	7,154.00	82.41	83.54	-90.00	-1,584.82	-3,643.02	2,542.18	2,382.38	159.80	15.908		
8,900.00	7,154.00	8,984.46	7,154.00	84.75	85.76	-90.00	-1,584.91	-3,743.02	2,542.30	2,377.75	164.55	15.450		
9,000.00	7,154.00	9,084.46	7,154.00	87.11	88.00	-90.00	-1,585.00	-3,843.02	2,542.41	2,373.08	169.34	15.014		
9,100.00	7,154.00	9,184.46	7,154.00	89.48	90.26	-90.00	-1,585.09	-3,943.02	2,542.53	2,368.37	174.16	14.599		
9,200.00	7,154.00	9,284.46	7,154.00	91.88	92.55	-90.00	-1,585.18	-4,043.02	2,542.64	2,363.63	179.01	14.204		
9,300.00	7,154.00	9,384.46	7,154.00	94.29	94.86	-90.00	-1,585.27	-4,143.02	2,542.76	2,358.86	183.90	13.827		
9,400.00	7,154.00	9,484.46	7,154.00	96.72	97.19	-90.00	-1,585.36	-4,243.02	2,542.87	2,354.06	188.81	13.468		
9,500.00	7,154.00	9,584.46	7,154.00	99.16	99.54	-90.00	-1,585.45	-4,343.02	2,542.99	2,349.24	193.75	13.125		
9,600.00	7,154.00	9,684.46	7,154.00	101.61	101.91	-90.00	-1,585.54	-4,443.02	2,543.10	2,344.39	198.72	12.798		
9,700.00	7,154.00	9,784.46	7,154.00	104.08	104.30	-90.00	-1,585.63	-4,543.02	2,543.22	2,339.51	203.70	12.485		
9,800.00	7,154.00	9,884.46	7,154.00	106.56	106.70	-90.00	-1,585.72	-4,643.02	2,543.33	2,334.62	208.71	12.186		
9,900.00	7,154.00	9,984.46	7,154.00	109.05	109.12	-90.00	-1,585.81	-4,743.02	2,543.45	2,329.71	213.74	11.900		
10,000.00	7,154.00	10,084.46	7,154.00	111.55	111.55	-90.00	-1,585.90	-4,843.02	2,543.56	2,324.78	218.79	11.626		
10,100.00	7,154.00	10,184.46	7,154.00	114.06	113.99	-90.00	-1,585.99	-4,943.02	2,543.68	2,319.83	223.85	11.363		
10,200.00	7,154.00	10,284.46	7,154.00	116.57	116.45	-90.00	-1,586.08	-5,043.02	2,543.79	2,314.87	228.93	11.112		
10,300.00	7,154.00	10,384.46	7,154.00	119.10	118.91	-90.00	-1,586.17	-5,143.02	2,543.91	2,309.89	234.02	10.871		

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 Warbler 13W-27-03
Project:	ADAMS COUNTY	TVD Reference:	KB 25' @ 5105.00usft
Reference Site:	Sec 13-T1S-R66W	MD Reference:	KB 25' @ 5105.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	Warbler 13W-27-03	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT_32Bit_ODBC
Reference Design:	PROPOSAL 1	Offset TVD Reference:	Offset Datum

Offset Design													Sec 13-T1S-R66W - WARBLER 24W-27-05 - OWB - PROPOSAL 1		Offset Site Error:	0.00 usft
Survey Program: 0-MWD OWSG													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				
10,400.00	7,154.00	10,484.46	7,154.00	121.63	121.39	-90.00	-1,586.26	-5,243.02	2,544.02	2,304.90	239.13	10.639				
10,500.00	7,154.00	10,584.46	7,154.00	124.17	123.88	-90.00	-1,586.35	-5,343.02	2,544.14	2,299.89	244.25	10.416				
10,600.00	7,154.00	10,684.45	7,154.00	126.72	126.37	-90.00	-1,586.44	-5,443.02	2,544.26	2,294.88	249.38	10.202				
10,700.00	7,154.00	10,784.45	7,154.00	129.28	128.88	-90.00	-1,586.53	-5,543.02	2,544.37	2,289.85	254.52	9.997				
10,800.00	7,154.00	10,884.45	7,154.00	131.84	131.39	-90.00	-1,586.62	-5,643.02	2,544.49	2,284.81	259.67	9.799				
10,900.00	7,154.00	10,984.45	7,154.00	134.40	133.91	-90.00	-1,586.71	-5,743.02	2,544.60	2,279.76	264.84	9.608				
11,000.00	7,154.00	11,084.45	7,154.00	136.97	136.44	-90.00	-1,586.80	-5,843.02	2,544.72	2,274.70	270.01	9.424				
11,100.00	7,154.00	11,184.45	7,154.00	139.55	138.97	-90.00	-1,586.89	-5,943.02	2,544.83	2,269.64	275.19	9.247				
11,200.00	7,154.00	11,284.45	7,154.00	142.13	141.51	-90.00	-1,586.98	-6,043.02	2,544.95	2,264.56	280.39	9.077				
11,300.00	7,154.00	11,384.45	7,154.00	144.72	144.06	-90.00	-1,587.07	-6,143.02	2,545.06	2,259.48	285.58	8.912				
11,400.00	7,154.00	11,484.45	7,154.00	147.30	146.61	-90.00	-1,587.16	-6,243.02	2,545.18	2,254.39	290.79	8.753				
11,500.00	7,154.00	11,584.45	7,154.00	149.90	149.17	-90.00	-1,587.25	-6,343.02	2,545.29	2,249.29	296.01	8.599				
11,600.00	7,154.00	11,684.45	7,154.00	152.50	151.73	-90.00	-1,587.34	-6,443.02	2,545.41	2,244.18	301.23	8.450				
11,700.00	7,154.00	11,784.45	7,154.00	155.10	154.30	-90.00	-1,587.43	-6,543.02	2,545.52	2,239.07	306.45	8.306				
11,800.00	7,154.00	11,884.45	7,154.00	157.70	156.87	-90.00	-1,587.52	-6,643.02	2,545.64	2,233.95	311.69	8.167				
11,900.00	7,154.00	11,984.45	7,154.00	160.31	159.45	-90.00	-1,587.61	-6,743.02	2,545.75	2,228.83	316.92	8.033				
12,000.00	7,154.00	12,084.45	7,154.00	162.92	162.03	-90.00	-1,587.70	-6,843.02	2,545.87	2,223.70	322.17	7.902				
12,100.00	7,154.00	12,184.45	7,154.00	165.54	164.62	-90.00	-1,587.79	-6,943.02	2,545.98	2,218.56	327.42	7.776				
12,200.00	7,154.00	12,284.45	7,154.00	168.15	167.21	-90.00	-1,587.88	-7,043.02	2,546.10	2,213.42	332.67	7.653				
12,300.00	7,154.00	12,384.45	7,154.00	170.77	169.80	-90.00	-1,587.97	-7,143.02	2,546.21	2,208.28	337.93	7.535				
12,400.00	7,154.00	12,484.45	7,154.00	173.39	172.40	-90.00	-1,588.06	-7,243.02	2,546.33	2,203.13	343.20	7.419				
12,500.00	7,154.00	12,584.45	7,154.00	176.02	175.00	-90.00	-1,588.15	-7,343.02	2,546.44	2,197.98	348.47	7.308				
12,600.00	7,154.00	12,684.45	7,154.00	178.65	177.60	-90.00	-1,588.24	-7,443.02	2,546.56	2,192.82	353.74	7.199				
12,700.00	7,154.00	12,784.45	7,154.00	181.28	180.21	-90.00	-1,588.33	-7,543.02	2,546.67	2,187.66	359.02	7.093				
12,800.00	7,154.00	12,884.45	7,154.00	183.91	182.82	-90.00	-1,588.42	-7,643.02	2,546.79	2,182.49	364.30	6.991				
12,900.00	7,154.00	12,984.45	7,154.00	186.54	185.43	-90.00	-1,588.51	-7,743.02	2,546.91	2,177.33	369.58	6.891				
13,000.00	7,154.00	13,084.45	7,154.00	189.18	188.04	-90.00	-1,588.60	-7,843.02	2,547.02	2,172.15	374.87	6.794				
13,100.00	7,154.00	13,184.45	7,154.00	191.81	190.66	-90.00	-1,588.69	-7,943.02	2,547.14	2,166.98	380.16	6.700				
13,200.00	7,154.00	13,284.45	7,154.00	194.45	193.28	-90.00	-1,588.78	-8,043.02	2,547.25	2,161.80	385.45	6.608				
13,300.00	7,154.00	13,384.45	7,154.00	197.10	195.90	-90.00	-1,588.87	-8,143.02	2,547.37	2,156.62	390.75	6.519				
13,400.00	7,154.00	13,484.45	7,154.00	199.74	198.53	-90.00	-1,588.96	-8,243.02	2,547.48	2,151.43	396.05	6.432				
13,500.00	7,154.00	13,584.45	7,154.00	202.38	201.15	-90.00	-1,589.05	-8,343.02	2,547.60	2,146.24	401.35	6.348				
13,600.00	7,154.00	13,684.45	7,154.00	205.03	203.78	-90.00	-1,589.14	-8,443.02	2,547.71	2,141.05	406.66	6.265				
13,700.00	7,154.00	13,784.45	7,154.00	207.68	206.41	-90.00	-1,589.23	-8,543.02	2,547.83	2,135.86	411.97	6.185				
13,800.00	7,154.00	13,884.45	7,154.00	210.33	209.05	-90.00	-1,589.32	-8,643.02	2,547.94	2,130.66	417.28	6.106				
13,900.00	7,154.00	13,984.45	7,154.00	212.98	211.68	-90.00	-1,589.41	-8,743.02	2,548.06	2,125.46	422.59	6.030				
14,000.00	7,154.00	14,084.45	7,154.00	215.63	214.32	-90.00	-1,589.50	-8,843.01	2,548.17	2,120.26	427.91	5.955				
14,100.00	7,154.00	14,184.45	7,154.00	218.28	216.95	-90.00	-1,589.59	-8,943.01	2,548.29	2,115.06	433.23	5.882				
14,200.00	7,154.00	14,284.45	7,154.00	220.93	219.59	-90.00	-1,589.68	-9,043.01	2,548.40	2,109.86	438.55	5.811				
14,300.00	7,154.00	14,384.45	7,154.00	223.59	222.23	-90.00	-1,589.77	-9,143.01	2,548.52	2,104.65	443.87	5.742				
14,400.00	7,154.00	14,484.45	7,154.00	226.25	224.88	-90.00	-1,589.86	-9,243.01	2,548.63	2,099.44	449.19	5.674				
14,500.00	7,154.00	14,584.45	7,154.00	228.90	227.52	-90.00	-1,589.95	-9,343.01	2,548.75	2,094.23	454.52	5.608				
14,600.00	7,154.00	14,684.45	7,154.00	231.56	230.17	-90.00	-1,590.04	-9,443.01	2,548.86	2,089.02	459.85	5.543				
14,700.00	7,154.00	14,784.45	7,154.00	234.22	232.81	-90.00	-1,590.13	-9,543.01	2,548.98	2,083.80	465.18	5.480				
14,800.00	7,154.00	14,884.45	7,154.00	236.88	235.46	-90.00	-1,590.22	-9,643.01	2,549.09	2,078.59	470.51	5.418				
14,900.00	7,154.00	14,984.45	7,154.00	239.55	238.11	-90.00	-1,590.31	-9,743.01	2,549.21	2,073.37	475.84	5.357				
15,000.00	7,154.00	15,084.45	7,154.00	242.21	240.76	-90.00	-1,590.40	-9,843.01	2,549.32	2,068.15	481.18	5.298				
15,100.00	7,154.00	15,184.45	7,154.00	244.87	243.41	-90.00	-1,590.49	-9,943.01	2,549.44	2,062.93	486.51	5.240				
15,200.00	7,154.00	15,284.45	7,154.00	247.54	246.06	-90.00	-1,590.58	-10,043.01	2,549.56	2,057.70	491.85	5.184				
15,300.00	7,154.00	15,384.45	7,154.00	250.20	248.72	-90.00	-1,590.67	-10,143.01	2,549.67	2,052.48	497.19	5.128				
15,400.00	7,154.00	15,484.45	7,154.00	252.87	251.37	-90.00	-1,590.76	-10,243.01	2,549.79	2,047.25	502.53	5.074				
15,500.00	7,154.00	15,584.45	7,154.00	255.53	254.03	-90.00	-1,590.85	-10,343.01	2,549.90	2,042.03	507.88	5.021				

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 WARBLER 13W-27-03
Project:	ADAMS COUNTY	TVD Reference:	KB 25' @ 5105.00usft
Reference Site:	Sec 13-T1S-R66W	MD Reference:	KB 25' @ 5105.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	WARBLER 13W-27-03	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT_32Bit_ODBC
Reference Design:	PROPOSAL 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-MWD OWSG													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		
15,600.00	7,154.00	15,684.45	7,154.00	258.20	256.69	-90.00	-1,590.94	-10,443.01	2,550.02	2,036.80	513.22	4.969		
15,700.00	7,154.00	15,784.45	7,154.00	260.87	259.35	-90.00	-1,591.03	-10,543.01	2,550.13	2,031.57	518.56	4.918		
15,800.00	7,154.00	15,884.45	7,154.00	263.54	262.00	-90.00	-1,591.12	-10,643.01	2,550.25	2,026.34	523.91	4.868		
15,900.00	7,154.00	15,984.45	7,154.00	266.21	264.66	-90.00	-1,591.21	-10,743.01	2,550.36	2,021.10	529.26	4.819		
16,000.00	7,154.00	16,084.45	7,154.00	268.88	267.33	-90.00	-1,591.30	-10,843.01	2,550.48	2,015.87	534.61	4.771		
16,100.00	7,154.00	16,184.45	7,154.00	271.55	269.99	-90.00	-1,591.39	-10,943.01	2,550.59	2,010.64	539.96	4.724		
16,200.00	7,154.00	16,284.45	7,154.00	274.22	272.65	-90.00	-1,591.48	-11,043.01	2,550.71	2,005.40	545.31	4.678		
16,300.00	7,154.00	16,384.45	7,154.00	276.90	275.31	-90.00	-1,591.57	-11,143.01	2,550.82	2,000.16	550.66	4.632		
16,400.00	7,154.00	16,484.45	7,154.00	279.57	277.98	-90.00	-1,591.66	-11,243.01	2,550.94	1,994.93	556.01	4.588		
16,500.00	7,154.00	16,584.45	7,154.00	282.24	280.64	-90.00	-1,591.74	-11,343.01	2,551.05	1,989.69	561.37	4.544		
16,600.00	7,154.00	16,684.45	7,154.00	284.92	283.31	-90.00	-1,591.83	-11,443.01	2,551.17	1,984.45	566.72	4.502		
16,700.00	7,154.00	16,784.45	7,154.00	287.59	285.97	-90.00	-1,591.92	-11,543.01	2,551.28	1,979.21	572.08	4.460		
16,800.00	7,154.00	16,884.45	7,154.00	290.27	288.64	-90.00	-1,592.01	-11,643.01	2,551.40	1,973.96	577.44	4.418		
16,900.00	7,154.00	16,984.45	7,154.00	292.94	291.31	-90.00	-1,592.10	-11,743.01	2,551.51	1,968.72	582.79	4.378		
17,000.00	7,154.00	17,084.45	7,154.00	295.62	293.98	-90.00	-1,592.19	-11,843.01	2,551.63	1,963.48	588.15	4.338		
17,100.00	7,154.00	17,184.45	7,154.00	298.29	296.65	-90.00	-1,592.28	-11,943.01	2,551.74	1,958.23	593.51	4.299		
17,200.00	7,154.00	17,284.45	7,154.00	300.97	299.32	-90.00	-1,592.37	-12,043.01	2,551.86	1,952.99	598.87	4.261		
17,300.00	7,154.00	17,384.45	7,154.00	303.65	301.99	-90.00	-1,592.46	-12,143.01	2,551.97	1,947.74	604.23	4.223		
17,400.00	7,154.00	17,484.45	7,154.00	306.33	304.66	-90.00	-1,592.55	-12,243.01	2,552.09	1,942.49	609.60	4.187		
17,500.00	7,154.00	17,584.45	7,154.00	309.01	307.33	-90.00	-1,592.64	-12,343.01	2,552.21	1,937.25	614.96	4.150		
17,600.00	7,154.00	17,684.45	7,154.00	311.69	310.00	-90.00	-1,592.73	-12,443.01	2,552.32	1,932.00	620.32	4.114		
17,700.00	7,154.00	17,784.45	7,154.00	314.37	312.67	-90.00	-1,592.82	-12,543.01	2,552.44	1,926.75	625.69	4.079		
17,800.00	7,154.00	17,884.45	7,154.00	317.05	315.35	-90.00	-1,592.91	-12,643.01	2,552.55	1,921.50	631.05	4.045		
17,900.00	7,154.00	17,984.45	7,154.00	319.73	318.02	-90.00	-1,593.00	-12,743.01	2,552.67	1,916.25	636.42	4.011		
18,000.00	7,154.00	18,084.45	7,154.00	322.41	320.69	-90.00	-1,593.09	-12,843.01	2,552.78	1,911.00	641.79	3.978		
18,100.00	7,154.00	18,184.45	7,154.00	325.09	323.37	-90.00	-1,593.18	-12,943.01	2,552.90	1,905.74	647.15	3.945		
18,200.00	7,154.00	18,284.45	7,154.00	327.77	326.04	-90.00	-1,593.27	-13,043.01	2,553.01	1,900.49	652.52	3.913		
18,300.00	7,154.00	18,384.45	7,154.00	330.45	328.72	-90.00	-1,593.36	-13,143.01	2,553.13	1,895.24	657.89	3.881		
18,400.00	7,154.00	18,484.45	7,154.00	333.13	331.40	-90.00	-1,593.45	-13,243.01	2,553.24	1,889.98	663.26	3.850		
18,500.00	7,154.00	18,584.45	7,154.00	335.82	334.07	-90.00	-1,593.54	-13,343.01	2,553.36	1,884.73	668.63	3.819		
18,600.00	7,154.00	18,684.45	7,154.00	338.50	336.75	-90.00	-1,593.63	-13,443.01	2,553.47	1,879.47	674.00	3.789		
18,700.00	7,154.00	18,784.45	7,154.00	341.18	339.43	-90.00	-1,593.72	-13,543.01	2,553.59	1,874.22	679.37	3.759		
18,800.00	7,154.00	18,884.45	7,154.00	343.86	342.11	-90.00	-1,593.81	-13,643.01	2,553.70	1,868.96	684.74	3.729		
18,900.00	7,154.00	18,984.45	7,154.00	346.55	344.78	-90.00	-1,593.90	-13,743.01	2,553.82	1,863.70	690.11	3.701		
19,000.00	7,154.00	19,084.45	7,154.00	349.23	347.46	-90.00	-1,593.99	-13,843.01	2,553.93	1,858.45	695.49	3.672		
19,100.00	7,154.00	19,184.45	7,154.00	351.92	350.14	-90.00	-1,594.08	-13,943.01	2,554.05	1,853.19	700.86	3.644		
19,200.00	7,154.00	19,284.45	7,154.00	354.60	352.82	-90.00	-1,594.17	-14,043.01	2,554.16	1,847.93	706.23	3.617		
19,300.00	7,154.00	19,384.45	7,154.00	357.29	355.50	-90.00	-1,594.26	-14,143.01	2,554.28	1,842.67	711.61	3.589		
19,400.00	7,154.00	19,484.45	7,154.00	359.97	358.18	-90.00	-1,594.35	-14,243.01	2,554.39	1,837.41	716.98	3.563		
19,500.00	7,154.00	19,584.45	7,154.00	362.66	360.86	-90.00	-1,594.44	-14,343.01	2,554.51	1,832.15	722.36	3.536		
19,600.00	7,154.00	19,684.45	7,154.00	365.34	363.54	-90.00	-1,594.53	-14,443.01	2,554.63	1,826.89	727.73	3.510		
19,700.00	7,154.00	19,784.45	7,154.00	368.03	366.22	-90.00	-1,594.62	-14,543.01	2,554.74	1,821.63	733.11	3.485		
19,800.00	7,154.00	19,884.45	7,154.00	370.72	368.90	-90.00	-1,594.71	-14,643.01	2,554.86	1,816.37	738.49	3.460		
19,900.00	7,154.00	19,984.45	7,154.00	373.40	371.59	-90.00	-1,594.80	-14,743.01	2,554.97	1,811.11	743.86	3.435		
20,000.00	7,154.00	20,084.45	7,154.00	376.09	374.27	-90.00	-1,594.89	-14,843.01	2,555.09	1,805.85	749.24	3.410		
20,100.00	7,154.00	20,184.45	7,154.00	378.78	376.95	-90.00	-1,594.98	-14,943.01	2,555.20	1,800.58	754.62	3.386		
20,200.00	7,154.00	20,284.45	7,154.00	381.46	379.63	-90.00	-1,595.07	-15,043.01	2,555.32	1,795.32	760.00	3.362		
20,300.00	7,154.00	20,384.45	7,154.00	384.15	382.32	-90.00	-1,595.16	-15,143.01	2,555.43	1,790.06	765.37	3.339		
20,400.00	7,154.00	20,484.45	7,154.00	386.84	385.00	-90.00	-1,595.25	-15,243.01	2,555.55	1,784.79	770.75	3.316		
20,500.00	7,154.00	20,584.45	7,154.00	389.53	387.68	-90.00	-1,595.34	-15,343.01	2,555.66	1,779.53	776.13	3.293		
20,600.00	7,154.00	20,684.45	7,154.00	392.21	390.37	-90.00	-1,595.43	-15,443.01	2,555.78	1,774.26	781.51	3.270		
20,700.00	7,154.00	20,784.45	7,154.00	394.90	393.05	-90.00	-1,595.52	-15,543.01	2,555.89	1,769.00	786.89	3.248		

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 WARBLER 13W-27-03
Project:	ADAMS COUNTY	TVD Reference:	KB 25' @ 5105.00usft
Reference Site:	Sec 13-T1S-R66W	MD Reference:	KB 25' @ 5105.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	WARBLER 13W-27-03	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT_32Bit_ODBC
Reference Design:	PROPOSAL 1	Offset TVD Reference:	Offset Datum

Offset Design Sec 13-T1S-R66W - WARBLER 24W-27-05 - OWB - PROPOSAL 1												Offset Site Error:	0.00 usft
Survey Program: 0-MWD OWSG												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	
20,800.00	7,154.00	20,884.45	7,154.00	397.59	395.74	-90.00	-1,595.61	-15,643.01	2,556.01	1,763.73	792.27	3.226	
20,900.00	7,154.00	20,984.45	7,154.00	400.28	398.42	-90.00	-1,595.70	-15,743.01	2,556.12	1,758.47	797.65	3.205	
21,000.00	7,154.00	21,084.45	7,154.00	402.97	401.10	-90.00	-1,595.79	-15,843.01	2,556.24	1,753.20	803.04	3.183	
21,100.00	7,154.00	21,184.45	7,154.00	405.66	403.79	-90.00	-1,595.88	-15,943.01	2,556.35	1,747.94	808.42	3.162	
21,200.00	7,154.00	21,284.45	7,154.00	408.35	406.48	-90.00	-1,595.97	-16,043.01	2,556.47	1,742.67	813.80	3.141	
21,300.00	7,154.00	21,384.45	7,154.00	411.04	409.16	-90.00	-1,596.06	-16,143.01	2,556.58	1,737.40	819.18	3.121	
21,400.00	7,154.00	21,484.45	7,154.00	413.73	411.85	-90.00	-1,596.15	-16,243.01	2,556.70	1,732.14	824.56	3.101	
21,500.00	7,154.00	21,584.45	7,154.00	416.42	414.53	-90.00	-1,596.24	-16,343.01	2,556.81	1,726.87	829.95	3.081	
21,573.27	7,154.00	21,657.71	7,154.00	418.39	416.50	-90.00	-1,596.31	-16,416.27	2,556.90	1,723.01	833.89	3.066 SF	

Anticollision Report

Company:	EXTRACTION OIL & GAS	Local Co-ordinate Reference:	Well WARBLER 13W-27-03
Project:	ADAMS COUNTY	TVD Reference:	KB 25' @ 5105.00usft
Reference Site:	Sec 13-T1S-R66W	MD Reference:	KB 25' @ 5105.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	WARBLER 13W-27-03	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT_32Bit_ODBC
Reference Design:	PROPOSAL 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-MWD OWSG													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		
0.00	0.00	1.00	1.00	0.00	0.00	-179.43	-84.15	-0.84	84.15					
100.00	100.00	101.00	101.00	0.13	0.14	-179.43	-84.15	-0.84	84.15	83.88	0.27	308.891		
200.00	200.00	201.00	201.00	0.49	0.50	-179.43	-84.15	-0.84	84.15	83.16	0.99	85.057	CC, ES	
300.00	300.00	298.76	298.74	0.85	0.84	-178.69	-85.43	-1.96	85.48	83.80	1.69	50.619		
400.00	400.00	396.30	396.15	1.21	1.18	-176.62	-89.21	-5.26	89.50	87.11	2.39	37.460		
500.00	500.00	493.40	492.89	1.57	1.53	-173.60	-95.46	-10.71	96.40	93.30	3.10	31.134		
600.00	600.00	589.82	588.62	1.93	1.91	-170.05	-104.10	-18.26	106.41	102.60	3.80	27.968		
700.00	699.98	685.44	683.12	2.28	2.31	-98.34	-115.06	-27.83	119.96	115.45	4.51	26.614		
800.00	799.84	780.13	776.17	2.63	2.73	-96.56	-128.24	-39.35	137.09	131.88	5.21	26.318		
900.00	899.45	873.70	867.51	3.00	3.18	-95.78	-143.54	-52.71	157.54	151.62	5.92	26.617		
1,000.00	998.70	965.97	956.88	3.37	3.65	-95.65	-160.82	-67.80	181.18	174.53	6.64	27.268		
1,100.00	1,097.47	1,056.79	1,044.07	3.77	4.16	-95.94	-179.94	-84.49	207.94	200.55	7.38	28.164		
1,200.00	1,195.62	1,146.00	1,128.90	4.19	4.69	-96.44	-200.73	-102.65	237.79	229.62	8.16	29.127		
1,300.00	1,293.06	1,233.47	1,211.20	4.64	5.24	-97.05	-223.04	-122.13	270.69	261.71	8.98	30.156		
1,400.00	1,389.64	1,319.11	1,290.86	5.12	5.83	-97.67	-246.71	-142.80	306.61	296.78	9.83	31.189		
1,500.00	1,485.27	1,402.81	1,367.78	5.66	6.43	-98.25	-271.57	-164.50	345.48	334.75	10.73	32.197		
1,600.00	1,579.82	1,484.49	1,441.89	6.24	7.06	-98.75	-297.44	-187.10	387.23	375.55	11.68	33.145		
1,700.00	1,673.17	1,564.11	1,513.14	6.88	7.71	-99.17	-324.19	-210.46	431.80	419.11	12.69	34.033		
1,800.00	1,765.22	1,641.62	1,581.54	7.57	8.38	-99.60	-351.65	-234.43	479.08	465.33	13.74	34.856		
1,900.00	1,856.73	1,717.35	1,647.39	8.31	9.05	-100.72	-379.81	-259.03	528.65	513.83	14.82	35.669		
2,000.00	1,948.24	1,801.48	1,717.09	9.06	9.84	-101.61	-411.15	-286.39	579.82	563.80	16.02	36.184		
2,100.00	2,039.75	1,884.00	1,790.41	9.83	10.62	-102.39	-444.25	-315.30	631.23	613.96	17.27	36.544		
2,200.00	2,131.26	1,969.49	1,863.73	10.61	11.44	-103.05	-477.36	-344.21	682.71	664.15	18.56	36.787		
2,300.00	2,222.77	2,054.97	1,937.05	11.40	12.26	-103.62	-510.47	-373.12	734.25	714.39	19.86	36.977		
2,400.00	2,314.28	2,140.45	2,010.37	12.20	13.09	-104.11	-543.57	-402.03	785.83	764.66	21.17	37.126		
2,500.00	2,405.79	2,225.94	2,083.69	13.00	13.92	-104.54	-576.68	-430.94	837.45	814.97	22.48	37.246		
2,600.00	2,497.30	2,311.42	2,157.01	13.81	14.75	-104.93	-609.78	-459.85	889.10	865.29	23.81	37.341		
2,700.00	2,588.81	2,403.09	2,230.33	14.62	15.65	-105.27	-642.89	-488.76	940.78	915.59	25.19	37.350		
2,800.00	2,680.31	2,482.39	2,303.65	15.44	16.42	-105.57	-676.00	-517.67	992.48	966.00	26.48	37.480		
2,900.00	2,771.82	2,567.88	2,376.97	16.25	17.26	-105.85	-709.10	-546.58	1,044.20	1,016.38	27.82	37.531		
3,000.00	2,863.33	2,653.36	2,450.29	17.08	18.10	-106.10	-742.21	-575.49	1,095.93	1,066.77	29.17	37.573		
3,100.00	2,954.84	2,738.84	2,523.60	17.90	18.95	-106.33	-775.31	-604.40	1,147.68	1,117.17	30.52	37.607		
3,200.00	3,046.35	2,824.33	2,596.92	18.72	19.79	-106.53	-808.42	-633.31	1,199.44	1,167.57	31.87	37.635		
3,300.00	3,137.86	2,909.81	2,670.24	19.55	20.63	-106.72	-841.53	-662.22	1,251.22	1,217.99	33.23	37.658		
3,400.00	3,229.37	3,004.70	2,743.56	20.38	21.57	-106.90	-874.63	-691.13	1,303.00	1,268.34	34.66	37.598		
3,500.00	3,320.88	3,080.78	2,816.88	21.21	22.33	-107.06	-907.74	-720.04	1,354.79	1,318.84	35.94	37.692		
3,600.00	3,412.39	3,166.26	2,890.20	22.04	23.17	-107.21	-940.84	-748.95	1,406.58	1,369.28	37.31	37.705		
3,700.00	3,503.90	3,251.75	2,963.52	22.87	24.02	-107.35	-973.95	-777.86	1,458.39	1,419.72	38.67	37.715		
3,800.00	3,595.41	3,337.23	3,036.84	23.70	24.87	-107.48	-1,007.06	-806.77	1,510.19	1,470.16	40.03	37.723		
3,900.00	3,686.91	3,422.72	3,110.16	24.54	25.72	-107.60	-1,040.16	-835.68	1,562.01	1,520.61	41.40	37.729		
4,000.00	3,778.42	3,508.20	3,183.48	25.37	26.57	-107.71	-1,073.27	-864.59	1,613.83	1,571.06	42.77	37.734		
4,100.00	3,869.93	3,606.31	3,256.80	26.20	27.54	-107.82	-1,106.37	-893.50	1,665.65	1,621.42	44.24	37.655		
4,200.00	3,961.44	3,679.17	3,330.12	27.04	28.26	-107.92	-1,139.48	-922.41	1,717.48	1,671.97	45.51	37.741		
4,300.00	4,052.95	3,764.65	3,403.44	27.88	29.11	-108.02	-1,172.59	-951.32	1,769.31	1,722.43	46.88	37.743		
4,400.00	4,144.46	3,850.14	3,476.76	28.71	29.96	-108.10	-1,205.69	-980.23	1,821.14	1,772.89	48.25	37.744		
4,500.00	4,235.97	3,935.62	3,550.08	29.55	30.82	-108.19	-1,238.80	-1,009.14	1,872.98	1,823.36	49.62	37.744		
4,600.00	4,327.48	4,021.11	3,623.40	30.39	31.67	-108.27	-1,271.90	-1,038.05	1,924.82	1,873.82	51.00	37.744		
4,700.00	4,418.99	4,106.59	3,696.72	31.22	32.52	-108.34	-1,305.01	-1,066.96	1,976.66	1,924.29	52.37	37.744		
4,800.00	4,510.50	4,192.08	3,770.04	32.06	33.37	-108.41	-1,338.12	-1,095.87	2,028.51	1,974.76	53.75	37.743		
4,900.00	4,602.01	4,277.56	3,843.36	32.90	34.22	-108.48	-1,371.22	-1,124.78	2,080.36	2,025.23	55.12	37.741		
5,000.00	4,693.51	4,363.04	3,916.68	33.74	35.07	-108.55	-1,404.33	-1,153.69	2,132.21	2,075.71	56.50	37.740		
5,100.00	4,785.02	4,448.53	3,990.00	34.58	35.92	-108.61	-1,437.43	-1,182.60	2,184.06	2,126.18	57.87	37.738		

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 WARBLER 13W-27-03
Project:	ADAMS COUNTY	TVD Reference:	KB 25' @ 5105.00usft
Reference Site:	Sec 13-T1S-R66W	MD Reference:	KB 25' @ 5105.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	WARBLER 13W-27-03	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT_32Bit_ODBC
Reference Design:	PROPOSAL 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-MWD OWSG													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		
5,200.00	4,876.53	4,534.01	4,063.32	35.42	36.78	-108.67	-1,470.54	-1,211.51	2,235.91	2,176.66	59.25	37.736		
5,300.00	4,968.04	4,619.50	4,136.64	36.26	37.63	-108.72	-1,503.64	-1,240.42	2,287.76	2,227.13	60.63	37.733		
5,400.00	5,059.55	4,704.98	4,209.96	37.10	38.48	-108.78	-1,536.75	-1,269.33	2,339.62	2,277.61	62.01	37.731		
5,500.00	5,151.06	4,809.54	4,283.28	37.94	39.52	-108.83	-1,569.86	-1,298.24	2,391.48	2,327.94	63.54	37.639		
5,600.00	5,242.57	4,875.95	4,356.60	38.78	40.19	-108.88	-1,602.96	-1,327.15	2,443.34	2,378.57	64.77	37.725		
5,700.00	5,334.08	4,961.43	4,429.92	39.62	41.04	-108.92	-1,636.07	-1,356.06	2,495.20	2,429.05	66.15	37.722		
5,800.00	5,425.59	5,046.92	4,503.24	40.46	41.89	-108.97	-1,669.17	-1,384.97	2,547.06	2,479.53	67.53	37.719		
5,900.00	5,517.10	5,132.40	4,576.55	41.30	42.75	-109.01	-1,702.28	-1,413.88	2,598.92	2,530.01	68.91	37.716		
6,000.00	5,608.61	5,217.89	4,649.87	42.14	43.60	-109.05	-1,735.39	-1,442.79	2,650.78	2,580.49	70.29	37.713		
6,100.00	5,700.12	5,303.37	4,723.19	42.98	44.45	-109.09	-1,768.49	-1,471.70	2,702.65	2,630.98	71.67	37.709		
6,200.00	5,791.62	5,388.85	4,796.51	43.82	45.30	-109.13	-1,801.60	-1,500.61	2,754.51	2,681.46	73.05	37.706		
6,300.00	5,883.13	5,474.34	4,869.83	44.66	46.16	-109.17	-1,834.70	-1,529.52	2,806.38	2,731.94	74.43	37.702		
6,400.00	5,974.64	5,559.82	4,943.15	45.50	47.01	-109.20	-1,867.81	-1,558.43	2,858.24	2,782.43	75.82	37.699		
6,500.00	6,066.15	5,645.31	5,016.47	46.35	47.87	-109.24	-1,900.92	-1,587.34	2,910.11	2,832.91	77.20	37.696		
6,600.00	6,157.66	5,730.79	5,089.79	47.19	48.72	-109.27	-1,934.02	-1,616.25	2,961.98	2,883.40	78.58	37.692		
6,700.00	6,249.17	5,816.28	5,163.11	48.03	49.57	-109.30	-1,967.13	-1,645.16	3,013.85	2,933.88	79.97	37.688		
6,800.00	6,340.68	5,901.76	5,236.43	48.87	50.43	-109.33	-2,000.23	-1,674.07	3,065.72	2,984.37	81.35	37.685		
6,900.00	6,432.19	5,987.24	5,309.75	49.71	51.28	-109.36	-2,033.34	-1,702.98	3,117.59	3,034.85	82.74	37.681		
7,000.00	6,523.70	6,072.73	5,383.07	50.55	52.13	-109.39	-2,066.45	-1,731.89	3,169.46	3,085.34	84.12	37.678		
7,100.00	6,615.21	6,158.21	5,456.39	51.40	52.99	-109.42	-2,099.55	-1,760.80	3,221.33	3,135.83	85.51	37.674		
7,200.00	6,706.72	6,243.70	5,529.71	52.24	53.84	-109.45	-2,132.66	-1,789.71	3,273.20	3,186.31	86.89	37.671		
7,300.00	6,798.22	6,329.18	5,603.03	53.08	54.70	-109.47	-2,165.76	-1,818.62	3,325.08	3,236.80	88.28	37.667		
7,400.00	6,886.25	6,414.42	5,676.14	54.07	55.55	-97.70	-2,198.77	-1,847.44	3,376.27	3,286.44	89.83	37.586		
7,500.00	6,965.23	6,502.54	5,747.36	55.35	56.43	-89.29	-2,230.93	-1,875.53	3,425.15	3,333.40	91.75	37.332		
7,600.00	7,032.75	6,575.78	5,814.53	56.90	57.16	-83.08	-2,261.26	-1,902.01	3,470.61	3,376.74	93.87	36.972		
7,700.00	7,086.77	6,646.99	5,875.62	58.68	57.87	-78.41	-2,288.84	-1,926.10	3,511.81	3,415.57	96.25	36.487		
7,800.00	7,125.64	6,708.95	5,928.75	60.64	58.49	-74.89	-2,312.84	-1,947.05	3,548.17	3,449.42	98.75	35.931		
7,900.00	7,148.19	6,759.75	5,972.33	62.69	59.00	-72.29	-2,332.51	-1,964.23	3,579.26	3,477.99	101.27	35.343		
8,000.00	7,154.00	6,801.91	6,005.21	64.75	59.42	-70.81	-2,347.36	-1,977.20	3,604.92	3,501.18	103.74	34.748		
8,100.00	7,154.00	6,831.90	6,034.21	66.83	59.72	-71.33	-2,360.45	-1,988.63	3,630.17	3,524.07	106.10	34.215		
8,200.00	7,154.00	6,865.71	6,063.21	68.96	60.06	-71.85	-2,373.55	-2,000.06	3,657.66	3,549.18	108.47	33.719		
8,300.00	7,154.00	6,899.52	6,092.20	71.12	60.40	-72.37	-2,386.64	-2,011.50	3,687.35	3,576.52	110.83	33.271		
8,400.00	7,154.00	6,933.32	6,121.20	73.32	60.73	-72.88	-2,399.73	-2,022.93	3,719.18	3,606.03	113.15	32.868		
8,500.00	7,154.00	6,967.13	6,150.20	75.55	61.07	-73.40	-2,412.83	-2,034.37	3,753.11	3,637.66	115.45	32.509		
8,600.00	7,154.00	7,000.94	6,179.20	77.81	61.41	-73.91	-2,425.92	-2,045.80	3,789.07	3,671.36	117.71	32.189		
8,700.00	7,154.00	9,146.35	7,154.00	80.10	90.62	-89.99	-2,866.89	-3,542.48	3,824.23	3,669.06	155.16	24.646		
8,800.00	7,154.00	9,246.35	7,154.00	82.41	92.49	-89.99	-2,866.97	-3,642.48	3,824.33	3,664.52	159.80	23.932		
8,900.00	7,154.00	9,346.35	7,154.00	84.75	94.39	-89.99	-2,867.04	-3,742.48	3,824.42	3,659.94	164.49	23.251		
9,000.00	7,154.00	9,446.35	7,154.00	87.11	96.33	-89.99	-2,867.11	-3,842.48	3,824.52	3,655.31	169.21	22.602		
9,100.00	7,154.00	9,546.35	7,154.00	89.48	98.30	-89.99	-2,867.19	-3,942.48	3,824.62	3,650.64	173.98	21.983		
9,200.00	7,154.00	9,646.35	7,154.00	91.88	100.31	-89.99	-2,867.26	-4,042.48	3,824.72	3,645.94	178.79	21.393		
9,300.00	7,154.00	9,746.35	7,154.00	94.29	102.36	-89.99	-2,867.34	-4,142.48	3,824.82	3,641.20	183.62	20.830		
9,400.00	7,154.00	9,846.35	7,154.00	96.72	104.43	-89.99	-2,867.41	-4,242.48	3,824.92	3,636.43	188.49	20.292		
9,500.00	7,154.00	9,946.35	7,154.00	99.16	106.54	-89.99	-2,867.48	-4,342.48	3,825.02	3,631.63	193.39	19.779		
9,600.00	7,154.00	10,046.35	7,154.00	101.61	108.67	-89.99	-2,867.56	-4,442.48	3,825.12	3,626.81	198.31	19.288		
9,700.00	7,154.00	10,146.35	7,154.00	104.08	110.82	-89.99	-2,867.63	-4,542.48	3,825.22	3,621.96	203.26	18.819		
9,800.00	7,154.00	10,246.35	7,154.00	106.56	113.01	-89.99	-2,867.70	-4,642.48	3,825.32	3,617.09	208.23	18.371		
9,900.00	7,154.00	10,346.35	7,154.00	109.05	115.21	-89.99	-2,867.78	-4,742.48	3,825.42	3,612.19	213.22	17.941		
10,000.00	7,154.00	10,446.35	7,154.00	111.55	117.44	-89.99	-2,867.85	-4,842.48	3,825.52	3,607.28	218.23	17.529		
10,100.00	7,154.00	10,546.35	7,154.00	114.06	119.69	-89.99	-2,867.93	-4,942.48	3,825.61	3,602.35	223.26	17.135		
10,200.00	7,154.00	10,646.35	7,154.00	116.57	121.96	-89.99	-2,868.00	-5,042.48	3,825.71	3,597.40	228.31	16.756		
10,300.00	7,154.00	10,746.35	7,154.00	119.10	124.24	-89.99	-2,868.07	-5,142.48	3,825.81	3,592.44	233.38	16.393		

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 WARBLER 13W-27-03
Project:	ADAMS COUNTY	TVD Reference:	KB 25' @ 5105.00usft
Reference Site:	Sec 13-T1S-R66W	MD Reference:	KB 25' @ 5105.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	WARBLER 13W-27-03	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT_32Bit_ODBC
Reference Design:	PROPOSAL 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-MWD OWSG													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		
10,400.00	7,154.00	10,846.35	7,154.00	121.63	126.55	-89.99	-2,868.15	-5,242.48	3,825.91	3,587.46	238.45	16.045		
10,500.00	7,154.00	10,946.35	7,154.00	124.17	128.87	-89.99	-2,868.22	-5,342.48	3,826.01	3,582.46	243.55	15.709		
10,600.00	7,154.00	11,046.35	7,154.00	126.72	131.20	-89.99	-2,868.29	-5,442.48	3,826.11	3,577.46	248.65	15.387		
10,700.00	7,154.00	11,146.35	7,154.00	129.28	133.56	-89.99	-2,868.37	-5,542.48	3,826.21	3,572.44	253.77	15.077		
10,800.00	7,154.00	11,246.35	7,154.00	131.84	135.92	-89.99	-2,868.44	-5,642.48	3,826.31	3,567.41	258.90	14.779		
10,900.00	7,154.00	11,346.35	7,154.00	134.40	138.30	-89.99	-2,868.52	-5,742.48	3,826.41	3,562.36	264.04	14.492		
11,000.00	7,154.00	11,446.35	7,154.00	136.97	140.69	-89.99	-2,868.59	-5,842.48	3,826.51	3,557.31	269.20	14.215		
11,100.00	7,154.00	11,546.35	7,154.00	139.55	143.10	-89.99	-2,868.66	-5,942.48	3,826.61	3,552.25	274.36	13.948		
11,200.00	7,154.00	11,646.35	7,154.00	142.13	145.51	-89.99	-2,868.74	-6,042.48	3,826.70	3,547.18	279.53	13.690		
11,300.00	7,154.00	11,746.35	7,154.00	144.72	147.94	-89.99	-2,868.81	-6,142.48	3,826.80	3,542.10	284.71	13.441		
11,400.00	7,154.00	11,846.35	7,154.00	147.30	150.37	-89.99	-2,868.89	-6,242.48	3,826.90	3,537.01	289.90	13.201		
11,500.00	7,154.00	11,946.35	7,154.00	149.90	152.82	-89.99	-2,868.96	-6,342.48	3,827.00	3,531.91	295.09	12.969		
11,600.00	7,154.00	12,046.35	7,154.00	152.50	155.27	-89.99	-2,869.03	-6,442.48	3,827.10	3,526.81	300.30	12.744		
11,700.00	7,154.00	12,146.35	7,154.00	155.10	157.74	-89.99	-2,869.11	-6,542.48	3,827.20	3,521.69	305.51	12.527		
11,800.00	7,154.00	12,246.35	7,154.00	157.70	160.21	-89.99	-2,869.18	-6,642.48	3,827.30	3,516.58	310.72	12.317		
11,900.00	7,154.00	12,346.35	7,154.00	160.31	162.69	-89.99	-2,869.25	-6,742.48	3,827.40	3,511.45	315.95	12.114		
12,000.00	7,154.00	12,446.35	7,154.00	162.92	165.18	-89.99	-2,869.33	-6,842.48	3,827.50	3,506.32	321.18	11.917		
12,100.00	7,154.00	12,546.35	7,154.00	165.54	167.67	-89.99	-2,869.40	-6,942.48	3,827.60	3,501.19	326.41	11.726		
12,200.00	7,154.00	12,646.35	7,154.00	168.15	170.17	-89.99	-2,869.48	-7,042.48	3,827.70	3,496.04	331.65	11.541		
12,300.00	7,154.00	12,746.35	7,154.00	170.77	172.68	-89.99	-2,869.55	-7,142.48	3,827.79	3,490.90	336.90	11.362		
12,400.00	7,154.00	12,846.35	7,154.00	173.39	175.19	-89.99	-2,869.62	-7,242.48	3,827.89	3,485.74	342.15	11.188		
12,500.00	7,154.00	12,946.35	7,154.00	176.02	177.71	-89.99	-2,869.70	-7,342.48	3,827.99	3,480.59	347.40	11.019		
12,600.00	7,154.00	13,046.35	7,154.00	178.65	180.24	-89.99	-2,869.77	-7,442.48	3,828.09	3,475.43	352.67	10.855		
12,700.00	7,154.00	13,146.35	7,154.00	181.28	182.77	-89.99	-2,869.84	-7,542.48	3,828.19	3,470.26	357.93	10.695		
12,800.00	7,154.00	13,246.35	7,154.00	183.91	185.31	-89.99	-2,869.92	-7,642.48	3,828.29	3,465.09	363.20	10.540		
12,900.00	7,154.00	13,346.35	7,154.00	186.54	187.85	-89.99	-2,869.99	-7,742.48	3,828.39	3,459.92	368.47	10.390		
13,000.00	7,154.00	13,446.35	7,154.00	189.18	190.40	-89.99	-2,870.07	-7,842.48	3,828.49	3,454.74	373.75	10.243		
13,100.00	7,154.00	13,546.35	7,154.00	191.81	192.95	-89.99	-2,870.14	-7,942.48	3,828.59	3,449.56	379.03	10.101		
13,200.00	7,154.00	13,646.35	7,154.00	194.45	195.50	-89.99	-2,870.21	-8,042.48	3,828.69	3,444.37	384.31	9.962		
13,300.00	7,154.00	13,746.35	7,154.00	197.10	198.06	-89.99	-2,870.29	-8,142.48	3,828.79	3,439.19	389.60	9.827		
13,400.00	7,154.00	13,846.35	7,154.00	199.74	200.63	-89.99	-2,870.36	-8,242.48	3,828.89	3,433.99	394.89	9.696		
13,500.00	7,154.00	13,946.35	7,154.00	202.38	203.19	-89.99	-2,870.44	-8,342.48	3,828.98	3,428.80	400.19	9.568		
13,600.00	7,154.00	14,046.35	7,154.00	205.03	205.77	-89.99	-2,870.51	-8,442.48	3,829.08	3,423.60	405.48	9.443		
13,700.00	7,154.00	14,146.35	7,154.00	207.68	208.34	-89.99	-2,870.58	-8,542.48	3,829.18	3,418.40	410.78	9.322		
13,800.00	7,154.00	14,246.35	7,154.00	210.33	210.92	-89.99	-2,870.66	-8,642.48	3,829.28	3,413.20	416.08	9.203		
13,900.00	7,154.00	14,346.35	7,154.00	212.98	213.50	-89.99	-2,870.73	-8,742.48	3,829.38	3,407.99	421.39	9.088		
14,000.00	7,154.00	14,446.35	7,154.00	215.63	216.09	-89.99	-2,870.80	-8,842.48	3,829.48	3,402.78	426.70	8.975		
14,100.00	7,154.00	14,546.35	7,154.00	218.28	218.67	-89.99	-2,870.88	-8,942.48	3,829.58	3,397.57	432.01	8.865		
14,200.00	7,154.00	14,646.35	7,154.00	220.93	221.26	-89.99	-2,870.95	-9,042.48	3,829.68	3,392.36	437.32	8.757		
14,300.00	7,154.00	14,746.35	7,154.00	223.59	223.86	-89.99	-2,871.03	-9,142.48	3,829.78	3,387.14	442.63	8.652		
14,400.00	7,154.00	14,846.35	7,154.00	226.25	226.45	-89.99	-2,871.10	-9,242.48	3,829.88	3,381.93	447.95	8.550		
14,500.00	7,154.00	14,946.35	7,154.00	228.90	229.05	-89.99	-2,871.17	-9,342.48	3,829.98	3,376.71	453.27	8.450		
14,600.00	7,154.00	15,046.35	7,154.00	231.56	231.65	-89.99	-2,871.25	-9,442.48	3,830.07	3,371.48	458.59	8.352		
14,700.00	7,154.00	15,146.35	7,154.00	234.22	234.26	-89.99	-2,871.32	-9,542.48	3,830.17	3,366.26	463.91	8.256		
14,800.00	7,154.00	15,246.35	7,154.00	236.88	236.86	-89.99	-2,871.39	-9,642.48	3,830.27	3,361.03	469.24	8.163		
14,900.00	7,154.00	15,346.35	7,154.00	239.55	239.47	-89.99	-2,871.47	-9,742.48	3,830.37	3,355.81	474.56	8.071		
15,000.00	7,154.00	15,446.35	7,154.00	242.21	242.08	-89.99	-2,871.54	-9,842.48	3,830.47	3,350.58	479.89	7.982		
15,100.00	7,154.00	15,546.35	7,154.00	244.87	244.70	-89.99	-2,871.62	-9,942.48	3,830.57	3,345.35	485.22	7.894		
15,200.00	7,154.00	15,646.35	7,154.00	247.54	247.31	-89.99	-2,871.69	-10,042.48	3,830.67	3,340.11	490.56	7.809		
15,300.00	7,154.00	15,746.35	7,154.00	250.20	249.93	-89.99	-2,871.76	-10,142.48	3,830.77	3,334.88	495.89	7.725		
15,400.00	7,154.00	15,846.35	7,154.00	252.87	252.55	-89.99	-2,871.84	-10,242.48	3,830.87	3,329.64	501.22	7.643		
15,500.00	7,154.00	15,946.35	7,154.00	255.53	255.17	-89.99	-2,871.91	-10,342.48	3,830.97	3,324.41	506.56	7.563		

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 WARBLER 13W-27-03
Project:	ADAMS COUNTY	TVD Reference:	KB 25' @ 5105.00usft
Reference Site:	Sec 13-T1S-R66W	MD Reference:	KB 25' @ 5105.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	WARBLER 13W-27-03	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT_32Bit_ODBC
Reference Design:	PROPOSAL 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-MWD OWSG													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		
15,600.00	7,154.00	16,046.35	7,154.00	258.20	257.79	-89.99	-2,871.98	-10,442.48	3,831.07	3,319.17	511.90	7.484		
15,700.00	7,154.00	16,146.35	7,154.00	260.87	260.42	-89.99	-2,872.06	-10,542.48	3,831.16	3,313.93	517.24	7.407		
15,800.00	7,154.00	16,246.35	7,154.00	263.54	263.04	-89.99	-2,872.13	-10,642.48	3,831.26	3,308.68	522.58	7.331		
15,900.00	7,154.00	16,346.35	7,154.00	266.21	265.67	-89.99	-2,872.21	-10,742.48	3,831.36	3,303.44	527.92	7.257		
16,000.00	7,154.00	16,446.35	7,154.00	268.88	268.30	-89.99	-2,872.28	-10,842.48	3,831.46	3,298.20	533.27	7.185		
16,100.00	7,154.00	16,546.35	7,154.00	271.55	270.93	-89.99	-2,872.35	-10,942.48	3,831.56	3,292.95	538.61	7.114		
16,200.00	7,154.00	16,646.35	7,154.00	274.22	273.56	-89.99	-2,872.43	-11,042.48	3,831.66	3,287.70	543.96	7.044		
16,300.00	7,154.00	16,746.35	7,154.00	276.90	276.20	-89.99	-2,872.50	-11,142.48	3,831.76	3,282.46	549.30	6.976		
16,400.00	7,154.00	16,846.35	7,154.00	279.57	278.83	-89.99	-2,872.58	-11,242.48	3,831.86	3,277.21	554.65	6.909		
16,500.00	7,154.00	16,946.35	7,154.00	282.24	281.47	-89.99	-2,872.65	-11,342.48	3,831.96	3,271.96	560.00	6.843		
16,600.00	7,154.00	17,046.35	7,154.00	284.92	284.11	-89.99	-2,872.72	-11,442.48	3,832.06	3,266.70	565.35	6.778		
16,700.00	7,154.00	17,146.35	7,154.00	287.59	286.75	-89.99	-2,872.80	-11,542.48	3,832.16	3,261.45	570.70	6.715		
16,800.00	7,154.00	17,246.35	7,154.00	290.27	289.39	-89.99	-2,872.87	-11,642.48	3,832.25	3,256.20	576.06	6.653		
16,900.00	7,154.00	17,346.35	7,154.00	292.94	292.03	-89.99	-2,872.94	-11,742.48	3,832.35	3,250.94	581.41	6.591		
17,000.00	7,154.00	17,446.35	7,154.00	295.62	294.67	-89.99	-2,873.02	-11,842.48	3,832.45	3,245.69	586.77	6.531		
17,100.00	7,154.00	17,546.35	7,154.00	298.29	297.31	-89.99	-2,873.09	-11,942.48	3,832.55	3,240.43	592.12	6.473		
17,200.00	7,154.00	17,646.35	7,154.00	300.97	299.96	-89.99	-2,873.17	-12,042.48	3,832.65	3,235.17	597.48	6.415		
17,300.00	7,154.00	17,746.35	7,154.00	303.65	302.61	-89.99	-2,873.24	-12,142.48	3,832.75	3,229.92	602.84	6.358		
17,400.00	7,154.00	17,846.35	7,154.00	306.33	305.25	-89.99	-2,873.31	-12,242.48	3,832.85	3,224.66	608.19	6.302		
17,500.00	7,154.00	17,946.35	7,154.00	309.01	307.90	-89.99	-2,873.39	-12,342.48	3,832.95	3,219.40	613.55	6.247		
17,600.00	7,154.00	18,046.35	7,154.00	311.69	310.55	-89.99	-2,873.46	-12,442.48	3,833.05	3,214.13	618.91	6.193		
17,700.00	7,154.00	18,146.35	7,154.00	314.37	313.20	-89.99	-2,873.53	-12,542.48	3,833.15	3,208.87	624.27	6.140		
17,800.00	7,154.00	18,246.35	7,154.00	317.05	315.85	-89.99	-2,873.61	-12,642.48	3,833.25	3,203.61	629.64	6.088		
17,900.00	7,154.00	18,346.35	7,154.00	319.73	318.50	-89.99	-2,873.68	-12,742.48	3,833.35	3,198.35	635.00	6.037		
18,000.00	7,154.00	18,446.35	7,154.00	322.41	321.16	-89.99	-2,873.76	-12,842.48	3,833.44	3,193.08	640.36	5.986		
18,100.00	7,154.00	18,546.35	7,154.00	325.09	323.81	-89.99	-2,873.83	-12,942.48	3,833.54	3,187.82	645.72	5.937		
18,200.00	7,154.00	18,646.35	7,154.00	327.77	326.47	-89.99	-2,873.90	-13,042.48	3,833.64	3,182.55	651.09	5.888		
18,300.00	7,154.00	18,746.35	7,154.00	330.45	329.12	-89.99	-2,873.98	-13,142.48	3,833.74	3,177.29	656.45	5.840		
18,400.00	7,154.00	18,846.35	7,154.00	333.13	331.78	-89.99	-2,874.05	-13,242.48	3,833.84	3,172.02	661.82	5.793		
18,500.00	7,154.00	18,946.35	7,154.00	335.82	334.43	-89.99	-2,874.13	-13,342.48	3,833.94	3,166.75	667.19	5.746		
18,600.00	7,154.00	19,046.35	7,154.00	338.50	337.09	-89.99	-2,874.20	-13,442.48	3,834.04	3,161.48	672.55	5.701		
18,700.00	7,154.00	19,146.35	7,154.00	341.18	339.75	-89.99	-2,874.27	-13,542.48	3,834.14	3,156.22	677.92	5.656		
18,800.00	7,154.00	19,246.35	7,154.00	343.86	342.41	-89.99	-2,874.35	-13,642.48	3,834.24	3,150.95	683.29	5.611		
18,900.00	7,154.00	19,346.35	7,154.00	346.55	345.07	-89.99	-2,874.42	-13,742.48	3,834.34	3,145.68	688.66	5.568		
19,000.00	7,154.00	19,446.35	7,154.00	349.23	347.73	-89.99	-2,874.49	-13,842.48	3,834.44	3,140.41	694.03	5.525		
19,100.00	7,154.00	19,546.35	7,154.00	351.92	350.39	-89.99	-2,874.57	-13,942.48	3,834.53	3,135.13	699.40	5.483		
19,200.00	7,154.00	19,646.35	7,154.00	354.60	353.05	-89.99	-2,874.64	-14,042.48	3,834.63	3,129.86	704.77	5.441		
19,300.00	7,154.00	19,746.35	7,154.00	357.29	355.72	-89.99	-2,874.72	-14,142.48	3,834.73	3,124.59	710.14	5.400		
19,400.00	7,154.00	19,846.35	7,154.00	359.97	358.38	-89.99	-2,874.79	-14,242.48	3,834.83	3,119.32	715.51	5.360		
19,500.00	7,154.00	19,946.35	7,154.00	362.66	361.04	-89.99	-2,874.86	-14,342.48	3,834.93	3,114.04	720.89	5.320		
19,600.00	7,154.00	20,046.35	7,154.00	365.34	363.71	-89.99	-2,874.94	-14,442.48	3,835.03	3,108.77	726.26	5.281		
19,700.00	7,154.00	20,146.35	7,154.00	368.03	366.37	-89.99	-2,875.01	-14,542.48	3,835.13	3,103.50	731.63	5.242		
19,800.00	7,154.00	20,246.35	7,154.00	370.72	369.04	-89.99	-2,875.08	-14,642.48	3,835.23	3,098.22	737.01	5.204		
19,900.00	7,154.00	20,346.35	7,154.00	373.40	371.71	-89.99	-2,875.16	-14,742.48	3,835.33	3,092.95	742.38	5.166		
20,000.00	7,154.00	20,446.35	7,154.00	376.09	374.37	-89.99	-2,875.23	-14,842.48	3,835.43	3,087.67	747.76	5.129		
20,100.00	7,154.00	20,546.35	7,154.00	378.78	377.04	-89.99	-2,875.31	-14,942.48	3,835.53	3,082.39	753.13	5.093		
20,200.00	7,154.00	20,646.35	7,154.00	381.46	379.71	-89.99	-2,875.38	-15,042.48	3,835.62	3,077.12	758.51	5.057		
20,300.00	7,154.00	20,746.35	7,154.00	384.15	382.38	-89.99	-2,875.45	-15,142.48	3,835.72	3,071.84	763.88	5.021		
20,400.00	7,154.00	20,846.35	7,154.00	386.84	385.05	-89.99	-2,875.53	-15,242.48	3,835.82	3,066.56	769.26	4.986		
20,500.00	7,154.00	20,946.35	7,154.00	389.53	387.72	-89.99	-2,875.60	-15,342.47	3,835.92	3,061.29	774.64	4.952		
20,600.00	7,154.00	21,046.35	7,154.00	392.21	390.39	-89.99	-2,875.68	-15,442.47	3,836.02	3,056.01	780.01	4.918		
20,700.00	7,154.00	21,146.35	7,154.00	394.90	393.06	-89.99	-2,875.75	-15,542.47	3,836.12	3,050.73	785.39	4.884		

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 WARBLER 13W-27-03
Project:	ADAMS COUNTY	TVD Reference:	KB 25' @ 5105.00usft
Reference Site:	Sec 13-T1S-R66W	MD Reference:	KB 25' @ 5105.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	WARBLER 13W-27-03	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT_32Bit_ODBC
Reference Design:	PROPOSAL 1	Offset TVD Reference:	Offset Datum

Offset Design Sec 13-T1S-R66W - WARBLER 24W-27-06 - OWB - PROPOSAL 1												Offset Site Error:	0.00 usft
Survey Program: 0-MWD OWSG												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	
20,800.00	7,154.00	21,246.35	7,154.00	397.59	395.73	-89.99	-2,875.82	-15,642.47	3,836.22	3,045.45	790.77	4.851	
20,900.00	7,154.00	21,346.35	7,154.00	400.28	398.40	-89.99	-2,875.90	-15,742.47	3,836.32	3,040.17	796.15	4.819	
21,000.00	7,154.00	21,446.35	7,154.00	402.97	401.07	-89.99	-2,875.97	-15,842.47	3,836.42	3,034.89	801.53	4.786	
21,100.00	7,154.00	21,546.35	7,154.00	405.66	403.74	-89.99	-2,876.04	-15,942.47	3,836.52	3,029.61	806.91	4.755	
21,200.00	7,154.00	21,646.35	7,154.00	408.35	406.42	-89.99	-2,876.12	-16,042.47	3,836.62	3,024.33	812.29	4.723	
21,300.00	7,154.00	21,746.35	7,154.00	411.04	409.09	-89.99	-2,876.19	-16,142.47	3,836.72	3,019.05	817.67	4.692	
21,400.00	7,154.00	21,846.35	7,154.00	413.73	411.76	-89.99	-2,876.27	-16,242.47	3,836.81	3,013.77	823.05	4.662	
21,500.00	7,154.00	21,946.35	7,154.00	416.42	414.44	-89.99	-2,876.34	-16,342.47	3,836.91	3,008.49	828.43	4.632	
21,573.27	7,154.00	22,019.61	7,154.00	418.39	416.40	-89.99	-2,876.39	-16,415.74	3,836.99	3,004.62	832.37	4.610 SF	

