

# **EXTRACTION OIL & GAS**

**ADAMS COUNTY**

**Sec 13-T1S-R66W**

**WARBLER 13W-27-19**

**OWB**

**PROPOSAL 1**

## **Anticollision Report**

**07 February, 2023**

# Anticollision Report

<b>Company:</b>	EXTRACTION OIL & GAS	<b>Local Co-ordinate Reference:</b>	Well WARBLER 13W-27-19
<b>Project:</b>	ADAMS COUNTY	<b>TVD Reference:</b>	KB 25' @ 5106.00usft
<b>Reference Site:</b>	Sec 13-T1S-R66W	<b>MD Reference:</b>	KB 25' @ 5106.00usft
<b>Site Error:</b>	0.00 usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	WARBLER 13W-27-19	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00 usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OWB	<b>Database:</b>	EDT_32Bit_ODBC
<b>Reference Design:</b>	PROPOSAL 1	<b>Offset TVD Reference:</b>	Offset Datum

<b>Reference</b>	PROPOSAL 1		
<b>Filter type:</b>	NO GLOBAL FILTER: Using user defined selection & filtering criteria		
<b>Interpolation Method:</b>	MD Interval 100.00usft	<b>Error Model:</b>	ISCWSA
<b>Depth Range:</b>	Unlimited	<b>Scan Method:</b>	Closest Approach 3D
<b>Results Limited by:</b>	Maximum center-center distance of 10,000.00 usft	<b>Error Surface:</b>	Pedal Curve
<b>Warning Levels Evaluated at:</b>	2.00 Sigma	<b>Casing Method:</b>	Not applied

<b>Survey Tool Program</b>	<b>Date</b>	2/7/2023		
<b>From (usft)</b>	<b>To (usft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>
0.00	21,505.15	PROPOSAL 1 (OWB)	MWD OWSG	OWSG MWD - Standard

<b>Summary</b>						
Site Name	Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Separation Factor	Warning
Sec 13-T1S-R66W						
ABND VERT ROCK 1 - Wellbore #1 - Design #1	400.00	402.00	736.18	727.32	83.101	CC
ABND VERT ROCK 1 - Wellbore #1 - Design #1	500.00	502.02	737.40	726.16	65.619	ES
ABND VERT ROCK 1 - Wellbore #1 - Design #1	7,200.00	6,763.91	2,888.73	2,723.35	17.468	SF
EXIST VERT JOHN ROCK 1 - Wellbore #1 - Design #1	400.00	347.00	2,788.77	2,780.94	356.290	CC
EXIST VERT JOHN ROCK 1 - Wellbore #1 - Design #1	600.00	546.84	2,791.45	2,778.86	221.824	ES
EXIST VERT JOHN ROCK 1 - Wellbore #1 - Design #1	7,500.00	6,958.80	4,384.59	4,205.52	24.485	SF
EXIST VERT PETE ROCK 1 - Wellbore #1 - Design #1	6,448.98	6,030.56	274.49	109.30	1.662	CC
EXIST VERT PETE ROCK 1 - Wellbore #1 - Design #1	6,500.00	6,077.93	275.14	108.70	1.653	ES, SF
WARBLER 13W-27-01 - OWB - PROPOSAL 1	200.00	199.00	195.99	195.01	199.544	CC, ES
WARBLER 13W-27-01 - OWB - PROPOSAL 1	21,505.33	22,296.60	4,101.83	3,266.79	4.912	SF
WARBLER 13W-27-02 - OWB - PROPOSAL 1	400.00	399.00	167.94	165.53	69.510	CC, ES
WARBLER 13W-27-02 - OWB - PROPOSAL 1	21,505.33	21,856.26	2,871.68	2,036.57	3.439	SF
WARBLER 13W-27-03 - OWB - PROPOSAL 1	400.00	401.00	139.89	137.47	57.729	CC
WARBLER 13W-27-03 - OWB - PROPOSAL 1	500.00	501.02	140.24	137.11	44.786	ES
WARBLER 13W-27-03 - OWB - PROPOSAL 1	21,505.33	21,587.00	1,637.96	802.99	1.962	SF
WARBLER 13W-27-04 - OWB - PROPOSAL 1	400.00	401.00	111.84	109.42	46.153	CC
WARBLER 13W-27-04 - OWB - PROPOSAL 1	21,505.33	21,506.78	408.77	-425.43	0.490	Level 1, ES, SF
WARBLER 13W-27-07 - OWB - PROPOSAL 1	100.00	100.00	235.79	235.52	877.014	CC
WARBLER 13W-27-07 - OWB - PROPOSAL 1	300.00	298.14	236.54	234.84	139.069	ES
WARBLER 13W-27-07 - OWB - PROPOSAL 1	21,505.33	22,374.34	3,309.76	2,479.80	3.988	SF
WARBLER 13W-27-08 - OWB - PROPOSAL 1	477.57	482.55	212.39	209.39	70.911	CC
WARBLER 13W-27-08 - OWB - PROPOSAL 1	500.00	505.27	212.44	209.28	67.269	ES
WARBLER 13W-27-08 - OWB - PROPOSAL 1	21,505.33	22,066.33	2,095.82	1,275.80	2.556	SF
WARBLER 13W-27-09 - OWB - PROPOSAL 1	828.26	854.04	188.42	182.81	33.581	CC
WARBLER 13W-27-09 - OWB - PROPOSAL 1	21,505.33	21,938.45	921.52	171.71	1.229	Level 2, ES, SF
WARBLER 13W-27-10 - OWB - PROPOSAL 1	1,858.56	1,917.68	117.41	103.55	8.473	CC
WARBLER 13W-27-10 - OWB - PROPOSAL 1	21,505.33	22,004.08	626.87	-8.98	0.986	Level 1, ES, SF
WARBLER 13W-27-13 - OWB - PROPOSAL 1	400.00	404.00	150.76	148.33	61.939	CC, ES
WARBLER 13W-27-13 - OWB - PROPOSAL 1	21,505.33	22,339.38	3,691.57	2,852.31	4.399	SF
WARBLER 13W-27-15 - OWB - PROPOSAL 1	400.00	405.00	155.95	153.51	63.975	CC, ES
WARBLER 13W-27-15 - OWB - PROPOSAL 1	21,505.33	21,914.25	2,462.48	1,622.94	2.933	SF
WARBLER 13W-27-17 - OWB - PROPOSAL 1	400.00	405.00	179.45	177.01	73.618	CC, ES
WARBLER 13W-27-17 - OWB - PROPOSAL 1	21,505.33	21,675.74	1,264.40	424.77	1.506	SF
WARBLER 24W-27-05 - OWB - PROPOSAL 1	1,654.78	1,665.24	24.03	11.99	1.997	CC
WARBLER 24W-27-05 - OWB - PROPOSAL 1	21,505.33	21,625.72	820.94	-11.91	0.986	Level 1, ES, SF
WARBLER 24W-27-06 - OWB - PROPOSAL 1	889.47	891.90	11.26	5.24	1.869	CC, ES, SF
WARBLER 24W-27-11 - OWB - PROPOSAL 1	1,085.59	1,125.72	121.16	113.32	15.443	CC

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

# Anticollision Report

<b>Company:</b>	EXTRACTION OIL & GAS	<b>Local Co-ordinate Reference:</b>	Well WARBLER 13W-27-19
<b>Project:</b>	ADAMS COUNTY	<b>TVD Reference:</b>	KB 25' @ 5106.00usft
<b>Reference Site:</b>	Sec 13-T1S-R66W	<b>MD Reference:</b>	KB 25' @ 5106.00usft
<b>Site Error:</b>	0.00 usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	WARBLER 13W-27-19	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00 usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OWB	<b>Database:</b>	EDT_32Bit_ODBC
<b>Reference Design:</b>	PROPOSAL 1	<b>Offset TVD Reference:</b>	Offset Datum

## Summary

Site Name	Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Separation Factor	Warning
<b>Offset Well - Wellbore - Design</b>						
Sec 13-T1S-R66W						
WARBLER 24W-27-11 - OWB - PROPOSAL 1	1,100.00	1,140.38	121.20	113.20	15.163	ES
WARBLER 24W-27-11 - OWB - PROPOSAL 1	21,505.33	22,239.69	1,693.84	884.67	2.093	SF
WARBLER 24W-27-12 - OWB - PROPOSAL 1	751.33	774.22	125.82	120.57	23.986	CC, ES
WARBLER 24W-27-12 - OWB - PROPOSAL 1	21,505.33	22,654.35	2,893.83	2,069.92	3.512	SF
WARBLER 24W-27-21 - OWB - PROPOSAL 1	200.00	201.00	56.10	55.11	56.705	CC, ES
WARBLER 24W-27-21 - OWB - PROPOSAL 1	21,505.33	21,665.58	1,231.64	399.42	1.480	Level 3, SF
WARBLER 24W-27-22 - OWB - PROPOSAL 1	100.00	101.00	84.15	83.88	311.452	CC, ES
WARBLER 24W-27-22 - OWB - PROPOSAL 1	21,505.33	21,861.52	2,050.54	1,219.41	2.467	SF
Sec 14-T1S-R66W						
ABND VERT HECKENDORF 1 - Wellbore #1 - Design #1	10,069.71	7,108.00	3,403.51	3,148.41	13.342	CC
ABND VERT HECKENDORF 1 - Wellbore #1 - Design #1	10,100.00	7,108.00	3,403.64	3,147.85	13.306	ES
ABND VERT HECKENDORF 1 - Wellbore #1 - Design #1	10,800.00	7,108.00	3,480.97	3,211.50	12.918	SF
ABND VERT HECKENDORF 2 - Wellbore #1 - Design #1	13,000.00	7,112.00	100.66	-231.01	0.303	Level 1, ES, SF
ABND VERT HECKENDORF 2 - Wellbore #1 - Design #1	13,000.39	7,112.00	100.66	-230.99	0.304	Level 1, CC
SI VERT REBA SHAW 1 - Wellbore #1 - Design #1	18,336.75	7,155.00	303.90	-171.19	0.640	Level 1, CC, ES, SF
Sec 16-T1S-R66W						
ABND VERT GILBERT A. DIEDRICHS G U 1 - Wellbore	20,947.47	7,152.00	2,904.50	2,359.28	5.327	CC
ABND VERT GILBERT A. DIEDRICHS G U 1 - Wellbore	21,000.00	7,152.00	2,904.98	2,358.54	5.316	ES
ABND VERT GILBERT A. DIEDRICHS G U 1 - Wellbore	21,200.00	7,152.00	2,915.46	2,365.61	5.302	SF
Sec 22-T1S-R66W						
ABND VERT FARMER 1 - Wellbore #1 - Design #1	18,615.34	7,155.00	2,278.22	1,795.64	4.721	CC
ABND VERT FARMER 1 - Wellbore #1 - Design #1	18,700.00	7,155.00	2,279.79	1,794.90	4.702	ES
ABND VERT FARMER 1 - Wellbore #1 - Design #1	18,800.00	7,155.00	2,285.69	1,798.66	4.693	SF
Sec 24-T1S-R66W						
ABND VERT BARR 1 - Wellbore #1 - Design #1	12,354.13	7,158.00	4,917.89	4,602.39	15.588	CC
ABND VERT BARR 1 - Wellbore #1 - Design #1	12,500.00	7,158.00	4,920.05	4,600.55	15.399	ES
ABND VERT BARR 1 - Wellbore #1 - Design #1	13,700.00	7,158.00	5,098.72	4,752.74	14.737	SF
ABND VERT BERGMAN 1 - Wellbore #1 - Design #1	10,162.66	7,126.00	1,451.60	1,193.77	5.630	CC
ABND VERT BERGMAN 1 - Wellbore #1 - Design #1	10,200.00	7,126.00	1,452.08	1,193.13	5.608	ES
ABND VERT BERGMAN 1 - Wellbore #1 - Design #1	10,300.00	7,126.00	1,458.08	1,196.50	5.574	SF
ABND VERT JOSEPHINE 1 - Wellbore #1 - Design #1	7,300.00	6,837.90	1,793.41	1,605.33	9.536	CC
ABND VERT JOSEPHINE 1 - Wellbore #1 - Design #1	7,400.00	6,920.78	1,795.78	1,604.84	9.405	ES
ABND VERT JOSEPHINE 1 - Wellbore #1 - Design #1	7,700.00	7,104.07	1,838.41	1,639.02	9.220	SF
EXIST VERT D G H L 1 - Wellbore #1 - Design #1	7,804.69	7,177.80	5,075.84	4,873.13	25.040	CC
EXIST VERT D G H L 1 - Wellbore #1 - Design #1	7,900.00	7,187.85	5,077.31	4,872.27	24.762	ES
EXIST VERT D G H L 1 - Wellbore #1 - Design #1	9,900.00	7,188.00	5,517.49	5,269.98	22.292	SF
SI VERT LEECH 1 - Wellbore #1 - Design #1	2,666.53	2,561.36	2,722.43	2,656.34	41.197	CC
SI VERT LEECH 1 - Wellbore #1 - Design #1	3,200.00	3,056.71	2,729.62	2,649.49	34.065	ES
SI VERT LEECH 1 - Wellbore #1 - Design #1	7,400.00	6,944.78	3,256.80	3,070.75	17.505	SF

<b>Offset Design</b>													Offset Site Error:	0.00 usft
Survey Program: 0-INC													Offset Well Error:	0.00 usft
Reference														
Offset														
Semi Major Axis														
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning	
0.00	0.00	2.00	-2.00	0.00	0.02	124.86	-420.73	604.10	736.18					
100.00	100.00	102.00	98.00	0.13	1.24	124.86	-420.73	604.10	736.18	734.80	1.38	534.065		
200.00	200.00	202.00	198.00	0.49	3.53	124.86	-420.73	604.10	736.18	732.15	4.02	183.022		

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

# Anticollision Report

<b>Company:</b>	EXTRACTION OIL & GAS	<b>Local Co-ordinate Reference:</b>	Well WARBLER 13W-27-19
<b>Project:</b>	ADAMS COUNTY	<b>TVD Reference:</b>	KB 25' @ 5106.00usft
<b>Reference Site:</b>	Sec 13-T1S-R66W	<b>MD Reference:</b>	KB 25' @ 5106.00usft
<b>Site Error:</b>	0.00 usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	WARBLER 13W-27-19	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00 usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OWB	<b>Database:</b>	EDT_32Bit_ODBC
<b>Reference Design:</b>	PROPOSAL 1	<b>Offset TVD Reference:</b>	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		
300.00	300.00	302.00	298.00	0.85	5.61	124.86	-420.73	604.10	736.18	729.72	6.46	113.987		
400.00	400.00	402.00	398.00	1.21	7.65	124.86	-420.73	604.10	736.18	727.32	8.86	83.101 CC		
500.00	499.98	502.02	497.98	1.56	9.68	-134.60	-420.73	604.10	737.40	726.16	11.24	65.619 ES		
600.00	599.84	602.16	597.84	1.91	11.70	-134.84	-420.73	604.10	741.09	727.47	13.61	54.443		
700.00	699.45	702.55	697.45	2.27	13.73	-135.22	-420.73	604.10	747.26	731.27	16.00	46.710		
800.00	798.70	803.30	796.70	2.65	15.76	-135.75	-420.73	604.10	755.99	737.59	18.40	41.085		
900.00	897.47	904.53	895.47	3.06	17.80	-136.40	-420.73	604.10	767.32	746.50	20.82	36.848		
1,000.00	995.62	1,006.38	993.62	3.49	19.86	-137.16	-420.73	604.10	781.35	758.07	23.27	33.572		
1,100.00	1,093.06	1,108.94	1,091.06	3.96	21.92	-138.02	-420.73	604.10	798.15	772.40	25.75	30.993		
1,200.00	1,189.64	1,187.64	1,187.64	4.47	23.51	-138.95	-420.73	604.10	817.83	790.06	27.77	29.453		
1,300.00	1,285.27	1,283.27	1,283.27	5.02	25.43	-139.94	-420.73	604.10	840.46	810.32	30.14	27.887		
1,400.00	1,379.82	1,377.82	1,377.82	5.63	27.33	-140.97	-420.73	604.10	866.12	833.62	32.50	26.648		
1,500.00	1,473.18	1,471.18	1,471.18	6.29	29.21	-142.05	-420.73	604.10	894.87	860.01	34.86	25.671		
1,600.00	1,566.03	1,564.03	1,564.03	6.99	31.08	-143.43	-420.73	604.10	925.19	887.99	37.20	24.869		
1,700.00	1,658.89	1,656.89	1,656.89	7.71	32.95	-144.72	-420.73	604.10	955.99	916.45	39.54	24.177		
1,800.00	1,751.74	1,749.74	1,749.74	8.44	34.82	-145.94	-420.73	604.10	987.23	945.35	41.88	23.573		
1,900.00	1,844.60	1,842.60	1,842.60	9.17	36.69	-147.08	-420.73	604.10	1,018.86	974.65	44.21	23.045		
2,000.00	1,937.45	1,935.45	1,935.45	9.91	38.55	-148.16	-420.73	604.10	1,050.85	1,004.31	46.54	22.579		
2,100.00	2,030.31	2,028.31	2,028.31	10.66	40.42	-149.18	-420.73	604.10	1,083.17	1,034.30	48.86	22.167		
2,200.00	2,123.16	2,121.16	2,121.16	11.41	42.29	-150.14	-420.73	604.10	1,115.78	1,064.60	51.18	21.800		
2,300.00	2,216.02	2,214.02	2,214.02	12.17	44.16	-151.05	-420.73	604.10	1,148.67	1,095.17	53.50	21.471		
2,400.00	2,308.87	2,306.87	2,306.87	12.93	46.03	-151.90	-420.73	604.10	1,181.81	1,126.00	55.81	21.176		
2,500.00	2,401.73	2,400.27	2,399.73	13.69	47.91	-152.72	-420.73	604.10	1,215.18	1,157.05	58.13	20.905		
2,600.00	2,494.58	2,507.42	2,492.58	14.45	50.06	-153.49	-420.73	604.10	1,248.76	1,188.04	60.72	20.566		
2,700.00	2,587.44	2,585.44	2,585.44	15.22	51.63	-154.22	-420.73	604.10	1,282.54	1,219.82	62.72	20.447		
2,800.00	2,680.29	2,678.29	2,678.29	15.98	53.50	-154.91	-420.73	604.10	1,316.50	1,251.48	65.02	20.247		
2,900.00	2,773.15	2,771.15	2,771.15	16.75	55.37	-155.57	-420.73	604.10	1,350.62	1,283.30	67.32	20.063		
3,000.00	2,866.00	2,864.00	2,864.00	17.52	57.23	-156.20	-420.73	604.10	1,384.90	1,315.29	69.61	19.894		
3,100.00	2,958.86	2,956.86	2,956.86	18.29	59.10	-156.80	-420.73	604.10	1,419.32	1,347.42	71.90	19.739		
3,200.00	3,051.71	3,049.71	3,049.71	19.06	60.97	-157.37	-420.73	604.10	1,453.87	1,379.68	74.19	19.596		
3,300.00	3,144.57	3,142.57	3,142.57	19.83	62.84	-157.91	-420.73	604.10	1,488.55	1,412.07	76.48	19.463		
3,400.00	3,237.42	3,235.42	3,235.42	20.60	64.70	-158.43	-420.73	604.10	1,523.34	1,444.57	78.77	19.339		
3,500.00	3,330.28	3,328.28	3,328.28	21.37	66.57	-158.93	-420.73	604.10	1,558.24	1,477.19	81.05	19.225		
3,600.00	3,423.13	3,421.13	3,421.13	22.15	68.44	-159.40	-420.73	604.10	1,593.24	1,509.90	83.34	19.118		
3,700.00	3,515.99	3,513.99	3,513.99	22.92	70.31	-159.86	-420.73	604.10	1,628.34	1,542.72	85.62	19.018		
3,800.00	3,608.84	3,606.84	3,606.84	23.70	72.17	-160.30	-420.73	604.10	1,663.52	1,575.61	87.90	18.924		
3,900.00	3,701.70	3,700.30	3,699.70	24.47	74.05	-160.72	-420.73	604.10	1,698.78	1,608.59	90.20	18.834		
4,000.00	3,794.55	3,807.45	3,792.55	25.25	76.21	-161.12	-420.73	604.10	1,734.13	1,641.36	92.77	18.693		
4,100.00	3,887.41	3,885.41	3,885.41	26.02	77.78	-161.50	-420.73	604.10	1,769.54	1,674.79	94.75	18.676		
4,200.00	3,980.26	3,978.26	3,978.26	26.80	79.64	-161.88	-420.73	604.10	1,805.02	1,708.00	97.03	18.603		
4,300.00	4,073.12	4,071.12	4,071.12	27.57	81.51	-162.23	-420.73	604.10	1,840.57	1,741.27	99.31	18.534		
4,400.00	4,165.97	4,163.97	4,163.97	28.35	83.38	-162.58	-420.73	604.10	1,876.18	1,774.60	101.58	18.469		
4,500.00	4,258.83	4,256.83	4,256.83	29.12	85.25	-162.91	-420.73	604.10	1,911.85	1,807.98	103.86	18.407		
4,600.00	4,351.68	4,349.68	4,349.68	29.90	87.11	-163.23	-420.73	604.10	1,947.57	1,841.43	106.14	18.349		
4,700.00	4,444.54	4,442.54	4,442.54	30.68	88.98	-163.53	-420.73	604.10	1,983.34	1,874.92	108.42	18.293		
4,800.00	4,537.39	4,535.39	4,535.39	31.45	90.85	-163.83	-420.73	604.10	2,019.16	1,908.46	110.70	18.240		
4,900.00	4,630.25	4,628.25	4,628.25	32.23	92.72	-164.12	-420.73	604.10	2,055.03	1,942.05	112.97	18.190		
5,000.00	4,723.10	4,721.10	4,721.10	33.01	94.58	-164.40	-420.73	604.10	2,090.94	1,975.69	115.25	18.142		
5,100.00	4,815.96	4,813.96	4,813.96	33.79	96.45	-164.66	-420.73	604.10	2,126.89	2,009.36	117.53	18.097		
5,200.00	4,908.81	4,906.81	4,906.81	34.56	98.32	-164.92	-420.73	604.10	2,162.88	2,043.08	119.81	18.053		
5,300.00	5,001.67	5,000.33	4,999.67	35.34	100.20	-165.17	-420.73	604.10	2,198.91	2,076.82	122.10	18.009		
5,400.00	5,094.52	5,107.48	5,092.52	36.12	102.35	-165.41	-420.73	604.10	2,234.98	2,110.32	124.66	17.928		

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

# Anticollision Report

<b>Company:</b>	EXTRACTION OIL & GAS	<b>Local Co-ordinate Reference:</b>	Well WARBLER 13W-27-19
<b>Project:</b>	ADAMS COUNTY	<b>TVD Reference:</b>	KB 25' @ 5106.00usft
<b>Reference Site:</b>	Sec 13-T1S-R66W	<b>MD Reference:</b>	KB 25' @ 5106.00usft
<b>Site Error:</b>	0.00 usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	WARBLER 13W-27-19	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00 usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OWB	<b>Database:</b>	EDT_32Bit_ODBC
<b>Reference Design:</b>	PROPOSAL 1	<b>Offset TVD Reference:</b>	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		
5,500.00	5,187.38	5,185.38	5,185.38	36.90	103.92	-165.65	-420.73	604.10	2,271.08	2,144.44	126.64	17.933		
5,600.00	5,280.23	5,278.23	5,278.23	37.67	105.79	-165.88	-420.73	604.10	2,307.21	2,178.29	128.92	17.897		
5,700.00	5,373.09	5,371.09	5,371.09	38.45	107.65	-166.10	-420.73	604.10	2,343.37	2,212.18	131.19	17.862		
5,800.00	5,465.94	5,463.94	5,463.94	39.23	109.52	-166.31	-420.73	604.10	2,379.56	2,246.09	133.47	17.828		
5,900.00	5,558.80	5,556.80	5,556.80	40.01	111.39	-166.52	-420.73	604.10	2,415.78	2,280.03	135.75	17.796		
6,000.00	5,651.65	5,649.65	5,649.65	40.79	113.26	-166.72	-420.73	604.10	2,452.03	2,314.00	138.03	17.765		
6,100.00	5,744.51	5,742.51	5,742.51	41.57	115.12	-166.92	-420.73	604.10	2,488.30	2,348.00	140.30	17.735		
6,200.00	5,837.36	5,835.36	5,835.36	42.34	116.99	-167.11	-420.73	604.10	2,524.60	2,382.02	142.58	17.706		
6,300.00	5,930.22	5,928.22	5,928.22	43.12	118.86	-167.29	-420.73	604.10	2,560.92	2,416.06	144.86	17.678		
6,400.00	6,023.07	6,021.07	6,021.07	43.90	120.73	-167.47	-420.73	604.10	2,597.26	2,450.13	147.14	17.652		
6,500.00	6,115.93	6,113.93	6,113.93	44.68	122.59	-167.65	-420.73	604.10	2,633.63	2,484.21	149.42	17.626		
6,600.00	6,208.78	6,206.78	6,206.78	45.46	124.46	-167.82	-420.73	604.10	2,670.02	2,518.32	151.70	17.601		
6,700.00	6,301.64	6,300.36	6,299.64	46.24	126.34	-167.98	-420.73	604.10	2,706.42	2,552.43	153.99	17.575		
6,800.00	6,394.49	6,407.51	6,392.49	47.02	128.50	-168.14	-420.73	604.10	2,742.85	2,586.29	156.56	17.520		
6,900.00	6,487.35	6,485.35	6,485.35	47.80	130.06	-168.30	-420.73	604.10	2,779.29	2,620.76	158.53	17.531		
7,000.00	6,580.20	6,578.20	6,578.20	48.57	131.93	-168.45	-420.73	604.10	2,815.75	2,654.94	160.81	17.510		
7,100.00	6,673.06	6,671.06	6,671.06	49.35	133.80	-168.60	-420.73	604.10	2,852.23	2,689.14	163.09	17.489		
7,200.00	6,765.91	6,763.91	6,763.91	50.13	135.66	-168.75	-420.73	604.10	2,888.73	2,723.35	165.37	17.468 SF		
7,300.00	6,858.76	6,856.90	6,854.90	50.99	137.49	-171.58	-420.73	604.10	2,929.48	2,761.85	167.63	17.476		
7,400.00	6,939.78	6,937.78	6,937.78	52.14	139.16	-173.76	-420.73	604.10	2,984.91	2,815.18	169.73	17.586		
7,500.00	7,011.80	7,009.80	7,009.80	53.58	140.61	-175.10	-420.73	604.10	3,053.93	2,882.34	171.59	17.798		
7,600.00	7,070.78	7,068.78	7,068.78	55.27	141.80	-176.09	-420.73	604.10	3,134.44	2,961.31	173.14	18.104		
7,700.00	7,114.93	7,112.93	7,112.93	57.16	142.68	-177.05	-420.73	604.10	3,224.00	3,049.70	174.30	18.497		
7,800.00	7,142.90	7,140.90	7,140.90	59.19	143.25	-178.71	-420.73	604.10	3,319.87	3,144.82	175.05	18.966		
7,900.00	7,153.85	7,151.85	7,151.85	61.28	143.47	159.54	-420.73	604.10	3,419.14	3,243.79	175.35	19.499		
8,000.00	7,154.00	7,152.00	7,152.00	63.38	143.47	90.00	-420.73	604.10	3,519.13	3,343.76	175.37	20.066		
8,100.00	7,154.00	7,152.00	7,152.00	65.52	143.47	90.00	-420.73	604.10	3,619.13	3,443.73	175.40	20.634		
8,200.00	7,154.00	7,152.00	7,152.00	67.71	143.47	90.00	-420.73	604.10	3,719.12	3,543.70	175.42	21.201		
8,300.00	7,154.00	7,152.00	7,152.00	69.93	143.47	90.00	-420.73	604.10	3,819.12	3,643.68	175.44	21.768		
8,400.00	7,154.00	7,152.00	7,152.00	72.19	143.47	90.00	-420.73	604.10	3,919.12	3,743.65	175.47	22.335		
8,500.00	7,154.00	7,152.00	7,152.00	74.47	143.47	90.00	-420.73	604.10	4,019.11	3,843.62	175.50	22.902		
8,600.00	7,154.00	7,152.00	7,152.00	76.79	143.47	90.00	-420.73	604.10	4,119.11	3,943.59	175.52	23.468		
8,700.00	7,154.00	7,152.00	7,152.00	79.12	143.47	90.00	-420.73	604.10	4,219.10	4,043.56	175.55	24.034		
8,800.00	7,154.00	7,152.00	7,152.00	81.48	143.47	90.00	-420.73	604.10	4,319.10	4,143.52	175.58	24.599		
8,900.00	7,154.00	7,152.00	7,152.00	83.87	143.47	90.00	-420.73	604.10	4,419.10	4,243.49	175.61	25.165		
9,000.00	7,154.00	7,152.00	7,152.00	86.27	143.47	90.00	-420.73	604.10	4,519.10	4,343.46	175.64	25.730		
9,100.00	7,154.00	7,152.00	7,152.00	88.68	143.47	90.00	-420.73	604.10	4,619.09	4,443.42	175.67	26.295		
9,200.00	7,154.00	7,152.00	7,152.00	91.12	143.47	90.00	-420.73	604.10	4,719.09	4,543.39	175.70	26.859		
9,300.00	7,154.00	7,152.00	7,152.00	93.57	143.47	90.00	-420.73	604.10	4,819.09	4,643.36	175.73	27.423		
9,400.00	7,154.00	7,152.00	7,152.00	96.03	143.47	90.00	-420.73	604.10	4,919.08	4,743.32	175.76	27.987		
9,500.00	7,154.00	7,152.00	7,152.00	98.50	143.47	90.00	-420.73	604.10	5,019.08	4,843.28	175.80	28.550		
9,600.00	7,154.00	7,152.00	7,152.00	100.99	143.47	90.00	-420.73	604.10	5,119.08	4,943.25	175.83	29.113		
9,700.00	7,154.00	7,152.00	7,152.00	103.49	143.47	90.00	-420.73	604.10	5,219.08	5,043.21	175.87	29.676		
9,800.00	7,154.00	7,152.00	7,152.00	106.00	143.47	90.00	-420.73	604.10	5,319.07	5,143.17	175.90	30.239		
9,900.00	7,154.00	7,152.00	7,152.00	108.51	143.47	90.00	-420.73	604.10	5,419.07	5,243.13	175.94	30.801		
10,000.00	7,154.00	7,152.00	7,152.00	111.04	143.47	90.00	-420.73	604.10	5,519.07	5,343.09	175.98	31.362		
10,100.00	7,154.00	7,152.00	7,152.00	113.58	143.47	90.00	-420.73	604.10	5,619.07	5,443.05	176.02	31.924		
10,200.00	7,154.00	7,152.00	7,152.00	116.12	143.47	90.00	-420.73	604.10	5,719.07	5,543.01	176.05	32.485		
10,300.00	7,154.00	7,152.00	7,152.00	118.67	143.47	90.00	-420.73	604.10	5,819.07	5,642.97	176.09	33.045		
10,400.00	7,154.00	7,152.00	7,152.00	121.22	143.47	90.00	-420.73	604.10	5,919.06	5,742.93	176.13	33.605		
10,500.00	7,154.00	7,152.00	7,152.00	123.79	143.47	90.00	-420.73	604.10	6,019.06	5,842.89	176.18	34.165		
10,600.00	7,154.00	7,152.00	7,152.00	126.35	143.47	90.00	-420.73	604.10	6,119.06	5,942.84	176.22	34.724		

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

# Anticollision Report

<b>Company:</b>	EXTRACTION OIL & GAS	<b>Local Co-ordinate Reference:</b>	Well WARBLER 13W-27-19
<b>Project:</b>	ADAMS COUNTY	<b>TVD Reference:</b>	KB 25' @ 5106.00usft
<b>Reference Site:</b>	Sec 13-T1S-R66W	<b>MD Reference:</b>	KB 25' @ 5106.00usft
<b>Site Error:</b>	0.00 usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	WARBLER 13W-27-19	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00 usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OWB	<b>Database:</b>	EDT_32Bit_ODBC
<b>Reference Design:</b>	PROPOSAL 1	<b>Offset TVD Reference:</b>	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		
10,700.00	7,154.00	7,152.00	7,152.00	128.93	143.47	90.00	-420.73	604.10	6,219.06	6,042.80	176.26	35.283		
10,800.00	7,154.00	7,152.00	7,152.00	131.51	143.47	90.00	-420.73	604.10	6,319.06	6,142.75	176.30	35.842		
10,900.00	7,154.00	7,152.00	7,152.00	134.09	143.47	90.00	-420.73	604.10	6,419.06	6,242.71	176.35	36.400		
11,000.00	7,154.00	7,152.00	7,152.00	136.68	143.47	90.00	-420.73	604.10	6,519.05	6,342.66	176.39	36.958		
11,100.00	7,154.00	7,152.00	7,152.00	139.27	143.47	90.00	-420.73	604.10	6,619.05	6,442.62	176.44	37.515		
11,200.00	7,154.00	7,152.00	7,152.00	141.87	143.47	90.00	-420.73	604.10	6,719.05	6,542.57	176.48	38.072		
11,300.00	7,154.00	7,152.00	7,152.00	144.47	143.47	90.00	-420.73	604.10	6,819.05	6,642.52	176.53	38.628		
11,400.00	7,154.00	7,152.00	7,152.00	147.08	143.47	90.00	-420.73	604.10	6,919.05	6,742.47	176.58	39.184		
11,500.00	7,154.00	7,152.00	7,152.00	149.68	143.47	90.00	-420.73	604.10	7,019.05	6,842.42	176.63	39.740		
11,600.00	7,154.00	7,152.00	7,152.00	152.30	143.47	90.00	-420.73	604.10	7,119.05	6,942.37	176.67	40.295		
11,700.00	7,154.00	7,152.00	7,152.00	154.91	143.47	90.00	-420.73	604.10	7,219.05	7,042.32	176.72	40.849		
11,800.00	7,154.00	7,152.00	7,152.00	157.53	143.47	90.00	-420.73	604.10	7,319.04	7,142.27	176.77	41.404		
11,900.00	7,154.00	7,152.00	7,152.00	160.15	143.47	90.00	-420.73	604.10	7,419.04	7,242.22	176.82	41.957		
12,000.00	7,154.00	7,152.00	7,152.00	162.77	143.47	90.00	-420.73	604.10	7,519.04	7,342.17	176.88	42.510		
12,100.00	7,154.00	7,152.00	7,152.00	165.40	143.47	90.00	-420.73	604.10	7,619.04	7,442.11	176.93	43.063		
12,200.00	7,154.00	7,152.00	7,152.00	168.03	143.47	90.00	-420.73	604.10	7,719.04	7,542.06	176.98	43.615		
12,300.00	7,154.00	7,152.00	7,152.00	170.66	143.47	90.00	-420.73	604.10	7,819.04	7,642.01	177.03	44.167		
12,400.00	7,154.00	7,152.00	7,152.00	173.29	143.47	90.00	-420.73	604.10	7,919.04	7,741.95	177.09	44.718		
12,500.00	7,154.00	7,152.00	7,152.00	175.93	143.47	90.00	-420.73	604.10	8,019.04	7,841.89	177.14	45.269		
12,600.00	7,154.00	7,152.00	7,152.00	178.56	143.47	90.00	-420.73	604.10	8,119.04	7,941.84	177.20	45.819		
12,700.00	7,154.00	7,152.00	7,152.00	181.20	143.47	90.00	-420.73	604.10	8,219.03	8,041.78	177.25	46.369		
12,800.00	7,154.00	7,152.00	7,152.00	183.84	143.47	90.00	-420.73	604.10	8,319.03	8,141.72	177.31	46.918		
12,900.00	7,154.00	7,152.00	7,152.00	186.49	143.47	90.00	-420.73	604.10	8,419.03	8,241.67	177.37	47.467		
13,000.00	7,154.00	7,152.00	7,152.00	189.13	143.47	90.00	-420.73	604.10	8,519.03	8,341.61	177.42	48.015		
13,100.00	7,154.00	7,152.00	7,152.00	191.78	143.47	90.00	-420.73	604.10	8,619.03	8,441.55	177.48	48.562		
13,200.00	7,154.00	7,152.00	7,152.00	194.43	143.47	90.00	-420.73	604.10	8,719.03	8,541.49	177.54	49.110		
13,300.00	7,154.00	7,152.00	7,152.00	197.07	143.47	90.00	-420.73	604.10	8,819.03	8,641.43	177.60	49.656		
13,400.00	7,154.00	7,152.00	7,152.00	199.73	143.47	90.00	-420.73	604.10	8,919.03	8,741.37	177.66	50.202		
13,500.00	7,154.00	7,152.00	7,152.00	202.38	143.47	90.00	-420.73	604.10	9,019.03	8,841.30	177.72	50.748		
13,600.00	7,154.00	7,152.00	7,152.00	205.03	143.47	90.00	-420.73	604.10	9,119.03	8,941.24	177.78	51.292		
13,700.00	7,154.00	7,152.00	7,152.00	207.69	143.47	90.00	-420.73	604.10	9,219.03	9,041.18	177.85	51.837		
13,800.00	7,154.00	7,152.00	7,152.00	210.34	143.47	90.00	-420.73	604.10	9,319.03	9,141.12	177.91	52.381		
13,900.00	7,154.00	7,152.00	7,152.00	213.00	143.47	90.00	-420.73	604.10	9,419.03	9,241.05	177.97	52.924		
14,000.00	7,154.00	7,152.00	7,152.00	215.66	143.47	90.00	-420.73	604.10	9,519.02	9,340.99	178.04	53.467		
14,100.00	7,154.00	7,152.00	7,152.00	218.32	143.47	90.00	-420.73	604.10	9,619.02	9,440.92	178.10	54.009		
14,200.00	7,154.00	7,152.00	7,152.00	220.98	143.47	90.00	-420.73	604.10	9,719.02	9,540.86	178.17	54.550		
14,300.00	7,154.00	7,152.00	7,152.00	223.64	143.47	90.00	-420.73	604.10	9,819.02	9,640.79	178.23	55.091		
14,400.00	7,154.00	7,152.00	7,152.00	226.30	143.47	90.00	-420.73	604.10	9,919.02	9,740.72	178.30	55.632		

# Anticollision Report

<b>Company:</b>	EXTRACTION OIL & GAS	<b>Local Co-ordinate Reference:</b>	Well WARBLER 13W-27-19
<b>Project:</b>	ADAMS COUNTY	<b>TVD Reference:</b>	KB 25' @ 5106.00usft
<b>Reference Site:</b>	Sec 13-T1S-R66W	<b>MD Reference:</b>	KB 25' @ 5106.00usft
<b>Site Error:</b>	0.00 usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	WARBLER 13W-27-19	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00 usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OWB	<b>Database:</b>	EDT_32Bit_ODBC
<b>Reference Design:</b>	PROPOSAL 1	<b>Offset TVD Reference:</b>	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	11.86	2,729.23	573.20	2,789.27					
100.00	100.00	47.00	47.00	0.13	0.62	11.86	2,729.23	573.20	2,788.77	2,788.02	0.75	3,699.088		
200.00	200.00	147.00	147.00	0.49	2.38	11.86	2,729.23	573.20	2,788.77	2,785.90	2.88	970.007		
300.00	300.00	247.00	247.00	0.85	4.56	11.86	2,729.23	573.20	2,788.77	2,783.36	5.41	515.576		
400.00	400.00	347.00	347.00	1.21	6.62	11.86	2,729.23	573.20	2,788.77	2,780.94	7.83	356.290 CC		
500.00	499.98	446.98	446.98	1.56	8.65	112.51	2,729.23	573.20	2,789.44	2,779.23	10.21	273.154		
600.00	599.84	546.84	546.84	1.91	10.68	112.57	2,729.23	573.20	2,791.45	2,778.86	12.58	221.824 ES		
700.00	699.45	646.45	646.45	2.27	12.69	112.67	2,729.23	573.20	2,794.81	2,779.85	14.96	186.839		
800.00	798.70	745.70	745.70	2.65	14.69	112.81	2,729.23	573.20	2,799.55	2,782.21	17.34	161.470		
900.00	897.47	844.47	844.47	3.06	16.68	112.99	2,729.23	573.20	2,805.70	2,785.98	19.73	142.236		
1,000.00	995.62	942.62	942.62	3.49	18.66	113.20	2,729.23	573.20	2,813.31	2,791.18	22.12	127.158		
1,100.00	1,093.06	1,040.06	1,040.06	3.96	20.62	113.44	2,729.23	573.20	2,822.41	2,797.87	24.54	115.026		
1,200.00	1,189.64	1,136.64	1,136.64	4.47	22.57	113.71	2,729.23	573.20	2,833.07	2,806.10	26.97	105.062		
1,300.00	1,285.27	1,232.27	1,232.27	5.02	24.49	114.01	2,729.23	573.20	2,845.35	2,815.93	29.41	96.741		
1,400.00	1,379.82	1,326.82	1,326.82	5.63	26.40	114.32	2,729.23	573.20	2,859.31	2,827.43	31.88	89.700		
1,500.00	1,473.18	1,420.18	1,420.18	6.29	28.28	114.68	2,729.23	573.20	2,875.01	2,840.65	34.36	83.673		
1,600.00	1,566.03	1,513.03	1,513.03	6.99	30.15	115.31	2,729.23	573.20	2,891.67	2,854.81	36.86	78.458		
1,700.00	1,658.89	1,605.89	1,605.89	7.71	32.01	115.93	2,729.23	573.20	2,908.70	2,869.34	39.36	73.897		
1,800.00	1,751.74	1,701.26	1,698.74	8.44	33.93	116.55	2,729.23	573.20	2,926.11	2,884.18	41.92	69.798		
1,900.00	1,844.60	1,808.40	1,791.60	9.17	36.09	117.16	2,729.23	573.20	2,943.88	2,899.15	44.72	65.825		
2,000.00	1,937.45	1,884.45	1,884.45	9.91	37.62	117.76	2,729.23	573.20	2,962.00	2,915.11	46.90	63.159		
2,100.00	2,030.31	1,977.31	1,977.31	10.66	39.49	118.36	2,729.23	573.20	2,980.49	2,931.08	49.41	60.321		
2,200.00	2,123.16	2,070.16	2,070.16	11.41	41.36	118.95	2,729.23	573.20	2,999.31	2,947.39	51.92	57.766		
2,300.00	2,216.02	2,163.02	2,163.02	12.17	43.22	119.53	2,729.23	573.20	3,018.48	2,964.05	54.43	55.456		
2,400.00	2,308.87	2,255.87	2,255.87	12.93	45.09	120.11	2,729.23	573.20	3,037.98	2,981.04	56.94	53.358		
2,500.00	2,401.73	2,348.73	2,348.73	13.69	46.96	120.68	2,729.23	573.20	3,057.80	2,998.36	59.44	51.446		
2,600.00	2,494.58	2,441.58	2,441.58	14.45	48.83	121.24	2,729.23	573.20	3,077.95	3,016.01	61.94	49.696		
2,700.00	2,587.44	2,534.44	2,534.44	15.22	50.69	121.80	2,729.23	573.20	3,098.41	3,033.98	64.43	48.090		
2,800.00	2,680.29	2,627.29	2,627.29	15.98	52.56	122.35	2,729.23	573.20	3,119.17	3,052.25	66.92	46.611		
2,900.00	2,773.15	2,720.15	2,720.15	16.75	54.43	122.89	2,729.23	573.20	3,140.24	3,070.84	69.40	45.246		
3,000.00	2,866.00	2,813.00	2,813.00	17.52	56.30	123.43	2,729.23	573.20	3,161.60	3,089.72	71.88	43.982		
3,100.00	2,958.86	2,905.86	2,905.86	18.29	58.17	123.96	2,729.23	573.20	3,183.26	3,108.90	74.36	42.808		
3,200.00	3,051.71	3,001.29	2,998.71	19.06	60.08	124.49	2,729.23	573.20	3,205.19	3,128.31	76.88	41.689		
3,300.00	3,144.57	3,108.43	3,091.57	19.83	62.24	125.00	2,729.23	573.20	3,227.41	3,147.77	79.64	40.526		
3,400.00	3,237.42	3,184.42	3,184.42	20.60	63.77	125.51	2,729.23	573.20	3,249.89	3,168.13	81.76	39.749		
3,500.00	3,330.28	3,277.28	3,277.28	21.37	65.64	126.02	2,729.23	573.20	3,272.65	3,188.43	84.22	38.860		
3,600.00	3,423.13	3,370.13	3,370.13	22.15	67.50	126.52	2,729.23	573.20	3,295.66	3,208.99	86.67	38.026		
3,700.00	3,515.99	3,462.99	3,462.99	22.92	69.37	127.01	2,729.23	573.20	3,318.93	3,229.81	89.12	37.243		
3,800.00	3,608.84	3,555.84	3,555.84	23.70	71.24	127.49	2,729.23	573.20	3,342.45	3,250.89	91.56	36.506		
3,900.00	3,701.70	3,648.70	3,648.70	24.47	73.11	127.97	2,729.23	573.20	3,366.21	3,272.22	94.00	35.812		
4,000.00	3,794.55	3,741.55	3,741.55	25.25	74.97	128.45	2,729.23	573.20	3,390.22	3,293.79	96.43	35.158		
4,100.00	3,887.41	3,834.41	3,834.41	26.02	76.84	128.91	2,729.23	573.20	3,414.46	3,315.60	98.86	34.539		
4,200.00	3,980.26	3,927.26	3,927.26	26.80	78.71	129.37	2,729.23	573.20	3,438.93	3,337.65	101.28	33.954		
4,300.00	4,073.12	4,020.12	4,020.12	27.57	80.58	129.83	2,729.23	573.20	3,463.62	3,359.92	103.70	33.400		
4,400.00	4,165.97	4,112.97	4,112.97	28.35	82.44	130.28	2,729.23	573.20	3,488.54	3,382.42	106.12	32.874		
4,500.00	4,258.83	4,205.83	4,205.83	29.12	84.31	130.72	2,729.23	573.20	3,513.67	3,405.14	108.53	32.376		
4,600.00	4,351.68	4,301.32	4,298.68	29.90	86.23	131.16	2,729.23	573.20	3,539.01	3,428.02	110.99	31.886		
4,700.00	4,444.54	4,408.46	4,391.54	30.68	88.39	131.59	2,729.23	573.20	3,564.56	3,450.88	113.68	31.356		
4,800.00	4,537.39	4,484.39	4,484.39	31.45	89.91	132.02	2,729.23	573.20	3,590.30	3,474.57	115.74	31.021		
4,900.00	4,630.25	4,577.25	4,577.25	32.23	91.78	132.44	2,729.23	573.20	3,616.25	3,498.12	118.13	30.612		
5,000.00	4,723.10	4,670.10	4,670.10	33.01	93.65	132.85	2,729.23	573.20	3,642.39	3,521.87	120.52	30.222		
5,100.00	4,815.96	4,762.96	4,762.96	33.79	95.51	133.26	2,729.23	573.20	3,668.72	3,545.81	122.91	29.849		

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



# Anticollision Report

<b>Company:</b>	EXTRACTION OIL & GAS	<b>Local Co-ordinate Reference:</b>	Well WARBLER 13W-27-19
<b>Project:</b>	ADAMS COUNTY	<b>TVD Reference:</b>	KB 25' @ 5106.00usft
<b>Reference Site:</b>	Sec 13-T1S-R66W	<b>MD Reference:</b>	KB 25' @ 5106.00usft
<b>Site Error:</b>	0.00 usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	WARBLER 13W-27-19	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00 usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OWB	<b>Database:</b>	EDT_32Bit_ODBC
<b>Reference Design:</b>	PROPOSAL 1	<b>Offset TVD Reference:</b>	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		
5,200.00	4,908.81	4,855.81	4,855.81	34.56	97.38	133.66	2,729.23	573.20	3,695.24	3,569.94	125.29	29.493		
5,300.00	5,001.67	4,948.67	4,948.67	35.34	99.25	134.06	2,729.23	573.20	3,721.93	3,594.26	127.67	29.152		
5,400.00	5,094.52	5,041.52	5,041.52	36.12	101.12	134.46	2,729.23	573.20	3,748.81	3,618.76	130.05	28.826		
5,500.00	5,187.38	5,134.38	5,134.38	36.90	102.98	134.84	2,729.23	573.20	3,775.86	3,643.43	132.42	28.514		
5,600.00	5,280.23	5,227.23	5,227.23	37.67	104.85	135.23	2,729.23	573.20	3,803.07	3,668.28	134.79	28.214		
5,700.00	5,373.09	5,320.09	5,320.09	38.45	106.72	135.60	2,729.23	573.20	3,830.46	3,693.30	137.16	27.927		
5,800.00	5,465.94	5,412.94	5,412.94	39.23	108.59	135.98	2,729.23	573.20	3,858.00	3,718.48	139.52	27.652		
5,900.00	5,558.80	5,505.80	5,505.80	40.01	110.45	136.34	2,729.23	573.20	3,885.71	3,743.83	141.88	27.387		
6,000.00	5,651.65	5,601.35	5,598.65	40.79	112.38	136.71	2,729.23	573.20	3,913.57	3,769.28	144.29	27.122		
6,100.00	5,744.51	5,708.49	5,691.51	41.57	114.53	137.07	2,729.23	573.20	3,941.59	3,794.65	146.93	26.825		
6,200.00	5,837.36	5,784.36	5,784.36	42.34	116.06	137.42	2,729.23	573.20	3,969.75	3,820.81	148.94	26.653		
6,300.00	5,930.22	5,877.22	5,877.22	43.12	117.92	137.77	2,729.23	573.20	3,998.06	3,846.77	151.29	26.426		
6,400.00	6,023.07	5,970.07	5,970.07	43.90	119.79	138.11	2,729.23	573.20	4,026.51	3,872.88	153.64	26.208		
6,500.00	6,115.93	6,062.93	6,062.93	44.68	121.66	138.45	2,729.23	573.20	4,055.11	3,899.13	155.98	25.997		
6,600.00	6,208.78	6,155.78	6,155.78	45.46	123.53	138.79	2,729.23	573.20	4,083.84	3,925.52	158.32	25.795		
6,700.00	6,301.64	6,248.64	6,248.64	46.24	125.39	139.12	2,729.23	573.20	4,112.70	3,952.05	160.66	25.599		
6,800.00	6,394.49	6,341.49	6,341.49	47.02	127.26	139.44	2,729.23	573.20	4,141.70	3,978.71	162.99	25.410		
6,900.00	6,487.35	6,434.35	6,434.35	47.80	129.13	139.76	2,729.23	573.20	4,170.83	4,005.50	165.33	25.228		
7,000.00	6,580.20	6,527.20	6,527.20	48.57	130.99	140.08	2,729.23	573.20	4,200.08	4,032.42	167.66	25.051		
7,100.00	6,673.06	6,620.06	6,620.06	49.35	132.86	140.40	2,729.23	573.20	4,229.45	4,059.47	169.99	24.881		
7,200.00	6,765.91	6,712.91	6,712.91	50.13	134.73	140.70	2,729.23	573.20	4,258.95	4,086.64	172.31	24.716		
7,300.00	6,856.90	6,803.90	6,803.90	50.99	136.56	136.35	2,729.23	573.20	4,291.33	4,116.69	174.64	24.573		
7,400.00	6,939.78	6,886.78	6,886.78	52.14	138.23	131.08	2,729.23	573.20	4,333.41	4,156.50	176.91	24.495		
7,500.00	7,011.80	6,958.80	6,958.80	53.58	139.67	125.51	2,729.23	573.20	4,384.59	4,205.52	179.07	24.485 SF		
7,600.00	7,070.78	7,017.78	7,017.78	55.27	140.86	118.96	2,729.23	573.20	4,443.59	4,262.55	181.03	24.546		
7,700.00	7,114.93	7,061.93	7,061.93	57.16	141.75	111.07	2,729.23	573.20	4,508.89	4,326.15	182.74	24.674		
7,800.00	7,142.90	7,089.90	7,089.90	59.19	142.31	101.76	2,729.23	573.20	4,578.73	4,394.62	184.11	24.869		
7,900.00	7,153.85	7,100.85	7,100.85	61.28	142.53	91.39	2,729.23	573.20	4,651.13	4,466.02	185.11	25.126		
8,000.00	7,154.00	7,101.00	7,101.00	63.38	142.53	90.00	2,729.23	573.20	4,724.51	4,538.66	185.86	25.420		
8,100.00	7,154.00	7,101.00	7,101.00	65.52	142.53	90.00	2,729.23	573.20	4,798.85	4,612.26	186.59	25.718		
8,200.00	7,154.00	7,101.00	7,101.00	67.71	142.53	90.00	2,729.23	573.20	4,874.11	4,686.78	187.33	26.019		
8,300.00	7,154.00	7,101.00	7,101.00	69.93	142.53	90.00	2,729.23	573.20	4,950.24	4,762.19	188.05	26.324		
8,400.00	7,154.00	7,101.00	7,101.00	72.19	142.53	90.00	2,729.23	573.20	5,027.21	4,838.44	188.77	26.632		
8,500.00	7,154.00	7,101.00	7,101.00	74.47	142.53	90.00	2,729.23	573.20	5,104.97	4,915.50	189.48	26.943		
8,600.00	7,154.00	7,101.00	7,101.00	76.79	142.53	90.00	2,729.23	573.20	5,183.50	4,993.33	190.17	27.257		
8,700.00	7,154.00	7,101.00	7,101.00	79.12	142.53	90.00	2,729.23	573.20	5,262.76	5,071.90	190.86	27.574		
8,800.00	7,154.00	7,101.00	7,101.00	81.48	142.53	90.00	2,729.23	573.20	5,342.71	5,151.18	191.53	27.895		
8,900.00	7,154.00	7,101.00	7,101.00	83.87	142.53	90.00	2,729.23	573.20	5,423.33	5,231.14	192.19	28.219		
9,000.00	7,154.00	7,101.00	7,101.00	86.27	142.53	90.00	2,729.23	573.20	5,504.58	5,311.75	192.83	28.546		
9,100.00	7,154.00	7,101.00	7,101.00	88.68	142.53	90.00	2,729.23	573.20	5,586.45	5,392.98	193.46	28.876		
9,200.00	7,154.00	7,101.00	7,101.00	91.12	142.53	90.00	2,729.23	573.20	5,668.89	5,474.81	194.08	29.209		
9,300.00	7,154.00	7,101.00	7,101.00	93.57	142.53	90.00	2,729.23	573.20	5,751.89	5,557.21	194.69	29.544		
9,400.00	7,154.00	7,101.00	7,101.00	96.03	142.53	90.00	2,729.23	573.20	5,835.43	5,640.15	195.28	29.883		
9,500.00	7,154.00	7,101.00	7,101.00	98.50	142.53	90.00	2,729.23	573.20	5,919.47	5,723.62	195.85	30.224		
9,600.00	7,154.00	7,101.00	7,101.00	100.99	142.53	90.00	2,729.23	573.20	6,004.01	5,807.59	196.42	30.568		
9,700.00	7,154.00	7,101.00	7,101.00	103.49	142.53	90.00	2,729.23	573.20	6,089.01	5,892.04	196.97	30.914		
9,800.00	7,154.00	7,101.00	7,101.00	106.00	142.53	90.00	2,729.23	573.20	6,174.46	5,976.96	197.50	31.263		
9,900.00	7,154.00	7,101.00	7,101.00	108.51	142.53	90.00	2,729.23	573.20	6,260.34	6,062.32	198.03	31.614		
10,000.00	7,154.00	7,101.00	7,101.00	111.04	142.53	90.00	2,729.23	573.20	6,346.64	6,148.10	198.54	31.967		
10,100.00	7,154.00	7,101.00	7,101.00	113.58	142.53	90.00	2,729.23	573.20	6,433.33	6,234.30	199.04	32.322		
10,200.00	7,154.00	7,101.00	7,101.00	116.12	142.53	90.00	2,729.23	573.20	6,520.41	6,320.88	199.52	32.680		
10,300.00	7,154.00	7,101.00	7,101.00	118.67	142.53	90.00	2,729.23	573.20	6,607.85	6,407.85	200.00	33.039		