Anticollision Report

Company:	EXTRACTION OIL & GAS	Local Co-ordinate Reference:	Well WARBLER 13W-27-03
Project:	ADAMS COUNTY	TVD Reference:	KB 25' @ 5105.00usft
Reference Site:	Sec 13-T1S-R66W	MD Reference:	KB 25' @ 5105.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	WARBLER 13W-27-03	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT_32Bit_ODBC
Reference Design:	PROPOSAL 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-MWD OWSG													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		
0.00	0.00	4.00	4.00	0.00	0.01	115.54	-71.40	149.41	165.60					
100.00	100.00	104.00	104.00	0.13	0.15	115.54	-71.40	149.41	165.60	165.31	0.28	584.748		
200.00	200.00	204.10	204.10	0.49	0.51	115.54	-71.41	149.41	165.60	164.60	1.00	165.588		
300.00	300.00	306.52	306.50	0.85	0.86	116.17	-72.67	147.89	164.80	163.08	1.71	96.106		
400.00	400.00	408.67	408.49	1.21	1.22	117.98	-76.27	143.58	162.64	160.20	2.43	66.881		
500.00	500.00	510.29	509.69	1.57	1.60	121.04	-82.15	136.51	159.43	156.26	3.17	50.327		
600.00	600.00	611.14	609.73	1.93	2.00	125.45	-90.26	126.79	155.74	151.81	3.92	39.702		
690.40	690.39	701.54	698.98	2.25	2.38	-160.93	-99.44	115.77	154.03	149.41	4.62	33.331 CC		
700.00	699.98	711.09	708.39	2.28	2.42	-160.35	-100.51	114.48	154.05	149.35	4.70	32.790 ES		
800.00	799.84	810.11	805.50	2.63	2.87	-153.99	-112.84	99.69	156.82	151.31	5.50	28.493		
900.00	899.45	908.01	900.82	3.00	3.35	-147.39	-127.13	82.54	164.61	158.27	6.34	25.949		
1,000.00	998.70	1,004.65	994.11	3.37	3.86	-141.04	-143.27	63.17	177.66	170.45	7.21	24.646		
1,100.00	1,097.47	1,099.90	1,085.17	3.77	4.41	-135.30	-161.15	41.72	195.88	187.78	8.10	24.184		
1,200.00	1,195.62	1,193.63	1,173.82	4.19	4.99	-130.33	-180.62	18.36	218.94	209.93	9.01	24.290		
1,300.00	1,293.06	1,285.73	1,259.92	4.64	5.61	-126.14	-201.55	-6.76	246.44	236.49	9.96	24.751		
1,400.00	1,389.64	1,376.11	1,343.35	5.12	6.26	-122.66	-223.80	-33.46	277.97	267.03	10.93	25.420		
1,500.00	1,485.27	1,464.71	1,424.02	5.66	6.94	-119.76	-247.23	-61.59	313.14	301.19	11.95	26.195		
1,600.00	1,579.82	1,552.70	1,503.03	6.24	7.65	-117.33	-272.04	-91.35	351.63	338.60	13.03	26.986		
1,700.00	1,673.17	1,643.88	1,584.54	6.88	8.42	-115.48	-298.20	-122.75	392.19	377.97	14.22	27.576		
1,800.00	1,765.22	1,734.60	1,665.64	7.57	9.19	-114.34	-324.23	-153.98	434.17	418.69	15.48	28.047		
1,900.00	1,856.73	1,825.11	1,746.54	8.31	9.96	-114.18	-350.20	-185.15	476.68	459.91	16.77	28.417		
2,000.00	1,948.24	1,915.62	1,827.45	9.06	10.74	-114.04	-376.17	-216.31	519.20	501.10	18.09	28.697		
2,100.00	2,039.75	2,006.12	1,908.35	9.83	11.53	-113.93	-402.14	-247.48	561.71	542.28	19.43	28.912		
2,200.00	2,131.26	2,103.37	1,989.26	10.61	12.37	-113.83	-428.11	-278.64	604.23	583.40	20.83	29.006		
2,300.00	2,222.77	2,187.14	2,070.17	11.40	13.11	-113.74	-454.08	-309.81	646.75	624.61	22.14	29.209		
2,400.00	2,314.28	2,277.64	2,151.07	12.20	13.90	-113.67	-480.05	-340.97	689.27	665.75	23.51	29.313		
2,500.00	2,405.79	2,368.15	2,231.98	13.00	14.69	-113.60	-506.02	-372.13	731.79	706.89	24.89	29.395		
2,600.00	2,497.30	2,458.66	2,312.89	13.81	15.49	-113.54	-531.99	-403.30	774.31	748.03	26.28	29.462		
2,700.00	2,588.81	2,549.16	2,393.79	14.62	16.29	-113.49	-557.96	-434.46	816.83	789.16	27.67	29.516		
2,800.00	2,680.31	2,639.67	2,474.70	15.44	17.09	-113.44	-583.93	-465.63	859.35	830.28	29.07	29.559		
2,900.00	2,771.82	2,730.18	2,555.60	16.25	17.89	-113.40	-609.90	-496.79	901.88	871.40	30.47	29.595		
3,000.00	2,863.33	2,820.68	2,636.51	17.08	18.69	-113.36	-635.87	-527.95	944.40	912.52	31.88	29.624		
3,100.00	2,954.84	2,911.19	2,717.42	17.90	19.49	-113.32	-661.84	-559.12	986.92	953.64	33.29	29.648		
3,200.00	3,046.35	3,001.70	2,798.32	18.72	20.29	-113.29	-687.81	-590.28	1,029.45	994.75	34.70	29.667		
3,300.00	3,137.86	3,107.80	2,879.23	19.55	21.24	-113.26	-713.78	-621.45	1,071.97	1,035.74	36.24	29.583		
3,400.00	3,229.37	3,182.71	2,960.13	20.38	21.90	-113.23	-739.75	-652.61	1,114.50	1,076.97	37.53	29.696		
3,500.00	3,320.88	3,273.22	3,041.04	21.21	22.71	-113.21	-765.72	-683.77	1,157.02	1,118.07	38.95	29.706		
3,600.00	3,412.39	3,363.72	3,121.95	22.04	23.51	-113.18	-791.69	-714.94	1,199.55	1,159.18	40.37	29.715		
3,700.00	3,503.90	3,454.23	3,202.85	22.87	24.32	-113.16	-817.66	-746.10	1,242.07	1,200.28	41.79	29.722		
3,800.00	3,595.41	3,544.74	3,283.76	23.70	25.12	-113.14	-843.63	-777.27	1,284.60	1,241.38	43.21	29.727		
3,900.00	3,686.91	3,635.24	3,364.67	24.54	25.93	-113.12	-869.60	-808.43	1,327.12	1,282.48	44.64	29.731		
4,000.00	3,778.42	3,725.75	3,445.57	25.37	26.73	-113.10	-895.57	-839.59	1,369.65	1,323.58	46.06	29.735		
4,100.00	3,869.93	3,816.26	3,526.48	26.20	27.54	-113.09	-921.54	-870.76	1,412.17	1,364.68	47.49	29.737		
4,200.00	3,961.44	3,906.76	3,607.38	27.04	28.35	-113.07	-947.51	-901.92	1,454.70	1,405.78	48.92	29.738		
4,300.00	4,052.95	3,997.27	3,688.29	27.88	29.15	-113.05	-973.48	-933.09	1,497.22	1,446.88	50.34	29.739		
4,400.00	4,144.46	4,087.78	3,769.20	28.71	29.96	-113.04	-999.45	-964.25	1,539.75	1,487.98	51.77	29.740		
4,500.00	4,235.97	4,178.28	3,850.10	29.55	30.77	-113.03	-1,025.42	-995.41	1,582.28	1,529.07	53.20	29.740		
4,600.00	4,327.48	4,268.79	3,931.01	30.39	31.57	-113.01	-1,051.39	-1,026.58	1,624.80	1,570.17	54.63	29.739		
4,700.00	4,418.99	4,359.29	4,011.92	31.22	32.38	-113.00	-1,077.36	-1,057.74	1,667.33	1,611.26	56.07	29.739		
4,800.00	4,510.50	4,449.80	4,092.82	32.06	33.19	-112.99	-1,103.33	-1,088.91	1,709.85	1,652.36	57.50	29.738		
4,900.00	4,602.01	4,540.31	4,173.73	32.90	34.00	-112.98	-1,129.30	-1,120.07	1,752.38	1,693.45	58.93	29.736		
5,000.00	4,693.51	4,630.81	4,254.63	33.74	34.81	-112.97	-1,155.27	-1,151.23	1,794.91	1,734.54	60.36	29.735		

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 WARBLER 13W-27-03
Project:	ADAMS COUNTY	TVD Reference:	KB 25' @ 5105.00usft
Reference Site:	Sec 13-T1S-R66W	MD Reference:	KB 25' @ 5105.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	WARBLER 13W-27-03	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT_32Bit_ODBC
Reference Design:	PROPOSAL 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-MWD OWSG													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		
5,100.00	4,785.02	4,721.32	4,335.54	34.58	35.61	-112.96	-1,181.24	-1,182.40	1,837.43	1,775.63	61.80	29.733		
5,200.00	4,876.53	4,811.83	4,416.45	35.42	36.42	-112.95	-1,207.21	-1,213.56	1,879.96	1,816.73	63.23	29.731		
5,300.00	4,968.04	4,902.33	4,497.35	36.26	37.23	-112.94	-1,233.18	-1,244.73	1,922.48	1,857.82	64.67	29.729		
5,400.00	5,059.55	5,007.16	4,578.26	37.10	38.17	-112.93	-1,259.15	-1,275.89	1,965.01	1,898.80	66.21	29.677		
5,500.00	5,151.06	5,083.35	4,659.16	37.94	38.85	-112.92	-1,285.12	-1,307.05	2,007.54	1,940.00	67.54	29.725		
5,600.00	5,242.57	5,173.85	4,740.07	38.78	39.66	-112.91	-1,311.09	-1,338.22	2,050.06	1,981.09	68.97	29.723		
5,700.00	5,334.08	5,264.36	4,820.98	39.62	40.46	-112.90	-1,337.06	-1,369.38	2,092.59	2,022.18	70.41	29.721		
5,800.00	5,425.59	5,354.87	4,901.88	40.46	41.27	-112.90	-1,363.03	-1,400.55	2,135.12	2,063.27	71.85	29.718		
5,900.00	5,517.10	5,445.37	4,982.79	41.30	42.08	-112.89	-1,389.00	-1,431.71	2,177.64	2,104.36	73.28	29.716		
6,000.00	5,608.61	5,535.88	5,063.70	42.14	42.89	-112.88	-1,414.97	-1,462.87	2,220.17	2,145.45	74.72	29.713		
6,100.00	5,700.12	5,626.39	5,144.60	42.98	43.70	-112.88	-1,440.94	-1,494.04	2,262.69	2,186.54	76.16	29.711		
6,200.00	5,791.62	5,716.89	5,225.51	43.82	44.51	-112.87	-1,466.91	-1,525.20	2,305.22	2,227.63	77.59	29.708		
6,300.00	5,883.13	5,807.40	5,306.41	44.66	45.32	-112.86	-1,492.88	-1,556.37	2,347.75	2,268.71	79.03	29.706		
6,400.00	5,974.64	5,902.09	5,387.32	45.50	46.17	-112.86	-1,518.85	-1,587.53	2,390.27	2,309.77	80.50	29.691		
6,500.00	6,066.15	5,988.41	5,468.23	46.35	46.94	-112.85	-1,544.82	-1,618.69	2,432.80	2,350.89	81.91	29.701		
6,600.00	6,157.66	6,078.92	5,549.13	47.19	47.75	-112.85	-1,570.79	-1,649.86	2,475.33	2,391.98	83.35	29.698		
6,700.00	6,249.17	6,169.43	5,630.04	48.03	48.56	-112.84	-1,596.76	-1,681.02	2,517.85	2,433.07	84.79	29.696		
6,800.00	6,340.68	6,259.93	5,710.95	48.87	49.36	-112.84	-1,622.73	-1,712.19	2,560.38	2,474.15	86.23	29.693		
6,900.00	6,432.19	6,350.44	5,791.85	49.71	50.17	-112.83	-1,648.70	-1,743.35	2,602.91	2,515.24	87.67	29.690		
7,000.00	6,523.70	6,440.95	5,872.76	50.55	50.98	-112.83	-1,674.67	-1,774.51	2,645.43	2,556.33	89.11	29.688		
7,100.00	6,615.21	6,531.45	5,953.66	51.40	51.79	-112.82	-1,700.64	-1,805.68	2,687.96	2,597.41	90.55	29.685		
7,200.00	6,706.72	6,621.96	6,034.57	52.24	52.60	-112.82	-1,726.61	-1,836.84	2,730.49	2,638.50	91.99	29.683		
7,300.00	6,798.22	6,712.47	6,115.48	53.08	53.41	-112.81	-1,752.58	-1,868.01	2,773.01	2,679.58	93.43	29.680		
7,400.00	6,886.25	6,802.59	6,196.04	54.07	54.22	-102.25	-1,778.44	-1,899.04	2,815.31	2,720.28	95.03	29.626		
7,500.00	6,965.23	6,909.87	6,274.30	55.35	55.18	-94.90	-1,803.56	-1,929.18	2,856.42	2,759.33	97.09	29.420		
7,600.00	7,032.75	6,972.44	6,347.87	56.90	55.74	-89.50	-1,827.17	-1,957.52	2,895.53	2,796.44	99.10	29.219		
7,700.00	7,086.77	7,047.00	6,414.52	58.68	56.41	-85.40	-1,848.57	-1,983.19	2,932.10	2,830.66	101.44	28.904		
7,800.00	7,125.64	7,111.55	6,472.23	60.64	56.98	-82.19	-1,867.09	-2,005.42	2,965.79	2,861.93	103.87	28.554		
7,900.00	7,148.19	7,164.14	6,519.24	62.69	57.45	-79.64	-1,882.18	-2,023.53	2,996.39	2,890.13	106.26	28.198		
8,000.00	7,154.00	7,203.39	6,554.33	64.75	57.80	-78.04	-1,893.44	-2,037.05	3,023.84	2,915.32	108.52	27.865		
8,100.00	7,154.00	7,237.82	6,585.10	66.83	58.11	-78.67	-1,903.32	-2,048.90	3,051.92	2,941.24	110.68	27.575		
8,200.00	7,154.00	7,272.24	6,615.87	68.96	58.42	-79.30	-1,913.20	-2,060.75	3,082.61	2,969.81	112.79	27.330		
8,300.00	7,154.00	7,306.67	6,646.65	71.12	58.73	-79.93	-1,923.08	-2,072.61	3,115.82	3,000.96	114.86	27.128		
8,400.00	7,154.00	7,341.09	6,677.42	73.32	59.04	-80.56	-1,932.95	-2,084.46	3,151.48	3,034.62	116.86	26.967		
8,500.00	7,154.00	7,375.52	6,708.20	75.55	59.34	-81.18	-1,942.83	-2,096.31	3,189.51	3,070.69	118.82	26.844		
8,600.00	7,154.00	9,258.97	7,579.00	77.81	86.08	-97.54	-2,223.19	-3,442.67	3,208.24	3,056.34	151.89	21.122		
8,700.00	7,154.00	9,358.97	7,579.00	80.10	88.08	-97.54	-2,223.27	-3,542.67	3,208.34	3,051.88	156.47	20.505		
8,800.00	7,154.00	9,458.97	7,579.00	82.41	90.11	-97.54	-2,223.35	-3,642.67	3,208.45	3,047.36	161.09	19.917		
8,900.00	7,154.00	9,558.97	7,579.00	84.75	92.18	-97.54	-2,223.43	-3,742.67	3,208.56	3,042.80	165.75	19.357		
9,000.00	7,154.00	9,658.97	7,579.00	87.11	94.28	-97.54	-2,223.52	-3,842.67	3,208.67	3,038.20	170.46	18.823		
9,100.00	7,154.00	9,758.97	7,579.00	89.48	96.42	-97.54	-2,223.60	-3,942.67	3,208.77	3,033.56	175.21	18.314		
9,200.00	7,154.00	9,858.97	7,579.00	91.88	98.58	-97.54	-2,223.68	-4,042.67	3,208.88	3,028.89	179.99	17.828		
9,300.00	7,154.00	9,958.97	7,579.00	94.29	100.77	-97.54	-2,223.77	-4,142.67	3,208.99	3,024.19	184.80	17.365		
9,400.00	7,154.00	10,058.97	7,579.00	96.72	102.98	-97.54	-2,223.85	-4,242.67	3,209.09	3,019.45	189.64	16.922		
9,500.00	7,154.00	10,158.97	7,579.00	99.16	105.22	-97.54	-2,223.93	-4,342.67	3,209.20	3,014.69	194.51	16.499		
9,600.00	7,154.00	10,258.97	7,579.00	101.61	107.48	-97.54	-2,224.01	-4,442.67	3,209.31	3,009.90	199.41	16.094		
9,700.00	7,154.00	10,358.97	7,579.00	104.08	109.76	-97.54	-2,224.10	-4,542.67	3,209.42	3,005.09	204.33	15.707		
9,800.00	7,154.00	10,458.97	7,579.00	106.56	112.06	-97.54	-2,224.18	-4,642.67	3,209.52	3,000.26	209.27	15.337		
9,900.00	7,154.00	10,558.97	7,579.00	109.05	114.37	-97.54	-2,224.26	-4,742.67	3,209.63	2,995.40	214.23	14.982		
10,000.00	7,154.00	10,658.97	7,579.00	111.55	116.71	-97.54	-2,224.34	-4,842.67	3,209.74	2,990.53	219.21	14.642		
10,100.00	7,154.00	10,758.97	7,579.00	114.06	119.06	-97.54	-2,224.43	-4,942.67	3,209.84	2,985.64	224.21	14.316		
10,200.00	7,154.00	10,858.97	7,579.00	116.57	121.43	-97.54	-2,224.51	-5,042.67	3,209.95	2,980.73	229.22	14.004		

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 Warbler 13W-27-03
Project:	ADAMS COUNTY	TVD Reference:	KB 25' @ 5105.00usft
Reference Site:	Sec 13-T1S-R66W	MD Reference:	KB 25' @ 5105.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	Warbler 13W-27-03	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT_32Bit_ODBC
Reference Design:	PROPOSAL 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-MWD OWSG													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		
10,300.00	7,154.00	10,958.97	7,579.00	119.10	123.81	-97.54	-2,224.59	-5,142.67	3,210.06	2,975.81	234.25	13.703		
10,400.00	7,154.00	11,058.97	7,579.00	121.63	126.20	-97.54	-2,224.68	-5,242.67	3,210.17	2,970.87	239.30	13.415		
10,500.00	7,154.00	11,158.97	7,579.00	124.17	128.61	-97.54	-2,224.76	-5,342.67	3,210.27	2,965.92	244.35	13.138		
10,600.00	7,154.00	11,258.97	7,579.00	126.72	131.03	-97.54	-2,224.84	-5,442.67	3,210.38	2,960.95	249.43	12.871		
10,700.00	7,154.00	11,358.97	7,579.00	129.28	133.46	-97.54	-2,224.92	-5,542.67	3,210.49	2,955.98	254.51	12.614		
10,800.00	7,154.00	11,458.97	7,579.00	131.84	135.91	-97.53	-2,225.01	-5,642.67	3,210.59	2,950.99	259.60	12.367		
10,900.00	7,154.00	11,558.97	7,579.00	134.40	138.36	-97.53	-2,225.09	-5,742.67	3,210.70	2,945.99	264.71	12.129		
11,000.00	7,154.00	11,658.97	7,579.00	136.97	140.82	-97.53	-2,225.17	-5,842.67	3,210.81	2,940.98	269.82	11.900		
11,100.00	7,154.00	11,758.97	7,579.00	139.55	143.29	-97.53	-2,225.26	-5,942.67	3,210.92	2,935.97	274.95	11.678		
11,200.00	7,154.00	11,858.97	7,579.00	142.13	145.77	-97.53	-2,225.34	-6,042.67	3,211.02	2,930.94	280.08	11.464		
11,300.00	7,154.00	11,958.97	7,579.00	144.72	148.26	-97.53	-2,225.42	-6,142.67	3,211.13	2,925.90	285.23	11.258		
11,400.00	7,154.00	12,058.97	7,579.00	147.30	150.76	-97.53	-2,225.50	-6,242.67	3,211.24	2,920.86	290.38	11.059		
11,500.00	7,154.00	12,158.97	7,579.00	149.90	153.26	-97.53	-2,225.59	-6,342.67	3,211.35	2,915.81	295.54	10.866		
11,600.00	7,154.00	12,258.97	7,579.00	152.50	155.77	-97.53	-2,225.67	-6,442.67	3,211.45	2,910.75	300.70	10.680		
11,700.00	7,154.00	12,358.97	7,579.00	155.10	158.29	-97.53	-2,225.75	-6,542.67	3,211.56	2,905.69	305.87	10.500		
11,800.00	7,154.00	12,458.97	7,579.00	157.70	160.81	-97.53	-2,225.83	-6,642.67	3,211.67	2,900.61	311.05	10.325		
11,900.00	7,154.00	12,558.97	7,579.00	160.31	163.34	-97.53	-2,225.92	-6,742.67	3,211.77	2,895.54	316.24	10.156		
12,000.00	7,154.00	12,658.97	7,579.00	162.92	165.88	-97.53	-2,226.00	-6,842.67	3,211.88	2,890.45	321.43	9.992		
12,100.00	7,154.00	12,758.97	7,579.00	165.54	168.42	-97.53	-2,226.08	-6,942.67	3,211.99	2,885.36	326.63	9.834		
12,200.00	7,154.00	12,858.97	7,579.00	168.15	170.97	-97.53	-2,226.17	-7,042.67	3,212.10	2,880.27	331.83	9.680		
12,300.00	7,154.00	12,958.97	7,579.00	170.77	173.52	-97.53	-2,226.25	-7,142.67	3,212.20	2,875.17	337.04	9.531		
12,400.00	7,154.00	13,058.97	7,579.00	173.39	176.08	-97.53	-2,226.33	-7,242.67	3,212.31	2,870.06	342.25	9.386		
12,500.00	7,154.00	13,158.97	7,579.00	176.02	178.64	-97.53	-2,226.41	-7,342.67	3,212.42	2,864.95	347.46	9.245		
12,600.00	7,154.00	13,258.97	7,579.00	178.65	181.20	-97.53	-2,226.50	-7,442.67	3,212.52	2,859.84	352.69	9.109		
12,700.00	7,154.00	13,358.97	7,579.00	181.28	183.77	-97.53	-2,226.58	-7,542.67	3,212.63	2,854.72	357.91	8.976		
12,800.00	7,154.00	13,458.97	7,579.00	183.91	186.34	-97.53	-2,226.66	-7,642.67	3,212.74	2,849.60	363.14	8.847		
12,900.00	7,154.00	13,558.97	7,579.00	186.54	188.92	-97.53	-2,226.75	-7,742.67	3,212.85	2,844.47	368.38	8.722		
13,000.00	7,154.00	13,658.97	7,579.00	189.18	191.50	-97.53	-2,226.83	-7,842.67	3,212.95	2,839.34	373.61	8.600		
13,100.00	7,154.00	13,758.97	7,579.00	191.81	194.09	-97.53	-2,226.91	-7,942.67	3,213.06	2,834.21	378.85	8.481		
13,200.00	7,154.00	13,858.97	7,579.00	194.45	196.67	-97.53	-2,226.99	-8,042.67	3,213.17	2,829.07	384.10	8.365		
13,300.00	7,154.00	13,958.97	7,579.00	197.10	199.26	-97.53	-2,227.08	-8,142.67	3,213.27	2,823.93	389.35	8.253		
13,400.00	7,154.00	14,058.97	7,579.00	199.74	201.86	-97.53	-2,227.16	-8,242.67	3,213.38	2,818.78	394.60	8.143		
13,500.00	7,154.00	14,158.97	7,579.00	202.38	204.45	-97.53	-2,227.24	-8,342.67	3,213.49	2,813.64	399.85	8.037		
13,600.00	7,154.00	14,258.97	7,579.00	205.03	207.05	-97.53	-2,227.32	-8,442.67	3,213.60	2,808.49	405.11	7.933		
13,700.00	7,154.00	14,358.97	7,579.00	207.68	209.66	-97.53	-2,227.41	-8,542.67	3,213.70	2,803.33	410.37	7.831		
13,800.00	7,154.00	14,458.97	7,579.00	210.33	212.26	-97.53	-2,227.49	-8,642.67	3,213.81	2,798.18	415.63	7.732		
13,900.00	7,154.00	14,558.97	7,579.00	212.98	214.87	-97.53	-2,227.57	-8,742.67	3,213.92	2,793.02	420.90	7.636		
14,000.00	7,154.00	14,658.97	7,579.00	215.63	217.48	-97.53	-2,227.66	-8,842.67	3,214.02	2,787.86	426.16	7.542		
14,100.00	7,154.00	14,758.97	7,579.00	218.28	220.09	-97.53	-2,227.74	-8,942.67	3,214.13	2,782.70	431.43	7.450		
14,200.00	7,154.00	14,858.97	7,579.00	220.93	222.71	-97.53	-2,227.82	-9,042.67	3,214.24	2,777.53	436.71	7.360		
14,300.00	7,154.00	14,958.97	7,579.00	223.59	225.32	-97.53	-2,227.90	-9,142.67	3,214.35	2,772.37	441.98	7.273		
14,400.00	7,154.00	15,058.97	7,579.00	226.25	227.94	-97.53	-2,227.99	-9,242.67	3,214.45	2,767.20	447.26	7.187		
14,500.00	7,154.00	15,158.97	7,579.00	228.90	230.56	-97.53	-2,228.07	-9,342.67	3,214.56	2,762.02	452.54	7.103		
14,600.00	7,154.00	15,258.97	7,579.00	231.56	233.19	-97.53	-2,228.15	-9,442.67	3,214.67	2,756.85	457.82	7.022		
14,700.00	7,154.00	15,358.97	7,579.00	234.22	235.81	-97.52	-2,228.24	-9,542.67	3,214.77	2,751.67	463.10	6.942		
14,800.00	7,154.00	15,458.97	7,579.00	236.88	238.44	-97.52	-2,228.32	-9,642.67	3,214.88	2,746.50	468.38	6.864		
14,900.00	7,154.00	15,558.97	7,579.00	239.55	241.07	-97.52	-2,228.40	-9,742.67	3,214.99	2,741.32	473.67	6.787		
15,000.00	7,154.00	15,658.97	7,579.00	242.21	243.70	-97.52	-2,228.48	-9,842.67	3,215.10	2,736.14	478.96	6.713		
15,100.00	7,154.00	15,758.97	7,579.00	244.87	246.33	-97.52	-2,228.57	-9,942.67	3,215.20	2,730.95	484.25	6.640		
15,200.00	7,154.00	15,858.97	7,579.00	247.54	248.96	-97.52	-2,228.65	-10,042.67	3,215.31	2,725.77	489.54	6.568		
15,300.00	7,154.00	15,958.97	7,579.00	250.20	251.60	-97.52	-2,228.73	-10,142.67	3,215.42	2,720.58	494.83	6.498		
15,400.00	7,154.00	16,058.97	7,579.00	252.87	254.23	-97.52	-2,228.82	-10,242.67	3,215.52	2,715.39	500.13	6.429		

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 WARBLER 13W-27-03
Project:	ADAMS COUNTY	TVD Reference:	KB 25' @ 5105.00usft
Reference Site:	Sec 13-T1S-R66W	MD Reference:	KB 25' @ 5105.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	WARBLER 13W-27-03	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT_32Bit_ODBC
Reference Design:	PROPOSAL 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-MWD OWSG													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		
15,500.00	7,154.00	16,158.97	7,579.00	255.53	256.87	-97.52	-2,228.90	-10,342.67	3,215.63	2,710.21	505.43	6.362		
15,600.00	7,154.00	16,258.97	7,579.00	258.20	259.51	-97.52	-2,228.98	-10,442.67	3,215.74	2,705.01	510.72	6.296		
15,700.00	7,154.00	16,358.97	7,579.00	260.87	262.15	-97.52	-2,229.06	-10,542.67	3,215.85	2,699.82	516.02	6.232		
15,800.00	7,154.00	16,458.97	7,579.00	263.54	264.79	-97.52	-2,229.15	-10,642.67	3,215.95	2,694.63	521.32	6.169		
15,900.00	7,154.00	16,558.97	7,579.00	266.21	267.44	-97.52	-2,229.23	-10,742.67	3,216.06	2,689.43	526.63	6.107		
16,000.00	7,154.00	16,658.97	7,579.00	268.88	270.08	-97.52	-2,229.31	-10,842.67	3,216.17	2,684.24	531.93	6.046		
16,100.00	7,154.00	16,758.97	7,579.00	271.55	272.73	-97.52	-2,229.39	-10,942.67	3,216.27	2,679.04	537.23	5.987		
16,200.00	7,154.00	16,858.97	7,579.00	274.22	275.37	-97.52	-2,229.48	-11,042.67	3,216.38	2,673.84	542.54	5.928		
16,300.00	7,154.00	16,958.97	7,579.00	276.90	278.02	-97.52	-2,229.56	-11,142.67	3,216.49	2,668.64	547.85	5.871		
16,400.00	7,154.00	17,058.97	7,579.00	279.57	280.67	-97.52	-2,229.64	-11,242.67	3,216.60	2,663.44	553.15	5.815		
16,500.00	7,154.00	17,158.97	7,579.00	282.24	283.32	-97.52	-2,229.73	-11,342.67	3,216.70	2,658.24	558.46	5.760		
16,600.00	7,154.00	17,258.97	7,579.00	284.92	285.97	-97.52	-2,229.81	-11,442.67	3,216.81	2,653.04	563.77	5.706		
16,700.00	7,154.00	17,358.97	7,579.00	287.59	288.62	-97.52	-2,229.89	-11,542.67	3,216.92	2,647.83	569.09	5.653		
16,800.00	7,154.00	17,458.97	7,579.00	290.27	291.28	-97.52	-2,229.97	-11,642.67	3,217.02	2,642.63	574.40	5.601		
16,900.00	7,154.00	17,558.97	7,579.00	292.94	293.93	-97.52	-2,230.06	-11,742.67	3,217.13	2,637.42	579.71	5.550		
17,000.00	7,154.00	17,658.97	7,579.00	295.62	296.59	-97.52	-2,230.14	-11,842.67	3,217.24	2,632.21	585.03	5.499		
17,100.00	7,154.00	17,758.97	7,579.00	298.29	299.24	-97.52	-2,230.22	-11,942.67	3,217.35	2,627.01	590.34	5.450		
17,200.00	7,154.00	17,858.97	7,579.00	300.97	301.90	-97.52	-2,230.31	-12,042.67	3,217.45	2,621.80	595.66	5.402		
17,300.00	7,154.00	17,958.97	7,579.00	303.65	304.56	-97.52	-2,230.39	-12,142.67	3,217.56	2,616.59	600.97	5.354		
17,400.00	7,154.00	18,058.97	7,579.00	306.33	307.21	-97.52	-2,230.47	-12,242.67	3,217.67	2,611.38	606.29	5.307		
17,500.00	7,154.00	18,158.97	7,579.00	309.01	309.87	-97.52	-2,230.55	-12,342.67	3,217.77	2,606.16	611.61	5.261		
17,600.00	7,154.00	18,258.97	7,579.00	311.69	312.53	-97.52	-2,230.64	-12,442.67	3,217.88	2,600.95	616.93	5.216		
17,700.00	7,154.00	18,358.97	7,579.00	314.37	315.19	-97.52	-2,230.72	-12,542.67	3,217.99	2,595.74	622.25	5.172		
17,800.00	7,154.00	18,458.97	7,579.00	317.05	317.86	-97.52	-2,230.80	-12,642.66	3,218.10	2,590.53	627.57	5.128		
17,900.00	7,154.00	18,558.97	7,579.00	319.73	320.52	-97.52	-2,230.88	-12,742.66	3,218.20	2,585.31	632.89	5.085		
18,000.00	7,154.00	18,658.97	7,579.00	322.41	323.18	-97.52	-2,230.97	-12,842.66	3,218.31	2,580.09	638.22	5.043		
18,100.00	7,154.00	18,758.97	7,579.00	325.09	325.84	-97.52	-2,231.05	-12,942.66	3,218.42	2,574.88	643.54	5.001		
18,200.00	7,154.00	18,858.97	7,579.00	327.77	328.51	-97.52	-2,231.13	-13,042.66	3,218.52	2,569.66	648.86	4.960		
18,300.00	7,154.00	18,958.97	7,579.00	330.45	331.17	-97.52	-2,231.22	-13,142.66	3,218.63	2,564.44	654.19	4.920		
18,400.00	7,154.00	19,058.97	7,579.00	333.13	333.84	-97.52	-2,231.30	-13,242.66	3,218.74	2,559.23	659.51	4.880		
18,500.00	7,154.00	19,158.97	7,579.00	335.82	336.51	-97.52	-2,231.38	-13,342.66	3,218.85	2,554.01	664.84	4.842		
18,600.00	7,154.00	19,258.97	7,579.00	338.50	339.17	-97.52	-2,231.46	-13,442.66	3,218.95	2,548.79	670.17	4.803		
18,700.00	7,154.00	19,358.97	7,579.00	341.18	341.84	-97.51	-2,231.55	-13,542.66	3,219.06	2,543.57	675.49	4.765		
18,800.00	7,154.00	19,458.97	7,579.00	343.86	344.51	-97.51	-2,231.63	-13,642.66	3,219.17	2,538.35	680.82	4.728		
18,900.00	7,154.00	19,558.96	7,579.00	346.55	347.18	-97.51	-2,231.71	-13,742.66	3,219.27	2,533.12	686.15	4.692		
19,000.00	7,154.00	19,658.96	7,579.00	349.23	349.85	-97.51	-2,231.80	-13,842.66	3,219.38	2,527.90	691.48	4.656		
19,100.00	7,154.00	19,758.96	7,579.00	351.92	352.51	-97.51	-2,231.88	-13,942.66	3,219.49	2,522.68	696.81	4.620		
19,200.00	7,154.00	19,858.96	7,579.00	354.60	355.18	-97.51	-2,231.96	-14,042.66	3,219.60	2,517.46	702.14	4.585		
19,300.00	7,154.00	19,958.96	7,579.00	357.29	357.86	-97.51	-2,232.04	-14,142.66	3,219.70	2,512.23	707.47	4.551		
19,400.00	7,154.00	20,058.96	7,579.00	359.97	360.53	-97.51	-2,232.13	-14,242.66	3,219.81	2,507.01	712.80	4.517		
19,500.00	7,154.00	20,158.96	7,579.00	362.66	363.20	-97.51	-2,232.21	-14,342.66	3,219.92	2,501.78	718.13	4.484		
19,600.00	7,154.00	20,258.96	7,579.00	365.34	365.87	-97.51	-2,232.29	-14,442.66	3,220.03	2,496.56	723.47	4.451		
19,700.00	7,154.00	20,358.96	7,579.00	368.03	368.54	-97.51	-2,232.37	-14,542.66	3,220.13	2,491.33	728.80	4.418		
19,800.00	7,154.00	20,458.96	7,579.00	370.72	371.22	-97.51	-2,232.46	-14,642.66	3,220.24	2,486.11	734.13	4.386		
19,900.00	7,154.00	20,558.96	7,579.00	373.40	373.89	-97.51	-2,232.54	-14,742.66	3,220.35	2,480.88	739.47	4.355		
20,000.00	7,154.00	20,658.96	7,579.00	376.09	376.56	-97.51	-2,232.62	-14,842.66	3,220.45	2,475.65	744.80	4.324		
20,100.00	7,154.00	20,758.96	7,579.00	378.78	379.24	-97.51	-2,232.71	-14,942.66	3,220.56	2,470.43	750.14	4.293		
20,200.00	7,154.00	20,858.96	7,579.00	381.46	381.91	-97.51	-2,232.79	-15,042.66	3,220.67	2,465.20	755.47	4.263		
20,300.00	7,154.00	20,958.96	7,579.00	384.15	384.59	-97.51	-2,232.87	-15,142.66	3,220.78	2,459.97	760.81	4.233		
20,400.00	7,154.00	21,058.96	7,579.00	386.84	387.26	-97.51	-2,232.95	-15,242.66	3,220.88	2,454.74	766.14	4.204		
20,500.00	7,154.00	21,158.96	7,579.00	389.53	389.94	-97.51	-2,233.04	-15,342.66	3,220.99	2,449.51	771.48	4.175		
20,600.00	7,154.00	21,258.96	7,579.00	392.21	392.62	-97.51	-2,233.12	-15,442.66	3,221.10	2,444.28	776.82	4.147		

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 WARBLER 13W-27-03
Project:	ADAMS COUNTY	TVD Reference:	KB 25' @ 5105.00usft
Reference Site:	Sec 13-T1S-R66W	MD Reference:	KB 25' @ 5105.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	WARBLER 13W-27-03	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT_32Bit_ODBC
Reference Design:	PROPOSAL 1	Offset TVD Reference:	Offset Datum

Offset Design Sec 13-T1S-R66W - WARBLER 24W-27-11 - OWB - PROPOSAL 1												Offset Site Error:	0.00 usft
Survey Program: 0-MWD OWSG												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	
20,700.00	7,154.00	21,358.96	7,579.00	394.90	395.29	-97.51	-2,233.20	-15,542.66	3,221.20	2,439.05	782.15	4.118	
20,800.00	7,154.00	21,458.96	7,579.00	397.59	397.97	-97.51	-2,233.29	-15,642.66	3,221.31	2,433.82	787.49	4.091	
20,900.00	7,154.00	21,558.96	7,579.00	400.28	400.65	-97.51	-2,233.37	-15,742.66	3,221.42	2,428.59	792.83	4.063	
21,000.00	7,154.00	21,658.96	7,579.00	402.97	403.33	-97.51	-2,233.45	-15,842.66	3,221.53	2,423.36	798.17	4.036	
21,100.00	7,154.00	21,758.96	7,579.00	405.66	406.00	-97.51	-2,233.53	-15,942.66	3,221.63	2,418.13	803.51	4.009	
21,200.00	7,154.00	21,858.96	7,579.00	408.35	408.68	-97.51	-2,233.62	-16,042.66	3,221.74	2,412.89	808.85	3.983	
21,300.00	7,154.00	21,958.96	7,579.00	411.04	411.36	-97.51	-2,233.70	-16,142.66	3,221.85	2,407.66	814.19	3.957	
21,400.00	7,154.00	22,058.96	7,579.00	413.73	414.04	-97.51	-2,233.78	-16,242.66	3,221.95	2,402.43	819.53	3.931	
21,500.00	7,154.00	22,158.96	7,579.00	416.42	416.72	-97.51	-2,233.86	-16,342.66	3,222.06	2,397.20	824.87	3.906	
21,573.27	7,154.00	22,241.77	7,579.00	418.39	418.94	-97.51	-2,233.81	-16,425.46	3,222.03	2,393.06	828.97	3.887 SF	

Anticollision Report

Company:	EXTRACTION OIL & GAS	Local Co-ordinate Reference:	Well WARBLER 13W-27-03
Project:	ADAMS COUNTY	TVD Reference:	KB 25' @ 5105.00usft
Reference Site:	Sec 13-T1S-R66W	MD Reference:	KB 25' @ 5105.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	WARBLER 13W-27-03	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT_32Bit_ODBC
Reference Design:	PROPOSAL 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-MWD OWSG													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		
0.00	0.00	4.00	4.00	0.00	0.01	123.70	-99.44	149.13	179.25					
100.00	100.00	104.02	104.02	0.13	0.15	123.70	-99.45	149.13	179.25	178.96	0.28	633.611		
200.00	200.00	204.38	204.38	0.49	0.50	124.30	-100.95	147.97	179.13	178.14	0.99	180.604		
300.00	300.00	304.50	304.32	0.85	0.86	126.03	-105.23	144.69	178.91	177.20	1.71	104.557		
355.97	355.97	360.32	359.97	1.05	1.07	127.48	-108.82	141.94	178.86	176.73	2.12	84.281 CC		
400.00	400.00	404.11	403.54	1.21	1.24	128.86	-112.24	139.32	178.91	176.46	2.45	73.099		
500.00	500.00	502.99	501.67	1.57	1.64	132.74	-121.90	131.91	179.63	176.43	3.20	56.080 ES		
600.00	600.00	600.92	598.37	1.93	2.06	137.58	-134.11	122.55	181.76	177.78	3.98	45.692		
700.00	699.98	697.76	693.43	2.28	2.50	-148.42	-148.76	111.32	187.58	182.81	4.77	39.346		
800.00	799.84	793.37	786.62	2.63	2.98	-143.05	-165.71	98.33	198.98	193.41	5.57	35.721		
900.00	899.45	887.55	877.67	3.00	3.48	-138.05	-184.81	83.68	215.94	209.56	6.38	33.826		
1,000.00	998.70	980.12	966.34	3.37	4.02	-133.62	-205.89	67.52	238.21	231.01	7.20	33.065		
1,100.00	1,097.47	1,070.91	1,052.43	3.77	4.58	-129.82	-228.77	49.98	265.42	257.39	8.04	33.032		
1,200.00	1,195.62	1,159.78	1,135.77	4.19	5.17	-126.62	-253.24	31.21	297.17	288.29	8.88	33.461		
1,300.00	1,293.06	1,246.60	1,216.23	4.64	5.78	-123.95	-279.12	11.37	333.10	323.35	9.75	34.171		
1,400.00	1,389.64	1,331.27	1,293.71	5.12	6.41	-121.69	-306.22	-9.40	372.86	362.21	10.64	35.041		
1,500.00	1,485.27	1,413.71	1,368.15	5.66	7.06	-119.78	-334.33	-30.95	416.17	404.61	11.56	35.990		
1,600.00	1,579.82	1,493.86	1,439.51	6.24	7.73	-118.12	-363.28	-53.15	462.80	450.28	12.52	36.958		
1,700.00	1,673.17	1,571.67	1,507.79	6.88	8.42	-116.65	-392.89	-75.85	512.52	499.00	13.52	37.901		
1,800.00	1,765.22	1,647.11	1,573.00	7.57	9.11	-115.44	-422.99	-98.93	565.15	550.59	14.56	38.810		
1,900.00	1,856.73	1,730.03	1,634.97	8.31	9.90	-115.22	-453.33	-122.19	619.76	604.09	15.68	39.534		
2,000.00	1,948.24	1,803.10	1,705.12	9.06	10.62	-114.92	-488.79	-149.38	675.21	658.40	16.81	40.167		
2,100.00	2,039.75	1,886.28	1,775.27	9.83	11.45	-114.66	-524.26	-176.57	730.66	712.61	18.04	40.495		
2,200.00	2,131.26	1,969.46	1,845.42	10.61	12.28	-114.45	-559.73	-203.77	786.12	766.83	19.29	40.749		
2,300.00	2,222.77	2,052.63	1,915.57	11.40	13.11	-114.25	-595.19	-230.96	841.59	821.03	20.55	40.946		
2,400.00	2,314.28	2,135.81	1,985.72	12.20	13.95	-114.09	-630.66	-258.15	897.06	875.23	21.83	41.101		
2,500.00	2,405.79	2,218.98	2,055.87	13.00	14.79	-113.94	-666.12	-285.34	952.54	929.43	23.11	41.224		
2,600.00	2,497.30	2,302.16	2,126.02	13.81	15.63	-113.81	-701.59	-312.53	1,008.02	983.62	24.39	41.321		
2,700.00	2,588.81	2,385.34	2,196.17	14.62	16.48	-113.69	-737.05	-339.72	1,063.50	1,037.81	25.69	41.398		
2,800.00	2,680.31	2,468.51	2,266.33	15.44	17.32	-113.59	-772.52	-366.92	1,118.99	1,092.00	26.99	41.459		
2,900.00	2,771.82	2,551.69	2,336.48	16.25	18.17	-113.49	-807.99	-394.11	1,174.48	1,146.18	28.30	41.508		
3,000.00	2,863.33	2,634.87	2,406.63	17.08	19.02	-113.40	-843.45	-421.30	1,229.97	1,200.37	29.60	41.547		
3,100.00	2,954.84	2,718.04	2,476.78	17.90	19.87	-113.32	-878.92	-448.49	1,285.47	1,254.55	30.92	41.578		
3,200.00	3,046.35	2,801.22	2,546.93	18.72	20.72	-113.25	-914.38	-475.68	1,340.96	1,308.73	32.23	41.603		
3,300.00	3,137.86	2,884.40	2,617.08	19.55	21.57	-113.18	-949.85	-502.87	1,396.46	1,362.91	33.55	41.622		
3,400.00	3,229.37	2,967.57	2,687.23	20.38	22.42	-113.12	-985.32	-530.07	1,451.96	1,417.08	34.87	41.637		
3,500.00	3,320.88	3,050.75	2,757.38	21.21	23.27	-113.06	-1,020.78	-557.26	1,507.46	1,471.26	36.20	41.648		
3,600.00	3,412.39	3,133.92	2,827.53	22.04	24.13	-113.01	-1,056.25	-584.45	1,562.96	1,525.44	37.52	41.656		
3,700.00	3,503.90	3,217.10	2,897.68	22.87	24.98	-112.96	-1,091.71	-611.64	1,618.46	1,579.61	38.85	41.662		
3,800.00	3,595.41	3,300.28	2,967.83	23.70	25.83	-112.91	-1,127.18	-638.83	1,673.96	1,633.78	40.18	41.666		
3,900.00	3,686.91	3,383.45	3,037.98	24.54	26.69	-112.87	-1,162.65	-666.02	1,729.46	1,687.95	41.51	41.668		
4,000.00	3,778.42	3,466.63	3,108.13	25.37	27.54	-112.83	-1,198.11	-693.22	1,784.96	1,742.13	42.84	41.669		
4,100.00	3,869.93	3,549.81	3,178.28	26.20	28.40	-112.79	-1,233.58	-720.41	1,840.47	1,796.30	44.17	41.668		
4,200.00	3,961.44	3,632.98	3,248.43	27.04	29.25	-112.76	-1,269.04	-747.60	1,895.97	1,850.47	45.50	41.667		
4,300.00	4,052.95	3,716.16	3,318.58	27.88	30.11	-112.72	-1,304.51	-774.79	1,951.48	1,904.64	46.84	41.664		
4,400.00	4,144.46	3,800.66	3,388.73	28.71	30.98	-112.69	-1,339.97	-801.98	2,006.98	1,958.80	48.18	41.652		
4,500.00	4,235.97	3,882.51	3,458.89	29.55	31.82	-112.66	-1,375.44	-829.17	2,062.49	2,012.98	49.51	41.658		
4,600.00	4,327.48	3,965.69	3,529.04	30.39	32.68	-112.63	-1,410.91	-856.37	2,117.99	2,067.15	50.85	41.653		
4,700.00	4,418.99	4,048.87	3,599.19	31.22	33.53	-112.60	-1,446.37	-883.56	2,173.50	2,121.31	52.19	41.649		
4,800.00	4,510.50	4,132.04	3,669.34	32.06	34.39	-112.58	-1,481.84	-910.75	2,229.01	2,175.48	53.53	41.644		
4,900.00	4,602.01	4,215.22	3,739.49	32.90	35.25	-112.55	-1,517.30	-937.94	2,284.51	2,229.65	54.87	41.639		
5,000.00	4,693.51	4,301.61	3,809.64	33.74	36.14	-112.53	-1,552.77	-965.13	2,340.02	2,283.79	56.23	41.614		

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 WARBLER 13W-27-03
Project:	ADAMS COUNTY	TVD Reference:	KB 25' @ 5105.00usft
Reference Site:	Sec 13-T1S-R66W	MD Reference:	KB 25' @ 5105.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	WARBLER 13W-27-03	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT_32Bit_ODBC
Reference Design:	PROPOSAL 1	Offset TVD Reference:	Offset Datum

Offset Design													Sec 13-T1S-R66W - WARBLER 24W-27-12 - OWB - PROPOSAL 1		Offset Site Error: 0.00 usft	
Survey Program: 0-MWD OWSG													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)	Centre +E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor				
5,100.00	4,785.02	4,381.57	3,879.79	34.58	36.96	-112.51	-1,588.24	-992.32	2,395.53	2,337.98	57.55	41.627				
5,200.00	4,876.53	4,464.75	3,949.94	35.42	37.82	-112.48	-1,623.70	-1,019.52	2,451.04	2,392.15	58.89	41.622				
5,300.00	4,968.04	4,547.92	4,020.09	36.26	38.68	-112.46	-1,659.17	-1,046.71	2,506.54	2,446.31	60.23	41.616				
5,400.00	5,059.55	4,631.10	4,090.24	37.10	39.54	-112.44	-1,694.63	-1,073.90	2,562.05	2,500.48	61.57	41.610				
5,500.00	5,151.06	4,714.28	4,160.39	37.94	40.39	-112.43	-1,730.10	-1,101.09	2,617.56	2,554.64	62.92	41.603				
5,600.00	5,242.57	4,802.55	4,230.54	38.78	41.30	-112.41	-1,765.56	-1,128.28	2,673.07	2,608.77	64.30	41.570				
5,700.00	5,334.08	4,880.63	4,300.69	39.62	42.11	-112.39	-1,801.03	-1,155.47	2,728.58	2,662.97	65.61	41.591				
5,800.00	5,425.59	4,963.81	4,370.84	40.46	42.97	-112.37	-1,836.50	-1,182.67	2,784.09	2,717.14	66.95	41.585				
5,900.00	5,517.10	5,046.98	4,440.99	41.30	43.83	-112.36	-1,871.96	-1,209.86	2,839.60	2,771.30	68.30	41.578				
6,000.00	5,608.61	5,130.16	4,511.14	42.14	44.68	-112.34	-1,907.43	-1,237.05	2,895.11	2,825.46	69.64	41.572				
6,100.00	5,700.12	5,213.34	4,581.29	42.98	45.54	-112.33	-1,942.89	-1,264.24	2,950.61	2,879.63	70.99	41.566				
6,200.00	5,791.62	5,303.49	4,651.45	43.82	46.47	-112.31	-1,978.36	-1,291.43	3,006.12	2,933.73	72.39	41.527				
6,300.00	5,883.13	5,379.69	4,721.60	44.66	47.26	-112.30	-2,013.83	-1,318.62	3,061.63	2,987.95	73.68	41.553				
6,400.00	5,974.64	5,462.86	4,791.75	45.50	48.12	-112.29	-2,049.29	-1,345.81	3,117.14	3,042.12	75.03	41.547				
6,500.00	6,066.15	5,546.04	4,861.90	46.35	48.98	-112.27	-2,084.76	-1,373.01	3,172.65	3,096.28	76.38	41.540				
6,600.00	6,157.66	5,629.22	4,932.05	47.19	49.84	-112.26	-2,120.22	-1,400.20	3,228.16	3,150.44	77.72	41.534				
6,700.00	6,249.17	5,712.39	5,002.20	48.03	50.69	-112.25	-2,155.69	-1,427.39	3,283.67	3,204.60	79.07	41.528				
6,800.00	6,340.68	5,804.43	5,072.35	48.87	51.65	-112.24	-2,191.16	-1,454.58	3,339.18	3,258.69	80.49	41.484				
6,900.00	6,432.19	5,878.75	5,142.50	49.71	52.41	-112.23	-2,226.62	-1,481.77	3,394.69	3,312.92	81.77	41.515				
7,000.00	6,523.70	5,961.92	5,212.65	50.55	53.27	-112.22	-2,262.09	-1,508.96	3,450.20	3,367.08	83.12	41.509				
7,100.00	6,615.21	6,045.10	5,282.80	51.40	54.13	-112.21	-2,297.55	-1,536.16	3,505.71	3,421.25	84.47	41.503				
7,200.00	6,706.72	6,128.28	5,352.95	52.24	54.99	-112.20	-2,333.02	-1,563.35	3,561.23	3,475.41	85.82	41.497				
7,300.00	6,798.22	6,211.45	5,423.10	53.08	55.85	-112.19	-2,368.48	-1,590.54	3,616.74	3,529.57	87.17	41.490				
7,400.00	6,886.25	6,294.37	5,493.03	54.07	56.71	-99.72	-2,403.84	-1,617.65	3,671.88	3,583.20	88.68	41.406				
7,500.00	6,965.23	6,375.11	5,561.13	55.35	57.54	-90.52	-2,438.27	-1,644.04	3,725.27	3,634.76	90.51	41.160				
7,600.00	7,032.75	6,451.22	5,625.32	56.90	58.33	-83.54	-2,470.72	-1,668.92	3,775.60	3,683.00	92.60	40.772				
7,700.00	7,086.77	6,520.38	5,683.65	58.68	59.04	-78.15	-2,500.21	-1,691.53	3,821.85	3,726.95	94.91	40.270				
7,800.00	7,125.64	6,580.50	5,734.35	60.64	59.66	-74.00	-2,525.84	-1,711.19	3,863.20	3,765.88	97.33	39.693				
7,900.00	7,148.19	6,629.74	5,775.88	62.69	60.17	-70.86	-2,546.84	-1,727.28	3,899.03	3,799.26	99.77	39.079				
8,000.00	7,154.00	6,666.83	5,807.16	64.75	60.55	-69.00	-2,562.65	-1,739.41	3,928.97	3,826.83	102.14	38.466				
8,100.00	7,154.00	6,700.49	5,834.73	66.83	60.90	-69.47	-2,576.59	-1,750.09	3,958.17	3,853.70	104.47	37.887				
8,200.00	7,154.00	6,732.19	5,862.29	68.96	61.23	-69.93	-2,590.52	-1,760.78	3,989.39	3,882.61	106.78	37.361				
8,300.00	7,154.00	6,764.87	5,889.85	71.12	61.57	-70.40	-2,604.46	-1,771.46	4,022.60	3,913.51	109.08	36.877				
8,400.00	7,154.00	6,802.45	5,917.42	73.32	61.95	-70.86	-2,618.39	-1,782.14	4,057.73	3,946.32	111.41	36.421				
8,500.00	7,154.00	6,830.23	5,944.98	75.55	62.24	-71.33	-2,632.33	-1,792.83	4,094.74	3,981.11	113.63	36.036				
8,600.00	7,154.00	6,862.91	5,972.54	77.81	62.58	-71.79	-2,646.26	-1,803.51	4,133.58	4,017.72	115.86	35.676				
8,700.00	7,154.00	6,904.41	6,000.10	80.10	63.01	-72.25	-2,660.20	-1,814.20	4,174.21	4,056.05	118.15	35.329				
8,800.00	7,154.00	6,928.28	6,027.67	82.41	63.25	-72.71	-2,674.13	-1,824.88	4,216.55	4,096.31	120.25	35.066				
8,900.00	7,154.00	6,960.96	6,055.23	84.75	63.59	-73.17	-2,688.07	-1,835.56	4,260.58	4,138.19	122.38	34.813				
9,000.00	7,154.00	7,006.36	6,082.79	87.11	64.06	-73.62	-2,702.00	-1,846.25	4,306.23	4,181.62	124.61	34.558				
9,100.00	7,154.00	7,026.32	6,110.35	89.48	64.27	-74.08	-2,715.94	-1,856.93	4,353.45	4,226.89	126.56	34.400				
9,200.00	7,154.00	7,059.00	6,137.92	91.88	64.61	-74.53	-2,729.87	-1,867.62	4,402.19	4,273.61	128.58	34.236				
9,300.00	7,154.00	10,377.11	7,579.00	94.29	109.73	-95.44	-3,459.52	-4,142.52	4,437.02	4,251.69	185.34	23.940				
9,400.00	7,154.00	10,477.11	7,579.00	96.72	111.68	-95.44	-3,459.58	-4,242.52	4,437.11	4,246.96	190.15	23.335				
9,500.00	7,154.00	10,577.11	7,579.00	99.16	113.66	-95.44	-3,459.65	-4,342.52	4,437.20	4,242.20	195.00	22.755				
9,600.00	7,154.00	10,677.11	7,579.00	101.61	115.66	-95.44	-3,459.71	-4,442.52	4,437.29	4,237.42	199.87	22.201				
9,700.00	7,154.00	10,777.11	7,579.00	104.08	117.70	-95.44	-3,459.77	-4,542.52	4,437.37	4,232.60	204.77	21.670				
9,800.00	7,154.00	10,877.11	7,579.00	106.56	119.77	-95.44	-3,459.83	-4,642.52	4,437.46	4,227.77	209.69	21.162				
9,900.00	7,154.00	10,977.11	7,579.00	109.05	121.86	-95.44	-3,459.90	-4,742.52	4,437.55	4,222.91	214.64	20.675				
10,000.00	7,154.00	11,077.11	7,579.00	111.55	123.98	-95.44	-3,459.96	-4,842.52	4,437.64	4,218.04	219.60	20.208				
10,100.00	7,154.00	11,177.11	7,579.00	114.06	126.12	-95.44	-3,460.02	-4,942.52	4,437.73	4,213.14	224.59	19.759				
10,200.00	7,154.00	11,277.11	7,579.00	116.57	128.28	-95.44	-3,460.09	-5,042.52	4,437.81	4,208.22	229.59	19.329				

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 Warbler 13W-27-03
Project:	ADAMS COUNTY	TVD Reference:	KB 25' @ 5105.00usft
Reference Site:	Sec 13-T1S-R66W	MD Reference:	KB 25' @ 5105.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	Warbler 13W-27-03	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT_32Bit_ODBC
Reference Design:	PROPOSAL 1	Offset TVD Reference:	Offset Datum

Offset Design Sec 13-T1S-R66W - Warbler 24W-27-12 - OWB - PROPOSAL 1													Offset Site Error:	0.00 usft
Survey Program: 0-MWD OWSG													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		
10,300.00	7,154.00	11,377.11	7,579.00	119.10	130.47	-95.44	-3,460.15	-5,142.52	4,437.90	4,203.29	234.61	18.916		
10,400.00	7,154.00	11,477.11	7,579.00	121.63	132.67	-95.44	-3,460.21	-5,242.52	4,437.99	4,198.34	239.65	18.519		
10,500.00	7,154.00	11,577.11	7,579.00	124.17	134.90	-95.44	-3,460.28	-5,342.52	4,438.08	4,193.38	244.70	18.137		
10,600.00	7,154.00	11,677.11	7,579.00	126.72	137.14	-95.44	-3,460.34	-5,442.52	4,438.17	4,188.40	249.76	17.769		
10,700.00	7,154.00	11,777.11	7,579.00	129.28	139.40	-95.44	-3,460.40	-5,542.52	4,438.25	4,183.41	254.84	17.416		
10,800.00	7,154.00	11,877.11	7,579.00	131.84	141.68	-95.44	-3,460.47	-5,642.52	4,438.34	4,178.41	259.93	17.075		
10,900.00	7,154.00	11,977.11	7,579.00	134.40	143.98	-95.44	-3,460.53	-5,742.52	4,438.43	4,173.40	265.03	16.747		
11,000.00	7,154.00	12,077.11	7,579.00	136.97	146.29	-95.44	-3,460.59	-5,842.52	4,438.52	4,168.37	270.15	16.430		
11,100.00	7,154.00	12,177.11	7,579.00	139.55	148.61	-95.44	-3,460.65	-5,942.52	4,438.61	4,163.34	275.27	16.125		
11,200.00	7,154.00	12,277.11	7,579.00	142.13	150.95	-95.44	-3,460.72	-6,042.52	4,438.69	4,158.29	280.40	15.830		
11,300.00	7,154.00	12,377.11	7,579.00	144.72	153.30	-95.44	-3,460.78	-6,142.52	4,438.78	4,153.24	285.55	15.545		
11,400.00	7,154.00	12,477.11	7,579.00	147.30	155.66	-95.44	-3,460.84	-6,242.52	4,438.87	4,148.17	290.70	15.270		
11,500.00	7,154.00	12,577.11	7,579.00	149.90	158.04	-95.44	-3,460.91	-6,342.52	4,438.96	4,143.10	295.86	15.004		
11,600.00	7,154.00	12,677.11	7,579.00	152.50	160.42	-95.44	-3,460.97	-6,442.52	4,439.05	4,138.02	301.02	14.746		
11,700.00	7,154.00	12,777.11	7,579.00	155.10	162.82	-95.44	-3,461.03	-6,542.52	4,439.13	4,132.93	306.20	14.498		
11,800.00	7,154.00	12,877.11	7,579.00	157.70	165.23	-95.44	-3,461.10	-6,642.52	4,439.22	4,127.84	311.38	14.257		
11,900.00	7,154.00	12,977.11	7,579.00	160.31	167.64	-95.44	-3,461.16	-6,742.52	4,439.31	4,122.74	316.57	14.023		
12,000.00	7,154.00	13,077.11	7,579.00	162.92	170.07	-95.44	-3,461.22	-6,842.52	4,439.40	4,117.63	321.77	13.797		
12,100.00	7,154.00	13,177.11	7,579.00	165.54	172.51	-95.44	-3,461.28	-6,942.52	4,439.49	4,112.52	326.97	13.578		
12,200.00	7,154.00	13,277.11	7,579.00	168.15	174.95	-95.44	-3,461.35	-7,042.52	4,439.57	4,107.40	332.18	13.365		
12,300.00	7,154.00	13,377.11	7,579.00	170.77	177.41	-95.44	-3,461.41	-7,142.52	4,439.66	4,102.27	337.39	13.159		
12,400.00	7,154.00	13,477.11	7,579.00	173.39	179.87	-95.44	-3,461.47	-7,242.52	4,439.75	4,097.14	342.61	12.959		
12,500.00	7,154.00	13,577.11	7,579.00	176.02	182.33	-95.44	-3,461.54	-7,342.52	4,439.84	4,092.01	347.83	12.764		
12,600.00	7,154.00	13,677.11	7,579.00	178.65	184.81	-95.44	-3,461.60	-7,442.52	4,439.93	4,086.87	353.06	12.576		
12,700.00	7,154.00	13,777.11	7,579.00	181.28	187.29	-95.44	-3,461.66	-7,542.52	4,440.01	4,081.72	358.29	12.392		
12,800.00	7,154.00	13,877.11	7,579.00	183.91	189.78	-95.44	-3,461.73	-7,642.52	4,440.10	4,076.57	363.53	12.214		
12,900.00	7,154.00	13,977.11	7,579.00	186.54	192.27	-95.44	-3,461.79	-7,742.52	4,440.19	4,071.42	368.77	12.040		
13,000.00	7,154.00	14,077.11	7,579.00	189.18	194.78	-95.44	-3,461.85	-7,842.52	4,440.28	4,066.26	374.02	11.872		
13,100.00	7,154.00	14,177.11	7,579.00	191.81	197.28	-95.44	-3,461.92	-7,942.52	4,440.37	4,061.10	379.27	11.708		
13,200.00	7,154.00	14,277.11	7,579.00	194.45	199.80	-95.44	-3,461.98	-8,042.52	4,440.45	4,055.93	384.52	11.548		
13,300.00	7,154.00	14,377.11	7,579.00	197.10	202.31	-95.44	-3,462.04	-8,142.52	4,440.54	4,050.76	389.78	11.392		
13,400.00	7,154.00	14,477.11	7,579.00	199.74	204.84	-95.44	-3,462.10	-8,242.52	4,440.63	4,045.59	395.04	11.241		
13,500.00	7,154.00	14,577.11	7,579.00	202.38	207.36	-95.44	-3,462.17	-8,342.52	4,440.72	4,040.42	400.30	11.093		
13,600.00	7,154.00	14,677.11	7,579.00	205.03	209.90	-95.44	-3,462.23	-8,442.52	4,440.81	4,035.24	405.57	10.950		
13,700.00	7,154.00	14,777.11	7,579.00	207.68	212.43	-95.44	-3,462.29	-8,542.52	4,440.89	4,030.05	410.84	10.809		
13,800.00	7,154.00	14,877.11	7,579.00	210.33	214.98	-95.44	-3,462.36	-8,642.52	4,440.98	4,024.87	416.11	10.673		
13,900.00	7,154.00	14,977.11	7,579.00	212.98	217.52	-95.44	-3,462.42	-8,742.52	4,441.07	4,019.68	421.39	10.539		
14,000.00	7,154.00	15,077.11	7,579.00	215.63	220.07	-95.44	-3,462.48	-8,842.52	4,441.16	4,014.49	426.67	10.409		
14,100.00	7,154.00	15,177.11	7,579.00	218.28	222.63	-95.44	-3,462.55	-8,942.52	4,441.25	4,009.30	431.95	10.282		
14,200.00	7,154.00	15,277.11	7,579.00	220.93	225.18	-95.44	-3,462.61	-9,042.52	4,441.33	4,004.10	437.23	10.158		
14,300.00	7,154.00	15,377.11	7,579.00	223.59	227.74	-95.44	-3,462.67	-9,142.52	4,441.42	3,998.90	442.52	10.037		
14,400.00	7,154.00	15,477.11	7,579.00	226.25	230.31	-95.44	-3,462.74	-9,242.52	4,441.51	3,993.70	447.81	9.918		
14,500.00	7,154.00	15,577.11	7,579.00	228.90	232.88	-95.44	-3,462.80	-9,342.52	4,441.60	3,988.50	453.10	9.803		
14,600.00	7,154.00	15,677.11	7,579.00	231.56	235.45	-95.44	-3,462.86	-9,442.52	4,441.69	3,983.29	458.39	9.690		
14,700.00	7,154.00	15,777.11	7,579.00	234.22	238.02	-95.44	-3,462.92	-9,542.52	4,441.77	3,978.08	463.69	9.579		
14,800.00	7,154.00	15,877.11	7,579.00	236.88	240.60	-95.44	-3,462.99	-9,642.52	4,441.86	3,972.88	468.99	9.471		
14,900.00	7,154.00	15,977.11	7,579.00	239.55	243.18	-95.44	-3,463.05	-9,742.52	4,441.95	3,967.66	474.29	9.366		
15,000.00	7,154.00	16,077.11	7,579.00	242.21	245.77	-95.44	-3,463.11	-9,842.52	4,442.04	3,962.45	479.59	9.262		
15,100.00	7,154.00	16,177.11	7,579.00	244.87	248.35	-95.44	-3,463.18	-9,942.52	4,442.13	3,957.24	484.89	9.161		
15,200.00	7,154.00	16,277.11	7,579.00	247.54	250.94	-95.44	-3,463.24	-10,042.52	4,442.21	3,952.02	490.20	9.062		
15,300.00	7,154.00	16,377.11	7,579.00	250.20	253.53	-95.44	-3,463.30	-10,142.52	4,442.30	3,946.80	495.50	8.965		
15,400.00	7,154.00	16,477.11	7,579.00	252.87	256.13	-95.44	-3,463.37	-10,242.52	4,442.39	3,941.58	500.81	8.870		

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 WARBLER 13W-27-03
Project:	ADAMS COUNTY	TVD Reference:	KB 25' @ 5105.00usft
Reference Site:	Sec 13-T1S-R66W	MD Reference:	KB 25' @ 5105.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	WARBLER 13W-27-03	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT_32Bit_ODBC
Reference Design:	PROPOSAL 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-MWD OWSG													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		
15,500.00	7,154.00	16,577.10	7,579.00	255.53	258.72	-95.44	-3,463.43	-10,342.52	4,442.48	3,936.36	506.12	8.777		
15,600.00	7,154.00	16,677.10	7,579.00	258.20	261.32	-95.44	-3,463.49	-10,442.52	4,442.57	3,931.13	511.43	8.687		
15,700.00	7,154.00	16,777.10	7,579.00	260.87	263.92	-95.44	-3,463.56	-10,542.52	4,442.65	3,925.91	516.75	8.597		
15,800.00	7,154.00	16,877.10	7,579.00	263.54	266.53	-95.44	-3,463.62	-10,642.52	4,442.74	3,920.68	522.06	8.510		
15,900.00	7,154.00	16,977.10	7,579.00	266.21	269.13	-95.44	-3,463.68	-10,742.52	4,442.83	3,915.45	527.38	8.424		
16,000.00	7,154.00	17,077.10	7,579.00	268.88	271.74	-95.44	-3,463.74	-10,842.52	4,442.92	3,910.22	532.69	8.340		
16,100.00	7,154.00	17,177.10	7,579.00	271.55	274.35	-95.44	-3,463.81	-10,942.52	4,443.01	3,904.99	538.01	8.258		
16,200.00	7,154.00	17,277.10	7,579.00	274.22	276.96	-95.44	-3,463.87	-11,042.52	4,443.09	3,899.76	543.33	8.177		
16,300.00	7,154.00	17,377.10	7,579.00	276.90	279.57	-95.44	-3,463.93	-11,142.52	4,443.18	3,894.53	548.66	8.098		
16,400.00	7,154.00	17,477.10	7,579.00	279.57	282.19	-95.44	-3,464.00	-11,242.52	4,443.27	3,889.29	553.98	8.021		
16,500.00	7,154.00	17,577.10	7,579.00	282.24	284.80	-95.44	-3,464.06	-11,342.52	4,443.36	3,884.06	559.30	7.944		
16,600.00	7,154.00	17,677.10	7,579.00	284.92	287.42	-95.44	-3,464.12	-11,442.52	4,443.45	3,878.82	564.63	7.870		
16,700.00	7,154.00	17,777.10	7,579.00	287.59	290.04	-95.44	-3,464.19	-11,542.52	4,443.53	3,873.58	569.95	7.796		
16,800.00	7,154.00	17,877.10	7,579.00	290.27	292.66	-95.44	-3,464.25	-11,642.52	4,443.62	3,868.34	575.28	7.724		
16,900.00	7,154.00	17,977.10	7,579.00	292.94	295.29	-95.44	-3,464.31	-11,742.52	4,443.71	3,863.10	580.61	7.654		
17,000.00	7,154.00	18,077.10	7,579.00	295.62	297.91	-95.44	-3,464.38	-11,842.52	4,443.80	3,857.86	585.94	7.584		
17,100.00	7,154.00	18,177.10	7,579.00	298.29	300.54	-95.44	-3,464.44	-11,942.52	4,443.89	3,852.62	591.27	7.516		
17,200.00	7,154.00	18,277.10	7,579.00	300.97	303.17	-95.44	-3,464.50	-12,042.52	4,443.97	3,847.37	596.60	7.449		
17,300.00	7,154.00	18,377.10	7,579.00	303.65	305.80	-95.44	-3,464.56	-12,142.52	4,444.06	3,842.13	601.93	7.383		
17,400.00	7,154.00	18,477.10	7,579.00	306.33	308.43	-95.44	-3,464.63	-12,242.52	4,444.15	3,836.88	607.27	7.318		
17,500.00	7,154.00	18,577.10	7,579.00	309.01	311.06	-95.44	-3,464.69	-12,342.52	4,444.24	3,831.64	612.60	7.255		
17,600.00	7,154.00	18,677.10	7,579.00	311.69	313.69	-95.44	-3,464.75	-12,442.52	4,444.33	3,826.39	617.94	7.192		
17,700.00	7,154.00	18,777.10	7,579.00	314.37	316.33	-95.44	-3,464.82	-12,542.52	4,444.41	3,821.14	623.27	7.131		
17,800.00	7,154.00	18,877.10	7,579.00	317.05	318.96	-95.44	-3,464.88	-12,642.52	4,444.50	3,815.89	628.61	7.070		
17,900.00	7,154.00	18,977.10	7,579.00	319.73	321.60	-95.44	-3,464.94	-12,742.52	4,444.59	3,810.64	633.95	7.011		
18,000.00	7,154.00	19,077.10	7,579.00	322.41	324.24	-95.44	-3,465.01	-12,842.52	4,444.68	3,805.39	639.29	6.953		
18,100.00	7,154.00	19,177.10	7,579.00	325.09	326.87	-95.44	-3,465.07	-12,942.52	4,444.77	3,800.14	644.63	6.895		
18,200.00	7,154.00	19,277.10	7,579.00	327.77	329.51	-95.43	-3,465.13	-13,042.52	4,444.85	3,794.89	649.97	6.839		
18,300.00	7,154.00	19,377.10	7,579.00	330.45	332.16	-95.43	-3,465.20	-13,142.52	4,444.94	3,789.64	655.31	6.783		
18,400.00	7,154.00	19,477.10	7,579.00	333.13	334.80	-95.43	-3,465.26	-13,242.52	4,445.03	3,784.38	660.65	6.728		
18,500.00	7,154.00	19,577.10	7,579.00	335.82	337.44	-95.43	-3,465.32	-13,342.52	4,445.12	3,779.13	665.99	6.674		
18,600.00	7,154.00	19,677.10	7,579.00	338.50	340.09	-95.43	-3,465.38	-13,442.51	4,445.21	3,773.87	671.33	6.621		
18,700.00	7,154.00	19,777.10	7,579.00	341.18	342.73	-95.43	-3,465.45	-13,542.51	4,445.29	3,768.62	676.68	6.569		
18,800.00	7,154.00	19,877.10	7,579.00	343.86	345.38	-95.43	-3,465.51	-13,642.51	4,445.38	3,763.36	682.02	6.518		
18,900.00	7,154.00	19,977.10	7,579.00	346.55	348.03	-95.43	-3,465.57	-13,742.51	4,445.47	3,758.10	687.37	6.467		
19,000.00	7,154.00	20,077.10	7,579.00	349.23	350.67	-95.43	-3,465.64	-13,842.51	4,445.56	3,752.85	692.71	6.418		
19,100.00	7,154.00	20,177.10	7,579.00	351.92	353.32	-95.43	-3,465.70	-13,942.51	4,445.65	3,747.59	698.06	6.369		
19,200.00	7,154.00	20,277.10	7,579.00	354.60	355.97	-95.43	-3,465.76	-14,042.51	4,445.73	3,742.33	703.41	6.320		
19,300.00	7,154.00	20,377.10	7,579.00	357.29	358.62	-95.43	-3,465.83	-14,142.51	4,445.82	3,737.07	708.75	6.273		
19,400.00	7,154.00	20,477.10	7,579.00	359.97	361.27	-95.43	-3,465.89	-14,242.51	4,445.91	3,731.81	714.10	6.226		
19,500.00	7,154.00	20,577.10	7,579.00	362.66	363.93	-95.43	-3,465.95	-14,342.51	4,446.00	3,726.55	719.45	6.180		
19,600.00	7,154.00	20,677.10	7,579.00	365.34	366.58	-95.43	-3,466.02	-14,442.51	4,446.09	3,721.29	724.80	6.134		
19,700.00	7,154.00	20,777.10	7,579.00	368.03	369.23	-95.43	-3,466.08	-14,542.51	4,446.17	3,716.03	730.15	6.089		
19,800.00	7,154.00	20,877.10	7,579.00	370.72	371.89	-95.43	-3,466.14	-14,642.51	4,446.26	3,710.76	735.50	6.045		
19,900.00	7,154.00	20,977.10	7,579.00	373.40	374.54	-95.43	-3,466.20	-14,742.51	4,446.35	3,705.50	740.85	6.002		
20,000.00	7,154.00	21,077.10	7,579.00	376.09	377.20	-95.43	-3,466.27	-14,842.51	4,446.44	3,700.24	746.20	5.959		
20,100.00	7,154.00	21,177.10	7,579.00	378.78	379.86	-95.43	-3,466.33	-14,942.51	4,446.53	3,694.97	751.55	5.916		
20,200.00	7,154.00	21,277.10	7,579.00	381.46	382.51	-95.43	-3,466.39	-15,042.51	4,446.61	3,689.71	756.90	5.875		
20,300.00	7,154.00	21,377.10	7,579.00	384.15	385.17	-95.43	-3,466.46	-15,142.51	4,446.70	3,684.44	762.26	5.834		
20,400.00	7,154.00	21,477.10	7,579.00	386.84	387.83	-95.43	-3,466.52	-15,242.51	4,446.79	3,679.18	767.61	5.793		
20,500.00	7,154.00	21,577.10	7,579.00	389.53	390.49	-95.43	-3,466.58	-15,342.51	4,446.88	3,673.91	772.96	5.753		
20,600.00	7,154.00	21,677.10	7,579.00	392.21	393.15	-95.43	-3,466.65	-15,442.51	4,446.97	3,668.65	778.32	5.714		

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 WARBLER 13W-27-03
Project:	ADAMS COUNTY	TVD Reference:	KB 25' @ 5105.00usft
Reference Site:	Sec 13-T1S-R66W	MD Reference:	KB 25' @ 5105.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	WARBLER 13W-27-03	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT_32Bit_ODBC
Reference Design:	PROPOSAL 1	Offset TVD Reference:	Offset Datum

Offset Design Sec 13-T1S-R66W - WARBLER 24W-27-12 - OWB - PROPOSAL 1												Offset Site Error:	0.00 usft
Survey Program: 0-MWD OWSG												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	
20,700.00	7,154.00	21,777.10	7,579.00	394.90	395.81	-95.43	-3,466.71	-15,542.51	4,447.05	3,663.38	783.67	5.675	
20,800.00	7,154.00	21,877.10	7,579.00	397.59	398.47	-95.43	-3,466.77	-15,642.51	4,447.14	3,658.11	789.03	5.636	
20,900.00	7,154.00	21,977.10	7,579.00	400.28	401.13	-95.43	-3,466.84	-15,742.51	4,447.23	3,652.85	794.38	5.598	
21,000.00	7,154.00	22,077.10	7,579.00	402.97	403.80	-95.43	-3,466.90	-15,842.51	4,447.32	3,647.58	799.74	5.561	
21,100.00	7,154.00	22,177.10	7,579.00	405.66	406.46	-95.43	-3,466.96	-15,942.51	4,447.41	3,642.31	805.09	5.524	
21,200.00	7,154.00	22,277.10	7,579.00	408.35	409.12	-95.43	-3,467.02	-16,042.51	4,447.49	3,637.04	810.45	5.488	
21,300.00	7,154.00	22,377.10	7,579.00	411.04	411.79	-95.43	-3,467.09	-16,142.51	4,447.58	3,631.77	815.81	5.452	
21,400.00	7,154.00	22,477.10	7,579.00	413.73	414.45	-95.43	-3,467.15	-16,242.51	4,447.67	3,626.50	821.17	5.416	
21,500.00	7,154.00	22,577.10	7,579.00	416.42	417.12	-95.43	-3,467.21	-16,342.51	4,447.76	3,621.23	826.52	5.381	
21,573.27	7,154.00	22,650.37	7,579.00	418.39	419.07	-95.43	-3,467.26	-16,415.78	4,447.82	3,617.37	830.45	5.356 SF	

Anticollision Report

Company:	EXTRACTION OIL & GAS	Local Co-ordinate Reference:	Well WARBLER 13W-27-03
Project:	ADAMS COUNTY	TVD Reference:	KB 25' @ 5105.00usft
Reference Site:	Sec 13-T1S-R66W	MD Reference:	KB 25' @ 5105.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	WARBLER 13W-27-03	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT_32Bit_ODBC
Reference Design:	PROPOSAL 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-MWD OWSG													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		
0.00	0.00	2.00	2.00	0.00	0.00	-179.43	-195.98	-1.96	195.99					
100.00	100.00	102.00	102.00	0.13	0.14	-179.43	-195.98	-1.96	195.99	195.72	0.28	710.065		
200.00	200.00	202.00	202.00	0.49	0.50	-179.43	-195.98	-1.96	195.99	195.00	0.99	197.383 CC, ES		
300.00	300.00	298.04	298.02	0.85	0.83	-179.03	-196.95	-3.33	197.02	195.33	1.69	116.811		
400.00	400.00	393.93	393.78	1.21	1.17	-177.90	-199.77	-7.32	200.07	197.69	2.38	83.971		
500.00	500.00	489.39	488.90	1.57	1.52	-176.11	-204.41	-13.89	205.30	202.21	3.09	66.486		
600.00	600.00	584.21	583.06	1.93	1.89	-173.78	-210.82	-22.98	212.91	209.11	3.80	56.030		
700.00	699.98	678.33	676.11	2.28	2.28	-102.65	-218.96	-34.51	223.55	219.04	4.51	49.524		
800.00	799.84	771.72	767.93	2.63	2.70	-100.54	-228.78	-48.41	237.52	232.29	5.23	45.384		
900.00	899.45	864.26	858.32	3.00	3.14	-98.85	-240.20	-64.59	254.64	248.67	5.97	42.675		
1,000.00	998.70	955.84	947.10	3.37	3.61	-97.53	-253.16	-82.95	274.71	267.99	6.72	40.880		
1,100.00	1,097.47	1,046.35	1,034.09	3.77	4.11	-96.55	-267.56	-103.35	297.60	290.11	7.49	39.713		
1,200.00	1,195.62	1,135.70	1,119.15	4.19	4.64	-95.83	-283.33	-125.69	323.19	314.88	8.31	38.902		
1,300.00	1,293.06	1,223.80	1,202.14	4.64	5.20	-95.32	-300.37	-149.83	351.37	342.21	9.16	38.357		
1,400.00	1,389.64	1,310.57	1,282.96	5.12	5.79	-94.96	-318.59	-175.63	382.08	372.02	10.06	37.977		
1,500.00	1,485.27	1,402.39	1,363.05	5.66	6.46	-94.73	-338.24	-203.46	415.20	404.14	11.06	37.536		
1,600.00	1,579.82	1,508.59	1,449.00	6.24	7.27	-94.82	-359.91	-234.16	449.35	437.09	12.26	36.665		
1,700.00	1,673.17	1,584.84	1,534.61	6.88	7.86	-95.23	-381.49	-264.73	483.89	470.54	13.35	36.253		
1,800.00	1,765.22	1,677.80	1,619.78	7.57	8.58	-95.95	-402.97	-295.15	518.95	504.33	14.62	35.498		
1,900.00	1,856.73	1,770.53	1,704.75	8.31	9.31	-97.30	-424.39	-325.49	554.40	538.47	15.94	34.787		
2,000.00	1,948.24	1,863.26	1,789.71	9.06	10.03	-98.50	-445.81	-355.84	590.11	572.83	17.28	34.153		
2,100.00	2,039.75	1,955.99	1,874.68	9.83	10.77	-99.56	-467.23	-386.18	626.01	607.37	18.64	33.591		
2,200.00	2,131.26	2,048.73	1,959.65	10.61	11.50	-100.51	-488.65	-416.53	662.08	642.07	20.01	33.092		
2,300.00	2,222.77	2,141.46	2,044.62	11.40	12.24	-101.36	-510.08	-446.87	698.29	676.90	21.39	32.647		
2,400.00	2,314.28	2,234.19	2,129.59	12.20	12.98	-102.12	-531.50	-477.21	734.63	711.85	22.78	32.250		
2,500.00	2,405.79	2,326.92	2,214.56	13.00	13.72	-102.82	-552.92	-507.56	771.07	746.89	24.18	31.895		
2,600.00	2,497.30	2,419.66	2,299.53	13.81	14.47	-103.45	-574.34	-537.90	807.60	782.02	25.58	31.575		
2,700.00	2,588.81	2,512.39	2,384.49	14.62	15.21	-104.03	-595.76	-568.25	844.20	817.22	26.98	31.287		
2,800.00	2,680.31	2,605.12	2,469.46	15.44	15.95	-104.56	-617.19	-598.59	880.88	852.49	28.39	31.026		
2,900.00	2,771.82	2,697.85	2,554.43	16.25	16.70	-105.05	-638.61	-628.94	917.62	887.81	29.80	30.788		
3,000.00	2,863.33	2,790.59	2,639.40	17.08	17.45	-105.50	-660.03	-659.28	954.41	923.19	31.22	30.571		
3,100.00	2,954.84	2,883.32	2,724.37	17.90	18.19	-105.91	-681.45	-689.63	991.25	958.61	32.64	30.372		
3,200.00	3,046.35	2,976.05	2,809.34	18.72	18.94	-106.30	-702.88	-719.97	1,028.13	994.07	34.06	30.190		
3,300.00	3,137.86	3,068.79	2,894.31	19.55	19.69	-106.66	-724.30	-750.31	1,065.05	1,029.57	35.48	30.022		
3,400.00	3,229.37	3,161.52	2,979.27	20.38	20.44	-107.00	-745.72	-780.66	1,102.00	1,065.10	36.90	29.867		
3,500.00	3,320.88	3,254.25	3,064.24	21.21	21.19	-107.31	-767.14	-811.00	1,138.98	1,100.66	38.32	29.723		
3,600.00	3,412.39	3,346.98	3,149.21	22.04	21.94	-107.61	-788.56	-841.35	1,175.99	1,136.25	39.74	29.589		
3,700.00	3,503.90	3,439.72	3,234.18	22.87	22.69	-107.89	-809.99	-871.69	1,213.03	1,171.86	41.17	29.465		
3,800.00	3,595.41	3,532.45	3,319.15	23.70	23.44	-108.15	-831.41	-902.04	1,250.09	1,207.50	42.59	29.349		
3,900.00	3,686.91	3,625.18	3,404.12	24.54	24.19	-108.39	-852.83	-932.38	1,287.17	1,243.15	44.02	29.241		
4,000.00	3,778.42	3,717.91	3,489.09	25.37	24.94	-108.62	-874.25	-962.72	1,324.27	1,278.83	45.45	29.139		
4,100.00	3,869.93	3,810.65	3,574.05	26.20	25.69	-108.84	-895.68	-993.07	1,361.39	1,314.52	46.87	29.044		
4,200.00	3,961.44	3,903.38	3,659.02	27.04	26.44	-109.05	-917.10	-1,023.41	1,398.53	1,350.22	48.30	28.954		
4,300.00	4,052.95	3,996.11	3,743.99	27.88	27.19	-109.25	-938.52	-1,053.76	1,435.68	1,385.95	49.73	28.870		
4,400.00	4,144.46	4,088.84	3,828.96	28.71	27.94	-109.44	-959.94	-1,084.10	1,472.84	1,421.68	51.16	28.790		
4,500.00	4,235.97	4,181.58	3,913.93	29.55	28.70	-109.61	-981.36	-1,114.45	1,510.02	1,457.43	52.59	28.715		
4,600.00	4,327.48	4,274.31	3,998.90	30.39	29.45	-109.78	-1,002.79	-1,144.79	1,547.20	1,493.19	54.02	28.643		
4,700.00	4,418.99	4,367.04	4,083.87	31.22	30.20	-109.95	-1,024.21	-1,175.14	1,584.40	1,528.96	55.45	28.576		
4,800.00	4,510.50	4,459.77	4,168.83	32.06	30.95	-110.10	-1,045.63	-1,205.48	1,621.61	1,564.74	56.88	28.512		
4,900.00	4,602.01	4,552.51	4,253.80	32.90	31.70	-110.25	-1,067.05	-1,235.82	1,658.83	1,600.53	58.31	28.451		
5,000.00	4,693.51	4,645.24	4,338.77	33.74	32.46	-110.39	-1,088.47	-1,266.17	1,696.06	1,636.33	59.74	28.393		
5,100.00	4,785.02	4,737.97	4,423.74	34.58	33.21	-110.52	-1,109.90	-1,296.51	1,733.30	1,672.14	61.17	28.338		

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 WARBLER 13W-27-03
Project:	ADAMS COUNTY	TVD Reference:	KB 25' @ 5105.00usft
Reference Site:	Sec 13-T1S-R66W	MD Reference:	KB 25' @ 5105.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	WARBLER 13W-27-03	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT_32Bit_ODBC
Reference Design:	PROPOSAL 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-MWD OWSG													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		
5,200.00	4,876.53	4,830.71	4,508.71	35.42	33.96	-110.65	-1,131.32	-1,326.86	1,770.55	1,707.95	62.60	28.285		
5,300.00	4,968.04	4,923.44	4,593.68	36.26	34.71	-110.78	-1,152.74	-1,357.20	1,807.80	1,743.77	64.03	28.235		
5,400.00	5,059.55	5,016.17	4,678.64	37.10	35.47	-110.89	-1,174.16	-1,387.55	1,845.06	1,779.60	65.46	28.186		
5,500.00	5,151.06	5,108.90	4,763.61	37.94	36.22	-111.01	-1,195.59	-1,417.89	1,882.33	1,815.44	66.89	28.140		
5,600.00	5,242.57	5,201.64	4,848.58	38.78	36.97	-111.12	-1,217.01	-1,448.23	1,919.60	1,851.28	68.32	28.096		
5,700.00	5,334.08	5,305.63	4,933.55	39.62	37.81	-111.22	-1,238.43	-1,478.58	1,956.88	1,887.04	69.84	28.021		
5,800.00	5,425.59	5,387.10	5,018.52	40.46	38.48	-111.33	-1,259.85	-1,508.92	1,994.16	1,922.97	71.19	28.014		
5,900.00	5,517.10	5,479.83	5,103.49	41.30	39.23	-111.42	-1,281.27	-1,539.27	2,031.45	1,958.83	72.62	27.975		
6,000.00	5,608.61	5,572.57	5,188.46	42.14	39.98	-111.52	-1,302.70	-1,569.61	2,068.74	1,994.69	74.05	27.937		
6,100.00	5,700.12	5,665.30	5,273.42	42.98	40.74	-111.61	-1,324.12	-1,599.96	2,106.04	2,030.56	75.48	27.901		
6,200.00	5,791.62	5,758.03	5,358.39	43.82	41.49	-111.70	-1,345.54	-1,630.30	2,143.35	2,066.43	76.91	27.867		
6,300.00	5,883.13	5,850.76	5,443.36	44.66	42.24	-111.78	-1,366.96	-1,660.65	2,180.65	2,102.31	78.35	27.833		
6,400.00	5,974.64	5,943.50	5,528.33	45.50	42.99	-111.86	-1,388.39	-1,690.99	2,217.96	2,138.18	79.78	27.801		
6,500.00	6,066.15	6,036.23	5,613.30	46.35	43.75	-111.94	-1,409.81	-1,721.33	2,255.28	2,174.07	81.21	27.770		
6,600.00	6,157.66	6,128.96	5,698.27	47.19	44.50	-112.02	-1,431.23	-1,751.68	2,292.60	2,209.95	82.65	27.740		
6,700.00	6,249.17	6,221.69	5,783.24	48.03	45.25	-112.09	-1,452.65	-1,782.02	2,329.92	2,245.84	84.08	27.711		
6,800.00	6,340.68	6,314.43	5,868.20	48.87	46.01	-112.17	-1,474.07	-1,812.37	2,367.24	2,281.73	85.51	27.683		
6,900.00	6,432.19	6,407.16	5,953.17	49.71	46.76	-112.24	-1,495.50	-1,842.71	2,404.57	2,317.63	86.94	27.656		
7,000.00	6,523.70	6,500.11	6,038.14	50.55	47.52	-112.30	-1,516.92	-1,873.06	2,441.90	2,353.52	88.38	27.630		
7,100.00	6,615.21	6,607.37	6,123.11	51.40	48.39	-112.37	-1,538.34	-1,903.40	2,479.24	2,389.32	89.92	27.572		
7,200.00	6,706.72	6,685.36	6,208.08	52.24	49.02	-112.43	-1,559.76	-1,933.74	2,516.58	2,425.33	91.25	27.580		
7,300.00	6,798.22	6,778.09	6,293.05	53.08	49.78	-112.49	-1,581.18	-1,964.09	2,553.91	2,461.24	92.68	27.557		
7,400.00	6,886.25	6,870.20	6,377.45	54.07	50.52	-102.66	-1,602.46	-1,994.23	2,591.01	2,496.75	94.26	27.488		
7,500.00	6,965.23	6,959.20	6,458.99	55.35	51.25	-96.02	-1,623.02	-2,023.35	2,627.06	2,530.94	96.13	27.329		
7,600.00	7,032.75	7,042.37	6,535.20	56.90	51.92	-91.29	-1,642.24	-2,050.57	2,661.47	2,563.25	98.23	27.095		
7,700.00	7,086.77	7,117.20	6,603.76	58.68	52.53	-87.73	-1,659.52	-2,075.05	2,693.94	2,593.45	100.48	26.810		
7,800.00	7,125.64	7,181.40	6,662.59	60.64	53.05	-84.94	-1,674.35	-2,096.06	2,724.32	2,621.53	102.79	26.504		
7,900.00	7,148.19	7,233.03	6,709.90	62.69	53.47	-82.67	-1,686.28	-2,112.96	2,752.59	2,647.55	105.04	26.205		
8,000.00	7,154.00	7,270.77	6,744.47	64.75	53.78	-81.18	-1,695.00	-2,125.30	2,778.79	2,671.67	107.12	25.941		
8,100.00	7,154.00	7,303.48	6,774.45	66.83	54.05	-81.84	-1,702.56	-2,136.01	2,806.20	2,697.11	109.08	25.725		
8,200.00	7,154.00	7,336.20	6,804.43	68.96	54.31	-82.49	-1,710.11	-2,146.72	2,836.49	2,725.50	110.99	25.556		
8,300.00	7,154.00	7,368.92	6,834.40	71.12	54.58	-83.14	-1,717.67	-2,157.42	2,869.57	2,756.74	112.83	25.433		
8,400.00	7,154.00	8,905.78	7,579.00	73.32	76.21	-98.40	-1,906.11	-3,242.81	2,894.45	2,754.54	139.91	20.688		
8,500.00	7,154.00	9,005.78	7,579.00	75.55	78.21	-98.40	-1,906.20	-3,342.81	2,894.56	2,750.19	144.36	20.050		
8,600.00	7,154.00	9,105.78	7,579.00	77.81	80.26	-98.40	-1,906.29	-3,442.81	2,894.67	2,745.79	148.88	19.443		
8,700.00	7,154.00	9,205.78	7,579.00	80.10	82.34	-98.40	-1,906.37	-3,542.81	2,894.78	2,741.33	153.45	18.865		
8,800.00	7,154.00	9,305.78	7,579.00	82.41	84.45	-98.40	-1,906.46	-3,642.81	2,894.89	2,736.82	158.07	18.314		
8,900.00	7,154.00	9,405.78	7,579.00	84.75	86.60	-98.40	-1,906.55	-3,742.81	2,895.00	2,732.27	162.73	17.790		
9,000.00	7,154.00	9,494.22	7,579.00	87.11	88.53	-98.40	-1,906.64	-3,842.81	2,895.11	2,727.94	167.17	17.318		
9,100.00	7,154.00	9,605.78	7,579.00	89.48	90.99	-98.40	-1,906.72	-3,942.81	2,895.23	2,723.04	172.18	16.815		
9,200.00	7,154.00	9,705.78	7,579.00	91.88	93.22	-98.40	-1,906.81	-4,042.81	2,895.34	2,718.37	176.96	16.361		
9,300.00	7,154.00	9,805.78	7,579.00	94.29	95.49	-98.40	-1,906.90	-4,142.81	2,895.45	2,713.68	181.77	15.929		
9,400.00	7,154.00	9,905.78	7,579.00	96.72	97.77	-98.40	-1,906.98	-4,242.81	2,895.56	2,708.95	186.61	15.516		
9,500.00	7,154.00	10,005.78	7,579.00	99.16	100.07	-98.40	-1,907.07	-4,342.81	2,895.67	2,704.19	191.48	15.122		
9,600.00	7,154.00	10,094.22	7,579.00	101.61	102.13	-98.40	-1,907.16	-4,442.81	2,895.78	2,699.69	196.10	14.767		
9,700.00	7,154.00	10,205.78	7,579.00	104.08	104.74	-98.40	-1,907.25	-4,542.81	2,895.89	2,694.60	201.29	14.386		
9,800.00	7,154.00	10,305.78	7,579.00	106.56	107.11	-98.40	-1,907.33	-4,642.81	2,896.01	2,689.77	206.23	14.042		
9,900.00	7,154.00	10,405.78	7,579.00	109.05	109.48	-98.40	-1,907.42	-4,742.81	2,896.12	2,684.92	211.19	13.713		
10,000.00	7,154.00	10,505.78	7,579.00	111.55	111.88	-98.40	-1,907.51	-4,842.81	2,896.23	2,680.06	216.17	13.398		
10,100.00	7,154.00	10,605.78	7,579.00	114.06	114.28	-98.40	-1,907.60	-4,942.81	2,896.34	2,675.17	221.17	13.096		
10,200.00	7,154.00	10,705.78	7,579.00	116.57	116.71	-98.40	-1,907.68	-5,042.81	2,896.45	2,670.27	226.18	12.806		
10,300.00	7,154.00	10,805.78	7,579.00	119.10	119.14	-98.40	-1,907.77	-5,142.81	2,896.56	2,665.36	231.21	12.528		

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 WARBLER 13W-27-03
Project:	ADAMS COUNTY	TVD Reference:	KB 25' @ 5105.00usft
Reference Site:	Sec 13-T1S-R66W	MD Reference:	KB 25' @ 5105.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	WARBLER 13W-27-03	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT_32Bit_ODBC
Reference Design:	PROPOSAL 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-MWD OWSG													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		
10,400.00	7,154.00	10,905.78	7,579.00	121.63	121.59	-98.40	-1,907.86	-5,242.81	2,896.67	2,660.42	236.25	12.261		
10,500.00	7,154.00	11,005.78	7,579.00	124.17	124.04	-98.40	-1,907.94	-5,342.81	2,896.78	2,655.48	241.30	12.005		
10,600.00	7,154.00	11,105.78	7,579.00	126.72	126.51	-98.40	-1,908.03	-5,442.81	2,896.90	2,650.52	246.37	11.758		
10,700.00	7,154.00	11,205.78	7,579.00	129.28	128.99	-98.40	-1,908.12	-5,542.81	2,897.01	2,645.55	251.45	11.521		
10,800.00	7,154.00	11,305.78	7,579.00	131.84	131.48	-98.40	-1,908.21	-5,642.81	2,897.12	2,640.57	256.54	11.293		
10,900.00	7,154.00	11,405.78	7,579.00	134.40	133.97	-98.40	-1,908.29	-5,742.81	2,897.23	2,635.58	261.65	11.073		
11,000.00	7,154.00	11,505.78	7,579.00	136.97	136.48	-98.39	-1,908.38	-5,842.81	2,897.34	2,630.58	266.76	10.861		
11,100.00	7,154.00	11,605.78	7,579.00	139.55	138.99	-98.39	-1,908.47	-5,942.81	2,897.45	2,625.57	271.88	10.657		
11,200.00	7,154.00	11,705.78	7,579.00	142.13	141.51	-98.39	-1,908.55	-6,042.81	2,897.56	2,620.55	277.01	10.460		
11,300.00	7,154.00	11,805.78	7,579.00	144.72	144.03	-98.39	-1,908.64	-6,142.81	2,897.68	2,615.53	282.15	10.270		
11,400.00	7,154.00	11,905.78	7,579.00	147.30	146.56	-98.39	-1,908.73	-6,242.81	2,897.79	2,610.49	287.30	10.086		
11,500.00	7,154.00	12,005.78	7,579.00	149.90	149.10	-98.39	-1,908.82	-6,342.81	2,897.90	2,605.45	292.45	9.909		
11,600.00	7,154.00	12,105.78	7,579.00	152.50	151.65	-98.39	-1,908.90	-6,442.81	2,898.01	2,600.40	297.61	9.738		
11,700.00	7,154.00	12,205.78	7,579.00	155.10	154.20	-98.39	-1,908.99	-6,542.81	2,898.12	2,595.34	302.78	9.572		
11,800.00	7,154.00	12,305.78	7,579.00	157.70	156.75	-98.39	-1,909.08	-6,642.81	2,898.23	2,590.28	307.95	9.411		
11,900.00	7,154.00	12,405.78	7,579.00	160.31	159.32	-98.39	-1,909.17	-6,742.81	2,898.34	2,585.21	313.13	9.256		
12,000.00	7,154.00	12,505.78	7,579.00	162.92	161.88	-98.39	-1,909.25	-6,842.80	2,898.45	2,580.13	318.32	9.105		
12,100.00	7,154.00	12,605.78	7,579.00	165.54	164.45	-98.39	-1,909.34	-6,942.80	2,898.57	2,575.05	323.51	8.960		
12,200.00	7,154.00	12,705.78	7,579.00	168.15	167.03	-98.39	-1,909.43	-7,042.80	2,898.68	2,569.97	328.71	8.818		
12,300.00	7,154.00	12,805.78	7,579.00	170.77	169.60	-98.39	-1,909.51	-7,142.80	2,898.79	2,564.88	333.91	8.681		
12,400.00	7,154.00	12,905.78	7,579.00	173.39	172.19	-98.39	-1,909.60	-7,242.80	2,898.90	2,559.78	339.12	8.548		
12,500.00	7,154.00	13,005.78	7,579.00	176.02	174.77	-98.39	-1,909.69	-7,342.80	2,899.01	2,554.68	344.33	8.419		
12,600.00	7,154.00	13,105.78	7,579.00	178.65	177.36	-98.39	-1,909.78	-7,442.80	2,899.12	2,549.58	349.55	8.294		
12,700.00	7,154.00	13,205.78	7,579.00	181.28	179.96	-98.39	-1,909.86	-7,542.80	2,899.23	2,544.47	354.77	8.172		
12,800.00	7,154.00	13,305.78	7,579.00	183.91	182.55	-98.39	-1,909.95	-7,642.80	2,899.35	2,539.35	359.99	8.054		
12,900.00	7,154.00	13,405.78	7,579.00	186.54	185.15	-98.39	-1,910.04	-7,742.80	2,899.46	2,534.24	365.22	7.939		
13,000.00	7,154.00	13,505.78	7,579.00	189.18	187.76	-98.39	-1,910.12	-7,842.80	2,899.57	2,529.12	370.45	7.827		
13,100.00	7,154.00	13,605.78	7,579.00	191.81	190.36	-98.39	-1,910.21	-7,942.80	2,899.68	2,523.99	375.69	7.718		
13,200.00	7,154.00	13,705.78	7,579.00	194.45	192.97	-98.39	-1,910.30	-8,042.80	2,899.79	2,518.87	380.92	7.613		
13,300.00	7,154.00	13,805.78	7,579.00	197.10	195.58	-98.39	-1,910.39	-8,142.80	2,899.90	2,513.74	386.17	7.509		
13,400.00	7,154.00	13,905.78	7,579.00	199.74	198.20	-98.39	-1,910.47	-8,242.80	2,900.01	2,508.60	391.41	7.409		
13,500.00	7,154.00	14,005.78	7,579.00	202.38	200.81	-98.39	-1,910.56	-8,342.80	2,900.12	2,503.47	396.66	7.311		
13,600.00	7,154.00	14,105.78	7,579.00	205.03	203.43	-98.39	-1,910.65	-8,442.80	2,900.24	2,498.33	401.91	7.216		
13,700.00	7,154.00	14,205.78	7,579.00	207.68	206.05	-98.39	-1,910.74	-8,542.80	2,900.35	2,493.18	407.16	7.123		
13,800.00	7,154.00	14,305.78	7,579.00	210.33	208.68	-98.39	-1,910.82	-8,642.80	2,900.46	2,488.04	412.42	7.033		
13,900.00	7,154.00	14,405.78	7,579.00	212.98	211.30	-98.39	-1,910.91	-8,742.80	2,900.57	2,482.89	417.68	6.945		
14,000.00	7,154.00	14,505.78	7,579.00	215.63	213.93	-98.39	-1,911.00	-8,842.80	2,900.68	2,477.74	422.94	6.858		
14,100.00	7,154.00	14,605.78	7,579.00	218.28	216.56	-98.38	-1,911.08	-8,942.80	2,900.79	2,472.59	428.20	6.774		
14,200.00	7,154.00	14,705.78	7,579.00	220.93	219.19	-98.38	-1,911.17	-9,042.80	2,900.90	2,467.44	433.47	6.692		
14,300.00	7,154.00	14,805.78	7,579.00	223.59	221.82	-98.38	-1,911.26	-9,142.80	2,901.02	2,462.28	438.73	6.612		
14,400.00	7,154.00	14,905.78	7,579.00	226.25	224.46	-98.38	-1,911.35	-9,242.80	2,901.13	2,457.12	444.00	6.534		
14,500.00	7,154.00	15,005.78	7,579.00	228.90	227.10	-98.38	-1,911.43	-9,342.80	2,901.24	2,451.96	449.28	6.458		
14,600.00	7,154.00	15,105.78	7,579.00	231.56	229.73	-98.38	-1,911.52	-9,442.80	2,901.35	2,446.80	454.55	6.383		
14,700.00	7,154.00	15,205.78	7,579.00	234.22	232.37	-98.38	-1,911.61	-9,542.80	2,901.46	2,441.63	459.83	6.310		
14,800.00	7,154.00	15,305.78	7,579.00	236.88	235.01	-98.38	-1,911.69	-9,642.80	2,901.57	2,436.47	465.10	6.239		
14,900.00	7,154.00	15,405.78	7,579.00	239.55	237.66	-98.38	-1,911.78	-9,742.80	2,901.68	2,431.30	470.38	6.169		
15,000.00	7,154.00	15,494.22	7,579.00	242.21	239.99	-98.38	-1,911.87	-9,842.80	2,901.79	2,426.43	475.36	6.104		
15,100.00	7,154.00	15,605.78	7,579.00	244.87	242.95	-98.38	-1,911.96	-9,942.80	2,901.91	2,420.96	480.95	6.034		
15,200.00	7,154.00	15,705.78	7,579.00	247.54	245.59	-98.38	-1,912.04	-10,042.80	2,902.02	2,415.79	486.23	5.968		
15,300.00	7,154.00	15,805.78	7,579.00	250.20	248.24	-98.38	-1,912.13	-10,142.80	2,902.13	2,410.61	491.52	5.904		
15,400.00	7,154.00	15,905.78	7,579.00	252.87	250.89	-98.38	-1,912.22	-10,242.80	2,902.24	2,405.43	496.81	5.842		
15,500.00	7,154.00	16,005.78	7,579.00	255.53	253.54	-98.38	-1,912.31	-10,342.80	2,902.35	2,400.26	502.09	5.780		

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 WARBLER 13W-27-03
Project:	ADAMS COUNTY	TVD Reference:	KB 25' @ 5105.00usft
Reference Site:	Sec 13-T1S-R66W	MD Reference:	KB 25' @ 5105.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	WARBLER 13W-27-03	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT_32Bit_ODBC
Reference Design:	PROPOSAL 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-MWD OWSG													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		
15,600.00	7,154.00	16,105.78	7,579.00	258.20	256.19	-98.38	-1,912.39	-10,442.80	2,902.46	2,395.08	507.38	5.720		
15,700.00	7,154.00	16,205.78	7,579.00	260.87	258.84	-98.38	-1,912.48	-10,542.80	2,902.57	2,389.90	512.68	5.662		
15,800.00	7,154.00	16,305.78	7,579.00	263.54	261.50	-98.38	-1,912.57	-10,642.80	2,902.69	2,384.72	517.97	5.604		
15,900.00	7,154.00	16,405.78	7,579.00	266.21	264.15	-98.38	-1,912.65	-10,742.80	2,902.80	2,379.53	523.26	5.547		
16,000.00	7,154.00	16,505.78	7,579.00	268.88	266.81	-98.38	-1,912.74	-10,842.80	2,902.91	2,374.35	528.56	5.492		
16,100.00	7,154.00	16,605.78	7,579.00	271.55	269.46	-98.38	-1,912.83	-10,942.80	2,903.02	2,369.16	533.86	5.438		
16,200.00	7,154.00	16,705.78	7,579.00	274.22	272.12	-98.38	-1,912.92	-11,042.80	2,903.13	2,363.98	539.15	5.385		
16,300.00	7,154.00	16,805.78	7,579.00	276.90	274.78	-98.38	-1,913.00	-11,142.80	2,903.24	2,358.79	544.45	5.332		
16,400.00	7,154.00	16,905.78	7,579.00	279.57	277.44	-98.38	-1,913.09	-11,242.80	2,903.35	2,353.60	549.75	5.281		
16,500.00	7,154.00	17,005.78	7,579.00	282.24	280.10	-98.38	-1,913.18	-11,342.80	2,903.46	2,348.41	555.05	5.231		
16,600.00	7,154.00	17,105.78	7,579.00	284.92	282.76	-98.38	-1,913.26	-11,442.80	2,903.58	2,343.22	560.36	5.182		
16,700.00	7,154.00	17,205.78	7,579.00	287.59	285.42	-98.38	-1,913.35	-11,542.80	2,903.69	2,338.03	565.66	5.133		
16,800.00	7,154.00	17,305.78	7,579.00	290.27	288.08	-98.38	-1,913.44	-11,642.80	2,903.80	2,332.83	570.97	5.086		
16,900.00	7,154.00	17,405.78	7,579.00	292.94	290.75	-98.38	-1,913.53	-11,742.80	2,903.91	2,327.64	576.27	5.039		
17,000.00	7,154.00	17,505.78	7,579.00	295.62	293.41	-98.38	-1,913.61	-11,842.80	2,904.02	2,322.44	581.58	4.993		
17,100.00	7,154.00	17,605.78	7,579.00	298.29	296.08	-98.38	-1,913.70	-11,942.80	2,904.13	2,317.25	586.88	4.948		
17,200.00	7,154.00	17,705.78	7,579.00	300.97	298.74	-98.37	-1,913.79	-12,042.80	2,904.24	2,312.05	592.19	4.904		
17,300.00	7,154.00	17,805.78	7,579.00	303.65	301.41	-98.37	-1,913.88	-12,142.80	2,904.36	2,306.85	597.50	4.861		
17,400.00	7,154.00	17,905.78	7,579.00	306.33	304.07	-98.37	-1,913.96	-12,242.80	2,904.47	2,301.66	602.81	4.818		
17,500.00	7,154.00	18,005.79	7,579.00	309.01	306.74	-98.37	-1,914.05	-12,342.80	2,904.58	2,296.46	608.12	4.776		
17,600.00	7,154.00	18,105.79	7,579.00	311.69	309.41	-98.37	-1,914.14	-12,442.80	2,904.69	2,291.26	613.43	4.735		
17,700.00	7,154.00	18,205.79	7,579.00	314.37	312.08	-98.37	-1,914.22	-12,542.80	2,904.80	2,286.06	618.74	4.695		
17,800.00	7,154.00	18,305.79	7,579.00	317.05	314.75	-98.37	-1,914.31	-12,642.80	2,904.91	2,280.85	624.06	4.655		
17,900.00	7,154.00	18,405.79	7,579.00	319.73	317.42	-98.37	-1,914.40	-12,742.80	2,905.02	2,275.65	629.37	4.616		
18,000.00	7,154.00	18,505.79	7,579.00	322.41	320.09	-98.37	-1,914.49	-12,842.80	2,905.13	2,270.45	634.69	4.577		
18,100.00	7,154.00	18,605.79	7,579.00	325.09	322.76	-98.37	-1,914.57	-12,942.80	2,905.25	2,265.24	640.00	4.539		
18,200.00	7,154.00	18,705.79	7,579.00	327.77	325.43	-98.37	-1,914.66	-13,042.80	2,905.36	2,260.04	645.32	4.502		
18,300.00	7,154.00	18,805.79	7,579.00	330.45	328.10	-98.37	-1,914.75	-13,142.80	2,905.47	2,254.84	650.63	4.466		
18,400.00	7,154.00	18,905.79	7,579.00	333.13	330.78	-98.37	-1,914.83	-13,242.80	2,905.58	2,249.63	655.95	4.430		
18,500.00	7,154.00	19,005.79	7,579.00	335.82	333.45	-98.37	-1,914.92	-13,342.80	2,905.69	2,244.42	661.27	4.394		
18,600.00	7,154.00	19,105.79	7,579.00	338.50	336.12	-98.37	-1,915.01	-13,442.80	2,905.80	2,239.22	666.59	4.359		
18,700.00	7,154.00	19,205.79	7,579.00	341.18	338.80	-98.37	-1,915.10	-13,542.80	2,905.91	2,234.01	671.91	4.325		
18,800.00	7,154.00	19,305.79	7,579.00	343.86	341.47	-98.37	-1,915.18	-13,642.80	2,906.03	2,228.80	677.22	4.291		
18,900.00	7,154.00	19,405.79	7,579.00	346.55	344.15	-98.37	-1,915.27	-13,742.80	2,906.14	2,223.59	682.54	4.258		
19,000.00	7,154.00	19,505.79	7,579.00	349.23	346.82	-98.37	-1,915.36	-13,842.80	2,906.25	2,218.38	687.87	4.225		
19,100.00	7,154.00	19,605.79	7,579.00	351.92	349.50	-98.37	-1,915.45	-13,942.80	2,906.36	2,213.17	693.19	4.193		
19,200.00	7,154.00	19,705.79	7,579.00	354.60	352.18	-98.37	-1,915.53	-14,042.80	2,906.47	2,207.96	698.51	4.161		
19,300.00	7,154.00	19,805.79	7,579.00	357.29	354.85	-98.37	-1,915.62	-14,142.80	2,906.58	2,202.75	703.83	4.130		
19,400.00	7,154.00	19,905.79	7,579.00	359.97	357.53	-98.37	-1,915.71	-14,242.80	2,906.69	2,197.54	709.15	4.099		
19,500.00	7,154.00	20,005.79	7,579.00	362.66	360.21	-98.37	-1,915.79	-14,342.80	2,906.80	2,192.33	714.48	4.068		
19,600.00	7,154.00	20,105.79	7,579.00	365.34	362.88	-98.37	-1,915.88	-14,442.80	2,906.92	2,187.11	719.80	4.038		
19,700.00	7,154.00	20,205.79	7,579.00	368.03	365.56	-98.37	-1,915.97	-14,542.80	2,907.03	2,181.90	725.13	4.009		
19,800.00	7,154.00	20,305.79	7,579.00	370.72	368.24	-98.37	-1,916.06	-14,642.80	2,907.14	2,176.69	730.45	3.980		
19,900.00	7,154.00	20,405.79	7,579.00	373.40	370.92	-98.37	-1,916.14	-14,742.80	2,907.25	2,171.47	735.78	3.951		
20,000.00	7,154.00	20,505.79	7,579.00	376.09	373.60	-98.37	-1,916.23	-14,842.80	2,907.36	2,166.26	741.10	3.923		
20,100.00	7,154.00	20,605.79	7,579.00	378.78	376.28	-98.37	-1,916.32	-14,942.80	2,907.47	2,161.04	746.43	3.895		
20,200.00	7,154.00	20,705.79	7,579.00	381.46	378.96	-98.37	-1,916.40	-15,042.80	2,907.58	2,155.83	751.75	3.868		
20,300.00	7,154.00	20,805.79	7,579.00	384.15	381.64	-98.36	-1,916.49	-15,142.80	2,907.70	2,150.61	757.08	3.841		
20,400.00	7,154.00	20,905.79	7,579.00	386.84	384.32	-98.36	-1,916.58	-15,242.80	2,907.81	2,145.40	762.41	3.814		
20,500.00	7,154.00	21,005.79	7,579.00	389.53	387.00	-98.36	-1,916.67	-15,342.80	2,907.92	2,140.18	767.74	3.788		
20,600.00	7,154.00	21,105.79	7,579.00	392.21	389.68	-98.36	-1,916.75	-15,442.80	2,908.03	2,134.96	773.06	3.762		
20,700.00	7,154.00	21,205.79	7,579.00	394.90	392.37	-98.36	-1,916.84	-15,542.80	2,908.14	2,129.75	778.39	3.736		

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 WARBLER 13W-27-03
Project:	ADAMS COUNTY	TVD Reference:	KB 25' @ 5105.00usft
Reference Site:	Sec 13-T1S-R66W	MD Reference:	KB 25' @ 5105.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	WARBLER 13W-27-03	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT_32Bit_ODBC
Reference Design:	PROPOSAL 1	Offset TVD Reference:	Offset Datum

Offset Design Sec 13-T1S-R66W - WARBLER 24W-27-21 - OWB - PROPOSAL 1												Offset Site Error:	0.00 usft
Survey Program: 0-MWD OWSG												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	
20,800.00	7,154.00	21,305.79	7,579.00	397.59	395.05	-98.36	-1,916.93	-15,642.80	2,908.25	2,124.53	783.72	3.711	
20,900.00	7,154.00	21,405.79	7,579.00	400.28	397.73	-98.36	-1,917.02	-15,742.80	2,908.36	2,119.31	789.05	3.686	
21,000.00	7,154.00	21,505.79	7,579.00	402.97	400.41	-98.36	-1,917.10	-15,842.80	2,908.47	2,114.09	794.38	3.661	
21,100.00	7,154.00	21,594.21	7,579.00	405.66	402.79	-98.36	-1,917.19	-15,942.80	2,908.59	2,109.18	799.40	3.638	
21,200.00	7,154.00	21,705.79	7,579.00	408.35	405.78	-98.36	-1,917.28	-16,042.80	2,908.70	2,103.65	805.04	3.613	
21,300.00	7,154.00	21,805.79	7,579.00	411.04	408.46	-98.36	-1,917.36	-16,142.80	2,908.81	2,098.44	810.37	3.589	
21,400.00	7,154.00	21,905.79	7,579.00	413.73	411.15	-98.36	-1,917.45	-16,242.80	2,908.92	2,093.22	815.70	3.566	
21,500.00	7,154.00	22,005.79	7,579.00	416.42	413.83	-98.36	-1,917.54	-16,342.80	2,909.03	2,088.00	821.04	3.543	
21,573.27	7,154.00	22,067.48	7,579.00	418.39	415.49	-98.36	-1,917.60	-16,416.06	2,909.11	2,084.48	824.63	3.528 SF	

Anticollision Report

Company:	EXTRACTION OIL & GAS	Local Co-ordinate Reference:	Well WARBLER 13W-27-03
Project:	ADAMS COUNTY	TVD Reference:	KB 25' @ 5105.00usft
Reference Site:	Sec 13-T1S-R66W	MD Reference:	KB 25' @ 5105.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	WARBLER 13W-27-03	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT_32Bit_ODBC
Reference Design:	PROPOSAL 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-MWD OWSG													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		
0.00	0.00	2.00	2.00	0.00	0.00	-179.43	-224.03	-2.24	224.05					
100.00	100.00	102.00	102.00	0.13	0.14	-179.43	-224.03	-2.24	224.05	223.77	0.27	825.085 CC, ES		
200.00	200.00	194.18	194.14	0.49	0.47	-179.01	-225.64	-3.92	225.81	224.85	0.97	233.572		
300.00	300.00	286.08	285.78	0.85	0.81	-177.82	-230.31	-8.77	231.05	229.38	1.67	138.688		
400.00	400.00	377.12	376.15	1.21	1.17	-175.98	-237.94	-16.71	239.93	237.55	2.37	101.067		
500.00	500.00	466.91	464.65	1.57	1.56	-173.67	-248.38	-27.57	252.68	249.60	3.09	81.841		
600.00	600.00	555.08	550.79	1.93	1.99	-171.06	-261.43	-41.15	269.56	265.76	3.80	70.923		
700.00	699.98	641.49	634.27	2.28	2.46	-99.60	-276.87	-57.22	291.01	286.51	4.51	64.591		
800.00	799.84	726.05	714.90	2.63	2.96	-97.17	-294.51	-75.56	317.12	311.92	5.20	60.944		
900.00	899.45	808.57	792.43	3.00	3.50	-95.13	-314.08	-95.93	347.53	341.63	5.90	58.888		
1,000.00	998.70	888.90	866.66	3.37	4.08	-93.43	-335.35	-118.05	381.88	375.28	6.61	57.812		
1,100.00	1,097.47	970.77	940.98	3.77	4.71	-92.00	-359.13	-142.80	419.79	412.44	7.35	57.152		
1,200.00	1,195.62	1,062.86	1,024.15	4.19	5.46	-90.97	-386.52	-171.29	458.74	450.52	8.21	55.843		
1,300.00	1,293.06	1,154.90	1,107.29	4.64	6.22	-90.41	-413.89	-199.77	497.75	488.62	9.13	54.491		
1,400.00	1,389.64	1,246.79	1,190.29	5.12	6.98	-90.20	-441.21	-228.19	536.83	526.72	10.11	53.098		
1,500.00	1,485.27	1,338.41	1,273.05	5.66	7.74	-90.28	-468.45	-256.54	576.00	564.85	11.15	51.670		
1,600.00	1,579.82	1,429.65	1,355.47	6.24	8.51	-90.58	-495.59	-284.77	615.36	603.11	12.25	50.221		
1,700.00	1,673.17	1,520.41	1,437.44	6.88	9.27	-91.06	-522.57	-312.84	655.01	641.58	13.43	48.770		
1,800.00	1,765.22	1,610.57	1,518.88	7.57	10.03	-91.77	-549.38	-340.74	695.06	680.38	14.68	47.342		
1,900.00	1,856.73	1,700.46	1,600.08	8.31	10.79	-93.21	-576.11	-368.55	735.56	719.58	15.98	46.032		
2,000.00	1,948.24	1,809.64	1,681.27	9.06	11.71	-94.51	-602.84	-396.36	776.41	758.99	17.42	44.578		
2,100.00	2,039.75	1,880.25	1,762.47	9.83	12.31	-95.67	-629.57	-424.17	817.57	798.94	18.63	43.881		
2,200.00	2,131.26	1,970.15	1,843.67	10.61	13.07	-96.73	-656.30	-451.98	858.99	839.01	19.98	42.999		
2,300.00	2,222.77	2,060.04	1,924.87	11.40	13.83	-97.69	-683.03	-479.79	900.63	879.30	21.33	42.220		
2,400.00	2,314.28	2,149.94	2,006.07	12.20	14.59	-98.57	-709.76	-507.60	942.48	919.78	22.69	41.530		
2,500.00	2,405.79	2,239.83	2,087.26	13.00	15.36	-99.38	-736.50	-535.41	984.49	960.43	24.06	40.916		
2,600.00	2,497.30	2,329.72	2,168.46	13.81	16.12	-100.12	-763.23	-563.22	1,026.65	1,001.22	25.43	40.367		
2,700.00	2,588.81	2,419.62	2,249.66	14.62	16.88	-100.80	-789.96	-591.03	1,068.95	1,042.14	26.81	39.874		
2,800.00	2,680.31	2,509.51	2,330.86	15.44	17.65	-101.43	-816.69	-618.84	1,111.36	1,083.17	28.19	39.430		
2,900.00	2,771.82	2,599.41	2,412.05	16.25	18.41	-102.02	-843.42	-646.65	1,153.88	1,124.31	29.57	39.027		
3,000.00	2,863.33	2,689.30	2,493.25	17.08	19.18	-102.56	-870.15	-674.46	1,196.49	1,165.54	30.95	38.661		
3,100.00	2,954.84	2,779.20	2,574.45	17.90	19.94	-103.07	-896.88	-702.27	1,239.18	1,206.85	32.33	38.327		
3,200.00	3,046.35	2,869.09	2,655.65	18.72	20.71	-103.54	-923.61	-730.08	1,281.95	1,248.23	33.72	38.022		
3,300.00	3,137.86	2,958.99	2,736.85	19.55	21.47	-103.99	-950.34	-757.90	1,324.78	1,289.68	35.10	37.741		
3,400.00	3,229.37	3,048.88	2,818.04	20.38	22.24	-104.40	-977.07	-785.71	1,367.68	1,331.19	36.49	37.483		
3,500.00	3,320.88	3,138.78	2,899.24	21.21	23.00	-104.80	-1,003.80	-813.52	1,410.63	1,372.76	37.88	37.244		
3,600.00	3,412.39	3,228.67	2,980.44	22.04	23.77	-105.16	-1,030.53	-841.33	1,453.64	1,414.37	39.26	37.023		
3,700.00	3,503.90	3,318.57	3,061.64	22.87	24.53	-105.51	-1,057.26	-869.14	1,496.69	1,456.04	40.65	36.818		
3,800.00	3,595.41	3,408.46	3,142.83	23.70	25.30	-105.84	-1,083.99	-896.95	1,539.78	1,497.74	42.04	36.627		
3,900.00	3,686.91	3,501.65	3,224.03	24.54	26.09	-106.15	-1,110.72	-924.76	1,582.91	1,539.46	43.45	36.430		
4,000.00	3,778.42	3,588.25	3,305.23	25.37	26.83	-106.44	-1,137.45	-952.57	1,626.08	1,581.26	44.82	36.282		
4,100.00	3,869.93	3,678.14	3,386.43	26.20	27.60	-106.72	-1,164.18	-980.38	1,669.28	1,623.07	46.21	36.126		
4,200.00	3,961.44	3,768.04	3,467.63	27.04	28.36	-106.99	-1,190.91	-1,008.19	1,712.51	1,664.92	47.60	35.980		
4,300.00	4,052.95	3,857.93	3,548.82	27.88	29.13	-107.24	-1,217.64	-1,036.00	1,755.77	1,706.79	48.99	35.842		
4,400.00	4,144.46	3,947.83	3,630.02	28.71	29.90	-107.48	-1,244.38	-1,063.81	1,799.06	1,748.68	50.38	35.712		
4,500.00	4,235.97	4,037.72	3,711.22	29.55	30.66	-107.71	-1,271.11	-1,091.62	1,842.37	1,790.61	51.77	35.590		
4,600.00	4,327.48	4,127.62	3,792.42	30.39	31.43	-107.92	-1,297.84	-1,119.43	1,885.71	1,832.55	53.16	35.475		
4,700.00	4,418.99	4,217.51	3,873.62	31.22	32.20	-108.13	-1,324.57	-1,147.24	1,929.06	1,874.52	54.55	35.365		
4,800.00	4,510.50	4,307.41	3,954.81	32.06	32.96	-108.33	-1,351.30	-1,175.05	1,972.44	1,916.50	55.94	35.262		
4,900.00	4,602.01	4,402.70	4,036.01	32.90	33.77	-108.52	-1,378.03	-1,202.87	2,015.83	1,958.47	57.37	35.140		
5,000.00	4,693.51	4,487.20	4,117.21	33.74	34.49	-108.71	-1,404.76	-1,230.68	2,059.24	2,000.53	58.72	35.070		
5,100.00	4,785.02	4,577.09	4,198.41	34.58	35.26	-108.88	-1,431.49	-1,258.49	2,102.67	2,042.56	60.11	34.981		

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 Warbler 13W-27-03
Project:	ADAMS COUNTY	TVD Reference:	KB 25' @ 5105.00usft
Reference Site:	Sec 13-T1S-R66W	MD Reference:	KB 25' @ 5105.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	Warbler 13W-27-03	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT_32Bit_ODBC
Reference Design:	PROPOSAL 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-MWD OWSG													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		
5,200.00	4,876.53	4,666.98	4,279.60	35.42	36.03	-109.05	-1,458.22	-1,286.30	2,146.11	2,084.62	61.50	34.897		
5,300.00	4,968.04	4,756.88	4,360.80	36.26	36.79	-109.21	-1,484.95	-1,314.11	2,189.57	2,126.68	62.89	34.816		
5,400.00	5,059.55	4,846.77	4,442.00	37.10	37.56	-109.37	-1,511.68	-1,341.92	2,233.04	2,168.76	64.28	34.739		
5,500.00	5,151.06	4,936.67	4,523.20	37.94	38.33	-109.52	-1,538.41	-1,369.73	2,276.53	2,210.86	65.67	34.665		
5,600.00	5,242.57	5,026.56	4,604.40	38.78	39.09	-109.66	-1,565.14	-1,397.54	2,320.02	2,252.96	67.06	34.595		
5,700.00	5,334.08	5,116.46	4,685.59	39.62	39.86	-109.80	-1,591.87	-1,425.35	2,363.53	2,295.08	68.45	34.528		
5,800.00	5,425.59	5,206.35	4,766.79	40.46	40.63	-109.93	-1,618.60	-1,453.16	2,407.05	2,337.21	69.84	34.463		
5,900.00	5,517.10	5,303.75	4,847.99	41.30	41.46	-110.06	-1,645.33	-1,480.97	2,450.58	2,379.29	71.29	34.375		
6,000.00	5,608.61	5,386.14	4,929.19	42.14	42.16	-110.18	-1,672.06	-1,508.78	2,494.12	2,421.49	72.63	34.342		
6,100.00	5,700.12	5,476.04	5,010.38	42.98	42.93	-110.30	-1,698.79	-1,536.59	2,537.67	2,463.65	74.02	34.285		
6,200.00	5,791.62	5,565.93	5,091.58	43.82	43.69	-110.42	-1,725.52	-1,564.40	2,581.22	2,505.81	75.41	34.230		
6,300.00	5,883.13	5,655.82	5,172.78	44.66	44.46	-110.53	-1,752.26	-1,592.21	2,624.79	2,547.99	76.80	34.177		
6,400.00	5,974.64	5,745.72	5,253.98	45.50	45.23	-110.64	-1,778.99	-1,620.02	2,668.36	2,590.17	78.19	34.126		
6,500.00	6,066.15	5,835.61	5,335.18	46.35	45.99	-110.75	-1,805.72	-1,647.84	2,711.94	2,632.36	79.58	34.077		
6,600.00	6,157.66	5,925.51	5,416.37	47.19	46.76	-110.85	-1,832.45	-1,675.65	2,755.53	2,674.55	80.97	34.030		
6,700.00	6,249.17	6,015.40	5,497.57	48.03	47.53	-110.95	-1,859.18	-1,703.46	2,799.12	2,716.76	82.37	33.984		
6,800.00	6,340.68	6,105.30	5,578.77	48.87	48.29	-111.04	-1,885.91	-1,731.27	2,842.72	2,758.97	83.76	33.940		
6,900.00	6,432.19	6,204.81	5,659.97	49.71	49.14	-111.13	-1,912.64	-1,759.08	2,886.33	2,801.11	85.22	33.870		
7,000.00	6,523.70	6,285.09	5,741.17	50.55	49.83	-111.22	-1,939.37	-1,786.89	2,929.94	2,843.40	86.54	33.856		
7,100.00	6,615.21	6,374.98	5,822.36	51.40	50.59	-111.31	-1,966.10	-1,814.70	2,973.56	2,885.63	87.93	33.816		
7,200.00	6,706.72	6,464.88	5,903.56	52.24	51.36	-111.40	-1,992.83	-1,842.51	3,017.18	2,927.86	89.32	33.778		
7,300.00	6,798.22	6,554.77	5,984.76	53.08	52.13	-111.48	-2,019.56	-1,870.32	3,060.81	2,970.10	90.72	33.740		
7,400.00	6,886.25	6,643.99	6,065.35	54.07	52.89	-110.87	-2,046.09	-1,897.92	3,104.05	3,011.78	92.26	33.643		
7,500.00	6,965.23	6,730.05	6,143.08	55.35	53.62	-93.46	-2,071.68	-1,924.55	3,145.76	3,051.64	94.12	33.424		
7,600.00	7,032.75	6,810.33	6,215.59	56.90	54.31	-88.03	-2,095.55	-1,949.38	3,185.13	3,088.91	96.23	33.101		
7,700.00	7,086.77	6,882.38	6,280.67	58.68	54.92	-83.90	-2,116.98	-1,971.67	3,221.59	3,123.07	98.52	32.700		
7,800.00	7,125.64	6,944.02	6,336.35	60.64	55.45	-80.69	-2,135.31	-1,990.74	3,254.76	3,153.85	100.91	32.256		
7,900.00	7,148.19	6,993.38	6,380.94	62.69	55.87	-78.17	-2,149.98	-2,006.01	3,284.37	3,181.09	103.28	31.802		
8,000.00	7,154.00	7,029.19	6,413.28	64.75	56.18	-76.60	-2,160.63	-2,017.09	3,310.31	3,204.78	105.53	31.369		
8,100.00	7,154.00	7,060.12	6,441.22	66.83	56.44	-77.12	-2,169.83	-2,026.66	3,336.62	3,228.91	107.70	30.980		
8,200.00	7,154.00	7,108.95	6,469.16	68.96	56.86	-77.65	-2,179.03	-2,036.23	3,365.40	3,255.42	109.99	30.599		
8,300.00	7,154.00	7,121.98	6,497.10	71.12	56.97	-78.17	-2,188.22	-2,045.80	3,396.61	3,284.66	111.95	30.340		
8,400.00	7,154.00	7,152.91	6,525.03	73.32	57.23	-78.69	-2,197.42	-2,055.37	3,430.17	3,316.16	114.01	30.086		
8,500.00	7,154.00	7,183.84	6,552.97	75.55	57.50	-79.21	-2,206.62	-2,064.94	3,466.01	3,349.99	116.02	29.873		
8,600.00	7,154.00	7,214.77	6,580.91	77.81	57.76	-79.73	-2,215.81	-2,074.50	3,504.07	3,386.09	117.99	29.699		
8,700.00	7,154.00	9,333.66	7,579.00	80.10	86.24	-96.89	-2,545.25	-3,542.63	3,528.03	3,374.49	153.54	22.977		
8,800.00	7,154.00	9,433.66	7,579.00	82.41	88.20	-96.89	-2,545.33	-3,642.63	3,528.13	3,369.99	158.14	22.310		
8,900.00	7,154.00	9,533.66	7,579.00	84.75	90.19	-96.89	-2,545.40	-3,742.63	3,528.24	3,365.45	162.79	21.673		
9,000.00	7,154.00	9,633.66	7,579.00	87.11	92.23	-96.89	-2,545.48	-3,842.63	3,528.34	3,360.86	167.48	21.067		
9,100.00	7,154.00	9,733.66	7,579.00	89.48	94.29	-96.89	-2,545.56	-3,942.63	3,528.44	3,356.23	172.21	20.489		
9,200.00	7,154.00	9,833.66	7,579.00	91.88	96.39	-96.89	-2,545.63	-4,042.63	3,528.54	3,351.56	176.98	19.938		
9,300.00	7,154.00	9,933.66	7,579.00	94.29	98.52	-96.88	-2,545.71	-4,142.63	3,528.64	3,346.86	181.78	19.412		
9,400.00	7,154.00	10,033.66	7,579.00	96.72	100.68	-96.88	-2,545.79	-4,242.63	3,528.74	3,342.13	186.61	18.910		
9,500.00	7,154.00	10,133.66	7,579.00	99.16	102.87	-96.88	-2,545.86	-4,342.63	3,528.84	3,337.37	191.47	18.430		
9,600.00	7,154.00	10,233.66	7,579.00	101.61	105.08	-96.88	-2,545.94	-4,442.63	3,528.94	3,332.59	196.36	17.972		
9,700.00	7,154.00	10,333.66	7,579.00	104.08	107.31	-96.88	-2,546.01	-4,542.63	3,529.04	3,327.78	201.27	17.534		
9,800.00	7,154.00	10,433.66	7,579.00	106.56	109.57	-96.88	-2,546.09	-4,642.63	3,529.15	3,322.94	206.20	17.115		
9,900.00	7,154.00	10,533.66	7,579.00	109.05	111.85	-96.88	-2,546.17	-4,742.63	3,529.25	3,318.09	211.16	16.714		
10,000.00	7,154.00	10,633.66	7,579.00	111.55	114.14	-96.88	-2,546.24	-4,842.63	3,529.35	3,313.21	216.14	16.329		
10,100.00	7,154.00	10,733.66	7,579.00	114.06	116.46	-96.88	-2,546.32	-4,942.63	3,529.45	3,308.32	221.13	15.961		
10,200.00	7,154.00	10,833.66	7,579.00	116.57	118.79	-96.88	-2,546.40	-5,042.63	3,529.55	3,303.41	226.14	15.608		
10,300.00	7,154.00	10,933.66	7,579.00	119.10	121.14	-96.88	-2,546.47	-5,142.63	3,529.65	3,298.48	231.17	15.268		