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



# Anticollision Report

<b>Company:</b>	EXTRACTION OIL & GAS	<b>Local Co-ordinate Reference:</b>	Well WARBLER 13W-27-19
<b>Project:</b>	ADAMS COUNTY	<b>TVD Reference:</b>	KB 25' @ 5106.00usft
<b>Reference Site:</b>	Sec 13-T1S-R66W	<b>MD Reference:</b>	KB 25' @ 5106.00usft
<b>Site Error:</b>	0.00 usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	WARBLER 13W-27-19	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00 usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OWB	<b>Database:</b>	EDT_32Bit_ODBC
<b>Reference Design:</b>	PROPOSAL 1	<b>Offset TVD Reference:</b>	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		
10,400.00	7,154.00	7,101.00	7,101.00	121.22	142.53	90.00	2,729.23	573.20	6,695.64	6,495.18	200.46	33.401		
10,500.00	7,154.00	7,101.00	7,101.00	123.79	142.53	90.00	2,729.23	573.20	6,783.77	6,582.86	200.92	33.764		
10,600.00	7,154.00	7,101.00	7,101.00	126.35	142.53	90.00	2,729.23	573.20	6,872.23	6,670.87	201.36	34.129		
10,700.00	7,154.00	7,101.00	7,101.00	128.93	142.53	90.00	2,729.23	573.20	6,960.99	6,759.21	201.79	34.496		
10,800.00	7,154.00	7,101.00	7,101.00	131.51	142.53	90.00	2,729.23	573.20	7,050.06	6,847.85	202.21	34.865		
10,900.00	7,154.00	7,101.00	7,101.00	134.09	142.53	90.00	2,729.23	573.20	7,139.42	6,936.80	202.62	35.235		
11,000.00	7,154.00	7,101.00	7,101.00	136.68	142.53	90.00	2,729.23	573.20	7,229.06	7,026.03	203.02	35.607		
11,100.00	7,154.00	7,101.00	7,101.00	139.27	142.53	90.00	2,729.23	573.20	7,318.96	7,115.55	203.41	35.981		
11,200.00	7,154.00	7,101.00	7,101.00	141.87	142.53	90.00	2,729.23	573.20	7,409.13	7,205.33	203.80	36.355		
11,300.00	7,154.00	7,101.00	7,101.00	144.47	142.53	90.00	2,729.23	573.20	7,499.54	7,295.37	204.17	36.732		
11,400.00	7,154.00	7,101.00	7,101.00	147.08	142.53	90.00	2,729.23	573.20	7,590.19	7,385.65	204.54	37.109		
11,500.00	7,154.00	7,101.00	7,101.00	149.68	142.53	90.00	2,729.23	573.20	7,681.08	7,476.18	204.90	37.488		
11,600.00	7,154.00	7,101.00	7,101.00	152.30	142.53	90.00	2,729.23	573.20	7,772.19	7,566.94	205.24	37.868		
11,700.00	7,154.00	7,101.00	7,101.00	154.91	142.53	90.00	2,729.23	573.20	7,863.51	7,657.93	205.59	38.249		
11,800.00	7,154.00	7,101.00	7,101.00	157.53	142.53	90.00	2,729.23	573.20	7,955.05	7,749.13	205.92	38.632		
11,900.00	7,154.00	7,101.00	7,101.00	160.15	142.53	90.00	2,729.23	573.20	8,046.78	7,840.53	206.25	39.015		
12,000.00	7,154.00	7,101.00	7,101.00	162.77	142.53	90.00	2,729.23	573.20	8,138.71	7,932.15	206.57	39.400		
12,100.00	7,154.00	7,101.00	7,101.00	165.40	142.53	90.00	2,729.23	573.20	8,230.83	8,023.95	206.88	39.785		
12,200.00	7,154.00	7,101.00	7,101.00	168.03	142.53	90.00	2,729.23	573.20	8,323.13	8,115.94	207.19	40.172		
12,300.00	7,154.00	7,101.00	7,101.00	170.66	142.53	90.00	2,729.23	573.20	8,415.61	8,208.12	207.49	40.559		
12,400.00	7,154.00	7,101.00	7,101.00	173.29	142.53	90.00	2,729.23	573.20	8,508.26	8,300.47	207.78	40.948		
12,500.00	7,154.00	7,101.00	7,101.00	175.93	142.53	90.00	2,729.23	573.20	8,601.07	8,393.00	208.07	41.337		
12,600.00	7,154.00	7,101.00	7,101.00	178.56	142.53	90.00	2,729.23	573.20	8,694.04	8,485.68	208.35	41.727		
12,700.00	7,154.00	7,101.00	7,101.00	181.20	142.53	90.00	2,729.23	573.20	8,787.16	8,578.53	208.63	42.118		
12,800.00	7,154.00	7,101.00	7,101.00	183.84	142.53	90.00	2,729.23	573.20	8,880.44	8,671.54	208.90	42.510		
12,900.00	7,154.00	7,101.00	7,101.00	186.49	142.53	90.00	2,729.23	573.20	8,973.86	8,764.69	209.17	42.902		
13,000.00	7,154.00	7,101.00	7,101.00	189.13	142.53	90.00	2,729.23	573.20	9,067.42	8,857.99	209.43	43.296		
13,100.00	7,154.00	7,101.00	7,101.00	191.78	142.53	90.00	2,729.23	573.20	9,161.11	8,951.43	209.69	43.690		
13,200.00	7,154.00	7,101.00	7,101.00	194.43	142.53	90.00	2,729.23	573.20	9,254.94	9,045.00	209.94	44.084		
13,300.00	7,154.00	7,101.00	7,101.00	197.07	142.53	90.00	2,729.23	573.20	9,348.90	9,138.71	210.18	44.479		
13,400.00	7,154.00	7,101.00	7,101.00	199.73	142.53	90.00	2,729.23	573.20	9,442.98	9,232.55	210.43	44.875		
13,500.00	7,154.00	7,101.00	7,101.00	202.38	142.53	90.00	2,729.23	573.20	9,537.18	9,326.51	210.67	45.272		
13,600.00	7,154.00	7,101.00	7,101.00	205.03	142.53	90.00	2,729.23	573.20	9,631.50	9,420.60	210.90	45.669		
13,700.00	7,154.00	7,101.00	7,101.00	207.69	142.53	90.00	2,729.23	573.20	9,725.93	9,514.80	211.13	46.066		
13,800.00	7,154.00	7,101.00	7,101.00	210.34	142.53	90.00	2,729.23	573.20	9,820.47	9,609.11	211.35	46.464		
13,900.00	7,154.00	7,101.00	7,101.00	213.00	142.53	90.00	2,729.23	573.20	9,915.12	9,703.54	211.58	46.863		

# Anticollision Report

<b>Company:</b>	EXTRACTION OIL & GAS	<b>Local Co-ordinate Reference:</b>	Well WARBLER 13W-27-19
<b>Project:</b>	ADAMS COUNTY	<b>TVD Reference:</b>	KB 25' @ 5106.00usft
<b>Reference Site:</b>	Sec 13-T1S-R66W	<b>MD Reference:</b>	KB 25' @ 5106.00usft
<b>Site Error:</b>	0.00 usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	WARBLER 13W-27-19	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00 usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OWB	<b>Database:</b>	EDT_32Bit_ODBC
<b>Reference Design:</b>	PROPOSAL 1	<b>Offset TVD Reference:</b>	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	-92.98	-107.37	-2,061.22	2,064.36					
100.00	100.00	62.00	62.00	0.13	0.74	-92.98	-107.37	-2,061.22	2,064.01	2,063.13	0.88	2,352.619		
200.00	200.00	162.00	162.00	0.49	2.62	-92.98	-107.37	-2,061.22	2,064.01	2,060.90	3.11	663.519		
300.00	300.00	262.00	262.00	0.85	4.78	-92.98	-107.37	-2,061.22	2,064.01	2,058.38	5.63	366.753		
400.00	400.00	362.00	362.00	1.21	6.83	-92.98	-107.37	-2,061.22	2,064.01	2,055.97	8.04	256.648		
500.00	499.98	461.98	461.98	1.56	8.87	7.65	-107.37	-2,061.22	2,062.28	2,051.86	10.43	197.813		
600.00	599.84	561.84	561.84	1.91	10.89	7.69	-107.37	-2,061.22	2,057.09	2,044.30	12.80	160.754		
700.00	699.45	661.45	661.45	2.27	12.90	7.74	-107.37	-2,061.22	2,048.46	2,033.29	15.16	135.083		
800.00	798.70	760.70	760.70	2.65	14.90	7.82	-107.37	-2,061.22	2,036.38	2,018.85	17.53	116.186		
900.00	897.47	859.47	859.47	3.06	16.90	7.93	-107.37	-2,061.22	2,020.88	2,001.00	19.88	101.644		
1,000.00	995.62	957.62	957.62	3.49	18.87	8.05	-107.37	-2,061.22	2,001.98	1,979.75	22.23	90.067		
1,100.00	1,093.06	1,055.06	1,055.06	3.96	20.84	8.21	-107.37	-2,061.22	1,979.70	1,955.14	24.56	80.599		
1,200.00	1,189.64	1,151.64	1,151.64	4.47	22.78	8.40	-107.37	-2,061.22	1,954.07	1,927.19	26.88	72.685		
1,300.00	1,285.27	1,247.27	1,247.27	5.02	24.71	8.61	-107.37	-2,061.22	1,925.13	1,895.94	29.19	65.949		
1,400.00	1,379.82	1,341.82	1,341.82	5.63	26.61	8.86	-107.37	-2,061.22	1,892.92	1,861.43	31.48	60.127		
1,500.00	1,473.18	1,435.18	1,435.18	6.29	28.49	9.14	-107.37	-2,061.22	1,857.48	1,823.73	33.76	55.021		
1,600.00	1,566.03	1,528.03	1,528.03	6.99	30.36	9.33	-107.37	-2,061.22	1,820.78	1,784.76	36.02	50.554		
1,700.00	1,658.89	1,620.89	1,620.89	7.71	32.23	9.52	-107.37	-2,061.22	1,784.09	1,745.81	38.28	46.607		
1,800.00	1,751.74	1,713.74	1,713.74	8.44	34.09	9.72	-107.37	-2,061.22	1,747.42	1,706.87	40.55	43.095		
1,900.00	1,844.60	1,806.60	1,806.60	9.17	35.96	9.93	-107.37	-2,061.22	1,710.77	1,667.95	42.82	39.950		
2,000.00	1,937.45	1,900.55	1,899.45	9.91	37.85	10.15	-107.37	-2,061.22	1,674.14	1,629.02	45.12	37.102		
2,100.00	2,030.31	2,007.69	1,992.31	10.66	40.01	10.38	-107.37	-2,061.22	1,637.54	1,589.85	47.69	34.335		
2,200.00	2,123.16	2,085.16	2,085.16	11.41	41.57	10.62	-107.37	-2,061.22	1,600.95	1,551.29	49.67	32.232		
2,300.00	2,216.02	2,178.02	2,178.02	12.17	43.43	10.87	-107.37	-2,061.22	1,564.40	1,512.44	51.96	30.108		
2,400.00	2,308.87	2,270.87	2,270.87	12.93	45.30	11.13	-107.37	-2,061.22	1,527.87	1,473.61	54.25	28.162		
2,500.00	2,401.73	2,363.73	2,363.73	13.69	47.17	11.40	-107.37	-2,061.22	1,491.36	1,434.81	56.55	26.372		
2,600.00	2,494.58	2,456.58	2,456.58	14.45	49.04	11.69	-107.37	-2,061.22	1,454.89	1,396.04	58.85	24.722		
2,700.00	2,587.44	2,549.44	2,549.44	15.22	50.91	11.99	-107.37	-2,061.22	1,418.46	1,357.30	61.16	23.194		
2,800.00	2,680.29	2,642.29	2,642.29	15.98	52.77	12.31	-107.37	-2,061.22	1,382.06	1,318.59	63.46	21.777		
2,900.00	2,773.15	2,735.15	2,735.15	16.75	54.64	12.65	-107.37	-2,061.22	1,345.70	1,279.92	65.78	20.458		
3,000.00	2,866.00	2,828.00	2,828.00	17.52	56.51	13.00	-107.37	-2,061.22	1,309.38	1,241.28	68.10	19.229		
3,100.00	2,958.86	2,920.86	2,920.86	18.29	58.38	13.38	-107.37	-2,061.22	1,273.11	1,202.69	70.42	18.079		
3,200.00	3,051.71	3,013.71	3,013.71	19.06	60.24	13.77	-107.37	-2,061.22	1,236.88	1,164.14	72.75	17.003		
3,300.00	3,144.57	3,106.57	3,106.57	19.83	62.11	14.19	-107.37	-2,061.22	1,200.72	1,125.64	75.08	15.993		
3,400.00	3,237.42	3,200.58	3,199.42	20.60	64.00	14.64	-107.37	-2,061.22	1,164.61	1,087.17	77.44	15.039		
3,500.00	3,330.28	3,307.72	3,292.28	21.37	66.16	15.11	-107.37	-2,061.22	1,128.57	1,048.49	80.08	14.094		
3,600.00	3,423.13	3,385.13	3,385.13	22.15	67.71	15.62	-107.37	-2,061.22	1,092.60	1,010.48	82.12	13.305		
3,700.00	3,515.99	3,477.99	3,477.99	22.92	69.58	16.16	-107.37	-2,061.22	1,056.71	972.23	84.48	12.508		
3,800.00	3,608.84	3,570.84	3,570.84	23.70	71.45	16.73	-107.37	-2,061.22	1,020.91	934.05	86.86	11.754		
3,900.00	3,701.70	3,663.70	3,663.70	24.47	73.32	17.35	-107.37	-2,061.22	985.21	895.97	89.24	11.040		
4,000.00	3,794.55	3,756.55	3,756.55	25.25	75.18	18.01	-107.37	-2,061.22	949.61	857.97	91.64	10.362		
4,100.00	3,887.41	3,849.41	3,849.41	26.02	77.05	18.73	-107.37	-2,061.22	914.14	820.09	94.05	9.720		
4,200.00	3,980.26	3,942.26	3,942.26	26.80	78.92	19.50	-107.37	-2,061.22	878.80	782.32	96.48	9.109		
4,300.00	4,073.12	4,035.12	4,035.12	27.57	80.79	20.33	-107.37	-2,061.22	843.62	744.69	98.93	8.527		
4,400.00	4,165.97	4,127.97	4,127.97	28.35	82.65	21.24	-107.37	-2,061.22	808.61	707.21	101.40	7.974		
4,500.00	4,258.83	4,220.83	4,220.83	29.12	84.52	22.23	-107.37	-2,061.22	773.80	669.90	103.90	7.448		
4,600.00	4,351.68	4,313.68	4,313.68	29.90	86.39	23.30	-107.37	-2,061.22	739.21	632.78	106.42	6.946		
4,700.00	4,444.54	4,406.54	4,406.54	30.68	88.26	24.48	-107.37	-2,061.22	704.88	595.89	108.99	6.468		
4,800.00	4,537.39	4,500.61	4,499.39	31.45	90.15	25.78	-107.37	-2,061.22	670.84	559.23	111.61	6.010		
4,900.00	4,630.25	4,607.75	4,592.25	32.23	92.30	27.21	-107.37	-2,061.22	637.15	522.60	114.55	5.562		
5,000.00	4,723.10	4,685.10	4,685.10	33.01	93.86	28.79	-107.37	-2,061.22	603.86	486.91	116.95	5.163		
5,100.00	4,815.96	4,777.96	4,777.96	33.79	95.73	30.56	-107.37	-2,061.22	571.05	451.32	119.72	4.770		

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

# Anticollision Report

<b>Company:</b>	EXTRACTION OIL & GAS	<b>Local Co-ordinate Reference:</b>	Well WARBLER 13W-27-19
<b>Project:</b>	ADAMS COUNTY	<b>TVD Reference:</b>	KB 25' @ 5106.00usft
<b>Reference Site:</b>	Sec 13-T1S-R66W	<b>MD Reference:</b>	KB 25' @ 5106.00usft
<b>Site Error:</b>	0.00 usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	WARBLER 13W-27-19	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00 usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OWB	<b>Database:</b>	EDT_32Bit_ODBC
<b>Reference Design:</b>	PROPOSAL 1	<b>Offset TVD Reference:</b>	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	4,908.81	4,870.81	4,870.81	34.56	97.59	32.52	-107.37	-2,061.22	538.79	416.22	122.58	4.396	
5,300.00	5,001.67	4,963.67	4,963.67	35.34	99.46	34.73	-107.37	-2,061.22	507.20	381.68	125.52	4.041	
5,400.00	5,094.52	5,056.52	5,056.52	36.12	101.33	37.20	-107.37	-2,061.22	476.41	347.84	128.57	3.705	
5,500.00	5,187.38	5,149.38	5,149.38	36.90	103.20	40.00	-107.37	-2,061.22	446.59	314.84	131.75	3.390	
5,600.00	5,280.23	5,242.23	5,242.23	37.67	105.06	43.17	-107.37	-2,061.22	417.93	282.87	135.06	3.094	
5,700.00	5,373.09	5,335.09	5,335.09	38.45	106.93	46.76	-107.37	-2,061.22	390.70	252.19	138.51	2.821	
5,800.00	5,465.94	5,427.94	5,427.94	39.23	108.80	50.82	-107.37	-2,061.22	365.21	223.10	142.11	2.570	
5,900.00	5,558.80	5,520.80	5,520.80	40.01	110.67	55.42	-107.37	-2,061.22	341.87	196.02	145.85	2.344	
6,000.00	5,651.65	5,613.65	5,613.65	40.79	112.53	60.59	-107.37	-2,061.22	321.13	171.44	149.68	2.145	
6,100.00	5,744.51	5,706.51	5,706.51	41.57	114.40	66.34	-107.37	-2,061.22	303.53	149.99	153.53	1.977	
6,200.00	5,837.36	5,800.64	5,799.36	42.34	116.29	72.64	-107.37	-2,061.22	289.63	132.33	157.31	1.841	
6,300.00	5,930.22	5,907.78	5,892.22	43.12	118.45	79.40	-107.37	-2,061.22	280.01	118.92	161.09	1.738	
6,400.00	6,023.07	5,985.07	5,985.07	43.90	120.00	86.48	-107.37	-2,061.22	275.09	111.23	163.87	1.679	
6,448.98	6,068.56	6,030.56	6,030.56	44.28	120.92	90.00	-107.37	-2,061.22	274.49	109.30	165.20	1.662 CC	
6,500.00	6,115.93	6,077.93	6,077.93	44.68	121.87	93.67	-107.37	-2,061.22	275.14	108.70	166.44	1.653 ES, SF	
6,600.00	6,208.78	6,170.78	6,170.78	45.46	123.74	100.74	-107.37	-2,061.22	280.16	111.67	168.48	1.663	
6,700.00	6,301.64	6,263.64	6,263.64	46.24	125.60	107.50	-107.37	-2,061.22	289.88	119.82	170.05	1.705	
6,800.00	6,394.49	6,356.49	6,356.49	47.02	127.47	113.79	-107.37	-2,061.22	303.85	132.57	171.28	1.774	
6,900.00	6,487.35	6,449.35	6,449.35	47.80	129.34	119.52	-107.37	-2,061.22	321.52	149.21	172.30	1.866	
7,000.00	6,580.20	6,542.20	6,542.20	48.57	131.21	124.68	-107.37	-2,061.22	342.32	169.06	173.26	1.976	
7,100.00	6,673.06	6,635.06	6,635.06	49.35	133.07	129.27	-107.37	-2,061.22	365.71	191.49	174.22	2.099	
7,200.00	6,765.91	6,727.91	6,727.91	50.13	134.94	133.32	-107.37	-2,061.22	391.23	215.97	175.26	2.232	
7,300.00	6,856.90	6,818.90	6,818.90	50.99	136.77	132.68	-107.37	-2,061.22	421.04	244.80	176.24	2.389	
7,400.00	6,939.78	6,901.78	6,901.78	52.14	138.44	131.83	-107.37	-2,061.22	462.23	285.40	176.82	2.614	
7,500.00	7,011.80	6,973.80	6,973.80	53.58	139.89	130.71	-107.37	-2,061.22	515.84	338.71	177.12	2.912	
7,600.00	7,070.78	7,032.78	7,032.78	55.27	141.07	127.90	-107.37	-2,061.22	581.45	404.21	177.24	3.281	
7,700.00	7,114.93	7,076.93	7,076.93	57.16	141.96	121.93	-107.37	-2,061.22	657.53	480.31	177.22	3.710	
7,800.00	7,142.90	7,104.90	7,104.90	59.19	142.52	110.83	-107.37	-2,061.22	741.66	564.65	177.02	4.190	
7,900.00	7,153.85	7,115.85	7,115.85	61.28	142.74	92.83	-107.37	-2,061.22	830.92	654.32	176.60	4.705	
8,000.00	7,154.00	7,116.00	7,116.00	63.38	142.74	90.00	-107.37	-2,061.22	922.60	746.52	176.08	5.240	
8,100.00	7,154.00	7,116.00	7,116.00	65.52	142.74	90.00	-107.37	-2,061.22	1,015.85	840.15	175.70	5.782	
8,200.00	7,154.00	7,116.00	7,116.00	67.71	142.74	90.00	-107.37	-2,061.22	1,110.28	934.86	175.41	6.329	
8,300.00	7,154.00	7,116.00	7,116.00	69.93	142.74	90.00	-107.37	-2,061.22	1,205.60	1,030.40	175.20	6.881	
8,400.00	7,154.00	7,116.00	7,116.00	72.19	142.74	90.00	-107.37	-2,061.22	1,301.63	1,126.59	175.04	7.436	
8,500.00	7,154.00	7,116.00	7,116.00	74.47	142.74	90.00	-107.37	-2,061.22	1,398.21	1,223.30	174.92	7.994	
8,600.00	7,154.00	7,116.00	7,116.00	76.79	142.74	90.00	-107.37	-2,061.22	1,495.25	1,320.42	174.83	8.553	
8,700.00	7,154.00	7,116.00	7,116.00	79.12	142.74	90.00	-107.37	-2,061.22	1,592.65	1,417.89	174.76	9.113	
8,800.00	7,154.00	7,116.00	7,116.00	81.48	142.74	90.00	-107.37	-2,061.22	1,690.35	1,515.64	174.71	9.675	
8,900.00	7,154.00	7,116.00	7,116.00	83.87	142.74	90.00	-107.37	-2,061.22	1,788.31	1,613.64	174.67	10.238	
9,000.00	7,154.00	7,116.00	7,116.00	86.27	142.74	90.00	-107.37	-2,061.22	1,886.48	1,711.83	174.65	10.802	
9,100.00	7,154.00	7,116.00	7,116.00	88.68	142.74	90.00	-107.37	-2,061.22	1,984.84	1,810.20	174.63	11.366	
9,200.00	7,154.00	7,116.00	7,116.00	91.12	142.74	90.00	-107.37	-2,061.22	2,083.35	1,908.72	174.63	11.930	
9,300.00	7,154.00	7,116.00	7,116.00	93.57	142.74	90.00	-107.37	-2,061.22	2,181.99	2,007.36	174.63	12.495	
9,400.00	7,154.00	7,116.00	7,116.00	96.03	142.74	90.00	-107.37	-2,061.22	2,280.76	2,106.12	174.63	13.060	
9,500.00	7,154.00	7,116.00	7,116.00	98.50	142.74	90.00	-107.37	-2,061.22	2,379.62	2,204.98	174.64	13.626	
9,600.00	7,154.00	7,116.00	7,116.00	100.99	142.74	90.00	-107.37	-2,061.22	2,478.58	2,303.92	174.66	14.191	
9,700.00	7,154.00	7,116.00	7,116.00	103.49	142.74	90.00	-107.37	-2,061.22	2,577.62	2,402.95	174.68	14.756	
9,800.00	7,154.00	7,116.00	7,116.00	106.00	142.74	90.00	-107.37	-2,061.22	2,676.73	2,502.03	174.70	15.322	
9,900.00	7,154.00	7,116.00	7,116.00	108.51	142.74	90.00	-107.37	-2,061.22	2,775.91	2,601.18	174.72	15.888	
10,000.00	7,154.00	7,116.00	7,116.00	111.04	142.74	90.00	-107.37	-2,061.22	2,875.14	2,700.39	174.75	16.453	
10,100.00	7,154.00	7,116.00	7,116.00	113.58	142.74	90.00	-107.37	-2,061.22	2,974.42	2,799.64	174.78	17.018	
10,200.00	7,154.00	7,116.00	7,116.00	116.12	142.74	90.00	-107.37	-2,061.22	3,073.75	2,898.94	174.81	17.584	

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

# Anticollision Report

<b>Company:</b>	EXTRACTION OIL & GAS	<b>Local Co-ordinate Reference:</b>	Well WARBLER 13W-27-19
<b>Project:</b>	ADAMS COUNTY	<b>TVD Reference:</b>	KB 25' @ 5106.00usft
<b>Reference Site:</b>	Sec 13-T1S-R66W	<b>MD Reference:</b>	KB 25' @ 5106.00usft
<b>Site Error:</b>	0.00 usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	WARBLER 13W-27-19	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00 usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OWB	<b>Database:</b>	EDT_32Bit_ODBC
<b>Reference Design:</b>	PROPOSAL 1	<b>Offset TVD Reference:</b>	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	7,116.00	7,116.00	118.67	142.74	90.00	-107.37	-2,061.22	3,173.12	2,998.28	174.84	18.149		
10,400.00	7,154.00	7,116.00	7,116.00	121.22	142.74	90.00	-107.37	-2,061.22	3,272.53	3,097.66	174.87	18.714		
10,500.00	7,154.00	7,116.00	7,116.00	123.79	142.74	90.00	-107.37	-2,061.22	3,371.98	3,197.07	174.91	19.278		
10,600.00	7,154.00	7,116.00	7,116.00	126.35	142.74	90.00	-107.37	-2,061.22	3,471.45	3,296.51	174.95	19.843		
10,700.00	7,154.00	7,116.00	7,116.00	128.93	142.74	90.00	-107.37	-2,061.22	3,570.96	3,395.97	174.99	20.407		
10,800.00	7,154.00	7,116.00	7,116.00	131.51	142.74	90.00	-107.37	-2,061.22	3,670.49	3,495.47	175.02	20.971		
10,900.00	7,154.00	7,116.00	7,116.00	134.09	142.74	90.00	-107.37	-2,061.22	3,770.05	3,594.98	175.07	21.535		
11,000.00	7,154.00	7,116.00	7,116.00	136.68	142.74	90.00	-107.37	-2,061.22	3,869.63	3,694.52	175.11	22.099		
11,100.00	7,154.00	7,116.00	7,116.00	139.27	142.74	90.00	-107.37	-2,061.22	3,969.23	3,794.08	175.15	22.662		
11,200.00	7,154.00	7,116.00	7,116.00	141.87	142.74	90.00	-107.37	-2,061.22	4,068.85	3,893.66	175.19	23.225		
11,300.00	7,154.00	7,116.00	7,116.00	144.47	142.74	90.00	-107.37	-2,061.22	4,168.49	3,993.25	175.24	23.787		
11,400.00	7,154.00	7,116.00	7,116.00	147.08	142.74	90.00	-107.37	-2,061.22	4,268.15	4,092.86	175.29	24.350		
11,500.00	7,154.00	7,116.00	7,116.00	149.68	142.74	90.00	-107.37	-2,061.22	4,367.82	4,192.49	175.33	24.912		
11,600.00	7,154.00	7,116.00	7,116.00	152.30	142.74	90.00	-107.37	-2,061.22	4,467.50	4,292.12	175.38	25.473		
11,700.00	7,154.00	7,116.00	7,116.00	154.91	142.74	90.00	-107.37	-2,061.22	4,567.20	4,391.77	175.43	26.034		
11,800.00	7,154.00	7,116.00	7,116.00	157.53	142.74	90.00	-107.37	-2,061.22	4,666.92	4,491.44	175.48	26.595		
11,900.00	7,154.00	7,116.00	7,116.00	160.15	142.74	90.00	-107.37	-2,061.22	4,766.64	4,591.11	175.53	27.156		
12,000.00	7,154.00	7,116.00	7,116.00	162.77	142.74	90.00	-107.37	-2,061.22	4,866.38	4,690.80	175.58	27.716		
12,100.00	7,154.00	7,116.00	7,116.00	165.40	142.74	90.00	-107.37	-2,061.22	4,966.13	4,790.49	175.63	28.276		
12,200.00	7,154.00	7,116.00	7,116.00	168.03	142.74	90.00	-107.37	-2,061.22	5,065.88	4,890.20	175.69	28.835		
12,300.00	7,154.00	7,116.00	7,116.00	170.66	142.74	90.00	-107.37	-2,061.22	5,165.65	4,989.91	175.74	29.394		
12,400.00	7,154.00	7,116.00	7,116.00	173.29	142.74	90.00	-107.37	-2,061.22	5,265.42	5,089.63	175.79	29.952		
12,500.00	7,154.00	7,116.00	7,116.00	175.93	142.74	90.00	-107.37	-2,061.22	5,365.21	5,189.36	175.85	30.510		
12,600.00	7,154.00	7,116.00	7,116.00	178.56	142.74	90.00	-107.37	-2,061.22	5,465.00	5,289.09	175.91	31.068		
12,700.00	7,154.00	7,116.00	7,116.00	181.20	142.74	90.00	-107.37	-2,061.22	5,564.80	5,388.84	175.96	31.625		
12,800.00	7,154.00	7,116.00	7,116.00	183.84	142.74	90.00	-107.37	-2,061.22	5,664.60	5,488.58	176.02	32.182		
12,900.00	7,154.00	7,116.00	7,116.00	186.49	142.74	90.00	-107.37	-2,061.22	5,764.42	5,588.34	176.08	32.738		
13,000.00	7,154.00	7,116.00	7,116.00	189.13	142.74	90.00	-107.37	-2,061.22	5,864.24	5,688.10	176.14	33.294		
13,100.00	7,154.00	7,116.00	7,116.00	191.78	142.74	90.00	-107.37	-2,061.22	5,964.06	5,787.87	176.20	33.849		
13,200.00	7,154.00	7,116.00	7,116.00	194.43	142.74	90.00	-107.37	-2,061.22	6,063.89	5,887.64	176.26	34.404		
13,300.00	7,154.00	7,116.00	7,116.00	197.07	142.74	90.00	-107.37	-2,061.22	6,163.73	5,987.41	176.32	34.958		
13,400.00	7,154.00	7,116.00	7,116.00	199.73	142.74	90.00	-107.37	-2,061.22	6,263.57	6,087.19	176.38	35.512		
13,500.00	7,154.00	7,116.00	7,116.00	202.38	142.74	90.00	-107.37	-2,061.22	6,363.42	6,186.98	176.44	36.066		
13,600.00	7,154.00	7,116.00	7,116.00	205.03	142.74	90.00	-107.37	-2,061.22	6,463.27	6,286.77	176.50	36.619		
13,700.00	7,154.00	7,116.00	7,116.00	207.69	142.74	90.00	-107.37	-2,061.22	6,563.12	6,386.56	176.56	37.171		
13,800.00	7,154.00	7,116.00	7,116.00	210.34	142.74	90.00	-107.37	-2,061.22	6,662.98	6,486.35	176.63	37.723		
13,900.00	7,154.00	7,116.00	7,116.00	213.00	142.74	90.00	-107.37	-2,061.22	6,762.85	6,586.15	176.69	38.275		
14,000.00	7,154.00	7,116.00	7,116.00	215.66	142.74	90.00	-107.37	-2,061.22	6,862.72	6,685.96	176.76	38.825		
14,100.00	7,154.00	7,116.00	7,116.00	218.32	142.74	90.00	-107.37	-2,061.22	6,962.59	6,785.76	176.82	39.376		
14,200.00	7,154.00	7,116.00	7,116.00	220.98	142.74	90.00	-107.37	-2,061.22	7,062.46	6,885.57	176.89	39.926		
14,300.00	7,154.00	7,116.00	7,116.00	223.64	142.74	90.00	-107.37	-2,061.22	7,162.34	6,985.39	176.96	40.475		
14,400.00	7,154.00	7,116.00	7,116.00	226.30	142.74	90.00	-107.37	-2,061.22	7,262.22	7,085.20	177.02	41.024		
14,500.00	7,154.00	7,116.00	7,116.00	228.97	142.74	90.00	-107.37	-2,061.22	7,362.11	7,185.02	177.09	41.572		
14,600.00	7,154.00	7,116.00	7,116.00	231.63	142.74	90.00	-107.37	-2,061.22	7,462.00	7,284.84	177.16	42.120		
14,700.00	7,154.00	7,116.00	7,116.00	234.29	142.74	90.00	-107.37	-2,061.22	7,561.89	7,384.66	177.23	42.667		
14,800.00	7,154.00	7,116.00	7,116.00	236.96	142.74	90.00	-107.37	-2,061.22	7,661.79	7,484.48	177.30	43.213		
14,900.00	7,154.00	7,116.00	7,116.00	239.63	142.74	90.00	-107.37	-2,061.22	7,761.68	7,584.31	177.37	43.760		
15,000.00	7,154.00	7,116.00	7,116.00	242.30	142.74	90.00	-107.37	-2,061.22	7,861.58	7,684.14	177.44	44.305		
15,100.00	7,154.00	7,116.00	7,116.00	244.96	142.74	90.00	-107.37	-2,061.22	7,961.48	7,783.97	177.51	44.850		
15,200.00	7,154.00	7,116.00	7,116.00	247.63	142.74	90.00	-107.37	-2,061.22	8,061.39	7,883.80	177.59	45.394		
15,300.00	7,154.00	7,116.00	7,116.00	250.30	142.74	90.00	-107.37	-2,061.22	8,161.30	7,983.64	177.66	45.938		
15,400.00	7,154.00	7,116.00	7,116.00	252.98	142.74	90.00	-107.37	-2,061.22	8,261.21	8,083.47	177.73	46.481		

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

# Anticollision Report

<b>Company:</b>	EXTRACTION OIL & GAS	<b>Local Co-ordinate Reference:</b>	Well WARBLER 13W-27-19
<b>Project:</b>	ADAMS COUNTY	<b>TVD Reference:</b>	KB 25' @ 5106.00usft
<b>Reference Site:</b>	Sec 13-T1S-R66W	<b>MD Reference:</b>	KB 25' @ 5106.00usft
<b>Site Error:</b>	0.00 usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	WARBLER 13W-27-19	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00 usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OWB	<b>Database:</b>	EDT_32Bit_ODBC
<b>Reference Design:</b>	PROPOSAL 1	<b>Offset TVD Reference:</b>	Offset Datum

<b>Offset Design</b> Sec 13-T1S-R66W - EXIST VERT PETE ROCK 1 - Wellbore #1 - Design #1												<b>Offset Site Error:</b>	0.00 usft
Survey Program: 0-INC												<b>Offset Well Error:</b>	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	7,116.00	7,116.00	255.65	142.74	90.00	-107.37	-2,061.22	8,361.12	8,183.31	177.81	47.024	
15,600.00	7,154.00	7,116.00	7,116.00	258.32	142.74	90.00	-107.37	-2,061.22	8,461.03	8,283.15	177.88	47.566	
15,700.00	7,154.00	7,116.00	7,116.00	260.99	142.74	90.00	-107.37	-2,061.22	8,560.95	8,382.99	177.96	48.107	
15,800.00	7,154.00	7,116.00	7,116.00	263.67	142.74	90.00	-107.37	-2,061.22	8,660.86	8,482.83	178.03	48.648	
15,900.00	7,154.00	7,116.00	7,116.00	266.34	142.74	90.00	-107.37	-2,061.22	8,760.78	8,582.68	178.11	49.188	
16,000.00	7,154.00	7,116.00	7,116.00	269.01	142.74	90.00	-107.37	-2,061.22	8,860.70	8,682.52	178.18	49.728	
16,100.00	7,154.00	7,116.00	7,116.00	271.69	142.74	90.00	-107.37	-2,061.22	8,960.63	8,782.37	178.26	50.267	
16,200.00	7,154.00	7,116.00	7,116.00	274.36	142.74	90.00	-107.37	-2,061.22	9,060.55	8,882.21	178.34	50.806	
16,300.00	7,154.00	7,116.00	7,116.00	277.04	142.74	90.00	-107.37	-2,061.22	9,160.48	8,982.06	178.42	51.343	
16,400.00	7,154.00	7,116.00	7,116.00	279.72	142.74	90.00	-107.37	-2,061.22	9,260.41	9,081.91	178.49	51.881	
16,500.00	7,154.00	7,116.00	7,116.00	282.40	142.74	90.00	-107.37	-2,061.22	9,360.34	9,181.76	178.57	52.417	
16,600.00	7,154.00	7,116.00	7,116.00	285.07	142.74	90.00	-107.37	-2,061.22	9,460.27	9,281.61	178.65	52.953	
16,700.00	7,154.00	7,116.00	7,116.00	287.75	142.74	90.00	-107.37	-2,061.22	9,560.20	9,381.47	178.73	53.489	
16,800.00	7,154.00	7,116.00	7,116.00	290.43	142.74	90.00	-107.37	-2,061.22	9,660.13	9,481.32	178.81	54.023	
16,900.00	7,154.00	7,116.00	7,116.00	293.11	142.74	90.00	-107.37	-2,061.22	9,760.07	9,581.17	178.89	54.558	
17,000.00	7,154.00	7,116.00	7,116.00	295.79	142.74	90.00	-107.37	-2,061.22	9,860.01	9,681.03	178.98	55.091	
17,100.00	7,154.00	7,116.00	7,116.00	298.47	142.74	90.00	-107.37	-2,061.22	9,959.94	9,780.88	179.06	55.624	

# Anticollision Report

<b>Company:</b>	EXTRACTION OIL & GAS	<b>Local Co-ordinate Reference:</b>	Well WARBLER 13W-27-19
<b>Project:</b>	ADAMS COUNTY	<b>TVD Reference:</b>	KB 25' @ 5106.00usft
<b>Reference Site:</b>	Sec 13-T1S-R66W	<b>MD Reference:</b>	KB 25' @ 5106.00usft
<b>Site Error:</b>	0.00 usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	WARBLER 13W-27-19	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00 usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OWB	<b>Database:</b>	EDT_32Bit_ODBC
<b>Reference Design:</b>	PROPOSAL 1	<b>Offset TVD Reference:</b>	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	0.57	195.98	1.96	195.99					
100.00	100.00	101.00	99.00	0.13	0.14	0.57	195.98	1.96	195.99	195.72	0.27	719.407		
200.00	200.00	199.00	199.00	0.49	0.49	0.57	195.98	1.96	195.99	195.01	0.98	199.544	CC, ES	
300.00	300.00	293.76	293.75	0.85	0.83	0.31	197.24	1.08	197.31	195.63	1.68	117.268		
400.00	400.00	388.27	388.14	1.21	1.17	-0.46	201.03	-1.61	201.33	198.95	2.38	84.440		
500.00	499.98	482.42	481.96	1.56	1.52	99.26	207.34	-6.07	208.40	205.33	3.08	67.690		
600.00	599.84	576.07	574.99	1.91	1.88	98.74	216.11	-12.27	218.77	214.99	3.77	57.954		
700.00	699.45	669.05	666.96	2.27	2.26	98.58	227.26	-20.16	232.35	227.87	4.49	51.799		
800.00	798.70	761.19	757.61	2.65	2.66	98.71	240.72	-29.68	249.12	243.90	5.22	47.755		
900.00	897.47	852.34	846.72	3.06	3.08	99.05	256.36	-40.74	269.03	263.06	5.97	45.033		
1,000.00	995.62	942.35	934.07	3.49	3.52	99.53	274.07	-53.27	292.08	285.31	6.77	43.167		
1,100.00	1,093.06	1,031.09	1,019.48	3.96	3.99	100.08	293.72	-67.16	318.23	310.64	7.59	41.930		
1,200.00	1,189.64	1,118.44	1,102.79	4.47	4.49	100.65	315.16	-82.32	347.46	338.99	8.47	41.031		
1,300.00	1,285.27	1,204.28	1,183.84	5.02	5.01	101.20	338.24	-98.65	379.71	370.32	9.39	40.430		
1,400.00	1,379.82	1,288.54	1,262.53	5.63	5.57	101.70	362.81	-116.02	414.94	404.56	10.37	40.002		
1,500.00	1,473.18	1,371.12	1,338.77	6.29	6.15	102.22	388.71	-134.35	453.06	441.65	11.41	39.707		
1,600.00	1,566.03	1,452.30	1,412.79	6.99	6.75	103.22	415.92	-153.59	493.59	481.11	12.48	39.556		
1,700.00	1,658.89	1,532.21	1,484.71	7.71	7.38	103.89	444.36	-173.70	536.08	522.52	13.56	39.534		
1,800.00	1,751.74	1,610.77	1,554.44	8.44	8.04	104.29	473.91	-194.60	580.41	565.76	14.65	39.621		
1,900.00	1,844.60	1,687.90	1,621.90	9.17	8.72	104.48	504.42	-216.18	626.50	610.75	15.75	39.789		
2,000.00	1,937.45	1,763.52	1,687.05	9.91	9.43	104.51	535.77	-238.35	674.26	657.42	16.84	40.029		
2,100.00	2,030.31	1,837.58	1,749.84	10.66	10.15	104.41	567.82	-261.02	723.66	705.72	17.94	40.343		
2,200.00	2,123.16	1,910.02	1,810.27	11.41	10.88	104.21	600.44	-284.09	774.64	755.62	19.02	40.728		
2,300.00	2,216.02	2,009.12	1,876.84	12.17	11.93	103.92	637.92	-310.59	826.81	806.40	20.40	40.521		
2,400.00	2,308.87	2,076.07	1,946.92	12.93	12.64	103.65	677.46	-338.56	879.07	857.49	21.57	40.752		
2,500.00	2,401.73	2,161.26	2,017.00	13.69	13.56	103.41	717.00	-366.53	931.34	908.44	22.90	40.678		
2,600.00	2,494.58	2,246.45	2,087.08	14.45	14.49	103.20	756.54	-394.49	983.62	959.39	24.23	40.602		
2,700.00	2,587.44	2,331.64	2,157.17	15.22	15.42	103.00	796.08	-422.46	1,035.91	1,010.35	25.56	40.525		
2,800.00	2,680.29	2,416.83	2,227.25	15.98	16.35	102.83	835.63	-450.43	1,088.21	1,061.31	26.90	40.450		
2,900.00	2,773.15	2,502.02	2,297.33	16.75	17.28	102.67	875.17	-478.39	1,140.51	1,112.27	28.25	40.376		
3,000.00	2,866.00	2,587.21	2,367.41	17.52	18.22	102.53	914.71	-506.36	1,192.83	1,163.23	29.60	40.304		
3,100.00	2,958.86	2,672.39	2,437.49	18.29	19.17	102.39	954.25	-534.32	1,245.14	1,214.20	30.95	40.235		
3,200.00	3,051.71	2,757.58	2,507.58	19.06	20.11	102.27	993.79	-562.29	1,297.46	1,265.16	32.30	40.168		
3,300.00	3,144.57	2,842.77	2,577.66	19.83	21.05	102.16	1,033.34	-590.26	1,349.79	1,316.13	33.66	40.105		
3,400.00	3,237.42	2,927.96	2,647.74	20.60	22.00	102.05	1,072.88	-618.22	1,402.12	1,367.10	35.01	40.044		
3,500.00	3,330.28	3,013.15	2,717.82	21.37	22.95	101.96	1,112.42	-646.19	1,454.45	1,418.07	36.37	39.986		
3,600.00	3,423.13	3,101.66	2,787.91	22.15	23.94	101.87	1,151.96	-674.15	1,506.78	1,469.02	37.76	39.900		
3,700.00	3,515.99	3,183.53	2,857.99	22.92	24.85	101.78	1,191.50	-702.12	1,559.12	1,520.02	39.10	39.877		
3,800.00	3,608.84	3,268.72	2,928.07	23.70	25.80	101.71	1,231.05	-730.09	1,611.46	1,571.00	40.46	39.826		
3,900.00	3,701.70	3,353.91	2,998.15	24.47	26.75	101.63	1,270.59	-758.05	1,663.80	1,621.97	41.83	39.778		
4,000.00	3,794.55	3,439.10	3,068.23	25.25	27.71	101.56	1,310.13	-786.02	1,716.14	1,672.95	43.19	39.731		
4,100.00	3,887.41	3,524.29	3,138.32	26.02	28.66	101.50	1,349.67	-813.99	1,768.49	1,723.93	44.56	39.687		
4,200.00	3,980.26	3,609.47	3,208.40	26.80	29.61	101.44	1,389.21	-841.95	1,820.83	1,774.91	45.93	39.644		
4,300.00	4,073.12	3,694.66	3,278.48	27.57	30.57	101.38	1,428.76	-869.92	1,873.18	1,825.88	47.30	39.604		
4,400.00	4,165.97	3,779.85	3,348.56	28.35	31.52	101.32	1,468.30	-897.88	1,925.53	1,876.86	48.67	39.565		
4,500.00	4,258.83	3,865.04	3,418.64	29.12	32.48	101.27	1,507.84	-925.85	1,977.88	1,927.84	50.04	39.527		
4,600.00	4,351.68	3,950.23	3,488.73	29.90	33.44	101.22	1,547.38	-953.82	2,030.23	1,978.82	51.41	39.491		
4,700.00	4,444.54	4,035.42	3,558.81	30.68	34.39	101.18	1,586.93	-981.78	2,082.59	2,029.80	52.78	39.457		
4,800.00	4,537.39	4,120.61	3,628.89	31.45	35.35	101.13	1,626.47	-1,009.75	2,134.94	2,080.79	54.15	39.424		
4,900.00	4,630.25	4,205.80	3,698.97	32.23	36.31	101.09	1,666.01	-1,037.71	2,187.29	2,131.77	55.53	39.392		
5,000.00	4,723.10	4,309.01	3,769.05	33.01	37.47	101.05	1,705.55	-1,065.68	2,239.65	2,182.59	57.05	39.255		
5,100.00	4,815.96	4,376.18	3,839.14	33.79	38.22	101.01	1,745.09	-1,093.65	2,292.00	2,233.73	58.27	39.331		