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 WARBLER 13W-27-03
Project:	ADAMS COUNTY	TVD Reference:	KB 25' @ 5105.00usft
Reference Site:	Sec 13-T1S-R66W	MD Reference:	KB 25' @ 5105.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	WARBLER 13W-27-03	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT_32Bit_ODBC
Reference Design:	PROPOSAL 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-MWD OWSG													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		
10,400.00	7,154.00	11,033.66	7,579.00	121.63	123.51	-96.88	-2,546.55	-5,242.63	3,529.75	3,293.54	236.22	14.943		
10,500.00	7,154.00	11,133.66	7,579.00	124.17	125.88	-96.88	-2,546.63	-5,342.63	3,529.85	3,288.58	241.27	14.630		
10,600.00	7,154.00	11,233.66	7,579.00	126.72	128.28	-96.88	-2,546.70	-5,442.63	3,529.95	3,283.61	246.35	14.329		
10,700.00	7,154.00	11,333.66	7,579.00	129.28	130.68	-96.88	-2,546.78	-5,542.63	3,530.06	3,278.63	251.43	14.040		
10,800.00	7,154.00	11,433.66	7,579.00	131.84	133.10	-96.88	-2,546.86	-5,642.63	3,530.16	3,273.63	256.53	13.761		
10,900.00	7,154.00	11,533.66	7,579.00	134.40	135.53	-96.88	-2,546.93	-5,742.63	3,530.26	3,268.63	261.63	13.493		
11,000.00	7,154.00	11,633.66	7,579.00	136.97	137.97	-96.88	-2,547.01	-5,842.63	3,530.36	3,263.61	266.75	13.235		
11,100.00	7,154.00	11,733.66	7,579.00	139.55	140.42	-96.88	-2,547.09	-5,942.63	3,530.46	3,258.58	271.88	12.986		
11,200.00	7,154.00	11,833.66	7,579.00	142.13	142.88	-96.88	-2,547.16	-6,042.63	3,530.56	3,253.55	277.01	12.745		
11,300.00	7,154.00	11,933.66	7,579.00	144.72	145.35	-96.88	-2,547.24	-6,142.62	3,530.66	3,248.50	282.16	12.513		
11,400.00	7,154.00	12,033.66	7,579.00	147.30	147.83	-96.88	-2,547.32	-6,242.62	3,530.76	3,243.45	287.31	12.289		
11,500.00	7,154.00	12,133.66	7,579.00	149.90	150.32	-96.88	-2,547.39	-6,342.62	3,530.86	3,238.39	292.47	12.072		
11,600.00	7,154.00	12,233.66	7,579.00	152.50	152.81	-96.88	-2,547.47	-6,442.62	3,530.96	3,233.32	297.64	11.863		
11,700.00	7,154.00	12,333.66	7,579.00	155.10	155.31	-96.88	-2,547.54	-6,542.62	3,531.07	3,228.25	302.82	11.661		
11,800.00	7,154.00	12,433.66	7,579.00	157.70	157.82	-96.88	-2,547.62	-6,642.62	3,531.17	3,223.17	308.00	11.465		
11,900.00	7,154.00	12,533.66	7,579.00	160.31	160.34	-96.88	-2,547.70	-6,742.62	3,531.27	3,218.08	313.19	11.275		
12,000.00	7,154.00	12,633.66	7,579.00	162.92	162.86	-96.88	-2,547.77	-6,842.62	3,531.37	3,212.98	318.39	11.092		
12,100.00	7,154.00	12,733.66	7,579.00	165.54	165.39	-96.88	-2,547.85	-6,942.62	3,531.47	3,207.88	323.59	10.914		
12,200.00	7,154.00	12,833.66	7,579.00	168.15	167.92	-96.88	-2,547.93	-7,042.62	3,531.57	3,202.78	328.79	10.741		
12,300.00	7,154.00	12,933.66	7,579.00	170.77	170.46	-96.88	-2,548.00	-7,142.62	3,531.67	3,197.67	334.00	10.574		
12,400.00	7,154.00	13,033.66	7,579.00	173.39	173.01	-96.88	-2,548.08	-7,242.62	3,531.77	3,192.55	339.22	10.411		
12,500.00	7,154.00	13,133.66	7,579.00	176.02	175.56	-96.88	-2,548.16	-7,342.62	3,531.87	3,187.43	344.44	10.254		
12,600.00	7,154.00	13,233.66	7,579.00	178.65	178.11	-96.88	-2,548.23	-7,442.62	3,531.98	3,182.31	349.67	10.101		
12,700.00	7,154.00	13,333.66	7,579.00	181.28	180.67	-96.88	-2,548.31	-7,542.62	3,532.08	3,177.18	354.90	9.952		
12,800.00	7,154.00	13,433.66	7,579.00	183.91	183.23	-96.88	-2,548.39	-7,642.62	3,532.18	3,172.04	360.14	9.808		
12,900.00	7,154.00	13,533.66	7,579.00	186.54	185.80	-96.88	-2,548.46	-7,742.62	3,532.28	3,166.90	365.37	9.668		
13,000.00	7,154.00	13,633.66	7,579.00	189.18	188.37	-96.88	-2,548.54	-7,842.62	3,532.38	3,161.76	370.62	9.531		
13,100.00	7,154.00	13,733.66	7,579.00	191.81	190.95	-96.88	-2,548.62	-7,942.62	3,532.48	3,156.62	375.86	9.398		
13,200.00	7,154.00	13,833.66	7,579.00	194.45	193.53	-96.88	-2,548.69	-8,042.62	3,532.58	3,151.47	381.11	9.269		
13,300.00	7,154.00	13,933.66	7,579.00	197.10	196.11	-96.88	-2,548.77	-8,142.62	3,532.68	3,146.32	386.37	9.143		
13,400.00	7,154.00	14,033.66	7,579.00	199.74	198.70	-96.88	-2,548.84	-8,242.62	3,532.78	3,141.16	391.62	9.021		
13,500.00	7,154.00	14,133.66	7,579.00	202.38	201.29	-96.88	-2,548.92	-8,342.62	3,532.89	3,136.00	396.88	8.902		
13,600.00	7,154.00	14,233.66	7,579.00	205.03	203.88	-96.88	-2,549.00	-8,442.62	3,532.99	3,130.84	402.14	8.785		
13,700.00	7,154.00	14,333.66	7,579.00	207.68	206.47	-96.88	-2,549.07	-8,542.62	3,533.09	3,125.68	407.41	8.672		
13,800.00	7,154.00	14,433.66	7,579.00	210.33	209.07	-96.88	-2,549.15	-8,642.62	3,533.19	3,120.51	412.68	8.562		
13,900.00	7,154.00	14,533.66	7,579.00	212.98	211.67	-96.88	-2,549.23	-8,742.62	3,533.29	3,115.34	417.95	8.454		
14,000.00	7,154.00	14,633.66	7,579.00	215.63	214.28	-96.88	-2,549.30	-8,842.62	3,533.39	3,110.17	423.22	8.349		
14,100.00	7,154.00	14,733.66	7,579.00	218.28	216.89	-96.88	-2,549.38	-8,942.62	3,533.49	3,104.99	428.50	8.246		
14,200.00	7,154.00	14,833.66	7,579.00	220.93	219.49	-96.88	-2,549.46	-9,042.62	3,533.59	3,099.81	433.78	8.146		
14,300.00	7,154.00	14,933.66	7,579.00	223.59	222.11	-96.88	-2,549.53	-9,142.62	3,533.69	3,094.64	439.06	8.048		
14,400.00	7,154.00	15,033.66	7,579.00	226.25	224.72	-96.87	-2,549.61	-9,242.62	3,533.79	3,089.45	444.34	7.953		
14,500.00	7,154.00	15,133.66	7,579.00	228.90	227.33	-96.87	-2,549.69	-9,342.62	3,533.90	3,084.27	449.63	7.860		
14,600.00	7,154.00	15,233.66	7,579.00	231.56	229.95	-96.87	-2,549.76	-9,442.62	3,534.00	3,079.08	454.91	7.769		
14,700.00	7,154.00	15,333.66	7,579.00	234.22	232.57	-96.87	-2,549.84	-9,542.62	3,534.10	3,073.90	460.20	7.679		
14,800.00	7,154.00	15,433.66	7,579.00	236.88	235.19	-96.87	-2,549.92	-9,642.62	3,534.20	3,068.71	465.49	7.592		
14,900.00	7,154.00	15,533.66	7,579.00	239.55	237.82	-96.87	-2,549.99	-9,742.62	3,534.30	3,063.51	470.79	7.507		
15,000.00	7,154.00	15,633.66	7,579.00	242.21	240.44	-96.87	-2,550.07	-9,842.62	3,534.40	3,058.32	476.08	7.424		
15,100.00	7,154.00	15,733.66	7,579.00	244.87	243.07	-96.87	-2,550.15	-9,942.62	3,534.50	3,053.13	481.38	7.342		
15,200.00	7,154.00	15,833.66	7,579.00	247.54	245.70	-96.87	-2,550.22	-10,042.62	3,534.60	3,047.93	486.68	7.263		
15,300.00	7,154.00	15,933.66	7,579.00	250.20	248.33	-96.87	-2,550.30	-10,142.62	3,534.70	3,042.73	491.97	7.185		
15,400.00	7,154.00	16,033.66	7,579.00	252.87	250.96	-96.87	-2,550.37	-10,242.62	3,534.81	3,037.53	497.28	7.108		
15,500.00	7,154.00	16,133.66	7,579.00	255.53	253.60	-96.87	-2,550.45	-10,342.62	3,534.91	3,032.33	502.58	7.034		

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 WARBLER 13W-27-03
Project:	ADAMS COUNTY	TVD Reference:	KB 25' @ 5105.00usft
Reference Site:	Sec 13-T1S-R66W	MD Reference:	KB 25' @ 5105.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	WARBLER 13W-27-03	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT_32Bit_ODBC
Reference Design:	PROPOSAL 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-MWD OWSG													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		
15,600.00	7,154.00	16,233.66	7,579.00	258.20	256.23	-96.87	-2,550.53	-10,442.62	3,535.01	3,027.12	507.88	6.960		
15,700.00	7,154.00	16,333.66	7,579.00	260.87	258.87	-96.87	-2,550.60	-10,542.62	3,535.11	3,021.92	513.19	6.889		
15,800.00	7,154.00	16,433.66	7,579.00	263.54	261.51	-96.87	-2,550.68	-10,642.62	3,535.21	3,016.71	518.50	6.818		
15,900.00	7,154.00	16,533.66	7,579.00	266.21	264.15	-96.87	-2,550.76	-10,742.62	3,535.31	3,011.51	523.80	6.749		
16,000.00	7,154.00	16,633.66	7,579.00	268.88	266.79	-96.87	-2,550.83	-10,842.62	3,535.41	3,006.30	529.11	6.682		
16,100.00	7,154.00	16,733.66	7,579.00	271.55	269.43	-96.87	-2,550.91	-10,942.62	3,535.51	3,001.09	534.42	6.616		
16,200.00	7,154.00	16,833.66	7,579.00	274.22	272.08	-96.87	-2,550.99	-11,042.62	3,535.61	2,995.88	539.74	6.551		
16,300.00	7,154.00	16,933.66	7,579.00	276.90	274.72	-96.87	-2,551.06	-11,142.62	3,535.71	2,990.66	545.05	6.487		
16,400.00	7,154.00	17,033.66	7,579.00	279.57	277.37	-96.87	-2,551.14	-11,242.62	3,535.82	2,985.45	550.36	6.424		
16,500.00	7,154.00	17,133.66	7,579.00	282.24	280.02	-96.87	-2,551.22	-11,342.62	3,535.92	2,980.24	555.68	6.363		
16,600.00	7,154.00	17,233.66	7,579.00	284.92	282.66	-96.87	-2,551.29	-11,442.62	3,536.02	2,975.02	561.00	6.303		
16,700.00	7,154.00	17,333.66	7,579.00	287.59	285.31	-96.87	-2,551.37	-11,542.62	3,536.12	2,969.80	566.32	6.244		
16,800.00	7,154.00	17,433.66	7,579.00	290.27	287.96	-96.87	-2,551.45	-11,642.62	3,536.22	2,964.59	571.63	6.186		
16,900.00	7,154.00	17,533.66	7,579.00	292.94	290.62	-96.87	-2,551.52	-11,742.62	3,536.32	2,959.37	576.95	6.129		
17,000.00	7,154.00	17,633.66	7,579.00	295.62	293.27	-96.87	-2,551.60	-11,842.62	3,536.42	2,954.15	582.27	6.073		
17,100.00	7,154.00	17,733.66	7,579.00	298.29	295.92	-96.87	-2,551.67	-11,942.62	3,536.52	2,948.93	587.60	6.019		
17,200.00	7,154.00	17,833.66	7,579.00	300.97	298.58	-96.87	-2,551.75	-12,042.62	3,536.62	2,943.71	592.92	5.965		
17,300.00	7,154.00	17,933.66	7,579.00	303.65	301.23	-96.87	-2,551.83	-12,142.62	3,536.73	2,938.48	598.24	5.912		
17,400.00	7,154.00	18,033.66	7,579.00	306.33	303.89	-96.87	-2,551.90	-12,242.62	3,536.83	2,933.26	603.57	5.860		
17,500.00	7,154.00	18,133.66	7,579.00	309.01	306.54	-96.87	-2,551.98	-12,342.62	3,536.93	2,928.04	608.89	5.809		
17,600.00	7,154.00	18,233.66	7,579.00	311.69	309.20	-96.87	-2,552.06	-12,442.62	3,537.03	2,922.81	614.22	5.759		
17,700.00	7,154.00	18,333.66	7,579.00	314.37	311.86	-96.87	-2,552.13	-12,542.62	3,537.13	2,917.58	619.55	5.709		
17,800.00	7,154.00	18,433.66	7,579.00	317.05	314.52	-96.87	-2,552.21	-12,642.62	3,537.23	2,912.36	624.87	5.661		
17,900.00	7,154.00	18,533.66	7,579.00	319.73	317.18	-96.87	-2,552.29	-12,742.62	3,537.33	2,907.13	630.20	5.613		
18,000.00	7,154.00	18,633.66	7,579.00	322.41	319.84	-96.87	-2,552.36	-12,842.62	3,537.43	2,901.90	635.53	5.566		
18,100.00	7,154.00	18,733.66	7,579.00	325.09	322.50	-96.87	-2,552.44	-12,942.62	3,537.53	2,896.67	640.86	5.520		
18,200.00	7,154.00	18,833.66	7,579.00	327.77	325.16	-96.87	-2,552.52	-13,042.62	3,537.64	2,891.44	646.19	5.475		
18,300.00	7,154.00	18,933.66	7,579.00	330.45	327.83	-96.87	-2,552.59	-13,142.62	3,537.74	2,886.21	651.52	5.430		
18,400.00	7,154.00	19,033.66	7,579.00	333.13	330.49	-96.87	-2,552.67	-13,242.62	3,537.84	2,880.98	656.86	5.386		
18,500.00	7,154.00	19,133.66	7,579.00	335.82	333.16	-96.87	-2,552.75	-13,342.62	3,537.94	2,875.75	662.19	5.343		
18,600.00	7,154.00	19,233.66	7,579.00	338.50	335.82	-96.87	-2,552.82	-13,442.62	3,538.04	2,870.52	667.52	5.300		
18,700.00	7,154.00	19,333.66	7,579.00	341.18	338.49	-96.87	-2,552.90	-13,542.62	3,538.14	2,865.28	672.86	5.258		
18,800.00	7,154.00	19,433.66	7,579.00	343.86	341.15	-96.87	-2,552.98	-13,642.62	3,538.24	2,860.05	678.19	5.217		
18,900.00	7,154.00	19,533.66	7,579.00	346.55	343.82	-96.87	-2,553.05	-13,742.62	3,538.34	2,854.82	683.53	5.177		
19,000.00	7,154.00	19,633.66	7,579.00	349.23	346.49	-96.87	-2,553.13	-13,842.62	3,538.44	2,849.58	688.86	5.137		
19,100.00	7,154.00	19,733.66	7,579.00	351.92	349.16	-96.87	-2,553.20	-13,942.62	3,538.54	2,844.35	694.20	5.097		
19,200.00	7,154.00	19,833.66	7,579.00	354.60	351.82	-96.87	-2,553.28	-14,042.62	3,538.65	2,839.11	699.53	5.059		
19,300.00	7,154.00	19,933.66	7,579.00	357.29	354.49	-96.87	-2,553.36	-14,142.62	3,538.75	2,833.87	704.87	5.020		
19,400.00	7,154.00	20,033.66	7,579.00	359.97	357.16	-96.87	-2,553.43	-14,242.62	3,538.85	2,828.64	710.21	4.983		
19,500.00	7,154.00	20,133.66	7,579.00	362.66	359.83	-96.86	-2,553.51	-14,342.62	3,538.95	2,823.40	715.55	4.946		
19,600.00	7,154.00	20,233.66	7,579.00	365.34	362.50	-96.86	-2,553.59	-14,442.62	3,539.05	2,818.16	720.89	4.909		
19,700.00	7,154.00	20,333.66	7,579.00	368.03	365.18	-96.86	-2,553.66	-14,542.62	3,539.15	2,812.92	726.23	4.873		
19,800.00	7,154.00	20,433.66	7,579.00	370.72	367.85	-96.86	-2,553.74	-14,642.62	3,539.25	2,807.68	731.57	4.838		
19,900.00	7,154.00	20,533.66	7,579.00	373.40	370.52	-96.86	-2,553.82	-14,742.62	3,539.35	2,802.44	736.91	4.803		
20,000.00	7,154.00	20,633.66	7,579.00	376.09	373.19	-96.86	-2,553.89	-14,842.62	3,539.45	2,797.20	742.25	4.769		
20,100.00	7,154.00	20,733.66	7,579.00	378.78	375.86	-96.86	-2,553.97	-14,942.62	3,539.56	2,791.96	747.59	4.735		
20,200.00	7,154.00	20,833.66	7,579.00	381.46	378.54	-96.86	-2,554.05	-15,042.62	3,539.66	2,786.72	752.93	4.701		
20,300.00	7,154.00	20,933.66	7,579.00	384.15	381.21	-96.86	-2,554.12	-15,142.62	3,539.76	2,781.48	758.28	4.668		
20,400.00	7,154.00	21,033.66	7,579.00	386.84	383.89	-96.86	-2,554.20	-15,242.62	3,539.86	2,776.24	763.62	4.636		
20,500.00	7,154.00	21,133.66	7,579.00	389.53	386.56	-96.86	-2,554.28	-15,342.62	3,539.96	2,771.00	768.96	4.604		
20,600.00	7,154.00	21,233.66	7,579.00	392.21	389.24	-96.86	-2,554.35	-15,442.62	3,540.06	2,765.76	774.31	4.572		
20,700.00	7,154.00	21,333.66	7,579.00	394.90	391.91	-96.86	-2,554.43	-15,542.62	3,540.16	2,760.51	779.65	4.541		

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 WARBLER 13W-27-03
Project:	ADAMS COUNTY	TVD Reference:	KB 25' @ 5105.00usft
Reference Site:	Sec 13-T1S-R66W	MD Reference:	KB 25' @ 5105.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	WARBLER 13W-27-03	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT_32Bit_ODBC
Reference Design:	PROPOSAL 1	Offset TVD Reference:	Offset Datum

Offset Design Sec 13-T1S-R66W - WARBLER 24W-27-22 - OWB - PROPOSAL 1												Offset Site Error:	0.00 usft
Survey Program: 0-MWD OWSG												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	
20,800.00	7,154.00	21,433.66	7,579.00	397.59	394.59	-96.86	-2,554.50	-15,642.62	3,540.26	2,755.27	784.99	4.510	
20,900.00	7,154.00	21,533.66	7,579.00	400.28	397.26	-96.86	-2,554.58	-15,742.62	3,540.36	2,750.03	790.34	4.480	
21,000.00	7,154.00	21,633.66	7,579.00	402.97	399.94	-96.86	-2,554.66	-15,842.62	3,540.47	2,744.78	795.68	4.450	
21,100.00	7,154.00	21,733.66	7,579.00	405.66	402.62	-96.86	-2,554.73	-15,942.62	3,540.57	2,739.54	801.03	4.420	
21,200.00	7,154.00	21,833.66	7,579.00	408.35	405.30	-96.86	-2,554.81	-16,042.62	3,540.67	2,734.29	806.38	4.391	
21,300.00	7,154.00	21,933.66	7,579.00	411.04	407.97	-96.86	-2,554.89	-16,142.62	3,540.77	2,729.05	811.72	4.362	
21,400.00	7,154.00	22,033.66	7,579.00	413.73	410.65	-96.86	-2,554.96	-16,242.62	3,540.87	2,723.80	817.07	4.334	
21,500.00	7,154.00	22,133.66	7,579.00	416.42	413.33	-96.86	-2,555.04	-16,342.62	3,540.97	2,718.55	822.42	4.306	
21,573.27	7,154.00	22,206.92	7,579.00	418.39	415.29	-96.86	-2,555.10	-16,415.88	3,541.04	2,714.71	826.33	4.285 SF	

Anticollision Report

Company:	EXTRACTION OIL & GAS	Local Co-ordinate Reference:	Well WARBLER 13W-27-03
Project:	ADAMS COUNTY	TVD Reference:	KB 25' @ 5105.00usft
Reference Site:	Sec 13-T1S-R66W	MD Reference:	KB 25' @ 5105.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	WARBLER 13W-27-03	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT_32Bit_ODBC
Reference Design:	PROPOSAL 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-INC													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		
0.00	0.00	0.00	0.00	0.00	0.00	-60.65	2,805.13	-4,987.74	5,722.61					
100.00	100.00	55.00	55.00	0.13	0.66	-60.65	2,805.13	-4,987.74	5,722.44	5,721.64	0.79	7,212.102		
200.00	200.00	155.00	155.00	0.49	2.46	-60.65	2,805.13	-4,987.74	5,722.44	5,719.49	2.95	1,939.527		
300.00	300.00	255.00	255.00	0.85	4.63	-60.65	2,805.13	-4,987.74	5,722.44	5,716.95	5.48	1,043.798		
400.00	400.00	355.00	355.00	1.21	6.69	-60.65	2,805.13	-4,987.74	5,722.44	5,714.54	7.90	724.429		
500.00	500.00	455.00	455.00	1.57	8.72	-60.65	2,805.13	-4,987.74	5,722.44	5,712.14	10.29	555.972		
600.00	600.00	555.00	555.00	1.93	10.75	-60.65	2,805.13	-4,987.74	5,722.44	5,709.76	12.68	451.412		
700.00	699.98	654.98	654.98	2.28	12.77	7.96	2,805.13	-4,987.74	5,720.71	5,705.66	15.05	380.093		
800.00	799.84	754.84	754.84	2.63	14.79	7.98	2,805.13	-4,987.74	5,715.53	5,698.11	17.42	328.118		
900.00	899.45	854.45	854.45	3.00	16.79	8.01	2,805.13	-4,987.74	5,706.89	5,687.11	19.78	288.458		
1,000.00	998.70	953.70	953.70	3.37	18.79	8.06	2,805.13	-4,987.74	5,694.83	5,672.68	22.14	257.178		
1,100.00	1,097.47	1,052.47	1,052.47	3.77	20.78	8.13	2,805.13	-4,987.74	5,679.34	5,654.84	24.50	231.857		
1,200.00	1,195.62	1,150.62	1,150.62	4.19	22.76	8.21	2,805.13	-4,987.74	5,660.44	5,633.61	26.84	210.922		
1,300.00	1,293.06	1,248.06	1,248.06	4.64	24.72	8.31	2,805.13	-4,987.74	5,638.17	5,609.00	29.17	193.309		
1,400.00	1,389.64	1,344.64	1,344.64	5.12	26.67	8.43	2,805.13	-4,987.74	5,612.55	5,581.06	31.48	178.272		
1,500.00	1,485.27	1,440.27	1,440.27	5.66	28.59	8.56	2,805.13	-4,987.74	5,583.60	5,549.82	33.78	165.275		
1,600.00	1,579.82	1,534.82	1,534.82	6.24	30.49	8.71	2,805.13	-4,987.74	5,551.38	5,515.31	36.07	153.918		
1,700.00	1,673.17	1,628.17	1,628.17	6.88	32.37	8.89	2,805.13	-4,987.74	5,515.91	5,477.58	38.33	143.901		
1,800.00	1,765.22	1,720.22	1,720.22	7.57	34.22	9.06	2,805.13	-4,987.74	5,477.27	5,436.69	40.58	134.981		
1,900.00	1,856.73	1,811.73	1,811.73	8.31	36.07	9.13	2,805.13	-4,987.74	5,437.37	5,394.56	42.81	127.026		
2,000.00	1,948.24	1,903.24	1,903.24	9.06	37.91	9.20	2,805.13	-4,987.74	5,397.48	5,352.44	45.04	119.840		
2,100.00	2,039.75	2,005.25	1,994.75	9.83	39.96	9.27	2,805.13	-4,987.74	5,357.59	5,310.10	47.49	112.817		
2,200.00	2,131.26	2,086.26	2,086.26	10.61	41.59	9.34	2,805.13	-4,987.74	5,317.71	5,268.19	49.52	107.382		
2,300.00	2,222.77	2,177.77	2,177.77	11.40	43.43	9.41	2,805.13	-4,987.74	5,277.84	5,226.07	51.77	101.949		
2,400.00	2,314.28	2,269.28	2,269.28	12.20	45.27	9.48	2,805.13	-4,987.74	5,237.97	5,183.95	54.02	96.962		
2,500.00	2,405.79	2,360.79	2,360.79	13.00	47.11	9.55	2,805.13	-4,987.74	5,198.12	5,141.84	56.28	92.369		
2,600.00	2,497.30	2,452.30	2,452.30	13.81	48.95	9.63	2,805.13	-4,987.74	5,158.26	5,099.73	58.53	88.126		
2,700.00	2,588.81	2,543.81	2,543.81	14.62	50.79	9.70	2,805.13	-4,987.74	5,118.42	5,057.63	60.79	84.194		
2,800.00	2,680.31	2,635.31	2,635.31	15.44	52.63	9.78	2,805.13	-4,987.74	5,078.58	5,015.53	63.06	80.541		
2,900.00	2,771.82	2,726.82	2,726.82	16.25	54.47	9.86	2,805.13	-4,987.74	5,038.76	4,973.44	65.32	77.139		
3,000.00	2,863.33	2,818.33	2,818.33	17.08	56.31	9.94	2,805.13	-4,987.74	4,998.94	4,931.35	67.59	73.962		
3,100.00	2,954.84	2,909.84	2,909.84	17.90	58.16	10.02	2,805.13	-4,987.74	4,959.12	4,889.27	69.86	70.990		
3,200.00	3,046.35	3,001.35	3,001.35	18.72	60.00	10.10	2,805.13	-4,987.74	4,919.32	4,847.19	72.13	68.204		
3,300.00	3,137.86	3,107.14	3,092.86	19.55	62.12	10.18	2,805.13	-4,987.74	4,879.52	4,804.84	74.69	65.333		
3,400.00	3,229.37	3,184.37	3,184.37	20.38	63.68	10.27	2,805.13	-4,987.74	4,839.74	4,763.06	76.67	63.122		
3,500.00	3,320.88	3,275.88	3,275.88	21.21	65.52	10.35	2,805.13	-4,987.74	4,799.96	4,721.01	78.95	60.798		
3,600.00	3,412.39	3,367.39	3,367.39	22.04	67.36	10.44	2,805.13	-4,987.74	4,760.19	4,678.97	81.23	58.604		
3,700.00	3,503.90	3,458.90	3,458.90	22.87	69.20	10.53	2,805.13	-4,987.74	4,720.43	4,636.93	83.50	56.529		
3,800.00	3,595.41	3,550.41	3,550.41	23.70	71.04	10.62	2,805.13	-4,987.74	4,680.68	4,594.90	85.78	54.563		
3,900.00	3,686.91	3,641.91	3,641.91	24.54	72.88	10.71	2,805.13	-4,987.74	4,640.94	4,552.88	88.07	52.698		
4,000.00	3,778.42	3,733.42	3,733.42	25.37	74.72	10.80	2,805.13	-4,987.74	4,601.22	4,510.87	90.35	50.927		
4,100.00	3,869.93	3,824.93	3,824.93	26.20	76.56	10.90	2,805.13	-4,987.74	4,561.50	4,468.86	92.63	49.242		
4,200.00	3,961.44	3,916.44	3,916.44	27.04	78.40	10.99	2,805.13	-4,987.74	4,521.79	4,426.87	94.92	47.638		
4,300.00	4,052.95	4,007.95	4,007.95	27.88	80.24	11.09	2,805.13	-4,987.74	4,482.09	4,384.89	97.21	46.109		
4,400.00	4,144.46	4,100.54	4,099.46	28.71	82.10	11.19	2,805.13	-4,987.74	4,442.41	4,342.89	99.52	44.640		
4,500.00	4,235.97	4,209.03	4,190.97	29.55	84.28	11.29	2,805.13	-4,987.74	4,402.73	4,300.58	102.15	43.101		
4,600.00	4,327.48	4,282.48	4,282.48	30.39	85.76	11.39	2,805.13	-4,987.74	4,363.07	4,258.99	104.08	41.922		
4,700.00	4,418.99	4,373.99	4,373.99	31.22	87.60	11.50	2,805.13	-4,987.74	4,323.42	4,217.05	106.37	40.645		
4,800.00	4,510.50	4,465.50	4,465.50	32.06	89.44	11.61	2,805.13	-4,987.74	4,283.78	4,175.12	108.66	39.422		
4,900.00	4,602.01	4,557.01	4,557.01	32.90	91.28	11.72	2,805.13	-4,987.74	4,244.16	4,133.20	110.96	38.250		
5,000.00	4,693.51	4,648.51	4,648.51	33.74	93.12	11.83	2,805.13	-4,987.74	4,204.55	4,091.29	113.26	37.124		
5,100.00	4,785.02	4,740.02	4,740.02	34.58	94.96	11.94	2,805.13	-4,987.74	4,164.95	4,049.39	115.56	36.043		

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 WARBLER 13W-27-03
Project:	ADAMS COUNTY	TVD Reference:	KB 25' @ 5105.00usft
Reference Site:	Sec 13-T1S-R66W	MD Reference:	KB 25' @ 5105.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	WARBLER 13W-27-03	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT_32Bit_ODBC
Reference Design:	PROPOSAL 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-INC													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		
5,200.00	4,876.53	4,831.53	4,831.53	35.42	96.80	12.06	2,805.13	-4,987.74	4,125.37	4,007.51	117.86	35.003		
5,300.00	4,968.04	4,923.04	4,923.04	36.26	98.64	12.17	2,805.13	-4,987.74	4,085.80	3,965.64	120.16	34.004		
5,400.00	5,059.55	5,014.55	5,014.55	37.10	100.48	12.29	2,805.13	-4,987.74	4,046.24	3,923.78	122.46	33.041		
5,500.00	5,151.06	5,106.06	5,106.06	37.94	102.32	12.42	2,805.13	-4,987.74	4,006.71	3,881.94	124.77	32.114		
5,600.00	5,242.57	5,202.43	5,197.57	38.78	104.26	12.54	2,805.13	-4,987.74	3,967.18	3,840.01	127.17	31.195		
5,700.00	5,334.08	5,289.08	5,289.08	39.62	106.01	12.67	2,805.13	-4,987.74	3,927.68	3,798.29	129.38	30.357		
5,800.00	5,425.59	5,380.59	5,380.59	40.46	107.85	12.80	2,805.13	-4,987.74	3,888.19	3,756.49	131.69	29.524		
5,900.00	5,517.10	5,472.10	5,472.10	41.30	109.69	12.93	2,805.13	-4,987.74	3,848.72	3,714.71	134.01	28.720		
6,000.00	5,608.61	5,563.61	5,563.61	42.14	111.53	13.06	2,805.13	-4,987.74	3,809.26	3,672.94	136.32	27.943		
6,100.00	5,700.12	5,655.12	5,655.12	42.98	113.37	13.20	2,805.13	-4,987.74	3,769.83	3,631.19	138.64	27.192		
6,200.00	5,791.62	5,746.62	5,746.62	43.82	115.21	13.34	2,805.13	-4,987.74	3,730.41	3,589.45	140.96	26.465		
6,300.00	5,883.13	5,838.13	5,838.13	44.66	117.05	13.49	2,805.13	-4,987.74	3,691.01	3,547.73	143.28	25.761		
6,400.00	5,974.64	5,929.64	5,929.64	45.50	118.89	13.63	2,805.13	-4,987.74	3,651.63	3,506.03	145.60	25.080		
6,500.00	6,066.15	6,021.15	6,021.15	46.35	120.73	13.78	2,805.13	-4,987.74	3,612.28	3,464.35	147.93	24.419		
6,600.00	6,157.66	6,112.66	6,112.66	47.19	122.57	13.94	2,805.13	-4,987.74	3,572.94	3,422.69	150.25	23.779		
6,700.00	6,249.17	6,204.17	6,204.17	48.03	124.41	14.09	2,805.13	-4,987.74	3,533.63	3,381.05	152.59	23.158		
6,800.00	6,340.68	6,304.32	6,295.68	48.87	126.42	14.25	2,805.13	-4,987.74	3,494.34	3,339.25	155.09	22.531		
6,900.00	6,432.19	6,387.19	6,387.19	49.71	128.09	14.42	2,805.13	-4,987.74	3,455.08	3,297.82	157.25	21.971		
7,000.00	6,523.70	6,478.70	6,478.70	50.55	129.93	14.59	2,805.13	-4,987.74	3,415.84	3,256.24	159.59	21.403		
7,100.00	6,615.21	6,570.21	6,570.21	51.40	131.77	14.76	2,805.13	-4,987.74	3,376.62	3,214.69	161.93	20.852		
7,200.00	6,706.72	6,661.72	6,661.72	52.24	133.61	14.93	2,805.13	-4,987.74	3,337.43	3,173.15	164.28	20.316		
7,300.00	6,798.22	6,753.22	6,753.22	53.08	135.45	15.11	2,805.13	-4,987.74	3,298.27	3,131.64	166.63	19.794		
7,400.00	6,886.25	6,841.25	6,841.25	54.07	137.22	24.76	2,805.13	-4,987.74	3,253.39	3,084.41	168.98	19.253		
7,500.00	6,965.23	6,920.23	6,920.23	55.35	138.81	33.40	2,805.13	-4,987.74	3,197.44	3,026.14	171.30	18.666		
7,600.00	7,032.75	6,987.75	6,987.75	56.90	140.17	42.76	2,805.13	-4,987.74	3,132.34	2,958.81	173.53	18.051		
7,700.00	7,086.77	7,041.77	7,041.77	58.68	141.25	53.79	2,805.13	-4,987.74	3,060.37	2,884.73	175.64	17.424		
7,800.00	7,125.64	7,080.64	7,080.64	60.64	142.03	66.50	2,805.13	-4,987.74	2,984.08	2,806.46	177.62	16.800		
7,900.00	7,148.19	7,103.19	7,103.19	62.69	142.49	79.83	2,805.13	-4,987.74	2,906.16	2,726.71	179.46	16.194		
8,000.00	7,154.00	7,109.00	7,109.00	64.75	142.60	90.00	2,805.13	-4,987.74	2,829.31	2,648.17	181.14	15.619		
8,100.00	7,154.00	7,109.00	7,109.00	66.83	142.60	90.00	2,805.13	-4,987.74	2,754.35	2,571.42	182.93	15.057		
8,200.00	7,154.00	7,109.00	7,109.00	68.96	142.60	90.00	2,805.13	-4,987.74	2,681.02	2,496.07	184.95	14.496		
8,300.00	7,154.00	7,109.00	7,109.00	71.12	142.60	90.00	2,805.13	-4,987.74	2,609.46	2,422.26	187.20	13.939		
8,400.00	7,154.00	7,109.00	7,109.00	73.32	142.60	90.00	2,805.13	-4,987.74	2,539.82	2,350.13	189.69	13.389		
8,500.00	7,154.00	7,109.00	7,109.00	75.55	142.60	90.00	2,805.13	-4,987.74	2,472.27	2,279.85	192.42	12.849		
8,600.00	7,154.00	7,109.00	7,109.00	77.81	142.60	90.00	2,805.13	-4,987.74	2,406.98	2,211.60	195.37	12.320		
8,700.00	7,154.00	7,109.00	7,109.00	80.10	142.60	90.00	2,805.13	-4,987.74	2,344.13	2,145.57	198.56	11.806		
8,800.00	7,154.00	7,109.00	7,109.00	82.41	142.60	90.00	2,805.13	-4,987.74	2,283.94	2,081.97	201.97	11.309		
8,900.00	7,154.00	7,109.00	7,109.00	84.75	142.60	90.00	2,805.13	-4,987.74	2,226.61	2,021.03	205.58	10.831		
9,000.00	7,154.00	7,109.00	7,109.00	87.11	142.60	90.00	2,805.13	-4,987.74	2,172.38	1,962.99	209.39	10.375		
9,100.00	7,154.00	7,109.00	7,109.00	89.48	142.60	90.00	2,805.13	-4,987.74	2,121.47	1,908.10	213.37	9.943		
9,200.00	7,154.00	7,109.00	7,109.00	91.88	142.60	90.00	2,805.13	-4,987.74	2,074.14	1,856.64	217.50	9.536		
9,300.00	7,154.00	7,109.00	7,109.00	94.29	142.60	90.00	2,805.13	-4,987.74	2,030.64	1,808.88	221.75	9.157		
9,400.00	7,154.00	7,109.00	7,109.00	96.72	142.60	90.00	2,805.13	-4,987.74	1,991.21	1,765.12	226.09	8.807		
9,500.00	7,154.00	7,109.00	7,109.00	99.16	142.60	90.00	2,805.13	-4,987.74	1,956.10	1,725.62	230.48	8.487		
9,600.00	7,154.00	7,109.00	7,109.00	101.61	142.60	90.00	2,805.13	-4,987.74	1,925.55	1,690.69	234.86	8.199		
9,700.00	7,154.00	7,109.00	7,109.00	104.08	142.60	90.00	2,805.13	-4,987.74	1,899.78	1,660.58	239.20	7.942		
9,800.00	7,154.00	7,109.00	7,109.00	106.56	142.60	90.00	2,805.13	-4,987.74	1,878.99	1,635.54	243.45	7.718		
9,900.00	7,154.00	7,109.00	7,109.00	109.05	142.60	90.00	2,805.13	-4,987.74	1,863.33	1,615.79	247.54	7.527		
10,000.00	7,154.00	7,109.00	7,109.00	111.55	142.60	90.00	2,805.13	-4,987.74	1,852.95	1,601.51	251.44	7.369		
10,100.00	7,154.00	7,109.00	7,109.00	114.06	142.60	90.00	2,805.13	-4,987.74	1,847.93	1,592.84	255.09	7.244		
10,142.90	7,154.00	7,109.00	7,109.00	115.14	142.60	90.00	2,805.13	-4,987.74	1,847.43	1,590.85	256.58	7.200 CC		
10,200.00	7,154.00	7,109.00	7,109.00	116.57	142.60	90.00	2,805.13	-4,987.74	1,848.31	1,589.85	258.46	7.151 ES		

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 WARBLER 13W-27-03
Project:	ADAMS COUNTY	TVD Reference:	KB 25' @ 5105.00usft
Reference Site:	Sec 13-T1S-R66W	MD Reference:	KB 25' @ 5105.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	WARBLER 13W-27-03	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT_32Bit_ODBC
Reference Design:	PROPOSAL 1	Offset TVD Reference:	Offset Datum

Offset Design													Sec 14-T1S-R66W - ABND VERT HECKENDORF 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							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				
10,300.00	7,154.00	7,109.00	7,109.00	119.10	142.60	90.00	2,805.13	-4,987.74	1,854.10	1,592.58	261.52	7.090				
10,400.00	7,154.00	7,109.00	7,109.00	121.63	142.60	90.00	2,805.13	-4,987.74	1,865.24	1,601.00	264.24	7.059				
10,500.00	7,154.00	7,109.00	7,109.00	124.17	142.60	90.00	2,805.13	-4,987.74	1,881.63	1,615.03	266.60	7.058 SF				
10,600.00	7,154.00	7,109.00	7,109.00	126.72	142.60	90.00	2,805.13	-4,987.74	1,903.14	1,634.53	268.61	7.085				
10,700.00	7,154.00	7,109.00	7,109.00	129.28	142.60	90.00	2,805.13	-4,987.74	1,929.60	1,659.33	270.28	7.139				
10,800.00	7,154.00	7,109.00	7,109.00	131.84	142.60	90.00	2,805.13	-4,987.74	1,960.81	1,689.21	271.60	7.219				
10,900.00	7,154.00	7,109.00	7,109.00	134.40	142.60	90.00	2,805.13	-4,987.74	1,996.55	1,723.94	272.61	7.324				
11,000.00	7,154.00	7,109.00	7,109.00	136.97	142.60	90.00	2,805.13	-4,987.74	2,036.57	1,763.25	273.32	7.451				
11,100.00	7,154.00	7,109.00	7,109.00	139.55	142.60	90.00	2,805.13	-4,987.74	2,080.64	1,806.87	273.77	7.600				
11,200.00	7,154.00	7,109.00	7,109.00	142.13	142.60	90.00	2,805.13	-4,987.74	2,128.49	1,854.51	273.98	7.769				
11,300.00	7,154.00	7,109.00	7,109.00	144.72	142.60	90.00	2,805.13	-4,987.74	2,179.88	1,905.90	273.98	7.956				
11,400.00	7,154.00	7,109.00	7,109.00	147.30	142.60	90.00	2,805.13	-4,987.74	2,234.57	1,960.77	273.80	8.161				
11,500.00	7,154.00	7,109.00	7,109.00	149.90	142.60	90.00	2,805.13	-4,987.74	2,292.32	2,018.85	273.47	8.382				
11,600.00	7,154.00	7,109.00	7,109.00	152.50	142.60	90.00	2,805.13	-4,987.74	2,352.90	2,079.90	273.01	8.618				
11,700.00	7,154.00	7,109.00	7,109.00	155.10	142.60	90.00	2,805.13	-4,987.74	2,416.11	2,143.67	272.43	8.869				
11,800.00	7,154.00	7,109.00	7,109.00	157.70	142.60	90.00	2,805.13	-4,987.74	2,481.73	2,209.95	271.78	9.132				
11,900.00	7,154.00	7,109.00	7,109.00	160.31	142.60	90.00	2,805.13	-4,987.74	2,549.59	2,278.54	271.05	9.406				
12,000.00	7,154.00	7,109.00	7,109.00	162.92	142.60	90.00	2,805.13	-4,987.74	2,619.51	2,349.25	270.26	9.692				
12,100.00	7,154.00	7,109.00	7,109.00	165.54	142.60	90.00	2,805.13	-4,987.74	2,691.33	2,421.89	269.44	9.989				
12,200.00	7,154.00	7,109.00	7,109.00	168.15	142.60	90.00	2,805.13	-4,987.74	2,764.90	2,496.32	268.58	10.294				
12,300.00	7,154.00	7,109.00	7,109.00	170.77	142.60	90.00	2,805.13	-4,987.74	2,840.09	2,572.38	267.71	10.609				
12,400.00	7,154.00	7,109.00	7,109.00	173.39	142.60	90.00	2,805.13	-4,987.74	2,916.76	2,649.94	266.82	10.932				
12,500.00	7,154.00	7,109.00	7,109.00	176.02	142.60	90.00	2,805.13	-4,987.74	2,994.82	2,728.89	265.93	11.262				
12,600.00	7,154.00	7,109.00	7,109.00	178.65	142.60	90.00	2,805.13	-4,987.74	3,074.14	2,809.11	265.04	11.599				
12,700.00	7,154.00	7,109.00	7,109.00	181.28	142.60	90.00	2,805.13	-4,987.74	3,154.64	2,890.49	264.15	11.943				
12,800.00	7,154.00	7,109.00	7,109.00	183.91	142.60	90.00	2,805.13	-4,987.74	3,236.23	2,972.96	263.27	12.293				
12,900.00	7,154.00	7,109.00	7,109.00	186.54	142.60	90.00	2,805.13	-4,987.74	3,318.83	3,056.43	262.40	12.648				
13,000.00	7,154.00	7,109.00	7,109.00	189.18	142.60	90.00	2,805.13	-4,987.74	3,402.36	3,140.81	261.55	13.009				
13,100.00	7,154.00	7,109.00	7,109.00	191.81	142.60	90.00	2,805.13	-4,987.74	3,486.75	3,226.05	260.71	13.374				
13,200.00	7,154.00	7,109.00	7,109.00	194.45	142.60	90.00	2,805.13	-4,987.74	3,571.96	3,312.07	259.89	13.744				
13,300.00	7,154.00	7,109.00	7,109.00	197.10	142.60	90.00	2,805.13	-4,987.74	3,657.91	3,398.82	259.08	14.119				
13,400.00	7,154.00	7,109.00	7,109.00	199.74	142.60	90.00	2,805.13	-4,987.74	3,744.56	3,486.26	258.30	14.497				
13,500.00	7,154.00	7,109.00	7,109.00	202.38	142.60	90.00	2,805.13	-4,987.74	3,831.86	3,574.32	257.53	14.879				
13,600.00	7,154.00	7,109.00	7,109.00	205.03	142.60	90.00	2,805.13	-4,987.74	3,919.76	3,662.98	256.79	15.265				
13,700.00	7,154.00	7,109.00	7,109.00	207.68	142.60	90.00	2,805.13	-4,987.74	4,008.24	3,752.17	256.06	15.653				
13,800.00	7,154.00	7,109.00	7,109.00	210.33	142.60	90.00	2,805.13	-4,987.74	4,097.24	3,841.88	255.36	16.045				
13,900.00	7,154.00	7,109.00	7,109.00	212.98	142.60	90.00	2,805.13	-4,987.74	4,186.74	3,932.07	254.67	16.440				
14,000.00	7,154.00	7,109.00	7,109.00	215.63	142.60	90.00	2,805.13	-4,987.74	4,276.71	4,022.70	254.01	16.837				
14,100.00	7,154.00	7,109.00	7,109.00	218.28	142.60	90.00	2,805.13	-4,987.74	4,367.11	4,113.75	253.36	17.237				
14,200.00	7,154.00	7,109.00	7,109.00	220.93	142.60	90.00	2,805.13	-4,987.74	4,457.92	4,205.19	252.73	17.639				
14,300.00	7,154.00	7,109.00	7,109.00	223.59	142.60	90.00	2,805.13	-4,987.74	4,549.12	4,297.00	252.12	18.043				
14,400.00	7,154.00	7,109.00	7,109.00	226.25	142.60	90.00	2,805.13	-4,987.74	4,640.68	4,389.15	251.53	18.450				
14,500.00	7,154.00	7,109.00	7,109.00	228.90	142.60	90.00	2,805.13	-4,987.74	4,732.58	4,481.63	250.95	18.858				
14,600.00	7,154.00	7,109.00	7,109.00	231.56	142.60	90.00	2,805.13	-4,987.74	4,824.81	4,574.41	250.40	19.269				
14,700.00	7,154.00	7,109.00	7,109.00	234.22	142.60	90.00	2,805.13	-4,987.74	4,917.33	4,667.48	249.85	19.681				
14,800.00	7,154.00	7,109.00	7,109.00	236.88	142.60	90.00	2,805.13	-4,987.74	5,010.15	4,760.82	249.33	20.094				
14,900.00	7,154.00	7,109.00	7,109.00	239.55	142.60	90.00	2,805.13	-4,987.74	5,103.24	4,854.41	248.82	20.510				
15,000.00	7,154.00	7,109.00	7,109.00	242.21	142.60	90.00	2,805.13	-4,987.74	5,196.58	4,948.25	248.33	20.926				
15,100.00	7,154.00	7,109.00	7,109.00	244.87	142.60	90.00	2,805.13	-4,987.74	5,290.17	5,042.32	247.85	21.344				
15,200.00	7,154.00	7,109.00	7,109.00	247.54	142.60	90.00	2,805.13	-4,987.74	5,383.98	5,136.60	247.38	21.764				
15,300.00	7,154.00	7,109.00	7,109.00	250.20	142.60	90.00	2,805.13	-4,987.74	5,478.02	5,231.09	246.93	22.184				
15,400.00	7,154.00	7,109.00	7,109.00	252.87	142.60	90.00	2,805.13	-4,987.74	5,572.26	5,325.77	246.49	22.606				

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 WARBLER 13W-27-03
Project:	ADAMS COUNTY	TVD Reference:	KB 25' @ 5105.00usft
Reference Site:	Sec 13-T1S-R66W	MD Reference:	KB 25' @ 5105.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	WARBLER 13W-27-03	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT_32Bit_ODBC
Reference Design:	PROPOSAL 1	Offset TVD Reference:	Offset Datum

Offset Design													Sec 14-T1S-R66W - ABND VERT HECKENDORF 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							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					
15,500.00	7,154.00	7,109.00	7,109.00	255.53	142.60	90.00	2,805.13	-4,987.74	5,666.70	5,420.64	246.07	23.029					
15,600.00	7,154.00	7,109.00	7,109.00	258.20	142.60	90.00	2,805.13	-4,987.74	5,761.33	5,515.68	245.66	23.453					
15,700.00	7,154.00	7,109.00	7,109.00	260.87	142.60	90.00	2,805.13	-4,987.74	5,856.14	5,610.89	245.25	23.878					
15,800.00	7,154.00	7,109.00	7,109.00	263.54	142.60	90.00	2,805.13	-4,987.74	5,951.12	5,706.25	244.87	24.304					
15,900.00	7,154.00	7,109.00	7,109.00	266.21	142.60	90.00	2,805.13	-4,987.74	6,046.26	5,801.77	244.49	24.730					
16,000.00	7,154.00	7,109.00	7,109.00	268.88	142.60	90.00	2,805.13	-4,987.74	6,141.55	5,897.43	244.12	25.158					
16,100.00	7,154.00	7,109.00	7,109.00	271.55	142.60	90.00	2,805.13	-4,987.74	6,236.99	5,993.23	243.77	25.586					
16,200.00	7,154.00	7,109.00	7,109.00	274.22	142.60	90.00	2,805.13	-4,987.74	6,332.57	6,089.15	243.42	26.015					
16,300.00	7,154.00	7,109.00	7,109.00	276.90	142.60	90.00	2,805.13	-4,987.74	6,428.29	6,185.21	243.08	26.445					
16,400.00	7,154.00	7,109.00	7,109.00	279.57	142.60	90.00	2,805.13	-4,987.74	6,524.13	6,281.38	242.76	26.875					
16,500.00	7,154.00	7,109.00	7,109.00	282.24	142.60	90.00	2,805.13	-4,987.74	6,620.10	6,377.66	242.44	27.306					
16,600.00	7,154.00	7,109.00	7,109.00	284.92	142.60	90.00	2,805.13	-4,987.74	6,716.19	6,474.05	242.13	27.738					
16,700.00	7,154.00	7,109.00	7,109.00	287.59	142.60	90.00	2,805.13	-4,987.74	6,812.38	6,570.55	241.83	28.170					
16,800.00	7,154.00	7,109.00	7,109.00	290.27	142.60	90.00	2,805.13	-4,987.74	6,908.69	6,667.15	241.54	28.603					
16,900.00	7,154.00	7,109.00	7,109.00	292.94	142.60	90.00	2,805.13	-4,987.74	7,005.10	6,763.84	241.26	29.036					
17,000.00	7,154.00	7,109.00	7,109.00	295.62	142.60	90.00	2,805.13	-4,987.74	7,101.61	6,860.63	240.98	29.469					
17,100.00	7,154.00	7,109.00	7,109.00	298.29	142.60	90.00	2,805.13	-4,987.74	7,198.21	6,957.50	240.72	29.903					
17,200.00	7,154.00	7,109.00	7,109.00	300.97	142.60	90.00	2,805.13	-4,987.74	7,294.91	7,054.45	240.46	30.338					
17,300.00	7,154.00	7,109.00	7,109.00	303.65	142.60	90.00	2,805.13	-4,987.74	7,391.69	7,151.49	240.20	30.773					
17,400.00	7,154.00	7,109.00	7,109.00	306.33	142.60	90.00	2,805.13	-4,987.74	7,488.56	7,248.60	239.96	31.208					
17,500.00	7,154.00	7,109.00	7,109.00	309.01	142.60	90.00	2,805.13	-4,987.74	7,585.51	7,345.79	239.72	31.644					
17,600.00	7,154.00	7,109.00	7,109.00	311.69	142.60	90.00	2,805.13	-4,987.74	7,682.54	7,443.05	239.48	32.080					
17,700.00	7,154.00	7,109.00	7,109.00	314.37	142.60	90.00	2,805.13	-4,987.74	7,779.64	7,540.38	239.26	32.516					
17,800.00	7,154.00	7,109.00	7,109.00	317.05	142.60	90.00	2,805.13	-4,987.74	7,876.81	7,637.78	239.04	32.952					
17,900.00	7,154.00	7,109.00	7,109.00	319.73	142.60	90.00	2,805.13	-4,987.74	7,974.06	7,735.24	238.82	33.389					
18,000.00	7,154.00	7,109.00	7,109.00	322.41	142.60	90.00	2,805.13	-4,987.74	8,071.37	7,832.76	238.61	33.826					
18,100.00	7,154.00	7,109.00	7,109.00	325.09	142.60	90.00	2,805.13	-4,987.74	8,168.75	7,930.34	238.41	34.263					
18,200.00	7,154.00	7,109.00	7,109.00	327.77	142.60	90.00	2,805.13	-4,987.74	8,266.19	8,027.97	238.21	34.701					
18,300.00	7,154.00	7,109.00	7,109.00	330.45	142.60	90.00	2,805.13	-4,987.74	8,363.69	8,125.67	238.02	35.138					
18,400.00	7,154.00	7,109.00	7,109.00	333.13	142.60	90.00	2,805.13	-4,987.74	8,461.25	8,223.41	237.83	35.576					
18,500.00	7,154.00	7,109.00	7,109.00	335.82	142.60	90.00	2,805.13	-4,987.74	8,558.86	8,321.21	237.65	36.014					
18,600.00	7,154.00	7,109.00	7,109.00	338.50	142.60	90.00	2,805.13	-4,987.74	8,656.53	8,419.06	237.48	36.452					
18,700.00	7,154.00	7,109.00	7,109.00	341.18	142.60	90.00	2,805.13	-4,987.74	8,754.26	8,516.95	237.30	36.891					
18,800.00	7,154.00	7,109.00	7,109.00	343.86	142.60	90.00	2,805.13	-4,987.74	8,852.03	8,614.89	237.14	37.329					
18,900.00	7,154.00	7,109.00	7,109.00	346.55	142.60	90.00	2,805.13	-4,987.74	8,949.85	8,712.88	236.97	37.767					
19,000.00	7,154.00	7,109.00	7,109.00	349.23	142.60	90.00	2,805.13	-4,987.74	9,047.72	8,810.91	236.81	38.206					
19,100.00	7,154.00	7,109.00	7,109.00	351.92	142.60	90.00	2,805.13	-4,987.74	9,145.64	8,908.98	236.66	38.645					
19,200.00	7,154.00	7,109.00	7,109.00	354.60	142.60	90.00	2,805.13	-4,987.74	9,243.60	9,007.09	236.51	39.084					
19,300.00	7,154.00	7,109.00	7,109.00	357.29	142.60	90.00	2,805.13	-4,987.74	9,341.60	9,105.24	236.36	39.522					
19,400.00	7,154.00	7,109.00	7,109.00	359.97	142.60	90.00	2,805.13	-4,987.74	9,439.65	9,203.43	236.22	39.961					
19,500.00	7,154.00	7,109.00	7,109.00	362.66	142.60	90.00	2,805.13	-4,987.74	9,537.73	9,301.65	236.08	40.400					
19,600.00	7,154.00	7,109.00	7,109.00	365.34	142.60	90.00	2,805.13	-4,987.74	9,635.86	9,399.91	235.95	40.839					
19,700.00	7,154.00	7,109.00	7,109.00	368.03	142.60	90.00	2,805.13	-4,987.74	9,734.02	9,498.21	235.81	41.278					
19,800.00	7,154.00	7,109.00	7,109.00	370.72	142.60	90.00	2,805.13	-4,987.74	9,832.22	9,596.54	235.69	41.717					
19,900.00	7,154.00	7,109.00	7,109.00	373.40	142.60	90.00	2,805.13	-4,987.74	9,930.46	9,694.90	235.56	42.156					

Anticollision Report

Company:	EXTRACTION OIL & GAS	Local Co-ordinate Reference:	Well Warbler 13W-27-03
Project:	ADAMS COUNTY	TVD Reference:	KB 25' @ 5105.00usft
Reference Site:	Sec 13-T1S-R66W	MD Reference:	KB 25' @ 5105.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	Warbler 13W-27-03	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT_32Bit_ODBC
Reference Design:	PROPOSAL 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-INC													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		
0.00	0.00	0.00	0.00	0.00	0.00	-93.61	-499.26	-7,916.69	7,932.52					
100.00	100.00	59.00	59.00	0.13	0.71	-93.61	-499.26	-7,916.69	7,932.41	7,931.57	0.84	9,427.882		
200.00	200.00	159.00	159.00	0.49	2.55	-93.61	-499.26	-7,916.69	7,932.41	7,929.37	3.04	2,607.618		
300.00	300.00	259.00	259.00	0.85	4.71	-93.61	-499.26	-7,916.69	7,932.41	7,926.85	5.57	1,425.295		
400.00	400.00	359.00	359.00	1.21	6.77	-93.61	-499.26	-7,916.69	7,932.41	7,924.43	7.98	993.921		
500.00	500.00	459.00	459.00	1.57	8.81	-93.61	-499.26	-7,916.69	7,932.41	7,922.04	10.37	764.656		
600.00	600.00	559.00	559.00	1.93	10.83	-93.61	-499.26	-7,916.69	7,932.41	7,919.66	12.76	621.776		
700.00	699.98	658.98	658.98	2.28	12.85	-25.03	-499.26	-7,916.69	7,930.83	7,915.70	15.13	524.131		
800.00	799.84	758.84	758.84	2.63	14.87	-25.09	-499.26	-7,916.69	7,926.09	7,908.59	17.50	452.948		
900.00	899.45	858.45	858.45	3.00	16.87	-25.18	-499.26	-7,916.69	7,918.19	7,898.33	19.86	398.631		
1,000.00	998.70	957.70	957.70	3.37	18.87	-25.32	-499.26	-7,916.69	7,907.16	7,884.93	22.22	355.803		
1,100.00	1,097.47	1,056.47	1,056.47	3.77	20.86	-25.49	-499.26	-7,916.69	7,892.99	7,868.42	24.58	321.145		
1,200.00	1,195.62	1,154.62	1,154.62	4.19	22.84	-25.70	-499.26	-7,916.69	7,875.73	7,848.80	26.93	292.504		
1,300.00	1,293.06	1,252.06	1,252.06	4.64	24.80	-25.95	-499.26	-7,916.69	7,855.38	7,826.12	29.27	268.420		
1,400.00	1,389.64	1,348.64	1,348.64	5.12	26.75	-26.24	-499.26	-7,916.69	7,831.99	7,800.39	31.60	247.869		
1,500.00	1,485.27	1,444.27	1,444.27	5.66	28.67	-26.58	-499.26	-7,916.69	7,805.58	7,771.66	33.92	230.112		
1,600.00	1,579.82	1,538.82	1,538.82	6.24	30.57	-26.97	-499.26	-7,916.69	7,776.19	7,739.96	36.24	214.602		
1,700.00	1,673.17	1,632.17	1,632.17	6.88	32.45	-27.40	-499.26	-7,916.69	7,743.88	7,705.34	38.54	200.928		
1,800.00	1,765.22	1,724.22	1,724.22	7.57	34.31	-27.84	-499.26	-7,916.69	7,708.70	7,667.86	40.84	188.755		
1,900.00	1,856.73	1,815.73	1,815.73	8.31	36.15	-27.98	-499.26	-7,916.69	7,672.41	7,629.28	43.13	177.887		
2,000.00	1,948.24	1,907.24	1,907.24	9.06	37.99	-28.12	-499.26	-7,916.69	7,636.16	7,590.73	45.43	168.074		
2,100.00	2,039.75	2,001.25	1,998.75	9.83	39.88	-28.26	-499.26	-7,916.69	7,599.96	7,552.16	47.80	159.009		
2,200.00	2,131.26	2,109.74	2,090.26	10.61	42.06	-28.40	-499.26	-7,916.69	7,563.79	7,513.34	50.46	149.902		
2,300.00	2,222.77	2,181.77	2,181.77	11.40	43.51	-28.54	-499.26	-7,916.69	7,527.67	7,475.28	52.39	143.672		
2,400.00	2,314.28	2,273.28	2,273.28	12.20	45.35	-28.69	-499.26	-7,916.69	7,491.59	7,436.86	54.73	136.883		
2,500.00	2,405.79	2,364.79	2,364.79	13.00	47.19	-28.83	-499.26	-7,916.69	7,455.56	7,398.49	57.07	130.636		
2,600.00	2,497.30	2,456.30	2,456.30	13.81	49.03	-28.98	-499.26	-7,916.69	7,419.57	7,360.15	59.42	124.871		
2,700.00	2,588.81	2,547.81	2,547.81	14.62	50.87	-29.13	-499.26	-7,916.69	7,383.62	7,321.85	61.77	119.534		
2,800.00	2,680.31	2,639.31	2,639.31	15.44	52.71	-29.28	-499.26	-7,916.69	7,347.72	7,283.59	64.13	114.581		
2,900.00	2,771.82	2,730.82	2,730.82	16.25	54.55	-29.43	-499.26	-7,916.69	7,311.86	7,245.38	66.49	109.973		
3,000.00	2,863.33	2,822.33	2,822.33	17.08	56.39	-29.58	-499.26	-7,916.69	7,276.06	7,207.20	68.85	105.675		
3,100.00	2,954.84	2,913.84	2,913.84	17.90	58.24	-29.74	-499.26	-7,916.69	7,240.30	7,169.07	71.22	101.657		
3,200.00	3,046.35	3,005.35	3,005.35	18.72	60.08	-29.89	-499.26	-7,916.69	7,204.58	7,130.99	73.60	97.894		
3,300.00	3,137.86	3,103.14	3,096.86	19.55	62.04	-30.05	-499.26	-7,916.69	7,168.92	7,092.82	76.10	94.205		
3,400.00	3,229.37	3,188.37	3,188.37	20.38	63.76	-30.21	-499.26	-7,916.69	7,133.31	7,054.95	78.35	91.039		
3,500.00	3,320.88	3,279.88	3,279.88	21.21	65.60	-30.37	-499.26	-7,916.69	7,097.74	7,017.00	80.74	87.910		
3,600.00	3,412.39	3,371.39	3,371.39	22.04	67.44	-30.53	-499.26	-7,916.69	7,062.23	6,979.10	83.13	84.958		
3,700.00	3,503.90	3,462.90	3,462.90	22.87	69.28	-30.69	-499.26	-7,916.69	7,026.77	6,941.25	85.52	82.168		
3,800.00	3,595.41	3,554.41	3,554.41	23.70	71.12	-30.86	-499.26	-7,916.69	6,991.36	6,903.45	87.91	79.527		
3,900.00	3,686.91	3,645.91	3,645.91	24.54	72.96	-31.03	-499.26	-7,916.69	6,956.01	6,865.70	90.31	77.024		
4,000.00	3,778.42	3,737.42	3,737.42	25.37	74.80	-31.19	-499.26	-7,916.69	6,920.71	6,828.00	92.71	74.648		
4,100.00	3,869.93	3,828.93	3,828.93	26.20	76.64	-31.36	-499.26	-7,916.69	6,885.46	6,790.35	95.12	72.390		
4,200.00	3,961.44	3,920.44	3,920.44	27.04	78.48	-31.54	-499.26	-7,916.69	6,850.28	6,752.75	97.52	70.242		
4,300.00	4,052.95	4,011.95	4,011.95	27.88	80.32	-31.71	-499.26	-7,916.69	6,815.14	6,715.21	99.94	68.195		
4,400.00	4,144.46	4,103.46	4,103.46	28.71	82.16	-31.88	-499.26	-7,916.69	6,780.07	6,677.72	102.35	66.244		
4,500.00	4,235.97	4,205.03	4,194.97	29.55	84.20	-32.06	-499.26	-7,916.69	6,745.06	6,640.09	104.97	64.257		
4,600.00	4,327.48	4,286.48	4,286.48	30.39	85.84	-32.24	-499.26	-7,916.69	6,710.10	6,602.91	107.19	62.600		
4,700.00	4,418.99	4,377.99	4,377.99	31.22	87.68	-32.42	-499.26	-7,916.69	6,675.21	6,565.59	109.61	60.897		
4,800.00	4,510.50	4,469.50	4,469.50	32.06	89.52	-32.60	-499.26	-7,916.69	6,640.37	6,528.33	112.04	59.267		
4,900.00	4,602.01	4,561.01	4,561.01	32.90	91.36	-32.79	-499.26	-7,916.69	6,605.60	6,491.13	114.47	57.704		
5,000.00	4,693.51	4,652.51	4,652.51	33.74	93.20	-32.97	-499.26	-7,916.69	6,570.89	6,453.98	116.91	56.205		
5,100.00	4,785.02	4,744.02	4,744.02	34.58	95.04	-33.16	-499.26	-7,916.69	6,536.25	6,416.90	119.35	54.767		