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

# Anticollision Report

<b>Company:</b>	EXTRACTION OIL & GAS	<b>Local Co-ordinate Reference:</b>	Well WARBLER 13W-27-19
<b>Project:</b>	ADAMS COUNTY	<b>TVD Reference:</b>	KB 25' @ 5106.00usft
<b>Reference Site:</b>	Sec 13-T1S-R66W	<b>MD Reference:</b>	KB 25' @ 5106.00usft
<b>Site Error:</b>	0.00 usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	WARBLER 13W-27-19	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00 usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OWB	<b>Database:</b>	EDT_32Bit_ODBC
<b>Reference Design:</b>	PROPOSAL 1	<b>Offset TVD Reference:</b>	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		
5,200.00	4,908.81	4,461.37	3,909.22	34.56	39.18	100.97	1,784.64	-1,121.61	2,344.36	2,284.71	59.65	39.303		
5,300.00	5,001.67	4,546.55	3,979.30	35.34	40.14	100.94	1,824.18	-1,149.58	2,396.72	2,335.69	61.02	39.275		
5,400.00	5,094.52	4,631.74	4,049.38	36.12	41.10	100.91	1,863.72	-1,177.55	2,449.08	2,386.68	62.40	39.249		
5,500.00	5,187.38	4,716.93	4,119.47	36.90	42.06	100.87	1,903.26	-1,205.51	2,501.43	2,437.66	63.77	39.223		
5,600.00	5,280.23	4,802.12	4,189.55	37.67	43.02	100.84	1,942.80	-1,233.48	2,553.79	2,488.64	65.15	39.198		
5,700.00	5,373.09	4,887.31	4,259.63	38.45	43.98	100.81	1,982.35	-1,261.44	2,606.15	2,539.63	66.53	39.174		
5,800.00	5,465.94	4,972.50	4,329.71	39.23	44.94	100.78	2,021.89	-1,289.41	2,658.51	2,590.61	67.90	39.151		
5,900.00	5,558.80	5,057.69	4,399.79	40.01	45.90	100.76	2,061.43	-1,317.38	2,710.87	2,641.59	69.28	39.128		
6,000.00	5,651.65	5,142.88	4,469.88	40.79	46.86	100.73	2,100.97	-1,345.34	2,763.23	2,692.58	70.66	39.106		
6,100.00	5,744.51	5,228.07	4,539.96	41.57	47.82	100.71	2,140.51	-1,373.31	2,815.60	2,743.56	72.04	39.085		
6,200.00	5,837.36	5,313.26	4,610.04	42.34	48.78	100.68	2,180.06	-1,401.28	2,867.96	2,794.54	73.42	39.065		
6,300.00	5,930.22	5,401.55	4,680.12	43.12	49.77	100.66	2,219.60	-1,429.24	2,920.32	2,845.50	74.82	39.031		
6,400.00	6,023.07	5,483.64	4,750.20	43.90	50.70	100.63	2,259.14	-1,457.21	2,972.68	2,896.51	76.17	39.025		
6,500.00	6,115.93	5,568.82	4,820.29	44.68	51.66	100.61	2,298.68	-1,485.17	3,025.04	2,947.49	77.55	39.006		
6,600.00	6,208.78	5,654.01	4,890.37	45.46	52.62	100.59	2,338.22	-1,513.14	3,077.41	2,998.48	78.93	38.988		
6,700.00	6,301.64	5,739.20	4,960.45	46.24	53.58	100.57	2,377.77	-1,541.11	3,129.77	3,049.46	80.31	38.970		
6,800.00	6,394.49	5,824.39	5,030.53	47.02	54.54	100.55	2,417.31	-1,569.07	3,182.13	3,100.44	81.69	38.953		
6,900.00	6,487.35	5,909.58	5,100.62	47.80	55.50	100.53	2,456.85	-1,597.04	3,234.50	3,151.43	83.07	38.936		
7,000.00	6,580.20	6,005.23	5,170.70	48.57	56.58	100.51	2,496.39	-1,625.00	3,286.86	3,202.32	84.54	38.878		
7,100.00	6,673.06	6,079.96	5,240.78	49.35	57.42	100.50	2,535.93	-1,652.97	3,339.23	3,253.39	85.83	38.903		
7,200.00	6,765.91	6,165.15	5,310.86	50.13	58.38	100.48	2,575.48	-1,680.94	3,391.59	3,304.38	87.22	38.887		
7,300.00	6,856.90	6,250.26	5,380.88	50.99	59.34	93.42	2,614.98	-1,708.88	3,443.79	3,355.09	88.70	38.826		
7,400.00	6,939.78	6,333.78	5,449.59	52.14	60.28	85.94	2,653.75	-1,736.30	3,494.69	3,404.15	90.53	38.601		
7,500.00	7,011.80	6,413.20	5,514.93	53.58	61.18	80.07	2,690.62	-1,762.37	3,543.01	3,450.31	92.70	38.222		
7,600.00	7,070.78	6,486.11	5,574.91	55.27	62.00	75.37	2,724.46	-1,786.30	3,587.78	3,492.65	95.12	37.718		
7,700.00	7,114.93	6,550.29	5,627.71	57.16	62.73	71.63	2,754.25	-1,807.37	3,628.23	3,530.51	97.73	37.126		
7,800.00	7,142.90	6,603.79	5,671.72	59.19	63.33	68.67	2,779.08	-1,824.94	3,663.82	3,563.40	100.42	36.486		
7,900.00	7,153.85	6,644.99	5,705.61	61.28	63.80	66.35	2,798.20	-1,838.46	3,694.11	3,591.03	103.08	35.838		
8,000.00	7,154.00	6,677.91	5,732.70	63.38	64.17	66.52	2,813.49	-1,849.27	3,721.75	3,616.08	105.67	35.220		
8,100.00	7,154.00	6,710.72	5,759.68	65.52	64.54	67.02	2,828.71	-1,860.04	3,751.51	3,643.26	108.25	34.654		
8,200.00	7,154.00	6,743.52	5,786.67	67.71	64.91	67.51	2,843.94	-1,870.81	3,783.39	3,672.57	110.82	34.139		
8,300.00	7,154.00	6,776.32	5,813.66	69.93	65.28	68.01	2,859.17	-1,881.58	3,817.35	3,703.98	113.37	33.672		
8,400.00	7,154.00	6,809.13	5,840.64	72.19	65.65	68.50	2,874.39	-1,892.35	3,853.32	3,737.43	115.89	33.250		
8,500.00	7,154.00	6,841.93	5,867.63	74.47	66.02	68.99	2,889.62	-1,903.11	3,891.25	3,772.88	118.37	32.873		
8,600.00	7,154.00	6,874.74	5,894.62	76.79	66.39	69.48	2,904.85	-1,913.88	3,931.09	3,810.26	120.82	32.536		
8,700.00	7,154.00	6,907.54	5,921.60	79.12	66.76	69.97	2,920.07	-1,924.65	3,972.77	3,849.54	123.23	32.238		
8,800.00	7,154.00	6,940.34	5,948.59	81.48	67.13	70.45	2,935.30	-1,935.42	4,016.25	3,890.64	125.60	31.976		
8,900.00	7,154.00	6,973.15	5,975.58	83.87	67.50	70.94	2,950.52	-1,946.19	4,061.45	3,933.52	127.93	31.748		
9,000.00	7,154.00	9,808.70	7,154.00	86.27	108.29	90.01	3,617.76	-3,908.45	4,075.70	3,900.30	175.40	23.237		
9,100.00	7,154.00	9,908.70	7,154.00	88.68	110.20	90.01	3,617.91	-4,008.45	4,075.90	3,895.70	180.20	22.618		
9,200.00	7,154.00	10,008.70	7,154.00	91.12	112.14	90.01	3,618.07	-4,108.45	4,076.11	3,891.07	185.05	22.028		
9,300.00	7,154.00	10,108.70	7,154.00	93.57	114.12	90.01	3,618.23	-4,208.45	4,076.32	3,886.40	189.92	21.464		
9,400.00	7,154.00	10,208.70	7,154.00	96.03	116.12	90.01	3,618.38	-4,308.45	4,076.53	3,881.71	194.82	20.925		
9,500.00	7,154.00	10,308.70	7,154.00	98.50	118.16	90.01	3,618.54	-4,408.45	4,076.74	3,877.00	199.74	20.410		
9,600.00	7,154.00	10,408.70	7,154.00	100.99	120.22	90.01	3,618.70	-4,508.45	4,076.95	3,872.26	204.69	19.917		
9,700.00	7,154.00	10,508.70	7,154.00	103.49	122.30	90.01	3,618.85	-4,608.45	4,077.16	3,867.49	209.67	19.446		
9,800.00	7,154.00	10,608.70	7,154.00	106.00	124.41	90.01	3,619.01	-4,708.45	4,077.37	3,862.71	214.66	18.995		
9,900.00	7,154.00	10,708.70	7,154.00	108.51	126.55	90.01	3,619.17	-4,808.45	4,077.58	3,857.90	219.67	18.562		
10,000.00	7,154.00	10,808.70	7,154.00	111.04	128.70	90.01	3,619.32	-4,908.45	4,077.79	3,853.08	224.70	18.147		
10,100.00	7,154.00	10,908.70	7,154.00	113.58	130.88	90.01	3,619.48	-5,008.45	4,077.99	3,848.24	229.75	17.749		
10,200.00	7,154.00	10,991.30	7,154.00	116.12	132.69	90.01	3,619.64	-5,108.45	4,078.20	3,843.82	234.38	17.400		
10,300.00	7,154.00	11,108.71	7,154.00	118.67	135.30	90.01	3,619.79	-5,208.45	4,078.41	3,838.52	239.90	17.001		

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



# Anticollision Report

<b>Company:</b>	EXTRACTION OIL & GAS	<b>Local Co-ordinate Reference:</b>	Well WARBLER 13W-27-19
<b>Project:</b>	ADAMS COUNTY	<b>TVD Reference:</b>	KB 25' @ 5106.00usft
<b>Reference Site:</b>	Sec 13-T1S-R66W	<b>MD Reference:</b>	KB 25' @ 5106.00usft
<b>Site Error:</b>	0.00 usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	WARBLER 13W-27-19	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00 usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OWB	<b>Database:</b>	EDT_32Bit_ODBC
<b>Reference Design:</b>	PROPOSAL 1	<b>Offset TVD Reference:</b>	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	11,208.71	7,154.00	121.22	137.53	90.01	3,619.95	-5,308.45	4,078.62	3,833.63	244.99	16.648		
10,500.00	7,154.00	11,291.29	7,154.00	123.79	139.39	90.01	3,620.11	-5,408.45	4,078.83	3,829.18	249.65	16.338		
10,600.00	7,154.00	11,408.71	7,154.00	126.35	142.05	90.01	3,620.26	-5,508.45	4,079.04	3,823.82	255.22	15.983		
10,700.00	7,154.00	11,508.71	7,154.00	128.93	144.34	90.01	3,620.42	-5,608.45	4,079.25	3,818.90	260.35	15.669		
10,800.00	7,154.00	11,608.71	7,154.00	131.51	146.64	90.01	3,620.58	-5,708.45	4,079.46	3,813.97	265.49	15.366		
10,900.00	7,154.00	11,708.71	7,154.00	134.09	148.95	90.01	3,620.73	-5,808.45	4,079.67	3,809.03	270.64	15.074		
11,000.00	7,154.00	11,808.71	7,154.00	136.68	151.28	90.01	3,620.89	-5,908.45	4,079.88	3,804.07	275.80	14.793		
11,100.00	7,154.00	11,908.71	7,154.00	139.27	153.62	90.01	3,621.05	-6,008.45	4,080.08	3,799.11	280.97	14.521		
11,200.00	7,154.00	12,008.71	7,154.00	141.87	155.98	90.01	3,621.20	-6,108.45	4,080.29	3,794.14	286.15	14.259		
11,300.00	7,154.00	12,108.71	7,154.00	144.47	158.34	90.01	3,621.36	-6,208.45	4,080.50	3,789.16	291.34	14.006		
11,400.00	7,154.00	12,208.71	7,154.00	147.08	160.72	90.01	3,621.52	-6,308.45	4,080.71	3,784.18	296.54	13.761		
11,500.00	7,154.00	12,308.71	7,154.00	149.68	163.11	90.01	3,621.67	-6,408.45	4,080.92	3,779.18	301.74	13.525		
11,600.00	7,154.00	12,408.71	7,154.00	152.30	165.51	90.01	3,621.83	-6,508.45	4,081.13	3,774.18	306.95	13.296		
11,700.00	7,154.00	12,508.71	7,154.00	154.91	167.91	90.01	3,621.99	-6,608.45	4,081.34	3,769.17	312.17	13.074		
11,800.00	7,154.00	12,591.29	7,154.00	157.53	169.91	90.01	3,622.14	-6,708.45	4,081.55	3,764.61	316.93	12.878		
11,900.00	7,154.00	12,708.71	7,154.00	160.15	172.76	90.01	3,622.30	-6,808.45	4,081.76	3,759.14	322.62	12.652		
12,000.00	7,154.00	12,808.71	7,154.00	162.77	175.19	90.01	3,622.46	-6,908.44	4,081.97	3,754.11	327.85	12.451		
12,100.00	7,154.00	12,908.71	7,154.00	165.40	177.64	90.01	3,622.61	-7,008.44	4,082.17	3,749.08	333.09	12.255		
12,200.00	7,154.00	13,008.71	7,154.00	168.03	180.09	90.01	3,622.77	-7,108.44	4,082.38	3,744.05	338.34	12.066		
12,300.00	7,154.00	13,108.71	7,154.00	170.66	182.55	90.01	3,622.93	-7,208.44	4,082.59	3,739.00	343.59	11.882		
12,400.00	7,154.00	13,208.71	7,154.00	173.29	185.02	90.01	3,623.08	-7,308.44	4,082.80	3,733.96	348.84	11.704		
12,500.00	7,154.00	13,308.71	7,154.00	175.93	187.49	90.01	3,623.24	-7,408.44	4,083.01	3,728.91	354.10	11.531		
12,600.00	7,154.00	13,408.71	7,154.00	178.56	189.97	90.01	3,623.40	-7,508.44	4,083.22	3,723.85	359.37	11.362		
12,700.00	7,154.00	13,508.71	7,154.00	181.20	192.46	90.01	3,623.55	-7,608.44	4,083.43	3,718.79	364.64	11.199		
12,800.00	7,154.00	13,608.71	7,154.00	183.84	194.95	90.01	3,623.71	-7,708.44	4,083.64	3,713.73	369.91	11.040		
12,900.00	7,154.00	13,691.29	7,154.00	186.49	197.02	90.01	3,623.87	-7,808.44	4,083.85	3,709.12	374.73	10.898		
13,000.00	7,154.00	13,808.71	7,154.00	189.13	199.96	90.01	3,624.02	-7,908.44	4,084.06	3,703.59	380.47	10.734		
13,100.00	7,154.00	13,908.71	7,154.00	191.78	202.47	90.01	3,624.18	-8,008.44	4,084.27	3,698.51	385.75	10.588		
13,200.00	7,154.00	14,008.71	7,154.00	194.43	204.98	90.01	3,624.34	-8,108.44	4,084.47	3,693.44	391.04	10.445		
13,300.00	7,154.00	14,108.71	7,154.00	197.07	207.50	90.01	3,624.49	-8,208.44	4,084.68	3,688.36	396.33	10.306		
13,400.00	7,154.00	14,208.71	7,154.00	199.73	210.03	90.01	3,624.65	-8,308.44	4,084.89	3,683.27	401.62	10.171		
13,500.00	7,154.00	14,308.71	7,154.00	202.38	212.56	90.01	3,624.81	-8,408.44	4,085.10	3,678.18	406.92	10.039		
13,600.00	7,154.00	14,408.71	7,154.00	205.03	215.09	90.01	3,624.96	-8,508.44	4,085.31	3,673.09	412.22	9.911		
13,700.00	7,154.00	14,508.71	7,154.00	207.69	217.63	90.01	3,625.12	-8,608.44	4,085.52	3,668.00	417.52	9.785		
13,800.00	7,154.00	14,608.71	7,154.00	210.34	220.18	90.01	3,625.28	-8,708.44	4,085.73	3,662.91	422.82	9.663		
13,900.00	7,154.00	14,708.71	7,154.00	213.00	222.72	90.01	3,625.43	-8,808.44	4,085.94	3,657.81	428.13	9.544		
14,000.00	7,154.00	14,791.29	7,154.00	215.66	224.83	90.01	3,625.59	-8,908.44	4,086.15	3,653.17	432.98	9.437		
14,100.00	7,154.00	14,908.71	7,154.00	218.32	227.83	90.01	3,625.75	-9,008.44	4,086.36	3,647.60	438.75	9.314		
14,200.00	7,154.00	14,991.29	7,154.00	220.98	229.94	90.01	3,625.90	-9,108.44	4,086.56	3,642.96	443.60	9.212		
14,300.00	7,154.00	15,108.71	7,154.00	223.64	232.95	90.01	3,626.06	-9,208.44	4,086.77	3,637.39	449.38	9.094		
14,400.00	7,154.00	15,208.71	7,154.00	226.30	235.52	90.01	3,626.22	-9,308.44	4,086.98	3,632.28	454.70	8.988		
14,500.00	7,154.00	15,308.71	7,154.00	228.97	238.08	90.01	3,626.37	-9,408.44	4,087.19	3,627.17	460.02	8.885		
14,600.00	7,154.00	15,408.71	7,154.00	231.63	240.66	90.01	3,626.53	-9,508.44	4,087.40	3,622.06	465.34	8.784		
14,700.00	7,154.00	15,508.71	7,154.00	234.29	243.23	90.01	3,626.69	-9,608.44	4,087.61	3,616.94	470.67	8.685		
14,800.00	7,154.00	15,608.72	7,154.00	236.96	245.81	90.01	3,626.84	-9,708.44	4,087.82	3,611.82	476.00	8.588		
14,900.00	7,154.00	15,708.72	7,154.00	239.63	248.39	90.01	3,627.00	-9,808.43	4,088.03	3,606.70	481.32	8.493		
15,000.00	7,154.00	15,808.72	7,154.00	242.30	250.97	90.01	3,627.15	-9,908.43	4,088.24	3,601.58	486.65	8.401		
15,100.00	7,154.00	15,908.72	7,154.00	244.96	253.56	90.01	3,627.31	-10,008.43	4,088.45	3,596.46	491.99	8.310		
15,200.00	7,154.00	15,991.28	7,154.00	247.63	255.70	90.01	3,627.47	-10,108.43	4,088.65	3,591.80	496.85	8.229		
15,300.00	7,154.00	16,108.72	7,154.00	250.30	258.74	90.01	3,627.62	-10,208.43	4,088.86	3,586.21	502.65	8.135		
15,400.00	7,154.00	16,208.72	7,154.00	252.98	261.33	90.01	3,627.78	-10,308.43	4,089.07	3,581.08	507.99	8.050		
15,500.00	7,154.00	16,308.72	7,154.00	255.65	263.93	90.01	3,627.94	-10,408.43	4,089.28	3,575.95	513.33	7.966		

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

# Anticollision Report

<b>Company:</b>	EXTRACTION OIL & GAS	<b>Local Co-ordinate Reference:</b>	Well WARBLER 13W-27-19
<b>Project:</b>	ADAMS COUNTY	<b>TVD Reference:</b>	KB 25' @ 5106.00usft
<b>Reference Site:</b>	Sec 13-T1S-R66W	<b>MD Reference:</b>	KB 25' @ 5106.00usft
<b>Site Error:</b>	0.00 usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	WARBLER 13W-27-19	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00 usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OWB	<b>Database:</b>	EDT_32Bit_ODBC
<b>Reference Design:</b>	PROPOSAL 1	<b>Offset TVD Reference:</b>	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	16,408.72	7,154.00	258.32	266.53	90.01	3,628.09	-10,508.43	4,089.49	3,570.82	518.67	7.885		
15,700.00	7,154.00	16,508.72	7,154.00	260.99	269.13	90.01	3,628.25	-10,608.43	4,089.70	3,565.69	524.01	7.805		
15,800.00	7,154.00	16,608.72	7,154.00	263.67	271.73	90.01	3,628.41	-10,708.43	4,089.91	3,560.56	529.35	7.726		
15,900.00	7,154.00	16,708.72	7,154.00	266.34	274.33	90.01	3,628.56	-10,808.43	4,090.12	3,555.42	534.69	7.649		
16,000.00	7,154.00	16,808.72	7,154.00	269.01	276.94	90.01	3,628.72	-10,908.43	4,090.33	3,550.29	540.04	7.574		
16,100.00	7,154.00	16,908.72	7,154.00	271.69	279.55	90.01	3,628.88	-11,008.43	4,090.54	3,545.15	545.38	7.500		
16,200.00	7,154.00	17,008.72	7,154.00	274.36	282.16	90.01	3,629.03	-11,108.43	4,090.74	3,540.01	550.73	7.428		
16,300.00	7,154.00	17,108.72	7,154.00	277.04	284.77	90.01	3,629.19	-11,208.43	4,090.95	3,534.88	556.08	7.357		
16,400.00	7,154.00	17,208.72	7,154.00	279.72	287.39	90.01	3,629.35	-11,308.43	4,091.16	3,529.73	561.43	7.287		
16,500.00	7,154.00	17,308.72	7,154.00	282.40	290.00	90.01	3,629.50	-11,408.43	4,091.37	3,524.59	566.78	7.219		
16,600.00	7,154.00	17,408.72	7,154.00	285.07	292.62	90.01	3,629.66	-11,508.43	4,091.58	3,519.45	572.13	7.151		
16,700.00	7,154.00	17,491.28	7,154.00	287.75	294.78	90.01	3,629.82	-11,608.43	4,091.79	3,514.77	577.02	7.091		
16,800.00	7,154.00	17,608.72	7,154.00	290.43	297.86	90.01	3,629.97	-11,708.43	4,092.00	3,509.16	582.84	7.021		
16,900.00	7,154.00	17,708.72	7,154.00	293.11	300.48	90.01	3,630.13	-11,808.43	4,092.21	3,504.02	588.19	6.957		
17,000.00	7,154.00	17,808.72	7,154.00	295.79	303.11	90.01	3,630.29	-11,908.43	4,092.42	3,498.87	593.55	6.895		
17,100.00	7,154.00	17,908.72	7,154.00	298.47	305.73	90.01	3,630.44	-12,008.43	4,092.63	3,493.72	598.90	6.834		
17,200.00	7,154.00	18,008.72	7,154.00	301.15	308.36	90.01	3,630.60	-12,108.43	4,092.84	3,488.58	604.26	6.773		
17,300.00	7,154.00	18,108.72	7,154.00	303.83	310.99	90.01	3,630.76	-12,208.43	4,093.04	3,483.43	609.62	6.714		
17,400.00	7,154.00	18,208.72	7,154.00	306.51	313.62	90.01	3,630.91	-12,308.43	4,093.25	3,478.28	614.98	6.656		
17,500.00	7,154.00	18,308.72	7,154.00	309.19	316.25	90.01	3,631.07	-12,408.43	4,093.46	3,473.13	620.34	6.599		
17,600.00	7,154.00	18,408.72	7,154.00	311.88	318.88	90.01	3,631.23	-12,508.43	4,093.67	3,467.97	625.70	6.543		
17,700.00	7,154.00	18,508.72	7,154.00	314.56	321.51	90.01	3,631.38	-12,608.43	4,093.88	3,462.82	631.06	6.487		
17,800.00	7,154.00	18,591.28	7,154.00	317.24	323.69	90.01	3,631.54	-12,708.43	4,094.09	3,458.14	635.95	6.438		
17,900.00	7,154.00	18,708.72	7,154.00	319.92	326.78	90.01	3,631.70	-12,808.42	4,094.30	3,452.51	641.78	6.380		
18,000.00	7,154.00	18,791.28	7,154.00	322.61	328.96	90.01	3,631.85	-12,908.42	4,094.51	3,447.83	646.68	6.332		
18,100.00	7,154.00	18,908.72	7,154.00	325.29	332.06	90.01	3,632.01	-13,008.42	4,094.72	3,442.20	652.51	6.275		
18,200.00	7,154.00	19,008.72	7,154.00	327.98	334.70	90.01	3,632.17	-13,108.42	4,094.93	3,437.05	657.88	6.224		
18,300.00	7,154.00	19,091.28	7,154.00	330.66	336.88	90.01	3,632.32	-13,208.42	4,095.13	3,432.36	662.78	6.179		
18,400.00	7,154.00	19,208.72	7,154.00	333.34	339.98	90.01	3,632.48	-13,308.42	4,095.34	3,426.73	668.61	6.125		
18,500.00	7,154.00	19,308.72	7,154.00	336.03	342.62	90.01	3,632.64	-13,408.42	4,095.55	3,421.58	673.98	6.077		
18,600.00	7,154.00	19,408.72	7,154.00	338.71	345.26	90.01	3,632.79	-13,508.42	4,095.76	3,416.42	679.34	6.029		
18,700.00	7,154.00	19,508.72	7,154.00	341.40	347.91	90.01	3,632.95	-13,608.42	4,095.97	3,411.26	684.71	5.982		
18,800.00	7,154.00	19,608.72	7,154.00	344.09	350.55	90.01	3,633.11	-13,708.42	4,096.18	3,406.10	690.08	5.936		
18,900.00	7,154.00	19,708.72	7,154.00	346.77	353.20	90.01	3,633.26	-13,808.42	4,096.39	3,400.94	695.45	5.890		
19,000.00	7,154.00	19,808.72	7,154.00	349.46	355.85	90.01	3,633.42	-13,908.42	4,096.60	3,395.78	700.82	5.845		
19,100.00	7,154.00	19,908.72	7,154.00	352.15	358.49	90.01	3,633.58	-14,008.42	4,096.81	3,390.61	706.19	5.801		
19,200.00	7,154.00	20,008.72	7,154.00	354.83	361.14	90.01	3,633.73	-14,108.42	4,097.02	3,385.45	711.56	5.758		
19,300.00	7,154.00	20,091.28	7,154.00	357.52	363.33	90.01	3,633.89	-14,208.42	4,097.22	3,380.76	716.47	5.719		
19,400.00	7,154.00	20,191.28	7,154.00	360.21	365.98	90.01	3,634.05	-14,308.42	4,097.43	3,375.59	721.84	5.676		
19,500.00	7,154.00	20,308.73	7,154.00	362.90	369.09	90.01	3,634.20	-14,408.42	4,097.64	3,369.96	727.68	5.631		
19,600.00	7,154.00	20,408.73	7,154.00	365.58	371.75	90.01	3,634.36	-14,508.42	4,097.85	3,364.80	733.05	5.590		
19,700.00	7,154.00	20,508.73	7,154.00	368.27	374.40	90.01	3,634.52	-14,608.42	4,098.06	3,359.63	738.43	5.550		
19,800.00	7,154.00	20,608.73	7,154.00	370.96	377.05	90.01	3,634.67	-14,708.42	4,098.27	3,354.47	743.80	5.510		
19,900.00	7,154.00	20,708.73	7,154.00	373.65	379.71	90.01	3,634.83	-14,808.42	4,098.48	3,349.30	749.18	5.471		
20,000.00	7,154.00	20,808.73	7,154.00	376.34	382.36	90.01	3,634.99	-14,908.42	4,098.69	3,344.14	754.55	5.432		
20,100.00	7,154.00	20,908.73	7,154.00	379.03	385.02	90.01	3,635.14	-15,008.42	4,098.90	3,338.97	759.93	5.394		
20,200.00	7,154.00	21,008.73	7,154.00	381.71	387.67	90.01	3,635.30	-15,108.42	4,099.11	3,333.80	765.30	5.356		
20,300.00	7,154.00	21,108.73	7,154.00	384.40	390.33	90.01	3,635.46	-15,208.42	4,099.31	3,328.63	770.68	5.319		
20,400.00	7,154.00	21,208.73	7,154.00	387.09	392.99	90.01	3,635.61	-15,308.42	4,099.52	3,323.47	776.06	5.282		
20,500.00	7,154.00	21,308.73	7,154.00	389.78	395.65	90.01	3,635.77	-15,408.42	4,099.73	3,318.30	781.44	5.246		
20,600.00	7,154.00	21,391.27	7,154.00	392.47	397.84	90.01	3,635.93	-15,508.42	4,099.94	3,313.60	786.34	5.214		
20,700.00	7,154.00	21,508.73	7,154.00	395.16	400.97	90.01	3,636.08	-15,608.42	4,100.15	3,307.96	792.19	5.176		

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

## Anticollision Report

<b>Company:</b>	EXTRACTION OIL & GAS	<b>Local Co-ordinate Reference:</b>	Well WARBLER 13W-27-19
<b>Project:</b>	ADAMS COUNTY	<b>TVD Reference:</b>	KB 25' @ 5106.00usft
<b>Reference Site:</b>	Sec 13-T1S-R66W	<b>MD Reference:</b>	KB 25' @ 5106.00usft
<b>Site Error:</b>	0.00 usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	WARBLER 13W-27-19	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00 usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OWB	<b>Database:</b>	EDT_32Bit_ODBC
<b>Reference Design:</b>	PROPOSAL 1	<b>Offset TVD Reference:</b>	Offset Datum

<b>Offset Design</b> Sec 13-T1S-R66W - WARBLER 13W-27-01 - OWB - PROPOSAL 1												<b>Offset Site Error:</b>	0.00 usft
Survey Program: 0-MWD OWSG												<b>Offset Well Error:</b>	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	21,608.73	7,154.00	397.85	403.63	90.01	3,636.24	-15,708.41	4,100.36	3,302.79	797.57	5.141	
20,900.00	7,154.00	21,708.73	7,154.00	400.54	406.29	90.01	3,636.40	-15,808.41	4,100.57	3,297.62	802.95	5.107	
21,000.00	7,154.00	21,808.73	7,154.00	403.24	408.95	90.01	3,636.55	-15,908.41	4,100.78	3,292.45	808.33	5.073	
21,100.00	7,154.00	21,908.73	7,154.00	405.93	411.61	90.01	3,636.71	-16,008.41	4,100.99	3,287.28	813.71	5.040	
21,200.00	7,154.00	22,008.73	7,154.00	408.62	414.27	90.01	3,636.87	-16,108.41	4,101.20	3,282.11	819.09	5.007	
21,300.00	7,154.00	22,108.73	7,154.00	411.31	416.94	90.01	3,637.02	-16,208.41	4,101.41	3,276.94	824.47	4.975	
21,400.00	7,154.00	22,208.73	7,154.00	414.00	419.60	90.01	3,637.18	-16,308.41	4,101.61	3,271.76	829.85	4.943	
21,500.00	7,154.00	22,291.27	7,154.00	416.69	421.80	90.01	3,637.33	-16,408.41	4,101.82	3,267.06	834.76	4.914	
21,505.33	7,154.00	22,296.60	7,154.00	416.83	421.94	90.01	3,637.34	-16,413.74	4,101.83	3,266.79	835.05	4.912 SF	

# Anticollision Report

<b>Company:</b>	EXTRACTION OIL & GAS	<b>Local Co-ordinate Reference:</b>	Well WARBLER 13W-27-19
<b>Project:</b>	ADAMS COUNTY	<b>TVD Reference:</b>	KB 25' @ 5106.00usft
<b>Reference Site:</b>	Sec 13-T1S-R66W	<b>MD Reference:</b>	KB 25' @ 5106.00usft
<b>Site Error:</b>	0.00 usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	WARBLER 13W-27-19	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00 usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OWB	<b>Database:</b>	EDT_32Bit_ODBC
<b>Reference Design:</b>	PROPOSAL 1	<b>Offset TVD Reference:</b>	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		
0.00	0.00	1.00	-1.00	0.00	0.00	0.57	167.93	1.68	167.94					
100.00	100.00	101.00	99.00	0.13	0.14	0.57	167.93	1.68	167.94	167.67	0.27	616.444		
200.00	200.00	201.00	199.00	0.49	0.50	0.57	167.93	1.68	167.94	166.95	0.99	169.746		
300.00	300.00	301.00	299.00	0.85	0.85	0.57	167.93	1.68	167.94	166.24	1.71	98.424		
400.00	400.00	399.00	399.00	1.21	1.21	0.57	167.93	1.68	167.94	165.53	2.42	69.510 CC, ES		
500.00	499.98	495.25	495.23	1.56	1.55	101.33	169.00	0.51	169.38	166.27	3.11	54.472		
600.00	599.84	591.33	591.19	1.91	1.90	101.69	172.25	-3.03	173.75	169.94	3.80	45.685		
700.00	699.45	687.15	686.67	2.27	2.24	102.24	177.65	-8.92	181.04	176.53	4.51	40.116		
800.00	798.70	782.59	781.45	2.65	2.61	102.92	185.16	-17.13	191.27	186.03	5.24	36.470		
900.00	897.47	877.51	875.30	3.06	2.98	103.68	194.75	-27.60	204.44	198.44	6.01	34.039		
1,000.00	995.62	971.81	968.02	3.49	3.38	104.46	206.35	-40.26	220.54	213.74	6.80	32.409		
1,100.00	1,093.06	1,065.37	1,059.41	3.96	3.80	105.21	219.89	-55.04	239.55	231.90	7.65	31.317		
1,200.00	1,189.64	1,158.09	1,149.27	4.47	4.25	105.90	235.29	-71.85	261.43	252.88	8.54	30.600		
1,300.00	1,285.27	1,249.86	1,237.45	5.02	4.73	106.50	252.46	-90.59	286.14	276.64	9.50	30.120		
1,400.00	1,379.82	1,340.60	1,323.79	5.63	5.24	107.01	271.30	-111.16	313.64	303.12	10.52	29.814		
1,500.00	1,473.18	1,430.23	1,408.17	6.29	5.79	107.49	291.72	-133.45	343.85	332.24	11.61	29.622		
1,600.00	1,566.03	1,518.96	1,490.72	6.99	6.37	108.15	313.67	-157.42	376.10	363.36	12.74	29.512		
1,700.00	1,658.89	1,606.83	1,571.45	7.71	6.99	108.37	337.11	-183.01	409.89	395.97	13.91	29.458		
1,800.00	1,751.74	1,693.71	1,650.18	8.44	7.66	108.24	361.91	-210.09	445.16	430.04	15.12	29.448		
1,900.00	1,844.60	1,779.44	1,726.75	9.17	8.36	107.85	387.96	-238.52	481.89	465.55	16.35	29.480		
2,000.00	1,937.45	1,866.69	1,803.54	9.91	9.11	107.25	415.94	-269.07	520.02	502.39	17.63	29.501		
2,100.00	2,030.31	1,958.84	1,884.36	10.66	9.93	106.65	445.83	-301.70	558.52	539.51	19.01	29.383		
2,200.00	2,123.16	2,050.98	1,965.19	11.41	10.77	106.13	475.72	-334.33	597.06	576.65	20.40	29.265		
2,300.00	2,216.02	2,143.13	2,046.01	12.17	11.61	105.67	505.62	-366.97	635.63	613.83	21.81	29.148		
2,400.00	2,308.87	2,235.28	2,126.84	12.93	12.47	105.26	535.51	-399.60	674.24	651.02	23.22	29.036		
2,500.00	2,401.73	2,327.42	2,207.66	13.69	13.32	104.90	565.40	-432.23	712.87	688.23	24.64	28.930		
2,600.00	2,494.58	2,419.57	2,288.49	14.45	14.19	104.57	595.29	-464.86	751.53	725.46	26.07	28.830		
2,700.00	2,587.44	2,511.72	2,369.31	15.22	15.06	104.28	625.18	-497.49	790.20	762.70	27.50	28.735		
2,800.00	2,680.29	2,603.86	2,450.14	15.98	15.93	104.01	655.07	-530.13	828.89	799.96	28.93	28.647		
2,900.00	2,773.15	2,703.99	2,530.96	16.75	16.88	103.77	684.96	-562.76	867.60	837.16	30.44	28.502		
3,000.00	2,866.00	2,788.16	2,611.79	17.52	17.68	103.55	714.85	-595.39	906.31	874.50	31.82	28.486		
3,100.00	2,958.86	2,880.30	2,692.61	18.29	18.56	103.34	744.74	-628.02	945.04	911.78	33.26	28.413		
3,200.00	3,051.71	2,972.45	2,773.44	19.06	19.45	103.15	774.63	-660.65	983.78	949.07	34.71	28.345		
3,300.00	3,144.57	3,064.60	2,854.26	19.83	20.33	102.98	804.52	-693.29	1,022.52	986.37	36.16	28.281		
3,400.00	3,237.42	3,156.74	2,935.09	20.60	21.22	102.82	834.41	-725.92	1,061.27	1,023.67	37.61	28.221		
3,500.00	3,330.28	3,248.89	3,015.91	21.37	22.10	102.67	864.31	-758.55	1,100.03	1,060.97	39.06	28.164		
3,600.00	3,423.13	3,341.04	3,096.74	22.15	22.99	102.53	894.20	-791.18	1,138.80	1,098.29	40.51	28.111		
3,700.00	3,515.99	3,433.18	3,177.56	22.92	23.88	102.40	924.09	-823.81	1,177.57	1,135.60	41.97	28.061		
3,800.00	3,608.84	3,525.33	3,258.39	23.70	24.77	102.28	953.98	-856.45	1,216.34	1,172.92	43.42	28.013		
3,900.00	3,701.70	3,617.48	3,339.21	24.47	25.66	102.16	983.87	-889.08	1,255.12	1,210.24	44.88	27.968		
4,000.00	3,794.55	3,709.62	3,420.04	25.25	26.55	102.06	1,013.76	-921.71	1,293.90	1,247.57	46.33	27.926		
4,100.00	3,887.41	3,801.77	3,500.86	26.02	27.44	101.95	1,043.65	-954.34	1,332.69	1,284.90	47.79	27.885		
4,200.00	3,980.26	3,906.08	3,581.69	26.80	28.45	101.86	1,073.54	-986.98	1,371.48	1,322.13	49.35	27.790		
4,300.00	4,073.12	3,986.06	3,662.51	27.57	29.23	101.77	1,103.43	-1,019.61	1,410.27	1,359.56	50.71	27.811		
4,400.00	4,165.97	4,078.21	3,743.34	28.35	30.12	101.68	1,133.32	-1,052.24	1,449.07	1,396.90	52.17	27.776		
4,500.00	4,258.83	4,170.36	3,824.16	29.12	31.01	101.60	1,163.21	-1,084.87	1,487.87	1,434.24	53.63	27.743		
4,600.00	4,351.68	4,262.50	3,904.99	29.90	31.91	101.53	1,193.10	-1,117.50	1,526.67	1,471.58	55.09	27.712		
4,700.00	4,444.54	4,354.65	3,985.81	30.68	32.80	101.45	1,223.00	-1,150.14	1,565.47	1,508.92	56.55	27.681		
4,800.00	4,537.39	4,446.80	4,066.64	31.45	33.70	101.38	1,252.89	-1,182.77	1,604.28	1,546.26	58.02	27.653		
4,900.00	4,630.25	4,538.94	4,147.46	32.23	34.59	101.32	1,282.78	-1,215.40	1,643.09	1,583.61	59.48	27.625		
5,000.00	4,723.10	4,631.09	4,228.29	33.01	35.49	101.25	1,312.67	-1,248.03	1,681.89	1,620.95	60.94	27.599		
5,100.00	4,815.96	4,723.24	4,309.11	33.79	36.38	101.19	1,342.56	-1,280.66	1,720.71	1,658.30	62.40	27.574		

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

# Anticollision Report

<b>Company:</b>	EXTRACTION OIL & GAS	<b>Local Co-ordinate Reference:</b>	Well WARBLER 13W-27-19
<b>Project:</b>	ADAMS COUNTY	<b>TVD Reference:</b>	KB 25' @ 5106.00usft
<b>Reference Site:</b>	Sec 13-T1S-R66W	<b>MD Reference:</b>	KB 25' @ 5106.00usft
<b>Site Error:</b>	0.00 usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	WARBLER 13W-27-19	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00 usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OWB	<b>Database:</b>	EDT_32Bit_ODBC
<b>Reference Design:</b>	PROPOSAL 1	<b>Offset TVD Reference:</b>	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	4,908.81	4,815.38	4,389.94	34.56	37.28	101.14	1,372.45	-1,313.30	1,759.52	1,695.65	63.87	27.550		
5,300.00	5,001.67	4,907.53	4,470.76	35.34	38.18	101.08	1,402.34	-1,345.93	1,798.33	1,733.00	65.33	27.527		
5,400.00	5,094.52	5,000.32	4,551.59	36.12	39.08	101.03	1,432.23	-1,378.56	1,837.15	1,770.35	66.80	27.502		
5,500.00	5,187.38	5,108.18	4,632.41	36.90	40.13	100.98	1,462.12	-1,411.19	1,875.96	1,807.57	68.40	27.428		
5,600.00	5,280.23	5,183.97	4,713.24	37.67	40.87	100.93	1,492.01	-1,443.82	1,914.78	1,845.06	69.72	27.462		
5,700.00	5,373.09	5,276.12	4,794.06	38.45	41.76	100.88	1,521.90	-1,476.46	1,953.60	1,882.41	71.19	27.442		
5,800.00	5,465.94	5,368.26	4,874.89	39.23	42.66	100.84	1,551.80	-1,509.09	1,992.42	1,919.76	72.65	27.423		
5,900.00	5,558.80	5,460.41	4,955.71	40.01	43.56	100.79	1,581.69	-1,541.72	2,031.24	1,957.12	74.12	27.405		
6,000.00	5,651.65	5,552.56	5,036.54	40.79	44.46	100.75	1,611.58	-1,574.35	2,070.06	1,994.47	75.59	27.387		
6,100.00	5,744.51	5,644.70	5,117.36	41.57	45.35	100.71	1,641.47	-1,606.98	2,108.88	2,031.83	77.05	27.370		
6,200.00	5,837.36	5,736.85	5,198.19	42.34	46.25	100.67	1,671.36	-1,639.62	2,147.71	2,069.19	78.52	27.353		
6,300.00	5,930.22	5,829.00	5,279.01	43.12	47.15	100.64	1,701.25	-1,672.25	2,186.53	2,106.55	79.99	27.337		
6,400.00	6,023.07	5,921.14	5,359.84	43.90	48.05	100.60	1,731.14	-1,704.88	2,225.36	2,143.90	81.45	27.321		
6,500.00	6,115.93	6,013.29	5,440.66	44.68	48.95	100.57	1,761.03	-1,737.51	2,264.18	2,181.26	82.92	27.306		
6,600.00	6,208.78	6,105.44	5,521.49	45.46	49.84	100.53	1,790.92	-1,770.14	2,303.01	2,218.62	84.39	27.291		
6,700.00	6,301.64	6,197.58	5,602.31	46.24	50.74	100.50	1,820.81	-1,802.78	2,341.83	2,255.98	85.85	27.277		
6,800.00	6,394.49	6,289.73	5,683.14	47.02	51.64	100.47	1,850.70	-1,835.41	2,380.66	2,293.34	87.32	27.263		
6,900.00	6,487.35	6,381.88	5,763.96	47.80	52.54	100.44	1,880.59	-1,868.04	2,419.49	2,330.70	88.79	27.250		
7,000.00	6,580.20	6,474.02	5,844.79	48.57	53.44	100.41	1,910.49	-1,900.67	2,458.32	2,368.06	90.26	27.237		
7,100.00	6,673.06	6,566.17	5,925.61	49.35	54.34	100.38	1,940.38	-1,933.30	2,497.15	2,405.42	91.72	27.224		
7,200.00	6,765.91	6,658.32	6,006.44	50.13	55.24	100.35	1,970.27	-1,965.94	2,535.98	2,442.78	93.19	27.212		
7,300.00	6,856.90	6,750.37	6,087.18	50.99	56.13	94.70	2,000.13	-1,998.54	2,574.66	2,479.89	94.77	27.168		
7,400.00	6,939.78	6,840.70	6,166.41	52.14	57.01	89.13	2,029.43	-2,030.52	2,612.30	2,515.59	96.71	27.012		
7,500.00	7,011.80	6,926.57	6,241.73	53.58	57.85	85.00	2,057.28	-2,060.93	2,648.13	2,549.15	98.98	26.753		
7,600.00	7,070.78	7,005.39	6,310.87	55.27	58.62	81.81	2,082.85	-2,088.85	2,681.72	2,580.20	101.52	26.416		
7,700.00	7,114.93	7,074.75	6,371.70	57.16	59.30	79.29	2,105.35	-2,113.41	2,712.84	2,608.62	104.22	26.030		
7,800.00	7,142.90	7,132.54	6,422.40	59.19	59.86	77.20	2,124.10	-2,133.88	2,741.44	2,634.47	106.97	25.629		
7,900.00	7,153.85	7,177.02	6,461.41	61.28	60.30	75.40	2,138.53	-2,149.63	2,767.52	2,657.89	109.63	25.244		
8,000.00	7,154.00	7,212.54	6,492.57	63.38	60.64	75.78	2,150.05	-2,162.21	2,793.11	2,680.94	112.17	24.902		
8,100.00	7,154.00	7,247.94	6,523.62	65.52	60.99	76.49	2,161.53	-2,174.74	2,821.52	2,706.88	114.64	24.611		
8,200.00	7,154.00	7,283.34	6,554.67	67.71	61.33	77.18	2,173.01	-2,187.28	2,852.73	2,735.66	117.06	24.370		
8,300.00	7,154.00	8,650.94	7,154.00	69.93	82.18	90.02	2,395.36	-3,212.28	2,852.93	2,711.65	141.28	20.194		
8,400.00	7,154.00	8,750.94	7,154.00	72.19	84.13	90.02	2,395.45	-3,312.28	2,853.07	2,707.27	145.80	19.568		
8,500.00	7,154.00	8,850.94	7,154.00	74.47	86.11	90.02	2,395.54	-3,412.28	2,853.21	2,702.83	150.38	18.973		
8,600.00	7,154.00	8,950.94	7,154.00	76.79	88.14	90.02	2,395.63	-3,512.28	2,853.35	2,698.34	155.02	18.406		
8,700.00	7,154.00	9,050.94	7,154.00	79.12	90.19	90.02	2,395.72	-3,612.28	2,853.50	2,693.79	159.70	17.867		
8,800.00	7,154.00	9,150.94	7,154.00	81.48	92.28	90.02	2,395.81	-3,712.28	2,853.64	2,689.21	164.43	17.355		
8,900.00	7,154.00	9,250.94	7,154.00	83.87	94.40	90.02	2,395.90	-3,812.28	2,853.78	2,684.58	169.20	16.866		
9,000.00	7,154.00	9,350.94	7,154.00	86.27	96.55	90.02	2,395.99	-3,912.28	2,853.92	2,679.91	174.01	16.401		
9,100.00	7,154.00	9,450.94	7,154.00	88.68	98.73	90.02	2,396.08	-4,012.28	2,854.06	2,675.22	178.85	15.958		
9,200.00	7,154.00	9,550.94	7,154.00	91.12	100.93	90.02	2,396.17	-4,112.28	2,854.21	2,670.49	183.72	15.536		
9,300.00	7,154.00	9,650.94	7,154.00	93.57	103.16	90.02	2,396.26	-4,212.28	2,854.35	2,665.73	188.62	15.133		
9,400.00	7,154.00	9,750.94	7,154.00	96.03	105.41	90.02	2,396.35	-4,312.28	2,854.49	2,660.94	193.55	14.748		
9,500.00	7,154.00	9,850.94	7,154.00	98.50	107.68	90.02	2,396.44	-4,412.28	2,854.63	2,656.13	198.50	14.381		
9,600.00	7,154.00	9,950.94	7,154.00	100.99	109.97	90.02	2,396.53	-4,512.28	2,854.77	2,651.29	203.48	14.030		
9,700.00	7,154.00	10,050.94	7,154.00	103.49	112.28	90.02	2,396.62	-4,612.28	2,854.92	2,646.44	208.48	13.694		
9,800.00	7,154.00	10,150.94	7,154.00	106.00	114.61	90.02	2,396.71	-4,712.28	2,855.06	2,641.56	213.50	13.373		
9,900.00	7,154.00	10,250.94	7,154.00	108.51	116.95	90.02	2,396.80	-4,812.28	2,855.20	2,636.67	218.53	13.065		
10,000.00	7,154.00	10,350.94	7,154.00	111.04	119.31	90.02	2,396.89	-4,912.28	2,855.34	2,631.76	223.59	12.771		
10,100.00	7,154.00	10,450.94	7,154.00	113.58	121.68	90.02	2,396.97	-5,012.28	2,855.48	2,626.83	228.66	12.488		
10,200.00	7,154.00	10,550.94	7,154.00	116.12	124.07	90.02	2,397.06	-5,112.28	2,855.63	2,621.88	233.74	12.217		
10,300.00	7,154.00	10,650.94	7,154.00	118.67	126.47	90.02	2,397.15	-5,212.28	2,855.77	2,616.93	238.84	11.957		

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

# Anticollision Report

<b>Company:</b>	EXTRACTION OIL & GAS	<b>Local Co-ordinate Reference:</b>	Well WARBLER 13W-27-19
<b>Project:</b>	ADAMS COUNTY	<b>TVD Reference:</b>	KB 25' @ 5106.00usft
<b>Reference Site:</b>	Sec 13-T1S-R66W	<b>MD Reference:</b>	KB 25' @ 5106.00usft
<b>Site Error:</b>	0.00 usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	WARBLER 13W-27-19	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00 usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OWB	<b>Database:</b>	EDT_32Bit_ODBC
<b>Reference Design:</b>	PROPOSAL 1	<b>Offset TVD Reference:</b>	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	10,750.94	7,154.00	121.22	128.89	90.02	2,397.24	-5,312.28	2,855.91	2,611.96	243.95	11.707		
10,500.00	7,154.00	10,850.94	7,154.00	123.79	131.31	90.02	2,397.33	-5,412.28	2,856.05	2,606.97	249.08	11.466		
10,600.00	7,154.00	10,950.94	7,154.00	126.35	133.75	90.02	2,397.42	-5,512.28	2,856.19	2,601.98	254.21	11.235		
10,700.00	7,154.00	11,050.94	7,154.00	128.93	136.20	90.02	2,397.51	-5,612.28	2,856.34	2,596.97	259.36	11.013		
10,800.00	7,154.00	11,150.94	7,154.00	131.51	138.65	90.02	2,397.60	-5,712.28	2,856.48	2,591.96	264.52	10.799		
10,900.00	7,154.00	11,250.94	7,154.00	134.09	141.12	90.02	2,397.69	-5,812.28	2,856.62	2,586.93	269.69	10.592		
11,000.00	7,154.00	11,350.94	7,154.00	136.68	143.60	90.02	2,397.78	-5,912.28	2,856.76	2,581.90	274.86	10.393		
11,100.00	7,154.00	11,450.94	7,154.00	139.27	146.08	90.02	2,397.87	-6,012.28	2,856.91	2,576.86	280.05	10.201		
11,200.00	7,154.00	11,550.94	7,154.00	141.87	148.57	90.02	2,397.96	-6,112.28	2,857.05	2,571.80	285.24	10.016		
11,300.00	7,154.00	11,650.94	7,154.00	144.47	151.07	90.02	2,398.05	-6,212.28	2,857.19	2,566.74	290.45	9.837		
11,400.00	7,154.00	11,750.94	7,154.00	147.08	153.58	90.02	2,398.14	-6,312.28	2,857.33	2,561.68	295.65	9.664		
11,500.00	7,154.00	11,850.94	7,154.00	149.68	156.09	90.02	2,398.23	-6,412.28	2,857.47	2,556.60	300.87	9.497		
11,600.00	7,154.00	11,950.94	7,154.00	152.30	158.61	90.02	2,398.32	-6,512.28	2,857.62	2,551.52	306.09	9.336		
11,700.00	7,154.00	12,050.94	7,154.00	154.91	161.14	90.02	2,398.41	-6,612.28	2,857.76	2,546.44	311.32	9.179		
11,800.00	7,154.00	12,150.94	7,154.00	157.53	163.67	90.02	2,398.50	-6,712.28	2,857.90	2,541.34	316.56	9.028		
11,900.00	7,154.00	12,250.94	7,154.00	160.15	166.21	90.02	2,398.59	-6,812.28	2,858.04	2,536.24	321.80	8.882		
12,000.00	7,154.00	12,350.94	7,154.00	162.77	168.75	90.02	2,398.68	-6,912.28	2,858.18	2,531.14	327.04	8.739		
12,100.00	7,154.00	12,450.94	7,154.00	165.40	171.30	90.02	2,398.77	-7,012.28	2,858.33	2,526.03	332.29	8.602		
12,200.00	7,154.00	12,550.94	7,154.00	168.03	173.85	90.02	2,398.86	-7,112.28	2,858.47	2,520.92	337.55	8.468		
12,300.00	7,154.00	12,650.94	7,154.00	170.66	176.41	90.02	2,398.95	-7,212.28	2,858.61	2,515.80	342.81	8.339		
12,400.00	7,154.00	12,750.94	7,154.00	173.29	178.97	90.02	2,399.04	-7,312.28	2,858.75	2,510.68	348.07	8.213		
12,500.00	7,154.00	12,850.94	7,154.00	175.93	181.54	90.02	2,399.13	-7,412.28	2,858.89	2,505.55	353.34	8.091		
12,600.00	7,154.00	12,950.94	7,154.00	178.56	184.11	90.02	2,399.22	-7,512.28	2,859.04	2,500.42	358.62	7.972		
12,700.00	7,154.00	13,050.94	7,154.00	181.20	186.68	90.02	2,399.30	-7,612.28	2,859.18	2,495.28	363.90	7.857		
12,800.00	7,154.00	13,150.94	7,154.00	183.84	189.26	90.02	2,399.39	-7,712.28	2,859.32	2,490.14	369.18	7.745		
12,900.00	7,154.00	13,250.94	7,154.00	186.49	191.84	90.02	2,399.48	-7,812.28	2,859.46	2,485.00	374.46	7.636		
13,000.00	7,154.00	13,350.94	7,154.00	189.13	194.43	90.02	2,399.57	-7,912.28	2,859.60	2,479.85	379.75	7.530		
13,100.00	7,154.00	13,450.94	7,154.00	191.78	197.02	90.02	2,399.66	-8,012.27	2,859.75	2,474.70	385.04	7.427		
13,200.00	7,154.00	13,550.94	7,154.00	194.43	199.61	90.02	2,399.75	-8,112.27	2,859.89	2,469.55	390.34	7.327		
13,300.00	7,154.00	13,650.94	7,154.00	197.07	202.20	90.02	2,399.84	-8,212.27	2,860.03	2,464.40	395.63	7.229		
13,400.00	7,154.00	13,750.94	7,154.00	199.73	204.80	90.02	2,399.93	-8,312.27	2,860.17	2,459.24	400.93	7.134		
13,500.00	7,154.00	13,850.94	7,154.00	202.38	207.40	90.02	2,400.02	-8,412.27	2,860.31	2,454.08	406.24	7.041		
13,600.00	7,154.00	13,950.94	7,154.00	205.03	210.01	90.02	2,400.11	-8,512.27	2,860.46	2,448.91	411.54	6.951		
13,700.00	7,154.00	14,050.94	7,154.00	207.69	212.61	90.02	2,400.20	-8,612.27	2,860.60	2,443.75	416.85	6.862		
13,800.00	7,154.00	14,150.94	7,154.00	210.34	215.22	90.02	2,400.29	-8,712.27	2,860.74	2,438.58	422.16	6.776		
13,900.00	7,154.00	14,250.94	7,154.00	213.00	217.83	90.02	2,400.38	-8,812.27	2,860.88	2,433.40	427.48	6.692		
14,000.00	7,154.00	14,350.94	7,154.00	215.66	220.45	90.02	2,400.47	-8,912.27	2,861.02	2,428.23	432.79	6.611		
14,100.00	7,154.00	14,450.94	7,154.00	218.32	223.06	90.02	2,400.56	-9,012.27	2,861.17	2,423.06	438.11	6.531		
14,200.00	7,154.00	14,550.94	7,154.00	220.98	225.68	90.02	2,400.65	-9,112.27	2,861.31	2,417.88	443.43	6.453		
14,300.00	7,154.00	14,650.94	7,154.00	223.64	228.30	90.02	2,400.74	-9,212.27	2,861.45	2,412.70	448.75	6.376		
14,400.00	7,154.00	14,750.94	7,154.00	226.30	230.92	90.02	2,400.83	-9,312.27	2,861.59	2,407.51	454.08	6.302		
14,500.00	7,154.00	14,850.94	7,154.00	228.97	233.54	90.02	2,400.92	-9,412.27	2,861.73	2,402.33	459.40	6.229		
14,600.00	7,154.00	14,950.93	7,154.00	231.63	236.17	90.02	2,401.01	-9,512.27	2,861.88	2,397.14	464.73	6.158		
14,700.00	7,154.00	15,050.93	7,154.00	234.29	238.80	90.02	2,401.10	-9,612.27	2,862.02	2,391.96	470.06	6.089		
14,800.00	7,154.00	15,150.93	7,154.00	236.96	241.42	90.02	2,401.19	-9,712.27	2,862.16	2,386.77	475.39	6.021		
14,900.00	7,154.00	15,250.93	7,154.00	239.63	244.06	90.02	2,401.28	-9,812.27	2,862.30	2,381.57	480.73	5.954		
15,000.00	7,154.00	15,350.93	7,154.00	242.30	246.69	90.02	2,401.37	-9,912.27	2,862.44	2,376.38	486.06	5.889		
15,100.00	7,154.00	15,450.93	7,154.00	244.96	249.32	90.02	2,401.46	-10,012.27	2,862.59	2,371.19	491.40	5.825		
15,200.00	7,154.00	15,550.93	7,154.00	247.63	251.96	90.02	2,401.55	-10,112.27	2,862.73	2,365.99	496.74	5.763		
15,300.00	7,154.00	15,650.93	7,154.00	250.30	254.59	90.02	2,401.63	-10,212.27	2,862.87	2,360.79	502.08	5.702		
15,400.00	7,154.00	15,750.93	7,154.00	252.98	257.23	90.02	2,401.72	-10,312.27	2,863.01	2,355.59	507.42	5.642		
15,500.00	7,154.00	15,850.93	7,154.00	255.65	259.87	90.02	2,401.81	-10,412.27	2,863.15	2,350.39	512.76	5.584		