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 WARBLER 13W-27-03
Project:	ADAMS COUNTY	TVD Reference:	KB 25' @ 5105.00usft
Reference Site:	Sec 13-T1S-R66W	MD Reference:	KB 25' @ 5105.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	WARBLER 13W-27-03	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT_32Bit_ODBC
Reference Design:	PROPOSAL 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-INC													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		
5,200.00	4,876.53	4,835.53	4,835.53	35.42	96.88	-33.35	-499.26	-7,916.69	6,501.67	6,379.88	121.79	53.384		
5,300.00	4,968.04	4,927.04	4,927.04	36.26	98.72	-33.54	-499.26	-7,916.69	6,467.16	6,342.93	124.24	52.056		
5,400.00	5,059.55	5,018.55	5,018.55	37.10	100.56	-33.73	-499.26	-7,916.69	6,432.72	6,306.03	126.68	50.778		
5,500.00	5,151.06	5,110.06	5,110.06	37.94	102.40	-33.93	-499.26	-7,916.69	6,398.34	6,269.21	129.14	49.547		
5,600.00	5,242.57	5,201.57	5,201.57	38.78	104.25	-34.13	-499.26	-7,916.69	6,364.04	6,232.45	131.59	48.361		
5,700.00	5,334.08	5,306.92	5,293.08	39.62	106.36	-34.33	-499.26	-7,916.69	6,329.81	6,195.47	134.33	47.121		
5,800.00	5,425.59	5,384.59	5,384.59	40.46	107.93	-34.53	-499.26	-7,916.69	6,295.64	6,159.13	136.52	46.116		
5,900.00	5,517.10	5,476.10	5,476.10	41.30	109.77	-34.73	-499.26	-7,916.69	6,261.56	6,122.57	138.99	45.052		
6,000.00	5,608.61	5,567.61	5,567.61	42.14	111.61	-34.94	-499.26	-7,916.69	6,227.54	6,086.09	141.46	44.024		
6,100.00	5,700.12	5,659.12	5,659.12	42.98	113.45	-35.14	-499.26	-7,916.69	6,193.61	6,049.67	143.93	43.031		
6,200.00	5,791.62	5,750.62	5,750.62	43.82	115.29	-35.35	-499.26	-7,916.69	6,159.74	6,013.33	146.41	42.071		
6,300.00	5,883.13	5,842.13	5,842.13	44.66	117.13	-35.57	-499.26	-7,916.69	6,125.96	5,977.07	148.90	41.143		
6,400.00	5,974.64	5,933.64	5,933.64	45.50	118.97	-35.78	-499.26	-7,916.69	6,092.26	5,940.88	151.38	40.244		
6,500.00	6,066.15	6,025.15	6,025.15	46.35	120.81	-36.00	-499.26	-7,916.69	6,058.64	5,904.76	153.87	39.374		
6,600.00	6,157.66	6,116.66	6,116.66	47.19	122.65	-36.22	-499.26	-7,916.69	6,025.10	5,868.73	156.37	38.531		
6,700.00	6,249.17	6,208.17	6,208.17	48.03	124.49	-36.44	-499.26	-7,916.69	5,991.64	5,832.77	158.87	37.714		
6,800.00	6,340.68	6,300.32	6,299.68	48.87	126.34	-36.66	-499.26	-7,916.69	5,958.27	5,796.88	161.39	36.919		
6,900.00	6,432.19	6,408.81	6,391.19	49.71	128.52	-36.89	-499.26	-7,916.69	5,924.98	5,760.75	164.24	36.075		
7,000.00	6,523.70	6,482.70	6,482.70	50.55	130.01	-37.12	-499.26	-7,916.69	5,891.79	5,725.39	166.40	35.408		
7,100.00	6,615.21	6,574.21	6,574.21	51.40	131.85	-37.35	-499.26	-7,916.69	5,858.68	5,689.76	168.92	34.684		
7,200.00	6,706.72	6,665.72	6,665.72	52.24	133.69	-37.58	-499.26	-7,916.69	5,825.66	5,654.23	171.44	33.981		
7,300.00	6,798.22	6,757.22	6,757.22	53.08	135.53	-37.81	-499.26	-7,916.69	5,792.74	5,618.78	173.96	33.298		
7,400.00	6,886.25	6,845.25	6,845.25	54.07	137.30	-33.01	-499.26	-7,916.69	5,752.54	5,576.07	176.47	32.598		
7,500.00	6,965.23	6,924.23	6,924.23	55.35	138.89	-31.85	-499.26	-7,916.69	5,697.76	5,518.89	178.87	31.854		
7,600.00	7,032.75	7,008.25	6,991.75	56.90	140.58	-33.38	-499.26	-7,916.69	5,630.09	5,448.68	181.41	31.035		
7,700.00	7,086.77	7,045.77	7,045.77	58.68	141.33	-37.90	-499.26	-7,916.69	5,551.61	5,368.58	183.03	30.332		
7,800.00	7,125.64	7,084.64	7,084.64	60.64	142.11	-47.16	-499.26	-7,916.69	5,464.70	5,280.07	184.64	29.597		
7,900.00	7,148.19	7,107.19	7,107.19	62.69	142.57	-65.29	-499.26	-7,916.69	5,372.02	5,186.15	185.87	28.903		
8,000.00	7,154.00	7,113.00	7,113.00	64.75	142.68	-90.00	-499.26	-7,916.69	5,276.37	5,089.69	186.68	28.264		
8,100.00	7,154.00	7,113.00	7,113.00	66.83	142.68	-90.00	-499.26	-7,916.69	5,180.33	4,992.96	187.37	27.648		
8,200.00	7,154.00	7,113.00	7,113.00	68.96	142.68	-90.00	-499.26	-7,916.69	5,084.45	4,896.36	188.09	27.032		
8,300.00	7,154.00	7,113.00	7,113.00	71.12	142.68	-90.00	-499.26	-7,916.69	4,988.73	4,799.87	188.86	26.415		
8,400.00	7,154.00	7,113.00	7,113.00	73.32	142.68	-90.00	-499.26	-7,916.69	4,893.18	4,703.52	189.66	25.799		
8,500.00	7,154.00	7,113.00	7,113.00	75.55	142.68	-90.00	-499.26	-7,916.69	4,797.81	4,607.30	190.51	25.184		
8,600.00	7,154.00	7,113.00	7,113.00	77.81	142.68	-90.00	-499.26	-7,916.69	4,702.64	4,511.23	191.41	24.569		
8,700.00	7,154.00	7,113.00	7,113.00	80.10	142.68	-90.00	-499.26	-7,916.69	4,607.67	4,415.32	192.35	23.954		
8,800.00	7,154.00	7,113.00	7,113.00	82.41	142.68	-90.00	-499.26	-7,916.69	4,512.92	4,319.57	193.35	23.341		
8,900.00	7,154.00	7,113.00	7,113.00	84.75	142.68	-90.00	-499.26	-7,916.69	4,418.39	4,223.99	194.40	22.728		
9,000.00	7,154.00	7,113.00	7,113.00	87.11	142.68	-90.00	-499.26	-7,916.69	4,324.12	4,128.61	195.51	22.117		
9,100.00	7,154.00	7,113.00	7,113.00	89.48	142.68	-90.00	-499.26	-7,916.69	4,230.11	4,033.42	196.68	21.507		
9,200.00	7,154.00	7,113.00	7,113.00	91.88	142.68	-90.00	-499.26	-7,916.69	4,136.38	3,938.46	197.92	20.899		
9,300.00	7,154.00	7,113.00	7,113.00	94.29	142.68	-90.00	-499.26	-7,916.69	4,042.94	3,843.72	199.23	20.293		
9,400.00	7,154.00	7,113.00	7,113.00	96.72	142.68	-90.00	-499.26	-7,916.69	3,949.84	3,749.23	200.61	19.689		
9,500.00	7,154.00	7,113.00	7,113.00	99.16	142.68	-90.00	-499.26	-7,916.69	3,857.07	3,655.00	202.07	19.088		
9,600.00	7,154.00	7,113.00	7,113.00	101.61	142.68	-90.00	-499.26	-7,916.69	3,764.68	3,561.07	203.61	18.490		
9,700.00	7,154.00	7,113.00	7,113.00	104.08	142.68	-90.00	-499.26	-7,916.69	3,672.68	3,467.44	205.24	17.895		
9,800.00	7,154.00	7,113.00	7,113.00	106.56	142.68	-90.00	-499.26	-7,916.69	3,581.12	3,374.15	206.96	17.303		
9,900.00	7,154.00	7,113.00	7,113.00	109.05	142.68	-90.00	-499.26	-7,916.69	3,490.01	3,281.22	208.79	16.715		
10,000.00	7,154.00	7,113.00	7,113.00	111.55	142.68	-90.00	-499.26	-7,916.69	3,399.41	3,188.69	210.72	16.132		
10,100.00	7,154.00	7,113.00	7,113.00	114.06	142.68	-90.00	-499.26	-7,916.69	3,309.35	3,096.58	212.77	15.554		
10,200.00	7,154.00	7,113.00	7,113.00	116.57	142.68	-90.00	-499.26	-7,916.69	3,219.87	3,004.94	214.93	14.981		
10,300.00	7,154.00	7,113.00	7,113.00	119.10	142.68	-90.00	-499.26	-7,916.69	3,131.04	2,913.80	217.23	14.413		

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 Warbler 13W-27-03
Project:	ADAMS COUNTY	TVD Reference:	KB 25' @ 5105.00usft
Reference Site:	Sec 13-T1S-R66W	MD Reference:	KB 25' @ 5105.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	Warbler 13W-27-03	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT_32Bit_ODBC
Reference Design:	PROPOSAL 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-INC													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		
10,400.00	7,154.00	7,113.00	7,113.00	121.63	142.68	-90.00	-499.26	-7,916.69	3,042.89	2,823.23	219.66	13.853		
10,500.00	7,154.00	7,113.00	7,113.00	124.17	142.68	-90.00	-499.26	-7,916.69	2,955.50	2,733.26	222.24	13.299		
10,600.00	7,154.00	7,113.00	7,113.00	126.72	142.68	-90.00	-499.26	-7,916.69	2,868.93	2,643.96	224.98	12.752		
10,700.00	7,154.00	7,113.00	7,113.00	129.28	142.68	-90.00	-499.26	-7,916.69	2,783.27	2,555.39	227.88	12.214		
10,800.00	7,154.00	7,113.00	7,113.00	131.84	142.68	-90.00	-499.26	-7,916.69	2,698.59	2,467.64	230.95	11.685		
10,900.00	7,154.00	7,113.00	7,113.00	134.40	142.68	-90.00	-499.26	-7,916.69	2,614.99	2,380.78	234.21	11.165		
11,000.00	7,154.00	7,113.00	7,113.00	136.97	142.68	-90.00	-499.26	-7,916.69	2,532.58	2,294.92	237.66	10.656		
11,100.00	7,154.00	7,113.00	7,113.00	139.55	142.68	-90.00	-499.26	-7,916.69	2,451.48	2,210.17	241.31	10.159		
11,200.00	7,154.00	7,113.00	7,113.00	142.13	142.68	-90.00	-499.26	-7,916.69	2,371.83	2,126.65	245.18	9.674		
11,300.00	7,154.00	7,113.00	7,113.00	144.72	142.68	-90.00	-499.26	-7,916.69	2,293.77	2,044.50	249.27	9.202		
11,400.00	7,154.00	7,113.00	7,113.00	147.30	142.68	-90.00	-499.26	-7,916.69	2,217.47	1,963.89	253.58	8.745		
11,500.00	7,154.00	7,113.00	7,113.00	149.90	142.68	-90.00	-499.26	-7,916.69	2,143.12	1,885.00	258.12	8.303		
11,600.00	7,154.00	7,113.00	7,113.00	152.50	142.68	-90.00	-499.26	-7,916.69	2,070.93	1,808.04	262.89	7.878		
11,700.00	7,154.00	7,113.00	7,113.00	155.10	142.68	-90.00	-499.26	-7,916.69	2,001.14	1,733.26	267.88	7.470		
11,800.00	7,154.00	7,113.00	7,113.00	157.70	142.68	-90.00	-499.26	-7,916.69	1,934.00	1,660.92	273.07	7.082		
11,900.00	7,154.00	7,113.00	7,113.00	160.31	142.68	-90.00	-499.26	-7,916.69	1,869.80	1,591.34	278.46	6.715		
12,000.00	7,154.00	7,113.00	7,113.00	162.92	142.68	-90.00	-499.26	-7,916.69	1,808.85	1,524.84	284.01	6.369		
12,100.00	7,154.00	7,113.00	7,113.00	165.54	142.68	-90.00	-499.26	-7,916.69	1,751.50	1,461.83	289.67	6.047		
12,200.00	7,154.00	7,113.00	7,113.00	168.15	142.68	-90.00	-499.26	-7,916.69	1,698.10	1,402.72	295.38	5.749		
12,300.00	7,154.00	7,113.00	7,113.00	170.77	142.68	-90.00	-499.26	-7,916.69	1,649.04	1,347.96	301.08	5.477		
12,400.00	7,154.00	7,113.00	7,113.00	173.39	142.68	-90.00	-499.26	-7,916.69	1,604.72	1,298.05	306.68	5.233		
12,500.00	7,154.00	7,113.00	7,113.00	176.02	142.68	-90.00	-499.26	-7,916.69	1,565.55	1,253.48	312.06	5.017		
12,600.00	7,154.00	7,113.00	7,113.00	178.65	142.68	-90.00	-499.26	-7,916.69	1,531.90	1,214.78	317.12	4.831		
12,700.00	7,154.00	7,113.00	7,113.00	181.28	142.68	-90.00	-499.26	-7,916.69	1,504.17	1,182.43	321.74	4.675		
12,800.00	7,154.00	7,113.00	7,113.00	183.91	142.68	-90.00	-499.26	-7,916.69	1,482.67	1,156.89	325.78	4.551		
12,900.00	7,154.00	7,113.00	7,113.00	186.54	142.68	-90.00	-499.26	-7,916.69	1,467.69	1,138.55	329.15	4.459		
13,000.00	7,154.00	7,113.00	7,113.00	189.18	142.68	-90.00	-499.26	-7,916.69	1,459.42	1,127.69	331.74	4.399		
13,071.01	7,154.00	7,113.00	7,113.00	191.05	142.68	-90.00	-499.26	-7,916.69	1,457.70	1,124.63	333.07	4.377	CC	
13,100.00	7,154.00	7,113.00	7,113.00	191.81	142.68	-90.00	-499.26	-7,916.69	1,457.98	1,124.49	333.49	4.372	ES, SF	
13,200.00	7,154.00	7,113.00	7,113.00	194.45	142.68	-90.00	-499.26	-7,916.69	1,463.39	1,129.02	334.38	4.376		
13,300.00	7,154.00	7,113.00	7,113.00	197.10	142.68	-90.00	-499.26	-7,916.69	1,475.57	1,141.17	334.40	4.413		
13,400.00	7,154.00	7,113.00	7,113.00	199.74	142.68	-90.00	-499.26	-7,916.69	1,494.36	1,160.75	333.61	4.479		
13,500.00	7,154.00	7,113.00	7,113.00	202.38	142.68	-90.00	-499.26	-7,916.69	1,519.51	1,187.45	332.06	4.576		
13,600.00	7,154.00	7,113.00	7,113.00	205.03	142.68	-90.00	-499.26	-7,916.69	1,550.71	1,220.85	329.86	4.701		
13,700.00	7,154.00	7,113.00	7,113.00	207.68	142.68	-90.00	-499.26	-7,916.69	1,587.61	1,260.50	327.11	4.853		
13,800.00	7,154.00	7,113.00	7,113.00	210.33	142.68	-90.00	-499.26	-7,916.69	1,629.82	1,305.90	323.92	5.032		
13,900.00	7,154.00	7,113.00	7,113.00	212.98	142.68	-90.00	-499.26	-7,916.69	1,676.93	1,356.55	320.39	5.234		
14,000.00	7,154.00	7,113.00	7,113.00	215.63	142.68	-90.00	-499.26	-7,916.69	1,728.55	1,411.94	316.62	5.459		
14,100.00	7,154.00	7,113.00	7,113.00	218.28	142.68	-90.00	-499.26	-7,916.69	1,784.29	1,471.60	312.69	5.706		
14,200.00	7,154.00	7,113.00	7,113.00	220.93	142.68	-90.00	-499.26	-7,916.69	1,843.77	1,535.08	308.69	5.973		
14,300.00	7,154.00	7,113.00	7,113.00	223.59	142.68	-90.00	-499.26	-7,916.69	1,906.64	1,601.97	304.67	6.258		
14,400.00	7,154.00	7,113.00	7,113.00	226.25	142.68	-90.00	-499.26	-7,916.69	1,972.58	1,671.91	300.68	6.560		
14,500.00	7,154.00	7,113.00	7,113.00	228.90	142.68	-90.00	-499.26	-7,916.69	2,041.30	1,744.54	296.75	6.879		
14,600.00	7,154.00	7,113.00	7,113.00	231.56	142.68	-90.00	-499.26	-7,916.69	2,112.51	1,819.58	292.92	7.212		
14,700.00	7,154.00	7,113.00	7,113.00	234.22	142.68	-90.00	-499.26	-7,916.69	2,185.97	1,896.77	289.21	7.558		
14,800.00	7,154.00	7,113.00	7,113.00	236.88	142.68	-90.00	-499.26	-7,916.69	2,261.48	1,975.86	285.62	7.918		
14,900.00	7,154.00	7,113.00	7,113.00	239.55	142.68	-90.00	-499.26	-7,916.69	2,338.82	2,056.65	282.17	8.289		
15,000.00	7,154.00	7,113.00	7,113.00	242.21	142.68	-90.00	-499.26	-7,916.69	2,417.82	2,138.96	278.86	8.670		
15,100.00	7,154.00	7,113.00	7,113.00	244.87	142.68	-90.00	-499.26	-7,916.69	2,498.33	2,222.64	275.70	9.062		
15,200.00	7,154.00	7,113.00	7,113.00	247.54	142.68	-90.00	-499.26	-7,916.69	2,580.21	2,307.54	272.67	9.463		
15,300.00	7,154.00	7,113.00	7,113.00	250.20	142.68	-90.00	-499.26	-7,916.69	2,663.32	2,393.53	269.79	9.872		
15,400.00	7,154.00	7,113.00	7,113.00	252.87	142.68	-90.00	-499.26	-7,916.69	2,747.56	2,480.52	267.04	10.289		

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 WARBLER 13W-27-03
Project:	ADAMS COUNTY	TVD Reference:	KB 25' @ 5105.00usft
Reference Site:	Sec 13-T1S-R66W	MD Reference:	KB 25' @ 5105.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	WARBLER 13W-27-03	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT_32Bit_ODBC
Reference Design:	PROPOSAL 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-INC													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		
15,500.00	7,154.00	7,113.00	7,113.00	255.53	142.68	-90.00	-499.26	-7,916.69	2,832.82	2,568.40	264.42	10.713		
15,600.00	7,154.00	7,113.00	7,113.00	258.20	142.68	-90.00	-499.26	-7,916.69	2,919.02	2,657.09	261.93	11.144		
15,700.00	7,154.00	7,113.00	7,113.00	260.87	142.68	-90.00	-499.26	-7,916.69	3,006.07	2,746.52	259.55	11.582		
15,800.00	7,154.00	7,113.00	7,113.00	263.54	142.68	-90.00	-499.26	-7,916.69	3,093.91	2,836.61	257.30	12.025		
15,900.00	7,154.00	7,113.00	7,113.00	266.21	142.68	-90.00	-499.26	-7,916.69	3,182.46	2,927.31	255.15	12.473		
16,000.00	7,154.00	7,113.00	7,113.00	268.88	142.68	-90.00	-499.26	-7,916.69	3,271.67	3,018.57	253.10	12.926		
16,100.00	7,154.00	7,113.00	7,113.00	271.55	142.68	-90.00	-499.26	-7,916.69	3,361.50	3,110.34	251.15	13.384		
16,200.00	7,154.00	7,113.00	7,113.00	274.22	142.68	-90.00	-499.26	-7,916.69	3,451.88	3,202.58	249.30	13.846		
16,300.00	7,154.00	7,113.00	7,113.00	276.90	142.68	-90.00	-499.26	-7,916.69	3,542.77	3,295.24	247.53	14.312		
16,400.00	7,154.00	7,113.00	7,113.00	279.57	142.68	-90.00	-499.26	-7,916.69	3,634.15	3,388.30	245.85	14.782		
16,500.00	7,154.00	7,113.00	7,113.00	282.24	142.68	-90.00	-499.26	-7,916.69	3,725.97	3,481.72	244.24	15.255		
16,600.00	7,154.00	7,113.00	7,113.00	284.92	142.68	-90.00	-499.26	-7,916.69	3,818.20	3,575.49	242.71	15.731		
16,700.00	7,154.00	7,113.00	7,113.00	287.59	142.68	-90.00	-499.26	-7,916.69	3,910.81	3,669.56	241.25	16.211		
16,800.00	7,154.00	7,113.00	7,113.00	290.27	142.68	-90.00	-499.26	-7,916.69	4,003.78	3,763.92	239.86	16.692		
16,900.00	7,154.00	7,113.00	7,113.00	292.94	142.68	-90.00	-499.26	-7,916.69	4,097.08	3,858.55	238.52	17.177		
17,000.00	7,154.00	7,113.00	7,113.00	295.62	142.68	-90.00	-499.26	-7,916.69	4,190.68	3,953.43	237.25	17.664		
17,100.00	7,154.00	7,113.00	7,113.00	298.29	142.68	-90.00	-499.26	-7,916.69	4,284.58	4,048.55	236.03	18.153		
17,200.00	7,154.00	7,113.00	7,113.00	300.97	142.68	-90.00	-499.26	-7,916.69	4,378.75	4,143.88	234.87	18.643		
17,300.00	7,154.00	7,113.00	7,113.00	303.65	142.68	-90.00	-499.26	-7,916.69	4,473.17	4,239.41	233.75	19.136		
17,400.00	7,154.00	7,113.00	7,113.00	306.33	142.68	-90.00	-499.26	-7,916.69	4,567.82	4,335.14	232.69	19.631		
17,500.00	7,154.00	7,113.00	7,113.00	309.01	142.68	-90.00	-499.26	-7,916.69	4,662.71	4,431.04	231.66	20.127		
17,600.00	7,154.00	7,113.00	7,113.00	311.69	142.68	-90.00	-499.26	-7,916.69	4,757.80	4,527.11	230.68	20.625		
17,700.00	7,154.00	7,113.00	7,113.00	314.37	142.68	-90.00	-499.26	-7,916.69	4,853.08	4,623.34	229.75	21.124		
17,800.00	7,154.00	7,113.00	7,113.00	317.05	142.68	-90.00	-499.26	-7,916.69	4,948.56	4,719.71	228.84	21.624		
17,900.00	7,154.00	7,113.00	7,113.00	319.73	142.68	-90.00	-499.26	-7,916.69	5,044.21	4,816.23	227.98	22.126		
18,000.00	7,154.00	7,113.00	7,113.00	322.41	142.68	-90.00	-499.26	-7,916.69	5,140.02	4,912.87	227.15	22.628		
18,100.00	7,154.00	7,113.00	7,113.00	325.09	142.68	-90.00	-499.26	-7,916.69	5,235.99	5,009.64	226.35	23.132		
18,200.00	7,154.00	7,113.00	7,113.00	327.77	142.68	-90.00	-499.26	-7,916.69	5,332.11	5,106.52	225.59	23.636		
18,300.00	7,154.00	7,113.00	7,113.00	330.45	142.68	-90.00	-499.26	-7,916.69	5,428.37	5,203.52	224.85	24.142		
18,400.00	7,154.00	7,113.00	7,113.00	333.13	142.68	-90.00	-499.26	-7,916.69	5,524.76	5,300.62	224.15	24.648		
18,500.00	7,154.00	7,113.00	7,113.00	335.82	142.68	-90.00	-499.26	-7,916.69	5,621.28	5,397.81	223.47	25.155		
18,600.00	7,154.00	7,113.00	7,113.00	338.50	142.68	-90.00	-499.26	-7,916.69	5,717.92	5,495.11	222.81	25.662		
18,700.00	7,154.00	7,113.00	7,113.00	341.18	142.68	-90.00	-499.26	-7,916.69	5,814.67	5,592.49	222.18	26.171		
18,800.00	7,154.00	7,113.00	7,113.00	343.86	142.68	-90.00	-499.26	-7,916.69	5,911.53	5,689.95	221.58	26.679		
18,900.00	7,154.00	7,113.00	7,113.00	346.55	142.68	-90.00	-499.26	-7,916.69	6,008.49	5,787.50	220.99	27.188		
19,000.00	7,154.00	7,113.00	7,113.00	349.23	142.68	-90.00	-499.26	-7,916.69	6,105.55	5,885.12	220.43	27.698		
19,100.00	7,154.00	7,113.00	7,113.00	351.92	142.68	-90.00	-499.26	-7,916.69	6,202.71	5,982.82	219.89	28.208		
19,200.00	7,154.00	7,113.00	7,113.00	354.60	142.68	-90.00	-499.26	-7,916.69	6,299.95	6,080.58	219.37	28.718		
19,300.00	7,154.00	7,113.00	7,113.00	357.29	142.68	-90.00	-499.26	-7,916.69	6,397.28	6,178.41	218.87	29.229		
19,400.00	7,154.00	7,113.00	7,113.00	359.97	142.68	-90.00	-499.26	-7,916.69	6,494.69	6,276.31	218.38	29.740		
19,500.00	7,154.00	7,113.00	7,113.00	362.66	142.68	-90.00	-499.26	-7,916.69	6,592.18	6,374.26	217.91	30.251		
19,600.00	7,154.00	7,113.00	7,113.00	365.34	142.68	-90.00	-499.26	-7,916.69	6,689.74	6,472.27	217.46	30.762		
19,700.00	7,154.00	7,113.00	7,113.00	368.03	142.68	-90.00	-499.26	-7,916.69	6,787.37	6,570.34	217.03	31.274		
19,800.00	7,154.00	7,113.00	7,113.00	370.72	142.68	-90.00	-499.26	-7,916.69	6,885.07	6,668.46	216.61	31.786		
19,900.00	7,154.00	7,113.00	7,113.00	373.40	142.68	-90.00	-499.26	-7,916.69	6,982.83	6,766.63	216.20	32.297		
20,000.00	7,154.00	7,113.00	7,113.00	376.09	142.68	-90.00	-499.26	-7,916.69	7,080.66	6,864.85	215.81	32.809		
20,100.00	7,154.00	7,113.00	7,113.00	378.78	142.68	-90.00	-499.26	-7,916.69	7,178.55	6,963.11	215.44	33.321		
20,200.00	7,154.00	7,113.00	7,113.00	381.46	142.68	-90.00	-499.26	-7,916.69	7,276.49	7,061.42	215.07	33.833		
20,300.00	7,154.00	7,113.00	7,113.00	384.15	142.68	-90.00	-499.26	-7,916.69	7,374.49	7,159.77	214.72	34.344		
20,400.00	7,154.00	7,113.00	7,113.00	386.84	142.68	-90.00	-499.26	-7,916.69	7,472.55	7,258.16	214.38	34.856		
20,500.00	7,154.00	7,113.00	7,113.00	389.53	142.68	-90.00	-499.26	-7,916.69	7,570.65	7,356.60	214.05	35.368		
20,600.00	7,154.00	7,113.00	7,113.00	392.21	142.68	-90.00	-499.26	-7,916.69	7,668.80	7,455.07	213.74	35.879		

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 WARBLER 13W-27-03
Project:	ADAMS COUNTY	TVD Reference:	KB 25' @ 5105.00usft
Reference Site:	Sec 13-T1S-R66W	MD Reference:	KB 25' @ 5105.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	WARBLER 13W-27-03	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT_32Bit_ODBC
Reference Design:	PROPOSAL 1	Offset TVD Reference:	Offset Datum

Offset Design Sec 14-T1S-R66W - ABND VERT HECKENDORF 2 - 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						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	
20,700.00	7,154.00	7,113.00	7,113.00	394.90	142.68	-90.00	-499.26	-7,916.69	7,767.00	7,553.57	213.43	36.391	
20,800.00	7,154.00	7,113.00	7,113.00	397.59	142.68	-90.00	-499.26	-7,916.69	7,865.25	7,652.11	213.14	36.902	
20,900.00	7,154.00	7,113.00	7,113.00	400.28	142.68	-90.00	-499.26	-7,916.69	7,963.54	7,750.69	212.85	37.414	
21,000.00	7,154.00	7,113.00	7,113.00	402.97	142.68	-90.00	-499.26	-7,916.69	8,061.87	7,849.29	212.58	37.925	
21,100.00	7,154.00	7,113.00	7,113.00	405.66	142.68	-90.00	-499.26	-7,916.69	8,160.24	7,947.93	212.31	38.436	
21,200.00	7,154.00	7,113.00	7,113.00	408.35	142.68	-90.00	-499.26	-7,916.69	8,258.65	8,046.60	212.05	38.946	
21,300.00	7,154.00	7,113.00	7,113.00	411.04	142.68	-90.00	-499.26	-7,916.69	8,357.10	8,145.30	211.80	39.457	
21,400.00	7,154.00	7,113.00	7,113.00	413.73	142.68	-90.00	-499.26	-7,916.69	8,455.59	8,244.02	211.56	39.967	
21,500.00	7,154.00	7,113.00	7,113.00	416.42	142.68	-90.00	-499.26	-7,916.69	8,554.11	8,342.77	211.33	40.477	
21,573.27	7,154.00	7,113.00	7,113.00	418.39	142.68	-90.00	-499.26	-7,916.69	8,626.31	8,415.14	211.17	40.850	

Anticollision Report

Company:	EXTRACTION OIL & GAS	Local Co-ordinate Reference:	Well WARBLER 13W-27-03
Project:	ADAMS COUNTY	TVD Reference:	KB 25' @ 5105.00usft
Reference Site:	Sec 13-T1S-R66W	MD Reference:	KB 25' @ 5105.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	WARBLER 13W-27-03	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT_32Bit_ODBC
Reference Design:	PROPOSAL 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-INC													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		
8,500.00	7,154.00	7,156.00	7,156.00	75.55	143.55	-90.00	-298.81	-13,253.15	9,987.15	9,803.57	183.58	54.402		
8,600.00	7,154.00	7,156.00	7,156.00	77.81	143.55	-90.00	-298.81	-13,253.15	9,887.95	9,704.10	183.85	53.782		
8,700.00	7,154.00	7,156.00	7,156.00	80.10	143.55	-90.00	-298.81	-13,253.15	9,788.77	9,604.64	184.13	53.162		
8,800.00	7,154.00	7,156.00	7,156.00	82.41	143.55	-90.00	-298.81	-13,253.15	9,689.61	9,505.19	184.42	52.542		
8,900.00	7,154.00	7,156.00	7,156.00	84.75	143.55	-90.00	-298.81	-13,253.15	9,590.47	9,405.75	184.71	51.920		
9,000.00	7,154.00	7,156.00	7,156.00	87.11	143.55	-90.00	-298.81	-13,253.15	9,491.34	9,306.32	185.02	51.299		
9,100.00	7,154.00	7,156.00	7,156.00	89.48	143.55	-90.00	-298.81	-13,253.15	9,392.23	9,206.90	185.34	50.677		
9,200.00	7,154.00	7,156.00	7,156.00	91.88	143.55	-90.00	-298.81	-13,253.15	9,293.14	9,107.48	185.66	50.055		
9,300.00	7,154.00	7,156.00	7,156.00	94.29	143.55	-90.00	-298.81	-13,253.15	9,194.08	9,008.08	186.00	49.432		
9,400.00	7,154.00	7,156.00	7,156.00	96.72	143.55	-90.00	-298.81	-13,253.15	9,095.03	8,908.69	186.34	48.809		
9,500.00	7,154.00	7,156.00	7,156.00	99.16	143.55	-90.00	-298.81	-13,253.15	8,996.00	8,809.30	186.70	48.185		
9,600.00	7,154.00	7,156.00	7,156.00	101.61	143.55	-90.00	-298.81	-13,253.15	8,896.99	8,709.93	187.06	47.562		
9,700.00	7,154.00	7,156.00	7,156.00	104.08	143.55	-90.00	-298.81	-13,253.15	8,798.01	8,610.57	187.44	46.938		
9,800.00	7,154.00	7,156.00	7,156.00	106.56	143.55	-90.00	-298.81	-13,253.15	8,699.05	8,511.22	187.83	46.313		
9,900.00	7,154.00	7,156.00	7,156.00	109.05	143.55	-90.00	-298.81	-13,253.15	8,600.12	8,411.88	188.23	45.689		
10,000.00	7,154.00	7,156.00	7,156.00	111.55	143.55	-90.00	-298.81	-13,253.15	8,501.21	8,312.56	188.65	45.064		
10,100.00	7,154.00	7,156.00	7,156.00	114.06	143.55	-90.00	-298.81	-13,253.15	8,402.32	8,213.25	189.07	44.439		
10,200.00	7,154.00	7,156.00	7,156.00	116.57	143.55	-90.00	-298.81	-13,253.15	8,303.46	8,113.95	189.51	43.814		
10,300.00	7,154.00	7,156.00	7,156.00	119.10	143.55	-90.00	-298.81	-13,253.15	8,204.63	8,014.66	189.97	43.189		
10,400.00	7,154.00	7,156.00	7,156.00	121.63	143.55	-90.00	-298.81	-13,253.15	8,105.83	7,915.39	190.44	42.564		
10,500.00	7,154.00	7,156.00	7,156.00	124.17	143.55	-90.00	-298.81	-13,253.15	8,007.06	7,816.13	190.92	41.939		
10,600.00	7,154.00	7,156.00	7,156.00	126.72	143.55	-90.00	-298.81	-13,253.15	7,908.32	7,716.89	191.42	41.313		
10,700.00	7,154.00	7,156.00	7,156.00	129.28	143.55	-90.00	-298.81	-13,253.15	7,809.61	7,617.67	191.94	40.688		
10,800.00	7,154.00	7,156.00	7,156.00	131.84	143.55	-90.00	-298.81	-13,253.15	7,710.93	7,518.46	192.47	40.062		
10,900.00	7,154.00	7,156.00	7,156.00	134.40	143.55	-90.00	-298.81	-13,253.15	7,612.29	7,419.27	193.02	39.437		
11,000.00	7,154.00	7,156.00	7,156.00	136.97	143.55	-90.00	-298.81	-13,253.15	7,513.68	7,320.09	193.59	38.812		
11,100.00	7,154.00	7,156.00	7,156.00	139.55	143.55	-90.00	-298.81	-13,253.15	7,415.12	7,220.94	194.18	38.187		
11,200.00	7,154.00	7,156.00	7,156.00	142.13	143.55	-90.00	-298.81	-13,253.15	7,316.59	7,121.80	194.79	37.562		
11,300.00	7,154.00	7,156.00	7,156.00	144.72	143.55	-90.00	-298.81	-13,253.15	7,218.10	7,022.69	195.41	36.938		
11,400.00	7,154.00	7,156.00	7,156.00	147.30	143.55	-90.00	-298.81	-13,253.15	7,119.65	6,923.59	196.06	36.313		
11,500.00	7,154.00	7,156.00	7,156.00	149.90	143.55	-90.00	-298.81	-13,253.15	7,021.25	6,824.52	196.73	35.689		
11,600.00	7,154.00	7,156.00	7,156.00	152.50	143.55	-90.00	-298.81	-13,253.15	6,922.89	6,725.47	197.43	35.066		
11,700.00	7,154.00	7,156.00	7,156.00	155.10	143.55	-90.00	-298.81	-13,253.15	6,824.58	6,626.44	198.14	34.443		
11,800.00	7,154.00	7,156.00	7,156.00	157.70	143.55	-90.00	-298.81	-13,253.15	6,726.32	6,527.44	198.89	33.820		
11,900.00	7,154.00	7,156.00	7,156.00	160.31	143.55	-90.00	-298.81	-13,253.15	6,628.12	6,428.46	199.65	33.198		
12,000.00	7,154.00	7,156.00	7,156.00	162.92	143.55	-90.00	-298.81	-13,253.15	6,529.96	6,329.51	200.45	32.576		
12,100.00	7,154.00	7,156.00	7,156.00	165.54	143.55	-90.00	-298.81	-13,253.15	6,431.87	6,230.59	201.28	31.956		
12,200.00	7,154.00	7,156.00	7,156.00	168.15	143.55	-90.00	-298.81	-13,253.15	6,333.83	6,131.70	202.13	31.336		
12,300.00	7,154.00	7,156.00	7,156.00	170.77	143.55	-90.00	-298.81	-13,253.15	6,235.86	6,032.84	203.01	30.716		
12,400.00	7,154.00	7,156.00	7,156.00	173.39	143.55	-90.00	-298.81	-13,253.15	6,137.95	5,934.01	203.93	30.098		
12,500.00	7,154.00	7,156.00	7,156.00	176.02	143.55	-90.00	-298.81	-13,253.15	6,040.11	5,835.22	204.88	29.480		
12,600.00	7,154.00	7,156.00	7,156.00	178.65	143.55	-90.00	-298.81	-13,253.15	5,942.34	5,736.47	205.87	28.864		
12,700.00	7,154.00	7,156.00	7,156.00	181.28	143.55	-90.00	-298.81	-13,253.15	5,844.65	5,637.75	206.90	28.249		
12,800.00	7,154.00	7,156.00	7,156.00	183.91	143.55	-90.00	-298.81	-13,253.15	5,747.03	5,539.07	207.96	27.635		
12,900.00	7,154.00	7,156.00	7,156.00	186.54	143.55	-90.00	-298.81	-13,253.15	5,649.50	5,440.43	209.07	27.022		
13,000.00	7,154.00	7,156.00	7,156.00	189.18	143.55	-90.00	-298.81	-13,253.15	5,552.06	5,341.84	210.22	26.411		
13,100.00	7,154.00	7,156.00	7,156.00	191.81	143.55	-90.00	-298.81	-13,253.15	5,454.71	5,243.30	211.41	25.801		
13,200.00	7,154.00	7,156.00	7,156.00	194.45	143.55	-90.00	-298.81	-13,253.15	5,357.46	5,144.80	212.66	25.193		
13,300.00	7,154.00	7,156.00	7,156.00	197.10	143.55	-90.00	-298.81	-13,253.15	5,260.31	5,046.36	213.95	24.586		
13,400.00	7,154.00	7,156.00	7,156.00	199.74	143.55	-90.00	-298.81	-13,253.15	5,163.27	4,947.97	215.30	23.982		
13,500.00	7,154.00	7,156.00	7,156.00	202.38	143.55	-90.00	-298.81	-13,253.15	5,066.34	4,849.64	216.70	23.379		
13,600.00	7,154.00	7,156.00	7,156.00	205.03	143.55	-90.00	-298.81	-13,253.15	4,969.54	4,751.38	218.17	22.779		

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 WARBLER 13W-27-03
Project:	ADAMS COUNTY	TVD Reference:	KB 25' @ 5105.00usft
Reference Site:	Sec 13-T1S-R66W	MD Reference:	KB 25' @ 5105.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	WARBLER 13W-27-03	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT_32Bit_ODBC
Reference Design:	PROPOSAL 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-INC													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		
13,700.00	7,154.00	7,156.00	7,156.00	207.68	143.55	-90.00	-298.81	-13,253.15	4,872.87	4,653.18	219.69	22.181		
13,800.00	7,154.00	7,156.00	7,156.00	210.33	143.55	-90.00	-298.81	-13,253.15	4,776.33	4,555.05	221.28	21.585		
13,900.00	7,154.00	7,156.00	7,156.00	212.98	143.55	-90.00	-298.81	-13,253.15	4,679.94	4,457.00	222.94	20.992		
14,000.00	7,154.00	7,156.00	7,156.00	215.63	143.55	-90.00	-298.81	-13,253.15	4,583.70	4,359.02	224.68	20.401		
14,100.00	7,154.00	7,156.00	7,156.00	218.28	143.55	-90.00	-298.81	-13,253.15	4,487.63	4,261.14	226.49	19.813		
14,200.00	7,154.00	7,156.00	7,156.00	220.93	143.55	-90.00	-298.81	-13,253.15	4,391.73	4,163.34	228.39	19.229		
14,300.00	7,154.00	7,156.00	7,156.00	223.59	143.55	-90.00	-298.81	-13,253.15	4,296.02	4,065.64	230.38	18.648		
14,400.00	7,154.00	7,156.00	7,156.00	226.25	143.55	-90.00	-298.81	-13,253.15	4,200.51	3,968.05	232.46	18.070		
14,500.00	7,154.00	7,156.00	7,156.00	228.90	143.55	-90.00	-298.81	-13,253.15	4,105.22	3,870.58	234.64	17.496		
14,600.00	7,154.00	7,156.00	7,156.00	231.56	143.55	-90.00	-298.81	-13,253.15	4,010.15	3,773.22	236.93	16.926		
14,700.00	7,154.00	7,156.00	7,156.00	234.22	143.55	-90.00	-298.81	-13,253.15	3,915.33	3,676.00	239.33	16.360		
14,800.00	7,154.00	7,156.00	7,156.00	236.88	143.55	-90.00	-298.81	-13,253.15	3,820.77	3,578.92	241.85	15.798		
14,900.00	7,154.00	7,156.00	7,156.00	239.55	143.55	-90.00	-298.81	-13,253.15	3,726.50	3,482.00	244.50	15.241		
15,000.00	7,154.00	7,156.00	7,156.00	242.21	143.55	-90.00	-298.81	-13,253.15	3,632.53	3,385.24	247.29	14.690		
15,100.00	7,154.00	7,156.00	7,156.00	244.87	143.55	-90.00	-298.81	-13,253.15	3,538.90	3,288.67	250.22	14.143		
15,200.00	7,154.00	7,156.00	7,156.00	247.54	143.55	-90.00	-298.81	-13,253.15	3,445.62	3,192.30	253.32	13.602		
15,300.00	7,154.00	7,156.00	7,156.00	250.20	143.55	-90.00	-298.81	-13,253.15	3,352.73	3,096.15	256.58	13.067		
15,400.00	7,154.00	7,156.00	7,156.00	252.87	143.55	-90.00	-298.81	-13,253.15	3,260.26	3,000.23	260.02	12.538		
15,500.00	7,154.00	7,156.00	7,156.00	255.53	143.55	-90.00	-298.81	-13,253.15	3,168.24	2,904.58	263.66	12.016		
15,600.00	7,154.00	7,156.00	7,156.00	258.20	143.55	-90.00	-298.81	-13,253.15	3,076.73	2,809.22	267.51	11.501		
15,700.00	7,154.00	7,156.00	7,156.00	260.87	143.55	-90.00	-298.81	-13,253.15	2,985.76	2,714.18	271.58	10.994		
15,800.00	7,154.00	7,156.00	7,156.00	263.54	143.55	-90.00	-298.81	-13,253.15	2,895.38	2,619.49	275.89	10.495		
15,900.00	7,154.00	7,156.00	7,156.00	266.21	143.55	-90.00	-298.81	-13,253.15	2,805.66	2,525.20	280.46	10.004		
16,000.00	7,154.00	7,156.00	7,156.00	268.88	143.55	-90.00	-298.81	-13,253.15	2,716.66	2,431.35	285.31	9.522		
16,100.00	7,154.00	7,156.00	7,156.00	271.55	143.55	-90.00	-298.81	-13,253.15	2,628.45	2,338.00	290.45	9.050		
16,200.00	7,154.00	7,156.00	7,156.00	274.22	143.55	-90.00	-298.81	-13,253.15	2,541.11	2,245.20	295.91	8.587		
16,300.00	7,154.00	7,156.00	7,156.00	276.90	143.55	-90.00	-298.81	-13,253.15	2,454.74	2,153.02	301.71	8.136		
16,400.00	7,154.00	7,156.00	7,156.00	279.57	143.55	-90.00	-298.81	-13,253.15	2,369.44	2,061.56	307.88	7.696		
16,500.00	7,154.00	7,156.00	7,156.00	282.24	143.55	-90.00	-298.81	-13,253.15	2,285.33	1,970.90	314.43	7.268		
16,600.00	7,154.00	7,156.00	7,156.00	284.92	143.55	-90.00	-298.81	-13,253.15	2,202.55	1,881.16	321.39	6.853		
16,700.00	7,154.00	7,156.00	7,156.00	287.59	143.55	-90.00	-298.81	-13,253.15	2,121.25	1,792.47	328.78	6.452		
16,800.00	7,154.00	7,156.00	7,156.00	290.27	143.55	-90.00	-298.81	-13,253.15	2,041.62	1,705.00	336.62	6.065		
16,900.00	7,154.00	7,156.00	7,156.00	292.94	143.55	-90.00	-298.81	-13,253.15	1,963.85	1,618.93	344.92	5.694		
17,000.00	7,154.00	7,156.00	7,156.00	295.62	143.55	-90.00	-298.81	-13,253.15	1,888.17	1,534.48	353.69	5.338		
17,100.00	7,154.00	7,156.00	7,156.00	298.29	143.55	-90.00	-298.81	-13,253.15	1,814.85	1,451.93	362.93	5.001		
17,200.00	7,154.00	7,156.00	7,156.00	300.97	143.55	-90.00	-298.81	-13,253.15	1,744.19	1,371.57	372.61	4.681		
17,300.00	7,154.00	7,156.00	7,156.00	303.65	143.55	-90.00	-298.81	-13,253.15	1,676.51	1,293.80	382.71	4.381		
17,400.00	7,154.00	7,156.00	7,156.00	306.33	143.55	-90.00	-298.81	-13,253.15	1,612.20	1,219.04	393.16	4.101		
17,500.00	7,154.00	7,156.00	7,156.00	309.01	143.55	-90.00	-298.81	-13,253.15	1,551.67	1,147.81	403.86	3.842		
17,600.00	7,154.00	7,156.00	7,156.00	311.69	143.55	-90.00	-298.81	-13,253.15	1,495.38	1,080.71	414.68	3.606		
17,700.00	7,154.00	7,156.00	7,156.00	314.37	143.55	-90.00	-298.81	-13,253.15	1,443.84	1,018.40	425.44	3.394		
17,800.00	7,154.00	7,156.00	7,156.00	317.05	143.55	-90.00	-298.81	-13,253.15	1,397.56	961.63	435.92	3.206		
17,900.00	7,154.00	7,156.00	7,156.00	319.73	143.55	-90.00	-298.81	-13,253.15	1,357.08	911.23	445.85	3.044		
18,000.00	7,154.00	7,156.00	7,156.00	322.41	143.55	-90.00	-298.81	-13,253.15	1,322.94	868.02	454.91	2.908		
18,100.00	7,154.00	7,156.00	7,156.00	325.09	143.55	-90.00	-298.81	-13,253.15	1,295.63	832.84	462.79	2.800		
18,200.00	7,154.00	7,156.00	7,156.00	327.77	143.55	-90.00	-298.81	-13,253.15	1,275.60	806.43	469.17	2.719		
18,300.00	7,154.00	7,156.00	7,156.00	330.45	143.55	-90.00	-298.81	-13,253.15	1,263.19	789.42	473.77	2.666		
18,400.00	7,154.00	7,156.00	7,156.00	333.13	143.55	-90.00	-298.81	-13,253.15	1,258.63	782.22	476.40	2.642		
18,407.52	7,154.00	7,156.00	7,156.00	333.33	143.55	-90.00	-298.81	-13,253.15	1,258.60	782.09	476.52	2.641 CC, ES, SF		
18,500.00	7,154.00	7,156.00	7,156.00	335.82	143.55	-90.00	-298.81	-13,253.15	1,262.00	785.02	476.98	2.646		
18,600.00	7,154.00	7,156.00	7,156.00	338.50	143.55	-90.00	-298.81	-13,253.15	1,273.24	797.73	475.51	2.678		
18,700.00	7,154.00	7,156.00	7,156.00	341.18	143.55	-90.00	-298.81	-13,253.15	1,292.14	820.01	472.13	2.737		

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 WARBLER 13W-27-03
Project:	ADAMS COUNTY	TVD Reference:	KB 25' @ 5105.00usft
Reference Site:	Sec 13-T1S-R66W	MD Reference:	KB 25' @ 5105.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	WARBLER 13W-27-03	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT_32Bit_ODBC
Reference Design:	PROPOSAL 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-INC													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		
18,800.00	7,154.00	7,156.00	7,156.00	343.86	143.55	-90.00	-298.81	-13,253.15	1,318.38	851.31	467.07	2.823		
18,900.00	7,154.00	7,156.00	7,156.00	346.55	143.55	-90.00	-298.81	-13,253.15	1,351.52	890.92	460.60	2.934		
19,000.00	7,154.00	7,156.00	7,156.00	349.23	143.55	-90.00	-298.81	-13,253.15	1,391.08	938.04	453.04	3.071		
19,100.00	7,154.00	7,156.00	7,156.00	351.92	143.55	-90.00	-298.81	-13,253.15	1,436.53	991.85	444.68	3.230		
19,200.00	7,154.00	7,156.00	7,156.00	354.60	143.55	-90.00	-298.81	-13,253.15	1,487.32	1,051.51	435.80	3.413		
19,300.00	7,154.00	7,156.00	7,156.00	357.29	143.55	-90.00	-298.81	-13,253.15	1,542.92	1,116.28	426.64	3.616		
19,400.00	7,154.00	7,156.00	7,156.00	359.97	143.55	-90.00	-298.81	-13,253.15	1,602.84	1,185.43	417.41	3.840		
19,500.00	7,154.00	7,156.00	7,156.00	362.66	143.55	-90.00	-298.81	-13,253.15	1,666.61	1,258.37	408.25	4.082		
19,600.00	7,154.00	7,156.00	7,156.00	365.34	143.55	-90.00	-298.81	-13,253.15	1,733.81	1,334.54	399.27	4.342		
19,700.00	7,154.00	7,156.00	7,156.00	368.03	143.55	-90.00	-298.81	-13,253.15	1,804.05	1,413.48	390.57	4.619		
19,800.00	7,154.00	7,156.00	7,156.00	370.72	143.55	-90.00	-298.81	-13,253.15	1,876.99	1,494.79	382.20	4.911		
19,900.00	7,154.00	7,156.00	7,156.00	373.40	143.55	-90.00	-298.81	-13,253.15	1,952.33	1,578.14	374.18	5.218		
20,000.00	7,154.00	7,156.00	7,156.00	376.09	143.55	-90.00	-298.81	-13,253.15	2,029.80	1,663.25	366.55	5.538		
20,100.00	7,154.00	7,156.00	7,156.00	378.78	143.55	-90.00	-298.81	-13,253.15	2,109.16	1,749.87	359.30	5.870		
20,200.00	7,154.00	7,156.00	7,156.00	381.46	143.55	-90.00	-298.81	-13,253.15	2,190.22	1,837.80	352.42	6.215		
20,300.00	7,154.00	7,156.00	7,156.00	384.15	143.55	-90.00	-298.81	-13,253.15	2,272.79	1,926.86	345.93	6.570		
20,400.00	7,154.00	7,156.00	7,156.00	386.84	143.55	-90.00	-298.81	-13,253.15	2,356.70	2,016.92	339.78	6.936		
20,500.00	7,154.00	7,156.00	7,156.00	389.53	143.55	-90.00	-298.81	-13,253.15	2,441.83	2,107.85	333.98	7.311		
20,600.00	7,154.00	7,156.00	7,156.00	392.21	143.55	-90.00	-298.81	-13,253.15	2,528.05	2,199.54	328.51	7.696		
20,700.00	7,154.00	7,156.00	7,156.00	394.90	143.55	-90.00	-298.81	-13,253.15	2,615.25	2,291.91	323.34	8.088		
20,800.00	7,154.00	7,156.00	7,156.00	397.59	143.55	-90.00	-298.81	-13,253.15	2,703.34	2,384.88	318.46	8.489		
20,900.00	7,154.00	7,156.00	7,156.00	400.28	143.55	-90.00	-298.81	-13,253.15	2,792.23	2,478.37	313.85	8.897		
21,000.00	7,154.00	7,156.00	7,156.00	402.97	143.55	-90.00	-298.81	-13,253.15	2,881.85	2,572.34	309.50	9.311		
21,100.00	7,154.00	7,156.00	7,156.00	405.66	143.55	-90.00	-298.81	-13,253.15	2,972.12	2,666.74	305.39	9.732		
21,200.00	7,154.00	7,156.00	7,156.00	408.35	143.55	-90.00	-298.81	-13,253.15	3,063.01	2,761.51	301.49	10.159		
21,300.00	7,154.00	7,156.00	7,156.00	411.04	143.55	-90.00	-298.81	-13,253.15	3,154.44	2,856.63	297.81	10.592		
21,400.00	7,154.00	7,156.00	7,156.00	413.73	143.55	-90.00	-298.81	-13,253.15	3,246.38	2,952.06	294.32	11.030		
21,500.00	7,154.00	7,156.00	7,156.00	416.42	143.55	-90.00	-298.81	-13,253.15	3,338.79	3,047.77	291.02	11.473		
21,573.27	7,154.00	7,156.00	7,156.00	418.39	143.55	-90.00	-298.81	-13,253.15	3,406.76	3,118.06	288.70	11.800		

Anticollision Report

Company:	EXTRACTION OIL & GAS	Local Co-ordinate Reference:	Well WARBLER 13W-27-03
Project:	ADAMS COUNTY	TVD Reference:	KB 25' @ 5105.00usft
Reference Site:	Sec 13-T1S-R66W	MD Reference:	KB 25' @ 5105.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	WARBLER 13W-27-03	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT_32Bit_ODBC
Reference Design:	PROPOSAL 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-INC													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		
11,200.00	7,154.00	7,153.00	7,153.00	142.13	143.49	90.00	2,300.42	-15,865.23	9,911.26	9,735.07	176.18	56.255		
11,300.00	7,154.00	7,153.00	7,153.00	144.72	143.49	90.00	2,300.42	-15,865.23	9,812.18	9,635.90	176.29	55.660		
11,400.00	7,154.00	7,153.00	7,153.00	147.30	143.49	90.00	2,300.42	-15,865.23	9,713.13	9,536.73	176.40	55.062		
11,500.00	7,154.00	7,153.00	7,153.00	149.90	143.49	90.00	2,300.42	-15,865.23	9,614.10	9,437.56	176.53	54.461		
11,600.00	7,154.00	7,153.00	7,153.00	152.50	143.49	90.00	2,300.42	-15,865.23	9,515.08	9,338.41	176.67	53.857		
11,700.00	7,154.00	7,153.00	7,153.00	155.10	143.49	90.00	2,300.42	-15,865.23	9,416.09	9,239.27	176.82	53.251		
11,800.00	7,154.00	7,153.00	7,153.00	157.70	143.49	90.00	2,300.42	-15,865.23	9,317.12	9,140.13	176.99	52.642		
11,900.00	7,154.00	7,153.00	7,153.00	160.31	143.49	90.00	2,300.42	-15,865.23	9,218.17	9,041.00	177.17	52.030		
12,000.00	7,154.00	7,153.00	7,153.00	162.92	143.49	90.00	2,300.42	-15,865.23	9,119.24	8,941.88	177.37	51.415		
12,100.00	7,154.00	7,153.00	7,153.00	165.54	143.49	90.00	2,300.42	-15,865.23	9,020.34	8,842.76	177.58	50.797		
12,200.00	7,154.00	7,153.00	7,153.00	168.15	143.49	90.00	2,300.42	-15,865.23	8,921.46	8,743.66	177.80	50.176		
12,300.00	7,154.00	7,153.00	7,153.00	170.77	143.49	90.00	2,300.42	-15,865.23	8,822.61	8,644.56	178.05	49.552		
12,400.00	7,154.00	7,153.00	7,153.00	173.39	143.49	90.00	2,300.42	-15,865.23	8,723.78	8,545.48	178.31	48.926		
12,500.00	7,154.00	7,153.00	7,153.00	176.02	143.49	90.00	2,300.42	-15,865.23	8,624.98	8,446.40	178.58	48.296		
12,600.00	7,154.00	7,153.00	7,153.00	178.65	143.49	90.00	2,300.42	-15,865.23	8,526.21	8,347.33	178.88	47.664		
12,700.00	7,154.00	7,153.00	7,153.00	181.28	143.49	90.00	2,300.42	-15,865.23	8,427.47	8,248.27	179.20	47.029		
12,800.00	7,154.00	7,153.00	7,153.00	183.91	143.49	90.00	2,300.42	-15,865.23	8,328.76	8,149.22	179.54	46.390		
12,900.00	7,154.00	7,153.00	7,153.00	186.54	143.49	90.00	2,300.42	-15,865.23	8,230.08	8,050.18	179.89	45.749		
13,000.00	7,154.00	7,153.00	7,153.00	189.18	143.49	90.00	2,300.42	-15,865.23	8,131.43	7,951.15	180.28	45.106		
13,100.00	7,154.00	7,153.00	7,153.00	191.81	143.49	90.00	2,300.42	-15,865.23	8,032.81	7,852.13	180.68	44.459		
13,200.00	7,154.00	7,153.00	7,153.00	194.45	143.49	90.00	2,300.42	-15,865.23	7,934.23	7,753.12	181.11	43.810		
13,300.00	7,154.00	7,153.00	7,153.00	197.10	143.49	90.00	2,300.42	-15,865.23	7,835.68	7,654.13	181.56	43.158		
13,400.00	7,154.00	7,153.00	7,153.00	199.74	143.49	90.00	2,300.42	-15,865.23	7,737.18	7,555.14	182.04	42.504		
13,500.00	7,154.00	7,153.00	7,153.00	202.38	143.49	90.00	2,300.42	-15,865.23	7,638.71	7,456.17	182.54	41.847		
13,600.00	7,154.00	7,153.00	7,153.00	205.03	143.49	90.00	2,300.42	-15,865.23	7,540.28	7,357.20	183.07	41.187		
13,700.00	7,154.00	7,153.00	7,153.00	207.68	143.49	90.00	2,300.42	-15,865.23	7,441.89	7,258.26	183.63	40.526		
13,800.00	7,154.00	7,153.00	7,153.00	210.33	143.49	90.00	2,300.42	-15,865.23	7,343.55	7,159.32	184.22	39.862		
13,900.00	7,154.00	7,153.00	7,153.00	212.98	143.49	90.00	2,300.42	-15,865.23	7,245.25	7,060.40	184.85	39.196		
14,000.00	7,154.00	7,153.00	7,153.00	215.63	143.49	90.00	2,300.42	-15,865.23	7,147.00	6,961.50	185.50	38.528		
14,100.00	7,154.00	7,153.00	7,153.00	218.28	143.49	90.00	2,300.42	-15,865.23	7,048.80	6,862.61	186.19	37.859		
14,200.00	7,154.00	7,153.00	7,153.00	220.93	143.49	90.00	2,300.42	-15,865.23	6,950.64	6,763.74	186.91	37.187		
14,300.00	7,154.00	7,153.00	7,153.00	223.59	143.49	90.00	2,300.42	-15,865.23	6,852.55	6,664.88	187.67	36.514		
14,400.00	7,154.00	7,153.00	7,153.00	226.25	143.49	90.00	2,300.42	-15,865.23	6,754.51	6,566.04	188.46	35.840		
14,500.00	7,154.00	7,153.00	7,153.00	228.90	143.49	90.00	2,300.42	-15,865.23	6,656.52	6,467.22	189.30	35.164		
14,600.00	7,154.00	7,153.00	7,153.00	231.56	143.49	90.00	2,300.42	-15,865.23	6,558.60	6,368.43	190.17	34.487		
14,700.00	7,154.00	7,153.00	7,153.00	234.22	143.49	90.00	2,300.42	-15,865.23	6,460.74	6,269.65	191.09	33.810		
14,800.00	7,154.00	7,153.00	7,153.00	236.88	143.49	90.00	2,300.42	-15,865.23	6,362.95	6,170.90	192.05	33.131		
14,900.00	7,154.00	7,153.00	7,153.00	239.55	143.49	90.00	2,300.42	-15,865.23	6,265.23	6,072.17	193.06	32.452		
15,000.00	7,154.00	7,153.00	7,153.00	242.21	143.49	90.00	2,300.42	-15,865.23	6,167.58	5,973.47	194.12	31.773		
15,100.00	7,154.00	7,153.00	7,153.00	244.87	143.49	90.00	2,300.42	-15,865.23	6,070.01	5,874.79	195.22	31.093		
15,200.00	7,154.00	7,153.00	7,153.00	247.54	143.49	90.00	2,300.42	-15,865.23	5,972.52	5,776.14	196.38	30.414		
15,300.00	7,154.00	7,153.00	7,153.00	250.20	143.49	90.00	2,300.42	-15,865.23	5,875.11	5,677.52	197.59	29.734		
15,400.00	7,154.00	7,153.00	7,153.00	252.87	143.49	90.00	2,300.42	-15,865.23	5,777.79	5,578.94	198.85	29.056		
15,500.00	7,154.00	7,153.00	7,153.00	255.53	143.49	90.00	2,300.42	-15,865.23	5,680.56	5,480.39	200.18	28.378		
15,600.00	7,154.00	7,153.00	7,153.00	258.20	143.49	90.00	2,300.42	-15,865.23	5,583.43	5,381.87	201.56	27.701		
15,700.00	7,154.00	7,153.00	7,153.00	260.87	143.49	90.00	2,300.42	-15,865.23	5,486.41	5,283.40	203.01	27.025		
15,800.00	7,154.00	7,153.00	7,153.00	263.54	143.49	90.00	2,300.42	-15,865.23	5,389.49	5,184.96	204.53	26.350		
15,900.00	7,154.00	7,153.00	7,153.00	266.21	143.49	90.00	2,300.42	-15,865.23	5,292.69	5,086.57	206.12	25.678		
16,000.00	7,154.00	7,153.00	7,153.00	268.88	143.49	90.00	2,300.42	-15,865.23	5,196.01	4,988.23	207.78	25.007		
16,100.00	7,154.00	7,153.00	7,153.00	271.55	143.49	90.00	2,300.42	-15,865.23	5,099.46	4,889.94	209.52	24.339		
16,200.00	7,154.00	7,153.00	7,153.00	274.22	143.49	90.00	2,300.42	-15,865.23	5,003.04	4,791.70	211.34	23.673		
16,300.00	7,154.00	7,153.00	7,153.00	276.90	143.49	90.00	2,300.42	-15,865.23	4,906.77	4,693.52	213.25	23.009		