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

# Anticollision Report

<b>Company:</b>	EXTRACTION OIL & GAS	<b>Local Co-ordinate Reference:</b>	Well WARBLER 13W-27-19
<b>Project:</b>	ADAMS COUNTY	<b>TVD Reference:</b>	KB 25' @ 5106.00usft
<b>Reference Site:</b>	Sec 13-T1S-R66W	<b>MD Reference:</b>	KB 25' @ 5106.00usft
<b>Site Error:</b>	0.00 usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	WARBLER 13W-27-19	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00 usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OWB	<b>Database:</b>	EDT_32Bit_ODBC
<b>Reference Design:</b>	PROPOSAL 1	<b>Offset TVD Reference:</b>	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	15,950.93	7,154.00	258.32	262.51	90.02	2,401.90	-10,512.27	2,863.30	2,345.19	518.10	5.526		
15,700.00	7,154.00	16,050.93	7,154.00	260.99	265.16	90.02	2,401.99	-10,612.27	2,863.44	2,339.99	523.45	5.470		
15,800.00	7,154.00	16,150.93	7,154.00	263.67	267.80	90.02	2,402.08	-10,712.27	2,863.58	2,334.79	528.79	5.415		
15,900.00	7,154.00	16,250.93	7,154.00	266.34	270.44	90.02	2,402.17	-10,812.27	2,863.72	2,329.58	534.14	5.361		
16,000.00	7,154.00	16,350.93	7,154.00	269.01	273.09	90.02	2,402.26	-10,912.27	2,863.86	2,324.37	539.49	5.308		
16,100.00	7,154.00	16,450.93	7,154.00	271.69	275.74	90.02	2,402.35	-11,012.27	2,864.01	2,319.17	544.84	5.257		
16,200.00	7,154.00	16,550.93	7,154.00	274.36	278.39	90.02	2,402.44	-11,112.27	2,864.15	2,313.96	550.19	5.206		
16,300.00	7,154.00	16,650.93	7,154.00	277.04	281.04	90.02	2,402.53	-11,212.27	2,864.29	2,308.75	555.54	5.156		
16,400.00	7,154.00	16,750.93	7,154.00	279.72	283.69	90.02	2,402.62	-11,312.27	2,864.43	2,303.54	560.90	5.107		
16,500.00	7,154.00	16,850.93	7,154.00	282.40	286.34	90.02	2,402.71	-11,412.27	2,864.57	2,298.32	566.25	5.059		
16,600.00	7,154.00	16,950.93	7,154.00	285.07	288.99	90.02	2,402.80	-11,512.27	2,864.72	2,293.11	571.61	5.012		
16,700.00	7,154.00	17,050.93	7,154.00	287.75	291.64	90.02	2,402.89	-11,612.27	2,864.86	2,287.90	576.96	4.965		
16,800.00	7,154.00	17,150.93	7,154.00	290.43	294.30	90.02	2,402.98	-11,712.27	2,865.00	2,282.68	582.32	4.920		
16,900.00	7,154.00	17,250.93	7,154.00	293.11	296.95	90.02	2,403.07	-11,812.27	2,865.14	2,277.47	587.68	4.875		
17,000.00	7,154.00	17,350.93	7,154.00	295.79	299.61	90.02	2,403.16	-11,912.27	2,865.28	2,272.25	593.04	4.832		
17,100.00	7,154.00	17,450.93	7,154.00	298.47	302.27	90.02	2,403.25	-12,012.27	2,865.43	2,267.03	598.39	4.789		
17,200.00	7,154.00	17,550.93	7,154.00	301.15	304.93	90.02	2,403.34	-12,112.27	2,865.57	2,261.81	603.76	4.746		
17,300.00	7,154.00	17,650.93	7,154.00	303.83	307.58	90.02	2,403.43	-12,212.27	2,865.71	2,256.59	609.12	4.705		
17,400.00	7,154.00	17,750.93	7,154.00	306.51	310.24	90.02	2,403.52	-12,312.27	2,865.85	2,251.37	614.48	4.664		
17,500.00	7,154.00	17,850.93	7,154.00	309.19	312.90	90.02	2,403.61	-12,412.27	2,865.99	2,246.15	619.84	4.624		
17,600.00	7,154.00	17,950.93	7,154.00	311.88	315.56	90.02	2,403.70	-12,512.27	2,866.14	2,240.93	625.21	4.584		
17,700.00	7,154.00	18,050.93	7,154.00	314.56	318.23	90.02	2,403.79	-12,612.27	2,866.28	2,235.71	630.57	4.546		
17,800.00	7,154.00	18,150.93	7,154.00	317.24	320.89	90.02	2,403.88	-12,712.27	2,866.42	2,230.49	635.93	4.507		
17,900.00	7,154.00	18,250.93	7,154.00	319.92	323.55	90.02	2,403.96	-12,812.27	2,866.56	2,225.26	641.30	4.470		
18,000.00	7,154.00	18,350.93	7,154.00	322.61	326.22	90.02	2,404.05	-12,912.27	2,866.70	2,220.04	646.67	4.433		
18,100.00	7,154.00	18,450.93	7,154.00	325.29	328.88	90.02	2,404.14	-13,012.27	2,866.85	2,214.81	652.03	4.397		
18,200.00	7,154.00	18,550.93	7,154.00	327.98	331.55	90.02	2,404.23	-13,112.27	2,866.99	2,209.59	657.40	4.361		
18,300.00	7,154.00	18,650.93	7,154.00	330.66	334.21	90.02	2,404.32	-13,212.27	2,867.13	2,204.36	662.77	4.326		
18,400.00	7,154.00	18,750.93	7,154.00	333.34	336.88	90.02	2,404.41	-13,312.27	2,867.27	2,199.13	668.14	4.291		
18,500.00	7,154.00	18,850.93	7,154.00	336.03	339.55	90.02	2,404.50	-13,412.27	2,867.41	2,193.91	673.51	4.257		
18,600.00	7,154.00	18,950.93	7,154.00	338.71	342.21	90.02	2,404.59	-13,512.27	2,867.56	2,188.68	678.88	4.224		
18,700.00	7,154.00	19,050.93	7,154.00	341.40	344.88	90.02	2,404.68	-13,612.27	2,867.70	2,183.45	684.25	4.191		
18,800.00	7,154.00	19,150.93	7,154.00	344.09	347.55	90.02	2,404.77	-13,712.27	2,867.84	2,178.22	689.62	4.159		
18,900.00	7,154.00	19,250.93	7,154.00	346.77	350.22	90.02	2,404.86	-13,812.27	2,867.98	2,172.99	694.99	4.127		
19,000.00	7,154.00	19,350.93	7,154.00	349.46	352.89	90.02	2,404.95	-13,912.27	2,868.12	2,167.76	700.37	4.095		
19,100.00	7,154.00	19,450.93	7,154.00	352.15	355.56	90.02	2,405.04	-14,012.27	2,868.27	2,162.53	705.74	4.064		
19,200.00	7,154.00	19,550.93	7,154.00	354.83	358.23	90.02	2,405.13	-14,112.27	2,868.41	2,157.30	711.11	4.034		
19,300.00	7,154.00	19,650.93	7,154.00	357.52	360.90	90.02	2,405.22	-14,212.27	2,868.55	2,152.06	716.49	4.004		
19,400.00	7,154.00	19,750.93	7,154.00	360.21	363.58	90.02	2,405.31	-14,312.27	2,868.69	2,146.83	721.86	3.974		
19,500.00	7,154.00	19,850.93	7,154.00	362.90	366.25	90.02	2,405.40	-14,412.27	2,868.83	2,141.60	727.24	3.945		
19,600.00	7,154.00	19,950.93	7,154.00	365.58	368.92	90.02	2,405.49	-14,512.27	2,868.98	2,136.36	732.61	3.916		
19,700.00	7,154.00	20,050.93	7,154.00	368.27	371.59	90.02	2,405.58	-14,612.27	2,869.12	2,131.13	737.99	3.888		
19,800.00	7,154.00	20,150.93	7,154.00	370.96	374.27	90.02	2,405.67	-14,712.27	2,869.26	2,125.90	743.36	3.860		
19,900.00	7,154.00	20,250.93	7,154.00	373.65	376.94	90.02	2,405.76	-14,812.27	2,869.40	2,120.66	748.74	3.832		
20,000.00	7,154.00	20,350.93	7,154.00	376.34	379.62	90.02	2,405.85	-14,912.27	2,869.55	2,115.43	754.12	3.805		
20,100.00	7,154.00	20,450.93	7,154.00	379.03	382.29	90.02	2,405.94	-15,012.27	2,869.69	2,110.19	759.50	3.778		
20,200.00	7,154.00	20,550.93	7,154.00	381.71	384.97	90.02	2,406.03	-15,112.27	2,869.83	2,104.95	764.87	3.752		
20,300.00	7,154.00	20,650.93	7,154.00	384.40	387.64	90.02	2,406.12	-15,212.26	2,869.97	2,099.72	770.25	3.726		
20,400.00	7,154.00	20,750.93	7,154.00	387.09	390.32	90.02	2,406.21	-15,312.26	2,870.11	2,094.48	775.63	3.700		
20,500.00	7,154.00	20,850.93	7,154.00	389.78	393.00	90.02	2,406.29	-15,412.26	2,870.26	2,089.24	781.01	3.675		
20,600.00	7,154.00	20,950.93	7,154.00	392.47	395.67	90.02	2,406.38	-15,512.26	2,870.40	2,084.01	786.39	3.650		
20,700.00	7,154.00	21,050.93	7,154.00	395.16	398.35	90.02	2,406.47	-15,612.26	2,870.54	2,078.77	791.77	3.625		

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



## Anticollision Report

<b>Company:</b>	EXTRACTION OIL & GAS	<b>Local Co-ordinate Reference:</b>	Well WARBLER 13W-27-19
<b>Project:</b>	ADAMS COUNTY	<b>TVD Reference:</b>	KB 25' @ 5106.00usft
<b>Reference Site:</b>	Sec 13-T1S-R66W	<b>MD Reference:</b>	KB 25' @ 5106.00usft
<b>Site Error:</b>	0.00 usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	WARBLER 13W-27-19	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00 usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OWB	<b>Database:</b>	EDT_32Bit_ODBC
<b>Reference Design:</b>	PROPOSAL 1	<b>Offset TVD Reference:</b>	Offset Datum

<b>Offset Design</b> Sec 13-T1S-R66W - WARBLER 13W-27-02 - OWB - PROPOSAL 1												<b>Offset Site Error:</b>	0.00 usft
Survey Program: 0-MWD OWSG												<b>Offset Well Error:</b>	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	21,150.93	7,154.00	397.85	401.03	90.02	2,406.56	-15,712.26	2,870.68	2,073.53	797.15	3.601	
20,900.00	7,154.00	21,250.93	7,154.00	400.54	403.71	90.02	2,406.65	-15,812.26	2,870.82	2,068.29	802.53	3.577	
21,000.00	7,154.00	21,350.93	7,154.00	403.24	406.38	90.02	2,406.74	-15,912.26	2,870.97	2,063.05	807.91	3.554	
21,100.00	7,154.00	21,450.93	7,154.00	405.93	409.06	90.02	2,406.83	-16,012.26	2,871.11	2,057.81	813.29	3.530	
21,200.00	7,154.00	21,550.93	7,154.00	408.62	411.74	90.02	2,406.92	-16,112.26	2,871.25	2,052.57	818.68	3.507	
21,300.00	7,154.00	21,650.93	7,154.00	411.31	414.42	90.02	2,407.01	-16,212.26	2,871.39	2,047.33	824.06	3.484	
21,400.00	7,154.00	21,750.93	7,154.00	414.00	417.10	90.02	2,407.10	-16,312.26	2,871.53	2,042.09	829.44	3.462	
21,500.00	7,154.00	21,850.93	7,154.00	416.69	419.78	90.02	2,407.19	-16,412.26	2,871.68	2,036.85	834.82	3.440	
21,505.33	7,154.00	21,856.26	7,154.00	416.83	419.92	90.02	2,407.20	-16,417.59	2,871.68	2,036.57	835.11	3.439 SF	

# Anticollision Report

<b>Company:</b>	EXTRACTION OIL & GAS	<b>Local Co-ordinate Reference:</b>	Well WARBLER 13W-27-19
<b>Project:</b>	ADAMS COUNTY	<b>TVD Reference:</b>	KB 25' @ 5106.00usft
<b>Reference Site:</b>	Sec 13-T1S-R66W	<b>MD Reference:</b>	KB 25' @ 5106.00usft
<b>Site Error:</b>	0.00 usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	WARBLER 13W-27-19	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00 usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OWB	<b>Database:</b>	EDT_32Bit_ODBC
<b>Reference Design:</b>	PROPOSAL 1	<b>Offset TVD Reference:</b>	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	0.57	139.88	1.40	139.89					
100.00	100.00	101.00	99.00	0.13	0.14	0.57	139.88	1.40	139.89	139.62	0.27	513.480		
200.00	200.00	201.00	199.00	0.49	0.50	0.57	139.88	1.40	139.89	138.90	0.99	141.393		
300.00	300.00	301.00	299.00	0.85	0.85	0.57	139.88	1.40	139.89	138.19	1.71	81.984		
400.00	400.00	401.00	399.00	1.21	1.21	0.57	139.88	1.40	139.89	137.47	2.42	57.729 CC		
500.00	499.98	501.02	498.98	1.56	1.57	101.89	139.88	1.40	140.24	137.11	3.13	44.786 ES		
600.00	599.84	598.84	598.84	1.91	1.92	103.94	139.88	1.40	141.41	137.58	3.83	36.912		
700.00	699.45	697.06	697.04	2.27	2.27	106.58	140.52	-0.11	144.24	139.70	4.54	31.765		
800.00	798.70	795.36	795.21	2.65	2.62	109.05	142.47	-4.73	149.36	144.10	5.27	28.364		
900.00	897.47	893.70	893.19	3.06	2.97	111.28	145.73	-12.46	156.75	150.73	6.02	26.047		
1,000.00	995.62	992.04	990.81	3.49	3.34	113.21	150.30	-23.27	166.34	159.54	6.80	24.445		
1,100.00	1,093.06	1,090.30	1,087.91	3.96	3.73	114.79	156.16	-37.16	178.07	170.43	7.63	23.323		
1,200.00	1,189.64	1,188.44	1,184.32	4.47	4.14	116.05	163.30	-54.08	191.86	183.34	8.52	22.525		
1,300.00	1,285.27	1,286.42	1,279.87	5.02	4.57	117.00	171.70	-74.00	207.65	198.18	9.46	21.944		
1,400.00	1,379.82	1,384.17	1,374.41	5.63	5.05	117.66	181.35	-96.87	225.38	214.90	10.48	21.506		
1,500.00	1,473.18	1,481.66	1,467.80	6.29	5.56	118.13	192.21	-122.61	244.98	233.40	11.58	21.159		
1,600.00	1,566.03	1,579.04	1,560.10	6.99	6.12	118.33	204.29	-151.24	265.45	252.70	12.75	20.818		
1,700.00	1,658.89	1,676.30	1,651.16	7.71	6.72	117.82	217.56	-182.70	286.12	272.12	14.00	20.435		
1,800.00	1,751.74	1,773.20	1,740.68	8.44	7.38	116.76	231.97	-216.85	307.06	291.73	15.33	20.032		
1,900.00	1,844.60	1,870.37	1,829.48	9.17	8.09	115.40	247.30	-253.19	328.34	311.62	16.72	19.634		
2,000.00	1,937.45	1,967.78	1,918.46	9.91	8.82	114.18	262.72	-289.73	349.80	331.65	18.15	19.268		
2,100.00	2,030.31	2,065.19	2,007.43	10.66	9.57	113.10	278.14	-326.27	371.39	351.79	19.61	18.943		
2,200.00	2,123.16	2,162.61	2,096.41	11.41	10.33	112.13	293.56	-362.81	393.10	372.03	21.07	18.654		
2,300.00	2,216.02	2,260.02	2,185.38	12.17	11.10	111.27	308.97	-399.35	414.90	392.35	22.55	18.396		
2,400.00	2,308.87	2,357.43	2,274.36	12.93	11.88	110.49	324.39	-435.89	436.78	412.74	24.04	18.166		
2,500.00	2,401.73	2,454.85	2,363.33	13.69	12.67	109.79	339.81	-472.43	458.73	433.19	25.54	17.961		
2,600.00	2,494.58	2,552.26	2,452.31	14.45	13.46	109.15	355.23	-508.97	480.74	453.70	27.04	17.776		
2,700.00	2,587.44	2,649.67	2,541.28	15.22	14.26	108.57	370.64	-545.51	502.80	474.25	28.55	17.609		
2,800.00	2,680.29	2,747.09	2,630.26	15.98	15.05	108.03	386.06	-582.05	524.91	494.85	30.07	17.459		
2,900.00	2,773.15	2,844.50	2,719.23	16.75	15.86	107.54	401.48	-618.59	547.06	515.48	31.58	17.322		
3,000.00	2,866.00	2,941.91	2,808.21	17.52	16.66	107.09	416.90	-655.13	569.24	536.14	33.10	17.197		
3,100.00	2,958.86	3,039.33	2,897.18	18.29	17.47	106.67	432.31	-691.67	591.46	556.84	34.62	17.083		
3,200.00	3,051.71	3,136.74	2,986.15	19.06	18.28	106.28	447.73	-728.21	613.70	577.56	36.15	16.979		
3,300.00	3,144.57	3,234.15	3,075.13	19.83	19.09	105.92	463.15	-764.75	635.97	598.30	37.67	16.882		
3,400.00	3,237.42	3,331.57	3,164.10	20.60	19.90	105.58	478.57	-801.29	658.26	619.06	39.20	16.794		
3,500.00	3,330.28	3,428.98	3,253.08	21.37	20.71	105.27	493.98	-837.83	680.57	639.85	40.72	16.712		
3,600.00	3,423.13	3,526.39	3,342.05	22.15	21.53	104.97	509.40	-874.37	702.90	660.65	42.25	16.636		
3,700.00	3,515.99	3,623.81	3,431.03	22.92	22.34	104.70	524.82	-910.91	725.24	681.46	43.78	16.565		
3,800.00	3,608.84	3,721.22	3,520.00	23.70	23.16	104.44	540.24	-947.45	747.60	702.29	45.31	16.499		
3,900.00	3,701.70	3,818.63	3,608.98	24.47	23.98	104.19	555.66	-983.99	769.98	723.14	46.84	16.437		
4,000.00	3,794.55	3,916.05	3,697.95	25.25	24.80	103.96	571.07	-1,020.53	792.37	743.99	48.37	16.380		
4,100.00	3,887.41	4,013.46	3,786.93	26.02	25.62	103.74	586.49	-1,057.07	814.76	764.86	49.91	16.326		
4,200.00	3,980.26	4,110.87	3,875.90	26.80	26.44	103.53	601.91	-1,093.61	837.17	785.73	51.44	16.275		
4,300.00	4,073.12	4,208.29	3,964.88	27.57	27.26	103.34	617.33	-1,130.15	859.59	806.62	52.97	16.227		
4,400.00	4,165.97	4,305.70	4,053.85	28.35	28.08	103.15	632.74	-1,166.69	882.02	827.51	54.51	16.182		
4,500.00	4,258.83	4,403.11	4,142.83	29.12	28.90	102.98	648.16	-1,203.23	904.46	848.42	56.04	16.140		
4,600.00	4,351.68	4,500.53	4,231.80	29.90	29.72	102.81	663.58	-1,239.77	926.90	869.33	57.57	16.100		
4,700.00	4,444.54	4,597.94	4,320.77	30.68	30.54	102.65	679.00	-1,276.31	949.35	890.25	59.11	16.062		
4,800.00	4,537.39	4,704.65	4,409.75	31.45	31.45	102.49	694.41	-1,312.85	971.81	911.09	60.72	16.005		
4,900.00	4,630.25	4,807.23	4,498.72	32.23	32.31	102.35	709.83	-1,349.39	994.28	931.98	62.29	15.961		
5,000.00	4,723.10	4,890.18	4,587.70	33.01	33.01	102.21	725.25	-1,385.93	1,016.75	953.04	63.71	15.959		
5,100.00	4,815.96	4,987.59	4,676.67	33.79	33.84	102.07	740.67	-1,422.47	1,039.22	973.98	65.25	15.928		

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

# Anticollision Report

<b>Company:</b>	EXTRACTION OIL & GAS	<b>Local Co-ordinate Reference:</b>	Well WARBLER 13W-27-19
<b>Project:</b>	ADAMS COUNTY	<b>TVD Reference:</b>	KB 25' @ 5106.00usft
<b>Reference Site:</b>	Sec 13-T1S-R66W	<b>MD Reference:</b>	KB 25' @ 5106.00usft
<b>Site Error:</b>	0.00 usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	WARBLER 13W-27-19	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00 usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OWB	<b>Database:</b>	EDT_32Bit_ODBC
<b>Reference Design:</b>	PROPOSAL 1	<b>Offset TVD Reference:</b>	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	4,908.81	5,085.01	4,765.65	34.56	34.66	101.95	756.08	-1,459.01	1,061.70	994.92	66.78	15.898		
5,300.00	5,001.67	5,182.42	4,854.62	35.34	35.49	101.82	771.50	-1,495.55	1,084.19	1,015.87	68.32	15.870		
5,400.00	5,094.52	5,279.83	4,943.60	36.12	36.31	101.71	786.92	-1,532.09	1,106.68	1,036.83	69.85	15.843		
5,500.00	5,187.38	5,377.25	5,032.57	36.90	37.13	101.59	802.34	-1,568.63	1,129.17	1,057.79	71.39	15.818		
5,600.00	5,280.23	5,474.66	5,121.55	37.67	37.96	101.48	817.75	-1,605.17	1,151.67	1,078.75	72.92	15.793		
5,700.00	5,373.09	5,572.07	5,210.52	38.45	38.78	101.38	833.17	-1,641.71	1,174.18	1,099.72	74.46	15.769		
5,800.00	5,465.94	5,669.49	5,299.50	39.23	39.61	101.28	848.59	-1,678.25	1,196.68	1,120.69	75.99	15.747		
5,900.00	5,558.80	5,766.90	5,388.47	40.01	40.43	101.18	864.01	-1,714.79	1,219.19	1,141.66	77.53	15.725		
6,000.00	5,651.65	5,864.31	5,477.45	40.79	41.26	101.09	879.42	-1,751.33	1,241.70	1,162.64	79.07	15.704		
6,100.00	5,744.51	5,961.73	5,566.42	41.57	42.09	101.00	894.84	-1,787.87	1,264.22	1,183.62	80.60	15.685		
6,200.00	5,837.36	6,059.14	5,655.39	42.34	42.91	100.91	910.26	-1,824.41	1,286.74	1,204.60	82.14	15.665		
6,300.00	5,930.22	6,156.56	5,744.37	43.12	43.74	100.83	925.68	-1,860.95	1,309.26	1,225.58	83.68	15.647		
6,400.00	6,023.07	6,253.97	5,833.34	43.90	44.56	100.75	941.09	-1,897.49	1,331.78	1,246.57	85.21	15.629		
6,500.00	6,115.93	6,351.38	5,922.32	44.68	45.39	100.67	956.51	-1,934.03	1,354.31	1,267.56	86.75	15.612		
6,600.00	6,208.78	6,448.80	6,011.29	45.46	46.22	100.59	971.93	-1,970.57	1,376.84	1,288.55	88.29	15.595		
6,700.00	6,301.64	6,546.21	6,100.27	46.24	47.04	100.52	987.35	-2,007.11	1,399.37	1,309.55	89.82	15.579		
6,800.00	6,394.49	6,643.62	6,189.24	47.02	47.87	100.45	1,002.76	-2,043.65	1,421.90	1,330.54	91.36	15.564		
6,900.00	6,487.35	6,741.04	6,278.22	47.80	48.70	100.38	1,018.18	-2,080.19	1,444.44	1,351.54	92.90	15.549		
7,000.00	6,580.20	6,838.45	6,367.19	48.57	49.52	100.31	1,033.60	-2,116.73	1,466.97	1,372.54	94.43	15.535		
7,100.00	6,673.06	6,935.86	6,456.17	49.35	50.35	100.25	1,049.02	-2,153.27	1,489.51	1,393.54	95.97	15.521		
7,200.00	6,765.91	7,033.28	6,545.14	50.13	51.18	100.19	1,064.43	-2,189.81	1,512.05	1,414.55	97.51	15.507		
7,300.00	6,856.90	7,130.60	6,634.03	50.99	52.00	99.95	1,079.84	-2,226.32	1,534.46	1,435.32	99.14	15.478		
7,400.00	6,939.78	7,226.10	6,721.26	52.14	52.81	92.45	1,094.95	-2,262.14	1,556.18	1,455.08	101.10	15.392		
7,500.00	7,011.80	7,318.24	6,805.41	53.58	53.60	90.46	1,109.53	-2,296.72	1,577.18	1,473.82	103.36	15.259		
7,600.00	7,070.78	7,450.90	6,919.35	55.27	55.01	89.85	1,129.28	-2,361.14	1,596.49	1,489.72	106.77	14.953		
7,700.00	7,114.93	7,604.37	7,028.84	57.16	57.26	89.75	1,148.27	-2,466.33	1,612.22	1,501.01	111.21	14.498		
7,800.00	7,142.90	7,779.64	7,115.19	59.19	60.47	89.92	1,163.26	-2,617.32	1,622.95	1,506.35	116.60	13.919		
7,900.00	7,153.85	7,970.64	7,153.56	61.28	64.36	90.04	1,169.95	-2,803.40	1,627.34	1,504.88	122.45	13.289		
8,000.00	7,154.00	8,081.67	7,154.00	63.38	66.64	90.04	1,170.06	-2,914.43	1,627.47	1,500.56	126.91	12.824		
8,100.00	7,154.00	8,181.67	7,154.00	65.52	68.74	90.04	1,170.08	-3,014.43	1,627.54	1,496.28	131.26	12.399		
8,200.00	7,154.00	8,281.67	7,154.00	67.71	70.88	90.04	1,170.11	-3,114.43	1,627.62	1,491.93	135.69	11.995		
8,300.00	7,154.00	8,381.67	7,154.00	69.93	73.06	90.04	1,170.13	-3,214.43	1,627.70	1,487.51	140.19	11.611		
8,400.00	7,154.00	8,481.67	7,154.00	72.19	75.27	90.04	1,170.16	-3,314.43	1,627.78	1,483.02	144.75	11.245		
8,500.00	7,154.00	8,581.67	7,154.00	74.47	77.51	90.04	1,170.18	-3,414.43	1,627.85	1,478.48	149.37	10.898		
8,600.00	7,154.00	8,681.67	7,154.00	76.79	79.78	90.04	1,170.21	-3,514.43	1,627.93	1,473.89	154.04	10.568		
8,700.00	7,154.00	8,781.67	7,154.00	79.12	82.08	90.04	1,170.23	-3,614.43	1,628.01	1,469.26	158.75	10.255		
8,800.00	7,154.00	8,881.67	7,154.00	81.48	84.40	90.04	1,170.26	-3,714.43	1,628.09	1,464.58	163.51	9.957		
8,900.00	7,154.00	8,981.67	7,154.00	83.87	86.74	90.04	1,170.28	-3,814.43	1,628.16	1,459.86	168.31	9.674		
9,000.00	7,154.00	9,081.67	7,154.00	86.27	89.10	90.04	1,170.31	-3,914.43	1,628.24	1,455.10	173.14	9.404		
9,100.00	7,154.00	9,181.67	7,154.00	88.68	91.48	90.04	1,170.34	-4,014.43	1,628.32	1,450.31	178.01	9.147		
9,200.00	7,154.00	9,281.67	7,154.00	91.12	93.88	90.04	1,170.36	-4,114.43	1,628.40	1,445.49	182.90	8.903		
9,300.00	7,154.00	9,381.67	7,154.00	93.57	96.30	90.04	1,170.39	-4,214.43	1,628.48	1,440.65	187.83	8.670		
9,400.00	7,154.00	9,481.67	7,154.00	96.03	98.73	90.04	1,170.41	-4,314.43	1,628.55	1,435.77	192.78	8.448		
9,500.00	7,154.00	9,581.67	7,154.00	98.50	101.17	90.04	1,170.44	-4,414.43	1,628.63	1,430.88	197.75	8.236		
9,600.00	7,154.00	9,681.67	7,154.00	100.99	103.63	90.04	1,170.46	-4,514.43	1,628.71	1,425.96	202.75	8.033		
9,700.00	7,154.00	9,781.67	7,154.00	103.49	106.10	90.04	1,170.49	-4,614.43	1,628.79	1,421.02	207.77	7.839		
9,800.00	7,154.00	9,881.67	7,154.00	106.00	108.58	90.04	1,170.51	-4,714.43	1,628.86	1,416.06	212.80	7.654		
9,900.00	7,154.00	9,981.67	7,154.00	108.51	111.07	90.04	1,170.54	-4,814.43	1,628.94	1,411.08	217.86	7.477		
10,000.00	7,154.00	10,081.67	7,154.00	111.04	113.57	90.04	1,170.56	-4,914.43	1,629.02	1,406.09	222.93	7.307		
10,100.00	7,154.00	10,181.67	7,154.00	113.58	116.08	90.04	1,170.59	-5,014.43	1,629.10	1,401.08	228.01	7.145		
10,200.00	7,154.00	10,281.67	7,154.00	116.12	118.60	90.04	1,170.61	-5,114.43	1,629.18	1,396.06	233.12	6.989		
10,300.00	7,154.00	10,381.67	7,154.00	118.67	121.13	90.04	1,170.64	-5,214.43	1,629.25	1,391.02	238.23	6.839		

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

# Anticollision Report

<b>Company:</b>	EXTRACTION OIL & GAS	<b>Local Co-ordinate Reference:</b>	Well WARBLER 13W-27-19
<b>Project:</b>	ADAMS COUNTY	<b>TVD Reference:</b>	KB 25' @ 5106.00usft
<b>Reference Site:</b>	Sec 13-T1S-R66W	<b>MD Reference:</b>	KB 25' @ 5106.00usft
<b>Site Error:</b>	0.00 usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	WARBLER 13W-27-19	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00 usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OWB	<b>Database:</b>	EDT_32Bit_ODBC
<b>Reference Design:</b>	PROPOSAL 1	<b>Offset TVD Reference:</b>	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	10,481.67	7,154.00	121.22	123.66	90.04	1,170.66	-5,314.43	1,629.33	1,385.97	243.36	6.695		
10,500.00	7,154.00	10,581.67	7,154.00	123.79	126.20	90.04	1,170.69	-5,414.43	1,629.41	1,380.91	248.49	6.557		
10,600.00	7,154.00	10,681.67	7,154.00	126.35	128.75	90.04	1,170.72	-5,514.43	1,629.49	1,375.84	253.64	6.424		
10,700.00	7,154.00	10,781.67	7,154.00	128.93	131.30	90.04	1,170.74	-5,614.43	1,629.56	1,370.76	258.80	6.297		
10,800.00	7,154.00	10,881.67	7,154.00	131.51	133.86	90.04	1,170.77	-5,714.43	1,629.64	1,365.67	263.97	6.173		
10,900.00	7,154.00	10,981.67	7,154.00	134.09	136.43	90.04	1,170.79	-5,814.43	1,629.72	1,360.57	269.15	6.055		
11,000.00	7,154.00	11,081.67	7,154.00	136.68	139.00	90.04	1,170.82	-5,914.43	1,629.80	1,355.46	274.34	5.941		
11,100.00	7,154.00	11,181.67	7,154.00	139.27	141.58	90.04	1,170.84	-6,014.43	1,629.87	1,350.34	279.54	5.831		
11,200.00	7,154.00	11,281.67	7,154.00	141.87	144.16	90.04	1,170.87	-6,114.43	1,629.95	1,345.21	284.74	5.724		
11,300.00	7,154.00	11,381.67	7,154.00	144.47	146.74	90.04	1,170.89	-6,214.43	1,630.03	1,340.08	289.95	5.622		
11,400.00	7,154.00	11,481.67	7,154.00	147.08	149.33	90.04	1,170.92	-6,314.43	1,630.11	1,334.94	295.17	5.523		
11,500.00	7,154.00	11,581.67	7,154.00	149.68	151.92	90.04	1,170.94	-6,414.43	1,630.19	1,329.79	300.40	5.427		
11,600.00	7,154.00	11,681.67	7,154.00	152.30	154.52	90.04	1,170.97	-6,514.43	1,630.26	1,324.63	305.63	5.334		
11,700.00	7,154.00	11,781.67	7,154.00	154.91	157.12	90.04	1,170.99	-6,614.43	1,630.34	1,319.47	310.87	5.244		
11,800.00	7,154.00	11,881.67	7,154.00	157.53	159.73	90.04	1,171.02	-6,714.43	1,630.42	1,314.31	316.11	5.158		
11,900.00	7,154.00	11,981.67	7,154.00	160.15	162.33	90.04	1,171.04	-6,814.43	1,630.50	1,309.14	321.36	5.074		
12,000.00	7,154.00	12,081.67	7,154.00	162.77	164.95	90.04	1,171.07	-6,914.43	1,630.57	1,303.96	326.61	4.992		
12,100.00	7,154.00	12,181.67	7,154.00	165.40	167.56	90.04	1,171.09	-7,014.43	1,630.65	1,298.78	331.87	4.914		
12,200.00	7,154.00	12,281.67	7,154.00	168.03	170.18	90.04	1,171.12	-7,114.43	1,630.73	1,293.59	337.13	4.837		
12,300.00	7,154.00	12,381.67	7,154.00	170.66	172.79	90.04	1,171.15	-7,214.43	1,630.81	1,288.40	342.40	4.763		
12,400.00	7,154.00	12,481.67	7,154.00	173.29	175.42	90.04	1,171.17	-7,314.43	1,630.88	1,283.21	347.68	4.691		
12,500.00	7,154.00	12,581.67	7,154.00	175.93	178.04	90.04	1,171.20	-7,414.42	1,630.96	1,278.01	352.95	4.621		
12,600.00	7,154.00	12,681.67	7,154.00	178.56	180.67	90.04	1,171.22	-7,514.42	1,631.04	1,272.81	358.23	4.553		
12,700.00	7,154.00	12,781.67	7,154.00	181.20	183.30	90.04	1,171.25	-7,614.42	1,631.12	1,267.60	363.52	4.487		
12,800.00	7,154.00	12,881.67	7,154.00	183.84	185.93	90.04	1,171.27	-7,714.42	1,631.20	1,262.39	368.80	4.423		
12,900.00	7,154.00	12,981.67	7,154.00	186.49	188.56	90.04	1,171.30	-7,814.42	1,631.27	1,257.18	374.09	4.361		
13,000.00	7,154.00	13,081.67	7,154.00	189.13	191.20	90.04	1,171.32	-7,914.42	1,631.35	1,251.96	379.39	4.300		
13,100.00	7,154.00	13,181.67	7,154.00	191.78	193.83	90.04	1,171.35	-8,014.42	1,631.43	1,246.74	384.69	4.241		
13,200.00	7,154.00	13,281.67	7,154.00	194.43	196.47	90.04	1,171.37	-8,114.42	1,631.51	1,241.52	389.99	4.184		
13,300.00	7,154.00	13,381.67	7,154.00	197.07	199.11	90.04	1,171.40	-8,214.42	1,631.58	1,236.30	395.29	4.128		
13,400.00	7,154.00	13,481.67	7,154.00	199.73	201.76	90.04	1,171.42	-8,314.42	1,631.66	1,231.07	400.59	4.073		
13,500.00	7,154.00	13,581.67	7,154.00	202.38	204.40	90.04	1,171.45	-8,414.42	1,631.74	1,225.84	405.90	4.020		
13,600.00	7,154.00	13,681.67	7,154.00	205.03	207.04	90.04	1,171.47	-8,514.42	1,631.82	1,220.60	411.21	3.968		
13,700.00	7,154.00	13,781.67	7,154.00	207.69	209.69	90.04	1,171.50	-8,614.42	1,631.90	1,215.37	416.53	3.918		
13,800.00	7,154.00	13,881.67	7,154.00	210.34	212.34	90.04	1,171.52	-8,714.42	1,631.97	1,210.13	421.84	3.869		
13,900.00	7,154.00	13,981.67	7,154.00	213.00	214.99	90.04	1,171.55	-8,814.42	1,632.05	1,204.89	427.16	3.821		
14,000.00	7,154.00	14,081.67	7,154.00	215.66	217.64	90.04	1,171.58	-8,914.42	1,632.13	1,199.65	432.48	3.774		
14,100.00	7,154.00	14,181.67	7,154.00	218.32	220.29	90.04	1,171.60	-9,014.42	1,632.21	1,194.40	437.81	3.728		
14,200.00	7,154.00	14,281.67	7,154.00	220.98	222.95	90.04	1,171.63	-9,114.42	1,632.28	1,189.15	443.13	3.684		
14,300.00	7,154.00	14,381.67	7,154.00	223.64	225.60	90.04	1,171.65	-9,214.42	1,632.36	1,183.90	448.46	3.640		
14,400.00	7,154.00	14,481.67	7,154.00	226.30	228.26	90.04	1,171.68	-9,314.42	1,632.44	1,178.65	453.78	3.597		
14,500.00	7,154.00	14,581.67	7,154.00	228.97	230.92	90.04	1,171.70	-9,414.42	1,632.52	1,173.40	459.12	3.556		
14,600.00	7,154.00	14,681.67	7,154.00	231.63	233.57	90.04	1,171.73	-9,514.42	1,632.59	1,168.15	464.45	3.515		
14,700.00	7,154.00	14,781.67	7,154.00	234.29	236.23	90.04	1,171.75	-9,614.42	1,632.67	1,162.89	469.78	3.475		
14,800.00	7,154.00	14,881.67	7,154.00	236.96	238.89	90.04	1,171.78	-9,714.42	1,632.75	1,157.63	475.12	3.437		
14,900.00	7,154.00	14,981.67	7,154.00	239.63	241.55	90.04	1,171.80	-9,814.42	1,632.83	1,152.37	480.45	3.399		
15,000.00	7,154.00	15,081.67	7,154.00	242.30	244.22	90.04	1,171.83	-9,914.42	1,632.91	1,147.11	485.79	3.361		
15,100.00	7,154.00	15,181.67	7,154.00	244.96	246.88	90.04	1,171.85	-10,014.42	1,632.98	1,141.85	491.13	3.325		
15,200.00	7,154.00	15,281.67	7,154.00	247.63	249.54	90.04	1,171.88	-10,114.42	1,633.06	1,136.59	496.47	3.289		
15,300.00	7,154.00	15,381.67	7,154.00	250.30	252.21	90.04	1,171.90	-10,214.42	1,633.14	1,131.32	501.82	3.254		
15,400.00	7,154.00	15,481.67	7,154.00	252.98	254.87	90.04	1,171.93	-10,314.42	1,633.22	1,126.06	507.16	3.220		
15,500.00	7,154.00	15,581.67	7,154.00	255.65	257.54	90.04	1,171.96	-10,414.42	1,633.29	1,120.79	512.51	3.187		

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

# Anticollision Report

<b>Company:</b>	EXTRACTION OIL & GAS	<b>Local Co-ordinate Reference:</b>	Well WARBLER 13W-27-19
<b>Project:</b>	ADAMS COUNTY	<b>TVD Reference:</b>	KB 25' @ 5106.00usft
<b>Reference Site:</b>	Sec 13-T1S-R66W	<b>MD Reference:</b>	KB 25' @ 5106.00usft
<b>Site Error:</b>	0.00 usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	WARBLER 13W-27-19	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00 usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OWB	<b>Database:</b>	EDT_32Bit_ODBC
<b>Reference Design:</b>	PROPOSAL 1	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design      Sec 13-T1S-R66W - WARBLER 13W-27-03 - 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	15,681.67	7,154.00	258.32	260.21	90.04	1,171.98	-10,514.42	1,633.37	1,115.52	517.85	3.154		
15,700.00	7,154.00	15,781.67	7,154.00	260.99	262.88	90.04	1,172.01	-10,614.42	1,633.45	1,110.25	523.20	3.122		
15,800.00	7,154.00	15,881.67	7,154.00	263.67	265.54	90.04	1,172.03	-10,714.42	1,633.53	1,104.98	528.55	3.091		
15,900.00	7,154.00	15,981.67	7,154.00	266.34	268.21	90.04	1,172.06	-10,814.42	1,633.60	1,099.70	533.90	3.060		
16,000.00	7,154.00	16,081.67	7,154.00	269.01	270.88	90.04	1,172.08	-10,914.42	1,633.68	1,094.43	539.25	3.030		
16,100.00	7,154.00	16,181.67	7,154.00	271.69	273.55	90.04	1,172.11	-11,014.42	1,633.76	1,089.15	544.61	3.000		
16,200.00	7,154.00	16,281.67	7,154.00	274.36	276.23	90.04	1,172.13	-11,114.42	1,633.84	1,083.88	549.96	2.971		
16,300.00	7,154.00	16,381.67	7,154.00	277.04	278.90	90.04	1,172.16	-11,214.42	1,633.92	1,078.60	555.31	2.942		
16,400.00	7,154.00	16,481.67	7,154.00	279.72	281.57	90.04	1,172.18	-11,314.42	1,633.99	1,073.32	560.67	2.914		
16,500.00	7,154.00	16,581.67	7,154.00	282.40	284.24	90.04	1,172.21	-11,414.42	1,634.07	1,068.04	566.03	2.887		
16,600.00	7,154.00	16,681.67	7,154.00	285.07	286.92	90.04	1,172.23	-11,514.42	1,634.15	1,062.77	571.38	2.860		
16,700.00	7,154.00	16,781.67	7,154.00	287.75	289.59	90.04	1,172.26	-11,614.42	1,634.23	1,057.48	576.74	2.834		
16,800.00	7,154.00	16,881.67	7,154.00	290.43	292.27	90.04	1,172.28	-11,714.42	1,634.30	1,052.20	582.10	2.808		
16,900.00	7,154.00	16,981.67	7,154.00	293.11	294.94	90.04	1,172.31	-11,814.42	1,634.38	1,046.92	587.46	2.782		
17,000.00	7,154.00	17,081.67	7,154.00	295.79	297.62	90.04	1,172.33	-11,914.42	1,634.46	1,041.64	592.82	2.757		
17,100.00	7,154.00	17,181.67	7,154.00	298.47	300.29	90.04	1,172.36	-12,014.42	1,634.54	1,036.35	598.19	2.732		
17,200.00	7,154.00	17,281.67	7,154.00	301.15	302.97	90.04	1,172.39	-12,114.42	1,634.62	1,031.07	603.55	2.708		
17,300.00	7,154.00	17,381.67	7,154.00	303.83	305.65	90.04	1,172.41	-12,214.42	1,634.69	1,025.78	608.91	2.685		
17,400.00	7,154.00	17,481.67	7,154.00	306.51	308.33	90.04	1,172.44	-12,314.42	1,634.77	1,020.49	614.28	2.661		
17,500.00	7,154.00	17,581.67	7,154.00	309.19	311.00	90.04	1,172.46	-12,414.42	1,634.85	1,015.21	619.64	2.638		
17,600.00	7,154.00	17,681.67	7,154.00	311.88	313.68	90.04	1,172.49	-12,514.42	1,634.93	1,009.92	625.01	2.616		
17,700.00	7,154.00	17,781.67	7,154.00	314.56	316.36	90.04	1,172.51	-12,614.42	1,635.00	1,004.63	630.37	2.594		
17,800.00	7,154.00	17,881.67	7,154.00	317.24	319.04	90.04	1,172.54	-12,714.42	1,635.08	999.34	635.74	2.572		
17,900.00	7,154.00	17,981.67	7,154.00	319.92	321.72	90.04	1,172.56	-12,814.42	1,635.16	994.05	641.11	2.551		
18,000.00	7,154.00	18,081.67	7,154.00	322.61	324.40	90.04	1,172.59	-12,914.42	1,635.24	988.76	646.48	2.529		
18,100.00	7,154.00	18,181.67	7,154.00	325.29	327.08	90.04	1,172.61	-13,014.42	1,635.31	983.47	651.85	2.509		
18,200.00	7,154.00	18,281.67	7,154.00	327.98	329.76	90.04	1,172.64	-13,114.42	1,635.39	978.18	657.22	2.488		
18,300.00	7,154.00	18,381.67	7,154.00	330.66	332.45	90.04	1,172.66	-13,214.42	1,635.47	972.88	662.59	2.468		
18,400.00	7,154.00	18,481.67	7,154.00	333.34	335.13	90.04	1,172.69	-13,314.42	1,635.55	967.59	667.96	2.449		
18,500.00	7,154.00	18,581.67	7,154.00	336.03	337.81	90.04	1,172.71	-13,414.42	1,635.63	962.30	673.33	2.429		
18,600.00	7,154.00	18,681.67	7,154.00	338.71	340.49	90.04	1,172.74	-13,514.42	1,635.70	957.00	678.70	2.410		
18,700.00	7,154.00	18,781.67	7,154.00	341.40	343.18	90.04	1,172.76	-13,614.42	1,635.78	951.71	684.07	2.391		
18,800.00	7,154.00	18,881.67	7,154.00	344.09	345.86	90.04	1,172.79	-13,714.42	1,635.86	946.41	689.45	2.373		
18,900.00	7,154.00	18,981.67	7,154.00	346.77	348.54	90.04	1,172.82	-13,814.42	1,635.94	941.12	694.82	2.354		
19,000.00	7,154.00	19,081.67	7,154.00	349.46	351.23	90.04	1,172.84	-13,914.42	1,636.01	935.82	700.19	2.337		
19,100.00	7,154.00	19,181.67	7,154.00	352.15	353.91	90.04	1,172.87	-14,014.42	1,636.09	930.52	705.57	2.319		
19,200.00	7,154.00	19,281.67	7,154.00	354.83	356.59	90.04	1,172.89	-14,114.42	1,636.17	925.23	710.94	2.301		
19,300.00	7,154.00	19,381.67	7,154.00	357.52	359.28	90.04	1,172.92	-14,214.42	1,636.25	919.93	716.32	2.284		
19,400.00	7,154.00	19,481.67	7,154.00	360.21	361.96	90.04	1,172.94	-14,314.42	1,636.32	914.63	721.70	2.267		
19,500.00	7,154.00	19,581.67	7,154.00	362.90	364.65	90.04	1,172.97	-14,414.42	1,636.40	909.33	727.07	2.251		
19,600.00	7,154.00	19,681.67	7,154.00	365.58	367.33	90.04	1,172.99	-14,514.42	1,636.48	904.03	732.45	2.234		
19,700.00	7,154.00	19,781.67	7,154.00	368.27	370.02	90.04	1,173.02	-14,614.42	1,636.56	898.73	737.83	2.218		
19,800.00	7,154.00	19,881.67	7,154.00	370.96	372.71	90.04	1,173.04	-14,714.42	1,636.64	893.43	743.20	2.202		
19,900.00	7,154.00	19,981.67	7,154.00	373.65	375.39	90.04	1,173.07	-14,814.42	1,636.71	888.13	748.58	2.186		
20,000.00	7,154.00	20,081.67	7,154.00	376.34	378.08	90.04	1,173.09	-14,914.42	1,636.79	882.83	753.96	2.171		
20,100.00	7,154.00	20,181.67	7,154.00	379.03	380.77	90.04	1,173.12	-15,014.42	1,636.87	877.53	759.34	2.156		
20,200.00	7,154.00	20,281.67	7,154.00	381.71	383.45	90.04	1,173.14	-15,114.42	1,636.95	872.23	764.72	2.141		
20,300.00	7,154.00	20,381.67	7,154.00	384.40	386.14	90.04	1,173.17	-15,214.42	1,637.02	866.92	770.10	2.126		
20,400.00	7,154.00	20,481.67	7,154.00	387.09	388.83	90.04	1,173.19	-15,314.42	1,637.10	861.62	775.48	2.111		
20,500.00	7,154.00	20,581.67	7,154.00	389.78	391.52	90.03	1,173.22	-15,414.42	1,637.18	856.32	780.86	2.097		
20,600.00	7,154.00	20,681.67	7,154.00	392.47	394.20	90.03	1,173.25	-15,514.42	1,637.26	851.02	786.24	2.082		
20,700.00	7,154.00	20,781.67	7,154.00	395.16	396.89	90.03	1,173.27	-15,614.42	1,637.33	845.71	791.62	2.068		

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

## Anticollision Report

<b>Company:</b>	EXTRACTION OIL & GAS	<b>Local Co-ordinate Reference:</b>	Well WARBLER 13W-27-19
<b>Project:</b>	ADAMS COUNTY	<b>TVD Reference:</b>	KB 25' @ 5106.00usft
<b>Reference Site:</b>	Sec 13-T1S-R66W	<b>MD Reference:</b>	KB 25' @ 5106.00usft
<b>Site Error:</b>	0.00 usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	WARBLER 13W-27-19	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00 usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OWB	<b>Database:</b>	EDT_32Bit_ODBC
<b>Reference Design:</b>	PROPOSAL 1	<b>Offset TVD Reference:</b>	Offset Datum

<b>Offset Design</b> Sec 13-T1S-R66W - WARBLER 13W-27-03 - OWB - PROPOSAL 1												<b>Offset Site Error:</b>	0.00 usft
Survey Program: 0-MWD OWSG												<b>Offset Well Error:</b>	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	20,881.67	7,154.00	397.85	399.58	90.03	1,173.30	-15,714.42	1,637.41	840.41	797.00	2.054	
20,900.00	7,154.00	20,981.67	7,154.00	400.54	402.27	90.03	1,173.32	-15,814.42	1,637.49	835.10	802.39	2.041	
21,000.00	7,154.00	21,081.67	7,154.00	403.24	404.96	90.03	1,173.35	-15,914.42	1,637.57	829.80	807.77	2.027	
21,100.00	7,154.00	21,181.67	7,154.00	405.93	407.65	90.03	1,173.37	-16,014.42	1,637.65	824.49	813.15	2.014	
21,200.00	7,154.00	21,281.67	7,154.00	408.62	410.33	90.03	1,173.40	-16,114.42	1,637.72	819.19	818.53	2.001	
21,300.00	7,154.00	21,381.67	7,154.00	411.31	413.02	90.03	1,173.42	-16,214.42	1,637.80	813.88	823.92	1.988	
21,400.00	7,154.00	21,481.67	7,154.00	414.00	415.71	90.03	1,173.45	-16,314.42	1,637.88	808.58	829.30	1.975	
21,500.00	7,154.00	21,581.67	7,154.00	416.69	418.40	90.03	1,173.47	-16,414.42	1,637.96	803.27	834.69	1.962	
21,505.33	7,154.00	21,587.00	7,154.00	416.83	418.55	90.03	1,173.47	-16,419.75	1,637.96	802.99	834.97	1.962 SF	

# Anticollision Report

<b>Company:</b>	EXTRACTION OIL & GAS	<b>Local Co-ordinate Reference:</b>	Well WARBLER 13W-27-19
<b>Project:</b>	ADAMS COUNTY	<b>TVD Reference:</b>	KB 25' @ 5106.00usft
<b>Reference Site:</b>	Sec 13-T1S-R66W	<b>MD Reference:</b>	KB 25' @ 5106.00usft
<b>Site Error:</b>	0.00 usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	WARBLER 13W-27-19	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00 usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OWB	<b>Database:</b>	EDT_32Bit_ODBC
<b>Reference Design:</b>	PROPOSAL 1	<b>Offset TVD Reference:</b>	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	0.57	111.84	1.12	111.84					
100.00	100.00	101.00	99.00	0.13	0.14	0.57	111.84	1.12	111.84	111.57	0.27	410.517		
200.00	200.00	201.00	199.00	0.49	0.50	0.57	111.84	1.12	111.84	110.85	0.99	113.041		
300.00	300.00	301.00	299.00	0.85	0.85	0.57	111.84	1.12	111.84	110.13	1.71	65.545		
400.00	400.00	401.00	399.00	1.21	1.21	0.57	111.84	1.12	111.84	109.42	2.42	46.153 CC		
500.00	499.98	501.02	498.98	1.56	1.57	102.07	111.84	1.12	112.19	109.06	3.13	35.828		
600.00	599.84	598.84	598.84	1.91	1.92	104.63	111.84	1.12	113.40	109.57	3.83	29.601		
700.00	699.45	699.25	699.23	2.27	2.27	107.94	111.72	-0.59	115.57	111.03	4.54	25.434		
800.00	798.70	799.91	799.74	2.65	2.62	111.05	111.37	-5.84	118.51	113.24	5.27	22.490		
900.00	897.47	900.81	900.25	3.06	2.99	113.91	110.79	-14.62	122.17	116.14	6.02	20.283		
1,000.00	995.62	1,001.94	1,000.63	3.49	3.36	116.51	109.98	-26.97	126.48	119.67	6.81	18.573		
1,100.00	1,093.06	1,103.32	1,100.74	3.96	3.76	118.82	108.92	-42.88	131.39	123.76	7.64	17.203		
1,200.00	1,189.64	1,204.93	1,200.45	4.47	4.19	120.86	107.63	-62.37	136.85	128.34	8.51	16.081		
1,300.00	1,285.27	1,306.77	1,299.62	5.02	4.65	122.63	106.11	-85.43	142.80	133.36	9.44	15.133		
1,400.00	1,379.82	1,408.84	1,398.14	5.63	5.16	124.14	104.34	-112.06	149.19	138.77	10.43	14.310		
1,500.00	1,473.18	1,511.14	1,495.86	6.29	5.71	125.42	102.35	-142.24	155.97	144.49	11.48	13.591		
1,600.00	1,566.03	1,613.75	1,592.72	6.99	6.32	125.97	100.11	-175.99	161.87	149.26	12.61	12.833		
1,700.00	1,658.89	1,716.39	1,688.35	7.71	6.99	125.38	97.65	-213.19	166.02	152.18	13.85	11.989		
1,800.00	1,751.74	1,816.29	1,780.82	8.44	7.68	124.36	95.16	-250.91	169.42	154.26	15.16	11.176		
1,900.00	1,844.60	1,916.19	1,873.29	9.17	8.39	123.37	92.66	-288.63	172.87	156.36	16.51	10.471		
2,000.00	1,937.45	2,016.09	1,965.76	9.91	9.11	122.42	90.16	-326.34	176.37	158.48	17.89	9.857		
2,100.00	2,030.31	2,115.98	2,058.23	10.66	9.85	121.51	87.67	-364.06	179.92	160.61	19.30	9.320		
2,200.00	2,123.16	2,215.88	2,150.70	11.41	10.59	120.64	85.17	-401.77	183.51	162.77	20.74	8.848		
2,300.00	2,216.02	2,315.78	2,243.17	12.17	11.34	119.80	82.68	-439.49	187.14	164.95	22.19	8.432		
2,400.00	2,308.87	2,415.67	2,335.64	12.93	12.10	118.99	80.18	-477.21	190.81	167.14	23.67	8.062		
2,500.00	2,401.73	2,515.57	2,428.11	13.69	12.86	118.21	77.68	-514.92	194.51	169.36	25.15	7.733		
2,600.00	2,494.58	2,615.47	2,520.58	14.45	13.63	117.46	75.19	-552.64	198.26	171.60	26.65	7.438		
2,700.00	2,587.44	2,715.37	2,613.05	15.22	14.40	116.74	72.69	-590.36	202.03	173.86	28.17	7.173		
2,800.00	2,680.29	2,815.26	2,705.52	15.98	15.17	116.05	70.19	-628.07	205.83	176.14	29.69	6.933		
2,900.00	2,773.15	2,915.16	2,797.99	16.75	15.94	115.38	67.70	-665.79	209.67	178.45	31.22	6.716		
3,000.00	2,866.00	3,015.06	2,890.46	17.52	16.72	114.74	65.20	-703.50	213.53	180.77	32.76	6.519		
3,100.00	2,958.86	3,114.95	2,982.93	18.29	17.50	114.11	62.71	-741.22	217.41	183.11	34.30	6.338		
3,200.00	3,051.71	3,214.85	3,075.40	19.06	18.28	113.51	60.21	-778.94	221.32	185.47	35.85	6.173		
3,300.00	3,144.57	3,314.75	3,167.87	19.83	19.06	112.93	57.71	-816.65	225.26	187.85	37.41	6.021		
3,400.00	3,237.42	3,414.65	3,260.34	20.60	19.84	112.38	55.22	-854.37	229.21	190.24	38.97	5.882		
3,500.00	3,330.28	3,514.54	3,352.81	21.37	20.62	111.84	52.72	-892.08	233.19	192.66	40.54	5.753		
3,600.00	3,423.13	3,614.44	3,445.28	22.15	21.41	111.31	50.23	-929.80	237.19	195.08	42.11	5.633		
3,700.00	3,515.99	3,714.34	3,537.75	22.92	22.19	110.81	47.73	-967.52	241.21	197.53	43.68	5.522		
3,800.00	3,608.84	3,814.23	3,630.22	23.70	22.98	110.32	45.23	-1,005.23	245.24	199.99	45.25	5.419		
3,900.00	3,701.70	3,914.13	3,722.69	24.47	23.77	109.85	42.74	-1,042.95	249.29	202.46	46.83	5.323		
4,000.00	3,794.55	4,014.03	3,815.16	25.25	24.55	109.39	40.24	-1,080.66	253.36	204.95	48.41	5.233		
4,100.00	3,887.41	4,113.92	3,907.63	26.02	25.34	108.95	37.75	-1,118.38	257.45	207.45	49.99	5.150		
4,200.00	3,980.26	4,213.82	4,000.10	26.80	26.13	108.52	35.25	-1,156.10	261.55	209.97	51.58	5.071		
4,300.00	4,073.12	4,313.72	4,092.57	27.57	26.92	108.10	32.75	-1,193.81	265.66	212.50	53.16	4.997		
4,400.00	4,165.97	4,413.62	4,185.04	28.35	27.71	107.70	30.26	-1,231.53	269.79	215.04	54.75	4.928		
4,500.00	4,258.83	4,513.51	4,277.51	29.12	28.50	107.31	27.76	-1,269.25	273.93	217.59	56.34	4.862		
4,600.00	4,351.68	4,613.41	4,369.98	29.90	29.29	106.93	25.27	-1,306.96	278.08	220.15	57.93	4.801		
4,700.00	4,444.54	4,713.31	4,462.45	30.68	30.08	106.56	22.77	-1,344.68	282.24	222.73	59.52	4.742		
4,800.00	4,537.39	4,813.20	4,554.92	31.45	30.87	106.21	20.27	-1,382.39	286.42	225.31	61.11	4.687		
4,900.00	4,630.25	4,913.10	4,647.39	32.23	31.66	105.86	17.78	-1,420.11	290.60	227.91	62.70	4.635		
5,000.00	4,723.10	5,013.00	4,739.86	33.01	32.45	105.52	15.28	-1,457.83	294.80	230.51	64.29	4.586		
5,100.00	4,815.96	5,112.90	4,832.33	33.79	33.25	105.19	12.79	-1,495.54	299.00	233.12	65.88	4.539		

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



# Anticollision Report

<b>Company:</b>	EXTRACTION OIL & GAS	<b>Local Co-ordinate Reference:</b>	Well WARBLER 13W-27-19
<b>Project:</b>	ADAMS COUNTY	<b>TVD Reference:</b>	KB 25' @ 5106.00usft
<b>Reference Site:</b>	Sec 13-T1S-R66W	<b>MD Reference:</b>	KB 25' @ 5106.00usft
<b>Site Error:</b>	0.00 usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	WARBLER 13W-27-19	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00 usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OWB	<b>Database:</b>	EDT_32Bit_ODBC
<b>Reference Design:</b>	PROPOSAL 1	<b>Offset TVD Reference:</b>	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	4,908.81	5,212.79	4,924.80	34.56	34.04	104.88	10.29	-1,533.26	303.22	235.75	67.47	4.494		
5,300.00	5,001.67	5,312.69	5,017.27	35.34	34.83	104.57	7.79	-1,570.97	307.44	238.38	69.06	4.452		
5,400.00	5,094.52	5,412.59	5,109.74	36.12	35.62	104.27	5.30	-1,608.69	311.68	241.02	70.66	4.411		
5,500.00	5,187.38	5,512.48	5,202.21	36.90	36.42	103.97	2.80	-1,646.41	315.92	243.67	72.25	4.373		
5,600.00	5,280.23	5,612.38	5,294.68	37.67	37.21	103.69	0.30	-1,684.12	320.17	246.33	73.84	4.336		
5,700.00	5,373.09	5,712.28	5,387.15	38.45	38.00	103.41	-2.19	-1,721.84	324.43	248.99	75.44	4.301		
5,800.00	5,465.94	5,812.18	5,479.62	39.23	38.79	103.14	-4.69	-1,759.55	328.69	251.66	77.03	4.267		
5,900.00	5,558.80	5,912.07	5,572.09	40.01	39.59	102.87	-7.18	-1,797.27	332.96	254.34	78.62	4.235		
6,000.00	5,651.65	6,011.97	5,664.56	40.79	40.38	102.62	-9.68	-1,834.99	337.24	257.03	80.21	4.204		
6,100.00	5,744.51	6,111.87	5,757.03	41.57	41.17	102.37	-12.18	-1,872.70	341.53	259.72	81.81	4.175		
6,200.00	5,837.36	6,211.76	5,849.50	42.34	41.97	102.12	-14.67	-1,910.42	345.82	262.42	83.40	4.147		
6,300.00	5,930.22	6,311.66	5,941.97	43.12	42.76	101.88	-17.17	-1,948.14	350.12	265.13	84.99	4.119		
6,400.00	6,023.07	6,411.56	6,034.44	43.90	43.56	101.65	-19.66	-1,985.85	354.42	267.84	86.58	4.093		
6,500.00	6,115.93	6,511.46	6,126.91	44.68	44.35	101.42	-22.16	-2,023.57	358.73	270.56	88.18	4.068		
6,600.00	6,208.78	6,611.35	6,219.38	45.46	45.14	101.20	-24.66	-2,061.28	363.05	273.28	89.77	4.044		
6,700.00	6,301.64	6,711.25	6,311.85	46.24	45.94	100.98	-27.15	-2,099.00	367.37	276.01	91.36	4.021		
6,800.00	6,394.49	6,811.15	6,404.32	47.02	46.73	100.77	-29.65	-2,136.72	371.69	278.74	92.95	3.999		
6,900.00	6,487.35	6,911.04	6,496.79	47.80	47.53	100.57	-32.14	-2,174.43	376.02	281.48	94.54	3.977		
7,000.00	6,580.20	7,010.94	6,589.26	48.57	48.32	100.36	-34.64	-2,212.15	380.36	284.23	96.13	3.957		
7,100.00	6,673.06	7,110.84	6,681.73	49.35	49.12	100.17	-37.14	-2,249.86	384.70	286.98	97.72	3.937		
7,200.00	6,765.91	7,210.74	6,774.20	50.13	49.91	99.97	-39.63	-2,287.58	389.04	289.73	99.31	3.917		
7,300.00	6,856.90	7,310.12	6,864.19	50.99	50.79	99.76	-42.06	-2,329.47	393.31	292.23	101.07	3.891		
7,400.00	6,939.78	7,409.11	6,945.59	52.14	51.96	99.17	-44.27	-2,385.55	397.20	293.80	103.40	3.841		
7,500.00	7,011.80	7,507.90	7,016.01	53.58	53.41	98.55	-46.19	-2,454.63	400.59	294.29	106.30	3.768		
7,600.00	7,070.78	7,606.51	7,073.44	55.27	55.12	97.46	-47.76	-2,534.62	403.37	293.67	109.69	3.677		
7,700.00	7,114.93	7,704.98	7,116.28	57.16	57.02	96.74	-48.95	-2,623.14	405.46	291.97	113.48	3.573		
7,800.00	7,142.90	7,803.35	7,143.34	59.19	59.05	96.31	-49.71	-2,717.59	406.78	289.25	117.53	3.461		
7,900.00	7,153.85	7,901.67	7,153.87	61.28	61.14	96.14	-50.04	-2,815.22	407.31	285.61	121.70	3.347		
8,000.00	7,154.00	8,001.45	7,154.00	63.38	63.28	96.14	-50.08	-2,915.01	407.33	281.37	125.96	3.234		
8,100.00	7,154.00	8,101.45	7,154.00	65.52	65.46	96.14	-50.12	-3,015.01	407.34	277.02	130.32	3.126		
8,200.00	7,154.00	8,201.45	7,154.00	67.71	67.68	96.14	-50.16	-3,115.01	407.35	272.60	134.75	3.023		
8,300.00	7,154.00	8,301.45	7,154.00	69.93	69.93	96.14	-50.21	-3,215.01	407.36	268.11	139.25	2.925		
8,400.00	7,154.00	8,401.45	7,154.00	72.19	72.22	96.14	-50.25	-3,315.01	407.37	263.55	143.82	2.833		
8,500.00	7,154.00	8,501.45	7,154.00	74.47	74.53	96.14	-50.29	-3,415.01	407.38	258.94	148.44	2.744		
8,600.00	7,154.00	8,601.46	7,154.00	76.79	76.87	96.14	-50.33	-3,515.01	407.39	254.28	153.11	2.661		
8,700.00	7,154.00	8,701.46	7,154.00	79.12	79.23	96.14	-50.37	-3,615.01	407.40	249.57	157.83	2.581		
8,800.00	7,154.00	8,801.46	7,154.00	81.48	81.61	96.14	-50.42	-3,715.01	407.41	244.82	162.59	2.506		
8,900.00	7,154.00	8,901.46	7,154.00	83.87	84.01	96.14	-50.46	-3,815.01	407.42	240.03	167.39	2.434		
9,000.00	7,154.00	9,001.46	7,154.00	86.27	86.43	96.14	-50.50	-3,915.01	407.43	235.20	172.23	2.366		
9,100.00	7,154.00	9,101.46	7,154.00	88.68	88.87	96.14	-50.54	-4,015.01	407.45	230.34	177.10	2.301		
9,200.00	7,154.00	9,201.46	7,154.00	91.12	91.32	96.14	-50.58	-4,115.01	407.46	225.45	182.00	2.239		
9,300.00	7,154.00	9,301.46	7,154.00	93.57	93.79	96.14	-50.62	-4,215.01	407.47	220.54	186.93	2.180		
9,400.00	7,154.00	9,401.46	7,154.00	96.03	96.26	96.14	-50.67	-4,315.01	407.48	215.59	191.88	2.124		
9,500.00	7,154.00	9,501.46	7,154.00	98.50	98.75	96.14	-50.71	-4,415.01	407.49	210.63	196.86	2.070		
9,600.00	7,154.00	9,601.46	7,154.00	100.99	101.26	96.14	-50.75	-4,515.01	407.50	205.64	201.86	2.019		
9,700.00	7,154.00	9,701.46	7,154.00	103.49	103.77	96.14	-50.79	-4,615.01	407.51	200.63	206.88	1.970		
9,800.00	7,154.00	9,801.46	7,154.00	106.00	106.29	96.14	-50.83	-4,715.01	407.52	195.60	211.92	1.923		
9,900.00	7,154.00	9,901.46	7,154.00	108.51	108.82	96.14	-50.87	-4,815.01	407.53	190.55	216.98	1.878		
10,000.00	7,154.00	10,001.46	7,154.00	111.04	111.35	96.14	-50.92	-4,915.01	407.54	185.49	222.05	1.835		
10,100.00	7,154.00	10,101.46	7,154.00	113.58	113.90	96.14	-50.96	-5,015.01	407.55	180.41	227.14	1.794		
10,200.00	7,154.00	10,201.46	7,154.00	116.12	116.45	96.14	-51.00	-5,115.01	407.56	175.32	232.24	1.755		
10,300.00	7,154.00	10,301.46	7,154.00	118.67	119.01	96.14	-51.04	-5,215.01	407.57	170.21	237.36	1.717		

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

# Anticollision Report

<b>Company:</b>	EXTRACTION OIL & GAS	<b>Local Co-ordinate Reference:</b>	Well WARBLER 13W-27-19
<b>Project:</b>	ADAMS COUNTY	<b>TVD Reference:</b>	KB 25' @ 5106.00usft
<b>Reference Site:</b>	Sec 13-T1S-R66W	<b>MD Reference:</b>	KB 25' @ 5106.00usft
<b>Site Error:</b>	0.00 usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	WARBLER 13W-27-19	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00 usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OWB	<b>Database:</b>	EDT_32Bit_ODBC
<b>Reference Design:</b>	PROPOSAL 1	<b>Offset TVD Reference:</b>	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	10,401.46	7,154.00	121.22	121.58	90.14	-51.08	-5,315.01	407.58	165.09	242.49	1.681		
10,500.00	7,154.00	10,501.46	7,154.00	123.79	124.15	90.14	-51.12	-5,415.01	407.59	159.96	247.63	1.646		
10,600.00	7,154.00	10,601.46	7,154.00	126.35	126.72	90.14	-51.17	-5,515.01	407.61	154.82	252.78	1.612		
10,700.00	7,154.00	10,701.46	7,154.00	128.93	129.30	90.14	-51.21	-5,615.01	407.62	149.67	257.95	1.580		
10,800.00	7,154.00	10,801.46	7,154.00	131.51	131.89	90.14	-51.25	-5,715.01	407.63	144.51	263.12	1.549		
10,900.00	7,154.00	10,901.46	7,154.00	134.09	134.48	90.14	-51.29	-5,815.01	407.64	139.34	268.30	1.519		
11,000.00	7,154.00	11,001.46	7,154.00	136.68	137.08	90.14	-51.33	-5,915.01	407.65	134.16	273.49	1.491 Level 3		
11,100.00	7,154.00	11,101.46	7,154.00	139.27	139.68	90.14	-51.37	-6,015.01	407.66	128.97	278.69	1.463 Level 3		
11,200.00	7,154.00	11,201.46	7,154.00	141.87	142.28	90.14	-51.42	-6,115.01	407.67	123.77	283.90	1.436 Level 3		
11,300.00	7,154.00	11,301.46	7,154.00	144.47	144.89	90.14	-51.46	-6,215.01	407.68	118.57	289.11	1.410 Level 3		
11,400.00	7,154.00	11,401.46	7,154.00	147.08	147.50	90.14	-51.50	-6,315.01	407.69	113.36	294.33	1.385 Level 3		
11,500.00	7,154.00	11,501.46	7,154.00	149.68	150.11	90.14	-51.54	-6,415.01	407.70	108.14	299.56	1.361 Level 3		
11,600.00	7,154.00	11,601.46	7,154.00	152.30	152.73	90.14	-51.58	-6,515.01	407.71	102.92	304.79	1.338 Level 3		
11,700.00	7,154.00	11,701.46	7,154.00	154.91	155.35	90.14	-51.63	-6,615.01	407.72	97.69	310.03	1.315 Level 3		
11,800.00	7,154.00	11,801.46	7,154.00	157.53	157.97	90.14	-51.67	-6,715.01	407.73	92.46	315.28	1.293 Level 3		
11,900.00	7,154.00	11,901.46	7,154.00	160.15	160.60	90.14	-51.71	-6,815.01	407.74	87.22	320.53	1.272 Level 3		
12,000.00	7,154.00	12,001.46	7,154.00	162.77	163.23	90.14	-51.75	-6,915.01	407.76	81.97	325.78	1.252 Level 3		
12,100.00	7,154.00	12,101.46	7,154.00	165.40	165.86	90.14	-51.79	-7,015.01	407.77	76.72	331.04	1.232 Level 2		
12,200.00	7,154.00	12,201.46	7,154.00	168.03	168.49	90.14	-51.83	-7,115.01	407.78	71.47	336.31	1.213 Level 2		
12,300.00	7,154.00	12,301.46	7,154.00	170.66	171.13	90.14	-51.88	-7,215.01	407.79	66.21	341.58	1.194 Level 2		
12,400.00	7,154.00	12,401.46	7,154.00	173.29	173.76	90.14	-51.92	-7,315.01	407.80	60.95	346.85	1.176 Level 2		
12,500.00	7,154.00	12,501.46	7,154.00	175.93	176.40	90.14	-51.96	-7,415.01	407.81	55.68	352.13	1.158 Level 2		
12,600.00	7,154.00	12,601.46	7,154.00	178.56	179.04	90.14	-52.00	-7,515.01	407.82	50.41	357.41	1.141 Level 2		
12,700.00	7,154.00	12,701.46	7,154.00	181.20	181.69	90.14	-52.04	-7,615.01	407.83	45.13	362.70	1.124 Level 2		
12,800.00	7,154.00	12,801.46	7,154.00	183.84	184.33	90.14	-52.08	-7,715.01	407.84	39.86	367.98	1.108 Level 2		
12,900.00	7,154.00	12,901.46	7,154.00	186.49	186.98	90.14	-52.13	-7,815.01	407.85	34.57	373.28	1.093 Level 2		
13,000.00	7,154.00	13,001.46	7,154.00	189.13	189.62	90.14	-52.17	-7,915.01	407.86	29.29	378.57	1.077 Level 2		
13,100.00	7,154.00	13,101.46	7,154.00	191.78	192.27	90.14	-52.21	-8,015.01	407.87	24.00	383.87	1.063 Level 2		
13,200.00	7,154.00	13,201.46	7,154.00	194.43	194.92	90.14	-52.25	-8,115.01	407.88	18.71	389.17	1.048 Level 2		
13,300.00	7,154.00	13,301.46	7,154.00	197.07	197.58	90.14	-52.29	-8,215.01	407.89	13.42	394.48	1.034 Level 2		
13,400.00	7,154.00	13,401.46	7,154.00	199.73	200.23	90.14	-52.33	-8,315.01	407.90	8.12	399.78	1.020 Level 2		
13,500.00	7,154.00	13,501.46	7,154.00	202.38	202.89	90.14	-52.38	-8,415.01	407.92	2.82	405.09	1.007 Level 2		
13,600.00	7,154.00	13,601.46	7,154.00	205.03	205.54	90.14	-52.42	-8,515.01	407.93	-2.48	410.41	0.994 Level 1		
13,700.00	7,154.00	13,701.46	7,154.00	207.69	208.20	90.14	-52.46	-8,615.01	407.94	-7.78	415.72	0.981 Level 1		
13,800.00	7,154.00	13,801.46	7,154.00	210.34	210.86	90.14	-52.50	-8,715.01	407.95	-13.09	421.04	0.969 Level 1		
13,900.00	7,154.00	13,901.46	7,154.00	213.00	213.52	90.14	-52.54	-8,815.01	407.96	-18.40	426.36	0.957 Level 1		
14,000.00	7,154.00	14,001.46	7,154.00	215.66	216.18	90.14	-52.58	-8,915.01	407.97	-23.71	431.68	0.945 Level 1		
14,100.00	7,154.00	14,101.46	7,154.00	218.32	218.84	90.14	-52.63	-9,015.01	407.98	-29.02	437.00	0.934 Level 1		
14,200.00	7,154.00	14,201.46	7,154.00	220.98	221.50	90.14	-52.67	-9,115.01	407.99	-34.34	442.33	0.922 Level 1		
14,300.00	7,154.00	14,301.46	7,154.00	223.64	224.17	90.14	-52.71	-9,215.01	408.00	-39.65	447.65	0.911 Level 1		
14,400.00	7,154.00	14,401.46	7,154.00	226.30	226.83	90.14	-52.75	-9,315.01	408.01	-44.97	452.98	0.901 Level 1		
14,500.00	7,154.00	14,501.46	7,154.00	228.97	229.50	90.14	-52.79	-9,415.01	408.02	-50.29	458.32	0.890 Level 1		
14,600.00	7,154.00	14,601.46	7,154.00	231.63	232.17	90.14	-52.84	-9,515.01	408.03	-55.62	463.65	0.880 Level 1		
14,700.00	7,154.00	14,701.46	7,154.00	234.29	234.83	90.14	-52.88	-9,615.01	408.04	-60.94	468.98	0.870 Level 1		
14,800.00	7,154.00	14,801.46	7,154.00	236.96	237.50	90.14	-52.92	-9,715.01	408.05	-66.26	474.32	0.860 Level 1		
14,900.00	7,154.00	14,901.46	7,154.00	239.63	240.17	90.14	-52.96	-9,815.01	408.07	-71.59	479.66	0.851 Level 1		
15,000.00	7,154.00	15,001.46	7,154.00	242.30	242.84	90.14	-53.00	-9,915.01	408.08	-76.92	485.00	0.841 Level 1		
15,100.00	7,154.00	15,101.46	7,154.00	244.96	245.51	90.14	-53.04	-10,015.01	408.09	-82.25	490.34	0.832 Level 1		
15,200.00	7,154.00	15,201.46	7,154.00	247.63	248.18	90.14	-53.09	-10,115.01	408.10	-87.58	495.68	0.823 Level 1		
15,300.00	7,154.00	15,301.46	7,154.00	250.30	250.85	90.14	-53.13	-10,215.01	408.11	-92.92	501.02	0.815 Level 1		
15,400.00	7,154.00	15,401.46	7,154.00	252.98	253.53	90.14	-53.17	-10,315.01	408.12	-98.25	506.37	0.806 Level 1		
15,500.00	7,154.00	15,501.46	7,154.00	255.65	256.20	90.14	-53.21	-10,415.01	408.13	-103.59	511.71	0.798 Level 1		

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

# Anticollision Report

<b>Company:</b>	EXTRACTION OIL & GAS	<b>Local Co-ordinate Reference:</b>	Well WARBLER 13W-27-19
<b>Project:</b>	ADAMS COUNTY	<b>TVD Reference:</b>	KB 25' @ 5106.00usft
<b>Reference Site:</b>	Sec 13-T1S-R66W	<b>MD Reference:</b>	KB 25' @ 5106.00usft
<b>Site Error:</b>	0.00 usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	WARBLER 13W-27-19	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00 usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OWB	<b>Database:</b>	EDT_32Bit_ODBC
<b>Reference Design:</b>	PROPOSAL 1	<b>Offset TVD Reference:</b>	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	15,601.46	7,154.00	258.32	258.87	90.14	-53.25	-10,515.01	408.14	-108.92	517.06	0.789	Level 1	
15,700.00	7,154.00	15,701.46	7,154.00	260.99	261.55	90.14	-53.29	-10,615.01	408.15	-114.26	522.41	0.781	Level 1	
15,800.00	7,154.00	15,801.46	7,154.00	263.67	264.22	90.14	-53.34	-10,715.01	408.16	-119.60	527.76	0.773	Level 1	
15,900.00	7,154.00	15,901.46	7,154.00	266.34	266.90	90.14	-53.38	-10,815.01	408.17	-124.94	533.11	0.766	Level 1	
16,000.00	7,154.00	16,001.46	7,154.00	269.01	269.57	90.14	-53.42	-10,915.01	408.18	-130.28	538.46	0.758	Level 1	
16,100.00	7,154.00	16,101.46	7,154.00	271.69	272.25	90.14	-53.46	-11,015.01	408.19	-135.62	543.82	0.751	Level 1	
16,200.00	7,154.00	16,201.46	7,154.00	274.36	274.93	90.14	-53.50	-11,115.01	408.20	-140.97	549.17	0.743	Level 1	
16,300.00	7,154.00	16,301.46	7,154.00	277.04	277.61	90.14	-53.54	-11,215.01	408.21	-146.31	554.53	0.736	Level 1	
16,400.00	7,154.00	16,401.46	7,154.00	279.72	280.28	90.14	-53.59	-11,315.01	408.23	-151.66	559.88	0.729	Level 1	
16,500.00	7,154.00	16,501.46	7,154.00	282.40	282.96	90.14	-53.63	-11,415.01	408.24	-157.00	565.24	0.722	Level 1	
16,600.00	7,154.00	16,601.46	7,154.00	285.07	285.64	90.14	-53.67	-11,515.01	408.25	-162.35	570.60	0.715	Level 1	
16,700.00	7,154.00	16,701.46	7,154.00	287.75	288.32	90.14	-53.71	-11,615.01	408.26	-167.70	575.96	0.709	Level 1	
16,800.00	7,154.00	16,801.46	7,154.00	290.43	291.00	90.14	-53.75	-11,715.01	408.27	-173.05	581.32	0.702	Level 1	
16,900.00	7,154.00	16,901.46	7,154.00	293.11	293.68	90.14	-53.79	-11,815.01	408.28	-178.40	586.68	0.696	Level 1	
17,000.00	7,154.00	17,001.46	7,154.00	295.79	296.36	90.14	-53.84	-11,915.01	408.29	-183.75	592.04	0.690	Level 1	
17,100.00	7,154.00	17,101.46	7,154.00	298.47	299.05	90.14	-53.88	-12,015.01	408.30	-189.10	597.40	0.683	Level 1	
17,200.00	7,154.00	17,201.46	7,154.00	301.15	301.73	90.14	-53.92	-12,115.01	408.31	-194.46	602.77	0.677	Level 1	
17,300.00	7,154.00	17,301.46	7,154.00	303.83	304.41	90.14	-53.96	-12,215.01	408.32	-199.81	608.13	0.671	Level 1	
17,400.00	7,154.00	17,401.46	7,154.00	306.51	307.09	90.14	-54.00	-12,315.01	408.33	-205.16	613.49	0.666	Level 1	
17,500.00	7,154.00	17,501.46	7,154.00	309.19	309.77	90.14	-54.04	-12,415.01	408.34	-210.52	618.86	0.660	Level 1	
17,600.00	7,154.00	17,601.46	7,154.00	311.88	312.46	90.14	-54.09	-12,515.01	408.35	-215.87	624.23	0.654	Level 1	
17,700.00	7,154.00	17,701.46	7,154.00	314.56	315.14	90.14	-54.13	-12,615.01	408.36	-221.23	629.59	0.649	Level 1	
17,800.00	7,154.00	17,801.46	7,154.00	317.24	317.82	90.14	-54.17	-12,715.01	408.38	-226.59	634.96	0.643	Level 1	
17,900.00	7,154.00	17,901.46	7,154.00	319.92	320.51	90.14	-54.21	-12,815.01	408.39	-231.94	640.33	0.638	Level 1	
18,000.00	7,154.00	18,001.46	7,154.00	322.61	323.19	90.14	-54.25	-12,915.01	408.40	-237.30	645.70	0.632	Level 1	
18,100.00	7,154.00	18,101.46	7,154.00	325.29	325.88	90.14	-54.30	-13,015.01	408.41	-242.66	651.07	0.627	Level 1	
18,200.00	7,154.00	18,201.46	7,154.00	327.98	328.56	90.14	-54.34	-13,115.01	408.42	-248.02	656.44	0.622	Level 1	
18,300.00	7,154.00	18,301.46	7,154.00	330.66	331.25	90.14	-54.38	-13,215.01	408.43	-253.38	661.81	0.617	Level 1	
18,400.00	7,154.00	18,401.46	7,154.00	333.34	333.93	90.14	-54.42	-13,315.01	408.44	-258.74	667.18	0.612	Level 1	
18,500.00	7,154.00	18,501.46	7,154.00	336.03	336.62	90.14	-54.46	-13,415.01	408.45	-264.10	672.55	0.607	Level 1	
18,600.00	7,154.00	18,601.46	7,154.00	338.71	339.31	90.14	-54.50	-13,515.01	408.46	-269.46	677.92	0.603	Level 1	
18,700.00	7,154.00	18,701.46	7,154.00	341.40	341.99	90.14	-54.55	-13,615.01	408.47	-274.83	683.30	0.598	Level 1	
18,800.00	7,154.00	18,801.46	7,154.00	344.09	344.68	90.14	-54.59	-13,715.01	408.48	-280.19	688.67	0.593	Level 1	
18,900.00	7,154.00	18,901.46	7,154.00	346.77	347.37	90.14	-54.63	-13,815.01	408.49	-285.55	694.04	0.589	Level 1	
19,000.00	7,154.00	19,001.46	7,154.00	349.46	350.05	90.14	-54.67	-13,915.01	408.50	-290.92	699.42	0.584	Level 1	
19,100.00	7,154.00	19,101.46	7,154.00	352.15	352.74	90.14	-54.71	-14,015.01	408.51	-296.28	704.79	0.580	Level 1	
19,200.00	7,154.00	19,201.46	7,154.00	354.83	355.43	90.14	-54.75	-14,115.01	408.52	-301.64	710.17	0.575	Level 1	
19,300.00	7,154.00	19,301.46	7,154.00	357.52	358.12	90.14	-54.80	-14,215.01	408.54	-307.01	715.55	0.571	Level 1	
19,400.00	7,154.00	19,401.46	7,154.00	360.21	360.81	90.14	-54.84	-14,315.01	408.55	-312.38	720.92	0.567	Level 1	
19,500.00	7,154.00	19,501.46	7,154.00	362.90	363.49	90.14	-54.88	-14,415.01	408.56	-317.74	726.30	0.563	Level 1	
19,600.00	7,154.00	19,601.46	7,154.00	365.58	366.18	90.14	-54.92	-14,515.01	408.57	-323.11	731.68	0.558	Level 1	
19,700.00	7,154.00	19,701.46	7,154.00	368.27	368.87	90.14	-54.96	-14,615.01	408.58	-328.48	737.05	0.554	Level 1	
19,800.00	7,154.00	19,801.46	7,154.00	370.96	371.56	90.14	-55.00	-14,715.01	408.59	-333.84	742.43	0.550	Level 1	
19,900.00	7,154.00	19,901.46	7,154.00	373.65	374.25	90.14	-55.05	-14,815.01	408.60	-339.21	747.81	0.546	Level 1	
20,000.00	7,154.00	20,001.46	7,154.00	376.34	376.94	90.14	-55.09	-14,915.01	408.61	-344.58	753.19	0.543	Level 1	
20,100.00	7,154.00	20,101.46	7,154.00	379.03	379.63	90.14	-55.13	-15,015.01	408.62	-349.95	758.57	0.539	Level 1	
20,200.00	7,154.00	20,201.46	7,154.00	381.71	382.32	90.14	-55.17	-15,115.01	408.63	-355.32	763.95	0.535	Level 1	
20,300.00	7,154.00	20,301.46	7,154.00	384.40	385.01	90.14	-55.21	-15,215.01	408.64	-360.69	769.33	0.531	Level 1	
20,400.00	7,154.00	20,401.46	7,154.00	387.09	387.70	90.14	-55.25	-15,315.01	408.65	-366.06	774.71	0.527	Level 1	
20,500.00	7,154.00	20,501.46	7,154.00	389.78	390.39	90.14	-55.30	-15,415.01	408.66	-371.43	780.09	0.524	Level 1	
20,600.00	7,154.00	20,601.46	7,154.00	392.47	393.08	90.14	-55.34	-15,515.01	408.67	-376.80	785.47	0.520	Level 1	
20,700.00	7,154.00	20,701.46	7,154.00	395.16	395.77	90.14	-55.38	-15,615.01	408.68	-382.17	790.85	0.517	Level 1	

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

## Anticollision Report

<b>Company:</b>	EXTRACTION OIL & GAS	<b>Local Co-ordinate Reference:</b>	Well WARBLER 13W-27-19
<b>Project:</b>	ADAMS COUNTY	<b>TVD Reference:</b>	KB 25' @ 5106.00usft
<b>Reference Site:</b>	Sec 13-T1S-R66W	<b>MD Reference:</b>	KB 25' @ 5106.00usft
<b>Site Error:</b>	0.00 usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	WARBLER 13W-27-19	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00 usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OWB	<b>Database:</b>	EDT_32Bit_ODBC
<b>Reference Design:</b>	PROPOSAL 1	<b>Offset TVD Reference:</b>	Offset Datum

<b>Offset Design</b> Sec 13-T1S-R66W - WARBLER 13W-27-04 - OWB - PROPOSAL 1												<b>Offset Site Error:</b>	0.00 usft
Survey Program: 0-MWD OWSG												<b>Offset Well Error:</b>	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	20,801.46	7,154.00	397.85	398.46	90.14	-55.42	-15,715.01	408.70	-387.54	796.23	0.513	Level 1
20,900.00	7,154.00	20,901.46	7,154.00	400.54	401.15	90.14	-55.46	-15,815.01	408.71	-392.91	801.62	0.510	Level 1
21,000.00	7,154.00	21,001.46	7,154.00	403.24	403.85	90.14	-55.51	-15,915.01	408.72	-398.28	807.00	0.506	Level 1
21,100.00	7,154.00	21,101.46	7,154.00	405.93	406.54	90.14	-55.55	-16,015.01	408.73	-403.65	812.38	0.503	Level 1
21,200.00	7,154.00	21,201.46	7,154.00	408.62	409.23	90.14	-55.59	-16,115.01	408.74	-409.03	817.76	0.500	Level 1
21,300.00	7,154.00	21,301.46	7,154.00	411.31	411.92	90.14	-55.63	-16,215.01	408.75	-414.40	823.15	0.497	Level 1
21,400.00	7,154.00	21,401.46	7,154.00	414.00	414.61	90.14	-55.67	-16,315.01	408.76	-419.77	828.53	0.493	Level 1
21,500.00	7,154.00	21,501.46	7,154.00	416.69	417.31	90.14	-55.71	-16,415.01	408.77	-425.15	833.92	0.490	Level 1
21,505.33	7,154.00	21,506.78	7,154.00	416.83	417.45	90.14	-55.72	-16,420.34	408.77	-425.43	834.20	0.490	Level 1, ES, SF

# Anticollision Report

<b>Company:</b>	EXTRACTION OIL & GAS	<b>Local Co-ordinate Reference:</b>	Well WARBLER 13W-27-19
<b>Project:</b>	ADAMS COUNTY	<b>TVD Reference:</b>	KB 25' @ 5106.00usft
<b>Reference Site:</b>	Sec 13-T1S-R66W	<b>MD Reference:</b>	KB 25' @ 5106.00usft
<b>Site Error:</b>	0.00 usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	WARBLER 13W-27-19	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00 usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OWB	<b>Database:</b>	EDT_32Bit_ODBC
<b>Reference Design:</b>	PROPOSAL 1	<b>Offset TVD Reference:</b>	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	40.12	180.31	151.93	235.79					
100.00	100.00	100.00	100.00	0.13	0.13	40.12	180.31	151.93	235.79	235.52	0.27	877.014 CC		
200.00	200.00	199.19	199.17	0.49	0.49	39.70	181.54	150.73	235.96	234.98	0.98	240.243		
300.00	300.00	298.14	297.98	0.85	0.86	38.47	185.20	147.14	236.54	234.84	1.70	139.069 ES		
400.00	400.00	396.62	396.09	1.21	1.22	36.43	191.26	141.19	237.76	235.33	2.43	97.811		
500.00	499.98	494.52	493.27	1.56	1.61	134.52	199.67	132.93	241.19	238.02	3.17	76.122		
600.00	599.84	591.77	589.35	1.91	2.02	131.85	210.36	122.44	248.24	244.31	3.93	63.225		
700.00	699.45	688.23	684.10	2.27	2.45	129.16	223.26	109.78	258.95	254.24	4.71	54.922		
800.00	798.70	783.78	777.30	2.65	2.91	126.55	238.27	95.04	273.31	267.78	5.54	49.358		
900.00	897.47	878.29	868.75	3.06	3.41	124.09	255.30	78.33	291.26	284.86	6.40	45.527		
1,000.00	995.62	971.65	958.26	3.49	3.94	121.81	274.22	59.76	312.68	305.38	7.30	42.842		
1,100.00	1,093.06	1,063.76	1,045.69	3.96	4.50	119.74	294.92	39.44	337.45	329.20	8.25	40.913		
1,200.00	1,189.64	1,154.54	1,130.88	4.47	5.10	117.88	317.27	17.50	365.43	356.18	9.25	39.513		
1,300.00	1,285.27	1,243.89	1,213.74	5.02	5.73	116.20	341.14	-5.93	396.48	386.17	10.30	38.479		
1,400.00	1,379.82	1,331.76	1,294.16	5.63	6.39	114.69	366.40	-30.72	430.45	419.03	11.42	37.699		
1,500.00	1,473.18	1,418.09	1,372.08	6.29	7.09	113.40	392.92	-56.75	467.21	454.62	12.59	37.096		
1,600.00	1,566.03	1,503.02	1,447.60	6.99	7.81	112.72	420.64	-83.96	505.91	492.10	13.81	36.643		
1,700.00	1,658.89	1,607.65	1,526.13	7.71	8.76	111.91	451.04	-113.79	545.68	530.44	15.24	35.805		
1,800.00	1,751.74	1,683.80	1,606.46	8.44	9.46	111.18	482.22	-144.40	585.60	569.13	16.47	35.552		
1,900.00	1,844.60	1,775.25	1,686.80	9.17	10.30	110.54	513.40	-175.01	625.59	607.75	17.84	35.060		
2,000.00	1,937.45	1,866.70	1,767.13	9.91	11.15	109.98	544.58	-205.61	665.64	646.41	19.23	34.621		
2,100.00	2,030.31	1,958.15	1,847.47	10.66	12.01	109.48	575.76	-236.22	705.73	685.11	20.62	34.228		
2,200.00	2,123.16	2,049.60	1,927.80	11.41	12.86	109.04	606.95	-266.83	745.86	723.85	22.02	33.876		
2,300.00	2,216.02	2,141.04	2,008.14	12.17	13.73	108.64	638.13	-297.43	786.03	762.61	23.42	33.559		
2,400.00	2,308.87	2,232.49	2,088.47	12.93	14.59	108.28	669.31	-328.04	826.23	801.39	24.83	33.272		
2,500.00	2,401.73	2,323.94	2,168.81	13.69	15.46	107.95	700.49	-358.65	866.45	840.20	26.25	33.012		
2,600.00	2,494.58	2,415.39	2,249.14	14.45	16.32	107.66	731.67	-389.25	906.69	879.03	27.66	32.776		
2,700.00	2,587.44	2,506.84	2,329.48	15.22	17.19	107.38	762.85	-419.86	946.95	917.87	29.08	32.560		
2,800.00	2,680.29	2,601.72	2,409.81	15.98	18.10	107.13	794.04	-450.46	987.23	956.69	30.53	32.331		
2,900.00	2,773.15	2,689.73	2,490.15	16.75	18.94	106.90	825.22	-481.07	1,027.52	995.59	31.93	32.180		
3,000.00	2,866.00	2,781.18	2,570.48	17.52	19.81	106.69	856.40	-511.68	1,067.83	1,034.47	33.36	32.012		
3,100.00	2,958.86	2,872.63	2,650.82	18.29	20.68	106.49	887.58	-542.28	1,108.14	1,073.36	34.78	31.857		
3,200.00	3,051.71	2,964.08	2,731.15	19.06	21.56	106.31	918.76	-572.89	1,148.47	1,112.26	36.21	31.713		
3,300.00	3,144.57	3,055.52	2,811.49	19.83	22.43	106.14	949.95	-603.50	1,188.81	1,151.16	37.64	31.580		
3,400.00	3,237.42	3,146.97	2,891.82	20.60	23.31	105.98	981.13	-634.10	1,229.15	1,190.07	39.08	31.455		
3,500.00	3,330.28	3,238.42	2,972.16	21.37	24.18	105.83	1,012.31	-664.71	1,269.50	1,228.99	40.51	31.339		
3,600.00	3,423.13	3,329.87	3,052.49	22.15	25.06	105.69	1,043.49	-695.32	1,309.86	1,267.92	41.94	31.231		
3,700.00	3,515.99	3,421.32	3,132.83	22.92	25.94	105.55	1,074.67	-725.92	1,350.23	1,306.85	43.38	31.129		
3,800.00	3,608.84	3,512.76	3,213.16	23.70	26.82	105.43	1,105.86	-756.53	1,390.60	1,345.79	44.81	31.033		
3,900.00	3,701.70	3,604.21	3,293.49	24.47	27.69	105.31	1,137.04	-787.14	1,430.97	1,384.73	46.25	30.943		
4,000.00	3,794.55	3,704.34	3,373.83	25.25	28.65	105.20	1,168.22	-817.74	1,471.35	1,423.60	47.75	30.811		
4,100.00	3,887.41	3,787.11	3,454.16	26.02	29.45	105.09	1,199.40	-848.35	1,511.74	1,462.62	49.12	30.778		
4,200.00	3,980.26	3,878.56	3,534.50	26.80	30.33	104.99	1,230.58	-878.95	1,552.13	1,501.57	50.56	30.702		
4,300.00	4,073.12	3,970.00	3,614.83	27.57	31.21	104.90	1,261.76	-909.56	1,592.52	1,540.53	51.99	30.630		
4,400.00	4,165.97	4,061.45	3,695.17	28.35	32.08	104.81	1,292.95	-940.17	1,632.92	1,579.49	53.43	30.562		
4,500.00	4,258.83	4,152.90	3,775.50	29.12	32.96	104.72	1,324.13	-970.77	1,673.32	1,618.45	54.87	30.497		
4,600.00	4,351.68	4,244.35	3,855.84	29.90	33.84	104.64	1,355.31	-1,001.38	1,713.72	1,657.41	56.31	30.435		
4,700.00	4,444.54	4,335.80	3,936.17	30.68	34.72	104.56	1,386.49	-1,031.99	1,754.13	1,696.38	57.75	30.377		
4,800.00	4,537.39	4,427.24	4,016.51	31.45	35.60	104.49	1,417.67	-1,062.59	1,794.54	1,735.35	59.19	30.321		
4,900.00	4,630.25	4,518.69	4,096.84	32.23	36.48	104.42	1,448.86	-1,093.20	1,834.95	1,774.32	60.62	30.267		
5,000.00	4,723.10	4,610.14	4,177.18	33.01	37.36	104.35	1,480.04	-1,123.81	1,875.36	1,813.29	62.06	30.216		
5,100.00	4,815.96	4,701.59	4,257.51	33.79	38.24	104.29	1,511.22	-1,154.41	1,915.77	1,852.27	63.50	30.167		