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 WARBLER 13W-27-03
Project:	ADAMS COUNTY	TVD Reference:	KB 25' @ 5105.00usft
Reference Site:	Sec 13-T1S-R66W	MD Reference:	KB 25' @ 5105.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	WARBLER 13W-27-03	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT_32Bit_ODBC
Reference Design:	PROPOSAL 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-INC													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		
16,400.00	7,154.00	7,153.00	7,153.00	279.57	143.49	90.00	2,300.42	-15,865.23	4,810.65	4,595.40	215.25	22.349		
16,500.00	7,154.00	7,153.00	7,153.00	282.24	143.49	90.00	2,300.42	-15,865.23	4,714.69	4,497.35	217.34	21.693		
16,600.00	7,154.00	7,153.00	7,153.00	284.92	143.49	90.00	2,300.42	-15,865.23	4,618.90	4,399.36	219.53	21.040		
16,700.00	7,154.00	7,153.00	7,153.00	287.59	143.49	90.00	2,300.42	-15,865.23	4,523.29	4,301.46	221.83	20.391		
16,800.00	7,154.00	7,153.00	7,153.00	290.27	143.49	90.00	2,300.42	-15,865.23	4,427.88	4,203.64	224.24	19.746		
16,900.00	7,154.00	7,153.00	7,153.00	292.94	143.49	90.00	2,300.42	-15,865.23	4,332.67	4,105.90	226.77	19.106		
17,000.00	7,154.00	7,153.00	7,153.00	295.62	143.49	90.00	2,300.42	-15,865.23	4,237.69	4,008.26	229.42	18.471		
17,100.00	7,154.00	7,153.00	7,153.00	298.29	143.49	90.00	2,300.42	-15,865.23	4,142.94	3,910.73	232.21	17.841		
17,200.00	7,154.00	7,153.00	7,153.00	300.97	143.49	90.00	2,300.42	-15,865.23	4,048.45	3,813.31	235.14	17.217		
17,300.00	7,154.00	7,153.00	7,153.00	303.65	143.49	90.00	2,300.42	-15,865.23	3,954.22	3,716.01	238.21	16.599		
17,400.00	7,154.00	7,153.00	7,153.00	306.33	143.49	90.00	2,300.42	-15,865.23	3,860.29	3,618.84	241.45	15.988		
17,500.00	7,154.00	7,153.00	7,153.00	309.01	143.49	90.00	2,300.42	-15,865.23	3,766.66	3,521.81	244.85	15.383		
17,600.00	7,154.00	7,153.00	7,153.00	311.69	143.49	90.00	2,300.42	-15,865.23	3,673.38	3,424.94	248.44	14.786		
17,700.00	7,154.00	7,153.00	7,153.00	314.37	143.49	90.00	2,300.42	-15,865.23	3,580.45	3,328.24	252.22	14.196		
17,800.00	7,154.00	7,153.00	7,153.00	317.05	143.49	90.00	2,300.42	-15,865.23	3,487.92	3,231.72	256.20	13.614		
17,900.00	7,154.00	7,153.00	7,153.00	319.73	143.49	90.00	2,300.42	-15,865.23	3,395.81	3,135.41	260.40	13.041		
18,000.00	7,154.00	7,153.00	7,153.00	322.41	143.49	90.00	2,300.42	-15,865.23	3,304.16	3,039.33	264.83	12.476		
18,100.00	7,154.00	7,153.00	7,153.00	325.09	143.49	90.00	2,300.42	-15,865.23	3,213.01	2,943.50	269.52	11.921		
18,200.00	7,154.00	7,153.00	7,153.00	327.77	143.49	90.00	2,300.42	-15,865.23	3,122.40	2,847.93	274.47	11.376		
18,300.00	7,154.00	7,153.00	7,153.00	330.45	143.49	90.00	2,300.42	-15,865.23	3,032.38	2,752.68	279.70	10.841		
18,400.00	7,154.00	7,153.00	7,153.00	333.13	143.49	90.00	2,300.42	-15,865.23	2,943.01	2,657.76	285.25	10.317		
18,500.00	7,154.00	7,153.00	7,153.00	335.82	143.49	90.00	2,300.42	-15,865.23	2,854.34	2,563.22	291.12	9.805		
18,600.00	7,154.00	7,153.00	7,153.00	338.50	143.49	90.00	2,300.42	-15,865.23	2,766.44	2,469.10	297.34	9.304		
18,700.00	7,154.00	7,153.00	7,153.00	341.18	143.49	90.00	2,300.42	-15,865.23	2,679.39	2,375.45	303.94	8.816		
18,800.00	7,154.00	7,153.00	7,153.00	343.86	143.49	90.00	2,300.42	-15,865.23	2,593.28	2,282.34	310.93	8.340		
18,900.00	7,154.00	7,153.00	7,153.00	346.55	143.49	90.00	2,300.42	-15,865.23	2,508.19	2,189.83	318.36	7.879		
19,000.00	7,154.00	7,153.00	7,153.00	349.23	143.49	90.00	2,300.42	-15,865.23	2,424.25	2,098.01	326.23	7.431		
19,100.00	7,154.00	7,153.00	7,153.00	351.92	143.49	90.00	2,300.42	-15,865.23	2,341.56	2,006.97	334.59	6.998		
19,200.00	7,154.00	7,153.00	7,153.00	354.60	143.49	90.00	2,300.42	-15,865.23	2,260.28	1,916.83	343.45	6.581		
19,300.00	7,154.00	7,153.00	7,153.00	357.29	143.49	90.00	2,300.42	-15,865.23	2,180.55	1,827.71	352.85	6.180		
19,400.00	7,154.00	7,153.00	7,153.00	359.97	143.49	90.00	2,300.42	-15,865.23	2,102.56	1,739.77	362.79	5.796		
19,500.00	7,154.00	7,153.00	7,153.00	362.66	143.49	90.00	2,300.42	-15,865.23	2,026.50	1,653.20	373.30	5.429		
19,600.00	7,154.00	7,153.00	7,153.00	365.34	143.49	90.00	2,300.42	-15,865.23	1,952.60	1,568.22	384.38	5.080		
19,700.00	7,154.00	7,153.00	7,153.00	368.03	143.49	90.00	2,300.42	-15,865.23	1,881.12	1,485.09	396.03	4.750		
19,800.00	7,154.00	7,153.00	7,153.00	370.72	143.49	90.00	2,300.42	-15,865.23	1,812.34	1,404.11	408.23	4.439		
19,900.00	7,154.00	7,153.00	7,153.00	373.40	143.49	90.00	2,300.42	-15,865.23	1,746.57	1,325.64	420.93	4.149		
20,000.00	7,154.00	7,153.00	7,153.00	376.09	143.49	90.00	2,300.42	-15,865.23	1,684.18	1,250.12	434.06	3.880		
20,100.00	7,154.00	7,153.00	7,153.00	378.78	143.49	90.00	2,300.42	-15,865.23	1,625.55	1,178.03	447.52	3.632		
20,200.00	7,154.00	7,153.00	7,153.00	381.46	143.49	90.00	2,300.42	-15,865.23	1,571.10	1,109.94	461.16	3.407		
20,300.00	7,154.00	7,153.00	7,153.00	384.15	143.49	90.00	2,300.42	-15,865.23	1,521.28	1,046.50	474.78	3.204		
20,400.00	7,154.00	7,153.00	7,153.00	386.84	143.49	90.00	2,300.42	-15,865.23	1,476.57	988.40	488.16	3.025		
20,500.00	7,154.00	7,153.00	7,153.00	389.53	143.49	90.00	2,300.42	-15,865.23	1,437.43	936.42	501.01	2.869		
20,600.00	7,154.00	7,153.00	7,153.00	392.21	143.49	90.00	2,300.42	-15,865.23	1,404.33	891.33	513.00	2.737		
20,700.00	7,154.00	7,153.00	7,153.00	394.90	143.49	90.00	2,300.42	-15,865.23	1,377.71	853.92	523.80	2.630		
20,800.00	7,154.00	7,153.00	7,153.00	397.59	143.49	90.00	2,300.42	-15,865.23	1,357.95	824.89	533.06	2.547		
20,900.00	7,154.00	7,153.00	7,153.00	400.28	143.49	90.00	2,300.42	-15,865.23	1,345.36	804.86	540.50	2.489		
21,000.00	7,154.00	7,153.00	7,153.00	402.97	143.49	90.00	2,300.42	-15,865.23	1,340.13	794.25	545.88	2.455		
21,020.26	7,154.00	7,153.00	7,153.00	403.51	143.49	90.00	2,300.42	-15,865.23	1,339.97	793.27	546.70	2.451 CC, ES		
21,100.00	7,154.00	7,153.00	7,153.00	405.66	143.49	90.00	2,300.42	-15,865.23	1,342.34	793.28	549.06	2.445 SF		
21,200.00	7,154.00	7,153.00	7,153.00	408.35	143.49	90.00	2,300.42	-15,865.23	1,351.97	801.96	550.01	2.458		
21,300.00	7,154.00	7,153.00	7,153.00	411.04	143.49	90.00	2,300.42	-15,865.23	1,368.86	820.05	548.81	2.494		
21,400.00	7,154.00	7,153.00	7,153.00	413.73	143.49	90.00	2,300.42	-15,865.23	1,392.74	847.12	545.63	2.553		

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 WARBLER 13W-27-03
Project:	ADAMS COUNTY	TVD Reference:	KB 25' @ 5105.00usft
Reference Site:	Sec 13-T1S-R66W	MD Reference:	KB 25' @ 5105.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	WARBLER 13W-27-03	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT_32Bit_ODBC
Reference Design:	PROPOSAL 1	Offset TVD Reference:	Offset Datum

Offset Design		Sec 16-T1S-R66W - ABND VERT GILBERT A. DIEDRICHS G U 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						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	
21,500.00	7,154.00	7,153.00	7,153.00	416.42	143.49	90.00	2,300.42	-15,865.23	1,423.26	882.55	540.71	2.632	
21,573.27	7,154.00	7,153.00	7,153.00	418.39	143.49	90.00	2,300.42	-15,865.23	1,449.60	913.43	536.17	2.704	

Anticollision Report

Company:	EXTRACTION OIL & GAS	Local Co-ordinate Reference:	Well WARBLER 13W-27-03
Project:	ADAMS COUNTY	TVD Reference:	KB 25' @ 5105.00usft
Reference Site:	Sec 13-T1S-R66W	MD Reference:	KB 25' @ 5105.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	WARBLER 13W-27-03	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT_32Bit_ODBC
Reference Design:	PROPOSAL 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-INC													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		
9,500.00	7,154.00	7,156.00	7,156.00	99.16	143.55	-90.00	-2,881.07	-13,530.39	9,954.93	9,751.43	203.50	48.917		
9,600.00	7,154.00	7,156.00	7,156.00	101.61	143.55	-90.00	-2,881.07	-13,530.39	9,862.75	9,658.11	204.64	48.195		
9,700.00	7,154.00	7,156.00	7,156.00	104.08	143.55	-90.00	-2,881.07	-13,530.39	9,770.72	9,564.91	205.81	47.475		
9,800.00	7,154.00	7,156.00	7,156.00	106.56	143.55	-90.00	-2,881.07	-13,530.39	9,678.85	9,471.85	207.00	46.757		
9,900.00	7,154.00	7,156.00	7,156.00	109.05	143.55	-90.00	-2,881.07	-13,530.39	9,587.15	9,378.91	208.23	46.041		
10,000.00	7,154.00	7,156.00	7,156.00	111.55	143.55	-90.00	-2,881.07	-13,530.39	9,495.61	9,286.12	209.49	45.327		
10,100.00	7,154.00	7,156.00	7,156.00	114.06	143.55	-90.00	-2,881.07	-13,530.39	9,404.24	9,193.46	210.78	44.616		
10,200.00	7,154.00	7,156.00	7,156.00	116.57	143.55	-90.00	-2,881.07	-13,530.39	9,313.05	9,100.95	212.10	43.908		
10,300.00	7,154.00	7,156.00	7,156.00	119.10	143.55	-90.00	-2,881.07	-13,530.39	9,222.04	9,008.59	213.46	43.203		
10,400.00	7,154.00	7,156.00	7,156.00	121.63	143.55	-90.00	-2,881.07	-13,530.39	9,131.22	8,916.38	214.85	42.501		
10,500.00	7,154.00	7,156.00	7,156.00	124.17	143.55	-90.00	-2,881.07	-13,530.39	9,040.60	8,824.33	216.27	41.802		
10,600.00	7,154.00	7,156.00	7,156.00	126.72	143.55	-90.00	-2,881.07	-13,530.39	8,950.17	8,732.45	217.73	41.107		
10,700.00	7,154.00	7,156.00	7,156.00	129.28	143.55	-90.00	-2,881.07	-13,530.39	8,859.95	8,640.73	219.22	40.415		
10,800.00	7,154.00	7,156.00	7,156.00	131.84	143.55	-90.00	-2,881.07	-13,530.39	8,769.95	8,549.20	220.75	39.728		
10,900.00	7,154.00	7,156.00	7,156.00	134.40	143.55	-90.00	-2,881.07	-13,530.39	8,680.16	8,457.84	222.32	39.044		
11,000.00	7,154.00	7,156.00	7,156.00	136.97	143.55	-90.00	-2,881.07	-13,530.39	8,590.60	8,366.67	223.92	38.364		
11,100.00	7,154.00	7,156.00	7,156.00	139.55	143.55	-90.00	-2,881.07	-13,530.39	8,501.26	8,275.70	225.57	37.689		
11,200.00	7,154.00	7,156.00	7,156.00	142.13	143.55	-90.00	-2,881.07	-13,530.39	8,412.17	8,184.93	227.25	37.017		
11,300.00	7,154.00	7,156.00	7,156.00	144.72	143.55	-90.00	-2,881.07	-13,530.39	8,323.33	8,094.36	228.97	36.351		
11,400.00	7,154.00	7,156.00	7,156.00	147.30	143.55	-90.00	-2,881.07	-13,530.39	8,234.75	8,004.01	230.73	35.689		
11,500.00	7,154.00	7,156.00	7,156.00	149.90	143.55	-90.00	-2,881.07	-13,530.39	8,146.42	7,913.88	232.54	35.032		
11,600.00	7,154.00	7,156.00	7,156.00	152.50	143.55	-90.00	-2,881.07	-13,530.39	8,058.37	7,823.99	234.39	34.380		
11,700.00	7,154.00	7,156.00	7,156.00	155.10	143.55	-90.00	-2,881.07	-13,530.39	7,970.61	7,734.33	236.28	33.734		
11,800.00	7,154.00	7,156.00	7,156.00	157.70	143.55	-90.00	-2,881.07	-13,530.39	7,883.13	7,644.91	238.22	33.092		
11,900.00	7,154.00	7,156.00	7,156.00	160.31	143.55	-90.00	-2,881.07	-13,530.39	7,795.96	7,555.76	240.20	32.456		
12,000.00	7,154.00	7,156.00	7,156.00	162.92	143.55	-90.00	-2,881.07	-13,530.39	7,709.09	7,466.86	242.23	31.826		
12,100.00	7,154.00	7,156.00	7,156.00	165.54	143.55	-90.00	-2,881.07	-13,530.39	7,622.55	7,378.25	244.31	31.201		
12,200.00	7,154.00	7,156.00	7,156.00	168.15	143.55	-90.00	-2,881.07	-13,530.39	7,536.34	7,289.91	246.43	30.582		
12,300.00	7,154.00	7,156.00	7,156.00	170.77	143.55	-90.00	-2,881.07	-13,530.39	7,450.48	7,201.87	248.61	29.969		
12,400.00	7,154.00	7,156.00	7,156.00	173.39	143.55	-90.00	-2,881.07	-13,530.39	7,364.97	7,114.14	250.83	29.362		
12,500.00	7,154.00	7,156.00	7,156.00	176.02	143.55	-90.00	-2,881.07	-13,530.39	7,279.83	7,026.72	253.11	28.761		
12,600.00	7,154.00	7,156.00	7,156.00	178.65	143.55	-90.00	-2,881.07	-13,530.39	7,195.08	6,939.63	255.45	28.167		
12,700.00	7,154.00	7,156.00	7,156.00	181.28	143.55	-90.00	-2,881.07	-13,530.39	7,110.72	6,852.89	257.83	27.579		
12,800.00	7,154.00	7,156.00	7,156.00	183.91	143.55	-90.00	-2,881.07	-13,530.39	7,026.77	6,766.50	260.27	26.998		
12,900.00	7,154.00	7,156.00	7,156.00	186.54	143.55	-90.00	-2,881.07	-13,530.39	6,943.25	6,680.48	262.77	26.423		
13,000.00	7,154.00	7,156.00	7,156.00	189.18	143.55	-90.00	-2,881.07	-13,530.39	6,860.17	6,594.84	265.33	25.855		
13,100.00	7,154.00	7,156.00	7,156.00	191.81	143.55	-90.00	-2,881.07	-13,530.39	6,777.54	6,509.59	267.95	25.294		
13,200.00	7,154.00	7,156.00	7,156.00	194.45	143.55	-90.00	-2,881.07	-13,530.39	6,695.39	6,424.76	270.62	24.741		
13,300.00	7,154.00	7,156.00	7,156.00	197.10	143.55	-90.00	-2,881.07	-13,530.39	6,613.73	6,340.37	273.36	24.194		
13,400.00	7,154.00	7,156.00	7,156.00	199.74	143.55	-90.00	-2,881.07	-13,530.39	6,532.58	6,256.41	276.16	23.655		
13,500.00	7,154.00	7,156.00	7,156.00	202.38	143.55	-90.00	-2,881.07	-13,530.39	6,451.96	6,172.93	279.03	23.123		
13,600.00	7,154.00	7,156.00	7,156.00	205.03	143.55	-90.00	-2,881.07	-13,530.39	6,371.89	6,089.93	281.96	22.598		
13,700.00	7,154.00	7,156.00	7,156.00	207.68	143.55	-90.00	-2,881.07	-13,530.39	6,292.39	6,007.43	284.96	22.082		
13,800.00	7,154.00	7,156.00	7,156.00	210.33	143.55	-90.00	-2,881.07	-13,530.39	6,213.48	5,925.45	288.02	21.573		
13,900.00	7,154.00	7,156.00	7,156.00	212.98	143.55	-90.00	-2,881.07	-13,530.39	6,135.18	5,844.03	291.16	21.072		
14,000.00	7,154.00	7,156.00	7,156.00	215.63	143.55	-90.00	-2,881.07	-13,530.39	6,057.53	5,763.17	294.36	20.579		
14,100.00	7,154.00	7,156.00	7,156.00	218.28	143.55	-90.00	-2,881.07	-13,530.39	5,980.54	5,682.91	297.63	20.094		
14,200.00	7,154.00	7,156.00	7,156.00	220.93	143.55	-90.00	-2,881.07	-13,530.39	5,904.24	5,603.26	300.98	19.617		
14,300.00	7,154.00	7,156.00	7,156.00	223.59	143.55	-90.00	-2,881.07	-13,530.39	5,828.65	5,524.26	304.39	19.149		
14,400.00	7,154.00	7,156.00	7,156.00	226.25	143.55	-90.00	-2,881.07	-13,530.39	5,753.81	5,445.93	307.88	18.688		
14,500.00	7,154.00	7,156.00	7,156.00	228.90	143.55	-90.00	-2,881.07	-13,530.39	5,679.75	5,368.31	311.44	18.237		
14,600.00	7,154.00	7,156.00	7,156.00	231.56	143.55	-90.00	-2,881.07	-13,530.39	5,606.49	5,291.41	315.08	17.794		

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 WARBLER 13W-27-03
Project:	ADAMS COUNTY	TVD Reference:	KB 25' @ 5105.00usft
Reference Site:	Sec 13-T1S-R66W	MD Reference:	KB 25' @ 5105.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	WARBLER 13W-27-03	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT_32Bit_ODBC
Reference Design:	PROPOSAL 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-INC													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		
14,700.00	7,154.00	7,156.00	7,156.00	234.22	143.55	-90.00	-2,881.07	-13,530.39	5,534.07	5,215.28	318.79	17.360		
14,800.00	7,154.00	7,156.00	7,156.00	236.88	143.55	-90.00	-2,881.07	-13,530.39	5,462.52	5,139.94	322.57	16.934		
14,900.00	7,154.00	7,156.00	7,156.00	239.55	143.55	-90.00	-2,881.07	-13,530.39	5,391.87	5,065.44	326.43	16.518		
15,000.00	7,154.00	7,156.00	7,156.00	242.21	143.55	-90.00	-2,881.07	-13,530.39	5,322.16	4,991.80	330.36	16.110		
15,100.00	7,154.00	7,156.00	7,156.00	244.87	143.55	-90.00	-2,881.07	-13,530.39	5,253.44	4,919.07	334.37	15.712		
15,200.00	7,154.00	7,156.00	7,156.00	247.54	143.55	-90.00	-2,881.07	-13,530.39	5,185.73	4,847.29	338.44	15.322		
15,300.00	7,154.00	7,156.00	7,156.00	250.20	143.55	-90.00	-2,881.07	-13,530.39	5,119.08	4,776.49	342.59	14.942		
15,400.00	7,154.00	7,156.00	7,156.00	252.87	143.55	-90.00	-2,881.07	-13,530.39	5,053.53	4,706.72	346.80	14.572		
15,500.00	7,154.00	7,156.00	7,156.00	255.53	143.55	-90.00	-2,881.07	-13,530.39	4,989.12	4,638.03	351.09	14.211		
15,600.00	7,154.00	7,156.00	7,156.00	258.20	143.55	-90.00	-2,881.07	-13,530.39	4,925.90	4,570.47	355.43	13.859		
15,700.00	7,154.00	7,156.00	7,156.00	260.87	143.55	-90.00	-2,881.07	-13,530.39	4,863.92	4,504.07	359.84	13.517		
15,800.00	7,154.00	7,156.00	7,156.00	263.54	143.55	-90.00	-2,881.07	-13,530.39	4,803.21	4,438.90	364.31	13.184		
15,900.00	7,154.00	7,156.00	7,156.00	266.21	143.55	-90.00	-2,881.07	-13,530.39	4,743.84	4,375.01	368.83	12.862		
16,000.00	7,154.00	7,156.00	7,156.00	268.88	143.55	-90.00	-2,881.07	-13,530.39	4,685.85	4,312.44	373.41	12.549		
16,100.00	7,154.00	7,156.00	7,156.00	271.55	143.55	-90.00	-2,881.07	-13,530.39	4,629.30	4,251.27	378.03	12.246		
16,200.00	7,154.00	7,156.00	7,156.00	274.22	143.55	-90.00	-2,881.07	-13,530.39	4,574.23	4,191.54	382.69	11.953		
16,300.00	7,154.00	7,156.00	7,156.00	276.90	143.55	-90.00	-2,881.07	-13,530.39	4,520.70	4,133.32	387.38	11.670		
16,400.00	7,154.00	7,156.00	7,156.00	279.57	143.55	-90.00	-2,881.07	-13,530.39	4,468.77	4,076.67	392.10	11.397		
16,500.00	7,154.00	7,156.00	7,156.00	282.24	143.55	-90.00	-2,881.07	-13,530.39	4,418.50	4,021.65	396.84	11.134		
16,600.00	7,154.00	7,156.00	7,156.00	284.92	143.55	-90.00	-2,881.07	-13,530.39	4,369.93	3,968.33	401.60	10.881		
16,700.00	7,154.00	7,156.00	7,156.00	287.59	143.55	-90.00	-2,881.07	-13,530.39	4,323.13	3,916.78	406.35	10.639		
16,800.00	7,154.00	7,156.00	7,156.00	290.27	143.55	-90.00	-2,881.07	-13,530.39	4,278.16	3,867.06	411.10	10.407		
16,900.00	7,154.00	7,156.00	7,156.00	292.94	143.55	-90.00	-2,881.07	-13,530.39	4,235.07	3,819.24	415.83	10.185		
17,000.00	7,154.00	7,156.00	7,156.00	295.62	143.55	-90.00	-2,881.07	-13,530.39	4,193.92	3,773.38	420.54	9.973		
17,100.00	7,154.00	7,156.00	7,156.00	298.29	143.55	-90.00	-2,881.07	-13,530.39	4,154.78	3,729.57	425.20	9.771		
17,200.00	7,154.00	7,156.00	7,156.00	300.97	143.55	-90.00	-2,881.07	-13,530.39	4,117.69	3,687.87	429.82	9.580		
17,300.00	7,154.00	7,156.00	7,156.00	303.65	143.55	-90.00	-2,881.07	-13,530.39	4,082.71	3,648.34	434.37	9.399		
17,400.00	7,154.00	7,156.00	7,156.00	306.33	143.55	-90.00	-2,881.07	-13,530.39	4,049.90	3,611.05	438.85	9.228		
17,500.00	7,154.00	7,156.00	7,156.00	309.01	143.55	-90.00	-2,881.07	-13,530.39	4,019.31	3,576.08	443.24	9.068		
17,600.00	7,154.00	7,156.00	7,156.00	311.69	143.55	-90.00	-2,881.07	-13,530.39	3,991.00	3,543.47	447.52	8.918		
17,700.00	7,154.00	7,156.00	7,156.00	314.37	143.55	-90.00	-2,881.07	-13,530.39	3,965.00	3,513.31	451.69	8.778		
17,800.00	7,154.00	7,156.00	7,156.00	317.05	143.55	-90.00	-2,881.07	-13,530.39	3,941.37	3,485.64	455.73	8.648		
17,900.00	7,154.00	7,156.00	7,156.00	319.73	143.55	-90.00	-2,881.07	-13,530.39	3,920.15	3,460.52	459.63	8.529		
18,000.00	7,154.00	7,156.00	7,156.00	322.41	143.55	-90.00	-2,881.07	-13,530.39	3,901.38	3,438.00	463.38	8.419		
18,100.00	7,154.00	7,156.00	7,156.00	325.09	143.55	-90.00	-2,881.07	-13,530.39	3,885.09	3,418.14	466.95	8.320		
18,200.00	7,154.00	7,156.00	7,156.00	327.77	143.55	-90.00	-2,881.07	-13,530.39	3,871.32	3,400.97	470.35	8.231		
18,300.00	7,154.00	7,156.00	7,156.00	330.45	143.55	-90.00	-2,881.07	-13,530.39	3,860.09	3,386.53	473.56	8.151		
18,400.00	7,154.00	7,156.00	7,156.00	333.13	143.55	-90.00	-2,881.07	-13,530.39	3,851.42	3,374.86	476.57	8.082		
18,500.00	7,154.00	7,156.00	7,156.00	335.82	143.55	-90.00	-2,881.07	-13,530.39	3,845.34	3,365.98	479.36	8.022		
18,600.00	7,154.00	7,156.00	7,156.00	338.50	143.55	-90.00	-2,881.07	-13,530.39	3,841.85	3,359.91	481.95	7.972		
18,684.11	7,154.00	7,156.00	7,156.00	340.75	143.55	-90.00	-2,881.07	-13,530.39	3,840.93	3,356.98	483.95	7.937 CC		
18,700.00	7,154.00	7,156.00	7,156.00	341.18	143.55	-90.00	-2,881.07	-13,530.39	3,840.96	3,356.66	484.31	7.931		
18,800.00	7,154.00	7,156.00	7,156.00	343.86	143.55	-90.00	-2,881.07	-13,530.39	3,842.68	3,356.24	486.44	7.900 ES		
18,900.00	7,154.00	7,156.00	7,156.00	346.55	143.55	-90.00	-2,881.07	-13,530.39	3,846.99	3,358.66	488.34	7.878		
19,000.00	7,154.00	7,156.00	7,156.00	349.23	143.55	-90.00	-2,881.07	-13,530.39	3,853.90	3,363.90	490.00	7.865		
19,100.00	7,154.00	7,156.00	7,156.00	351.92	143.55	-90.00	-2,881.07	-13,530.39	3,863.38	3,371.95	491.43	7.861 SF		
19,200.00	7,154.00	7,156.00	7,156.00	354.60	143.55	-90.00	-2,881.07	-13,530.39	3,875.42	3,382.79	492.63	7.867		
19,300.00	7,154.00	7,156.00	7,156.00	357.29	143.55	-90.00	-2,881.07	-13,530.39	3,890.00	3,396.40	493.60	7.881		
19,400.00	7,154.00	7,156.00	7,156.00	359.97	143.55	-90.00	-2,881.07	-13,530.39	3,907.08	3,412.75	494.33	7.904		
19,500.00	7,154.00	7,156.00	7,156.00	362.66	143.55	-90.00	-2,881.07	-13,530.39	3,926.63	3,431.79	494.84	7.935		
19,600.00	7,154.00	7,156.00	7,156.00	365.34	143.55	-90.00	-2,881.07	-13,530.39	3,948.62	3,453.49	495.13	7.975		
19,700.00	7,154.00	7,156.00	7,156.00	368.03	143.55	-90.00	-2,881.07	-13,530.39	3,973.01	3,477.80	495.21	8.023		

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 WARBLER 13W-27-03
Project:	ADAMS COUNTY	TVD Reference:	KB 25' @ 5105.00usft
Reference Site:	Sec 13-T1S-R66W	MD Reference:	KB 25' @ 5105.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	WARBLER 13W-27-03	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT_32Bit_ODBC
Reference Design:	PROPOSAL 1	Offset TVD Reference:	Offset Datum

Offset Design Sec 22-T1S-R66W - ABND VERT FARMER 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						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	
19,800.00	7,154.00	7,156.00	7,156.00	370.72	143.55	-90.00	-2,881.07	-13,530.39	3,999.75	3,504.66	495.08	8.079	
19,900.00	7,154.00	7,156.00	7,156.00	373.40	143.55	-90.00	-2,881.07	-13,530.39	4,028.79	3,534.03	494.76	8.143	
20,000.00	7,154.00	7,156.00	7,156.00	376.09	143.55	-90.00	-2,881.07	-13,530.39	4,060.09	3,565.84	494.25	8.215	
20,100.00	7,154.00	7,156.00	7,156.00	378.78	143.55	-90.00	-2,881.07	-13,530.39	4,093.59	3,600.03	493.56	8.294	
20,200.00	7,154.00	7,156.00	7,156.00	381.46	143.55	-90.00	-2,881.07	-13,530.39	4,129.25	3,636.54	492.70	8.381	
20,300.00	7,154.00	7,156.00	7,156.00	384.15	143.55	-90.00	-2,881.07	-13,530.39	4,167.00	3,675.31	491.69	8.475	
20,400.00	7,154.00	7,156.00	7,156.00	386.84	143.55	-90.00	-2,881.07	-13,530.39	4,206.78	3,716.25	490.53	8.576	
20,500.00	7,154.00	7,156.00	7,156.00	389.53	143.55	-90.00	-2,881.07	-13,530.39	4,248.55	3,759.32	489.23	8.684	
20,600.00	7,154.00	7,156.00	7,156.00	392.21	143.55	-90.00	-2,881.07	-13,530.39	4,292.25	3,804.44	487.81	8.799	
20,700.00	7,154.00	7,156.00	7,156.00	394.90	143.55	-90.00	-2,881.07	-13,530.39	4,337.81	3,851.54	486.27	8.921	
20,800.00	7,154.00	7,156.00	7,156.00	397.59	143.55	-90.00	-2,881.07	-13,530.39	4,385.17	3,900.55	484.62	9.049	
20,900.00	7,154.00	7,156.00	7,156.00	400.28	143.55	-90.00	-2,881.07	-13,530.39	4,434.29	3,951.41	482.88	9.183	
21,000.00	7,154.00	7,156.00	7,156.00	402.97	143.55	-90.00	-2,881.07	-13,530.39	4,485.10	4,004.05	481.05	9.324	
21,100.00	7,154.00	7,156.00	7,156.00	405.66	143.55	-90.00	-2,881.07	-13,530.39	4,537.54	4,058.40	479.14	9.470	
21,200.00	7,154.00	7,156.00	7,156.00	408.35	143.55	-90.00	-2,881.07	-13,530.39	4,591.56	4,114.40	477.16	9.623	
21,300.00	7,154.00	7,156.00	7,156.00	411.04	143.55	-90.00	-2,881.07	-13,530.39	4,647.11	4,171.98	475.13	9.781	
21,400.00	7,154.00	7,156.00	7,156.00	413.73	143.55	-90.00	-2,881.07	-13,530.39	4,704.13	4,231.09	473.04	9.945	
21,500.00	7,154.00	7,156.00	7,156.00	416.42	143.55	-90.00	-2,881.07	-13,530.39	4,762.56	4,291.66	470.90	10.114	
21,573.27	7,154.00	7,156.00	7,156.00	418.39	143.55	-90.00	-2,881.07	-13,530.39	4,806.24	4,336.93	469.32	10.241	

Anticollision Report

Company:	EXTRACTION OIL & GAS	Local Co-ordinate Reference:	Well WARBLER 13W-27-03
Project:	ADAMS COUNTY	TVD Reference:	KB 25' @ 5105.00usft
Reference Site:	Sec 13-T1S-R66W	MD Reference:	KB 25' @ 5105.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	WARBLER 13W-27-03	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT_32Bit_ODBC
Reference Design:	PROPOSAL 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-INC													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		
0.00	0.00	5.00	5.00	0.00	0.06	-127.20	-5,517.46	-7,267.80	9,124.87					
100.00	100.00	105.00	105.00	0.13	1.31	-127.20	-5,517.46	-7,267.80	9,124.87	9,123.42	1.45	6,305.486		
200.00	200.00	205.00	205.00	0.49	3.59	-127.20	-5,517.46	-7,267.80	9,124.87	9,120.78	4.08	2,233.921		
300.00	300.00	305.00	305.00	0.85	5.67	-127.20	-5,517.46	-7,267.80	9,124.87	9,118.35	6.52	1,399.590		
400.00	400.00	405.00	405.00	1.21	7.71	-127.20	-5,517.46	-7,267.80	9,124.87	9,115.95	8.92	1,023.004		
500.00	500.00	505.00	505.00	1.57	9.74	-127.20	-5,517.46	-7,267.80	9,124.87	9,113.56	11.31	807.018		
600.00	600.00	605.00	605.00	1.93	11.76	-127.20	-5,517.46	-7,267.80	9,124.87	9,111.18	13.69	666.634		
700.00	699.98	704.98	704.98	2.28	13.78	-58.64	-5,517.46	-7,267.80	9,123.96	9,107.90	16.06	568.110		
800.00	799.84	804.84	804.84	2.63	15.79	-58.71	-5,517.46	-7,267.80	9,121.24	9,102.81	18.43	494.997		
900.00	899.45	904.45	904.45	3.00	17.80	-58.83	-5,517.46	-7,267.80	9,116.70	9,095.91	20.79	438.432		
1,000.00	998.70	1,003.70	1,003.70	3.37	19.80	-59.01	-5,517.46	-7,267.80	9,110.38	9,087.22	23.16	393.324		
1,100.00	1,097.47	1,102.47	1,102.47	3.77	21.79	-59.23	-5,517.46	-7,267.80	9,102.28	9,076.74	25.53	356.467		
1,200.00	1,195.62	1,200.62	1,200.62	4.19	23.77	-59.50	-5,517.46	-7,267.80	9,092.42	9,064.51	27.91	325.742		
1,300.00	1,293.06	1,301.94	1,298.06	4.64	25.81	-59.82	-5,517.46	-7,267.80	9,080.84	9,050.46	30.38	298.925		
1,400.00	1,389.64	1,405.36	1,394.64	5.12	27.89	-60.19	-5,517.46	-7,267.80	9,067.56	9,034.65	32.91	275.488		
1,500.00	1,485.27	1,509.73	1,490.27	5.66	29.99	-60.61	-5,517.46	-7,267.80	9,052.63	9,017.12	35.50	254.974		
1,600.00	1,579.82	1,584.82	1,584.82	6.24	31.50	-61.08	-5,517.46	-7,267.80	9,036.08	8,998.54	37.54	240.680		
1,700.00	1,673.17	1,678.17	1,678.17	6.88	33.38	-61.59	-5,517.46	-7,267.80	9,017.97	8,977.98	40.00	225.472		
1,800.00	1,765.22	1,770.22	1,770.22	7.57	35.23	-62.11	-5,517.46	-7,267.80	8,998.36	8,955.89	42.47	211.867		
1,900.00	1,856.73	1,861.73	1,861.73	8.31	37.07	-62.32	-5,517.46	-7,267.80	8,978.24	8,933.27	44.97	199.656		
2,000.00	1,948.24	1,953.24	1,953.24	9.06	38.91	-62.54	-5,517.46	-7,267.80	8,958.25	8,910.77	47.49	188.654		
2,100.00	2,039.75	2,044.75	2,044.75	9.83	40.75	-62.75	-5,517.46	-7,267.80	8,938.41	8,888.39	50.02	178.704		
2,200.00	2,131.26	2,136.26	2,136.26	10.61	42.59	-62.96	-5,517.46	-7,267.80	8,918.70	8,866.13	52.56	169.674		
2,300.00	2,222.77	2,227.77	2,227.77	11.40	44.44	-63.18	-5,517.46	-7,267.80	8,899.13	8,844.01	55.12	161.448		
2,400.00	2,314.28	2,319.28	2,319.28	12.20	46.28	-63.40	-5,517.46	-7,267.80	8,879.70	8,822.01	57.69	153.929		
2,500.00	2,405.79	2,410.79	2,410.79	13.00	48.12	-63.61	-5,517.46	-7,267.80	8,860.41	8,800.14	60.26	147.032		
2,600.00	2,497.30	2,502.30	2,502.30	13.81	49.96	-63.83	-5,517.46	-7,267.80	8,841.26	8,778.42	62.84	140.686		
2,700.00	2,588.81	2,606.20	2,593.81	14.62	52.05	-64.05	-5,517.46	-7,267.80	8,822.25	8,756.57	65.68	134.319		
2,800.00	2,680.31	2,685.31	2,685.31	15.44	53.64	-64.27	-5,517.46	-7,267.80	8,803.39	8,735.37	68.03	129.411		
2,900.00	2,771.82	2,776.82	2,776.82	16.25	55.48	-64.49	-5,517.46	-7,267.80	8,784.68	8,714.05	70.63	124.383		
3,000.00	2,863.33	2,868.33	2,868.33	17.08	57.32	-64.71	-5,517.46	-7,267.80	8,766.11	8,692.88	73.23	119.706		
3,100.00	2,954.84	2,959.84	2,959.84	17.90	59.16	-64.94	-5,517.46	-7,267.80	8,747.68	8,671.84	75.84	115.345		
3,200.00	3,046.35	3,051.35	3,051.35	18.72	61.00	-65.16	-5,517.46	-7,267.80	8,729.40	8,650.95	78.45	111.270		
3,300.00	3,137.86	3,142.86	3,142.86	19.55	62.84	-65.38	-5,517.46	-7,267.80	8,711.28	8,630.21	81.07	107.454		
3,400.00	3,229.37	3,234.37	3,234.37	20.38	64.68	-65.61	-5,517.46	-7,267.80	8,693.30	8,609.60	83.69	103.874		
3,500.00	3,320.88	3,325.88	3,325.88	21.21	66.52	-65.83	-5,517.46	-7,267.80	8,675.47	8,589.15	86.32	100.509		
3,600.00	3,412.39	3,417.39	3,417.39	22.04	68.36	-66.06	-5,517.46	-7,267.80	8,657.79	8,568.84	88.94	97.340		
3,700.00	3,503.90	3,508.90	3,508.90	22.87	70.20	-66.29	-5,517.46	-7,267.80	8,640.26	8,548.69	91.57	94.352		
3,800.00	3,595.41	3,600.41	3,600.41	23.70	72.04	-66.51	-5,517.46	-7,267.80	8,622.89	8,528.68	94.21	91.529		
3,900.00	3,686.91	3,708.09	3,691.91	24.54	74.21	-66.74	-5,517.46	-7,267.80	8,605.67	8,508.50	97.17	88.561		
4,000.00	3,778.42	3,783.42	3,783.42	25.37	75.72	-66.97	-5,517.46	-7,267.80	8,588.60	8,489.12	99.49	86.329		
4,100.00	3,869.93	3,874.93	3,874.93	26.20	77.57	-67.20	-5,517.46	-7,267.80	8,571.70	8,469.57	102.13	83.929		
4,200.00	3,961.44	3,966.44	3,966.44	27.04	79.41	-67.43	-5,517.46	-7,267.80	8,554.94	8,450.17	104.78	81.649		
4,300.00	4,052.95	4,057.95	4,057.95	27.88	81.25	-67.67	-5,517.46	-7,267.80	8,538.35	8,430.92	107.43	79.482		
4,400.00	4,144.46	4,149.46	4,149.46	28.71	83.09	-67.90	-5,517.46	-7,267.80	8,521.91	8,411.84	110.08	77.418		
4,500.00	4,235.97	4,240.97	4,240.97	29.55	84.93	-68.13	-5,517.46	-7,267.80	8,505.64	8,392.91	112.73	75.451		
4,600.00	4,327.48	4,332.48	4,332.48	30.39	86.77	-68.37	-5,517.46	-7,267.80	8,489.52	8,374.13	115.39	73.574		
4,700.00	4,418.99	4,423.99	4,423.99	31.22	88.61	-68.60	-5,517.46	-7,267.80	8,473.56	8,355.52	118.05	71.782		
4,800.00	4,510.50	4,515.50	4,515.50	32.06	90.45	-68.84	-5,517.46	-7,267.80	8,457.77	8,337.06	120.71	70.069		
4,900.00	4,602.01	4,607.01	4,607.01	32.90	92.29	-69.07	-5,517.46	-7,267.80	8,442.14	8,318.77	123.37	68.429		
5,000.00	4,693.51	4,701.49	4,698.51	33.74	94.19	-69.31	-5,517.46	-7,267.80	8,426.68	8,300.58	126.10	66.827		
5,100.00	4,785.02	4,809.98	4,790.02	34.58	96.37	-69.55	-5,517.46	-7,267.80	8,411.38	8,282.27	129.11	65.151		

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 WARBLER 13W-27-03
Project:	ADAMS COUNTY	TVD Reference:	KB 25' @ 5105.00usft
Reference Site:	Sec 13-T1S-R66W	MD Reference:	KB 25' @ 5105.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	WARBLER 13W-27-03	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT_32Bit_ODBC
Reference Design:	PROPOSAL 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-INC													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		
5,200.00	4,876.53	4,881.53	4,881.53	35.42	97.81	-69.79	-5,517.46	-7,267.80	8,396.24	8,264.87	131.37	63.911		
5,300.00	4,968.04	4,973.04	4,973.04	36.26	99.65	-70.03	-5,517.46	-7,267.80	8,381.27	8,247.22	134.05	62.525		
5,400.00	5,059.55	5,064.55	5,064.55	37.10	101.49	-70.27	-5,517.46	-7,267.80	8,366.47	8,229.75	136.72	61.193		
5,500.00	5,151.06	5,156.06	5,156.06	37.94	103.33	-70.51	-5,517.46	-7,267.80	8,351.84	8,212.44	139.40	59.913		
5,600.00	5,242.57	5,247.57	5,247.57	38.78	105.17	-70.75	-5,517.46	-7,267.80	8,337.37	8,195.30	142.08	58.682		
5,700.00	5,334.08	5,339.08	5,339.08	39.62	107.01	-70.99	-5,517.46	-7,267.80	8,323.08	8,178.32	144.76	57.497		
5,800.00	5,425.59	5,430.59	5,430.59	40.46	108.85	-71.23	-5,517.46	-7,267.80	8,308.96	8,161.52	147.44	56.355		
5,900.00	5,517.10	5,522.10	5,522.10	41.30	110.69	-71.48	-5,517.46	-7,267.80	8,295.01	8,144.89	150.12	55.254		
6,000.00	5,608.61	5,613.61	5,613.61	42.14	112.53	-71.72	-5,517.46	-7,267.80	8,281.23	8,128.42	152.81	54.193		
6,100.00	5,700.12	5,705.12	5,705.12	42.98	114.37	-71.97	-5,517.46	-7,267.80	8,267.63	8,112.13	155.50	53.169		
6,200.00	5,791.62	5,803.38	5,796.62	43.82	116.35	-72.21	-5,517.46	-7,267.80	8,254.20	8,095.88	158.32	52.135		
6,300.00	5,883.13	5,888.13	5,888.13	44.66	118.05	-72.46	-5,517.46	-7,267.80	8,240.95	8,080.07	160.88	51.225		
6,400.00	5,974.64	5,979.64	5,979.64	45.50	119.89	-72.71	-5,517.46	-7,267.80	8,227.87	8,064.30	163.57	50.301		
6,500.00	6,066.15	6,071.15	6,071.15	46.35	121.73	-72.95	-5,517.46	-7,267.80	8,214.97	8,048.71	166.27	49.408		
6,600.00	6,157.66	6,162.66	6,162.66	47.19	123.57	-73.20	-5,517.46	-7,267.80	8,202.25	8,033.29	168.96	48.545		
6,700.00	6,249.17	6,254.17	6,254.17	48.03	125.41	-73.45	-5,517.46	-7,267.80	8,189.71	8,018.05	171.66	47.709		
6,800.00	6,340.68	6,345.68	6,345.68	48.87	127.25	-73.70	-5,517.46	-7,267.80	8,177.34	8,002.98	174.36	46.899		
6,900.00	6,432.19	6,437.19	6,437.19	49.71	129.09	-73.95	-5,517.46	-7,267.80	8,165.16	7,988.10	177.06	46.115		
7,000.00	6,523.70	6,528.70	6,528.70	50.55	130.93	-74.20	-5,517.46	-7,267.80	8,153.16	7,973.40	179.76	45.355		
7,100.00	6,615.21	6,620.21	6,620.21	51.40	132.77	-74.45	-5,517.46	-7,267.80	8,141.34	7,958.87	182.47	44.619		
7,200.00	6,706.72	6,711.72	6,711.72	52.24	134.61	-74.71	-5,517.46	-7,267.80	8,129.70	7,944.53	185.17	43.904		
7,300.00	6,798.22	6,803.22	6,803.22	53.08	136.46	-74.96	-5,517.46	-7,267.80	8,118.25	7,930.37	187.88	43.211		
7,400.00	6,886.25	6,908.75	6,891.25	54.07	138.58	-70.32	-5,517.46	-7,267.80	8,102.00	7,911.00	190.99	42.420		
7,500.00	6,965.23	6,970.23	6,970.23	55.35	139.81	-69.45	-5,517.46	-7,267.80	8,075.91	7,882.42	193.49	41.738		
7,600.00	7,032.75	7,037.75	7,037.75	56.90	141.17	-70.96	-5,517.46	-7,267.80	8,040.97	7,844.63	196.35	40.953		
7,700.00	7,086.77	7,108.23	7,091.77	58.68	142.59	-74.21	-5,517.46	-7,267.80	7,998.47	7,799.01	199.46	40.100		
7,800.00	7,125.64	7,130.64	7,130.64	60.64	143.04	-78.87	-5,517.46	-7,267.80	7,949.85	7,748.10	201.75	39.404		
7,900.00	7,148.19	7,153.19	7,153.19	62.69	143.49	-84.64	-5,517.46	-7,267.80	7,896.75	7,692.63	204.12	38.687		
8,000.00	7,154.00	7,159.00	7,159.00	64.75	143.61	-90.00	-5,517.46	-7,267.80	7,840.86	7,634.70	206.16	38.034		
8,100.00	7,154.00	7,159.00	7,159.00	66.83	143.61	-90.00	-5,517.46	-7,267.80	7,784.91	7,576.81	208.10	37.409		
8,200.00	7,154.00	7,159.00	7,159.00	68.96	143.61	-90.00	-5,517.46	-7,267.80	7,729.86	7,519.76	210.10	36.792		
8,300.00	7,154.00	7,159.00	7,159.00	71.12	143.61	-90.00	-5,517.46	-7,267.80	7,675.71	7,463.57	212.15	36.181		
8,400.00	7,154.00	7,159.00	7,159.00	73.32	143.61	-90.00	-5,517.46	-7,267.80	7,622.49	7,408.25	214.25	35.578		
8,500.00	7,154.00	7,159.00	7,159.00	75.55	143.61	-90.00	-5,517.46	-7,267.80	7,570.22	7,353.83	216.39	34.984		
8,600.00	7,154.00	7,159.00	7,159.00	77.81	143.61	-90.00	-5,517.46	-7,267.80	7,518.91	7,300.33	218.58	34.399		
8,700.00	7,154.00	7,159.00	7,159.00	80.10	143.61	-90.00	-5,517.46	-7,267.80	7,468.59	7,247.78	220.82	33.823		
8,800.00	7,154.00	7,159.00	7,159.00	82.41	143.61	-90.00	-5,517.46	-7,267.80	7,419.28	7,196.19	223.09	33.256		
8,900.00	7,154.00	7,159.00	7,159.00	84.75	143.61	-90.00	-5,517.46	-7,267.80	7,370.99	7,145.58	225.41	32.700		
9,000.00	7,154.00	7,159.00	7,159.00	87.11	143.61	-90.00	-5,517.46	-7,267.80	7,323.75	7,095.99	227.77	32.155		
9,100.00	7,154.00	7,159.00	7,159.00	89.48	143.61	-90.00	-5,517.46	-7,267.80	7,277.58	7,047.42	230.16	31.620		
9,200.00	7,154.00	7,159.00	7,159.00	91.88	143.61	-90.00	-5,517.46	-7,267.80	7,232.50	6,999.91	232.59	31.096		
9,300.00	7,154.00	7,159.00	7,159.00	94.29	143.61	-90.00	-5,517.46	-7,267.80	7,188.52	6,953.48	235.05	30.584		
9,400.00	7,154.00	7,159.00	7,159.00	96.72	143.61	-90.00	-5,517.46	-7,267.80	7,145.68	6,908.14	237.54	30.082		
9,500.00	7,154.00	7,159.00	7,159.00	99.16	143.61	-90.00	-5,517.46	-7,267.80	7,103.98	6,863.92	240.06	29.593		
9,600.00	7,154.00	7,159.00	7,159.00	101.61	143.61	-90.00	-5,517.46	-7,267.80	7,063.45	6,820.85	242.61	29.115		
9,700.00	7,154.00	7,159.00	7,159.00	104.08	143.61	-90.00	-5,517.46	-7,267.80	7,024.11	6,778.93	245.18	28.649		
9,800.00	7,154.00	7,159.00	7,159.00	106.56	143.61	-90.00	-5,517.46	-7,267.80	6,985.99	6,738.21	247.78	28.195		
9,900.00	7,154.00	7,159.00	7,159.00	109.05	143.61	-90.00	-5,517.46	-7,267.80	6,949.09	6,698.69	250.39	27.753		
10,000.00	7,154.00	7,159.00	7,159.00	111.55	143.61	-90.00	-5,517.46	-7,267.80	6,913.44	6,660.41	253.03	27.322		
10,100.00	7,154.00	7,159.00	7,159.00	114.06	143.61	-90.00	-5,517.46	-7,267.80	6,879.06	6,623.37	255.69	26.904		
10,200.00	7,154.00	7,159.00	7,159.00	116.57	143.61	-90.00	-5,517.46	-7,267.80	6,845.97	6,587.61	258.36	26.498		
10,300.00	7,154.00	7,159.00	7,159.00	119.10	143.61	-90.00	-5,517.46	-7,267.80	6,814.19	6,553.14	261.04	26.104		

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 WARBLER 13W-27-03
Project:	ADAMS COUNTY	TVD Reference:	KB 25' @ 5105.00usft
Reference Site:	Sec 13-T1S-R66W	MD Reference:	KB 25' @ 5105.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	WARBLER 13W-27-03	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT_32Bit_ODBC
Reference Design:	PROPOSAL 1	Offset TVD Reference:	Offset Datum

Offset Design Sec 24-T1S-R66W - ABND VERT BARR 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						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		
10,400.00	7,154.00	7,159.00	7,159.00	121.63	143.61	-90.00	-5,517.46	-7,267.80	6,783.73	6,519.99	263.74	25.721		
10,500.00	7,154.00	7,159.00	7,159.00	124.17	143.61	-90.00	-5,517.46	-7,267.80	6,754.61	6,488.17	266.44	25.351		
10,600.00	7,154.00	7,159.00	7,159.00	126.72	143.61	-90.00	-5,517.46	-7,267.80	6,726.86	6,457.71	269.15	24.993		
10,700.00	7,154.00	7,159.00	7,159.00	129.28	143.61	-90.00	-5,517.46	-7,267.80	6,700.48	6,428.62	271.87	24.646		
10,800.00	7,154.00	7,159.00	7,159.00	131.84	143.61	-90.00	-5,517.46	-7,267.80	6,675.50	6,400.92	274.58	24.311		
10,900.00	7,154.00	7,159.00	7,159.00	134.40	143.61	-90.00	-5,517.46	-7,267.80	6,651.93	6,374.63	277.30	23.988		
11,000.00	7,154.00	7,159.00	7,159.00	136.97	143.61	-90.00	-5,517.46	-7,267.80	6,629.78	6,349.77	280.01	23.677		
11,100.00	7,154.00	7,159.00	7,159.00	139.55	143.61	-90.00	-5,517.46	-7,267.80	6,609.07	6,326.35	282.72	23.377		
11,200.00	7,154.00	7,159.00	7,159.00	142.13	143.61	-90.00	-5,517.46	-7,267.80	6,589.81	6,304.40	285.42	23.089		
11,300.00	7,154.00	7,159.00	7,159.00	144.72	143.61	-90.00	-5,517.46	-7,267.80	6,572.02	6,283.92	288.10	22.811		
11,400.00	7,154.00	7,159.00	7,159.00	147.30	143.61	-90.00	-5,517.46	-7,267.80	6,555.71	6,264.93	290.78	22.545		
11,500.00	7,154.00	7,159.00	7,159.00	149.90	143.61	-90.00	-5,517.46	-7,267.80	6,540.88	6,247.44	293.44	22.290		
11,600.00	7,154.00	7,159.00	7,159.00	152.50	143.61	-90.00	-5,517.46	-7,267.80	6,527.55	6,231.47	296.08	22.046		
11,700.00	7,154.00	7,159.00	7,159.00	155.10	143.61	-90.00	-5,517.46	-7,267.80	6,515.73	6,217.03	298.71	21.813		
11,800.00	7,154.00	7,159.00	7,159.00	157.70	143.61	-90.00	-5,517.46	-7,267.80	6,505.43	6,204.12	301.31	21.591		
11,900.00	7,154.00	7,159.00	7,159.00	160.31	143.61	-90.00	-5,517.46	-7,267.80	6,496.65	6,192.77	303.88	21.379		
12,000.00	7,154.00	7,159.00	7,159.00	162.92	143.61	-90.00	-5,517.46	-7,267.80	6,489.40	6,182.96	306.43	21.177		
12,100.00	7,154.00	7,159.00	7,159.00	165.54	143.61	-90.00	-5,517.46	-7,267.80	6,483.68	6,174.73	308.95	20.986		
12,200.00	7,154.00	7,159.00	7,159.00	168.15	143.61	-90.00	-5,517.46	-7,267.80	6,479.50	6,168.06	311.44	20.805		
12,300.00	7,154.00	7,159.00	7,159.00	170.77	143.61	-90.00	-5,517.46	-7,267.80	6,476.86	6,162.97	313.90	20.634		
12,400.00	7,154.00	7,159.00	7,159.00	173.39	143.61	-90.00	-5,517.46	-7,267.80	6,475.77	6,159.45	316.32	20.472		
12,420.85	7,154.00	7,159.00	7,159.00	173.94	143.61	-90.00	-5,517.46	-7,267.80	6,475.73	6,158.92	316.82	20.440	CC	
12,500.00	7,154.00	7,159.00	7,159.00	176.02	143.61	-90.00	-5,517.46	-7,267.80	6,476.22	6,157.52	318.70	20.321		
12,600.00	7,154.00	7,159.00	7,159.00	178.65	143.61	-90.00	-5,517.46	-7,267.80	6,478.21	6,157.17	321.04	20.179	ES	
12,700.00	7,154.00	7,159.00	7,159.00	181.28	143.61	-90.00	-5,517.46	-7,267.80	6,481.75	6,158.40	323.35	20.046		
12,800.00	7,154.00	7,159.00	7,159.00	183.91	143.61	-90.00	-5,517.46	-7,267.80	6,486.82	6,161.22	325.61	19.922		
12,900.00	7,154.00	7,159.00	7,159.00	186.54	143.61	-90.00	-5,517.46	-7,267.80	6,493.44	6,165.61	327.82	19.808		
13,000.00	7,154.00	7,159.00	7,159.00	189.18	143.61	-90.00	-5,517.46	-7,267.80	6,501.58	6,171.59	330.00	19.702		
13,100.00	7,154.00	7,159.00	7,159.00	191.81	143.61	-90.00	-5,517.46	-7,267.80	6,511.25	6,179.13	332.12	19.605		
13,200.00	7,154.00	7,159.00	7,159.00	194.45	143.61	-90.00	-5,517.46	-7,267.80	6,522.44	6,188.24	334.20	19.517		
13,300.00	7,154.00	7,159.00	7,159.00	197.10	143.61	-90.00	-5,517.46	-7,267.80	6,535.14	6,198.91	336.23	19.437		
13,400.00	7,154.00	7,159.00	7,159.00	199.74	143.61	-90.00	-5,517.46	-7,267.80	6,549.34	6,211.14	338.20	19.365		
13,500.00	7,154.00	7,159.00	7,159.00	202.38	143.61	-90.00	-5,517.46	-7,267.80	6,565.04	6,224.90	340.13	19.301		
13,600.00	7,154.00	7,159.00	7,159.00	205.03	143.61	-90.00	-5,517.46	-7,267.80	6,582.21	6,240.20	342.01	19.246		
13,700.00	7,154.00	7,159.00	7,159.00	207.68	143.61	-90.00	-5,517.46	-7,267.80	6,600.86	6,257.03	343.83	19.198		
13,800.00	7,154.00	7,159.00	7,159.00	210.33	143.61	-90.00	-5,517.46	-7,267.80	6,620.97	6,275.36	345.60	19.158		
13,900.00	7,154.00	7,159.00	7,159.00	212.98	143.61	-90.00	-5,517.46	-7,267.80	6,642.52	6,295.19	347.32	19.125		
14,000.00	7,154.00	7,159.00	7,159.00	215.63	143.61	-90.00	-5,517.46	-7,267.80	6,665.50	6,316.51	348.99	19.099		
14,100.00	7,154.00	7,159.00	7,159.00	218.28	143.61	-90.00	-5,517.46	-7,267.80	6,689.89	6,339.29	350.60	19.081		
14,200.00	7,154.00	7,159.00	7,159.00	220.93	143.61	-90.00	-5,517.46	-7,267.80	6,715.69	6,363.53	352.16	19.070		
14,300.00	7,154.00	7,159.00	7,159.00	223.59	143.61	-90.00	-5,517.46	-7,267.80	6,742.87	6,389.20	353.67	19.065	SF	
14,400.00	7,154.00	7,159.00	7,159.00	226.25	143.61	-90.00	-5,517.46	-7,267.80	6,771.42	6,416.30	355.13	19.068		
14,500.00	7,154.00	7,159.00	7,159.00	228.90	143.61	-90.00	-5,517.46	-7,267.80	6,801.32	6,444.80	356.53	19.077		
14,600.00	7,154.00	7,159.00	7,159.00	231.56	143.61	-90.00	-5,517.46	-7,267.80	6,832.56	6,474.68	357.88	19.092		
14,700.00	7,154.00	7,159.00	7,159.00	234.22	143.61	-90.00	-5,517.46	-7,267.80	6,865.10	6,505.93	359.17	19.114		
14,800.00	7,154.00	7,159.00	7,159.00	236.88	143.61	-90.00	-5,517.46	-7,267.80	6,898.95	6,538.53	360.42	19.141		
14,900.00	7,154.00	7,159.00	7,159.00	239.55	143.61	-90.00	-5,517.46	-7,267.80	6,934.07	6,572.45	361.62	19.175		
15,000.00	7,154.00	7,159.00	7,159.00	242.21	143.61	-90.00	-5,517.46	-7,267.80	6,970.45	6,607.69	362.76	19.215		
15,100.00	7,154.00	7,159.00	7,159.00	244.87	143.61	-90.00	-5,517.46	-7,267.80	7,008.07	6,644.21	363.86	19.260		
15,200.00	7,154.00	7,159.00	7,159.00	247.54	143.61	-90.00	-5,517.46	-7,267.80	7,046.90	6,681.99	364.91	19.311		
15,300.00	7,154.00	7,159.00	7,159.00	250.20	143.61	-90.00	-5,517.46	-7,267.80	7,086.93	6,721.03	365.91	19.368		
15,400.00	7,154.00	7,159.00	7,159.00	252.87	143.61	-90.00	-5,517.46	-7,267.80	7,128.15	6,761.28	366.86	19.430		

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 WARBLER 13W-27-03
Project:	ADAMS COUNTY	TVD Reference:	KB 25' @ 5105.00usft
Reference Site:	Sec 13-T1S-R66W	MD Reference:	KB 25' @ 5105.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	WARBLER 13W-27-03	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT_32Bit_ODBC
Reference Design:	PROPOSAL 1	Offset TVD Reference:	Offset Datum

Offset Design Sec 24-T1S-R66W - ABND VERT BARR 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						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		
15,500.00	7,154.00	7,159.00	7,159.00	255.53	143.61	-90.00	-5,517.46	-7,267.80	7,170.52	6,802.74	367.77	19.497		
15,600.00	7,154.00	7,159.00	7,159.00	258.20	143.61	-90.00	-5,517.46	-7,267.80	7,214.02	6,845.39	368.63	19.570		
15,700.00	7,154.00	7,159.00	7,159.00	260.87	143.61	-90.00	-5,517.46	-7,267.80	7,258.65	6,889.19	369.45	19.647		
15,800.00	7,154.00	7,159.00	7,159.00	263.54	143.61	-90.00	-5,517.46	-7,267.80	7,304.37	6,934.14	370.23	19.729		
15,900.00	7,154.00	7,159.00	7,159.00	266.21	143.61	-90.00	-5,517.46	-7,267.80	7,351.16	6,980.20	370.97	19.816		
16,000.00	7,154.00	7,159.00	7,159.00	268.88	143.61	-90.00	-5,517.46	-7,267.80	7,399.02	7,027.35	371.66	19.908		
16,100.00	7,154.00	7,159.00	7,159.00	271.55	143.61	-90.00	-5,517.46	-7,267.80	7,447.90	7,075.59	372.32	20.004		
16,200.00	7,154.00	7,159.00	7,159.00	274.22	143.61	-90.00	-5,517.46	-7,267.80	7,497.81	7,124.87	372.94	20.105		
16,300.00	7,154.00	7,159.00	7,159.00	276.90	143.61	-90.00	-5,517.46	-7,267.80	7,548.70	7,175.19	373.52	20.210		
16,400.00	7,154.00	7,159.00	7,159.00	279.57	143.61	-90.00	-5,517.46	-7,267.80	7,600.58	7,226.52	374.06	20.319		
16,500.00	7,154.00	7,159.00	7,159.00	282.24	143.61	-90.00	-5,517.46	-7,267.80	7,653.40	7,278.83	374.57	20.433		
16,600.00	7,154.00	7,159.00	7,159.00	284.92	143.61	-90.00	-5,517.46	-7,267.80	7,707.17	7,332.12	375.04	20.550		
16,700.00	7,154.00	7,159.00	7,159.00	287.59	143.61	-90.00	-5,517.46	-7,267.80	7,761.85	7,386.36	375.49	20.671		
16,800.00	7,154.00	7,159.00	7,159.00	290.27	143.61	-90.00	-5,517.46	-7,267.80	7,817.42	7,441.52	375.90	20.797		
16,900.00	7,154.00	7,159.00	7,159.00	292.94	143.61	-90.00	-5,517.46	-7,267.80	7,873.88	7,497.60	376.28	20.926		
17,000.00	7,154.00	7,159.00	7,159.00	295.62	143.61	-90.00	-5,517.46	-7,267.80	7,931.19	7,554.56	376.63	21.058		
17,100.00	7,154.00	7,159.00	7,159.00	298.29	143.61	-90.00	-5,517.46	-7,267.80	7,989.34	7,612.39	376.95	21.195		
17,200.00	7,154.00	7,159.00	7,159.00	300.97	143.61	-90.00	-5,517.46	-7,267.80	8,048.32	7,671.07	377.24	21.335		
17,300.00	7,154.00	7,159.00	7,159.00	303.65	143.61	-90.00	-5,517.46	-7,267.80	8,108.10	7,730.59	377.51	21.478		
17,400.00	7,154.00	7,159.00	7,159.00	306.33	143.61	-90.00	-5,517.46	-7,267.80	8,168.66	7,790.91	377.75	21.624		
17,500.00	7,154.00	7,159.00	7,159.00	309.01	143.61	-90.00	-5,517.46	-7,267.80	8,230.00	7,852.03	377.97	21.774		
17,600.00	7,154.00	7,159.00	7,159.00	311.69	143.61	-90.00	-5,517.46	-7,267.80	8,292.09	7,913.92	378.17	21.927		
17,700.00	7,154.00	7,159.00	7,159.00	314.37	143.61	-90.00	-5,517.46	-7,267.80	8,354.91	7,976.57	378.34	22.083		
17,800.00	7,154.00	7,159.00	7,159.00	317.05	143.61	-90.00	-5,517.46	-7,267.80	8,418.45	8,039.97	378.49	22.242		
17,900.00	7,154.00	7,159.00	7,159.00	319.73	143.61	-90.00	-5,517.46	-7,267.80	8,482.70	8,104.08	378.62	22.404		
18,000.00	7,154.00	7,159.00	7,159.00	322.41	143.61	-90.00	-5,517.46	-7,267.80	8,547.63	8,168.91	378.73	22.569		
18,100.00	7,154.00	7,159.00	7,159.00	325.09	143.61	-90.00	-5,517.46	-7,267.80	8,613.24	8,234.42	378.82	22.737		
18,200.00	7,154.00	7,159.00	7,159.00	327.77	143.61	-90.00	-5,517.46	-7,267.80	8,679.50	8,300.61	378.89	22.908		
18,300.00	7,154.00	7,159.00	7,159.00	330.45	143.61	-90.00	-5,517.46	-7,267.80	8,746.40	8,367.46	378.94	23.081		
18,400.00	7,154.00	7,159.00	7,159.00	333.13	143.61	-90.00	-5,517.46	-7,267.80	8,813.93	8,434.95	378.98	23.257		
18,500.00	7,154.00	7,159.00	7,159.00	335.82	143.61	-90.00	-5,517.46	-7,267.80	8,882.07	8,503.07	379.00	23.435		
18,600.00	7,154.00	7,159.00	7,159.00	338.50	143.61	-90.00	-5,517.46	-7,267.80	8,950.81	8,571.80	379.01	23.616		
18,700.00	7,154.00	7,159.00	7,159.00	341.18	143.61	-90.00	-5,517.46	-7,267.80	9,020.14	8,641.14	379.00	23.800		
18,800.00	7,154.00	7,159.00	7,159.00	343.86	143.61	-90.00	-5,517.46	-7,267.80	9,090.03	8,711.05	378.98	23.986		
18,900.00	7,154.00	7,159.00	7,159.00	346.55	143.61	-90.00	-5,517.46	-7,267.80	9,160.49	8,781.54	378.94	24.174		
19,000.00	7,154.00	7,159.00	7,159.00	349.23	143.61	-90.00	-5,517.46	-7,267.80	9,231.49	8,852.59	378.90	24.364		
19,100.00	7,154.00	7,159.00	7,159.00	351.92	143.61	-90.00	-5,517.46	-7,267.80	9,303.02	8,924.18	378.84	24.557		
19,200.00	7,154.00	7,159.00	7,159.00	354.60	143.61	-90.00	-5,517.46	-7,267.80	9,375.07	8,996.31	378.77	24.752		
19,300.00	7,154.00	7,159.00	7,159.00	357.29	143.61	-90.00	-5,517.46	-7,267.80	9,447.64	9,068.95	378.68	24.949		
19,400.00	7,154.00	7,159.00	7,159.00	359.97	143.61	-90.00	-5,517.46	-7,267.80	9,520.70	9,142.10	378.59	25.148		
19,500.00	7,154.00	7,159.00	7,159.00	362.66	143.61	-90.00	-5,517.46	-7,267.80	9,594.24	9,215.75	378.49	25.349		
19,600.00	7,154.00	7,159.00	7,159.00	365.34	143.61	-90.00	-5,517.46	-7,267.80	9,668.26	9,289.88	378.38	25.552		
19,700.00	7,154.00	7,159.00	7,159.00	368.03	143.61	-90.00	-5,517.46	-7,267.80	9,742.75	9,364.49	378.26	25.757		
19,800.00	7,154.00	7,159.00	7,159.00	370.72	143.61	-90.00	-5,517.46	-7,267.80	9,817.69	9,439.56	378.13	25.964		
19,900.00	7,154.00	7,159.00	7,159.00	373.40	143.61	-90.00	-5,517.46	-7,267.80	9,893.07	9,515.07	378.00	26.172		
20,000.00	7,154.00	7,159.00	7,159.00	376.09	143.61	-90.00	-5,517.46	-7,267.80	9,968.88	9,591.03	377.85	26.383		