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

# Anticollision Report

<b>Company:</b>	EXTRACTION OIL & GAS	<b>Local Co-ordinate Reference:</b>	Well WARBLER 13W-27-19
<b>Project:</b>	ADAMS COUNTY	<b>TVD Reference:</b>	KB 25' @ 5106.00usft
<b>Reference Site:</b>	Sec 13-T1S-R66W	<b>MD Reference:</b>	KB 25' @ 5106.00usft
<b>Site Error:</b>	0.00 usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	WARBLER 13W-27-19	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00 usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OWB	<b>Database:</b>	EDT_32Bit_ODBC
<b>Reference Design:</b>	PROPOSAL 1	<b>Offset TVD Reference:</b>	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	4,908.81	4,793.04	4,337.85	34.56	39.12	104.22	1,542.40	-1,185.02	1,956.19	1,891.24	64.95	30.121		
5,300.00	5,001.67	4,884.48	4,418.18	35.34	40.00	104.16	1,573.58	-1,215.62	1,996.61	1,930.22	66.39	30.076		
5,400.00	5,094.52	4,975.93	4,498.52	36.12	40.88	104.11	1,604.77	-1,246.23	2,037.03	1,969.20	67.83	30.033		
5,500.00	5,187.38	5,067.38	4,578.85	36.90	41.76	104.05	1,635.95	-1,276.84	2,077.45	2,008.18	69.27	29.992		
5,600.00	5,280.23	5,158.83	4,659.19	37.67	42.64	104.00	1,667.13	-1,307.44	2,117.88	2,047.17	70.71	29.952		
5,700.00	5,373.09	5,250.28	4,739.52	38.45	43.52	103.95	1,698.31	-1,338.05	2,158.30	2,086.15	72.15	29.914		
5,800.00	5,465.94	5,341.72	4,819.86	39.23	44.40	103.90	1,729.49	-1,368.66	2,198.73	2,125.13	73.59	29.877		
5,900.00	5,558.80	5,433.17	4,900.19	40.01	45.28	103.85	1,760.67	-1,399.26	2,239.16	2,164.12	75.03	29.842		
6,000.00	5,651.65	5,524.62	4,980.53	40.79	46.17	103.80	1,791.86	-1,429.87	2,279.58	2,203.11	76.48	29.808		
6,100.00	5,744.51	5,616.07	5,060.86	41.57	47.05	103.76	1,823.04	-1,460.48	2,320.01	2,242.10	77.92	29.775		
6,200.00	5,837.36	5,707.52	5,141.20	42.34	47.93	103.72	1,854.22	-1,491.08	2,360.45	2,281.08	79.36	29.743		
6,300.00	5,930.22	5,801.04	5,221.53	43.12	48.83	103.67	1,885.40	-1,521.69	2,400.88	2,320.06	80.82	29.706		
6,400.00	6,023.07	5,890.41	5,301.87	43.90	49.69	103.63	1,916.58	-1,552.30	2,441.31	2,359.07	82.25	29.683		
6,500.00	6,115.93	5,981.86	5,382.20	44.68	50.57	103.60	1,947.77	-1,582.90	2,481.75	2,398.06	83.69	29.654		
6,600.00	6,208.78	6,073.31	5,462.53	45.46	51.45	103.56	1,978.95	-1,613.51	2,522.18	2,437.05	85.13	29.626		
6,700.00	6,301.64	6,164.76	5,542.87	46.24	52.33	103.52	2,010.13	-1,644.11	2,562.62	2,476.04	86.58	29.599		
6,800.00	6,394.49	6,256.20	5,623.20	47.02	53.21	103.49	2,041.31	-1,674.72	2,603.06	2,515.04	88.02	29.573		
6,900.00	6,487.35	6,347.65	5,703.54	47.80	54.09	103.45	2,072.49	-1,705.33	2,643.49	2,554.03	89.46	29.548		
7,000.00	6,580.20	6,439.10	5,783.87	48.57	54.98	103.42	2,103.67	-1,735.93	2,683.93	2,593.02	90.91	29.524		
7,100.00	6,673.06	6,530.55	5,864.21	49.35	55.86	103.39	2,134.86	-1,766.54	2,724.37	2,632.02	92.35	29.500		
7,200.00	6,765.91	6,622.00	5,944.54	50.13	56.74	103.36	2,166.04	-1,797.15	2,764.81	2,671.02	93.80	29.477		
7,300.00	6,856.90	6,713.27	6,024.72	50.99	57.62	97.51	2,197.16	-1,827.69	2,805.32	2,709.98	95.34	29.424		
7,400.00	6,939.78	6,802.53	6,103.14	52.14	58.48	91.55	2,227.60	-1,857.57	2,845.54	2,748.31	97.23	29.266		
7,500.00	7,011.80	6,887.07	6,177.40	53.58	59.29	86.94	2,256.42	-1,885.86	2,884.63	2,785.19	99.44	29.009		
7,600.00	7,070.78	6,964.32	6,245.27	55.27	60.04	83.21	2,282.77	-1,911.72	2,921.98	2,820.09	101.89	28.678		
7,700.00	7,114.93	7,031.95	6,304.68	57.16	60.69	80.11	2,305.82	-1,934.35	2,957.19	2,852.70	104.49	28.301		
7,800.00	7,142.90	7,087.88	6,353.81	59.19	61.23	77.45	2,324.90	-1,953.07	2,990.01	2,882.88	107.13	27.910		
7,900.00	7,153.85	7,130.43	6,391.19	61.28	61.64	75.11	2,339.40	-1,967.31	3,020.22	2,910.54	109.69	27.535		
8,000.00	7,154.00	7,164.01	6,420.69	63.38	61.96	75.36	2,350.85	-1,978.55	3,049.71	2,937.58	112.12	27.199		
8,100.00	7,154.00	7,197.46	6,450.07	65.52	62.29	75.98	2,362.26	-1,989.75	3,081.74	2,967.23	114.52	26.911		
8,200.00	7,154.00	7,230.91	6,479.46	67.71	62.61	76.60	2,373.67	-2,000.94	3,116.30	2,999.45	116.85	26.669		
8,300.00	7,154.00	7,264.36	6,508.85	69.93	62.93	77.21	2,385.07	-2,012.14	3,153.30	3,034.17	119.13	26.469		
8,400.00	7,154.00	7,302.19	6,538.23	72.19	63.30	77.82	2,396.48	-2,023.33	3,192.65	3,071.26	121.39	26.301		
8,500.00	7,154.00	7,331.26	6,567.62	74.47	63.58	78.43	2,407.88	-2,034.53	3,234.27	3,110.77	123.50	26.188		
8,600.00	7,154.00	7,364.71	6,597.00	76.79	63.90	79.04	2,419.29	-2,045.72	3,278.07	3,152.48	125.59	26.101		
8,700.00	7,154.00	9,569.03	7,579.00	79.12	95.96	97.43	2,801.93	-3,610.78	3,287.30	3,126.52	160.78	20.445		
8,800.00	7,154.00	9,669.03	7,579.00	81.48	97.96	97.43	2,802.06	-3,710.78	3,287.48	3,122.03	165.45	19.870		
8,900.00	7,154.00	9,769.03	7,579.00	83.87	100.00	97.43	2,802.18	-3,810.78	3,287.65	3,117.50	170.15	19.322		
9,000.00	7,154.00	9,869.03	7,579.00	86.27	102.06	97.43	2,802.31	-3,910.78	3,287.83	3,112.93	174.89	18.799		
9,100.00	7,154.00	9,969.03	7,579.00	88.68	104.16	97.43	2,802.43	-4,010.78	3,288.00	3,108.33	179.67	18.300		
9,200.00	7,154.00	10,069.03	7,579.00	91.12	106.28	97.43	2,802.56	-4,110.78	3,288.18	3,103.70	184.48	17.824		
9,300.00	7,154.00	10,169.03	7,579.00	93.57	108.43	97.43	2,802.68	-4,210.78	3,288.35	3,099.04	189.32	17.370		
9,400.00	7,154.00	10,269.03	7,579.00	96.03	110.61	97.43	2,802.80	-4,310.78	3,288.53	3,094.35	194.18	16.935		
9,500.00	7,154.00	10,369.03	7,579.00	98.50	112.80	97.43	2,802.93	-4,410.78	3,288.70	3,089.63	199.07	16.520		
9,600.00	7,154.00	10,469.03	7,579.00	100.99	115.02	97.42	2,803.05	-4,510.78	3,288.88	3,084.89	203.99	16.123		
9,700.00	7,154.00	10,569.03	7,579.00	103.49	117.26	97.42	2,803.18	-4,610.78	3,289.05	3,080.13	208.93	15.743		
9,800.00	7,154.00	10,669.03	7,579.00	106.00	119.52	97.42	2,803.30	-4,710.78	3,289.23	3,075.35	213.88	15.379		
9,900.00	7,154.00	10,769.03	7,579.00	108.51	121.80	97.42	2,803.43	-4,810.78	3,289.40	3,070.54	218.86	15.030		
10,000.00	7,154.00	10,869.03	7,579.00	111.04	124.10	97.42	2,803.55	-4,910.78	3,289.58	3,065.72	223.86	14.695		
10,100.00	7,154.00	10,969.03	7,579.00	113.58	126.41	97.42	2,803.68	-5,010.78	3,289.76	3,060.89	228.87	14.374		
10,200.00	7,154.00	11,069.03	7,579.00	116.12	128.74	97.42	2,803.80	-5,110.78	3,289.93	3,056.04	233.90	14.066		
10,300.00	7,154.00	11,169.03	7,579.00	118.67	131.08	97.42	2,803.93	-5,210.78	3,290.11	3,051.17	238.94	13.770		

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

# Anticollision Report

<b>Company:</b>	EXTRACTION OIL & GAS	<b>Local Co-ordinate Reference:</b>	Well WARBLER 13W-27-19
<b>Project:</b>	ADAMS COUNTY	<b>TVD Reference:</b>	KB 25' @ 5106.00usft
<b>Reference Site:</b>	Sec 13-T1S-R66W	<b>MD Reference:</b>	KB 25' @ 5106.00usft
<b>Site Error:</b>	0.00 usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	WARBLER 13W-27-19	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00 usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OWB	<b>Database:</b>	EDT_32Bit_ODBC
<b>Reference Design:</b>	PROPOSAL 1	<b>Offset TVD Reference:</b>	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	11,269.03	7,579.00	121.22	133.44	97.42	2,804.05	-5,310.78	3,290.28	3,046.29	243.99	13.485		
10,500.00	7,154.00	11,369.03	7,579.00	123.79	135.81	97.42	2,804.17	-5,410.78	3,290.46	3,041.40	249.06	13.211		
10,600.00	7,154.00	11,469.03	7,579.00	126.35	138.20	97.42	2,804.30	-5,510.78	3,290.63	3,036.49	254.14	12.948		
10,700.00	7,154.00	11,569.03	7,579.00	128.93	140.59	97.42	2,804.42	-5,610.78	3,290.81	3,031.57	259.23	12.694		
10,800.00	7,154.00	11,669.03	7,579.00	131.51	143.00	97.42	2,804.55	-5,710.78	3,290.98	3,026.65	264.34	12.450		
10,900.00	7,154.00	11,769.03	7,579.00	134.09	145.42	97.42	2,804.67	-5,810.78	3,291.16	3,021.71	269.45	12.214		
11,000.00	7,154.00	11,869.03	7,579.00	136.68	147.85	97.42	2,804.80	-5,910.78	3,291.33	3,016.76	274.57	11.987		
11,100.00	7,154.00	11,969.03	7,579.00	139.27	150.29	97.42	2,804.92	-6,010.77	3,291.51	3,011.80	279.71	11.768		
11,200.00	7,154.00	12,069.03	7,579.00	141.87	152.73	97.42	2,805.05	-6,110.77	3,291.68	3,006.84	284.85	11.556		
11,300.00	7,154.00	12,169.03	7,579.00	144.47	155.19	97.42	2,805.17	-6,210.77	3,291.86	3,001.87	289.99	11.351		
11,400.00	7,154.00	12,269.03	7,579.00	147.08	157.66	97.42	2,805.29	-6,310.77	3,292.04	2,996.89	295.15	11.154		
11,500.00	7,154.00	12,369.03	7,579.00	149.68	160.13	97.42	2,805.42	-6,410.77	3,292.21	2,991.90	300.31	10.963		
11,600.00	7,154.00	12,469.03	7,579.00	152.30	162.61	97.42	2,805.54	-6,510.77	3,292.39	2,986.90	305.48	10.778		
11,700.00	7,154.00	12,569.03	7,579.00	154.91	165.10	97.42	2,805.67	-6,610.77	3,292.56	2,981.90	310.66	10.599		
11,800.00	7,154.00	12,669.03	7,579.00	157.53	167.60	97.42	2,805.79	-6,710.77	3,292.74	2,976.89	315.84	10.425		
11,900.00	7,154.00	12,769.03	7,579.00	160.15	170.10	97.42	2,805.92	-6,810.77	3,292.91	2,971.88	321.03	10.257		
12,000.00	7,154.00	12,869.03	7,579.00	162.77	172.61	97.42	2,806.04	-6,910.77	3,293.09	2,966.86	326.23	10.094		
12,100.00	7,154.00	12,969.03	7,579.00	165.40	175.12	97.41	2,806.17	-7,010.77	3,293.26	2,961.84	331.43	9.937		
12,200.00	7,154.00	13,069.03	7,579.00	168.03	177.64	97.41	2,806.29	-7,110.77	3,293.44	2,956.81	336.63	9.783		
12,300.00	7,154.00	13,169.03	7,579.00	170.66	180.17	97.41	2,806.41	-7,210.77	3,293.61	2,951.77	341.84	9.635		
12,400.00	7,154.00	13,269.03	7,579.00	173.29	182.70	97.41	2,806.54	-7,310.77	3,293.79	2,946.73	347.06	9.491		
12,500.00	7,154.00	13,369.03	7,579.00	175.93	185.24	97.41	2,806.66	-7,410.77	3,293.97	2,941.69	352.28	9.350		
12,600.00	7,154.00	13,469.02	7,579.00	178.56	187.78	97.41	2,806.79	-7,510.77	3,294.14	2,936.64	357.50	9.214		
12,700.00	7,154.00	13,569.02	7,579.00	181.20	190.32	97.41	2,806.91	-7,610.77	3,294.32	2,931.59	362.73	9.082		
12,800.00	7,154.00	13,669.02	7,579.00	183.84	192.87	97.41	2,807.04	-7,710.77	3,294.49	2,926.53	367.96	8.953		
12,900.00	7,154.00	13,769.02	7,579.00	186.49	195.43	97.41	2,807.16	-7,810.77	3,294.67	2,921.47	373.20	8.828		
13,000.00	7,154.00	13,869.02	7,579.00	189.13	197.99	97.41	2,807.29	-7,910.77	3,294.84	2,916.41	378.44	8.706		
13,100.00	7,154.00	13,969.02	7,579.00	191.78	200.55	97.41	2,807.41	-8,010.77	3,295.02	2,911.34	383.68	8.588		
13,200.00	7,154.00	14,069.02	7,579.00	194.43	203.12	97.41	2,807.54	-8,110.77	3,295.19	2,906.27	388.93	8.473		
13,300.00	7,154.00	14,169.02	7,579.00	197.07	205.69	97.41	2,807.66	-8,210.77	3,295.37	2,901.19	394.18	8.360		
13,400.00	7,154.00	14,269.02	7,579.00	199.73	208.26	97.41	2,807.78	-8,310.77	3,295.54	2,896.12	399.43	8.251		
13,500.00	7,154.00	14,369.02	7,579.00	202.38	210.84	97.41	2,807.91	-8,410.77	3,295.72	2,891.04	404.68	8.144		
13,600.00	7,154.00	14,469.02	7,579.00	205.03	213.42	97.41	2,808.03	-8,510.77	3,295.89	2,885.95	409.94	8.040		
13,700.00	7,154.00	14,569.02	7,579.00	207.69	216.00	97.41	2,808.16	-8,610.77	3,296.07	2,880.87	415.20	7.938		
13,800.00	7,154.00	14,669.02	7,579.00	210.34	218.59	97.41	2,808.28	-8,710.77	3,296.25	2,875.78	420.47	7.840		
13,900.00	7,154.00	14,769.02	7,579.00	213.00	221.18	97.41	2,808.41	-8,810.77	3,296.42	2,870.69	425.73	7.743		
14,000.00	7,154.00	14,869.02	7,579.00	215.66	223.77	97.41	2,808.53	-8,910.77	3,296.60	2,865.60	431.00	7.649		
14,100.00	7,154.00	14,969.02	7,579.00	218.32	226.37	97.41	2,808.66	-9,010.77	3,296.77	2,860.50	436.27	7.557		
14,200.00	7,154.00	15,069.02	7,579.00	220.98	228.97	97.41	2,808.78	-9,110.77	3,296.95	2,855.40	441.54	7.467		
14,300.00	7,154.00	15,169.02	7,579.00	223.64	231.57	97.41	2,808.90	-9,210.77	3,297.12	2,850.30	446.82	7.379		
14,400.00	7,154.00	15,269.02	7,579.00	226.30	234.17	97.41	2,809.03	-9,310.77	3,297.30	2,845.20	452.10	7.293		
14,500.00	7,154.00	15,369.02	7,579.00	228.97	236.78	97.41	2,809.15	-9,410.77	3,297.47	2,840.10	457.38	7.210		
14,600.00	7,154.00	15,469.02	7,579.00	231.63	239.38	97.40	2,809.28	-9,510.77	3,297.65	2,834.99	462.66	7.128		
14,700.00	7,154.00	15,569.02	7,579.00	234.29	241.99	97.40	2,809.40	-9,610.77	3,297.82	2,829.88	467.94	7.048		
14,800.00	7,154.00	15,669.02	7,579.00	236.96	244.61	97.40	2,809.53	-9,710.77	3,298.00	2,824.77	473.23	6.969		
14,900.00	7,154.00	15,769.02	7,579.00	239.63	247.22	97.40	2,809.65	-9,810.77	3,298.18	2,819.66	478.51	6.893		
15,000.00	7,154.00	15,869.02	7,579.00	242.30	249.84	97.40	2,809.78	-9,910.77	3,298.35	2,814.55	483.80	6.818		
15,100.00	7,154.00	15,969.02	7,579.00	244.96	252.45	97.40	2,809.90	-10,010.77	3,298.53	2,809.44	489.09	6.744		
15,200.00	7,154.00	16,069.02	7,579.00	247.63	255.07	97.40	2,810.02	-10,110.77	3,298.70	2,804.32	494.38	6.672		
15,300.00	7,154.00	16,169.02	7,579.00	250.30	257.70	97.40	2,810.15	-10,210.77	3,298.88	2,799.20	499.68	6.602		
15,400.00	7,154.00	16,269.02	7,579.00	252.98	260.32	97.40	2,810.27	-10,310.76	3,299.05	2,794.08	504.97	6.533		
15,500.00	7,154.00	16,369.02	7,579.00	255.65	262.94	97.40	2,810.40	-10,410.76	3,299.23	2,788.96	510.27	6.466		

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



# Anticollision Report

<b>Company:</b>	EXTRACTION OIL & GAS	<b>Local Co-ordinate Reference:</b>	Well Warbler 13W-27-19
<b>Project:</b>	ADAMS COUNTY	<b>TVD Reference:</b>	KB 25' @ 5106.00usft
<b>Reference Site:</b>	Sec 13-T1S-R66W	<b>MD Reference:</b>	KB 25' @ 5106.00usft
<b>Site Error:</b>	0.00 usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Warbler 13W-27-19	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00 usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OWB	<b>Database:</b>	EDT_32Bit_ODBC
<b>Reference Design:</b>	PROPOSAL 1	<b>Offset TVD Reference:</b>	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		
15,600.00	7,154.00	16,469.02	7,579.00	258.32	265.57	97.40	2,810.52	-10,510.76	3,299.40	2,783.84	515.57	6.400		
15,700.00	7,154.00	16,569.02	7,579.00	260.99	268.20	97.40	2,810.65	-10,610.76	3,299.58	2,778.71	520.86	6.335		
15,800.00	7,154.00	16,669.02	7,579.00	263.67	270.83	97.40	2,810.77	-10,710.76	3,299.75	2,773.59	526.17	6.271		
15,900.00	7,154.00	16,769.02	7,579.00	266.34	273.46	97.40	2,810.90	-10,810.76	3,299.93	2,768.46	531.47	6.209		
16,000.00	7,154.00	16,869.02	7,579.00	269.01	276.09	97.40	2,811.02	-10,910.76	3,300.10	2,763.33	536.77	6.148		
16,100.00	7,154.00	16,969.02	7,579.00	271.69	278.73	97.40	2,811.15	-11,010.76	3,300.28	2,758.21	542.07	6.088		
16,200.00	7,154.00	17,069.02	7,579.00	274.36	281.36	97.40	2,811.27	-11,110.76	3,300.46	2,753.08	547.38	6.030		
16,300.00	7,154.00	17,169.02	7,579.00	277.04	284.00	97.40	2,811.39	-11,210.76	3,300.63	2,747.94	552.69	5.972		
16,400.00	7,154.00	17,269.02	7,579.00	279.72	286.64	97.40	2,811.52	-11,310.76	3,300.81	2,742.81	557.99	5.915		
16,500.00	7,154.00	17,369.02	7,579.00	282.40	289.28	97.40	2,811.64	-11,410.76	3,300.98	2,737.68	563.30	5.860		
16,600.00	7,154.00	17,469.02	7,579.00	285.07	291.92	97.40	2,811.77	-11,510.76	3,301.16	2,732.54	568.61	5.806		
16,700.00	7,154.00	17,569.02	7,579.00	287.75	294.56	97.40	2,811.89	-11,610.76	3,301.33	2,727.41	573.92	5.752		
16,800.00	7,154.00	17,669.02	7,579.00	290.43	297.20	97.40	2,812.02	-11,710.76	3,301.51	2,722.27	579.24	5.700		
16,900.00	7,154.00	17,769.02	7,579.00	293.11	299.85	97.40	2,812.14	-11,810.76	3,301.68	2,717.13	584.55	5.648		
17,000.00	7,154.00	17,869.02	7,579.00	295.79	302.49	97.40	2,812.27	-11,910.76	3,301.86	2,712.00	589.86	5.598		
17,100.00	7,154.00	17,969.02	7,579.00	298.47	305.14	97.39	2,812.39	-12,010.76	3,302.03	2,706.86	595.18	5.548		
17,200.00	7,154.00	18,069.02	7,579.00	301.15	307.79	97.39	2,812.51	-12,110.76	3,302.21	2,701.72	600.49	5.499		
17,300.00	7,154.00	18,169.02	7,579.00	303.83	310.43	97.39	2,812.64	-12,210.76	3,302.39	2,696.57	605.81	5.451		
17,400.00	7,154.00	18,269.02	7,579.00	306.51	313.08	97.39	2,812.76	-12,310.76	3,302.56	2,691.43	611.13	5.404		
17,500.00	7,154.00	18,369.02	7,579.00	309.19	315.73	97.39	2,812.89	-12,410.76	3,302.74	2,686.29	616.45	5.358		
17,600.00	7,154.00	18,469.02	7,579.00	311.88	318.39	97.39	2,813.01	-12,510.76	3,302.91	2,681.15	621.77	5.312		
17,700.00	7,154.00	18,569.02	7,579.00	314.56	321.04	97.39	2,813.14	-12,610.76	3,303.09	2,676.00	627.09	5.267		
17,800.00	7,154.00	18,669.02	7,579.00	317.24	323.69	97.39	2,813.26	-12,710.76	3,303.26	2,670.86	632.41	5.223		
17,900.00	7,154.00	18,769.02	7,579.00	319.92	326.34	97.39	2,813.39	-12,810.76	3,303.44	2,665.71	637.73	5.180		
18,000.00	7,154.00	18,869.02	7,579.00	322.61	329.00	97.39	2,813.51	-12,910.76	3,303.61	2,660.56	643.05	5.137		
18,100.00	7,154.00	18,969.02	7,579.00	325.29	331.66	97.39	2,813.63	-13,010.76	3,303.79	2,655.42	648.37	5.096		
18,200.00	7,154.00	19,069.02	7,579.00	327.98	334.31	97.39	2,813.76	-13,110.76	3,303.96	2,650.27	653.70	5.054		
18,300.00	7,154.00	19,169.02	7,579.00	330.66	336.97	97.39	2,813.88	-13,210.76	3,304.14	2,645.12	659.02	5.014		
18,400.00	7,154.00	19,269.02	7,579.00	333.34	339.63	97.39	2,814.01	-13,310.76	3,304.31	2,639.97	664.34	4.974		
18,500.00	7,154.00	19,369.02	7,579.00	336.03	342.29	97.39	2,814.13	-13,410.76	3,304.49	2,634.82	669.67	4.935		
18,600.00	7,154.00	19,469.02	7,579.00	338.71	344.94	97.39	2,814.26	-13,510.76	3,304.67	2,629.67	675.00	4.896		
18,700.00	7,154.00	19,569.02	7,579.00	341.40	347.60	97.39	2,814.38	-13,610.76	3,304.84	2,624.52	680.32	4.858		
18,800.00	7,154.00	19,669.02	7,579.00	344.09	350.27	97.39	2,814.51	-13,710.76	3,305.02	2,619.37	685.65	4.820		
18,900.00	7,154.00	19,769.02	7,579.00	346.77	352.93	97.39	2,814.63	-13,810.76	3,305.19	2,614.21	690.98	4.783		
19,000.00	7,154.00	19,869.02	7,579.00	349.46	355.59	97.39	2,814.76	-13,910.76	3,305.37	2,609.06	696.31	4.747		
19,100.00	7,154.00	19,969.01	7,579.00	352.15	358.25	97.39	2,814.88	-14,010.76	3,305.54	2,603.91	701.64	4.711		
19,200.00	7,154.00	20,069.01	7,579.00	354.83	360.91	97.39	2,815.00	-14,110.76	3,305.72	2,598.75	706.97	4.676		
19,300.00	7,154.00	20,169.01	7,579.00	357.52	363.58	97.39	2,815.13	-14,210.76	3,305.89	2,593.60	712.30	4.641		
19,400.00	7,154.00	20,269.01	7,579.00	360.21	366.24	97.39	2,815.25	-14,310.76	3,306.07	2,588.44	717.63	4.607		
19,500.00	7,154.00	20,369.01	7,579.00	362.90	368.91	97.39	2,815.38	-14,410.76	3,306.24	2,583.29	722.96	4.573		
19,600.00	7,154.00	20,469.01	7,579.00	365.58	371.57	97.39	2,815.50	-14,510.76	3,306.42	2,578.13	728.29	4.540		
19,700.00	7,154.00	20,569.01	7,579.00	368.27	374.24	97.38	2,815.63	-14,610.75	3,306.60	2,572.97	733.62	4.507		
19,800.00	7,154.00	20,669.01	7,579.00	370.96	376.91	97.38	2,815.75	-14,710.75	3,306.77	2,567.82	738.96	4.475		
19,900.00	7,154.00	20,769.01	7,579.00	373.65	379.57	97.38	2,815.88	-14,810.75	3,306.95	2,562.66	744.29	4.443		
20,000.00	7,154.00	20,869.01	7,579.00	376.34	382.24	97.38	2,816.00	-14,910.75	3,307.12	2,557.50	749.62	4.412		
20,100.00	7,154.00	20,969.01	7,579.00	379.03	384.91	97.38	2,816.12	-15,010.75	3,307.30	2,552.34	754.96	4.381		
20,200.00	7,154.00	21,069.01	7,579.00	381.71	387.58	97.38	2,816.25	-15,110.75	3,307.47	2,547.18	760.29	4.350		
20,300.00	7,154.00	21,169.01	7,579.00	384.40	390.25	97.38	2,816.37	-15,210.75	3,307.65	2,542.02	765.63	4.320		
20,400.00	7,154.00	21,269.01	7,579.00	387.09	392.92	97.38	2,816.50	-15,310.75	3,307.82	2,536.86	770.96	4.291		
20,500.00	7,154.00	21,369.01	7,579.00	389.78	395.59	97.38	2,816.62	-15,410.75	3,308.00	2,531.70	776.30	4.261		
20,600.00	7,154.00	21,469.01	7,579.00	392.47	398.26	97.38	2,816.75	-15,510.75	3,308.17	2,526.54	781.63	4.232		
20,700.00	7,154.00	21,569.01	7,579.00	395.16	400.93	97.38	2,816.87	-15,610.75	3,308.35	2,521.38	786.97	4.204		

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

# Anticollision Report

<b>Company:</b>	EXTRACTION OIL & GAS	<b>Local Co-ordinate Reference:</b>	Well WARBLER 13W-27-19
<b>Project:</b>	ADAMS COUNTY	<b>TVD Reference:</b>	KB 25' @ 5106.00usft
<b>Reference Site:</b>	Sec 13-T1S-R66W	<b>MD Reference:</b>	KB 25' @ 5106.00usft
<b>Site Error:</b>	0.00 usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	WARBLER 13W-27-19	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00 usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OWB	<b>Database:</b>	EDT_32Bit_ODBC
<b>Reference Design:</b>	PROPOSAL 1	<b>Offset TVD Reference:</b>	Offset Datum

<b>Offset Design</b> Sec 13-T1S-R66W - WARBLER 13W-27-07 - OWB - PROPOSAL 1												<b>Offset Site Error:</b>	0.00 usft
Survey Program: 0-MWD OWSG												<b>Offset Well Error:</b>	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	21,669.01	7,579.00	397.85	403.60	97.38	2,817.00	-15,710.75	3,308.52	2,516.22	792.31	4.176	
20,900.00	7,154.00	21,769.01	7,579.00	400.54	406.28	97.38	2,817.12	-15,810.75	3,308.70	2,511.06	797.64	4.148	
21,000.00	7,154.00	21,869.01	7,579.00	403.24	408.95	97.38	2,817.24	-15,910.75	3,308.88	2,505.89	802.98	4.121	
21,100.00	7,154.00	21,969.01	7,579.00	405.93	411.62	97.38	2,817.37	-16,010.75	3,309.05	2,500.73	808.32	4.094	
21,200.00	7,154.00	22,069.01	7,579.00	408.62	414.29	97.38	2,817.49	-16,110.75	3,309.23	2,495.57	813.66	4.067	
21,300.00	7,154.00	22,169.01	7,579.00	411.31	416.97	97.38	2,817.62	-16,210.75	3,309.40	2,490.40	819.00	4.041	
21,400.00	7,154.00	22,269.01	7,579.00	414.00	419.64	97.38	2,817.74	-16,310.75	3,309.58	2,485.24	824.34	4.015	
21,500.00	7,154.00	22,369.01	7,579.00	416.69	422.32	97.38	2,817.87	-16,410.75	3,309.75	2,480.08	829.68	3.989	
21,505.33	7,154.00	22,374.34	7,579.00	416.83	422.46	97.38	2,817.87	-16,416.08	3,309.76	2,479.80	829.96	3.988 SF	

# Anticollision Report

<b>Company:</b>	EXTRACTION OIL & GAS	<b>Local Co-ordinate Reference:</b>	Well WARBLER 13W-27-19
<b>Project:</b>	ADAMS COUNTY	<b>TVD Reference:</b>	KB 25' @ 5106.00usft
<b>Reference Site:</b>	Sec 13-T1S-R66W	<b>MD Reference:</b>	KB 25' @ 5106.00usft
<b>Site Error:</b>	0.00 usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	WARBLER 13W-27-19	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00 usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OWB	<b>Database:</b>	EDT_32Bit_ODBC
<b>Reference Design:</b>	PROPOSAL 1	<b>Offset TVD Reference:</b>	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	44.88	152.27	151.65	214.90					
100.00	100.00	100.00	100.00	0.13	0.13	44.88	152.27	151.65	214.90	214.64	0.27	799.335		
200.00	200.00	200.00	200.00	0.49	0.49	44.88	152.27	151.65	214.90	213.92	0.99	218.001		
300.00	300.00	302.06	302.04	0.85	0.86	44.42	153.15	150.06	214.42	212.72	1.71	125.592		
400.00	400.00	403.86	403.68	1.21	1.23	43.01	155.78	145.31	213.06	210.63	2.43	87.624		
477.57	477.56	482.55	482.10	1.48	1.52	142.06	159.01	139.47	212.39	209.39	3.00	70.911 CC		
500.00	499.98	505.27	504.69	1.56	1.60	141.57	160.14	137.44	212.44	209.28	3.16	67.269 ES		
600.00	599.84	606.28	604.92	1.91	2.00	139.14	166.19	126.49	214.14	210.24	3.90	54.908		
700.00	699.45	706.80	704.16	2.27	2.42	136.45	173.92	112.53	218.31	213.63	4.68	46.663		
800.00	798.70	806.76	802.23	2.65	2.87	133.58	183.27	95.65	225.06	219.56	5.50	40.932		
900.00	897.47	906.08	898.95	3.06	3.35	130.65	194.19	75.91	234.48	228.11	6.37	36.811		
1,000.00	995.62	1,004.70	994.16	3.49	3.87	127.74	206.64	53.42	246.61	239.31	7.30	33.776		
1,100.00	1,093.06	1,102.54	1,087.69	3.96	4.43	124.92	220.55	28.29	261.47	253.17	8.30	31.498		
1,200.00	1,189.64	1,199.56	1,179.40	4.47	5.04	122.26	235.86	0.63	279.00	269.62	9.38	29.759		
1,300.00	1,285.27	1,295.70	1,269.18	5.02	5.69	119.78	252.51	-29.45	299.14	288.61	10.53	28.404		
1,400.00	1,379.82	1,408.76	1,357.22	5.63	6.52	117.50	270.47	-61.89	321.80	309.89	11.90	27.032		
1,500.00	1,473.18	1,487.86	1,445.84	6.29	7.13	115.79	289.12	-95.59	346.44	333.34	13.10	26.446		
1,600.00	1,566.03	1,584.43	1,534.41	6.99	7.88	114.85	307.75	-129.26	371.81	357.34	14.47	25.703		
1,700.00	1,658.89	1,680.99	1,622.97	7.71	8.64	114.04	326.39	-162.93	397.26	381.40	15.86	25.054		
1,800.00	1,751.74	1,777.55	1,711.53	8.44	9.41	113.32	345.03	-196.60	422.77	405.51	17.26	24.487		
1,900.00	1,844.60	1,874.11	1,800.10	9.17	10.18	112.68	363.66	-230.27	448.34	429.65	18.69	23.990		
2,000.00	1,937.45	1,970.68	1,888.66	9.91	10.95	112.12	382.30	-263.94	473.95	453.83	20.12	23.553		
2,100.00	2,030.31	2,067.24	1,977.22	10.66	11.73	111.61	400.94	-297.61	499.61	478.04	21.57	23.166		
2,200.00	2,123.16	2,163.80	2,065.78	11.41	12.51	111.15	419.57	-331.28	525.30	502.28	23.02	22.822		
2,300.00	2,216.02	2,260.37	2,154.35	12.17	13.30	110.73	438.21	-364.95	551.01	526.54	24.47	22.514		
2,400.00	2,308.87	2,356.93	2,242.91	12.93	14.08	110.35	456.85	-398.62	576.75	550.82	25.94	22.238		
2,500.00	2,401.73	2,453.49	2,331.47	13.69	14.87	110.01	475.48	-432.29	602.51	575.11	27.40	21.989		
2,600.00	2,494.58	2,550.06	2,420.04	14.45	15.66	109.69	494.12	-465.96	628.29	599.42	28.87	21.763		
2,700.00	2,587.44	2,646.62	2,508.60	15.22	16.45	109.39	512.76	-499.63	654.09	623.75	30.34	21.558		
2,800.00	2,680.29	2,743.18	2,597.16	15.98	17.24	109.12	531.39	-533.30	679.90	648.09	31.82	21.370		
2,900.00	2,773.15	2,839.74	2,685.72	16.75	18.03	108.87	550.03	-566.97	705.73	672.44	33.29	21.198		
3,000.00	2,866.00	2,936.31	2,774.29	17.52	18.82	108.64	568.67	-600.64	731.57	696.80	34.77	21.040		
3,100.00	2,958.86	3,032.87	2,862.85	18.29	19.61	108.42	587.30	-634.31	757.42	721.17	36.25	20.895		
3,200.00	3,051.71	3,129.43	2,951.41	19.06	20.40	108.22	605.94	-667.98	783.27	745.54	37.73	20.760		
3,300.00	3,144.57	3,226.00	3,039.97	19.83	21.20	108.03	624.58	-701.66	809.14	769.93	39.21	20.635		
3,400.00	3,237.42	3,322.56	3,128.54	20.60	21.99	107.85	643.21	-735.33	835.01	794.32	40.70	20.519		
3,500.00	3,330.28	3,419.12	3,217.10	21.37	22.78	107.68	661.85	-769.00	860.90	818.72	42.18	20.410		
3,600.00	3,423.13	3,515.68	3,305.66	22.15	23.58	107.52	680.49	-802.67	886.78	843.12	43.66	20.309		
3,700.00	3,515.99	3,612.25	3,394.23	22.92	24.37	107.37	699.12	-836.34	912.68	867.53	45.15	20.214		
3,800.00	3,608.84	3,708.81	3,482.79	23.70	25.17	107.23	717.76	-870.01	938.58	891.94	46.64	20.126		
3,900.00	3,701.70	3,805.37	3,571.35	24.47	25.96	107.10	736.40	-903.68	964.48	916.36	48.12	20.042		
4,000.00	3,794.55	3,901.94	3,659.91	25.25	26.76	106.97	755.03	-937.35	990.39	940.78	49.61	19.963		
4,100.00	3,887.41	4,001.50	3,748.48	26.02	27.58	106.85	773.67	-971.02	1,016.30	965.18	51.12	19.880		
4,200.00	3,980.26	4,104.94	3,837.04	26.80	28.43	106.74	792.31	-1,004.69	1,042.22	989.55	52.67	19.790		
4,300.00	4,073.12	4,191.63	3,925.60	27.57	29.15	106.63	810.94	-1,038.36	1,068.14	1,014.06	54.08	19.753		
4,400.00	4,165.97	4,288.19	4,014.17	28.35	29.94	106.53	829.58	-1,072.03	1,094.06	1,038.50	55.56	19.690		
4,500.00	4,258.83	4,384.75	4,102.73	29.12	30.74	106.43	848.22	-1,105.70	1,119.99	1,062.94	57.05	19.630		
4,600.00	4,351.68	4,481.31	4,191.29	29.90	31.53	106.33	866.86	-1,139.37	1,145.92	1,087.38	58.54	19.574		
4,700.00	4,444.54	4,577.88	4,279.85	30.68	32.33	106.24	885.49	-1,173.04	1,171.85	1,111.82	60.03	19.520		
4,800.00	4,537.39	4,674.44	4,368.42	31.45	33.13	106.16	904.13	-1,206.71	1,197.79	1,136.26	61.53	19.468		
4,900.00	4,630.25	4,771.00	4,456.98	32.23	33.92	106.07	922.77	-1,240.38	1,223.73	1,160.71	63.02	19.419		
5,000.00	4,723.10	4,867.57	4,545.54	33.01	34.72	106.00	941.40	-1,274.05	1,249.67	1,185.16	64.51	19.373		

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

# Anticollision Report

<b>Company:</b>	EXTRACTION OIL & GAS	<b>Local Co-ordinate Reference:</b>	Well WARBLER 13W-27-19
<b>Project:</b>	ADAMS COUNTY	<b>TVD Reference:</b>	KB 25' @ 5106.00usft
<b>Reference Site:</b>	Sec 13-T1S-R66W	<b>MD Reference:</b>	KB 25' @ 5106.00usft
<b>Site Error:</b>	0.00 usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	WARBLER 13W-27-19	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00 usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OWB	<b>Database:</b>	EDT_32Bit_ODBC
<b>Reference Design:</b>	PROPOSAL 1	<b>Offset TVD Reference:</b>	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	4,815.96	4,964.13	4,634.11	33.79	35.52	105.92	960.04	-1,307.72	1,275.61	1,209.61	66.00	19.328		
5,200.00	4,908.81	5,060.69	4,722.67	34.56	36.32	105.85	978.68	-1,341.39	1,301.55	1,234.06	67.49	19.285		
5,300.00	5,001.67	5,157.25	4,811.23	35.34	37.11	105.78	997.31	-1,375.06	1,327.50	1,258.52	68.98	19.244		
5,400.00	5,094.52	5,253.82	4,899.79	36.12	37.91	105.71	1,015.95	-1,408.73	1,353.45	1,282.98	70.47	19.205		
5,500.00	5,187.38	5,350.38	4,988.36	36.90	38.71	105.65	1,034.59	-1,442.41	1,379.40	1,307.43	71.96	19.168		
5,600.00	5,280.23	5,446.94	5,076.92	37.67	39.51	105.58	1,053.22	-1,476.08	1,405.35	1,331.89	73.46	19.132		
5,700.00	5,373.09	5,543.51	5,165.48	38.45	40.30	105.52	1,071.86	-1,509.75	1,431.30	1,356.35	74.95	19.097		
5,800.00	5,465.94	5,640.07	5,254.04	39.23	41.10	105.47	1,090.50	-1,543.42	1,457.26	1,380.81	76.44	19.064		
5,900.00	5,558.80	5,736.63	5,342.61	40.01	41.90	105.41	1,109.13	-1,577.09	1,483.21	1,405.28	77.93	19.031		
6,000.00	5,651.65	5,833.20	5,431.17	40.79	42.70	105.36	1,127.77	-1,610.76	1,509.17	1,429.74	79.43	19.001		
6,100.00	5,744.51	5,929.76	5,519.73	41.57	43.49	105.30	1,146.41	-1,644.43	1,535.13	1,454.21	80.92	18.971		
6,200.00	5,837.36	6,026.32	5,608.30	42.34	44.29	105.25	1,165.04	-1,678.10	1,561.09	1,478.67	82.41	18.942		
6,300.00	5,930.22	6,122.88	5,696.86	43.12	45.09	105.20	1,183.68	-1,711.77	1,587.05	1,503.14	83.91	18.914		
6,400.00	6,023.07	6,219.45	5,785.42	43.90	45.89	105.16	1,202.32	-1,745.44	1,613.01	1,527.61	85.40	18.888		
6,500.00	6,115.93	6,316.01	5,873.98	44.68	46.69	105.11	1,220.95	-1,779.11	1,638.97	1,552.08	86.89	18.862		
6,600.00	6,208.78	6,412.57	5,962.55	45.46	47.48	105.07	1,239.59	-1,812.78	1,664.93	1,576.55	88.39	18.837		
6,700.00	6,301.64	6,509.14	6,051.11	46.24	48.28	105.02	1,258.23	-1,846.45	1,690.90	1,601.02	89.88	18.813		
6,800.00	6,394.49	6,605.70	6,139.67	47.02	49.08	104.98	1,276.86	-1,880.12	1,716.86	1,625.49	91.37	18.789		
6,900.00	6,487.35	6,702.26	6,228.24	47.80	49.88	104.94	1,295.50	-1,913.79	1,742.83	1,649.96	92.87	18.767		
7,000.00	6,580.20	6,798.82	6,316.80	48.57	50.68	104.90	1,314.14	-1,947.46	1,768.79	1,674.43	94.36	18.745		
7,100.00	6,673.06	6,904.61	6,405.36	49.35	51.55	104.87	1,332.77	-1,981.13	1,794.76	1,698.83	95.93	18.709		
7,200.00	6,765.91	7,008.05	6,493.92	50.13	52.41	104.83	1,351.41	-2,014.80	1,820.73	1,723.25	97.48	18.679		
7,300.00	6,856.90	7,088.30	6,582.30	50.99	53.07	100.27	1,370.01	-2,048.40	1,846.92	1,747.99	98.93	18.669		
7,400.00	6,939.78	7,182.45	6,668.64	52.14	53.85	96.12	1,388.18	-2,081.23	1,873.64	1,772.83	100.81	18.586		
7,500.00	7,011.80	7,271.53	6,750.34	53.58	54.58	93.26	1,405.37	-2,112.29	1,900.64	1,797.70	102.94	18.464		
7,600.00	7,070.78	7,352.84	6,824.92	55.27	55.26	91.09	1,421.06	-2,140.64	1,927.99	1,822.76	105.23	18.321		
7,700.00	7,114.93	7,423.91	6,890.10	57.16	55.84	89.24	1,434.78	-2,165.42	1,955.98	1,848.42	107.57	18.184		
7,800.00	7,142.90	7,482.59	6,943.91	59.19	56.33	87.40	1,446.10	-2,185.88	1,984.95	1,875.14	109.81	18.076		
7,900.00	7,153.85	7,527.07	6,984.71	61.28	56.70	85.36	1,454.69	-2,201.40	2,015.14	1,903.32	111.83	18.020		
8,000.00	7,154.00	7,562.07	7,016.81	63.38	56.99	85.91	1,461.44	-2,213.60	2,047.57	1,933.99	113.59	18.026		
8,100.00	7,154.00	8,661.01	7,579.00	65.52	73.64	101.78	1,580.09	-3,013.67	2,081.40	1,950.29	131.11	15.875		
8,200.00	7,154.00	8,761.01	7,579.00	67.71	75.69	101.78	1,580.14	-3,113.67	2,081.51	1,946.09	135.42	15.371		
8,300.00	7,154.00	8,861.01	7,579.00	69.93	77.78	101.78	1,580.20	-3,213.67	2,081.61	1,941.83	139.79	14.891		
8,400.00	7,154.00	8,961.01	7,579.00	72.19	79.90	101.78	1,580.26	-3,313.67	2,081.72	1,937.50	144.22	14.434		
8,500.00	7,154.00	9,061.01	7,579.00	74.47	82.06	101.78	1,580.32	-3,413.67	2,081.83	1,933.11	148.72	13.999		
8,600.00	7,154.00	9,161.01	7,579.00	76.79	84.25	101.78	1,580.37	-3,513.67	2,081.94	1,928.68	153.26	13.584		
8,700.00	7,154.00	9,261.01	7,579.00	79.12	86.47	101.78	1,580.43	-3,613.67	2,082.05	1,924.19	157.85	13.190		
8,800.00	7,154.00	9,361.01	7,579.00	81.48	88.71	101.78	1,580.49	-3,713.67	2,082.15	1,919.67	162.48	12.814		
8,900.00	7,154.00	9,461.01	7,579.00	83.87	90.98	101.78	1,580.55	-3,813.67	2,082.26	1,915.10	167.16	12.457		
9,000.00	7,154.00	9,561.01	7,579.00	86.27	93.27	101.78	1,580.60	-3,913.67	2,082.37	1,910.50	171.87	12.116		
9,100.00	7,154.00	9,661.01	7,579.00	88.68	95.59	101.78	1,580.66	-4,013.67	2,082.48	1,905.86	176.61	11.791		
9,200.00	7,154.00	9,761.01	7,579.00	91.12	97.92	101.78	1,580.72	-4,113.67	2,082.58	1,901.20	181.39	11.481		
9,300.00	7,154.00	9,861.01	7,579.00	93.57	100.27	101.77	1,580.78	-4,213.67	2,082.69	1,896.50	186.19	11.186		
9,400.00	7,154.00	9,961.01	7,579.00	96.03	102.64	101.77	1,580.83	-4,313.67	2,082.80	1,891.78	191.02	10.904		
9,500.00	7,154.00	10,061.01	7,579.00	98.50	105.03	101.77	1,580.89	-4,413.67	2,082.91	1,887.03	195.87	10.634		
9,600.00	7,154.00	10,161.01	7,579.00	100.99	107.43	101.77	1,580.95	-4,513.67	2,083.01	1,882.26	200.75	10.376		
9,700.00	7,154.00	10,261.01	7,579.00	103.49	109.85	101.77	1,581.01	-4,613.67	2,083.12	1,877.47	205.65	10.130		
9,800.00	7,154.00	10,361.01	7,579.00	106.00	112.28	101.77	1,581.06	-4,713.67	2,083.23	1,872.66	210.56	9.894		
9,900.00	7,154.00	10,461.01	7,579.00	108.51	114.72	101.77	1,581.12	-4,813.67	2,083.34	1,867.84	215.50	9.668		
10,000.00	7,154.00	10,561.01	7,579.00	111.04	117.17	101.77	1,581.18	-4,913.67	2,083.44	1,862.99	220.45	9.451		
10,100.00	7,154.00	10,661.01	7,579.00	113.58	119.64	101.77	1,581.24	-5,013.67	2,083.55	1,858.13	225.42	9.243		
10,200.00	7,154.00	10,761.01	7,579.00	116.12	122.11	101.77	1,581.29	-5,113.67	2,083.66	1,853.26	230.40	9.044		

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

# Anticollision Report

<b>Company:</b>	EXTRACTION OIL & GAS	<b>Local Co-ordinate Reference:</b>	Well WARBLER 13W-27-19
<b>Project:</b>	ADAMS COUNTY	<b>TVD Reference:</b>	KB 25' @ 5106.00usft
<b>Reference Site:</b>	Sec 13-T1S-R66W	<b>MD Reference:</b>	KB 25' @ 5106.00usft
<b>Site Error:</b>	0.00 usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	WARBLER 13W-27-19	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00 usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OWB	<b>Database:</b>	EDT_32Bit_ODBC
<b>Reference Design:</b>	PROPOSAL 1	<b>Offset TVD Reference:</b>	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	10,861.01	7,579.00	118.67	124.60	101.77	1,581.35	-5,213.67	2,083.77	1,848.37	235.40	8.852		
10,400.00	7,154.00	10,961.01	7,579.00	121.22	127.09	101.77	1,581.41	-5,313.67	2,083.87	1,843.47	240.41	8.668		
10,500.00	7,154.00	11,061.01	7,579.00	123.79	129.59	101.77	1,581.47	-5,413.67	2,083.98	1,838.55	245.43	8.491		
10,600.00	7,154.00	11,161.01	7,579.00	126.35	132.10	101.77	1,581.52	-5,513.67	2,084.09	1,833.62	250.46	8.321		
10,700.00	7,154.00	11,261.01	7,579.00	128.93	134.62	101.77	1,581.58	-5,613.67	2,084.20	1,828.69	255.51	8.157		
10,800.00	7,154.00	11,361.01	7,579.00	131.51	137.14	101.77	1,581.64	-5,713.67	2,084.30	1,823.74	260.56	7.999		
10,900.00	7,154.00	11,461.01	7,579.00	134.09	139.68	101.76	1,581.70	-5,813.67	2,084.41	1,818.78	265.63	7.847		
11,000.00	7,154.00	11,561.01	7,579.00	136.68	142.21	101.76	1,581.75	-5,913.67	2,084.52	1,813.82	270.70	7.700		
11,100.00	7,154.00	11,661.01	7,579.00	139.27	144.76	101.76	1,581.81	-6,013.67	2,084.63	1,808.84	275.78	7.559		
11,200.00	7,154.00	11,761.01	7,579.00	141.87	147.31	101.76	1,581.87	-6,113.67	2,084.73	1,803.86	280.87	7.422		
11,300.00	7,154.00	11,861.01	7,579.00	144.47	149.86	101.76	1,581.93	-6,213.67	2,084.84	1,798.87	285.97	7.290		
11,400.00	7,154.00	11,961.01	7,579.00	147.08	152.43	101.76	1,581.98	-6,313.67	2,084.95	1,793.87	291.08	7.163		
11,500.00	7,154.00	12,061.01	7,579.00	149.68	154.99	101.76	1,582.04	-6,413.67	2,085.06	1,788.87	296.19	7.040		
11,600.00	7,154.00	12,161.01	7,579.00	152.30	157.56	101.76	1,582.10	-6,513.67	2,085.16	1,783.86	301.31	6.920		
11,700.00	7,154.00	12,261.01	7,579.00	154.91	160.14	101.76	1,582.15	-6,613.67	2,085.27	1,778.84	306.43	6.805		
11,800.00	7,154.00	12,361.01	7,579.00	157.53	162.72	101.76	1,582.21	-6,713.67	2,085.38	1,773.82	311.56	6.693		
11,900.00	7,154.00	12,461.01	7,579.00	160.15	165.30	101.76	1,582.27	-6,813.66	2,085.49	1,768.79	316.70	6.585		
12,000.00	7,154.00	12,561.01	7,579.00	162.77	167.89	101.76	1,582.33	-6,913.66	2,085.59	1,763.75	321.84	6.480		
12,100.00	7,154.00	12,661.01	7,579.00	165.40	170.48	101.76	1,582.38	-7,013.66	2,085.70	1,758.71	326.99	6.379		
12,200.00	7,154.00	12,761.01	7,579.00	168.03	173.07	101.76	1,582.44	-7,113.66	2,085.81	1,753.67	332.14	6.280		
12,300.00	7,154.00	12,861.01	7,579.00	170.66	175.67	101.76	1,582.50	-7,213.66	2,085.92	1,748.62	337.29	6.184		
12,400.00	7,154.00	12,961.01	7,579.00	173.29	178.27	101.76	1,582.56	-7,313.66	2,086.02	1,743.57	342.46	6.091		
12,500.00	7,154.00	13,061.01	7,579.00	175.93	180.87	101.75	1,582.61	-7,413.66	2,086.13	1,738.51	347.62	6.001		
12,600.00	7,154.00	13,161.01	7,579.00	178.56	183.48	101.75	1,582.67	-7,513.66	2,086.24	1,733.45	352.79	5.914		
12,700.00	7,154.00	13,261.01	7,579.00	181.20	186.09	101.75	1,582.73	-7,613.66	2,086.35	1,728.38	357.96	5.828		
12,800.00	7,154.00	13,361.01	7,579.00	183.84	188.70	101.75	1,582.79	-7,713.66	2,086.45	1,723.31	363.14	5.746		
12,900.00	7,154.00	13,461.01	7,579.00	186.49	191.32	101.75	1,582.84	-7,813.66	2,086.56	1,718.24	368.32	5.665		
13,000.00	7,154.00	13,561.01	7,579.00	189.13	193.94	101.75	1,582.90	-7,913.66	2,086.67	1,713.17	373.50	5.587		
13,100.00	7,154.00	13,661.01	7,579.00	191.78	196.56	101.75	1,582.96	-8,013.66	2,086.78	1,708.09	378.69	5.510		
13,200.00	7,154.00	13,761.01	7,579.00	194.43	199.18	101.75	1,583.02	-8,113.66	2,086.88	1,703.00	383.88	5.436		
13,300.00	7,154.00	13,861.01	7,579.00	197.07	201.80	101.75	1,583.07	-8,213.66	2,086.99	1,697.92	389.07	5.364		
13,400.00	7,154.00	13,961.01	7,579.00	199.73	204.43	101.75	1,583.13	-8,313.66	2,087.10	1,692.83	394.27	5.294		
13,500.00	7,154.00	14,061.01	7,579.00	202.38	207.06	101.75	1,583.19	-8,413.66	2,087.21	1,687.74	399.47	5.225		
13,600.00	7,154.00	14,161.01	7,579.00	205.03	209.69	101.75	1,583.25	-8,513.66	2,087.31	1,682.64	404.67	5.158		
13,700.00	7,154.00	14,261.01	7,579.00	207.69	212.32	101.75	1,583.30	-8,613.66	2,087.42	1,677.55	409.88	5.093		
13,800.00	7,154.00	14,361.01	7,579.00	210.34	214.95	101.75	1,583.36	-8,713.66	2,087.53	1,672.45	415.08	5.029		
13,900.00	7,154.00	14,461.01	7,579.00	213.00	217.59	101.75	1,583.42	-8,813.66	2,087.64	1,667.35	420.29	4.967		
14,000.00	7,154.00	14,561.01	7,579.00	215.66	220.23	101.75	1,583.48	-8,913.66	2,087.74	1,662.24	425.50	4.907		
14,100.00	7,154.00	14,661.01	7,579.00	218.32	222.87	101.75	1,583.53	-9,013.66	2,087.85	1,657.14	430.72	4.847		
14,200.00	7,154.00	14,761.01	7,579.00	220.98	225.51	101.74	1,583.59	-9,113.66	2,087.96	1,652.03	435.93	4.790		
14,300.00	7,154.00	14,861.01	7,579.00	223.64	228.15	101.74	1,583.65	-9,213.66	2,088.07	1,646.92	441.15	4.733		
14,400.00	7,154.00	14,961.01	7,579.00	226.30	230.79	101.74	1,583.71	-9,313.66	2,088.18	1,641.80	446.37	4.678		
14,500.00	7,154.00	15,061.01	7,579.00	228.97	233.44	101.74	1,583.76	-9,413.66	2,088.28	1,636.69	451.59	4.624		
14,600.00	7,154.00	15,161.01	7,579.00	231.63	236.08	101.74	1,583.82	-9,513.66	2,088.39	1,631.57	456.82	4.572		
14,700.00	7,154.00	15,261.01	7,579.00	234.29	238.73	101.74	1,583.88	-9,613.66	2,088.50	1,626.46	462.04	4.520		
14,800.00	7,154.00	15,361.01	7,579.00	236.96	241.38	101.74	1,583.94	-9,713.66	2,088.61	1,621.34	467.27	4.470		
14,900.00	7,154.00	15,461.01	7,579.00	239.63	244.03	101.74	1,583.99	-9,813.66	2,088.71	1,616.22	472.50	4.421		
15,000.00	7,154.00	15,561.01	7,579.00	242.30	246.68	101.74	1,584.05	-9,913.66	2,088.82	1,611.09	477.73	4.372		
15,100.00	7,154.00	15,661.01	7,579.00	244.96	249.33	101.74	1,584.11	-10,013.66	2,088.93	1,605.97	482.96	4.325		
15,200.00	7,154.00	15,761.01	7,579.00	247.63	251.99	101.74	1,584.17	-10,113.66	2,089.04	1,600.84	488.19	4.279		
15,300.00	7,154.00	15,861.01	7,579.00	250.30	254.64	101.74	1,584.22	-10,213.66	2,089.14	1,595.71	493.43	4.234		
15,400.00	7,154.00	15,961.01	7,579.00	252.98	257.30	101.74	1,584.28	-10,313.66	2,089.25	1,590.58	498.67	4.190		