Anticollision Report

Company:	EXTRACTION OIL & GAS	Local Co-ordinate Reference:	Well Warbler 13W-27-03
Project:	ADAMS COUNTY	TVD Reference:	KB 25' @ 5105.00usft
Reference Site:	Sec 13-T1S-R66W	MD Reference:	KB 25' @ 5105.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	Warbler 13W-27-03	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT_32Bit_ODBC
Reference Design:	PROPOSAL 1	Offset TVD Reference:	Offset Datum

Offset Design Sec 24-T1S-R66W - ABND VERT BERGMAN 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						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		
0.00	0.00	0.00	0.00	0.00	0.00	-111.98	-2,050.03	-5,078.14	5,476.39					
100.00	100.00	73.00	73.00	0.13	0.87	-111.98	-2,050.03	-5,078.14	5,476.32	5,475.31	1.01	5,426.782		
200.00	200.00	173.00	173.00	0.49	2.87	-111.98	-2,050.03	-5,078.14	5,476.32	5,472.96	3.36	1,628.615		
300.00	300.00	273.00	273.00	0.85	5.01	-111.98	-2,050.03	-5,078.14	5,476.32	5,470.47	5.86	935.098		
400.00	400.00	373.00	373.00	1.21	7.06	-111.98	-2,050.03	-5,078.14	5,476.32	5,468.06	8.27	662.445		
500.00	500.00	473.00	473.00	1.57	9.09	-111.98	-2,050.03	-5,078.14	5,476.32	5,465.67	10.66	513.827		
600.00	600.00	573.00	573.00	1.93	11.11	-111.98	-2,050.03	-5,078.14	5,476.32	5,463.28	13.04	419.936		
700.00	699.98	672.98	672.98	2.28	13.13	-43.42	-2,050.03	-5,078.14	5,475.06	5,459.64	15.41	355.198		
800.00	799.84	772.84	772.84	2.63	15.15	-43.51	-2,050.03	-5,078.14	5,471.25	5,453.47	17.78	307.699		
900.00	899.45	872.45	872.45	3.00	17.16	-43.66	-2,050.03	-5,078.14	5,464.93	5,444.78	20.15	271.253		
1,000.00	998.70	971.70	971.70	3.37	19.16	-43.87	-2,050.03	-5,078.14	5,456.10	5,433.59	22.51	242.370		
1,100.00	1,097.47	1,070.47	1,070.47	3.77	21.15	-44.14	-2,050.03	-5,078.14	5,444.78	5,419.90	24.87	218.886		
1,200.00	1,195.62	1,168.62	1,168.62	4.19	23.12	-44.48	-2,050.03	-5,078.14	5,431.00	5,403.76	27.24	199.385		
1,300.00	1,293.06	1,266.06	1,266.06	4.64	25.08	-44.87	-2,050.03	-5,078.14	5,414.80	5,385.20	29.60	182.907		
1,400.00	1,389.64	1,362.64	1,362.64	5.12	27.03	-45.33	-2,050.03	-5,078.14	5,396.22	5,364.24	31.97	168.776		
1,500.00	1,485.27	1,458.27	1,458.27	5.66	28.95	-45.85	-2,050.03	-5,078.14	5,375.29	5,340.95	34.35	156.503		
1,600.00	1,579.82	1,552.82	1,552.82	6.24	30.86	-46.44	-2,050.03	-5,078.14	5,352.09	5,315.36	36.73	145.726		
1,700.00	1,673.17	1,646.17	1,646.17	6.88	32.73	-47.09	-2,050.03	-5,078.14	5,326.66	5,287.54	39.12	136.172		
1,800.00	1,765.22	1,738.22	1,738.22	7.57	34.59	-47.77	-2,050.03	-5,078.14	5,299.08	5,257.56	41.52	127.626		
1,900.00	1,856.73	1,829.73	1,829.73	8.31	36.43	-48.08	-2,050.03	-5,078.14	5,270.76	5,228.83	43.94	119.967		
2,000.00	1,948.24	1,921.24	1,921.24	9.06	38.27	-48.39	-2,050.03	-5,078.14	5,242.60	5,196.23	46.37	113.062		
2,100.00	2,039.75	2,012.75	2,012.75	9.83	40.11	-48.70	-2,050.03	-5,078.14	5,214.59	5,165.77	48.82	106.814		
2,200.00	2,131.26	2,104.26	2,104.26	10.61	41.95	-49.02	-2,050.03	-5,078.14	5,186.75	5,135.47	51.28	101.138		
2,300.00	2,222.77	2,204.23	2,195.77	11.40	43.96	-49.35	-2,050.03	-5,078.14	5,159.07	5,105.14	53.93	95.661		
2,400.00	2,314.28	2,287.28	2,287.28	12.20	45.63	-49.67	-2,050.03	-5,078.14	5,131.56	5,075.31	56.25	91.230		
2,500.00	2,405.79	2,378.79	2,378.79	13.00	47.47	-50.00	-2,050.03	-5,078.14	5,104.22	5,045.48	58.75	86.885		
2,600.00	2,497.30	2,470.30	2,470.30	13.81	49.31	-50.33	-2,050.03	-5,078.14	5,077.06	5,015.80	61.25	82.885		
2,700.00	2,588.81	2,561.81	2,561.81	14.62	51.15	-50.66	-2,050.03	-5,078.14	5,050.06	4,986.29	63.77	79.191		
2,800.00	2,680.31	2,653.31	2,653.31	15.44	53.00	-51.00	-2,050.03	-5,078.14	5,023.25	4,956.96	66.29	75.771		
2,900.00	2,771.82	2,744.82	2,744.82	16.25	54.84	-51.34	-2,050.03	-5,078.14	4,996.62	4,927.79	68.83	72.597		
3,000.00	2,863.33	2,836.33	2,836.33	17.08	56.68	-51.69	-2,050.03	-5,078.14	4,970.18	4,898.81	71.37	69.643		
3,100.00	2,954.84	2,927.84	2,927.84	17.90	58.52	-52.04	-2,050.03	-5,078.14	4,943.92	4,870.00	73.91	66.888		
3,200.00	3,046.35	3,019.35	3,019.35	18.72	60.36	-52.39	-2,050.03	-5,078.14	4,917.85	4,841.38	76.47	64.313		
3,300.00	3,137.86	3,110.86	3,110.86	19.55	62.20	-52.74	-2,050.03	-5,078.14	4,891.97	4,812.95	79.03	61.902		
3,400.00	3,229.37	3,202.37	3,202.37	20.38	64.04	-53.10	-2,050.03	-5,078.14	4,866.30	4,784.70	81.60	59.640		
3,500.00	3,320.88	3,306.12	3,293.88	21.21	66.13	-53.46	-2,050.03	-5,078.14	4,840.82	4,756.40	84.41	57.346		
3,600.00	3,412.39	3,385.39	3,385.39	22.04	67.72	-53.82	-2,050.03	-5,078.14	4,815.54	4,728.79	86.75	55.512		
3,700.00	3,503.90	3,476.90	3,476.90	22.87	69.56	-54.19	-2,050.03	-5,078.14	4,790.47	4,701.14	89.33	53.624		
3,800.00	3,595.41	3,568.41	3,568.41	23.70	71.40	-54.56	-2,050.03	-5,078.14	4,765.61	4,673.68	91.93	51.841		
3,900.00	3,686.91	3,659.91	3,659.91	24.54	73.24	-54.94	-2,050.03	-5,078.14	4,740.96	4,646.44	94.52	50.156		
4,000.00	3,778.42	3,751.42	3,751.42	25.37	75.08	-55.32	-2,050.03	-5,078.14	4,716.53	4,619.40	97.13	48.559		
4,100.00	3,869.93	3,842.93	3,842.93	26.20	76.92	-55.70	-2,050.03	-5,078.14	4,692.32	4,592.58	99.74	47.046		
4,200.00	3,961.44	3,934.44	3,934.44	27.04	78.76	-56.08	-2,050.03	-5,078.14	4,668.33	4,565.97	102.36	45.609		
4,300.00	4,052.95	4,025.95	4,025.95	27.88	80.60	-56.47	-2,050.03	-5,078.14	4,644.57	4,539.59	104.98	44.244		
4,400.00	4,144.46	4,117.46	4,117.46	28.71	82.44	-56.86	-2,050.03	-5,078.14	4,621.03	4,513.43	107.60	42.945		
4,500.00	4,235.97	4,208.97	4,208.97	29.55	84.28	-57.26	-2,050.03	-5,078.14	4,597.73	4,487.49	110.24	41.707		
4,600.00	4,327.48	4,300.48	4,300.48	30.39	86.12	-57.66	-2,050.03	-5,078.14	4,574.67	4,461.79	112.88	40.528		
4,700.00	4,418.99	4,408.01	4,391.99	31.22	88.29	-58.06	-2,050.03	-5,078.14	4,551.85	4,436.00	115.84	39.293		
4,800.00	4,510.50	4,483.50	4,483.50	32.06	89.80	-58.47	-2,050.03	-5,078.14	4,529.27	4,411.09	118.17	38.328		
4,900.00	4,602.01	4,575.01	4,575.01	32.90	91.64	-58.88	-2,050.03	-5,078.14	4,506.93	4,386.11	120.83	37.301		
5,000.00	4,693.51	4,666.51	4,666.51	33.74	93.48	-59.29	-2,050.03	-5,078.14	4,484.85	4,361.37	123.49	36.318		
5,100.00	4,785.02	4,758.02	4,758.02	34.58	95.33	-59.71	-2,050.03	-5,078.14	4,463.03	4,336.87	126.16	35.377		

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 WARBLER 13W-27-03
Project:	ADAMS COUNTY	TVD Reference:	KB 25' @ 5105.00usft
Reference Site:	Sec 13-T1S-R66W	MD Reference:	KB 25' @ 5105.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	WARBLER 13W-27-03	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT_32Bit_ODBC
Reference Design:	PROPOSAL 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-INC													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		
5,200.00	4,876.53	4,849.53	4,849.53	35.42	97.17	-60.13	-2,050.03	-5,078.14	4,441.46	4,312.64	128.83	34.476		
5,300.00	4,968.04	4,941.04	4,941.04	36.26	99.01	-60.56	-2,050.03	-5,078.14	4,420.16	4,288.66	131.50	33.612		
5,400.00	5,059.55	5,032.55	5,032.55	37.10	100.85	-60.98	-2,050.03	-5,078.14	4,399.12	4,264.94	134.19	32.784		
5,500.00	5,151.06	5,124.06	5,124.06	37.94	102.69	-61.42	-2,050.03	-5,078.14	4,378.36	4,241.48	136.87	31.988		
5,600.00	5,242.57	5,215.57	5,215.57	38.78	104.53	-61.85	-2,050.03	-5,078.14	4,357.86	4,218.30	139.57	31.224		
5,700.00	5,334.08	5,307.08	5,307.08	39.62	106.37	-62.29	-2,050.03	-5,078.14	4,337.65	4,195.38	142.26	30.490		
5,800.00	5,425.59	5,401.41	5,398.59	40.46	108.26	-62.73	-2,050.03	-5,078.14	4,317.72	4,172.69	145.02	29.772		
5,900.00	5,517.10	5,509.90	5,490.10	41.30	110.45	-63.18	-2,050.03	-5,078.14	4,298.07	4,150.00	148.07	29.027		
6,000.00	5,608.61	5,581.61	5,581.61	42.14	111.89	-63.63	-2,050.03	-5,078.14	4,278.71	4,128.33	150.39	28.451		
6,100.00	5,700.12	5,673.12	5,673.12	42.98	113.73	-64.08	-2,050.03	-5,078.14	4,259.65	4,106.55	153.10	27.822		
6,200.00	5,791.62	5,764.62	5,764.62	43.82	115.57	-64.54	-2,050.03	-5,078.14	4,240.88	4,085.06	155.82	27.216		
6,300.00	5,883.13	5,856.13	5,856.13	44.66	117.41	-65.00	-2,050.03	-5,078.14	4,222.42	4,063.87	158.55	26.631		
6,400.00	5,974.64	5,947.64	5,947.64	45.50	119.25	-65.46	-2,050.03	-5,078.14	4,204.26	4,042.98	161.28	26.068		
6,500.00	6,066.15	6,039.15	6,039.15	46.35	121.09	-65.93	-2,050.03	-5,078.14	4,186.42	4,022.40	164.01	25.525		
6,600.00	6,157.66	6,130.66	6,130.66	47.19	122.93	-66.40	-2,050.03	-5,078.14	4,168.88	4,002.13	166.75	25.000		
6,700.00	6,249.17	6,222.17	6,222.17	48.03	124.77	-66.87	-2,050.03	-5,078.14	4,151.66	3,982.17	169.49	24.494		
6,800.00	6,340.68	6,313.68	6,313.68	48.87	126.61	-67.35	-2,050.03	-5,078.14	4,134.77	3,962.53	172.24	24.006		
6,900.00	6,432.19	6,405.19	6,405.19	49.71	128.45	-67.83	-2,050.03	-5,078.14	4,118.20	3,943.21	174.99	23.534		
7,000.00	6,523.70	6,503.30	6,496.70	50.55	130.42	-68.31	-2,050.03	-5,078.14	4,101.96	3,924.08	177.88	23.061		
7,100.00	6,615.21	6,588.21	6,588.21	51.40	132.13	-68.80	-2,050.03	-5,078.14	4,086.05	3,905.55	180.50	22.637		
7,200.00	6,706.72	6,679.72	6,679.72	52.24	133.97	-69.29	-2,050.03	-5,078.14	4,070.48	3,887.22	183.26	22.212		
7,300.00	6,798.22	6,771.22	6,771.22	53.08	135.81	-69.78	-2,050.03	-5,078.14	4,055.25	3,869.23	186.02	21.800		
7,400.00	6,886.25	6,859.25	6,859.25	54.07	137.58	-65.64	-2,050.03	-5,078.14	4,034.89	3,846.05	188.85	21.366		
7,500.00	6,965.23	6,938.23	6,938.23	55.35	139.17	-65.39	-2,050.03	-5,078.14	4,004.00	3,812.24	191.76	20.881		
7,600.00	7,032.75	7,005.75	7,005.75	56.90	140.53	-67.65	-2,050.03	-5,078.14	3,963.88	3,769.20	194.68	20.361		
7,700.00	7,086.77	7,059.77	7,059.77	58.68	141.61	-71.77	-2,050.03	-5,078.14	3,916.13	3,718.59	197.54	19.824		
7,800.00	7,125.64	7,101.36	7,098.64	60.64	142.45	-77.37	-2,050.03	-5,078.14	3,862.55	3,662.24	200.31	19.283		
7,900.00	7,148.19	7,121.19	7,121.19	62.69	142.85	-84.04	-2,050.03	-5,078.14	3,805.02	3,602.28	202.74	18.768		
8,000.00	7,154.00	7,127.00	7,127.00	64.75	142.97	-90.00	-2,050.03	-5,078.14	3,745.49	3,540.58	204.90	18.279		
8,100.00	7,154.00	7,127.00	7,127.00	66.83	142.97	-90.00	-2,050.03	-5,078.14	3,686.77	3,479.77	207.00	17.810		
8,200.00	7,154.00	7,127.00	7,127.00	68.96	142.97	-90.00	-2,050.03	-5,078.14	3,629.86	3,420.68	209.18	17.353		
8,300.00	7,154.00	7,127.00	7,127.00	71.12	142.97	-90.00	-2,050.03	-5,078.14	3,574.84	3,363.40	211.43	16.908		
8,400.00	7,154.00	7,127.00	7,127.00	73.32	142.97	-90.00	-2,050.03	-5,078.14	3,521.79	3,308.04	213.75	16.476		
8,500.00	7,154.00	7,127.00	7,127.00	75.55	142.97	-90.00	-2,050.03	-5,078.14	3,470.82	3,254.69	216.13	16.059		
8,600.00	7,154.00	7,127.00	7,127.00	77.81	142.97	-90.00	-2,050.03	-5,078.14	3,422.02	3,203.44	218.58	15.656		
8,700.00	7,154.00	7,127.00	7,127.00	80.10	142.97	-90.00	-2,050.03	-5,078.14	3,375.47	3,154.39	221.07	15.268		
8,800.00	7,154.00	7,127.00	7,127.00	82.41	142.97	-90.00	-2,050.03	-5,078.14	3,331.27	3,107.66	223.62	14.897		
8,900.00	7,154.00	7,127.00	7,127.00	84.75	142.97	-90.00	-2,050.03	-5,078.14	3,289.52	3,063.33	226.20	14.543		
9,000.00	7,154.00	7,127.00	7,127.00	87.11	142.97	-90.00	-2,050.03	-5,078.14	3,250.31	3,021.51	228.81	14.206		
9,100.00	7,154.00	7,127.00	7,127.00	89.48	142.97	-90.00	-2,050.03	-5,078.14	3,213.74	2,982.30	231.44	13.886		
9,200.00	7,154.00	7,127.00	7,127.00	91.88	142.97	-90.00	-2,050.03	-5,078.14	3,179.89	2,945.82	234.08	13.585		
9,300.00	7,154.00	7,127.00	7,127.00	94.29	142.97	-90.00	-2,050.03	-5,078.14	3,148.86	2,912.14	236.72	13.302		
9,400.00	7,154.00	7,127.00	7,127.00	96.72	142.97	-90.00	-2,050.03	-5,078.14	3,120.72	2,881.37	239.34	13.039		
9,500.00	7,154.00	7,127.00	7,127.00	99.16	142.97	-90.00	-2,050.03	-5,078.14	3,095.56	2,853.61	241.95	12.794		
9,600.00	7,154.00	7,127.00	7,127.00	101.61	142.97	-90.00	-2,050.03	-5,078.14	3,073.44	2,828.92	244.52	12.569		
9,700.00	7,154.00	7,127.00	7,127.00	104.08	142.97	-90.00	-2,050.03	-5,078.14	3,054.45	2,807.40	247.04	12.364		
9,800.00	7,154.00	7,127.00	7,127.00	106.56	142.97	-90.00	-2,050.03	-5,078.14	3,038.62	2,789.12	249.51	12.179		
9,900.00	7,154.00	7,127.00	7,127.00	109.05	142.97	-90.00	-2,050.03	-5,078.14	3,026.02	2,774.12	251.90	12.013		
10,000.00	7,154.00	7,127.00	7,127.00	111.55	142.97	-90.00	-2,050.03	-5,078.14	3,016.69	2,762.47	254.21	11.867		
10,100.00	7,154.00	7,127.00	7,127.00	114.06	142.97	-90.00	-2,050.03	-5,078.14	3,010.64	2,754.21	256.43	11.740		
10,200.00	7,154.00	7,127.00	7,127.00	116.57	142.97	-90.00	-2,050.03	-5,078.14	3,007.92	2,749.36	258.55	11.634		
10,232.07	7,154.00	7,127.00	7,127.00	117.38	142.97	-90.00	-2,050.03	-5,078.14	3,007.75	2,748.53	259.21	11.603 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 WARBLER 13W-27-03
Project:	ADAMS COUNTY	TVD Reference:	KB 25' @ 5105.00usft
Reference Site:	Sec 13-T1S-R66W	MD Reference:	KB 25' @ 5105.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	WARBLER 13W-27-03	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT_32Bit_ODBC
Reference Design:	PROPOSAL 1	Offset TVD Reference:	Offset Datum

Offset Design Sec 24-T1S-R66W - ABND VERT BERGMAN 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							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		
10,300.00	7,154.00	7,127.00	7,127.00	119.10	142.97	-90.00	-2,050.03	-5,078.14	3,008.51	2,747.95	260.56	11.546	ES	
10,400.00	7,154.00	7,127.00	7,127.00	121.63	142.97	-90.00	-2,050.03	-5,078.14	3,012.43	2,749.97	262.46	11.478		
10,500.00	7,154.00	7,127.00	7,127.00	124.17	142.97	-90.00	-2,050.03	-5,078.14	3,019.66	2,755.43	264.23	11.428		
10,600.00	7,154.00	7,127.00	7,127.00	126.72	142.97	-90.00	-2,050.03	-5,078.14	3,030.17	2,764.29	265.87	11.397		
10,700.00	7,154.00	7,127.00	7,127.00	129.28	142.97	-90.00	-2,050.03	-5,078.14	3,043.93	2,776.54	267.38	11.384	SF	
10,800.00	7,154.00	7,127.00	7,127.00	131.84	142.97	-90.00	-2,050.03	-5,078.14	3,060.89	2,792.13	268.76	11.389		
10,900.00	7,154.00	7,127.00	7,127.00	134.40	142.97	-90.00	-2,050.03	-5,078.14	3,081.02	2,811.01	270.01	11.411		
11,000.00	7,154.00	7,127.00	7,127.00	136.97	142.97	-90.00	-2,050.03	-5,078.14	3,104.23	2,833.11	271.13	11.449		
11,100.00	7,154.00	7,127.00	7,127.00	139.55	142.97	-90.00	-2,050.03	-5,078.14	3,130.47	2,858.36	272.11	11.504		
11,200.00	7,154.00	7,127.00	7,127.00	142.13	142.97	-90.00	-2,050.03	-5,078.14	3,159.65	2,886.69	272.97	11.575		
11,300.00	7,154.00	7,127.00	7,127.00	144.72	142.97	-90.00	-2,050.03	-5,078.14	3,191.71	2,918.01	273.70	11.661		
11,400.00	7,154.00	7,127.00	7,127.00	147.30	142.97	-90.00	-2,050.03	-5,078.14	3,226.54	2,952.23	274.32	11.762		
11,500.00	7,154.00	7,127.00	7,127.00	149.90	142.97	-90.00	-2,050.03	-5,078.14	3,264.07	2,989.25	274.82	11.877		
11,600.00	7,154.00	7,127.00	7,127.00	152.50	142.97	-90.00	-2,050.03	-5,078.14	3,304.20	3,028.99	275.21	12.006		
11,700.00	7,154.00	7,127.00	7,127.00	155.10	142.97	-90.00	-2,050.03	-5,078.14	3,346.84	3,071.33	275.51	12.148		
11,800.00	7,154.00	7,127.00	7,127.00	157.70	142.97	-90.00	-2,050.03	-5,078.14	3,391.89	3,116.18	275.71	12.302		
11,900.00	7,154.00	7,127.00	7,127.00	160.31	142.97	-90.00	-2,050.03	-5,078.14	3,439.26	3,163.44	275.82	12.469		
12,000.00	7,154.00	7,127.00	7,127.00	162.92	142.97	-90.00	-2,050.03	-5,078.14	3,488.85	3,213.00	275.86	12.647		
12,100.00	7,154.00	7,127.00	7,127.00	165.54	142.97	-90.00	-2,050.03	-5,078.14	3,540.58	3,264.76	275.82	12.837		
12,200.00	7,154.00	7,127.00	7,127.00	168.15	142.97	-90.00	-2,050.03	-5,078.14	3,594.34	3,318.63	275.71	13.037		
12,300.00	7,154.00	7,127.00	7,127.00	170.77	142.97	-90.00	-2,050.03	-5,078.14	3,650.05	3,374.51	275.54	13.247		
12,400.00	7,154.00	7,127.00	7,127.00	173.39	142.97	-90.00	-2,050.03	-5,078.14	3,707.62	3,432.31	275.31	13.467		
12,500.00	7,154.00	7,127.00	7,127.00	176.02	142.97	-90.00	-2,050.03	-5,078.14	3,766.96	3,491.93	275.04	13.696		
12,600.00	7,154.00	7,127.00	7,127.00	178.65	142.97	-90.00	-2,050.03	-5,078.14	3,828.00	3,553.29	274.72	13.934		
12,700.00	7,154.00	7,127.00	7,127.00	181.28	142.97	-90.00	-2,050.03	-5,078.14	3,890.65	3,616.30	274.36	14.181		
12,800.00	7,154.00	7,127.00	7,127.00	183.91	142.97	-90.00	-2,050.03	-5,078.14	3,954.84	3,680.88	273.96	14.436		
12,900.00	7,154.00	7,127.00	7,127.00	186.54	142.97	-90.00	-2,050.03	-5,078.14	4,020.49	3,746.95	273.54	14.698		
13,000.00	7,154.00	7,127.00	7,127.00	189.18	142.97	-90.00	-2,050.03	-5,078.14	4,087.54	3,814.44	273.09	14.968		
13,100.00	7,154.00	7,127.00	7,127.00	191.81	142.97	-90.00	-2,050.03	-5,078.14	4,155.90	3,883.28	272.62	15.244		
13,200.00	7,154.00	7,127.00	7,127.00	194.45	142.97	-90.00	-2,050.03	-5,078.14	4,225.53	3,953.40	272.13	15.528		
13,300.00	7,154.00	7,127.00	7,127.00	197.10	142.97	-90.00	-2,050.03	-5,078.14	4,296.36	4,024.74	271.62	15.817		
13,400.00	7,154.00	7,127.00	7,127.00	199.74	142.97	-90.00	-2,050.03	-5,078.14	4,368.33	4,097.23	271.10	16.113		
13,500.00	7,154.00	7,127.00	7,127.00	202.38	142.97	-90.00	-2,050.03	-5,078.14	4,441.38	4,170.81	270.57	16.415		
13,600.00	7,154.00	7,127.00	7,127.00	205.03	142.97	-90.00	-2,050.03	-5,078.14	4,515.47	4,245.44	270.03	16.722		
13,700.00	7,154.00	7,127.00	7,127.00	207.68	142.97	-90.00	-2,050.03	-5,078.14	4,590.54	4,321.05	269.49	17.034		
13,800.00	7,154.00	7,127.00	7,127.00	210.33	142.97	-90.00	-2,050.03	-5,078.14	4,666.54	4,397.60	268.94	17.352		
13,900.00	7,154.00	7,127.00	7,127.00	212.98	142.97	-90.00	-2,050.03	-5,078.14	4,743.44	4,475.05	268.39	17.674		
14,000.00	7,154.00	7,127.00	7,127.00	215.63	142.97	-90.00	-2,050.03	-5,078.14	4,821.18	4,553.35	267.83	18.001		
14,100.00	7,154.00	7,127.00	7,127.00	218.28	142.97	-90.00	-2,050.03	-5,078.14	4,899.73	4,632.45	267.28	18.332		
14,200.00	7,154.00	7,127.00	7,127.00	220.93	142.97	-90.00	-2,050.03	-5,078.14	4,979.05	4,712.32	266.73	18.667		
14,300.00	7,154.00	7,127.00	7,127.00	223.59	142.97	-90.00	-2,050.03	-5,078.14	5,059.11	4,792.92	266.18	19.006		
14,400.00	7,154.00	7,127.00	7,127.00	226.25	142.97	-90.00	-2,050.03	-5,078.14	5,139.86	4,874.22	265.64	19.349		
14,500.00	7,154.00	7,127.00	7,127.00	228.90	142.97	-90.00	-2,050.03	-5,078.14	5,221.28	4,956.18	265.09	19.696		
14,600.00	7,154.00	7,127.00	7,127.00	231.56	142.97	-90.00	-2,050.03	-5,078.14	5,303.33	5,038.77	264.56	20.046		
14,700.00	7,154.00	7,127.00	7,127.00	234.22	142.97	-90.00	-2,050.03	-5,078.14	5,385.99	5,121.97	264.03	20.400		
14,800.00	7,154.00	7,127.00	7,127.00	236.88	142.97	-90.00	-2,050.03	-5,078.14	5,469.23	5,205.73	263.50	20.756		
14,900.00	7,154.00	7,127.00	7,127.00	239.55	142.97	-90.00	-2,050.03	-5,078.14	5,553.02	5,290.04	262.98	21.116		
15,000.00	7,154.00	7,127.00	7,127.00	242.21	142.97	-90.00	-2,050.03	-5,078.14	5,637.34	5,374.88	262.47	21.478		
15,100.00	7,154.00	7,127.00	7,127.00	244.87	142.97	-90.00	-2,050.03	-5,078.14	5,722.17	5,460.21	261.96	21.844		
15,200.00	7,154.00	7,127.00	7,127.00	247.54	142.97	-90.00	-2,050.03	-5,078.14	5,807.48	5,546.02	261.46	22.211		
15,300.00	7,154.00	7,127.00	7,127.00	250.20	142.97	-90.00	-2,050.03	-5,078.14	5,893.25	5,632.28	260.97	22.582		
15,400.00	7,154.00	7,127.00	7,127.00	252.87	142.97	-90.00	-2,050.03	-5,078.14	5,979.46	5,718.98	260.49	22.955		

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 WARBLER 13W-27-03
Project:	ADAMS COUNTY	TVD Reference:	KB 25' @ 5105.00usft
Reference Site:	Sec 13-T1S-R66W	MD Reference:	KB 25' @ 5105.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	WARBLER 13W-27-03	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT_32Bit_ODBC
Reference Design:	PROPOSAL 1	Offset TVD Reference:	Offset Datum

Offset Design Sec 24-T1S-R66W - ABND VERT BERGMAN 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							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		
15,500.00	7,154.00	7,127.00	7,127.00	255.53	142.97	-90.00	-2,050.03	-5,078.14	6,066.10	5,806.09	260.01	23.330		
15,600.00	7,154.00	7,127.00	7,127.00	258.20	142.97	-90.00	-2,050.03	-5,078.14	6,153.14	5,893.60	259.55	23.707		
15,700.00	7,154.00	7,127.00	7,127.00	260.87	142.97	-90.00	-2,050.03	-5,078.14	6,240.57	5,981.49	259.09	24.087		
15,800.00	7,154.00	7,127.00	7,127.00	263.54	142.97	-90.00	-2,050.03	-5,078.14	6,328.38	6,069.74	258.63	24.468		
15,900.00	7,154.00	7,127.00	7,127.00	266.21	142.97	-90.00	-2,050.03	-5,078.14	6,416.54	6,158.35	258.19	24.852		
16,000.00	7,154.00	7,127.00	7,127.00	268.88	142.97	-90.00	-2,050.03	-5,078.14	6,505.04	6,247.28	257.75	25.237		
16,100.00	7,154.00	7,127.00	7,127.00	271.55	142.97	-90.00	-2,050.03	-5,078.14	6,593.87	6,336.54	257.33	25.625		
16,200.00	7,154.00	7,127.00	7,127.00	274.22	142.97	-90.00	-2,050.03	-5,078.14	6,683.01	6,426.11	256.91	26.014		
16,300.00	7,154.00	7,127.00	7,127.00	276.90	142.97	-90.00	-2,050.03	-5,078.14	6,772.46	6,515.97	256.49	26.404		
16,400.00	7,154.00	7,127.00	7,127.00	279.57	142.97	-90.00	-2,050.03	-5,078.14	6,862.20	6,606.12	256.09	26.796		
16,500.00	7,154.00	7,127.00	7,127.00	282.24	142.97	-90.00	-2,050.03	-5,078.14	6,952.23	6,696.53	255.69	27.190		
16,600.00	7,154.00	7,127.00	7,127.00	284.92	142.97	-90.00	-2,050.03	-5,078.14	7,042.52	6,787.21	255.30	27.585		
16,700.00	7,154.00	7,127.00	7,127.00	287.59	142.97	-90.00	-2,050.03	-5,078.14	7,133.06	6,878.14	254.92	27.981		
16,800.00	7,154.00	7,127.00	7,127.00	290.27	142.97	-90.00	-2,050.03	-5,078.14	7,223.86	6,969.32	254.55	28.379		
16,900.00	7,154.00	7,127.00	7,127.00	292.94	142.97	-90.00	-2,050.03	-5,078.14	7,314.90	7,060.72	254.18	28.778		
17,000.00	7,154.00	7,127.00	7,127.00	295.62	142.97	-90.00	-2,050.03	-5,078.14	7,406.17	7,152.35	253.82	29.179		
17,100.00	7,154.00	7,127.00	7,127.00	298.29	142.97	-90.00	-2,050.03	-5,078.14	7,497.66	7,244.19	253.47	29.580		
17,200.00	7,154.00	7,127.00	7,127.00	300.97	142.97	-90.00	-2,050.03	-5,078.14	7,589.37	7,336.25	253.12	29.983		
17,300.00	7,154.00	7,127.00	7,127.00	303.65	142.97	-90.00	-2,050.03	-5,078.14	7,681.28	7,428.50	252.78	30.387		
17,400.00	7,154.00	7,127.00	7,127.00	306.33	142.97	-90.00	-2,050.03	-5,078.14	7,773.40	7,520.94	252.45	30.791		
17,500.00	7,154.00	7,127.00	7,127.00	309.01	142.97	-90.00	-2,050.03	-5,078.14	7,865.70	7,613.57	252.13	31.197		
17,600.00	7,154.00	7,127.00	7,127.00	311.69	142.97	-90.00	-2,050.03	-5,078.14	7,958.20	7,706.39	251.81	31.604		
17,700.00	7,154.00	7,127.00	7,127.00	314.37	142.97	-90.00	-2,050.03	-5,078.14	8,050.87	7,799.37	251.50	32.012		
17,800.00	7,154.00	7,127.00	7,127.00	317.05	142.97	-90.00	-2,050.03	-5,078.14	8,143.71	7,892.52	251.19	32.420		
17,900.00	7,154.00	7,127.00	7,127.00	319.73	142.97	-90.00	-2,050.03	-5,078.14	8,236.72	7,985.83	250.89	32.830		
18,000.00	7,154.00	7,127.00	7,127.00	322.41	142.97	-90.00	-2,050.03	-5,078.14	8,329.90	8,079.30	250.60	33.240		
18,100.00	7,154.00	7,127.00	7,127.00	325.09	142.97	-90.00	-2,050.03	-5,078.14	8,423.23	8,172.92	250.31	33.651		
18,200.00	7,154.00	7,127.00	7,127.00	327.77	142.97	-90.00	-2,050.03	-5,078.14	8,516.71	8,266.68	250.03	34.063		
18,300.00	7,154.00	7,127.00	7,127.00	330.45	142.97	-90.00	-2,050.03	-5,078.14	8,610.34	8,360.59	249.76	34.475		
18,400.00	7,154.00	7,127.00	7,127.00	333.13	142.97	-90.00	-2,050.03	-5,078.14	8,704.11	8,454.63	249.49	34.888		
18,500.00	7,154.00	7,127.00	7,127.00	335.82	142.97	-90.00	-2,050.03	-5,078.14	8,798.02	8,548.80	249.22	35.302		
18,600.00	7,154.00	7,127.00	7,127.00	338.50	142.97	-90.00	-2,050.03	-5,078.14	8,892.06	8,643.10	248.96	35.716		
18,700.00	7,154.00	7,127.00	7,127.00	341.18	142.97	-90.00	-2,050.03	-5,078.14	8,986.23	8,737.52	248.71	36.132		
18,800.00	7,154.00	7,127.00	7,127.00	343.86	142.97	-90.00	-2,050.03	-5,078.14	9,080.52	8,832.06	248.46	36.547		
18,900.00	7,154.00	7,127.00	7,127.00	346.55	142.97	-90.00	-2,050.03	-5,078.14	9,174.94	8,926.72	248.22	36.963		
19,000.00	7,154.00	7,127.00	7,127.00	349.23	142.97	-90.00	-2,050.03	-5,078.14	9,269.47	9,021.49	247.98	37.380		
19,100.00	7,154.00	7,127.00	7,127.00	351.92	142.97	-90.00	-2,050.03	-5,078.14	9,364.11	9,116.37	247.75	37.797		
19,200.00	7,154.00	7,127.00	7,127.00	354.60	142.97	-90.00	-2,050.03	-5,078.14	9,458.87	9,211.35	247.52	38.215		
19,300.00	7,154.00	7,127.00	7,127.00	357.29	142.97	-90.00	-2,050.03	-5,078.14	9,553.73	9,306.44	247.29	38.633		
19,400.00	7,154.00	7,127.00	7,127.00	359.97	142.97	-90.00	-2,050.03	-5,078.14	9,648.70	9,401.63	247.07	39.052		
19,500.00	7,154.00	7,127.00	7,127.00	362.66	142.97	-90.00	-2,050.03	-5,078.14	9,743.77	9,496.91	246.86	39.471		
19,600.00	7,154.00	7,127.00	7,127.00	365.34	142.97	-90.00	-2,050.03	-5,078.14	9,838.93	9,592.28	246.65	39.890		
19,700.00	7,154.00	7,127.00	7,127.00	368.03	142.97	-90.00	-2,050.03	-5,078.14	9,934.19	9,687.75	246.44	40.310		

Anticollision Report

Company:	EXTRACTION OIL & GAS	Local Co-ordinate Reference:	Well WARBLER 13W-27-03
Project:	ADAMS COUNTY	TVD Reference:	KB 25' @ 5105.00usft
Reference Site:	Sec 13-T1S-R66W	MD Reference:	KB 25' @ 5105.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	WARBLER 13W-27-03	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT_32Bit_ODBC
Reference Design:	PROPOSAL 1	Offset TVD Reference:	Offset Datum

Offset Design Sec 24-T1S-R66W - ABND VERT JOSEPHINE 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						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		
0.00	0.00	0.00	0.00	0.00	0.00	-138.49	-2,351.72	-2,081.58	3,140.68					
100.00	100.00	82.00	82.00	0.13	0.98	-138.49	-2,351.72	-2,081.58	3,140.63	3,139.51	1.12	2,811.740		
200.00	200.00	182.00	182.00	0.49	3.08	-138.49	-2,351.72	-2,081.58	3,140.63	3,137.06	3.57	880.064		
300.00	300.00	282.00	282.00	0.85	5.19	-138.49	-2,351.72	-2,081.58	3,140.63	3,134.58	6.04	519.673		
400.00	400.00	382.00	382.00	1.21	7.24	-138.49	-2,351.72	-2,081.58	3,140.63	3,132.18	8.45	371.644		
500.00	500.00	482.00	482.00	1.57	9.27	-138.49	-2,351.72	-2,081.58	3,140.63	3,129.79	10.84	289.712		
600.00	600.00	582.00	582.00	1.93	11.30	-138.49	-2,351.72	-2,081.58	3,140.63	3,127.40	13.22	237.514		
700.00	699.98	681.98	681.98	2.28	13.32	-69.93	-2,351.72	-2,081.58	3,140.03	3,124.43	15.60	201.336		
800.00	799.84	781.84	781.84	2.63	15.33	-70.06	-2,351.72	-2,081.58	3,138.24	3,120.27	17.96	174.703		
900.00	899.45	881.45	881.45	3.00	17.34	-70.26	-2,351.72	-2,081.58	3,135.27	3,114.93	20.33	154.204		
1,000.00	998.70	980.70	980.70	3.37	19.34	-70.55	-2,351.72	-2,081.58	3,131.15	3,108.45	22.70	137.913		
1,100.00	1,097.47	1,079.47	1,079.47	3.77	21.33	-70.91	-2,351.72	-2,081.58	3,125.93	3,100.85	25.08	124.628		
1,200.00	1,195.62	1,177.62	1,177.62	4.19	23.30	-71.36	-2,351.72	-2,081.58	3,119.66	3,092.19	27.47	113.564		
1,300.00	1,293.06	1,275.06	1,275.06	4.64	25.27	-71.88	-2,351.72	-2,081.58	3,112.40	3,082.53	29.87	104.189		
1,400.00	1,389.64	1,371.64	1,371.64	5.12	27.21	-72.48	-2,351.72	-2,081.58	3,104.23	3,071.93	32.29	96.128		
1,500.00	1,485.27	1,467.27	1,467.27	5.66	29.13	-73.15	-2,351.72	-2,081.58	3,095.23	3,060.49	34.73	89.111		
1,600.00	1,579.82	1,561.82	1,561.82	6.24	31.04	-73.88	-2,351.72	-2,081.58	3,085.50	3,048.30	37.20	82.937		
1,700.00	1,673.17	1,655.17	1,655.17	6.88	32.92	-74.68	-2,351.72	-2,081.58	3,075.16	3,035.46	39.70	77.458		
1,800.00	1,765.22	1,747.22	1,747.22	7.57	34.77	-75.52	-2,351.72	-2,081.58	3,064.33	3,022.09	42.23	72.559		
1,900.00	1,856.73	1,838.73	1,838.73	8.31	36.61	-76.20	-2,351.72	-2,081.58	3,053.62	3,008.83	44.79	68.171		
2,000.00	1,948.24	1,930.24	1,930.24	9.06	38.45	-76.88	-2,351.72	-2,081.58	3,043.42	2,996.04	47.38	64.238		
2,100.00	2,039.75	2,021.75	2,021.75	9.83	40.29	-77.56	-2,351.72	-2,081.58	3,033.71	2,983.73	49.98	60.699		
2,200.00	2,131.26	2,113.26	2,113.26	10.61	42.13	-78.24	-2,351.72	-2,081.58	3,024.52	2,971.92	52.60	57.504		
2,300.00	2,222.77	2,204.77	2,204.77	11.40	43.97	-78.93	-2,351.72	-2,081.58	3,015.83	2,960.60	55.23	54.609		
2,400.00	2,314.28	2,303.72	2,296.28	12.20	45.96	-79.62	-2,351.72	-2,081.58	3,007.66	2,949.64	58.01	51.843		
2,500.00	2,405.79	2,387.79	2,387.79	13.00	47.65	-80.32	-2,351.72	-2,081.58	3,000.01	2,939.50	60.51	49.576		
2,600.00	2,497.30	2,479.30	2,479.30	13.81	49.50	-81.02	-2,351.72	-2,081.58	2,992.88	2,929.71	63.17	47.380		
2,700.00	2,588.81	2,570.81	2,570.81	14.62	51.34	-81.72	-2,351.72	-2,081.58	2,986.28	2,920.45	65.83	45.364		
2,800.00	2,680.31	2,662.31	2,662.31	15.44	53.18	-82.42	-2,351.72	-2,081.58	2,980.21	2,911.72	68.50	43.510		
2,900.00	2,771.82	2,753.82	2,753.82	16.25	55.02	-83.13	-2,351.72	-2,081.58	2,974.68	2,903.51	71.17	41.799		
3,000.00	2,863.33	2,845.33	2,845.33	17.08	56.86	-83.83	-2,351.72	-2,081.58	2,969.69	2,895.84	73.84	40.218		
3,100.00	2,954.84	2,936.84	2,936.84	17.90	58.70	-84.54	-2,351.72	-2,081.58	2,965.23	2,888.71	76.52	38.753		
3,200.00	3,046.35	3,028.35	3,028.35	18.72	60.54	-85.26	-2,351.72	-2,081.58	2,961.31	2,882.12	79.20	37.392		
3,300.00	3,137.86	3,119.86	3,119.86	19.55	62.38	-85.97	-2,351.72	-2,081.58	2,957.94	2,876.07	81.88	36.127		
3,400.00	3,229.37	3,211.37	3,211.37	20.38	64.22	-86.68	-2,351.72	-2,081.58	2,955.12	2,870.56	84.56	34.948		
3,500.00	3,320.88	3,302.88	3,302.88	21.21	66.06	-87.40	-2,351.72	-2,081.58	2,952.84	2,865.61	87.24	33.848		
3,600.00	3,412.39	3,405.61	3,394.39	22.04	68.13	-88.11	-2,351.72	-2,081.58	2,951.12	2,860.97	90.15	32.737		
3,700.00	3,503.90	3,485.90	3,485.90	22.87	69.74	-88.83	-2,351.72	-2,081.58	2,949.94	2,857.34	92.60	31.857		
3,800.00	3,595.41	3,577.41	3,577.41	23.70	71.58	-89.55	-2,351.72	-2,081.58	2,949.32	2,854.04	95.28	30.955		
3,863.32	3,653.35	3,635.35	3,635.35	24.23	72.75	-90.00	-2,351.72	-2,081.58	2,949.21	2,852.23	96.98	30.412 CC		
3,900.00	3,686.91	3,668.91	3,668.91	24.54	73.42	-90.26	-2,351.72	-2,081.58	2,949.24	2,851.29	97.96	30.108		
4,000.00	3,778.42	3,760.42	3,760.42	25.37	75.26	-90.98	-2,351.72	-2,081.58	2,949.72	2,849.09	100.63	29.312		
4,100.00	3,869.93	3,851.93	3,851.93	26.20	77.10	-91.70	-2,351.72	-2,081.58	2,950.75	2,847.44	103.31	28.563		
4,200.00	3,961.44	3,943.44	3,943.44	27.04	78.94	-92.41	-2,351.72	-2,081.58	2,952.33	2,846.35	105.98	27.858		
4,300.00	4,052.95	4,034.95	4,034.95	27.88	80.78	-93.13	-2,351.72	-2,081.58	2,954.46	2,845.82	108.64	27.194 ES		
4,400.00	4,144.46	4,126.46	4,126.46	28.71	82.62	-93.84	-2,351.72	-2,081.58	2,957.14	2,845.83	111.31	26.568		
4,500.00	4,235.97	4,217.97	4,217.97	29.55	84.46	-94.55	-2,351.72	-2,081.58	2,960.36	2,846.39	113.97	25.976		
4,600.00	4,327.48	4,309.48	4,309.48	30.39	86.30	-95.27	-2,351.72	-2,081.58	2,964.13	2,847.51	116.62	25.417		
4,700.00	4,418.99	4,400.99	4,400.99	31.22	88.14	-95.98	-2,351.72	-2,081.58	2,968.44	2,849.17	119.27	24.888		
4,800.00	4,510.50	4,507.50	4,492.50	32.06	90.29	-96.68	-2,351.72	-2,081.58	2,973.30	2,851.08	122.22	24.328		
4,900.00	4,602.01	4,584.01	4,584.01	32.90	91.83	-97.39	-2,351.72	-2,081.58	2,978.69	2,854.13	124.56	23.914		
5,000.00	4,693.51	4,675.51	4,675.51	33.74	93.67	-98.09	-2,351.72	-2,081.58	2,984.61	2,857.42	127.19	23.466		

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 WARBLER 13W-27-03
Project:	ADAMS COUNTY	TVD Reference:	KB 25' @ 5105.00usft
Reference Site:	Sec 13-T1S-R66W	MD Reference:	KB 25' @ 5105.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	WARBLER 13W-27-03	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT_32Bit_ODBC
Reference Design:	PROPOSAL 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-INC													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		
5,100.00	4,785.02	4,767.02	4,767.02	34.58	95.51	-98.80	-2,351.72	-2,081.58	2,991.07	2,861.25	129.82	23.040		
5,200.00	4,876.53	4,858.53	4,858.53	35.42	97.35	-99.49	-2,351.72	-2,081.58	2,998.06	2,865.62	132.44	22.637		
5,300.00	4,968.04	4,950.04	4,950.04	36.26	99.19	-100.19	-2,351.72	-2,081.58	3,005.57	2,870.51	135.06	22.254		
5,400.00	5,059.55	5,041.55	5,041.55	37.10	101.03	-100.88	-2,351.72	-2,081.58	3,013.60	2,875.94	137.67	21.891		
5,500.00	5,151.06	5,133.06	5,133.06	37.94	102.87	-101.57	-2,351.72	-2,081.58	3,022.15	2,881.88	140.27	21.545		
5,600.00	5,242.57	5,224.57	5,224.57	38.78	104.71	-102.26	-2,351.72	-2,081.58	3,031.21	2,888.35	142.87	21.217		
5,700.00	5,334.08	5,316.08	5,316.08	39.62	106.55	-102.94	-2,351.72	-2,081.58	3,040.78	2,895.33	145.45	20.905		
5,800.00	5,425.59	5,407.59	5,407.59	40.46	108.39	-103.62	-2,351.72	-2,081.58	3,050.86	2,902.82	148.04	20.609		
5,900.00	5,517.10	5,500.90	5,499.10	41.30	110.27	-104.30	-2,351.72	-2,081.58	3,061.43	2,910.78	150.65	20.322		
6,000.00	5,608.61	5,609.39	5,590.61	42.14	112.45	-104.97	-2,351.72	-2,081.58	3,072.49	2,918.94	153.55	20.009		
6,100.00	5,700.12	5,682.12	5,682.12	42.98	113.91	-105.63	-2,351.72	-2,081.58	3,084.04	2,928.31	155.73	19.803		
6,200.00	5,791.62	5,773.62	5,773.62	43.82	115.75	-106.30	-2,351.72	-2,081.58	3,096.07	2,937.79	158.29	19.560		
6,300.00	5,883.13	5,865.13	5,865.13	44.66	117.59	-106.96	-2,351.72	-2,081.58	3,108.58	2,947.75	160.83	19.329		
6,400.00	5,974.64	5,956.64	5,956.64	45.50	119.43	-107.61	-2,351.72	-2,081.58	3,121.56	2,958.20	163.36	19.108		
6,500.00	6,066.15	6,048.15	6,048.15	46.35	121.27	-108.26	-2,351.72	-2,081.58	3,135.01	2,969.12	165.89	18.898		
6,600.00	6,157.66	6,139.66	6,139.66	47.19	123.11	-108.90	-2,351.72	-2,081.58	3,148.91	2,980.50	168.41	18.698		
6,700.00	6,249.17	6,231.17	6,231.17	48.03	124.95	-109.54	-2,351.72	-2,081.58	3,163.27	2,992.35	170.92	18.507		
6,800.00	6,340.68	6,322.68	6,322.68	48.87	126.79	-110.18	-2,351.72	-2,081.58	3,178.08	3,004.65	173.43	18.325		
6,900.00	6,432.19	6,414.19	6,414.19	49.71	128.63	-110.80	-2,351.72	-2,081.58	3,193.32	3,017.40	175.92	18.152		
7,000.00	6,523.70	6,505.70	6,505.70	50.55	130.47	-111.43	-2,351.72	-2,081.58	3,209.00	3,030.59	178.41	17.987		
7,100.00	6,615.21	6,602.79	6,597.21	51.40	132.42	-112.05	-2,351.72	-2,081.58	3,225.11	3,044.10	181.00	17.818		
7,200.00	6,706.72	6,688.72	6,688.72	52.24	134.15	-112.66	-2,351.72	-2,081.58	3,241.64	3,058.27	183.36	17.679		
7,300.00	6,798.22	6,780.22	6,780.22	53.08	135.99	-113.27	-2,351.72	-2,081.58	3,258.58	3,072.75	185.83	17.535		
7,400.00	6,886.25	6,868.25	6,868.25	54.07	137.76	-106.04	-2,351.72	-2,081.58	3,275.96	3,087.63	188.33	17.395		
7,500.00	6,965.23	6,947.23	6,947.23	55.35	139.35	-101.64	-2,351.72	-2,081.58	3,293.87	3,103.01	190.86	17.258		
7,600.00	7,032.75	7,014.75	7,014.75	56.90	140.71	-98.61	-2,351.72	-2,081.58	3,312.50	3,119.14	193.37	17.131		
7,700.00	7,086.77	7,068.77	7,068.77	58.68	141.80	-96.19	-2,351.72	-2,081.58	3,332.03	3,136.28	195.75	17.022		
7,800.00	7,125.64	7,107.64	7,107.64	60.64	142.58	-93.99	-2,351.72	-2,081.58	3,352.53	3,154.61	197.92	16.939		
7,900.00	7,148.19	7,130.19	7,130.19	62.69	143.03	-91.82	-2,351.72	-2,081.58	3,373.90	3,174.12	199.78	16.888		
8,000.00	7,154.00	7,136.00	7,136.00	64.75	143.15	-90.00	-2,351.72	-2,081.58	3,395.87	3,194.61	201.27	16.873 SF		
8,100.00	7,154.00	7,136.00	7,136.00	66.83	143.15	-90.00	-2,351.72	-2,081.58	3,419.77	3,217.18	202.59	16.880		
8,200.00	7,154.00	7,136.00	7,136.00	68.96	143.15	-90.00	-2,351.72	-2,081.58	3,446.41	3,242.52	203.89	16.903		
8,300.00	7,154.00	7,136.00	7,136.00	71.12	143.15	-90.00	-2,351.72	-2,081.58	3,475.73	3,270.56	205.16	16.941		
8,400.00	7,154.00	7,136.00	7,136.00	73.32	143.15	-90.00	-2,351.72	-2,081.58	3,507.65	3,301.24	206.40	16.994		
8,500.00	7,154.00	7,136.00	7,136.00	75.55	143.15	-90.00	-2,351.72	-2,081.58	3,542.10	3,334.50	207.61	17.062		
8,600.00	7,154.00	7,136.00	7,136.00	77.81	143.15	-90.00	-2,351.72	-2,081.58	3,579.03	3,370.26	208.77	17.143		
8,700.00	7,154.00	7,136.00	7,136.00	80.10	143.15	-90.00	-2,351.72	-2,081.58	3,618.33	3,408.44	209.89	17.239		
8,800.00	7,154.00	7,136.00	7,136.00	82.41	143.15	-90.00	-2,351.72	-2,081.58	3,659.95	3,448.98	210.97	17.348		
8,900.00	7,154.00	7,136.00	7,136.00	84.75	143.15	-90.00	-2,351.72	-2,081.58	3,703.80	3,491.80	212.01	17.470		
9,000.00	7,154.00	7,136.00	7,136.00	87.11	143.15	-90.00	-2,351.72	-2,081.58	3,749.81	3,536.81	213.00	17.605		
9,100.00	7,154.00	7,136.00	7,136.00	89.48	143.15	-90.00	-2,351.72	-2,081.58	3,797.89	3,583.94	213.95	17.751		
9,200.00	7,154.00	7,136.00	7,136.00	91.88	143.15	-90.00	-2,351.72	-2,081.58	3,847.97	3,633.12	214.85	17.910		
9,300.00	7,154.00	7,136.00	7,136.00	94.29	143.15	-90.00	-2,351.72	-2,081.58	3,899.98	3,684.26	215.71	18.080		
9,400.00	7,154.00	7,136.00	7,136.00	96.72	143.15	-90.00	-2,351.72	-2,081.58	3,953.82	3,737.29	216.53	18.260		
9,500.00	7,154.00	7,136.00	7,136.00	99.16	143.15	-90.00	-2,351.72	-2,081.58	4,009.44	3,792.14	217.31	18.451		
9,600.00	7,154.00	7,136.00	7,136.00	101.61	143.15	-90.00	-2,351.72	-2,081.58	4,066.76	3,848.72	218.04	18.651		
9,700.00	7,154.00	7,136.00	7,136.00	104.08	143.15	-90.00	-2,351.72	-2,081.58	4,125.71	3,906.97	218.74	18.861		
9,800.00	7,154.00	7,136.00	7,136.00	106.56	143.15	-90.00	-2,351.72	-2,081.58	4,186.21	3,966.81	219.40	19.080		
9,900.00	7,154.00	7,136.00	7,136.00	109.05	143.15	-90.00	-2,351.72	-2,081.58	4,248.21	4,028.19	220.02	19.308		
10,000.00	7,154.00	7,136.00	7,136.00	111.55	143.15	-90.00	-2,351.72	-2,081.58	4,311.64	4,091.03	220.61	19.544		
10,100.00	7,154.00	7,136.00	7,136.00	114.06	143.15	-90.00	-2,351.72	-2,081.58	4,376.43	4,155.26	221.17	19.788		
10,200.00	7,154.00	7,136.00	7,136.00	116.57	143.15	-90.00	-2,351.72	-2,081.58	4,442.53	4,220.83	221.69	20.039		

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 WARBLER 13W-27-03
Project:	ADAMS COUNTY	TVD Reference:	KB 25' @ 5105.00usft
Reference Site:	Sec 13-T1S-R66W	MD Reference:	KB 25' @ 5105.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	WARBLER 13W-27-03	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT_32Bit_ODBC
Reference Design:	PROPOSAL 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-INC													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		
10,300.00	7,154.00	7,136.00	7,136.00	119.10	143.15	-90.00	-2,351.72	-2,081.58	4,509.87	4,287.69	222.19	20.298		
10,400.00	7,154.00	7,136.00	7,136.00	121.63	143.15	-90.00	-2,351.72	-2,081.58	4,578.41	4,355.76	222.65	20.563		
10,500.00	7,154.00	7,136.00	7,136.00	124.17	143.15	-90.00	-2,351.72	-2,081.58	4,648.09	4,425.01	223.09	20.835		
10,600.00	7,154.00	7,136.00	7,136.00	126.72	143.15	-90.00	-2,351.72	-2,081.58	4,718.87	4,495.36	223.50	21.113		
10,700.00	7,154.00	7,136.00	7,136.00	129.28	143.15	-90.00	-2,351.72	-2,081.58	4,790.68	4,566.79	223.89	21.397		
10,800.00	7,154.00	7,136.00	7,136.00	131.84	143.15	-90.00	-2,351.72	-2,081.58	4,863.49	4,639.23	224.26	21.687		
10,900.00	7,154.00	7,136.00	7,136.00	134.40	143.15	-90.00	-2,351.72	-2,081.58	4,937.25	4,712.65	224.60	21.982		
11,000.00	7,154.00	7,136.00	7,136.00	136.97	143.15	-90.00	-2,351.72	-2,081.58	5,011.92	4,787.00	224.92	22.283		
11,100.00	7,154.00	7,136.00	7,136.00	139.55	143.15	-90.00	-2,351.72	-2,081.58	5,087.46	4,862.23	225.23	22.588		
11,200.00	7,154.00	7,136.00	7,136.00	142.13	143.15	-90.00	-2,351.72	-2,081.58	5,163.83	4,938.32	225.52	22.898		
11,300.00	7,154.00	7,136.00	7,136.00	144.72	143.15	-90.00	-2,351.72	-2,081.58	5,241.00	5,015.21	225.79	23.212		
11,400.00	7,154.00	7,136.00	7,136.00	147.30	143.15	-90.00	-2,351.72	-2,081.58	5,318.93	5,092.89	226.04	23.531		
11,500.00	7,154.00	7,136.00	7,136.00	149.90	143.15	-90.00	-2,351.72	-2,081.58	5,397.58	5,171.31	226.28	23.854		
11,600.00	7,154.00	7,136.00	7,136.00	152.50	143.15	-90.00	-2,351.72	-2,081.58	5,476.94	5,250.43	226.50	24.180		
11,700.00	7,154.00	7,136.00	7,136.00	155.10	143.15	-90.00	-2,351.72	-2,081.58	5,556.95	5,330.24	226.71	24.511		
11,800.00	7,154.00	7,136.00	7,136.00	157.70	143.15	-90.00	-2,351.72	-2,081.58	5,637.61	5,410.70	226.91	24.845		
11,900.00	7,154.00	7,136.00	7,136.00	160.31	143.15	-90.00	-2,351.72	-2,081.58	5,718.88	5,491.78	227.10	25.182		
12,000.00	7,154.00	7,136.00	7,136.00	162.92	143.15	-90.00	-2,351.72	-2,081.58	5,800.73	5,573.45	227.28	25.523		
12,100.00	7,154.00	7,136.00	7,136.00	165.54	143.15	-90.00	-2,351.72	-2,081.58	5,883.15	5,655.70	227.44	25.866		
12,200.00	7,154.00	7,136.00	7,136.00	168.15	143.15	-90.00	-2,351.72	-2,081.58	5,966.10	5,738.50	227.60	26.213		
12,300.00	7,154.00	7,136.00	7,136.00	170.77	143.15	-90.00	-2,351.72	-2,081.58	6,049.56	5,821.81	227.75	26.562		
12,400.00	7,154.00	7,136.00	7,136.00	173.39	143.15	-90.00	-2,351.72	-2,081.58	6,133.53	5,905.64	227.89	26.915		
12,500.00	7,154.00	7,136.00	7,136.00	176.02	143.15	-90.00	-2,351.72	-2,081.58	6,217.96	5,989.94	228.02	27.269		
12,600.00	7,154.00	7,136.00	7,136.00	178.65	143.15	-90.00	-2,351.72	-2,081.58	6,302.85	6,074.71	228.14	27.627		
12,700.00	7,154.00	7,136.00	7,136.00	181.28	143.15	-90.00	-2,351.72	-2,081.58	6,388.18	6,159.92	228.26	27.986		
12,800.00	7,154.00	7,136.00	7,136.00	183.91	143.15	-90.00	-2,351.72	-2,081.58	6,473.93	6,245.56	228.37	28.348		
12,900.00	7,154.00	7,136.00	7,136.00	186.54	143.15	-90.00	-2,351.72	-2,081.58	6,560.08	6,331.61	228.48	28.712		
13,000.00	7,154.00	7,136.00	7,136.00	189.18	143.15	-90.00	-2,351.72	-2,081.58	6,646.62	6,418.05	228.58	29.078		
13,100.00	7,154.00	7,136.00	7,136.00	191.81	143.15	-90.00	-2,351.72	-2,081.58	6,733.54	6,504.87	228.67	29.447		
13,200.00	7,154.00	7,136.00	7,136.00	194.45	143.15	-90.00	-2,351.72	-2,081.58	6,820.81	6,592.05	228.76	29.817		
13,300.00	7,154.00	7,136.00	7,136.00	197.10	143.15	-90.00	-2,351.72	-2,081.58	6,908.43	6,679.59	228.84	30.189		
13,400.00	7,154.00	7,136.00	7,136.00	199.74	143.15	-90.00	-2,351.72	-2,081.58	6,996.38	6,767.45	228.92	30.562		
13,500.00	7,154.00	7,136.00	7,136.00	202.38	143.15	-90.00	-2,351.72	-2,081.58	7,084.64	6,855.65	229.00	30.938		
13,600.00	7,154.00	7,136.00	7,136.00	205.03	143.15	-90.00	-2,351.72	-2,081.58	7,173.22	6,944.15	229.07	31.315		
13,700.00	7,154.00	7,136.00	7,136.00	207.68	143.15	-90.00	-2,351.72	-2,081.58	7,262.09	7,032.96	229.14	31.693		
13,800.00	7,154.00	7,136.00	7,136.00	210.33	143.15	-90.00	-2,351.72	-2,081.58	7,351.25	7,122.05	229.20	32.073		
13,900.00	7,154.00	7,136.00	7,136.00	212.98	143.15	-90.00	-2,351.72	-2,081.58	7,440.69	7,211.43	229.26	32.455		
14,000.00	7,154.00	7,136.00	7,136.00	215.63	143.15	-90.00	-2,351.72	-2,081.58	7,530.39	7,301.07	229.32	32.838		
14,100.00	7,154.00	7,136.00	7,136.00	218.28	143.15	-90.00	-2,351.72	-2,081.58	7,620.35	7,390.97	229.38	33.222		
14,200.00	7,154.00	7,136.00	7,136.00	220.93	143.15	-90.00	-2,351.72	-2,081.58	7,710.55	7,481.12	229.43	33.607		
14,300.00	7,154.00	7,136.00	7,136.00	223.59	143.15	-90.00	-2,351.72	-2,081.58	7,800.99	7,571.51	229.48	33.994		
14,400.00	7,154.00	7,136.00	7,136.00	226.25	143.15	-90.00	-2,351.72	-2,081.58	7,891.67	7,662.14	229.53	34.382		
14,500.00	7,154.00	7,136.00	7,136.00	228.90	143.15	-90.00	-2,351.72	-2,081.58	7,982.56	7,752.99	229.58	34.771		
14,600.00	7,154.00	7,136.00	7,136.00	231.56	143.15	-90.00	-2,351.72	-2,081.58	8,073.68	7,844.06	229.62	35.161		
14,700.00	7,154.00	7,136.00	7,136.00	234.22	143.15	-90.00	-2,351.72	-2,081.58	8,165.00	7,935.33	229.66	35.552		
14,800.00	7,154.00	7,136.00	7,136.00	236.88	143.15	-90.00	-2,351.72	-2,081.58	8,256.52	8,026.81	229.70	35.944		
14,900.00	7,154.00	7,136.00	7,136.00	239.55	143.15	-90.00	-2,351.72	-2,081.58	8,348.23	8,118.49	229.74	36.337		
15,000.00	7,154.00	7,136.00	7,136.00	242.21	143.15	-90.00	-2,351.72	-2,081.58	8,440.14	8,210.35	229.78	36.731		
15,100.00	7,154.00	7,136.00	7,136.00	244.87	143.15	-90.00	-2,351.72	-2,081.58	8,532.22	8,302.40	229.82	37.126		
15,200.00	7,154.00	7,136.00	7,136.00	247.54	143.15	-90.00	-2,351.72	-2,081.58	8,624.48	8,394.63	229.85	37.522		
15,300.00	7,154.00	7,136.00	7,136.00	250.20	143.15	-90.00	-2,351.72	-2,081.58	8,716.92	8,487.03	229.89	37.918		
15,400.00	7,154.00	7,136.00	7,136.00	252.87	143.15	-90.00	-2,351.72	-2,081.58	8,809.51	8,579.59	229.92	38.315		

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 WARBLER 13W-27-03
Project:	ADAMS COUNTY	TVD Reference:	KB 25' @ 5105.00usft
Reference Site:	Sec 13-T1S-R66W	MD Reference:	KB 25' @ 5105.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	WARBLER 13W-27-03	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT_32Bit_ODBC
Reference Design:	PROPOSAL 1	Offset TVD Reference:	Offset Datum

Offset Design Sec 24-T1S-R66W - ABND VERT JOSEPHINE 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						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	
15,500.00	7,154.00	7,136.00	7,136.00	255.53	143.15	-90.00	-2,351.72	-2,081.58	8,902.27	8,672.32	229.95	38.713	
15,600.00	7,154.00	7,136.00	7,136.00	258.20	143.15	-90.00	-2,351.72	-2,081.58	8,995.19	8,765.20	229.98	39.112	
15,700.00	7,154.00	7,136.00	7,136.00	260.87	143.15	-90.00	-2,351.72	-2,081.58	9,088.25	8,858.24	230.01	39.512	
15,800.00	7,154.00	7,136.00	7,136.00	263.54	143.15	-90.00	-2,351.72	-2,081.58	9,181.46	8,951.42	230.04	39.912	
15,900.00	7,154.00	7,136.00	7,136.00	266.21	143.15	-90.00	-2,351.72	-2,081.58	9,274.81	9,044.74	230.07	40.312	
16,000.00	7,154.00	7,136.00	7,136.00	268.88	143.15	-90.00	-2,351.72	-2,081.58	9,368.30	9,138.20	230.10	40.714	
16,100.00	7,154.00	7,136.00	7,136.00	271.55	143.15	-90.00	-2,351.72	-2,081.58	9,461.92	9,231.79	230.13	41.116	
16,200.00	7,154.00	7,136.00	7,136.00	274.22	143.15	-90.00	-2,351.72	-2,081.58	9,555.67	9,325.52	230.16	41.518	
16,300.00	7,154.00	7,136.00	7,136.00	276.90	143.15	-90.00	-2,351.72	-2,081.58	9,649.55	9,419.37	230.18	41.921	
16,400.00	7,154.00	7,136.00	7,136.00	279.57	143.15	-90.00	-2,351.72	-2,081.58	9,743.55	9,513.34	230.21	42.325	
16,500.00	7,154.00	7,136.00	7,136.00	282.24	143.15	-90.00	-2,351.72	-2,081.58	9,837.66	9,607.43	230.23	42.729	
16,600.00	7,154.00	7,136.00	7,136.00	284.92	143.15	-90.00	-2,351.72	-2,081.58	9,931.89	9,701.63	230.26	43.133	