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

# Anticollision Report

<b>Company:</b>	EXTRACTION OIL & GAS	<b>Local Co-ordinate Reference:</b>	Well WARBLER 13W-27-19
<b>Project:</b>	ADAMS COUNTY	<b>TVD Reference:</b>	KB 25' @ 5106.00usft
<b>Reference Site:</b>	Sec 13-T1S-R66W	<b>MD Reference:</b>	KB 25' @ 5106.00usft
<b>Site Error:</b>	0.00 usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	WARBLER 13W-27-19	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00 usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OWB	<b>Database:</b>	EDT_32Bit_ODBC
<b>Reference Design:</b>	PROPOSAL 1	<b>Offset TVD Reference:</b>	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						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	16,061.01	7,579.00	255.65	259.95	101.74	1,584.34	-10,413.66	2,089.36	1,585.45	503.90	4.146		
15,600.00	7,154.00	16,161.01	7,579.00	258.32	262.61	101.74	1,584.40	-10,513.66	2,089.47	1,580.32	509.14	4.104		
15,700.00	7,154.00	16,261.01	7,579.00	260.99	265.27	101.74	1,584.45	-10,613.66	2,089.57	1,575.19	514.38	4.062		
15,800.00	7,154.00	16,361.01	7,579.00	263.67	267.93	101.73	1,584.51	-10,713.66	2,089.68	1,570.05	519.63	4.022		
15,900.00	7,154.00	16,461.01	7,579.00	266.34	270.59	101.73	1,584.57	-10,813.66	2,089.79	1,564.92	524.87	3.982		
16,000.00	7,154.00	16,561.01	7,579.00	269.01	273.25	101.73	1,584.62	-10,913.66	2,089.90	1,559.78	530.11	3.942		
16,100.00	7,154.00	16,661.01	7,579.00	271.69	275.91	101.73	1,584.68	-11,013.66	2,090.00	1,554.64	535.36	3.904		
16,200.00	7,154.00	16,761.01	7,579.00	274.36	278.58	101.73	1,584.74	-11,113.66	2,090.11	1,549.51	540.61	3.866		
16,300.00	7,154.00	16,861.01	7,579.00	277.04	281.24	101.73	1,584.80	-11,213.66	2,090.22	1,544.37	545.85	3.829		
16,400.00	7,154.00	16,961.01	7,579.00	279.72	283.91	101.73	1,584.85	-11,313.66	2,090.33	1,539.22	551.10	3.793		
16,500.00	7,154.00	17,061.01	7,579.00	282.40	286.57	101.73	1,584.91	-11,413.66	2,090.43	1,534.08	556.35	3.757		
16,600.00	7,154.00	17,161.01	7,579.00	285.07	289.24	101.73	1,584.97	-11,513.66	2,090.54	1,528.94	561.60	3.722		
16,700.00	7,154.00	17,261.01	7,579.00	287.75	291.90	101.73	1,585.03	-11,613.66	2,090.65	1,523.79	566.85	3.688		
16,800.00	7,154.00	17,361.01	7,579.00	290.43	294.57	101.73	1,585.08	-11,713.66	2,090.76	1,518.65	572.11	3.654		
16,900.00	7,154.00	17,461.01	7,579.00	293.11	297.24	101.73	1,585.14	-11,813.66	2,090.86	1,513.50	577.36	3.621		
17,000.00	7,154.00	17,561.01	7,579.00	295.79	299.91	101.73	1,585.20	-11,913.66	2,090.97	1,508.36	582.62	3.589		
17,100.00	7,154.00	17,661.01	7,579.00	298.47	302.58	101.73	1,585.26	-12,013.66	2,091.08	1,503.21	587.87	3.557		
17,200.00	7,154.00	17,761.01	7,579.00	301.15	305.25	101.73	1,585.31	-12,113.66	2,091.19	1,498.06	593.13	3.526		
17,300.00	7,154.00	17,861.01	7,579.00	303.83	307.92	101.73	1,585.37	-12,213.66	2,091.29	1,492.91	598.39	3.495		
17,400.00	7,154.00	17,961.01	7,579.00	306.51	310.59	101.72	1,585.43	-12,313.66	2,091.40	1,487.76	603.64	3.465		
17,500.00	7,154.00	18,061.01	7,579.00	309.19	313.26	101.72	1,585.49	-12,413.66	2,091.51	1,482.61	608.90	3.435		
17,600.00	7,154.00	18,161.01	7,579.00	311.88	315.93	101.72	1,585.54	-12,513.66	2,091.62	1,477.46	614.16	3.406		
17,700.00	7,154.00	18,261.01	7,579.00	314.56	318.60	101.72	1,585.60	-12,613.66	2,091.72	1,472.30	619.42	3.377		
17,800.00	7,154.00	18,361.01	7,579.00	317.24	321.28	101.72	1,585.66	-12,713.66	2,091.83	1,467.15	624.68	3.349		
17,900.00	7,154.00	18,461.01	7,579.00	319.92	323.95	101.72	1,585.72	-12,813.66	2,091.94	1,461.99	629.94	3.321		
18,000.00	7,154.00	18,561.01	7,579.00	322.61	326.63	101.72	1,585.77	-12,913.66	2,092.05	1,456.84	635.21	3.293		
18,100.00	7,154.00	18,661.01	7,579.00	325.29	329.30	101.72	1,585.83	-13,013.66	2,092.15	1,451.68	640.47	3.267		
18,200.00	7,154.00	18,761.01	7,579.00	327.98	331.98	101.72	1,585.89	-13,113.66	2,092.26	1,446.53	645.73	3.240		
18,300.00	7,154.00	18,861.01	7,579.00	330.66	334.65	101.72	1,585.95	-13,213.66	2,092.37	1,441.37	651.00	3.214		
18,400.00	7,154.00	18,961.01	7,579.00	333.34	337.33	101.72	1,586.00	-13,313.66	2,092.48	1,436.21	656.26	3.188		
18,500.00	7,154.00	19,061.01	7,579.00	336.03	340.00	101.72	1,586.06	-13,413.66	2,092.58	1,431.06	661.53	3.163		
18,600.00	7,154.00	19,161.01	7,579.00	338.71	342.68	101.72	1,586.12	-13,513.66	2,092.69	1,425.90	666.80	3.138		
18,700.00	7,154.00	19,261.01	7,579.00	341.40	345.36	101.72	1,586.18	-13,613.66	2,092.80	1,420.74	672.06	3.114		
18,800.00	7,154.00	19,361.01	7,579.00	344.09	348.04	101.72	1,586.23	-13,713.66	2,092.91	1,415.58	677.33	3.090		
18,900.00	7,154.00	19,461.01	7,579.00	346.77	350.71	101.72	1,586.29	-13,813.66	2,093.02	1,410.42	682.60	3.066		
19,000.00	7,154.00	19,561.01	7,579.00	349.46	353.39	101.72	1,586.35	-13,913.66	2,093.12	1,405.26	687.87	3.043		
19,100.00	7,154.00	19,661.01	7,579.00	352.15	356.07	101.71	1,586.41	-14,013.66	2,093.23	1,400.09	693.14	3.020		
19,200.00	7,154.00	19,761.01	7,579.00	354.83	358.75	101.71	1,586.46	-14,113.66	2,093.34	1,394.93	698.41	2.997		
19,300.00	7,154.00	19,861.01	7,579.00	357.52	361.43	101.71	1,586.52	-14,213.66	2,093.45	1,389.77	703.68	2.975		
19,400.00	7,154.00	19,961.01	7,579.00	360.21	364.11	101.71	1,586.58	-14,313.66	2,093.55	1,384.61	708.95	2.953		
19,500.00	7,154.00	20,061.01	7,579.00	362.90	366.79	101.71	1,586.64	-14,413.66	2,093.66	1,379.44	714.22	2.931		
19,600.00	7,154.00	20,161.01	7,579.00	365.58	369.47	101.71	1,586.69	-14,513.66	2,093.77	1,374.28	719.49	2.910		
19,700.00	7,154.00	20,261.01	7,579.00	368.27	372.15	101.71	1,586.75	-14,613.66	2,093.88	1,369.11	724.76	2.889		
19,800.00	7,154.00	20,361.00	7,579.00	370.96	374.83	101.71	1,586.81	-14,713.66	2,093.98	1,363.95	730.04	2.868		
19,900.00	7,154.00	20,461.00	7,579.00	373.65	377.52	101.71	1,586.87	-14,813.66	2,094.09	1,358.78	735.31	2.848		
20,000.00	7,154.00	20,561.00	7,579.00	376.34	380.20	101.71	1,586.92	-14,913.66	2,094.20	1,353.62	740.58	2.828		
20,100.00	7,154.00	20,661.00	7,579.00	379.03	382.88	101.71	1,586.98	-15,013.66	2,094.31	1,348.45	745.86	2.808		
20,200.00	7,154.00	20,761.00	7,579.00	381.71	385.56	101.71	1,587.04	-15,113.66	2,094.41	1,343.28	751.13	2.788		
20,300.00	7,154.00	20,861.00	7,579.00	384.40	388.25	101.71	1,587.09	-15,213.66	2,094.52	1,338.11	756.41	2.769		
20,400.00	7,154.00	20,961.00	7,579.00	387.09	390.93	101.71	1,587.15	-15,313.66	2,094.63	1,332.95	761.68	2.750		
20,500.00	7,154.00	21,061.00	7,579.00	389.78	393.61	101.71	1,587.21	-15,413.66	2,094.74	1,327.78	766.96	2.731		
20,600.00	7,154.00	21,161.00	7,579.00	392.47	396.30	101.71	1,587.27	-15,513.66	2,094.84	1,322.61	772.23	2.713		

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

## Anticollision Report

<b>Company:</b>	EXTRACTION OIL & GAS	<b>Local Co-ordinate Reference:</b>	Well WARBLER 13W-27-19
<b>Project:</b>	ADAMS COUNTY	<b>TVD Reference:</b>	KB 25' @ 5106.00usft
<b>Reference Site:</b>	Sec 13-T1S-R66W	<b>MD Reference:</b>	KB 25' @ 5106.00usft
<b>Site Error:</b>	0.00 usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	WARBLER 13W-27-19	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00 usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OWB	<b>Database:</b>	EDT_32Bit_ODBC
<b>Reference Design:</b>	PROPOSAL 1	<b>Offset TVD Reference:</b>	Offset Datum

<b>Offset Design</b> Sec 13-T1S-R66W - WARBLER 13W-27-08 - OWB - PROPOSAL 1												<b>Offset Site Error:</b>	0.00 usft
Survey Program: 0-MWD OWSG												<b>Offset Well Error:</b>	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	21,261.00	7,579.00	395.16	398.98	101.70	1,587.32	-15,613.66	2,094.95	1,317.44	777.51	2.694	
20,800.00	7,154.00	21,361.00	7,579.00	397.85	401.67	101.70	1,587.38	-15,713.66	2,095.06	1,312.27	782.79	2.676	
20,900.00	7,154.00	21,461.00	7,579.00	400.54	404.35	101.70	1,587.44	-15,813.66	2,095.17	1,307.10	788.06	2.659	
21,000.00	7,154.00	21,561.00	7,579.00	403.24	407.03	101.70	1,587.50	-15,913.66	2,095.27	1,301.93	793.34	2.641	
21,100.00	7,154.00	21,661.00	7,579.00	405.93	409.72	101.70	1,587.55	-16,013.66	2,095.38	1,296.76	798.62	2.624	
21,200.00	7,154.00	21,761.00	7,579.00	408.62	412.40	101.70	1,587.61	-16,113.66	2,095.49	1,291.59	803.90	2.607	
21,300.00	7,154.00	21,861.00	7,579.00	411.31	415.09	101.70	1,587.67	-16,213.66	2,095.60	1,286.42	809.18	2.590	
21,400.00	7,154.00	21,961.00	7,579.00	414.00	417.78	101.70	1,587.73	-16,313.66	2,095.70	1,281.25	814.46	2.573	
21,500.00	7,154.00	22,061.00	7,579.00	416.69	420.46	101.70	1,587.78	-16,413.66	2,095.81	1,276.08	819.74	2.557	
21,505.33	7,154.00	22,066.33	7,579.00	416.83	420.61	101.70	1,587.79	-16,418.99	2,095.82	1,275.80	820.02	2.556 SF	



# Anticollision Report

<b>Company:</b>	EXTRACTION OIL & GAS	<b>Local Co-ordinate Reference:</b>	Well WARBLER 13W-27-19
<b>Project:</b>	ADAMS COUNTY	<b>TVD Reference:</b>	KB 25' @ 5106.00usft
<b>Reference Site:</b>	Sec 13-T1S-R66W	<b>MD Reference:</b>	KB 25' @ 5106.00usft
<b>Site Error:</b>	0.00 usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	WARBLER 13W-27-19	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00 usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OWB	<b>Database:</b>	EDT_32Bit_ODBC
<b>Reference Design:</b>	PROPOSAL 1	<b>Offset TVD Reference:</b>	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	50.63	124.22	151.37	195.82					
100.00	100.00	101.00	101.00	0.13	0.14	50.63	124.22	151.37	195.82	195.54	0.27	718.750		
200.00	200.00	201.00	201.00	0.49	0.50	50.63	124.22	151.37	195.82	194.83	0.99	197.917		
300.00	300.00	301.05	301.05	0.85	0.86	50.63	124.22	151.37	195.82	194.11	1.71	114.750		
400.00	400.00	406.13	406.11	1.21	1.23	50.22	124.39	149.42	194.48	192.05	2.44	79.837		
500.00	499.98	511.03	510.84	1.56	1.60	149.91	124.91	143.63	192.11	188.96	3.15	60.905		
600.00	599.84	615.76	615.12	1.91	1.99	148.68	125.76	134.06	190.27	186.40	3.88	49.088		
700.00	699.45	720.29	718.78	2.27	2.40	147.15	126.96	120.72	189.03	184.41	4.62	40.939		
800.00	798.70	824.60	821.68	2.65	2.83	145.34	128.48	103.66	188.45	183.07	5.39	34.994		
828.26	826.66	854.04	850.59	2.77	2.96	144.78	128.97	98.18	188.42	182.81	5.61	33.581 CC		
900.00	897.47	928.68	923.65	3.06	3.30	143.27	130.33	82.94	188.63	182.44	6.19	30.461		
1,000.00	995.62	1,032.51	1,024.55	3.49	3.81	140.96	132.50	58.60	189.63	182.58	7.05	26.879		
1,100.00	1,093.06	1,136.06	1,124.25	3.96	4.37	138.45	135.00	30.72	191.56	183.57	7.98	23.994		
1,200.00	1,189.64	1,239.33	1,222.59	4.47	4.97	135.78	137.80	-0.65	194.48	185.48	9.00	21.598		
1,300.00	1,285.27	1,342.30	1,319.46	5.02	5.63	133.00	140.90	-35.41	198.48	188.35	10.13	19.599		
1,400.00	1,379.82	1,442.09	1,412.61	5.63	6.31	130.59	144.09	-71.07	204.24	192.90	11.34	18.013		
1,500.00	1,473.18	1,541.61	1,505.49	6.29	7.01	129.01	147.27	-106.64	212.49	199.89	12.60	16.864		
1,600.00	1,566.03	1,641.10	1,598.36	6.99	7.72	127.95	150.44	-142.20	221.71	207.81	13.90	15.952		
1,700.00	1,658.89	1,740.59	1,691.22	7.71	8.44	126.97	153.62	-177.77	231.00	215.77	15.23	15.167		
1,800.00	1,751.74	1,840.09	1,784.09	8.44	9.16	126.06	156.80	-213.33	240.36	223.77	16.59	14.490		
1,900.00	1,844.60	1,939.58	1,876.95	9.17	9.89	125.23	159.97	-248.89	249.77	231.80	17.97	13.902		
2,000.00	1,937.45	2,039.07	1,969.82	9.91	10.62	124.45	163.15	-284.45	259.23	239.87	19.36	13.387		
2,100.00	2,030.31	2,138.56	2,062.68	10.66	11.35	123.73	166.33	-320.02	268.74	247.96	20.78	12.935		
2,200.00	2,123.16	2,238.06	2,155.55	11.41	12.09	123.06	169.50	-355.58	278.28	256.08	22.20	12.535		
2,300.00	2,216.02	2,337.55	2,248.41	12.17	12.83	122.43	172.68	-391.14	287.86	264.23	23.63	12.180		
2,400.00	2,308.87	2,437.04	2,341.28	12.93	13.57	121.85	175.86	-426.71	297.47	272.39	25.08	11.862		
2,500.00	2,401.73	2,536.53	2,434.14	13.69	14.32	121.30	179.03	-462.27	307.11	280.58	26.53	11.577		
2,600.00	2,494.58	2,636.02	2,527.01	14.45	15.06	120.78	182.21	-497.83	316.78	288.79	27.98	11.320		
2,700.00	2,587.44	2,735.52	2,619.87	15.22	15.81	120.30	185.39	-533.40	326.47	297.02	29.45	11.086		
2,800.00	2,680.29	2,835.01	2,712.74	15.98	16.55	119.84	188.56	-568.96	336.18	305.26	30.92	10.874		
2,900.00	2,773.15	2,934.50	2,805.60	16.75	17.30	119.41	191.74	-604.52	345.91	313.52	32.39	10.680		
3,000.00	2,866.00	3,033.99	2,898.47	17.52	18.05	119.00	194.92	-640.09	355.66	321.80	33.86	10.503		
3,100.00	2,958.86	3,133.49	2,991.33	18.29	18.80	118.61	198.10	-675.65	365.43	330.08	35.34	10.339		
3,200.00	3,051.71	3,232.98	3,084.20	19.06	19.55	118.25	201.27	-711.21	375.21	338.38	36.83	10.189		
3,300.00	3,144.57	3,332.47	3,177.06	19.83	20.30	117.90	204.45	-746.77	385.01	346.70	38.31	10.050		
3,400.00	3,237.42	3,431.96	3,269.93	20.60	21.05	117.57	207.63	-782.34	394.82	355.02	39.80	9.921		
3,500.00	3,330.28	3,531.46	3,362.79	21.37	21.80	117.25	210.80	-817.90	404.64	363.35	41.29	9.801		
3,600.00	3,423.13	3,630.95	3,455.66	22.15	22.55	116.95	213.98	-853.46	414.48	371.70	42.78	9.689		
3,700.00	3,515.99	3,730.44	3,548.52	22.92	23.30	116.67	217.16	-889.03	424.32	380.05	44.27	9.584		
3,800.00	3,608.84	3,829.93	3,641.39	23.70	24.05	116.39	220.33	-924.59	434.18	388.41	45.77	9.487		
3,900.00	3,701.70	3,929.43	3,734.25	24.47	24.81	116.13	223.51	-960.15	444.04	396.78	47.26	9.395		
4,000.00	3,794.55	4,028.92	3,827.12	25.25	25.56	115.88	226.69	-995.72	453.91	405.16	48.76	9.309		
4,100.00	3,887.41	4,128.41	3,919.98	26.02	26.31	115.65	229.86	-1,031.28	463.80	413.54	50.26	9.228		
4,200.00	3,980.26	4,227.90	4,012.85	26.80	27.06	115.42	233.04	-1,066.84	473.69	421.93	51.76	9.152		
4,300.00	4,073.12	4,327.40	4,105.71	27.57	27.82	115.20	236.22	-1,102.40	483.58	430.32	53.26	9.080		
4,400.00	4,165.97	4,426.89	4,198.58	28.35	28.57	114.99	239.39	-1,137.97	493.48	438.73	54.76	9.012		
4,500.00	4,258.83	4,526.38	4,291.45	29.12	29.32	114.79	242.57	-1,173.53	503.39	447.13	56.26	8.948		
4,600.00	4,351.68	4,625.87	4,384.31	29.90	30.07	114.59	245.75	-1,209.09	513.31	455.55	57.76	8.886		
4,700.00	4,444.54	4,725.37	4,477.18	30.68	30.83	114.40	248.92	-1,244.66	523.23	463.96	59.27	8.828		
4,800.00	4,537.39	4,824.86	4,570.04	31.45	31.58	114.22	252.10	-1,280.22	533.16	472.39	60.77	8.773		
4,900.00	4,630.25	4,924.35	4,662.91	32.23	32.34	114.05	255.28	-1,315.78	543.09	480.81	62.28	8.721		
5,000.00	4,723.10	5,023.84	4,755.77	33.01	33.09	113.88	258.46	-1,351.35	553.02	489.24	63.78	8.671		

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

# Anticollision Report

<b>Company:</b>	EXTRACTION OIL & GAS	<b>Local Co-ordinate Reference:</b>	Well WARBLER 13W-27-19
<b>Project:</b>	ADAMS COUNTY	<b>TVD Reference:</b>	KB 25' @ 5106.00usft
<b>Reference Site:</b>	Sec 13-T1S-R66W	<b>MD Reference:</b>	KB 25' @ 5106.00usft
<b>Site Error:</b>	0.00 usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	WARBLER 13W-27-19	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00 usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OWB	<b>Database:</b>	EDT_32Bit_ODBC
<b>Reference Design:</b>	PROPOSAL 1	<b>Offset TVD Reference:</b>	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	4,815.96	5,123.33	4,848.64	33.79	33.84	113.72	261.63	-1,386.91	562.97	497.68	65.29	8.623		
5,200.00	4,908.81	5,222.83	4,941.50	34.56	34.60	113.57	264.81	-1,422.47	572.91	506.12	66.79	8.578		
5,300.00	5,001.67	5,322.32	5,034.37	35.34	35.35	113.42	267.99	-1,458.03	582.86	514.56	68.30	8.534		
5,400.00	5,094.52	5,421.81	5,127.23	36.12	36.11	113.27	271.16	-1,493.60	592.81	523.01	69.81	8.492		
5,500.00	5,187.38	5,521.30	5,220.10	36.90	36.86	113.13	274.34	-1,529.16	602.77	531.46	71.31	8.453		
5,600.00	5,280.23	5,620.80	5,312.96	37.67	37.61	112.99	277.52	-1,564.72	612.73	539.91	72.82	8.414		
5,700.00	5,373.09	5,720.29	5,405.83	38.45	38.37	112.86	280.69	-1,600.29	622.69	548.36	74.33	8.378		
5,800.00	5,465.94	5,819.78	5,498.69	39.23	39.12	112.73	283.87	-1,635.85	632.66	556.82	75.84	8.342		
5,900.00	5,558.80	5,919.27	5,591.56	40.01	39.88	112.61	287.05	-1,671.41	642.63	565.28	77.34	8.309		
6,000.00	5,651.65	6,018.77	5,684.42	40.79	40.63	112.49	290.22	-1,706.98	652.60	573.75	78.85	8.276		
6,100.00	5,744.51	6,118.26	5,777.29	41.57	41.39	112.37	293.40	-1,742.54	662.57	582.21	80.36	8.245		
6,200.00	5,837.36	6,217.75	5,870.15	42.34	42.14	112.26	296.58	-1,778.10	672.55	590.68	81.87	8.215		
6,300.00	5,930.22	6,317.24	5,963.02	43.12	42.90	112.15	299.75	-1,813.66	682.53	599.15	83.38	8.186		
6,400.00	6,023.07	6,416.74	6,055.88	43.90	43.65	112.05	302.93	-1,849.23	692.51	607.63	84.89	8.158		
6,500.00	6,115.93	6,516.23	6,148.75	44.68	44.41	111.94	306.11	-1,884.79	702.50	616.10	86.40	8.131		
6,600.00	6,208.78	6,615.72	6,241.61	45.46	45.16	111.84	309.29	-1,920.35	712.49	624.58	87.91	8.105		
6,700.00	6,301.64	6,715.21	6,334.48	46.24	45.92	111.74	312.46	-1,955.92	722.48	633.06	89.42	8.080		
6,800.00	6,394.49	6,814.71	6,427.34	47.02	46.67	111.65	315.64	-1,991.48	732.47	641.54	90.93	8.055		
6,900.00	6,487.35	6,914.20	6,520.21	47.80	47.43	111.56	318.82	-2,027.04	742.46	650.02	92.44	8.032		
7,000.00	6,580.20	7,013.69	6,613.07	48.57	48.18	111.47	321.99	-2,062.61	752.46	658.51	93.95	8.009		
7,100.00	6,673.06	7,113.18	6,705.94	49.35	48.94	111.38	325.17	-2,098.17	762.45	666.99	95.46	7.987		
7,200.00	6,765.91	7,212.68	6,798.80	50.13	49.69	111.29	328.35	-2,133.73	772.45	675.48	96.97	7.966		
7,300.00	6,858.76	7,311.94	6,891.46	50.99	50.44	108.06	331.52	-2,169.22	783.23	684.77	98.46	7.955		
7,400.00	6,951.61	7,408.91	6,981.96	52.14	51.18	106.10	334.61	-2,203.87	796.96	697.10	99.86	7.981		
7,500.00	7,044.46	7,506.62	7,067.56	53.58	51.88	105.60	337.54	-2,236.66	814.52	713.49	101.03	8.062		
7,600.00	7,137.31	7,584.30	7,145.67	55.27	52.51	105.65	340.21	-2,266.57	837.33	735.51	101.82	8.224		
7,700.00	7,230.16	7,662.19	7,218.36	57.16	53.11	105.73	342.70	-2,294.46	866.96	764.85	102.12	8.490		
7,800.00	7,323.01	7,749.96	7,309.96	59.19	55.74	111.84	349.25	-2,420.25	898.45	793.90	104.55	8.593		
7,900.00	7,415.86	7,837.81	7,396.31	61.28	63.21	117.48	354.91	-2,771.24	916.13	805.09	111.04	8.251		
8,000.00	7,508.71	7,925.66	7,483.16	63.38	66.26	117.56	354.99	-2,914.92	916.39	800.84	115.55	7.931		
8,100.00	7,601.56	8,013.51	7,570.01	65.52	68.42	117.56	354.98	-3,014.92	916.43	797.01	119.42	7.674		
8,200.00	7,694.41	8,101.36	7,657.86	67.71	70.62	117.56	354.97	-3,114.92	916.46	793.11	123.36	7.429		
8,300.00	7,787.26	8,189.21	7,745.21	69.93	72.85	117.56	354.96	-3,214.92	916.50	789.14	127.36	7.196		
8,400.00	7,880.11	8,277.06	7,831.06	72.19	75.11	117.56	354.95	-3,314.92	916.54	785.12	131.42	6.974		
8,500.00	7,972.96	8,364.91	7,917.91	74.47	77.40	117.55	354.94	-3,414.92	916.58	781.05	135.52	6.763		
8,600.00	8,065.81	8,452.76	8,004.76	76.79	79.72	117.55	354.93	-3,514.92	916.62	776.93	139.68	6.562		
8,700.00	8,158.66	8,540.61	8,092.61	79.12	82.06	117.55	354.92	-3,614.92	916.65	772.77	143.88	6.371		
8,800.00	8,251.51	8,628.46	8,180.46	81.48	84.42	117.55	354.91	-3,714.92	916.69	768.57	148.12	6.189		
8,900.00	8,344.36	8,716.31	8,268.31	83.87	86.80	117.55	354.90	-3,814.92	916.73	764.34	152.39	6.016		
9,000.00	8,437.21	8,804.16	8,356.16	86.27	89.20	117.55	354.89	-3,914.92	916.77	760.07	156.70	5.850		
9,100.00	8,530.06	8,892.01	8,444.01	88.68	91.62	117.55	354.88	-4,014.92	916.81	755.76	161.04	5.693		
9,200.00	8,622.91	8,979.86	8,531.86	91.12	94.05	117.55	354.88	-4,114.92	916.84	751.44	165.41	5.543		
9,300.00	8,715.76	9,067.71	8,619.71	93.57	96.50	117.54	354.87	-4,214.92	916.88	747.08	169.80	5.400		
9,400.00	8,808.61	9,155.56	8,707.56	96.03	98.96	117.54	354.86	-4,314.92	916.92	742.70	174.22	5.263		
9,500.00	8,901.46	9,243.41	8,795.41	98.50	101.43	117.54	354.85	-4,414.92	916.96	738.30	178.66	5.132		
9,600.00	8,994.31	9,331.26	8,883.26	100.99	103.91	117.54	354.84	-4,514.92	917.00	733.88	183.12	5.008		
9,700.00	9,087.16	9,419.11	8,971.11	103.49	106.41	117.54	354.83	-4,614.92	917.03	729.44	187.60	4.888		
9,800.00	9,180.01	9,506.96	9,059.96	106.00	108.91	117.54	354.82	-4,714.92	917.07	724.98	192.09	4.774		
9,900.00	9,272.86	9,594.81	9,147.81	108.51	111.43	117.54	354.81	-4,814.92	917.11	720.50	196.61	4.665		
10,000.00	9,365.71	9,682.66	9,235.66	111.04	113.95	117.54	354.80	-4,914.92	917.15	716.01	201.14	4.560		
10,100.00	9,458.56	9,770.51	9,323.51	113.58	116.48	117.53	354.79	-5,014.92	917.19	711.50	205.68	4.459		
10,200.00	9,551.41	9,858.36	9,411.36	116.12	119.02	117.53	354.78	-5,114.92	917.22	706.98	210.24	4.363		

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

# Anticollision Report

<b>Company:</b>	EXTRACTION OIL & GAS	<b>Local Co-ordinate Reference:</b>	Well WARBLER 13W-27-19
<b>Project:</b>	ADAMS COUNTY	<b>TVD Reference:</b>	KB 25' @ 5106.00usft
<b>Reference Site:</b>	Sec 13-T1S-R66W	<b>MD Reference:</b>	KB 25' @ 5106.00usft
<b>Site Error:</b>	0.00 usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	WARBLER 13W-27-19	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00 usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OWB	<b>Database:</b>	EDT_32Bit_ODBC
<b>Reference Design:</b>	PROPOSAL 1	<b>Offset TVD Reference:</b>	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	10,733.12	7,579.00	118.67	121.56	117.53	354.77	-5,214.92	917.26	702.45	214.81	4.270		
10,400.00	7,154.00	10,833.12	7,579.00	121.22	124.12	117.53	354.76	-5,314.92	917.30	697.91	219.39	4.181		
10,500.00	7,154.00	10,933.12	7,579.00	123.79	126.68	117.53	354.75	-5,414.92	917.34	693.35	223.98	4.096		
10,600.00	7,154.00	11,033.12	7,579.00	126.35	129.24	117.53	354.74	-5,514.92	917.38	688.79	228.59	4.013		
10,700.00	7,154.00	11,133.12	7,579.00	128.93	131.81	117.53	354.73	-5,614.92	917.41	684.21	233.20	3.934		
10,800.00	7,154.00	11,233.12	7,579.00	131.51	134.38	117.53	354.72	-5,714.92	917.45	679.63	237.82	3.858		
10,900.00	7,154.00	11,333.12	7,579.00	134.09	136.96	117.52	354.71	-5,814.92	917.49	675.03	242.46	3.784		
11,000.00	7,154.00	11,433.12	7,579.00	136.68	139.55	117.52	354.70	-5,914.92	917.53	670.43	247.10	3.713		
11,100.00	7,154.00	11,533.12	7,579.00	139.27	142.14	117.52	354.69	-6,014.92	917.57	665.82	251.74	3.645		
11,200.00	7,154.00	11,633.12	7,579.00	141.87	144.73	117.52	354.68	-6,114.92	917.60	661.20	256.40	3.579		
11,300.00	7,154.00	11,733.12	7,579.00	144.47	147.33	117.52	354.67	-6,214.92	917.64	656.58	261.06	3.515		
11,400.00	7,154.00	11,833.12	7,579.00	147.08	149.93	117.52	354.66	-6,314.92	917.68	651.95	265.73	3.453		
11,500.00	7,154.00	11,933.12	7,579.00	149.68	152.53	117.52	354.65	-6,414.92	917.72	647.31	270.41	3.394		
11,600.00	7,154.00	12,033.12	7,579.00	152.30	155.14	117.52	354.65	-6,514.92	917.76	642.67	275.09	3.336		
11,700.00	7,154.00	12,133.12	7,579.00	154.91	157.75	117.51	354.64	-6,614.92	917.79	638.02	279.78	3.280		
11,800.00	7,154.00	12,233.12	7,579.00	157.53	160.37	117.51	354.63	-6,714.92	917.83	633.36	284.47	3.226		
11,900.00	7,154.00	12,333.12	7,579.00	160.15	162.99	117.51	354.62	-6,814.92	917.87	628.70	289.17	3.174		
12,000.00	7,154.00	12,433.12	7,579.00	162.77	165.61	117.51	354.61	-6,914.92	917.91	624.04	293.87	3.124		
12,100.00	7,154.00	12,533.12	7,579.00	165.40	168.23	117.51	354.60	-7,014.92	917.94	619.37	298.58	3.074		
12,200.00	7,154.00	12,633.12	7,579.00	168.03	170.85	117.51	354.59	-7,114.92	917.98	614.69	303.29	3.027		
12,300.00	7,154.00	12,733.12	7,579.00	170.66	173.48	117.51	354.58	-7,214.92	918.02	610.01	308.01	2.981		
12,400.00	7,154.00	12,833.12	7,579.00	173.29	176.11	117.51	354.57	-7,314.92	918.06	605.33	312.73	2.936		
12,500.00	7,154.00	12,933.12	7,579.00	175.93	178.74	117.50	354.56	-7,414.92	918.10	600.64	317.45	2.892		
12,600.00	7,154.00	13,033.12	7,579.00	178.56	181.38	117.50	354.55	-7,514.92	918.13	595.95	322.18	2.850		
12,700.00	7,154.00	13,133.12	7,579.00	181.20	184.01	117.50	354.54	-7,614.92	918.17	591.26	326.91	2.809		
12,800.00	7,154.00	13,233.12	7,579.00	183.84	186.65	117.50	354.53	-7,714.92	918.21	586.56	331.65	2.769		
12,900.00	7,154.00	13,333.12	7,579.00	186.49	189.29	117.50	354.52	-7,814.92	918.25	581.86	336.39	2.730		
13,000.00	7,154.00	13,433.12	7,579.00	189.13	191.93	117.50	354.51	-7,914.92	918.29	577.16	341.13	2.692		
13,100.00	7,154.00	13,533.12	7,579.00	191.78	194.58	117.50	354.50	-8,014.92	918.32	572.45	345.87	2.655		
13,200.00	7,154.00	13,633.12	7,579.00	194.43	197.22	117.50	354.49	-8,114.92	918.36	567.74	350.62	2.619		
13,300.00	7,154.00	13,733.12	7,579.00	197.07	199.87	117.50	354.48	-8,214.92	918.40	563.03	355.37	2.584		
13,400.00	7,154.00	13,833.12	7,579.00	199.73	202.52	117.49	354.47	-8,314.92	918.44	558.31	360.13	2.550		
13,500.00	7,154.00	13,933.12	7,579.00	202.38	205.16	117.49	354.46	-8,414.92	918.48	553.60	364.88	2.517		
13,600.00	7,154.00	14,033.12	7,579.00	205.03	207.82	117.49	354.45	-8,514.92	918.51	548.87	369.64	2.485		
13,700.00	7,154.00	14,133.12	7,579.00	207.69	210.47	117.49	354.44	-8,614.92	918.55	544.15	374.40	2.453		
13,800.00	7,154.00	14,233.12	7,579.00	210.34	213.12	117.49	354.43	-8,714.92	918.59	539.43	379.16	2.423		
13,900.00	7,154.00	14,333.12	7,579.00	213.00	215.78	117.49	354.42	-8,814.92	918.63	534.70	383.93	2.393		
14,000.00	7,154.00	14,433.12	7,579.00	215.66	218.43	117.49	354.42	-8,914.92	918.67	529.97	388.70	2.363		
14,100.00	7,154.00	14,533.12	7,579.00	218.32	221.09	117.49	354.41	-9,014.92	918.70	525.24	393.47	2.335		
14,200.00	7,154.00	14,633.12	7,579.00	220.98	223.75	117.48	354.40	-9,114.92	918.74	520.50	398.24	2.307		
14,300.00	7,154.00	14,733.12	7,579.00	223.64	226.41	117.48	354.39	-9,214.92	918.78	515.77	403.01	2.280		
14,400.00	7,154.00	14,833.12	7,579.00	226.30	229.07	117.48	354.38	-9,314.92	918.82	511.03	407.79	2.253		
14,500.00	7,154.00	14,933.12	7,579.00	228.97	231.73	117.48	354.37	-9,414.92	918.86	506.29	412.57	2.227		
14,600.00	7,154.00	15,033.12	7,579.00	231.63	234.39	117.48	354.36	-9,514.92	918.89	501.55	417.35	2.202		
14,700.00	7,154.00	15,133.12	7,579.00	234.29	237.05	117.48	354.35	-9,614.92	918.93	496.81	422.13	2.177		
14,800.00	7,154.00	15,233.12	7,579.00	236.96	239.72	117.48	354.34	-9,714.92	918.97	492.06	426.91	2.153		
14,900.00	7,154.00	15,333.12	7,579.00	239.63	242.38	117.48	354.33	-9,814.92	919.01	487.31	431.69	2.129		
15,000.00	7,154.00	15,433.12	7,579.00	242.30	245.05	117.47	354.32	-9,914.92	919.05	482.57	436.48	2.106		
15,100.00	7,154.00	15,533.12	7,579.00	244.96	247.72	117.47	354.31	-10,014.92	919.08	477.82	441.27	2.083		
15,200.00	7,154.00	15,633.12	7,579.00	247.63	250.38	117.47	354.30	-10,114.92	919.12	473.07	446.06	2.061		
15,300.00	7,154.00	15,733.12	7,579.00	250.30	253.05	117.47	354.29	-10,214.92	919.16	468.31	450.85	2.039		
15,400.00	7,154.00	15,833.12	7,579.00	252.98	255.72	117.47	354.28	-10,314.92	919.20	463.56	455.64	2.017		

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

# Anticollision Report

<b>Company:</b>	EXTRACTION OIL & GAS	<b>Local Co-ordinate Reference:</b>	Well WARBLER 13W-27-19
<b>Project:</b>	ADAMS COUNTY	<b>TVD Reference:</b>	KB 25' @ 5106.00usft
<b>Reference Site:</b>	Sec 13-T1S-R66W	<b>MD Reference:</b>	KB 25' @ 5106.00usft
<b>Site Error:</b>	0.00 usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	WARBLER 13W-27-19	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00 usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OWB	<b>Database:</b>	EDT_32Bit_ODBC
<b>Reference Design:</b>	PROPOSAL 1	<b>Offset TVD Reference:</b>	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							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	15,933.12	7,579.00	255.65	258.39	117.47	354.27	-10,414.92	919.24	458.81	460.43	1.996		
15,600.00	7,154.00	16,033.12	7,579.00	258.32	261.06	117.47	354.26	-10,514.92	919.27	454.05	465.22	1.976		
15,700.00	7,154.00	16,133.12	7,579.00	260.99	263.73	117.47	354.25	-10,614.92	919.31	449.29	470.02	1.956		
15,800.00	7,154.00	16,233.12	7,579.00	263.67	266.40	117.46	354.24	-10,714.92	919.35	444.53	474.82	1.936		
15,900.00	7,154.00	16,333.12	7,579.00	266.34	269.07	117.46	354.23	-10,814.92	919.39	439.77	479.61	1.917		
16,000.00	7,154.00	16,433.12	7,579.00	269.01	271.75	117.46	354.22	-10,914.92	919.43	435.01	484.41	1.898		
16,100.00	7,154.00	16,533.12	7,579.00	271.69	274.42	117.46	354.21	-11,014.92	919.46	430.25	489.21	1.879		
16,200.00	7,154.00	16,633.12	7,579.00	274.36	277.10	117.46	354.20	-11,114.92	919.50	425.49	494.02	1.861		
16,300.00	7,154.00	16,733.12	7,579.00	277.04	279.77	117.46	354.19	-11,214.92	919.54	420.72	498.82	1.843		
16,400.00	7,154.00	16,833.12	7,579.00	279.72	282.45	117.46	354.19	-11,314.92	919.58	415.96	503.62	1.826		
16,500.00	7,154.00	16,933.12	7,579.00	282.40	285.12	117.46	354.18	-11,414.92	919.62	411.19	508.43	1.809		
16,600.00	7,154.00	17,033.12	7,579.00	285.07	287.80	117.45	354.17	-11,514.92	919.65	406.42	513.23	1.792		
16,700.00	7,154.00	17,133.12	7,579.00	287.75	290.47	117.45	354.16	-11,614.92	919.69	401.66	518.04	1.775		
16,800.00	7,154.00	17,233.12	7,579.00	290.43	293.15	117.45	354.15	-11,714.92	919.73	396.89	522.84	1.759		
16,900.00	7,154.00	17,333.12	7,579.00	293.11	295.83	117.45	354.14	-11,814.92	919.77	392.12	527.65	1.743		
17,000.00	7,154.00	17,433.12	7,579.00	295.79	298.51	117.45	354.13	-11,914.92	919.81	387.34	532.46	1.727		
17,100.00	7,154.00	17,533.12	7,579.00	298.47	301.19	117.45	354.12	-12,014.92	919.84	382.57	537.27	1.712		
17,200.00	7,154.00	17,633.12	7,579.00	301.15	303.86	117.45	354.11	-12,114.92	919.88	377.80	542.08	1.697		
17,300.00	7,154.00	17,733.12	7,579.00	303.83	306.54	117.45	354.10	-12,214.92	919.92	373.03	546.89	1.682		
17,400.00	7,154.00	17,833.12	7,579.00	306.51	309.22	117.44	354.09	-12,314.92	919.96	368.25	551.71	1.667		
17,500.00	7,154.00	17,933.12	7,579.00	309.19	311.90	117.44	354.08	-12,414.92	920.00	363.48	556.52	1.653		
17,600.00	7,154.00	18,033.12	7,579.00	311.88	314.59	117.44	354.07	-12,514.92	920.03	358.70	561.33	1.639		
17,700.00	7,154.00	18,133.12	7,579.00	314.56	317.27	117.44	354.06	-12,614.92	920.07	353.92	566.15	1.625		
17,800.00	7,154.00	18,233.12	7,579.00	317.24	319.95	117.44	354.05	-12,714.92	920.11	349.15	570.97	1.611		
17,900.00	7,154.00	18,333.12	7,579.00	319.92	322.63	117.44	354.04	-12,814.92	920.15	344.37	575.78	1.598		
18,000.00	7,154.00	18,433.12	7,579.00	322.61	325.31	117.44	354.03	-12,914.92	920.19	339.59	580.60	1.585		
18,100.00	7,154.00	18,533.12	7,579.00	325.29	327.99	117.44	354.02	-13,014.92	920.22	334.81	585.42	1.572		
18,200.00	7,154.00	18,633.12	7,579.00	327.98	330.68	117.43	354.01	-13,114.92	920.26	330.03	590.23	1.559		
18,300.00	7,154.00	18,733.12	7,579.00	330.66	333.36	117.43	354.00	-13,214.92	920.30	325.25	595.05	1.547		
18,400.00	7,154.00	18,833.12	7,579.00	333.34	336.04	117.43	353.99	-13,314.92	920.34	320.46	599.87	1.534		
18,500.00	7,154.00	18,933.12	7,579.00	336.03	338.73	117.43	353.98	-13,414.92	920.38	315.68	604.69	1.522		
18,600.00	7,154.00	19,033.12	7,579.00	338.71	341.41	117.43	353.97	-13,514.92	920.41	310.90	609.52	1.510		
18,700.00	7,154.00	19,133.12	7,579.00	341.40	344.10	117.43	353.96	-13,614.92	920.45	306.12	614.34	1.498 Level 3		
18,800.00	7,154.00	19,233.12	7,579.00	344.09	346.78	117.43	353.96	-13,714.92	920.49	301.33	619.16	1.487 Level 3		
18,900.00	7,154.00	19,333.12	7,579.00	346.77	349.47	117.43	353.95	-13,814.92	920.53	296.55	623.98	1.475 Level 3		
19,000.00	7,154.00	19,433.12	7,579.00	349.46	352.15	117.42	353.94	-13,914.92	920.57	291.76	628.81	1.464 Level 3		
19,100.00	7,154.00	19,533.12	7,579.00	352.15	354.84	117.42	353.93	-14,014.92	920.60	286.98	633.63	1.453 Level 3		
19,200.00	7,154.00	19,633.12	7,579.00	354.83	357.52	117.42	353.92	-14,114.92	920.64	282.19	638.45	1.442 Level 3		
19,300.00	7,154.00	19,733.12	7,579.00	357.52	360.21	117.42	353.91	-14,214.92	920.68	277.40	643.28	1.431 Level 3		
19,400.00	7,154.00	19,833.12	7,579.00	360.21	362.90	117.42	353.90	-14,314.92	920.72	272.61	648.10	1.421 Level 3		
19,500.00	7,154.00	19,933.12	7,579.00	362.90	365.58	117.42	353.89	-14,414.92	920.76	267.83	652.93	1.410 Level 3		
19,600.00	7,154.00	20,033.12	7,579.00	365.58	368.27	117.42	353.88	-14,514.92	920.79	263.04	657.76	1.400 Level 3		
19,700.00	7,154.00	20,133.12	7,579.00	368.27	370.96	117.42	353.87	-14,614.92	920.83	258.25	662.58	1.390 Level 3		
19,800.00	7,154.00	20,233.12	7,579.00	370.96	373.64	117.42	353.86	-14,714.92	920.87	253.46	667.41	1.380 Level 3		
19,900.00	7,154.00	20,333.12	7,579.00	373.65	376.33	117.41	353.85	-14,814.92	920.91	248.67	672.24	1.370 Level 3		
20,000.00	7,154.00	20,433.12	7,579.00	376.34	379.02	117.41	353.84	-14,914.92	920.95	243.88	677.07	1.360 Level 3		
20,100.00	7,154.00	20,533.12	7,579.00	379.03	381.71	117.41	353.83	-15,014.92	920.98	239.09	681.90	1.351 Level 3		
20,200.00	7,154.00	20,633.12	7,579.00	381.71	384.40	117.41	353.82	-15,114.92	921.02	234.29	686.73	1.341 Level 3		
20,300.00	7,154.00	20,733.12	7,579.00	384.40	387.08	117.41	353.81	-15,214.92	921.06	229.50	691.56	1.332 Level 3		
20,400.00	7,154.00	20,833.12	7,579.00	387.09	389.77	117.41	353.80	-15,314.92	921.10	224.71	696.39	1.323 Level 3		
20,500.00	7,154.00	20,933.12	7,579.00	389.78	392.46	117.41	353.79	-15,414.92	921.14	219.92	701.22	1.314 Level 3		
20,600.00	7,154.00	21,033.12	7,579.00	392.47	395.15	117.41	353.78	-15,514.92	921.17	215.12	706.05	1.305 Level 3		

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

## Anticollision Report

<b>Company:</b>	EXTRACTION OIL & GAS	<b>Local Co-ordinate Reference:</b>	Well WARBLER 13W-27-19
<b>Project:</b>	ADAMS COUNTY	<b>TVD Reference:</b>	KB 25' @ 5106.00usft
<b>Reference Site:</b>	Sec 13-T1S-R66W	<b>MD Reference:</b>	KB 25' @ 5106.00usft
<b>Site Error:</b>	0.00 usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	WARBLER 13W-27-19	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00 usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OWB	<b>Database:</b>	EDT_32Bit_ODBC
<b>Reference Design:</b>	PROPOSAL 1	<b>Offset TVD Reference:</b>	Offset Datum