Anticollision Report

Company:	EXTRACTION OIL & GAS	Local Co-ordinate Reference:	Well Warbler 13W-27-03
Project:	ADAMS COUNTY	TVD Reference:	KB 25' @ 5105.00usft
Reference Site:	Sec 13-T1S-R66W	MD Reference:	KB 25' @ 5105.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	Warbler 13W-27-03	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT_32Bit_ODBC
Reference Design:	PROPOSAL 1	Offset TVD Reference:	Offset Datum

Offset Design Sec 24-T1S-R66W - EXIST VERT D G H L 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							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		
0.00	0.00	35.00	35.00	0.00	0.41	-154.98	-5,671.74	-2,647.67	6,259.30					
100.00	100.00	135.00	135.00	0.13	1.98	-154.98	-5,671.74	-2,647.67	6,259.30	6,257.19	2.11	2,967.233		
200.00	200.00	235.00	235.00	0.49	4.19	-154.98	-5,671.74	-2,647.67	6,259.30	6,254.61	4.69	1,335.276		
300.00	300.00	335.00	335.00	0.85	6.26	-154.98	-5,671.74	-2,647.67	6,259.30	6,252.19	7.11	880.087		
400.00	400.00	435.00	435.00	1.21	8.30	-154.98	-5,671.74	-2,647.67	6,259.30	6,249.79	9.51	658.299		
500.00	500.00	535.00	535.00	1.57	10.33	-154.98	-5,671.74	-2,647.67	6,259.30	6,247.41	11.89	526.272		
600.00	600.00	635.00	635.00	1.93	12.35	-154.98	-5,671.74	-2,647.67	6,259.30	6,245.03	14.27	438.520		
700.00	699.98	734.98	734.98	2.28	14.37	-86.40	-5,671.74	-2,647.67	6,259.19	6,242.54	16.65	376.029		
800.00	799.84	834.84	834.84	2.63	16.38	-86.45	-5,671.74	-2,647.67	6,258.86	6,239.85	19.01	329.199		
900.00	899.45	934.45	934.45	3.00	18.39	-86.54	-5,671.74	-2,647.67	6,258.33	6,236.95	21.38	292.695		
1,000.00	998.70	1,033.70	1,033.70	3.37	20.39	-86.67	-5,671.74	-2,647.67	6,257.60	6,233.85	23.76	263.411		
1,100.00	1,097.47	1,132.47	1,132.47	3.77	22.37	-86.83	-5,671.74	-2,647.67	6,256.70	6,230.56	26.14	239.364		
1,200.00	1,195.62	1,230.62	1,230.62	4.19	24.35	-87.02	-5,671.74	-2,647.67	6,255.66	6,227.13	28.53	219.235		
1,300.00	1,293.06	1,328.06	1,328.06	4.64	26.31	-87.24	-5,671.74	-2,647.67	6,254.51	6,223.56	30.95	202.113		
1,400.00	1,389.64	1,424.64	1,424.64	5.12	28.26	-87.50	-5,671.74	-2,647.67	6,253.28	6,219.90	33.38	187.349		
1,500.00	1,485.27	1,520.27	1,520.27	5.66	30.18	-87.78	-5,671.74	-2,647.67	6,252.02	6,216.18	35.83	174.471		
1,600.00	1,579.82	1,614.82	1,614.82	6.24	32.08	-88.09	-5,671.74	-2,647.67	6,250.77	6,212.46	38.32	163.128		
1,700.00	1,673.17	1,708.17	1,708.17	6.88	33.96	-88.42	-5,671.74	-2,647.67	6,249.60	6,208.77	40.83	153.051		
1,800.00	1,765.22	1,800.22	1,800.22	7.57	35.81	-88.76	-5,671.74	-2,647.67	6,248.56	6,205.18	43.38	144.037		
1,900.00	1,856.73	1,908.27	1,891.73	8.31	37.99	-89.10	-5,671.74	-2,647.67	6,247.74	6,201.45	46.29	134.966		
2,000.00	1,948.24	1,983.24	1,983.24	9.06	39.50	-89.44	-5,671.74	-2,647.67	6,247.18	6,198.62	48.55	128.663		
2,100.00	2,039.75	2,074.75	2,074.75	9.83	41.34	-89.78	-5,671.74	-2,647.67	6,246.88	6,195.71	51.17	122.092		
2,165.46	2,099.65	2,134.65	2,134.65	10.34	42.54	-90.00	-5,671.74	-2,647.67	6,246.82	6,193.94	52.88	118.129 CC		
2,200.00	2,131.26	2,166.26	2,166.26	10.61	43.18	-90.12	-5,671.74	-2,647.67	6,246.84	6,193.05	53.79	116.140		
2,300.00	2,222.77	2,257.77	2,257.77	11.40	45.02	-90.46	-5,671.74	-2,647.67	6,247.06	6,190.64	56.42	110.727		
2,400.00	2,314.28	2,349.28	2,349.28	12.20	46.86	-90.79	-5,671.74	-2,647.67	6,247.54	6,188.48	59.06	105.789		
2,500.00	2,405.79	2,440.79	2,440.79	13.00	48.70	-91.13	-5,671.74	-2,647.67	6,248.28	6,186.58	61.70	101.268		
2,600.00	2,497.30	2,532.30	2,532.30	13.81	50.54	-91.47	-5,671.74	-2,647.67	6,249.28	6,184.93	64.35	97.116		
2,700.00	2,588.81	2,623.81	2,623.81	14.62	52.38	-91.81	-5,671.74	-2,647.67	6,250.54	6,183.54	67.00	93.290		
2,800.00	2,680.31	2,715.31	2,715.31	15.44	54.22	-92.15	-5,671.74	-2,647.67	6,252.06	6,182.40	69.66	89.756		
2,900.00	2,771.82	2,806.82	2,806.82	16.25	56.06	-92.48	-5,671.74	-2,647.67	6,253.84	6,181.53	72.31	86.482		
3,000.00	2,863.33	2,901.67	2,898.33	17.08	57.97	-92.82	-5,671.74	-2,647.67	6,255.88	6,180.84	75.04	83.368		
3,100.00	2,954.84	2,989.84	2,989.84	17.90	59.74	-93.16	-5,671.74	-2,647.67	6,258.18	6,180.55	77.63	80.612		
3,200.00	3,046.35	3,081.35	3,081.35	18.72	61.58	-93.50	-5,671.74	-2,647.67	6,260.74	6,180.44	80.30	77.972 ES		
3,300.00	3,137.86	3,172.86	3,172.86	19.55	63.43	-93.83	-5,671.74	-2,647.67	6,263.55	6,180.60	82.96	75.503		
3,400.00	3,229.37	3,264.37	3,264.37	20.38	65.27	-94.17	-5,671.74	-2,647.67	6,266.63	6,181.01	85.62	73.191		
3,500.00	3,320.88	3,355.88	3,355.88	21.21	67.11	-94.51	-5,671.74	-2,647.67	6,269.96	6,181.68	88.28	71.021		
3,600.00	3,412.39	3,447.39	3,447.39	22.04	68.95	-94.84	-5,671.74	-2,647.67	6,273.55	6,182.60	90.95	68.980		
3,700.00	3,503.90	3,538.90	3,538.90	22.87	70.79	-95.18	-5,671.74	-2,647.67	6,277.40	6,183.79	93.61	67.059		
3,800.00	3,595.41	3,630.41	3,630.41	23.70	72.63	-95.52	-5,671.74	-2,647.67	6,281.50	6,185.23	96.27	65.247		
3,900.00	3,686.91	3,721.91	3,721.91	24.54	74.47	-95.85	-5,671.74	-2,647.67	6,285.86	6,186.92	98.93	63.536		
4,000.00	3,778.42	3,813.42	3,813.42	25.37	76.31	-96.18	-5,671.74	-2,647.67	6,290.47	6,188.88	101.60	61.917		
4,100.00	3,869.93	3,904.93	3,904.93	26.20	78.15	-96.52	-5,671.74	-2,647.67	6,295.34	6,191.09	104.26	60.383		
4,200.00	3,961.44	4,003.56	3,996.44	27.04	80.13	-96.85	-5,671.74	-2,647.67	6,300.47	6,193.41	107.06	58.850		
4,300.00	4,052.95	4,087.95	4,087.95	27.88	81.83	-97.19	-5,671.74	-2,647.67	6,305.84	6,196.27	109.57	57.549		
4,400.00	4,144.46	4,179.46	4,179.46	28.71	83.67	-97.52	-5,671.74	-2,647.67	6,311.48	6,199.24	112.23	56.236		
4,500.00	4,235.97	4,270.97	4,270.97	29.55	85.51	-97.85	-5,671.74	-2,647.67	6,317.36	6,202.47	114.89	54.987		
4,600.00	4,327.48	4,362.48	4,362.48	30.39	87.35	-98.18	-5,671.74	-2,647.67	6,323.49	6,205.95	117.54	53.798		
4,700.00	4,418.99	4,453.99	4,453.99	31.22	89.19	-98.52	-5,671.74	-2,647.67	6,329.88	6,209.68	120.20	52.663		
4,800.00	4,510.50	4,545.50	4,545.50	32.06	91.03	-98.85	-5,671.74	-2,647.67	6,336.51	6,213.67	122.85	51.580		
4,900.00	4,602.01	4,637.01	4,637.01	32.90	92.87	-99.18	-5,671.74	-2,647.67	6,343.40	6,217.90	125.50	50.546		
5,000.00	4,693.51	4,728.51	4,728.51	33.74	94.71	-99.51	-5,671.74	-2,647.67	6,350.53	6,222.39	128.15	49.557		

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 WARBLER 13W-27-03
Project:	ADAMS COUNTY	TVD Reference:	KB 25' @ 5105.00usft
Reference Site:	Sec 13-T1S-R66W	MD Reference:	KB 25' @ 5105.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	WARBLER 13W-27-03	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT_32Bit_ODBC
Reference Design:	PROPOSAL 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-INC													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		
5,100.00	4,785.02	4,820.02	4,820.02	34.58	96.55	-99.83	-5,671.74	-2,647.67	6,357.92	6,227.12	130.79	48.611		
5,200.00	4,876.53	4,911.53	4,911.53	35.42	98.39	-100.16	-5,671.74	-2,647.67	6,365.54	6,232.11	133.44	47.705		
5,300.00	4,968.04	5,003.04	5,003.04	36.26	100.23	-100.49	-5,671.74	-2,647.67	6,373.42	6,237.34	136.08	46.836		
5,400.00	5,059.55	5,105.45	5,094.55	37.10	102.29	-100.82	-5,671.74	-2,647.67	6,381.54	6,242.60	138.94	45.931		
5,500.00	5,151.06	5,186.06	5,186.06	37.94	103.91	-101.14	-5,671.74	-2,647.67	6,389.90	6,248.55	141.36	45.204		
5,600.00	5,242.57	5,277.57	5,277.57	38.78	105.75	-101.47	-5,671.74	-2,647.67	6,398.51	6,254.52	143.99	44.436		
5,700.00	5,334.08	5,369.08	5,369.08	39.62	107.59	-101.79	-5,671.74	-2,647.67	6,407.36	6,260.73	146.63	43.698		
5,800.00	5,425.59	5,460.59	5,460.59	40.46	109.43	-102.12	-5,671.74	-2,647.67	6,416.45	6,267.19	149.26	42.989		
5,900.00	5,517.10	5,552.10	5,552.10	41.30	111.27	-102.44	-5,671.74	-2,647.67	6,425.78	6,273.89	151.89	42.306		
6,000.00	5,608.61	5,643.61	5,643.61	42.14	113.11	-102.76	-5,671.74	-2,647.67	6,435.35	6,280.84	154.51	41.649		
6,100.00	5,700.12	5,735.12	5,735.12	42.98	114.96	-103.08	-5,671.74	-2,647.67	6,445.16	6,288.02	157.14	41.016		
6,200.00	5,791.62	5,826.62	5,826.62	43.82	116.80	-103.40	-5,671.74	-2,647.67	6,455.20	6,295.44	159.76	40.406		
6,300.00	5,883.13	5,918.13	5,918.13	44.66	118.64	-103.72	-5,671.74	-2,647.67	6,465.48	6,303.11	162.38	39.817		
6,400.00	5,974.64	6,009.64	6,009.64	45.50	120.48	-104.04	-5,671.74	-2,647.67	6,476.00	6,311.00	165.00	39.250		
6,500.00	6,066.15	6,101.15	6,101.15	46.35	122.32	-104.36	-5,671.74	-2,647.67	6,486.75	6,319.14	167.61	38.702		
6,600.00	6,157.66	6,207.34	6,192.66	47.19	124.45	-104.68	-5,671.74	-2,647.67	6,497.73	6,327.22	170.52	38.106		
6,700.00	6,249.17	6,284.17	6,284.17	48.03	126.00	-105.00	-5,671.74	-2,647.67	6,508.94	6,336.12	172.83	37.661		
6,800.00	6,340.68	6,375.68	6,375.68	48.87	127.84	-105.31	-5,671.74	-2,647.67	6,520.39	6,344.95	175.43	37.167		
6,900.00	6,432.19	6,467.19	6,467.19	49.71	129.68	-105.63	-5,671.74	-2,647.67	6,532.06	6,354.02	178.04	36.689		
7,000.00	6,523.70	6,558.70	6,558.70	50.55	131.52	-105.94	-5,671.74	-2,647.67	6,543.96	6,363.32	180.64	36.227		
7,100.00	6,615.21	6,650.21	6,650.21	51.40	133.36	-106.25	-5,671.74	-2,647.67	6,556.08	6,372.85	183.23	35.780		
7,200.00	6,706.72	6,741.72	6,741.72	52.24	135.20	-106.56	-5,671.74	-2,647.67	6,568.44	6,382.61	185.83	35.347		
7,300.00	6,798.22	6,833.22	6,833.22	53.08	137.04	-106.87	-5,671.74	-2,647.67	6,581.01	6,392.59	188.42	34.928		
7,400.00	6,886.25	6,921.25	6,921.25	54.07	138.81	-99.87	-5,671.74	-2,647.67	6,592.90	6,401.83	191.07	34.505		
7,500.00	6,965.23	7,000.23	7,000.23	55.35	140.40	-95.86	-5,671.74	-2,647.67	6,603.08	6,409.26	193.83	34.067		
7,600.00	7,032.75	7,067.75	7,067.75	56.90	141.75	-93.44	-5,671.74	-2,647.67	6,611.62	6,415.01	196.61	33.628		
7,700.00	7,086.77	7,121.77	7,121.77	58.68	142.84	-91.91	-5,671.74	-2,647.67	6,618.65	6,419.31	199.34	33.203		
7,800.00	7,125.64	7,160.64	7,160.64	60.64	143.62	-90.93	-5,671.74	-2,647.67	6,624.29	6,422.37	201.92	32.806		
7,900.00	7,148.19	7,183.19	7,183.19	62.69	144.08	-90.31	-5,671.74	-2,647.67	6,628.66	6,424.40	204.27	32.451		
8,000.00	7,154.00	7,189.00	7,189.00	64.75	144.19	-90.00	-5,671.74	-2,647.67	6,631.85	6,425.57	206.28	32.150		
8,100.00	7,154.00	7,189.00	7,189.00	66.83	144.19	-90.00	-5,671.74	-2,647.67	6,635.60	6,427.42	208.18	31.874		
8,200.00	7,154.00	7,189.00	7,189.00	68.96	144.19	-90.00	-5,671.74	-2,647.67	6,640.87	6,430.76	210.10	31.608		
8,300.00	7,154.00	7,189.00	7,189.00	71.12	144.19	-90.00	-5,671.74	-2,647.67	6,647.63	6,435.58	212.05	31.350		
8,400.00	7,154.00	7,189.00	7,189.00	73.32	144.19	-90.00	-5,671.74	-2,647.67	6,655.89	6,441.89	214.00	31.102		
8,500.00	7,154.00	7,189.00	7,189.00	75.55	144.19	-90.00	-5,671.74	-2,647.67	6,665.63	6,449.67	215.96	30.865		
8,600.00	7,154.00	7,189.00	7,189.00	77.81	144.19	-90.00	-5,671.74	-2,647.67	6,676.87	6,458.93	217.93	30.637		
8,700.00	7,154.00	7,189.00	7,189.00	80.10	144.19	-90.00	-5,671.74	-2,647.67	6,689.58	6,469.67	219.90	30.420		
8,800.00	7,154.00	7,189.00	7,189.00	82.41	144.19	-90.00	-5,671.74	-2,647.67	6,703.75	6,481.88	221.87	30.214		
8,900.00	7,154.00	7,189.00	7,189.00	84.75	144.19	-90.00	-5,671.74	-2,647.67	6,719.39	6,495.55	223.84	30.019		
9,000.00	7,154.00	7,189.00	7,189.00	87.11	144.19	-90.00	-5,671.74	-2,647.67	6,736.47	6,510.67	225.80	29.834		
9,100.00	7,154.00	7,189.00	7,189.00	89.48	144.19	-90.00	-5,671.74	-2,647.67	6,754.99	6,527.24	227.75	29.660		
9,200.00	7,154.00	7,189.00	7,189.00	91.88	144.19	-90.00	-5,671.74	-2,647.67	6,774.93	6,545.25	229.68	29.497		
9,300.00	7,154.00	7,189.00	7,189.00	94.29	144.19	-90.00	-5,671.74	-2,647.67	6,796.29	6,564.69	231.60	29.345		
9,400.00	7,154.00	7,189.00	7,189.00	96.72	144.19	-90.00	-5,671.74	-2,647.67	6,819.05	6,585.54	233.51	29.203		
9,500.00	7,154.00	7,189.00	7,189.00	99.16	144.19	-90.00	-5,671.74	-2,647.67	6,843.20	6,607.80	235.40	29.071		
9,600.00	7,154.00	7,189.00	7,189.00	101.61	144.19	-90.00	-5,671.74	-2,647.67	6,868.71	6,631.45	237.26	28.950		
9,700.00	7,154.00	7,189.00	7,189.00	104.08	144.19	-90.00	-5,671.74	-2,647.67	6,895.58	6,656.47	239.11	28.838		
9,800.00	7,154.00	7,189.00	7,189.00	106.56	144.19	-90.00	-5,671.74	-2,647.67	6,923.79	6,682.86	240.94	28.737		
9,900.00	7,154.00	7,189.00	7,189.00	109.05	144.19	-90.00	-5,671.74	-2,647.67	6,953.33	6,710.59	242.74	28.646		
10,000.00	7,154.00	7,189.00	7,189.00	111.55	144.19	-90.00	-5,671.74	-2,647.67	6,984.17	6,739.66	244.51	28.564		
10,100.00	7,154.00	7,189.00	7,189.00	114.06	144.19	-90.00	-5,671.74	-2,647.67	7,016.30	6,770.04	246.26	28.491		
10,200.00	7,154.00	7,189.00	7,189.00	116.57	144.19	-90.00	-5,671.74	-2,647.67	7,049.71	6,801.72	247.98	28.428		

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 WARBLER 13W-27-03
Project:	ADAMS COUNTY	TVD Reference:	KB 25' @ 5105.00usft
Reference Site:	Sec 13-T1S-R66W	MD Reference:	KB 25' @ 5105.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	WARBLER 13W-27-03	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT_32Bit_ODBC
Reference Design:	PROPOSAL 1	Offset TVD Reference:	Offset Datum

Offset Design Sec 24-T1S-R66W - EXIST VERT D G H L 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						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		
10,300.00	7,154.00	7,189.00	7,189.00	119.10	144.19	-90.00	-5,671.74	-2,647.67	7,084.36	6,834.69	249.68	28.374		
10,400.00	7,154.00	7,189.00	7,189.00	121.63	144.19	-90.00	-5,671.74	-2,647.67	7,120.26	6,868.91	251.35	28.328		
10,500.00	7,154.00	7,189.00	7,189.00	124.17	144.19	-90.00	-5,671.74	-2,647.67	7,157.37	6,904.39	252.98	28.292		
10,600.00	7,154.00	7,189.00	7,189.00	126.72	144.19	-90.00	-5,671.74	-2,647.67	7,195.68	6,941.09	254.59	28.263		
10,700.00	7,154.00	7,189.00	7,189.00	129.28	144.19	-90.00	-5,671.74	-2,647.67	7,235.17	6,979.00	256.17	28.243		
10,800.00	7,154.00	7,189.00	7,189.00	131.84	144.19	-90.00	-5,671.74	-2,647.67	7,275.82	7,018.09	257.72	28.231		
10,900.00	7,154.00	7,189.00	7,189.00	134.40	144.19	-90.00	-5,671.74	-2,647.67	7,317.61	7,058.37	259.24	28.227 SF		
11,000.00	7,154.00	7,189.00	7,189.00	136.97	144.19	-90.00	-5,671.74	-2,647.67	7,360.52	7,099.79	260.73	28.230		
11,100.00	7,154.00	7,189.00	7,189.00	139.55	144.19	-90.00	-5,671.74	-2,647.67	7,404.53	7,142.34	262.19	28.241		
11,200.00	7,154.00	7,189.00	7,189.00	142.13	144.19	-90.00	-5,671.74	-2,647.67	7,449.63	7,186.01	263.62	28.259		
11,300.00	7,154.00	7,189.00	7,189.00	144.72	144.19	-90.00	-5,671.74	-2,647.67	7,495.79	7,230.77	265.02	28.284		
11,400.00	7,154.00	7,189.00	7,189.00	147.30	144.19	-90.00	-5,671.74	-2,647.67	7,542.99	7,276.60	266.39	28.316		
11,500.00	7,154.00	7,189.00	7,189.00	149.90	144.19	-90.00	-5,671.74	-2,647.67	7,591.22	7,323.49	267.73	28.354		
11,600.00	7,154.00	7,189.00	7,189.00	152.50	144.19	-90.00	-5,671.74	-2,647.67	7,640.45	7,371.41	269.04	28.399		
11,700.00	7,154.00	7,189.00	7,189.00	155.10	144.19	-90.00	-5,671.74	-2,647.67	7,690.66	7,420.35	270.32	28.451		
11,800.00	7,154.00	7,189.00	7,189.00	157.70	144.19	-90.00	-5,671.74	-2,647.67	7,741.85	7,470.28	271.57	28.508		
11,900.00	7,154.00	7,189.00	7,189.00	160.31	144.19	-90.00	-5,671.74	-2,647.67	7,793.97	7,521.19	272.79	28.572		
12,000.00	7,154.00	7,189.00	7,189.00	162.92	144.19	-90.00	-5,671.74	-2,647.67	7,847.03	7,573.05	273.98	28.641		
12,100.00	7,154.00	7,189.00	7,189.00	165.54	144.19	-90.00	-5,671.74	-2,647.67	7,901.00	7,625.86	275.14	28.716		
12,200.00	7,154.00	7,189.00	7,189.00	168.15	144.19	-90.00	-5,671.74	-2,647.67	7,955.85	7,679.58	276.28	28.797		
12,300.00	7,154.00	7,189.00	7,189.00	170.77	144.19	-90.00	-5,671.74	-2,647.67	8,011.58	7,734.20	277.39	28.882		
12,400.00	7,154.00	7,189.00	7,189.00	173.39	144.19	-90.00	-5,671.74	-2,647.67	8,068.17	7,789.70	278.47	28.974		
12,500.00	7,154.00	7,189.00	7,189.00	176.02	144.19	-90.00	-5,671.74	-2,647.67	8,125.59	7,846.07	279.52	29.070		
12,600.00	7,154.00	7,189.00	7,189.00	178.65	144.19	-90.00	-5,671.74	-2,647.67	8,183.83	7,903.28	280.55	29.171		
12,700.00	7,154.00	7,189.00	7,189.00	181.28	144.19	-90.00	-5,671.74	-2,647.67	8,242.87	7,961.32	281.55	29.277		
12,800.00	7,154.00	7,189.00	7,189.00	183.91	144.19	-90.00	-5,671.74	-2,647.67	8,302.70	8,020.17	282.53	29.387		
12,900.00	7,154.00	7,189.00	7,189.00	186.54	144.19	-90.00	-5,671.74	-2,647.67	8,363.29	8,079.81	283.48	29.502		
13,000.00	7,154.00	7,189.00	7,189.00	189.18	144.19	-90.00	-5,671.74	-2,647.67	8,424.64	8,140.23	284.41	29.622		
13,100.00	7,154.00	7,189.00	7,189.00	191.81	144.19	-90.00	-5,671.74	-2,647.67	8,486.72	8,201.41	285.31	29.746		
13,200.00	7,154.00	7,189.00	7,189.00	194.45	144.19	-90.00	-5,671.74	-2,647.67	8,549.52	8,263.33	286.19	29.874		
13,300.00	7,154.00	7,189.00	7,189.00	197.10	144.19	-90.00	-5,671.74	-2,647.67	8,613.02	8,325.97	287.05	30.006		
13,400.00	7,154.00	7,189.00	7,189.00	199.74	144.19	-90.00	-5,671.74	-2,647.67	8,677.21	8,389.33	287.88	30.141		
13,500.00	7,154.00	7,189.00	7,189.00	202.38	144.19	-90.00	-5,671.74	-2,647.67	8,742.07	8,453.38	288.70	30.281		
13,600.00	7,154.00	7,189.00	7,189.00	205.03	144.19	-90.00	-5,671.74	-2,647.67	8,807.59	8,518.11	289.49	30.425		
13,700.00	7,154.00	7,189.00	7,189.00	207.68	144.19	-90.00	-5,671.74	-2,647.67	8,873.76	8,583.50	290.26	30.572		
13,800.00	7,154.00	7,189.00	7,189.00	210.33	144.19	-90.00	-5,671.74	-2,647.67	8,940.55	8,649.54	291.01	30.723		
13,900.00	7,154.00	7,189.00	7,189.00	212.98	144.19	-90.00	-5,671.74	-2,647.67	9,007.96	8,716.22	291.74	30.877		
14,000.00	7,154.00	7,189.00	7,189.00	215.63	144.19	-90.00	-5,671.74	-2,647.67	9,075.97	8,783.51	292.45	31.034		
14,100.00	7,154.00	7,189.00	7,189.00	218.28	144.19	-90.00	-5,671.74	-2,647.67	9,144.56	8,851.42	293.14	31.195		
14,200.00	7,154.00	7,189.00	7,189.00	220.93	144.19	-90.00	-5,671.74	-2,647.67	9,213.73	8,919.92	293.82	31.359		
14,300.00	7,154.00	7,189.00	7,189.00	223.59	144.19	-90.00	-5,671.74	-2,647.67	9,283.47	8,988.99	294.47	31.526		
14,400.00	7,154.00	7,189.00	7,189.00	226.25	144.19	-90.00	-5,671.74	-2,647.67	9,353.75	9,058.64	295.11	31.696		
14,500.00	7,154.00	7,189.00	7,189.00	228.90	144.19	-90.00	-5,671.74	-2,647.67	9,424.57	9,128.83	295.73	31.868		
14,600.00	7,154.00	7,189.00	7,189.00	231.56	144.19	-90.00	-5,671.74	-2,647.67	9,495.91	9,199.57	296.34	32.044		
14,700.00	7,154.00	7,189.00	7,189.00	234.22	144.19	-90.00	-5,671.74	-2,647.67	9,567.77	9,270.84	296.93	32.222		
14,800.00	7,154.00	7,189.00	7,189.00	236.88	144.19	-90.00	-5,671.74	-2,647.67	9,640.13	9,342.63	297.50	32.404		
14,900.00	7,154.00	7,189.00	7,189.00	239.55	144.19	-90.00	-5,671.74	-2,647.67	9,712.98	9,414.92	298.06	32.587		
15,000.00	7,154.00	7,189.00	7,189.00	242.21	144.19	-90.00	-5,671.74	-2,647.67	9,786.31	9,487.70	298.60	32.774		
15,100.00	7,154.00	7,189.00	7,189.00	244.87	144.19	-90.00	-5,671.74	-2,647.67	9,860.10	9,560.97	299.13	32.963		
15,200.00	7,154.00	7,189.00	7,189.00	247.54	144.19	-90.00	-5,671.74	-2,647.67	9,934.36	9,634.71	299.65	33.154		

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 Warbler 13W-27-03
Project:	ADAMS COUNTY	TVD Reference:	KB 25' @ 5105.00usft
Reference Site:	Sec 13-T1S-R66W	MD Reference:	KB 25' @ 5105.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	Warbler 13W-27-03	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT_32Bit_ODBC
Reference Design:	PROPOSAL 1	Offset TVD Reference:	Offset Datum

Offset Design Sec 24-T1S-R66W - SI VERT LEECH 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							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		
0.00	0.00	6.00	6.00	0.00	0.07	-177.46	-2,933.94	-130.08	2,936.82					
100.00	100.00	106.00	106.00	0.13	1.31	-177.46	-2,933.94	-130.08	2,936.82	2,935.37	1.44	2,034.150		
200.00	200.00	206.00	206.00	0.49	3.59	-177.46	-2,933.94	-130.08	2,936.82	2,932.73	4.08	718.963		
300.00	300.00	306.00	306.00	0.85	5.67	-177.46	-2,933.94	-130.08	2,936.82	2,930.30	6.52	450.441		
400.00	400.00	406.00	406.00	1.21	7.71	-177.46	-2,933.94	-130.08	2,936.82	2,927.90	8.92	329.245		
500.00	500.00	506.00	506.00	1.57	9.74	-177.46	-2,933.94	-130.08	2,936.82	2,925.51	11.31	259.734		
600.00	600.00	606.00	606.00	1.93	11.76	-177.46	-2,933.94	-130.08	2,936.82	2,923.13	13.69	214.553 CC		
700.00	699.98	705.98	705.98	2.28	13.78	-108.89	-2,933.94	-130.08	2,937.38	2,921.32	16.06	182.893		
800.00	799.84	805.84	805.84	2.63	15.79	-108.95	-2,933.94	-130.08	2,939.08	2,920.65	18.43	159.486 ES		
900.00	899.45	905.45	905.45	3.00	17.80	-109.06	-2,933.94	-130.08	2,941.93	2,921.13	20.80	141.449		
1,000.00	998.70	1,004.70	1,004.70	3.37	19.80	-109.21	-2,933.94	-130.08	2,945.95	2,922.78	23.17	127.131		
1,100.00	1,097.47	1,103.47	1,103.47	3.77	21.79	-109.39	-2,933.94	-130.08	2,951.18	2,925.63	25.55	115.489		
1,200.00	1,195.62	1,201.62	1,201.62	4.19	23.77	-109.61	-2,933.94	-130.08	2,957.65	2,929.71	27.94	105.839		
1,300.00	1,293.06	1,300.94	1,299.06	4.64	25.77	-109.86	-2,933.94	-130.08	2,965.43	2,935.04	30.39	97.589		
1,400.00	1,389.64	1,404.36	1,395.64	5.12	27.85	-110.15	-2,933.94	-130.08	2,974.56	2,941.61	32.94	90.291		
1,500.00	1,485.27	1,508.73	1,491.27	5.66	29.95	-110.46	-2,933.94	-130.08	2,985.11	2,949.55	35.56	83.950		
1,600.00	1,579.82	1,585.82	1,585.82	6.24	31.50	-110.78	-2,933.94	-130.08	2,997.15	2,959.48	37.66	79.574		
1,700.00	1,673.17	1,679.17	1,679.17	6.88	33.38	-111.13	-2,933.94	-130.08	3,010.75	2,970.61	40.14	74.998		
1,800.00	1,765.22	1,771.22	1,771.22	7.57	35.23	-111.52	-2,933.94	-130.08	3,025.99	2,983.35	42.65	70.957		
1,900.00	1,856.73	1,862.73	1,862.73	8.31	37.07	-112.17	-2,933.94	-130.08	3,042.17	2,997.01	45.16	67.358		
2,000.00	1,948.24	1,954.24	1,954.24	9.06	38.91	-112.82	-2,933.94	-130.08	3,058.80	3,011.10	47.69	64.133		
2,100.00	2,039.75	2,045.75	2,045.75	9.83	40.75	-113.47	-2,933.94	-130.08	3,075.87	3,025.63	50.23	61.232		
2,200.00	2,131.26	2,137.26	2,137.26	10.61	42.59	-114.10	-2,933.94	-130.08	3,093.36	3,040.59	52.78	58.613		
2,300.00	2,222.77	2,228.77	2,228.77	11.40	44.44	-114.73	-2,933.94	-130.08	3,111.29	3,055.96	55.32	56.240		
2,400.00	2,314.28	2,320.28	2,320.28	12.20	46.28	-115.36	-2,933.94	-130.08	3,129.62	3,071.76	57.87	54.083		
2,500.00	2,405.79	2,411.79	2,411.79	13.00	48.12	-115.98	-2,933.94	-130.08	3,148.37	3,087.96	60.41	52.115		
2,600.00	2,497.30	2,503.30	2,503.30	13.81	49.96	-116.59	-2,933.94	-130.08	3,167.52	3,104.57	62.96	50.313		
2,700.00	2,588.81	2,605.20	2,594.81	14.62	52.01	-117.19	-2,933.94	-130.08	3,187.07	3,121.36	65.71	48.505		
2,800.00	2,680.31	2,686.31	2,686.31	15.44	53.64	-117.79	-2,933.94	-130.08	3,207.00	3,138.97	68.03	47.138		
2,900.00	2,771.82	2,777.82	2,777.82	16.25	55.48	-118.38	-2,933.94	-130.08	3,227.32	3,156.75	70.57	45.734		
3,000.00	2,863.33	2,869.33	2,869.33	17.08	57.32	-118.97	-2,933.94	-130.08	3,248.01	3,174.91	73.10	44.434		
3,100.00	2,954.84	2,960.84	2,960.84	17.90	59.16	-119.55	-2,933.94	-130.08	3,269.06	3,193.44	75.62	43.229		
3,200.00	3,046.35	3,052.35	3,052.35	18.72	61.00	-120.12	-2,933.94	-130.08	3,290.48	3,212.33	78.14	42.109		
3,300.00	3,137.86	3,143.86	3,143.86	19.55	62.84	-120.69	-2,933.94	-130.08	3,312.24	3,231.59	80.66	41.065		
3,400.00	3,229.37	3,235.37	3,235.37	20.38	64.68	-121.25	-2,933.94	-130.08	3,334.36	3,251.19	83.17	40.092		
3,500.00	3,320.88	3,326.88	3,326.88	21.21	66.52	-121.80	-2,933.94	-130.08	3,356.81	3,271.13	85.67	39.182		
3,600.00	3,412.39	3,418.39	3,418.39	22.04	68.36	-122.35	-2,933.94	-130.08	3,379.59	3,291.42	88.17	38.329		
3,700.00	3,503.90	3,509.90	3,509.90	22.87	70.20	-122.88	-2,933.94	-130.08	3,402.70	3,312.03	90.67	37.530		
3,800.00	3,595.41	3,601.41	3,601.41	23.70	72.04	-123.42	-2,933.94	-130.08	3,426.13	3,332.97	93.15	36.779		
3,900.00	3,686.91	3,707.09	3,692.91	24.54	74.17	-123.94	-2,933.94	-130.08	3,449.87	3,353.94	95.92	35.965		
4,000.00	3,778.42	3,784.42	3,784.42	25.37	75.72	-124.47	-2,933.94	-130.08	3,473.91	3,375.80	98.12	35.406		
4,100.00	3,869.93	3,875.93	3,875.93	26.20	77.57	-124.98	-2,933.94	-130.08	3,498.26	3,397.67	100.59	34.778		
4,200.00	3,961.44	3,967.44	3,967.44	27.04	79.41	-125.49	-2,933.94	-130.08	3,522.90	3,419.84	103.05	34.185		
4,300.00	4,052.95	4,058.95	4,058.95	27.88	81.25	-125.99	-2,933.94	-130.08	3,547.82	3,442.31	105.52	33.624		
4,400.00	4,144.46	4,150.46	4,150.46	28.71	83.09	-126.48	-2,933.94	-130.08	3,573.03	3,465.06	107.97	33.092		
4,500.00	4,235.97	4,241.97	4,241.97	29.55	84.93	-126.97	-2,933.94	-130.08	3,598.51	3,488.09	110.42	32.589		
4,600.00	4,327.48	4,333.48	4,333.48	30.39	86.77	-127.45	-2,933.94	-130.08	3,624.26	3,511.40	112.87	32.111		
4,700.00	4,418.99	4,424.99	4,424.99	31.22	88.61	-127.93	-2,933.94	-130.08	3,650.28	3,534.97	115.31	31.657		
4,800.00	4,510.50	4,516.50	4,516.50	32.06	90.45	-128.40	-2,933.94	-130.08	3,676.55	3,558.81	117.74	31.225		
4,900.00	4,602.01	4,608.01	4,608.01	32.90	92.29	-128.87	-2,933.94	-130.08	3,703.08	3,582.91	120.17	30.815		
5,000.00	4,693.51	4,700.49	4,699.51	33.74	94.15	-129.32	-2,933.94	-130.08	3,729.85	3,607.24	122.62	30.419		
5,100.00	4,785.02	4,808.98	4,791.02	34.58	96.33	-129.78	-2,933.94	-130.08	3,756.87	3,631.49	125.38	29.964		

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 WARBLER 13W-27-03
Project:	ADAMS COUNTY	TVD Reference:	KB 25' @ 5105.00usft
Reference Site:	Sec 13-T1S-R66W	MD Reference:	KB 25' @ 5105.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	WARBLER 13W-27-03	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT_32Bit_ODBC
Reference Design:	PROPOSAL 1	Offset TVD Reference:	Offset Datum

Offset Design Sec 24-T1S-R66W - SI VERT LEECH 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						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		
5,200.00	4,876.53	4,882.53	4,882.53	35.42	97.81	-130.22	-2,933.94	-130.08	3,784.12	3,656.69	127.43	29.695		
5,300.00	4,968.04	4,974.04	4,974.04	36.26	99.65	-130.66	-2,933.94	-130.08	3,811.60	3,681.76	129.84	29.356		
5,400.00	5,059.55	5,065.55	5,065.55	37.10	101.49	-131.10	-2,933.94	-130.08	3,839.32	3,707.07	132.25	29.031		
5,500.00	5,151.06	5,157.06	5,157.06	37.94	103.33	-131.53	-2,933.94	-130.08	3,867.25	3,732.60	134.65	28.721		
5,600.00	5,242.57	5,248.57	5,248.57	38.78	105.17	-131.95	-2,933.94	-130.08	3,895.40	3,758.35	137.05	28.424		
5,700.00	5,334.08	5,340.08	5,340.08	39.62	107.01	-132.37	-2,933.94	-130.08	3,923.76	3,784.32	139.44	28.140		
5,800.00	5,425.59	5,431.59	5,431.59	40.46	108.85	-132.78	-2,933.94	-130.08	3,952.33	3,810.51	141.83	27.867		
5,900.00	5,517.10	5,523.10	5,523.10	41.30	110.69	-133.19	-2,933.94	-130.08	3,981.11	3,836.90	144.21	27.606		
6,000.00	5,608.61	5,614.61	5,614.61	42.14	112.53	-133.59	-2,933.94	-130.08	4,010.08	3,863.49	146.59	27.356		
6,100.00	5,700.12	5,706.12	5,706.12	42.98	114.37	-133.99	-2,933.94	-130.08	4,039.25	3,890.28	148.97	27.115		
6,200.00	5,791.62	5,802.38	5,797.62	43.82	116.31	-134.38	-2,933.94	-130.08	4,068.61	3,917.17	151.43	26.867		
6,300.00	5,883.13	5,889.13	5,889.13	44.66	118.05	-134.76	-2,933.94	-130.08	4,098.15	3,944.45	153.71	26.662		
6,400.00	5,974.64	5,980.64	5,980.64	45.50	119.89	-135.14	-2,933.94	-130.08	4,127.88	3,971.81	156.07	26.449		
6,500.00	6,066.15	6,072.15	6,072.15	46.35	121.73	-135.52	-2,933.94	-130.08	4,157.78	3,999.35	158.43	26.244		
6,600.00	6,157.66	6,163.66	6,163.66	47.19	123.57	-135.89	-2,933.94	-130.08	4,187.87	4,027.08	160.79	26.046		
6,700.00	6,249.17	6,255.17	6,255.17	48.03	125.41	-136.26	-2,933.94	-130.08	4,218.12	4,054.97	163.14	25.856		
6,800.00	6,340.68	6,346.68	6,346.68	48.87	127.25	-136.62	-2,933.94	-130.08	4,248.54	4,083.04	165.49	25.672		
6,900.00	6,432.19	6,438.19	6,438.19	49.71	129.09	-136.98	-2,933.94	-130.08	4,279.12	4,111.28	167.84	25.495		
7,000.00	6,523.70	6,529.70	6,529.70	50.55	130.93	-137.33	-2,933.94	-130.08	4,309.86	4,139.68	170.18	25.325		
7,100.00	6,615.21	6,621.21	6,621.21	51.40	132.77	-137.67	-2,933.94	-130.08	4,340.76	4,168.24	172.52	25.160		
7,200.00	6,706.72	6,712.72	6,712.72	52.24	134.61	-138.02	-2,933.94	-130.08	4,371.81	4,196.95	174.86	25.001		
7,300.00	6,798.22	6,804.22	6,804.22	53.08	136.46	-138.36	-2,933.94	-130.08	4,403.02	4,225.82	177.20	24.848		
7,400.00	6,886.25	6,907.75	6,892.25	54.07	138.54	-129.27	-2,933.94	-130.08	4,437.60	4,257.75	179.85	24.674		
7,500.00	6,965.23	6,971.23	6,971.23	55.35	139.81	-122.20	-2,933.94	-130.08	4,478.63	4,296.79	181.84	24.629		
7,600.00	7,032.75	7,038.75	7,038.75	56.90	141.17	-115.77	-2,933.94	-130.08	4,525.26	4,341.21	184.04	24.588		
7,700.00	7,086.77	7,107.23	7,092.77	58.68	142.55	-109.32	-2,933.94	-130.08	4,576.45	4,390.09	186.36	24.557 SF		
7,800.00	7,125.64	7,131.64	7,131.64	60.64	143.04	-102.62	-2,933.94	-130.08	4,631.03	4,443.19	187.84	24.654		
7,900.00	7,148.19	7,154.19	7,154.19	62.69	143.49	-95.69	-2,933.94	-130.08	4,687.64	4,498.35	189.29	24.764		
8,000.00	7,154.00	7,160.00	7,160.00	64.75	143.61	-90.00	-2,933.94	-130.08	4,744.79	4,554.43	190.36	24.925		
8,100.00	7,154.00	7,160.00	7,160.00	66.83	143.61	-90.00	-2,933.94	-130.08	4,802.73	4,611.44	191.30	25.106		
8,200.00	7,154.00	7,160.00	7,160.00	68.96	143.61	-90.00	-2,933.94	-130.08	4,862.05	4,669.81	192.24	25.292		
8,300.00	7,154.00	7,160.00	7,160.00	71.12	143.61	-90.00	-2,933.94	-130.08	4,922.68	4,729.51	193.17	25.484		
8,400.00	7,154.00	7,160.00	7,160.00	73.32	143.61	-90.00	-2,933.94	-130.08	4,984.57	4,790.48	194.09	25.681		
8,500.00	7,154.00	7,160.00	7,160.00	75.55	143.61	-90.00	-2,933.94	-130.08	5,047.70	4,852.68	195.01	25.884		
8,600.00	7,154.00	7,160.00	7,160.00	77.81	143.61	-90.00	-2,933.94	-130.08	5,111.99	4,916.08	195.92	26.093		
8,700.00	7,154.00	7,160.00	7,160.00	80.10	143.61	-90.00	-2,933.94	-130.08	5,177.42	4,980.62	196.81	26.307		
8,800.00	7,154.00	7,160.00	7,160.00	82.41	143.61	-90.00	-2,933.94	-130.08	5,243.94	5,046.26	197.68	26.527		
8,900.00	7,154.00	7,160.00	7,160.00	84.75	143.61	-90.00	-2,933.94	-130.08	5,311.52	5,112.97	198.55	26.752		
9,000.00	7,154.00	7,160.00	7,160.00	87.11	143.61	-90.00	-2,933.94	-130.08	5,380.10	5,180.70	199.39	26.983		
9,100.00	7,154.00	7,160.00	7,160.00	89.48	143.61	-90.00	-2,933.94	-130.08	5,449.65	5,249.43	200.22	27.218		
9,200.00	7,154.00	7,160.00	7,160.00	91.88	143.61	-90.00	-2,933.94	-130.08	5,520.14	5,319.11	201.03	27.459		
9,300.00	7,154.00	7,160.00	7,160.00	94.29	143.61	-90.00	-2,933.94	-130.08	5,591.53	5,389.70	201.82	27.705		
9,400.00	7,154.00	7,160.00	7,160.00	96.72	143.61	-90.00	-2,933.94	-130.08	5,663.78	5,461.18	202.60	27.956		
9,500.00	7,154.00	7,160.00	7,160.00	99.16	143.61	-90.00	-2,933.94	-130.08	5,736.87	5,533.51	203.36	28.211		
9,600.00	7,154.00	7,160.00	7,160.00	101.61	143.61	-90.00	-2,933.94	-130.08	5,810.76	5,606.66	204.10	28.471		
9,700.00	7,154.00	7,160.00	7,160.00	104.08	143.61	-90.00	-2,933.94	-130.08	5,885.42	5,680.60	204.82	28.735		
9,800.00	7,154.00	7,160.00	7,160.00	106.56	143.61	-90.00	-2,933.94	-130.08	5,960.82	5,755.30	205.52	29.004		
9,900.00	7,154.00	7,160.00	7,160.00	109.05	143.61	-90.00	-2,933.94	-130.08	6,036.94	5,830.73	206.20	29.276		
10,000.00	7,154.00	7,160.00	7,160.00	111.55	143.61	-90.00	-2,933.94	-130.08	6,113.74	5,906.87	206.87	29.553		
10,100.00	7,154.00	7,160.00	7,160.00	114.06	143.61	-90.00	-2,933.94	-130.08	6,191.21	5,983.69	207.52	29.834		
10,200.00	7,154.00	7,160.00	7,160.00	116.57	143.61	-90.00	-2,933.94	-130.08	6,269.32	6,061.16	208.16	30.118		
10,300.00	7,154.00	7,160.00	7,160.00	119.10	143.61	-90.00	-2,933.94	-130.08	6,348.04	6,139.26	208.78	30.406		

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 WARBLER 13W-27-03
Project:	ADAMS COUNTY	TVD Reference:	KB 25' @ 5105.00usft
Reference Site:	Sec 13-T1S-R66W	MD Reference:	KB 25' @ 5105.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	WARBLER 13W-27-03	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT_32Bit_ODBC
Reference Design:	PROPOSAL 1	Offset TVD Reference:	Offset Datum

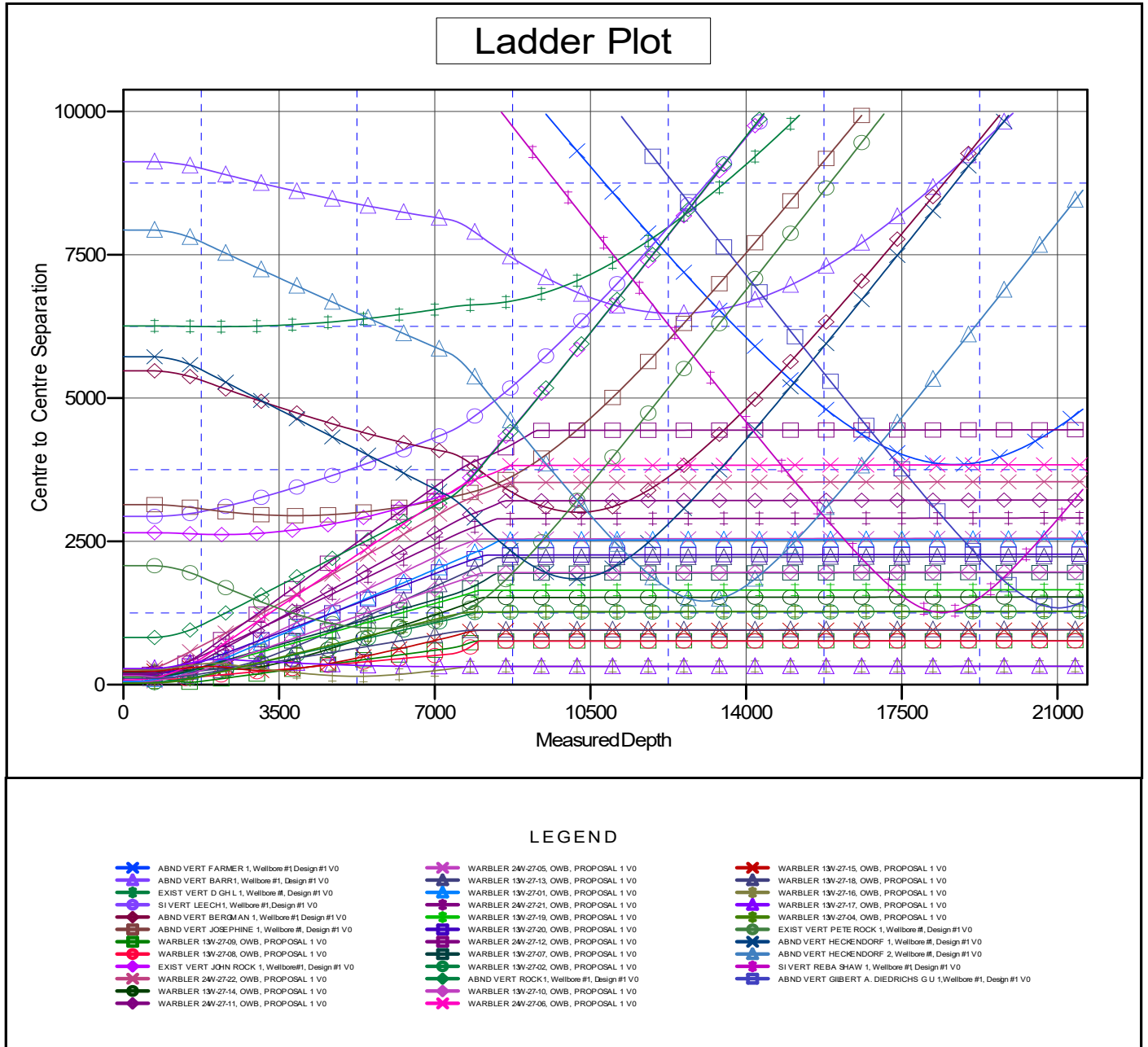
Offset Design Sec 24-T1S-R66W - SI VERT LEECH 1 - Wellbore #1 - Design #1													Offset Site Error:	0.00 usft
Survey Program: 0-INC													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	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		
10,400.00	7,154.00	7,160.00	7,160.00	121.63	143.61	-90.00	-2,933.94	-130.08	6,427.35	6,217.97	209.38	30.697		
10,500.00	7,154.00	7,160.00	7,160.00	124.17	143.61	-90.00	-2,933.94	-130.08	6,507.23	6,297.27	209.96	30.992		
10,600.00	7,154.00	7,160.00	7,160.00	126.72	143.61	-90.00	-2,933.94	-130.08	6,587.66	6,377.13	210.53	31.290		
10,700.00	7,154.00	7,160.00	7,160.00	129.28	143.61	-90.00	-2,933.94	-130.08	6,668.62	6,457.53	211.09	31.591		
10,800.00	7,154.00	7,160.00	7,160.00	131.84	143.61	-90.00	-2,933.94	-130.08	6,750.09	6,538.46	211.63	31.895		
10,900.00	7,154.00	7,160.00	7,160.00	134.40	143.61	-90.00	-2,933.94	-130.08	6,832.06	6,619.90	212.16	32.202		
11,000.00	7,154.00	7,160.00	7,160.00	136.97	143.61	-90.00	-2,933.94	-130.08	6,914.50	6,701.82	212.67	32.512		
11,100.00	7,154.00	7,160.00	7,160.00	139.55	143.61	-90.00	-2,933.94	-130.08	6,997.39	6,784.22	213.17	32.825		
11,200.00	7,154.00	7,160.00	7,160.00	142.13	143.61	-90.00	-2,933.94	-130.08	7,080.73	6,867.07	213.66	33.140		
11,300.00	7,154.00	7,160.00	7,160.00	144.72	143.61	-90.00	-2,933.94	-130.08	7,164.49	6,950.36	214.14	33.458		
11,400.00	7,154.00	7,160.00	7,160.00	147.30	143.61	-90.00	-2,933.94	-130.08	7,248.67	7,034.07	214.60	33.778		
11,500.00	7,154.00	7,160.00	7,160.00	149.90	143.61	-90.00	-2,933.94	-130.08	7,333.24	7,118.19	215.05	34.100		
11,600.00	7,154.00	7,160.00	7,160.00	152.50	143.61	-90.00	-2,933.94	-130.08	7,418.20	7,202.71	215.49	34.425		
11,700.00	7,154.00	7,160.00	7,160.00	155.10	143.61	-90.00	-2,933.94	-130.08	7,503.53	7,287.61	215.92	34.752		
11,800.00	7,154.00	7,160.00	7,160.00	157.70	143.61	-90.00	-2,933.94	-130.08	7,589.22	7,372.88	216.34	35.081		
11,900.00	7,154.00	7,160.00	7,160.00	160.31	143.61	-90.00	-2,933.94	-130.08	7,675.25	7,458.50	216.74	35.412		
12,000.00	7,154.00	7,160.00	7,160.00	162.92	143.61	-90.00	-2,933.94	-130.08	7,761.62	7,544.47	217.14	35.744		
12,100.00	7,154.00	7,160.00	7,160.00	165.54	143.61	-90.00	-2,933.94	-130.08	7,848.31	7,630.78	217.53	36.079		
12,200.00	7,154.00	7,160.00	7,160.00	168.15	143.61	-90.00	-2,933.94	-130.08	7,935.31	7,717.40	217.91	36.416		
12,300.00	7,154.00	7,160.00	7,160.00	170.77	143.61	-90.00	-2,933.94	-130.08	8,022.62	7,804.34	218.28	36.754		
12,400.00	7,154.00	7,160.00	7,160.00	173.39	143.61	-90.00	-2,933.94	-130.08	8,110.22	7,891.58	218.64	37.094		
12,500.00	7,154.00	7,160.00	7,160.00	176.02	143.61	-90.00	-2,933.94	-130.08	8,198.10	7,979.11	218.99	37.436		
12,600.00	7,154.00	7,160.00	7,160.00	178.65	143.61	-90.00	-2,933.94	-130.08	8,286.26	8,066.93	219.34	37.779		
12,700.00	7,154.00	7,160.00	7,160.00	181.28	143.61	-90.00	-2,933.94	-130.08	8,374.69	8,155.01	219.67	38.124		
12,800.00	7,154.00	7,160.00	7,160.00	183.91	143.61	-90.00	-2,933.94	-130.08	8,463.37	8,243.37	220.00	38.470		
12,900.00	7,154.00	7,160.00	7,160.00	186.54	143.61	-90.00	-2,933.94	-130.08	8,552.30	8,331.98	220.32	38.817		
13,000.00	7,154.00	7,160.00	7,160.00	189.18	143.61	-90.00	-2,933.94	-130.08	8,641.48	8,420.84	220.63	39.166		
13,100.00	7,154.00	7,160.00	7,160.00	191.81	143.61	-90.00	-2,933.94	-130.08	8,730.88	8,509.94	220.94	39.517		
13,200.00	7,154.00	7,160.00	7,160.00	194.45	143.61	-90.00	-2,933.94	-130.08	8,820.52	8,599.28	221.24	39.868		
13,300.00	7,154.00	7,160.00	7,160.00	197.10	143.61	-90.00	-2,933.94	-130.08	8,910.38	8,688.84	221.54	40.221		
13,400.00	7,154.00	7,160.00	7,160.00	199.74	143.61	-90.00	-2,933.94	-130.08	9,000.45	8,778.63	221.82	40.575		
13,500.00	7,154.00	7,160.00	7,160.00	202.38	143.61	-90.00	-2,933.94	-130.08	9,090.73	8,868.62	222.10	40.930		
13,600.00	7,154.00	7,160.00	7,160.00	205.03	143.61	-90.00	-2,933.94	-130.08	9,181.21	8,958.83	222.38	41.286		
13,700.00	7,154.00	7,160.00	7,160.00	207.68	143.61	-90.00	-2,933.94	-130.08	9,271.88	9,049.23	222.65	41.644		
13,800.00	7,154.00	7,160.00	7,160.00	210.33	143.61	-90.00	-2,933.94	-130.08	9,362.75	9,139.83	222.91	42.002		
13,900.00	7,154.00	7,160.00	7,160.00	212.98	143.61	-90.00	-2,933.94	-130.08	9,453.80	9,230.63	223.17	42.361		
14,000.00	7,154.00	7,160.00	7,160.00	215.63	143.61	-90.00	-2,933.94	-130.08	9,545.03	9,321.60	223.42	42.722		
14,100.00	7,154.00	7,160.00	7,160.00	218.28	143.61	-90.00	-2,933.94	-130.08	9,636.43	9,412.76	223.67	43.083		
14,200.00	7,154.00	7,160.00	7,160.00	220.93	143.61	-90.00	-2,933.94	-130.08	9,728.00	9,504.08	223.92	43.445		
14,300.00	7,154.00	7,160.00	7,160.00	223.59	143.61	-90.00	-2,933.94	-130.08	9,819.74	9,595.58	224.15	43.808		
14,400.00	7,154.00	7,160.00	7,160.00	226.25	143.61	-90.00	-2,933.94	-130.08	9,911.63	9,687.24	224.39	44.172		

Anticollision Report

Company:	EXTRACTION OIL & GAS	Local Co-ordinate Reference:	Well WARBLER 13W-27-03
Project:	ADAMS COUNTY	TVD Reference:	KB 25' @ 5105.00usft
Reference Site:	Sec 13-T1S-R66W	MD Reference:	KB 25' @ 5105.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	WARBLER 13W-27-03	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT_32Bit_ODBC
Reference Design:	PROPOSAL 1	Offset TVD Reference:	Offset Datum

Reference Depths are relative to KB 25' @ 5105.00usft
Offset Depths are relative to Offset Datum
Central Meridian is 105.500000°W

Coordinates are relative to: WARBLER 13W-27-03
Coordinate System is US State Plane 1983, Colorado Northern Zone
Grid Convergence at Surface is: 0.50°



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

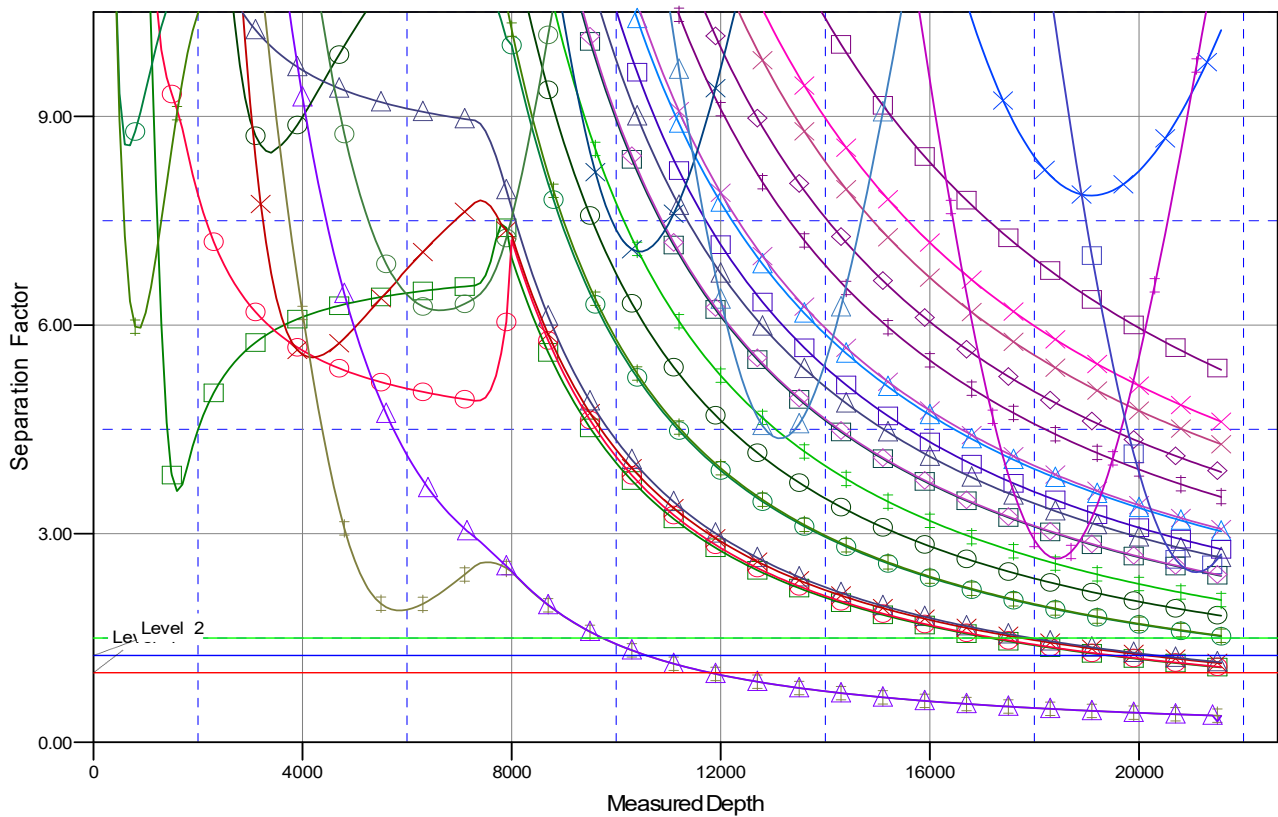
Anticollision Report

Company:	EXTRACTION OIL & GAS	Local Co-ordinate Reference:	Well WARBLER 13W-27-03
Project:	ADAMS COUNTY	TVD Reference:	KB 25' @ 5105.00usft
Reference Site:	Sec 13-T1S-R66W	MD Reference:	KB 25' @ 5105.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	WARBLER 13W-27-03	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT_32Bit_ODBC
Reference Design:	PROPOSAL 1	Offset TVD Reference:	Offset Datum

Reference Depths are relative to KB 25' @ 5105.00usft
 Offset Depths are relative to Offset Datum
 Central Meridian is 105.500000°W

Coordinates are relative to: WARBLER 13W-27-03
 Coordinate System is US State Plane 1983, Colorado Northern Zone
 Grid Convergence at Surface is: 0.50°

Separation Factor Plot



LEGEND

ABND VERT FARMER 1, Wellbore #1, Design #1 V0	WARBLER 24W-27-05, OWB, PROPOSAL 1 V0	WARBLER 13W-27-15, OWB, PROPOSAL 1 V0
ABND VERT BARR 1, Wellbore #1, Design #1 V0	WARBLER 13W-27-13, OWB, PROPOSAL 1 V0	WARBLER 13W-27-18, OWB, PROPOSAL 1 V0
EXIST VERT DGH L 1, Wellbore #1, Design #1 V0	WARBLER 13W-27-01, OWB, PROPOSAL 1 V0	WARBLER 13W-27-16, OWB, PROPOSAL 1 V0
SI VERT LEECH 1, Wellbore #1, Design #1 V0	WARBLER 24W-27-21, OWB, PROPOSAL 1 V0	WARBLER 13W-27-17, OWB, PROPOSAL 1 V0
ABND VERT BERGMAN 1, Wellbore #1, Design #1 V0	WARBLER 13W-27-19, OWB, PROPOSAL 1 V0	WARBLER 13W-27-04, OWB, PROPOSAL 1 V0
ABND VERT JOSEPHINE 1, Wellbore #1, Design #1 V0	WARBLER 13W-27-20, OWB, PROPOSAL 1 V0	EXIST VERT PETE ROCK 1, Wellbore #1, Design #1 V0
WARBLER 13W-27-08, OWB, PROPOSAL 1 V0	WARBLER 24W-27-12, OWB, PROPOSAL 1 V0	ABND VERT HECKENDORF 1, Wellbore #1, Design #1 V0
WARBLER 13W-27-09, OWB, PROPOSAL 1 V0	WARBLER 13W-27-07, OWB, PROPOSAL 1 V0	ABND VERT HECKENDORF 2, Wellbore #1, Design #1 V0
EXIST VERT JOHN ROCK 1, Wellbore #1, Design #1 V0	WARBLER 13W-27-02, OWB, PROPOSAL 1 V0	SI VERT REBA SHAW 1, Wellbore #1, Design #1 V0
WARBLER 24W-27-22, OWB, PROPOSAL 1 V0	ABND VERT ROCK 1, Wellbore #1, Design #1 V0	ABND VERT GIBERT A. DIEDRICHS G U 1, Wellbore #1, Design #1 V0
WARBLER 13W-27-14, OWB, PROPOSAL 1 V0	WARBLER 13W-27-10, OWB, PROPOSAL 1 V0	
WARBLER 24W-27-11, OWB, PROPOSAL 1 V0		

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