<b>Offset Design</b> Sec 13-T1S-R66W - WARBLER 13W-27-09 - OWB - PROPOSAL 1												<b>Offset Site Error:</b>	0.00 usft
Survey Program: 0-MWD OWSG												<b>Offset Well Error:</b>	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	21,133.12	7,579.00	395.16	397.84	117.40	353.77	-15,614.92	921.21	210.33	710.88	1.296	Level 3
20,800.00	7,154.00	21,233.12	7,579.00	397.85	400.53	117.40	353.76	-15,714.92	921.25	205.54	715.71	1.287	Level 3
20,900.00	7,154.00	21,333.12	7,579.00	400.54	403.22	117.40	353.75	-15,814.92	921.29	200.74	720.55	1.279	Level 3
21,000.00	7,154.00	21,433.12	7,579.00	403.24	405.91	117.40	353.74	-15,914.92	921.33	195.95	725.38	1.270	Level 3
21,100.00	7,154.00	21,533.12	7,579.00	405.93	408.60	117.40	353.73	-16,014.92	921.36	191.15	730.21	1.262	Level 3
21,200.00	7,154.00	21,633.12	7,579.00	408.62	411.29	117.40	353.73	-16,114.92	921.40	186.35	735.05	1.254	Level 3
21,300.00	7,154.00	21,733.12	7,579.00	411.31	413.98	117.40	353.72	-16,214.92	921.44	181.56	739.88	1.245	Level 2
21,400.00	7,154.00	21,833.12	7,579.00	414.00	416.67	117.40	353.71	-16,314.92	921.48	176.76	744.72	1.237	Level 2
21,500.00	7,154.00	21,933.12	7,579.00	416.69	419.36	117.39	353.70	-16,414.92	921.52	171.96	749.55	1.229	Level 2
21,505.33	7,154.00	21,938.45	7,579.00	416.83	419.50	117.39	353.70	-16,420.24	921.52	171.71	749.81	1.229	Level 2, ES, SF

# Anticollision Report

<b>Company:</b>	EXTRACTION OIL & GAS	<b>Local Co-ordinate Reference:</b>	Well WARBLER 13W-27-19
<b>Project:</b>	ADAMS COUNTY	<b>TVD Reference:</b>	KB 25' @ 5106.00usft
<b>Reference Site:</b>	Sec 13-T1S-R66W	<b>MD Reference:</b>	KB 25' @ 5106.00usft
<b>Site Error:</b>	0.00 usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	WARBLER 13W-27-19	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00 usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OWB	<b>Database:</b>	EDT_32Bit_ODBC
<b>Reference Design:</b>	PROPOSAL 1	<b>Offset TVD Reference:</b>	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	57.52	96.17	151.09	179.10					
100.00	100.00	102.00	102.00	0.13	0.14	57.52	96.17	151.09	179.10	178.83	0.28	648.862		
200.00	200.00	202.00	202.00	0.49	0.50	57.52	96.17	151.09	179.10	178.11	0.99	180.370		
300.00	300.00	302.13	302.13	0.85	0.86	57.52	96.17	151.09	179.10	177.39	1.71	104.727		
400.00	400.00	408.62	408.59	1.21	1.23	57.40	95.42	149.18	177.20	174.76	2.44	72.567		
500.00	499.98	514.92	514.71	1.56	1.60	157.89	93.23	143.59	173.28	170.13	3.16	54.866		
600.00	599.84	621.04	620.37	1.91	2.00	157.97	89.61	134.36	168.96	165.09	3.87	43.646		
700.00	699.45	726.97	725.39	2.27	2.41	158.28	84.58	121.52	164.25	159.66	4.59	35.784		
800.00	798.70	832.69	829.63	2.65	2.85	158.82	78.15	105.11	159.17	153.85	5.31	29.952		
900.00	897.47	938.20	932.93	3.06	3.33	159.63	70.33	85.18	153.73	147.69	6.04	25.438		
1,000.00	995.62	1,043.47	1,035.15	3.49	3.85	160.74	61.16	61.78	147.98	141.20	6.78	21.825		
1,100.00	1,093.06	1,148.49	1,136.14	3.96	4.42	162.19	50.65	34.96	141.96	134.45	7.51	18.904		
1,200.00	1,189.64	1,253.25	1,235.76	4.47	5.04	164.03	38.83	4.79	135.74	127.49	8.25	16.450		
1,300.00	1,285.27	1,357.75	1,333.88	5.02	5.72	166.31	25.72	-28.66	129.40	120.41	8.99	14.389		
1,400.00	1,379.82	1,460.32	1,428.94	5.63	6.44	169.07	11.67	-64.51	123.30	113.54	9.76	12.637		
1,500.00	1,473.18	1,560.04	1,521.09	6.29	7.16	172.24	-2.25	-100.00	120.19	109.62	10.57	11.367		
1,600.00	1,566.03	1,659.78	1,613.26	6.99	7.90	175.61	-16.16	-135.50	118.86	107.44	11.42	10.405		
1,700.00	1,658.89	1,759.52	1,705.42	7.71	8.65	179.04	-30.07	-171.01	117.96	105.64	12.32	9.577		
1,800.00	1,751.74	1,859.27	1,797.59	8.44	9.41	-177.48	-43.99	-206.51	117.48	104.21	13.27	8.855		
1,858.56	1,806.12	1,917.68	1,851.56	8.87	9.85	-175.44	-52.14	-227.30	117.41	103.55	13.86	8.473 CC		
1,900.00	1,844.60	1,959.01	1,889.75	9.17	10.17	-173.99	-57.90	-242.01	117.44	103.15	14.29	8.219		
2,000.00	1,937.45	2,058.75	1,981.92	9.91	10.94	-170.51	-71.82	-277.51	117.84	102.45	15.40	7.654		
2,100.00	2,030.31	2,158.49	2,074.09	10.66	11.70	-167.07	-85.73	-313.01	118.68	102.08	16.59	7.153		
2,200.00	2,123.16	2,258.24	2,166.25	11.41	12.48	-163.69	-99.64	-348.51	119.93	102.05	17.88	6.708		
2,300.00	2,216.02	2,357.98	2,258.42	12.17	13.25	-160.39	-113.56	-384.01	121.60	102.34	19.26	6.314		
2,400.00	2,308.87	2,457.72	2,350.59	12.93	14.03	-157.18	-127.47	-419.51	123.66	102.94	20.72	5.968		
2,500.00	2,401.73	2,557.46	2,442.75	13.69	14.81	-154.09	-141.39	-455.01	126.10	103.84	22.26	5.666		
2,600.00	2,494.58	2,657.21	2,534.92	14.45	15.59	-151.13	-155.30	-490.52	128.89	105.03	23.86	5.402		
2,700.00	2,587.44	2,756.95	2,627.09	15.22	16.37	-148.30	-169.21	-526.02	132.01	106.49	25.51	5.174		
2,800.00	2,680.29	2,856.69	2,719.25	15.98	17.15	-145.60	-183.13	-561.52	135.43	108.23	27.21	4.978		
2,900.00	2,773.15	2,956.43	2,811.42	16.75	17.93	-143.04	-197.04	-597.02	139.15	110.21	28.94	4.808		
3,000.00	2,866.00	3,056.18	2,903.59	17.52	18.72	-140.62	-210.96	-632.52	143.13	112.43	30.69	4.663		
3,100.00	2,958.86	3,155.92	2,995.75	18.29	19.50	-138.34	-224.87	-668.02	147.34	114.88	32.46	4.539		
3,200.00	3,051.71	3,255.66	3,087.92	19.06	20.28	-136.18	-238.78	-703.52	151.79	117.54	34.24	4.433		
3,300.00	3,144.57	3,355.40	3,180.08	19.83	21.07	-134.15	-252.70	-739.02	156.43	120.40	36.03	4.342		
3,400.00	3,237.42	3,455.15	3,272.25	20.60	21.86	-132.24	-266.61	-774.52	161.26	123.45	37.81	4.265		
3,500.00	3,330.28	3,554.89	3,364.42	21.37	22.64	-130.44	-280.53	-810.03	166.26	126.66	39.60	4.199		
3,600.00	3,423.13	3,654.63	3,456.58	22.15	23.43	-128.74	-294.44	-845.53	171.41	130.03	41.38	4.143		
3,700.00	3,515.99	3,754.37	3,548.75	22.92	24.22	-127.15	-308.36	-881.03	176.70	133.55	43.15	4.095		
3,800.00	3,608.84	3,854.12	3,640.92	23.70	25.00	-125.65	-322.27	-916.53	182.12	137.21	44.92	4.055		
3,900.00	3,701.70	3,953.86	3,733.08	24.47	25.79	-124.24	-336.18	-952.03	187.66	140.99	46.68	4.021		
4,000.00	3,794.55	4,053.60	3,825.25	25.25	26.58	-122.91	-350.10	-987.53	193.31	144.88	48.43	3.992		
4,100.00	3,887.41	4,153.34	3,917.42	26.02	27.37	-121.65	-364.01	-1,023.03	199.05	148.89	50.17	3.968		
4,200.00	3,980.26	4,253.09	4,009.58	26.80	28.16	-120.47	-377.93	-1,058.53	204.89	152.99	51.90	3.948		
4,300.00	4,073.12	4,352.83	4,101.75	27.57	28.95	-119.35	-391.84	-1,094.03	210.81	157.18	53.63	3.931		
4,400.00	4,165.97	4,452.57	4,193.91	28.35	29.73	-118.30	-405.75	-1,129.54	216.80	161.46	55.34	3.917		
4,500.00	4,258.83	4,552.32	4,286.08	29.12	30.52	-117.30	-419.67	-1,165.04	222.86	165.81	57.05	3.906		
4,600.00	4,351.68	4,652.06	4,378.25	29.90	31.31	-116.35	-433.58	-1,200.54	228.99	170.24	58.75	3.897		
4,700.00	4,444.54	4,751.80	4,470.41	30.68	32.10	-115.45	-447.50	-1,236.04	235.17	174.73	60.45	3.891		
4,800.00	4,537.39	4,851.54	4,562.58	31.45	32.89	-114.60	-461.41	-1,271.54	241.41	179.28	62.13	3.885		
4,900.00	4,630.25	4,951.29	4,654.75	32.23	33.68	-113.79	-475.32	-1,307.04	247.71	183.89	63.81	3.882		
5,000.00	4,723.10	5,051.03	4,746.91	33.01	34.47	-113.03	-489.24	-1,342.54	254.04	188.56	65.49	3.879		

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

# Anticollision Report

<b>Company:</b>	EXTRACTION OIL & GAS	<b>Local Co-ordinate Reference:</b>	Well WARBLER 13W-27-19
<b>Project:</b>	ADAMS COUNTY	<b>TVD Reference:</b>	KB 25' @ 5106.00usft
<b>Reference Site:</b>	Sec 13-T1S-R66W	<b>MD Reference:</b>	KB 25' @ 5106.00usft
<b>Site Error:</b>	0.00 usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	WARBLER 13W-27-19	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00 usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OWB	<b>Database:</b>	EDT_32Bit_ODBC
<b>Reference Design:</b>	PROPOSAL 1	<b>Offset TVD Reference:</b>	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	4,815.96	5,150.77	4,839.08	33.79	35.26	-112.30	-503.15	-1,378.04	260.42	193.27	67.15	3.878		
5,200.00	4,908.81	5,250.51	4,931.25	34.56	36.05	-111.60	-517.07	-1,413.54	266.84	198.03	68.82	3.878		
5,300.00	5,001.67	5,350.26	5,023.41	35.34	36.84	-110.94	-530.98	-1,449.05	273.30	202.83	70.47	3.878		
5,400.00	5,094.52	5,450.00	5,115.58	36.12	37.63	-110.31	-544.89	-1,484.55	279.80	207.67	72.12	3.879		
5,500.00	5,187.38	5,549.74	5,207.74	36.90	38.42	-109.70	-558.81	-1,520.05	286.32	212.55	73.77	3.881		
5,600.00	5,280.23	5,649.48	5,299.91	37.67	39.21	-109.13	-572.72	-1,555.55	292.88	217.46	75.41	3.884		
5,700.00	5,373.09	5,749.23	5,392.08	38.45	40.00	-108.58	-586.64	-1,591.05	299.46	222.41	77.05	3.887		
5,800.00	5,465.94	5,848.97	5,484.24	39.23	40.79	-108.05	-600.55	-1,626.55	306.07	227.39	78.68	3.890		
5,900.00	5,558.80	5,948.71	5,576.41	40.01	41.58	-107.54	-614.46	-1,662.05	312.71	232.39	80.31	3.894		
6,000.00	5,651.65	6,048.45	5,668.58	40.79	42.37	-107.06	-628.38	-1,697.55	319.36	237.42	81.94	3.898		
6,100.00	5,744.51	6,148.20	5,760.74	41.57	43.16	-106.59	-642.29	-1,733.06	326.04	242.48	83.56	3.902		
6,200.00	5,837.36	6,247.94	5,852.91	42.34	43.95	-106.15	-656.21	-1,768.56	332.74	247.56	85.18	3.906		
6,300.00	5,930.22	6,347.68	5,945.08	43.12	44.75	-105.72	-670.12	-1,804.06	339.46	252.66	86.80	3.911		
6,400.00	6,023.07	6,447.42	6,037.24	43.90	45.54	-105.31	-684.03	-1,839.56	346.20	257.79	88.41	3.916		
6,500.00	6,115.93	6,547.17	6,129.41	44.68	46.33	-104.91	-697.95	-1,875.06	352.96	262.93	90.02	3.921		
6,600.00	6,208.78	6,646.91	6,221.57	45.46	47.12	-104.53	-711.86	-1,910.56	359.73	268.09	91.63	3.926		
6,700.00	6,301.64	6,746.65	6,313.74	46.24	47.91	-104.17	-725.78	-1,946.06	366.51	273.27	93.24	3.931		
6,800.00	6,394.49	6,846.39	6,405.91	47.02	48.70	-103.81	-739.69	-1,981.56	373.31	278.47	94.84	3.936		
6,900.00	6,487.35	6,946.14	6,498.07	47.80	49.49	-103.47	-753.61	-2,017.06	380.13	283.68	96.45	3.941		
7,000.00	6,580.20	7,045.88	6,590.24	48.57	50.28	-103.14	-767.52	-2,052.57	386.95	288.91	98.05	3.947		
7,100.00	6,673.06	7,145.62	6,682.41	49.35	51.07	-102.83	-781.43	-2,088.07	393.79	294.15	99.64	3.952		
7,200.00	6,765.91	7,245.36	6,774.57	50.13	51.86	-102.52	-795.35	-2,123.57	400.65	299.41	101.24	3.957		
7,300.00	6,856.90	7,344.87	6,866.52	50.99	52.65	-104.87	-809.23	-2,158.98	409.37	306.53	102.83	3.981		
7,400.00	6,939.78	7,442.02	6,956.29	52.14	53.42	-107.74	-822.78	-2,193.56	425.10	320.76	104.33	4.074		
7,500.00	7,011.80	7,533.87	7,041.17	53.58	54.15	-110.54	-835.59	-2,226.26	449.35	343.88	105.46	4.261		
7,600.00	7,070.78	7,617.63	7,118.56	55.27	54.82	-112.83	-847.28	-2,256.07	483.95	378.06	105.89	4.570		
7,700.00	7,114.93	7,690.75	7,186.13	57.16	55.40	-113.86	-857.48	-2,282.09	530.35	424.92	105.43	5.030		
7,800.00	7,142.90	7,848.49	7,325.95	59.19	56.88	-120.07	-878.60	-2,351.05	586.37	481.42	104.96	5.587		
7,900.00	7,153.85	7,900.00	7,563.90	61.28	56.58	-131.90	-914.71	-2,699.08	623.77	532.25	91.52	6.816		
8,000.00	7,154.00	8,501.25	7,579.00	63.38	68.37	-132.62	-917.14	-2,914.50	624.73	528.62	96.11	6.500		
8,100.00	7,154.00	8,601.25	7,579.00	65.52	70.42	-132.62	-917.22	-3,014.50	624.75	525.41	99.33	6.289		
8,200.00	7,154.00	8,701.25	7,579.00	67.71	72.51	-132.61	-917.29	-3,114.50	624.76	522.14	102.62	6.088		
8,300.00	7,154.00	8,801.25	7,579.00	69.93	74.64	-132.61	-917.37	-3,214.50	624.78	518.81	105.97	5.896		
8,400.00	7,154.00	8,901.25	7,579.00	72.19	76.81	-132.61	-917.44	-3,314.50	624.79	515.43	109.37	5.713		
8,500.00	7,154.00	9,001.25	7,579.00	74.47	79.01	-132.61	-917.51	-3,414.50	624.81	511.99	112.81	5.538		
8,600.00	7,154.00	9,101.25	7,579.00	76.79	81.24	-132.61	-917.59	-3,514.50	624.82	508.52	116.31	5.372		
8,700.00	7,154.00	9,201.25	7,579.00	79.12	83.50	-132.61	-917.66	-3,614.50	624.84	505.00	119.84	5.214		
8,800.00	7,154.00	9,301.25	7,579.00	81.48	85.78	-132.61	-917.74	-3,714.50	624.86	501.44	123.41	5.063		
8,900.00	7,154.00	9,401.25	7,579.00	83.87	88.09	-132.60	-917.81	-3,814.50	624.87	497.86	127.02	4.920		
9,000.00	7,154.00	9,501.25	7,579.00	86.27	90.42	-132.60	-917.88	-3,914.50	624.89	494.24	130.65	4.783		
9,100.00	7,154.00	9,601.25	7,579.00	88.68	92.77	-132.60	-917.96	-4,014.50	624.90	490.59	134.32	4.652		
9,200.00	7,154.00	9,701.25	7,579.00	91.12	95.14	-132.60	-918.03	-4,114.50	624.92	486.91	138.01	4.528		
9,300.00	7,154.00	9,801.25	7,579.00	93.57	97.53	-132.60	-918.11	-4,214.50	624.94	483.21	141.72	4.410		
9,400.00	7,154.00	9,901.25	7,579.00	96.03	99.93	-132.60	-918.18	-4,314.50	624.95	479.49	145.46	4.296		
9,500.00	7,154.00	10,001.25	7,579.00	98.50	102.35	-132.60	-918.25	-4,414.50	624.97	475.75	149.22	4.188		
9,600.00	7,154.00	10,101.25	7,579.00	100.99	104.78	-132.60	-918.33	-4,514.50	624.98	471.99	152.99	4.085		
9,700.00	7,154.00	10,201.25	7,579.00	103.49	107.23	-132.59	-918.40	-4,614.50	625.00	468.21	156.79	3.986		
9,800.00	7,154.00	10,301.25	7,579.00	106.00	109.69	-132.59	-918.47	-4,714.50	625.01	464.41	160.60	3.892		
9,900.00	7,154.00	10,401.25	7,579.00	108.51	112.16	-132.59	-918.55	-4,814.50	625.03	460.60	164.43	3.801		
10,000.00	7,154.00	10,501.25	7,579.00	111.04	114.64	-132.59	-918.62	-4,914.50	625.05	456.77	168.27	3.715		
10,100.00	7,154.00	10,601.25	7,579.00	113.58	117.13	-132.59	-918.70	-5,014.50	625.06	452.94	172.13	3.631		
10,200.00	7,154.00	10,701.25	7,579.00	116.12	119.63	-132.59	-918.77	-5,114.50	625.08	449.08	175.99	3.552		

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



# Anticollision Report

<b>Company:</b>	EXTRACTION OIL & GAS	<b>Local Co-ordinate Reference:</b>	Well WARBLER 13W-27-19
<b>Project:</b>	ADAMS COUNTY	<b>TVD Reference:</b>	KB 25' @ 5106.00usft
<b>Reference Site:</b>	Sec 13-T1S-R66W	<b>MD Reference:</b>	KB 25' @ 5106.00usft
<b>Site Error:</b>	0.00 usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	WARBLER 13W-27-19	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00 usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OWB	<b>Database:</b>	EDT_32Bit_ODBC
<b>Reference Design:</b>	PROPOSAL 1	<b>Offset TVD Reference:</b>	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	10,801.25	7,579.00	118.67	122.14	-132.59	-918.84	-5,214.50	625.09	445.22	179.87	3.475		
10,400.00	7,154.00	10,901.25	7,579.00	121.22	124.66	-132.58	-918.92	-5,314.50	625.11	441.34	183.76	3.402		
10,500.00	7,154.00	11,001.25	7,579.00	123.79	127.18	-132.58	-918.99	-5,414.50	625.12	437.46	187.67	3.331		
10,600.00	7,154.00	11,101.25	7,579.00	126.35	129.72	-132.58	-919.07	-5,514.50	625.14	433.56	191.58	3.263		
10,700.00	7,154.00	11,201.25	7,579.00	128.93	132.26	-132.58	-919.14	-5,614.50	625.16	429.66	195.50	3.198		
10,800.00	7,154.00	11,301.25	7,579.00	131.51	134.80	-132.58	-919.21	-5,714.50	625.17	425.75	199.43	3.135		
10,900.00	7,154.00	11,401.25	7,579.00	134.09	137.36	-132.58	-919.29	-5,814.50	625.19	421.83	203.36	3.074		
11,000.00	7,154.00	11,501.25	7,579.00	136.68	139.91	-132.58	-919.36	-5,914.50	625.20	417.90	207.31	3.016		
11,100.00	7,154.00	11,601.25	7,579.00	139.27	142.48	-132.58	-919.44	-6,014.50	625.22	413.96	211.26	2.959		
11,200.00	7,154.00	11,701.25	7,579.00	141.87	145.05	-132.57	-919.51	-6,114.50	625.24	410.02	215.22	2.905		
11,300.00	7,154.00	11,801.25	7,579.00	144.47	147.62	-132.57	-919.58	-6,214.50	625.25	406.07	219.18	2.853		
11,400.00	7,154.00	11,901.25	7,579.00	147.08	150.20	-132.57	-919.66	-6,314.50	625.27	402.11	223.15	2.802		
11,500.00	7,154.00	12,001.25	7,579.00	149.68	152.78	-132.57	-919.73	-6,414.50	625.28	398.15	227.13	2.753		
11,600.00	7,154.00	12,101.25	7,579.00	152.30	155.37	-132.57	-919.80	-6,514.50	625.30	394.18	231.11	2.706		
11,700.00	7,154.00	12,201.25	7,579.00	154.91	157.96	-132.57	-919.88	-6,614.50	625.31	390.21	235.10	2.660		
11,800.00	7,154.00	12,301.25	7,579.00	157.53	160.55	-132.57	-919.95	-6,714.50	625.33	386.23	239.10	2.615		
11,900.00	7,154.00	12,401.25	7,579.00	160.15	163.15	-132.56	-920.03	-6,814.50	625.35	382.25	243.09	2.572		
12,000.00	7,154.00	12,501.25	7,579.00	162.77	165.75	-132.56	-920.10	-6,914.50	625.36	378.27	247.10	2.531		
12,100.00	7,154.00	12,601.25	7,579.00	165.40	168.36	-132.56	-920.17	-7,014.50	625.38	374.27	251.10	2.491		
12,200.00	7,154.00	12,701.25	7,579.00	168.03	170.96	-132.56	-920.25	-7,114.50	625.39	370.28	255.11	2.451		
12,300.00	7,154.00	12,801.25	7,579.00	170.66	173.57	-132.56	-920.32	-7,214.50	625.41	366.28	259.13	2.413		
12,400.00	7,154.00	12,901.25	7,579.00	173.29	176.19	-132.56	-920.40	-7,314.50	625.43	362.28	263.15	2.377		
12,500.00	7,154.00	13,001.25	7,579.00	175.93	178.80	-132.56	-920.47	-7,414.50	625.44	358.27	267.17	2.341		
12,600.00	7,154.00	13,101.25	7,579.00	178.56	181.42	-132.56	-920.54	-7,514.50	625.46	354.26	271.20	2.306		
12,700.00	7,154.00	13,201.25	7,579.00	181.20	184.05	-132.55	-920.62	-7,614.50	625.47	350.25	275.23	2.273		
12,800.00	7,154.00	13,301.25	7,579.00	183.84	186.67	-132.55	-920.69	-7,714.50	625.49	346.23	279.26	2.240		
12,900.00	7,154.00	13,401.25	7,579.00	186.49	189.30	-132.55	-920.77	-7,814.50	625.50	342.21	283.30	2.208		
13,000.00	7,154.00	13,501.25	7,579.00	189.13	191.92	-132.55	-920.84	-7,914.50	625.52	338.19	287.33	2.177		
13,100.00	7,154.00	13,601.25	7,579.00	191.78	194.55	-132.55	-920.91	-8,014.50	625.54	334.16	291.38	2.147		
13,200.00	7,154.00	13,701.25	7,579.00	194.43	197.19	-132.55	-920.99	-8,114.50	625.55	330.13	295.42	2.118		
13,300.00	7,154.00	13,801.25	7,579.00	197.07	199.82	-132.55	-921.06	-8,214.50	625.57	326.10	299.47	2.089		
13,400.00	7,154.00	13,901.25	7,579.00	199.73	202.46	-132.54	-921.13	-8,314.50	625.58	322.07	303.52	2.061		
13,500.00	7,154.00	14,001.25	7,579.00	202.38	205.10	-132.54	-921.21	-8,414.50	625.60	318.03	307.57	2.034		
13,600.00	7,154.00	14,101.25	7,579.00	205.03	207.73	-132.54	-921.28	-8,514.50	625.62	313.99	311.62	2.008		
13,700.00	7,154.00	14,201.25	7,579.00	207.69	210.38	-132.54	-921.36	-8,614.50	625.63	309.95	315.68	1.982		
13,800.00	7,154.00	14,301.25	7,579.00	210.34	213.02	-132.54	-921.43	-8,714.50	625.65	305.91	319.74	1.957		
13,900.00	7,154.00	14,401.25	7,579.00	213.00	215.66	-132.54	-921.50	-8,814.50	625.66	301.87	323.80	1.932		
14,000.00	7,154.00	14,501.25	7,579.00	215.66	218.31	-132.54	-921.58	-8,914.50	625.68	297.82	327.86	1.908		
14,100.00	7,154.00	14,601.25	7,579.00	218.32	220.96	-132.54	-921.65	-9,014.50	625.69	293.77	331.92	1.885		
14,200.00	7,154.00	14,701.25	7,579.00	220.98	223.61	-132.53	-921.73	-9,114.50	625.71	289.72	335.99	1.862		
14,300.00	7,154.00	14,801.25	7,579.00	223.64	226.26	-132.53	-921.80	-9,214.50	625.73	285.67	340.06	1.840		
14,400.00	7,154.00	14,901.25	7,579.00	226.30	228.91	-132.53	-921.87	-9,314.50	625.74	281.61	344.13	1.818		
14,500.00	7,154.00	15,001.25	7,579.00	228.97	231.56	-132.53	-921.95	-9,414.50	625.76	277.56	348.20	1.797		
14,600.00	7,154.00	15,101.25	7,579.00	231.63	234.21	-132.53	-922.02	-9,514.50	625.77	273.50	352.27	1.776		
14,700.00	7,154.00	15,201.25	7,579.00	234.29	236.87	-132.53	-922.10	-9,614.50	625.79	269.44	356.35	1.756		
14,800.00	7,154.00	15,301.25	7,579.00	236.96	239.52	-132.53	-922.17	-9,714.50	625.81	265.38	360.43	1.736		
14,900.00	7,154.00	15,401.25	7,579.00	239.63	242.18	-132.53	-922.24	-9,814.50	625.82	261.32	364.50	1.717		
15,000.00	7,154.00	15,501.25	7,579.00	242.30	244.84	-132.52	-922.32	-9,914.50	625.84	257.25	368.58	1.698		
15,100.00	7,154.00	15,601.25	7,579.00	244.96	247.50	-132.52	-922.39	-10,014.50	625.85	253.19	372.67	1.679		
15,200.00	7,154.00	15,701.25	7,579.00	247.63	250.16	-132.52	-922.46	-10,114.50	625.87	249.12	376.75	1.661		
15,300.00	7,154.00	15,801.25	7,579.00	250.30	252.82	-132.52	-922.54	-10,214.50	625.88	245.05	380.83	1.643		
15,400.00	7,154.00	15,901.25	7,579.00	252.98	255.48	-132.52	-922.61	-10,314.50	625.90	240.98	384.92	1.626		

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

# Anticollision Report

<b>Company:</b>	EXTRACTION OIL & GAS	<b>Local Co-ordinate Reference:</b>	Well WARBLER 13W-27-19
<b>Project:</b>	ADAMS COUNTY	<b>TVD Reference:</b>	KB 25' @ 5106.00usft
<b>Reference Site:</b>	Sec 13-T1S-R66W	<b>MD Reference:</b>	KB 25' @ 5106.00usft
<b>Site Error:</b>	0.00 usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	WARBLER 13W-27-19	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00 usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OWB	<b>Database:</b>	EDT_32Bit_ODBC
<b>Reference Design:</b>	PROPOSAL 1	<b>Offset TVD Reference:</b>	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		
15,500.00	7,154.00	16,001.25	7,579.00	255.65	258.14	-132.52	-922.69	-10,414.50	625.92	236.91	389.00	1.609		
15,600.00	7,154.00	16,101.25	7,579.00	258.32	260.81	-132.52	-922.76	-10,514.50	625.93	232.84	393.09	1.592		
15,700.00	7,154.00	16,201.25	7,579.00	260.99	263.47	-132.51	-922.83	-10,614.50	625.95	228.77	397.18	1.576		
15,800.00	7,154.00	16,301.25	7,579.00	263.67	266.14	-132.51	-922.91	-10,714.50	625.96	224.69	401.27	1.560		
15,900.00	7,154.00	16,401.25	7,579.00	266.34	268.80	-132.51	-922.98	-10,814.50	625.98	220.62	405.36	1.544		
16,000.00	7,154.00	16,501.25	7,579.00	269.01	271.47	-132.51	-923.06	-10,914.50	626.00	216.54	409.45	1.529		
16,100.00	7,154.00	16,601.25	7,579.00	271.69	274.13	-132.51	-923.13	-11,014.50	626.01	212.47	413.55	1.514		
16,200.00	7,154.00	16,701.25	7,579.00	274.36	276.80	-132.51	-923.20	-11,114.50	626.03	208.39	417.64	1.499 Level 3		
16,300.00	7,154.00	16,801.25	7,579.00	277.04	279.47	-132.51	-923.28	-11,214.50	626.04	204.31	421.73	1.484 Level 3		
16,400.00	7,154.00	16,901.25	7,579.00	279.72	282.14	-132.51	-923.35	-11,314.50	626.06	200.23	425.83	1.470 Level 3		
16,500.00	7,154.00	17,001.25	7,579.00	282.40	284.81	-132.50	-923.42	-11,414.50	626.07	196.15	429.93	1.456 Level 3		
16,600.00	7,154.00	17,101.25	7,579.00	285.07	287.48	-132.50	-923.50	-11,514.50	626.09	192.06	434.03	1.443 Level 3		
16,700.00	7,154.00	17,201.25	7,579.00	287.75	290.15	-132.50	-923.57	-11,614.50	626.11	187.98	438.13	1.429 Level 3		
16,800.00	7,154.00	17,301.25	7,579.00	290.43	292.83	-132.50	-923.65	-11,714.50	626.12	183.90	442.23	1.416 Level 3		
16,900.00	7,154.00	17,401.25	7,579.00	293.11	295.50	-132.50	-923.72	-11,814.50	626.14	179.81	446.33	1.403 Level 3		
17,000.00	7,154.00	17,501.25	7,579.00	295.79	298.17	-132.50	-923.79	-11,914.50	626.15	175.72	450.43	1.390 Level 3		
17,100.00	7,154.00	17,601.25	7,579.00	298.47	300.84	-132.50	-923.87	-12,014.50	626.17	171.64	454.53	1.378 Level 3		
17,200.00	7,154.00	17,701.25	7,579.00	301.15	303.52	-132.49	-923.94	-12,114.50	626.19	167.55	458.63	1.365 Level 3		
17,300.00	7,154.00	17,801.25	7,579.00	303.83	306.19	-132.49	-924.02	-12,214.50	626.20	163.46	462.74	1.353 Level 3		
17,400.00	7,154.00	17,901.25	7,579.00	306.51	308.87	-132.49	-924.09	-12,314.50	626.22	159.37	466.84	1.341 Level 3		
17,500.00	7,154.00	18,001.25	7,579.00	309.19	311.54	-132.49	-924.16	-12,414.50	626.23	155.28	470.95	1.330 Level 3		
17,600.00	7,154.00	18,101.25	7,579.00	311.88	314.22	-132.49	-924.24	-12,514.50	626.25	151.19	475.06	1.318 Level 3		
17,700.00	7,154.00	18,201.25	7,579.00	314.56	316.90	-132.49	-924.31	-12,614.50	626.26	147.10	479.16	1.307 Level 3		
17,800.00	7,154.00	18,301.25	7,579.00	317.24	319.57	-132.49	-924.39	-12,714.50	626.28	143.01	483.27	1.296 Level 3		
17,900.00	7,154.00	18,401.25	7,579.00	319.92	322.25	-132.49	-924.46	-12,814.50	626.30	138.92	487.38	1.285 Level 3		
18,000.00	7,154.00	18,501.25	7,579.00	322.61	324.93	-132.48	-924.53	-12,914.50	626.31	134.82	491.49	1.274 Level 3		
18,100.00	7,154.00	18,601.25	7,579.00	325.29	327.61	-132.48	-924.61	-13,014.50	626.33	130.73	495.60	1.264 Level 3		
18,200.00	7,154.00	18,701.25	7,579.00	327.98	330.29	-132.48	-924.68	-13,114.50	626.34	126.63	499.71	1.253 Level 3		
18,300.00	7,154.00	18,801.25	7,579.00	330.66	332.96	-132.48	-924.75	-13,214.50	626.36	122.54	503.82	1.243 Level 2		
18,400.00	7,154.00	18,901.25	7,579.00	333.34	335.64	-132.48	-924.83	-13,314.50	626.38	118.44	507.94	1.233 Level 2		
18,500.00	7,154.00	19,001.25	7,579.00	336.03	338.32	-132.48	-924.90	-13,414.50	626.39	114.34	512.05	1.223 Level 2		
18,600.00	7,154.00	19,101.25	7,579.00	338.71	341.00	-132.48	-924.98	-13,514.50	626.41	110.25	516.16	1.214 Level 2		
18,700.00	7,154.00	19,201.25	7,579.00	341.40	343.69	-132.47	-925.05	-13,614.50	626.42	106.15	520.28	1.204 Level 2		
18,800.00	7,154.00	19,301.25	7,579.00	344.09	346.37	-132.47	-925.12	-13,714.50	626.44	102.05	524.39	1.195 Level 2		
18,900.00	7,154.00	19,401.25	7,579.00	346.77	349.05	-132.47	-925.20	-13,814.50	626.45	97.95	528.51	1.185 Level 2		
19,000.00	7,154.00	19,501.25	7,579.00	349.46	351.73	-132.47	-925.27	-13,914.50	626.47	93.85	532.62	1.176 Level 2		
19,100.00	7,154.00	19,601.25	7,579.00	352.15	354.41	-132.47	-925.35	-14,014.50	626.49	89.75	536.74	1.167 Level 2		
19,200.00	7,154.00	19,701.25	7,579.00	354.83	357.09	-132.47	-925.42	-14,114.50	626.50	85.65	540.85	1.158 Level 2		
19,300.00	7,154.00	19,801.25	7,579.00	357.52	359.78	-132.47	-925.49	-14,214.50	626.52	81.55	544.97	1.150 Level 2		
19,400.00	7,154.00	19,901.25	7,579.00	360.21	362.46	-132.47	-925.57	-14,314.50	626.53	77.44	549.09	1.141 Level 2		
19,500.00	7,154.00	20,001.25	7,579.00	362.90	365.14	-132.46	-925.64	-14,414.50	626.55	73.34	553.21	1.133 Level 2		
19,600.00	7,154.00	20,101.25	7,579.00	365.58	367.83	-132.46	-925.72	-14,514.50	626.57	69.24	557.33	1.124 Level 2		
19,700.00	7,154.00	20,201.25	7,579.00	368.27	370.51	-132.46	-925.79	-14,614.50	626.58	65.13	561.45	1.116 Level 2		
19,800.00	7,154.00	20,301.25	7,579.00	370.96	373.19	-132.46	-925.86	-14,714.50	626.60	61.03	565.57	1.108 Level 2		
19,900.00	7,154.00	20,401.25	7,579.00	373.65	375.88	-132.46	-925.94	-14,814.50	626.61	56.92	569.69	1.100 Level 2		
20,000.00	7,154.00	20,501.25	7,579.00	376.34	378.56	-132.46	-926.01	-14,914.50	626.63	52.82	573.81	1.092 Level 2		
20,100.00	7,154.00	20,601.25	7,579.00	379.03	381.25	-132.46	-926.08	-15,014.50	626.64	48.71	577.93	1.084 Level 2		
20,200.00	7,154.00	20,701.25	7,579.00	381.71	383.93	-132.45	-926.16	-15,114.50	626.66	44.61	582.05	1.077 Level 2		
20,300.00	7,154.00	20,801.25	7,579.00	384.40	386.62	-132.45	-926.23	-15,214.50	626.68	40.50	586.18	1.069 Level 2		
20,400.00	7,154.00	20,901.25	7,579.00	387.09	389.30	-132.45	-926.31	-15,314.50	626.69	36.39	590.30	1.062 Level 2		
20,500.00	7,154.00	21,001.25	7,579.00	389.78	391.99	-132.45	-926.38	-15,414.50	626.71	32.29	594.42	1.054 Level 2		
20,600.00	7,154.00	21,101.25	7,579.00	392.47	394.68	-132.45	-926.45	-15,514.50	626.72	28.18	598.55	1.047 Level 2		

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

## Anticollision Report

<b>Company:</b>	EXTRACTION OIL & GAS	<b>Local Co-ordinate Reference:</b>	Well WARBLER 13W-27-19
<b>Project:</b>	ADAMS COUNTY	<b>TVD Reference:</b>	KB 25' @ 5106.00usft
<b>Reference Site:</b>	Sec 13-T1S-R66W	<b>MD Reference:</b>	KB 25' @ 5106.00usft
<b>Site Error:</b>	0.00 usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	WARBLER 13W-27-19	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00 usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OWB	<b>Database:</b>	EDT_32Bit_ODBC
<b>Reference Design:</b>	PROPOSAL 1	<b>Offset TVD Reference:</b>	Offset Datum

<b>Offset Design</b> Sec 13-T1S-R66W - WARBLER 13W-27-10 - OWB - PROPOSAL 1												<b>Offset Site Error:</b>	0.00 usft
Survey Program: 0-MWD OWSG												<b>Offset Well Error:</b>	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	21,201.25	7,579.00	395.16	397.36	-132.45	-926.53	-15,614.50	626.74	24.07	602.67	1.040	Level 2
20,800.00	7,154.00	21,301.25	7,579.00	397.85	400.05	-132.45	-926.60	-15,714.50	626.76	19.96	606.80	1.033	Level 2
20,900.00	7,154.00	21,401.25	7,579.00	400.54	402.74	-132.45	-926.68	-15,814.50	626.77	15.85	610.92	1.026	Level 2
21,000.00	7,154.00	21,501.25	7,579.00	403.24	405.42	-132.44	-926.75	-15,914.49	626.79	11.74	615.05	1.019	Level 2
21,100.00	7,154.00	21,601.25	7,579.00	405.93	408.11	-132.44	-926.82	-16,014.49	626.80	7.63	619.17	1.012	Level 2
21,200.00	7,154.00	21,701.25	7,579.00	408.62	410.80	-132.44	-926.90	-16,114.49	626.82	3.52	623.30	1.006	Level 2
21,300.00	7,154.00	21,801.25	7,579.00	411.31	413.49	-132.44	-926.97	-16,214.49	626.83	-0.59	627.43	0.999	Level 1
21,400.00	7,154.00	21,898.75	7,579.00	414.00	416.11	-132.44	-927.05	-16,314.49	626.85	-4.65	631.50	0.993	Level 1
21,500.00	7,154.00	21,998.75	7,579.00	416.69	418.80	-132.44	-927.12	-16,414.49	626.87	-8.76	635.63	0.986	Level 1
21,505.33	7,154.00	22,004.08	7,579.00	416.83	418.94	-132.44	-927.12	-16,419.82	626.87	-8.98	635.85	0.986	Level 1, ES, SF

# Anticollision Report

<b>Company:</b>	EXTRACTION OIL & GAS	<b>Local Co-ordinate Reference:</b>	Well WARBLER 13W-27-19
<b>Project:</b>	ADAMS COUNTY	<b>TVD Reference:</b>	KB 25' @ 5106.00usft
<b>Reference Site:</b>	Sec 13-T1S-R66W	<b>MD Reference:</b>	KB 25' @ 5106.00usft
<b>Site Error:</b>	0.00 usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	WARBLER 13W-27-19	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00 usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OWB	<b>Database:</b>	EDT_32Bit_ODBC
<b>Reference Design:</b>	PROPOSAL 1	<b>Offset TVD Reference:</b>	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		
0.00	0.00	4.00	4.00	0.00	0.01	85.29	12.38	150.25	150.76					
100.00	100.00	104.00	104.00	0.13	0.15	85.29	12.38	150.25	150.76	150.48	0.28	532.364		
200.00	200.00	204.00	204.00	0.49	0.51	85.29	12.38	150.25	150.76	149.76	1.00	150.741		
300.00	300.00	304.00	304.00	0.85	0.87	85.29	12.38	150.25	150.76	149.04	1.72	87.801		
400.00	400.00	404.00	404.00	1.21	1.22	85.29	12.38	150.25	150.76	148.33	2.43	61.939 CC, ES		
500.00	499.98	503.98	503.98	1.56	1.58	-174.15	12.38	150.25	152.50	149.36	3.14	48.535		
600.00	599.84	603.84	603.84	1.91	1.94	-174.33	12.38	150.25	157.70	153.86	3.85	40.975		
700.00	699.45	703.57	703.57	2.27	2.30	-174.62	12.38	150.25	166.38	161.82	4.56	36.478		
800.00	798.70	806.30	806.28	2.65	2.67	-175.51	13.91	149.01	177.48	172.19	5.28	33.594		
900.00	897.47	908.81	908.63	3.06	3.03	-177.31	18.29	145.46	190.21	184.20	6.01	31.668		
1,000.00	995.62	1,010.90	1,010.29	3.49	3.40	-179.80	25.48	139.64	204.83	198.09	6.74	30.402		
1,100.00	1,093.06	1,112.37	1,110.94	3.96	3.78	177.23	35.40	131.60	221.65	214.17	7.48	29.628		
1,200.00	1,189.64	1,213.02	1,210.28	4.47	4.18	173.97	47.98	121.41	241.01	232.76	8.25	29.225		
1,300.00	1,285.27	1,312.69	1,308.03	5.02	4.59	170.57	63.09	109.16	263.17	254.12	9.04	29.101		
1,400.00	1,379.82	1,411.20	1,403.92	5.63	5.02	167.16	80.62	94.96	288.37	278.49	9.88	29.190		
1,500.00	1,473.18	1,508.41	1,497.72	6.29	5.49	163.85	100.41	78.92	316.74	305.96	10.78	29.392		
1,600.00	1,566.03	1,604.65	1,589.69	6.99	5.98	160.74	122.44	61.07	346.51	334.79	11.72	29.570		
1,700.00	1,658.89	1,700.06	1,679.88	7.71	6.51	157.65	146.63	41.47	376.63	363.89	12.73	29.578		
1,800.00	1,751.74	1,794.46	1,768.03	8.44	7.08	154.59	172.85	20.23	407.33	393.51	13.82	29.475		
1,900.00	1,844.60	1,887.65	1,853.92	9.17	7.69	151.57	200.93	-2.53	438.84	423.87	14.97	29.305		
2,000.00	1,937.45	1,979.46	1,937.35	9.91	8.33	148.61	230.70	-26.65	471.40	455.20	16.19	29.111		
2,100.00	2,030.31	2,069.74	2,018.14	10.66	9.02	145.72	261.99	-52.01	505.18	487.71	17.47	28.925		
2,200.00	2,123.16	2,158.35	2,096.17	11.41	9.74	142.92	294.61	-78.44	540.36	521.58	18.78	28.773		
2,300.00	2,216.02	2,245.18	2,171.34	12.17	10.49	140.22	328.37	-105.80	577.10	556.98	20.13	28.675		
2,400.00	2,308.87	2,330.11	2,243.56	12.93	11.27	137.62	363.10	-133.94	615.51	594.02	21.49	28.644		
2,500.00	2,401.73	2,413.08	2,312.80	13.69	12.08	135.12	398.61	-162.71	655.69	632.84	22.86	28.689		
2,600.00	2,494.58	2,494.01	2,379.03	14.45	12.91	132.75	434.74	-191.99	697.71	673.50	24.22	28.810		
2,700.00	2,587.44	2,575.76	2,444.72	15.22	13.80	130.42	472.55	-222.62	741.55	715.93	25.62	28.946		
2,800.00	2,680.29	2,660.70	2,512.76	15.98	14.74	128.22	512.06	-254.64	786.58	759.49	27.09	29.040		
2,900.00	2,773.15	2,745.65	2,580.79	16.75	15.69	126.24	551.57	-286.66	832.52	803.97	28.55	29.161		
3,000.00	2,866.00	2,830.59	2,648.83	17.52	16.65	124.46	591.08	-318.67	879.22	849.21	30.01	29.299		
3,100.00	2,958.86	2,915.53	2,716.87	18.29	17.62	122.84	630.59	-350.69	926.58	895.12	31.46	29.449		
3,200.00	3,051.71	3,000.47	2,784.90	19.06	18.59	121.37	670.10	-382.71	974.50	941.58	32.92	29.605		
3,300.00	3,144.57	3,085.42	2,852.94	19.83	19.57	120.03	709.62	-414.73	1,022.89	988.52	34.37	29.765		
3,400.00	3,237.42	3,170.36	2,920.97	20.60	20.56	118.81	749.13	-446.74	1,071.70	1,035.88	35.81	29.926		
3,500.00	3,330.28	3,255.30	2,989.01	21.37	21.55	117.68	788.64	-478.76	1,120.86	1,083.61	37.25	30.087		
3,600.00	3,423.13	3,340.24	3,057.05	22.15	22.55	116.65	828.15	-510.78	1,170.34	1,131.65	38.69	30.247		
3,700.00	3,515.99	3,425.19	3,125.08	22.92	23.54	115.70	867.66	-542.79	1,220.10	1,179.97	40.13	30.403		
3,800.00	3,608.84	3,510.13	3,193.12	23.70	24.55	114.82	907.18	-574.81	1,270.09	1,228.53	41.57	30.556		
3,900.00	3,701.70	3,604.93	3,261.16	24.47	25.67	114.00	946.69	-606.83	1,320.31	1,277.21	43.10	30.634		
4,000.00	3,794.55	3,680.01	3,329.19	25.25	26.56	113.25	986.20	-638.84	1,370.72	1,326.29	44.43	30.851		
4,100.00	3,887.41	3,764.96	3,397.23	26.02	27.56	112.54	1,025.71	-670.86	1,421.29	1,375.43	45.86	30.992		
4,200.00	3,980.26	3,849.90	3,465.27	26.80	28.57	111.88	1,065.22	-702.88	1,472.03	1,424.74	47.29	31.128		
4,300.00	4,073.12	3,934.84	3,533.30	27.57	29.59	111.27	1,104.73	-734.89	1,522.90	1,474.18	48.72	31.261		
4,400.00	4,165.97	4,019.78	3,601.34	28.35	30.60	110.69	1,144.25	-766.91	1,573.89	1,523.75	50.14	31.389		
4,500.00	4,258.83	4,104.73	3,669.38	29.12	31.61	110.15	1,183.76	-798.93	1,625.00	1,573.44	51.57	31.512		
4,600.00	4,351.68	4,189.67	3,737.41	29.90	32.63	109.64	1,223.27	-830.95	1,676.21	1,623.22	52.99	31.632		
4,700.00	4,444.54	4,274.61	3,805.45	30.68	33.65	109.16	1,262.78	-862.96	1,727.52	1,673.11	54.41	31.747		
4,800.00	4,537.39	4,359.55	3,873.49	31.45	34.66	108.71	1,302.29	-894.98	1,778.91	1,723.07	55.84	31.859		
4,900.00	4,630.25	4,444.50	3,941.52	32.23	35.68	108.28	1,341.81	-927.00	1,830.38	1,773.12	57.26	31.966		
5,000.00	4,723.10	4,529.44	4,009.56	33.01	36.70	107.88	1,381.32	-959.01	1,881.92	1,823.24	58.68	32.070		
5,100.00	4,815.96	4,614.38	4,077.60	33.79	37.72	107.50	1,420.83	-991.03	1,933.53	1,873.43	60.10	32.171		

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

# Anticollision Report

<b>Company:</b>	EXTRACTION OIL & GAS	<b>Local Co-ordinate Reference:</b>	Well WARBLER 13W-27-19
<b>Project:</b>	ADAMS COUNTY	<b>TVD Reference:</b>	KB 25' @ 5106.00usft
<b>Reference Site:</b>	Sec 13-T1S-R66W	<b>MD Reference:</b>	KB 25' @ 5106.00usft
<b>Site Error:</b>	0.00 usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	WARBLER 13W-27-19	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00 usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OWB	<b>Database:</b>	EDT_32Bit_ODBC
<b>Reference Design:</b>	PROPOSAL 1	<b>Offset TVD Reference:</b>	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)	Centre +E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor				
5,200.00	4,908.81	4,699.32	4,145.63	34.56	38.74	107.13	1,460.34	-1,023.05	1,985.20	1,923.68	61.52	32.268				
5,300.00	5,001.67	4,784.27	4,213.67	35.34	39.76	106.79	1,499.85	-1,055.06	2,036.93	1,973.99	62.94	32.362				
5,400.00	5,094.52	4,869.21	4,281.71	36.12	40.79	106.46	1,539.36	-1,087.08	2,088.71	2,024.35	64.36	32.452				
5,500.00	5,187.38	4,954.15	4,349.74	36.90	41.81	106.15	1,578.88	-1,119.10	2,140.53	2,074.75	65.78	32.540				
5,600.00	5,280.23	5,039.09	4,417.78	37.67	42.83	105.85	1,618.39	-1,151.11	2,192.41	2,125.21	67.20	32.625				
5,700.00	5,373.09	5,124.04	4,485.82	38.45	43.85	105.56	1,657.90	-1,183.13	2,244.32	2,175.70	68.62	32.707				
5,800.00	5,465.94	5,208.98	4,553.85	39.23	44.88	105.29	1,697.41	-1,215.15	2,296.27	2,226.23	70.04	32.786				
5,900.00	5,558.80	5,306.08	4,621.89	40.01	46.05	105.03	1,736.92	-1,247.17	2,348.26	2,276.69	71.58	32.808				
6,000.00	5,651.65	5,378.87	4,689.93	40.79	46.93	104.78	1,776.44	-1,279.18	2,400.29	2,327.41	72.88	32.937				
6,100.00	5,744.51	5,463.81	4,757.96	41.57	47.95	104.54	1,815.95	-1,311.20	2,452.34	2,378.05	74.29	33.009				
6,200.00	5,837.36	5,548.75	4,826.00	42.34	48.98	104.32	1,855.46	-1,343.22	2,504.43	2,428.71	75.71	33.078				
6,300.00	5,930.22	5,633.69	4,894.03	43.12	50.01	104.10	1,894.97	-1,375.23	2,556.54	2,479.41	77.13	33.146				
6,400.00	6,023.07	5,718.64	4,962.07	43.90	51.03	103.89	1,934.48	-1,407.25	2,608.68	2,530.13	78.55	33.211				
6,500.00	6,115.93	5,803.58	5,030.11	44.68	52.06	103.68	1,973.99	-1,439.27	2,660.85	2,580.88	79.97	33.275				
6,600.00	6,208.78	5,888.52	5,098.14	45.46	53.09	103.49	2,013.51	-1,471.28	2,713.03	2,631.65	81.38	33.336				
6,700.00	6,301.64	5,973.46	5,166.18	46.24	54.11	103.30	2,053.02	-1,503.30	2,765.24	2,682.44	82.80	33.396				
6,800.00	6,394.49	6,058.41	5,234.22	47.02	55.14	103.12	2,092.53	-1,535.32	2,817.47	2,733.25	84.22	33.454				
6,900.00	6,487.35	6,143.35	5,302.25	47.80	56.17	102.95	2,132.04	-1,567.34	2,869.73	2,784.09	85.64	33.510				
7,000.00	6,580.20	6,228.29	5,370.29	48.57	57.19	102.78	2,171.55	-1,599.35	2,922.00	2,834.94	87.06	33.565				
7,100.00	6,673.06	6,313.23	5,438.33	49.35	58.22	102.62	2,211.07	-1,631.37	2,974.28	2,885.81	88.47	33.618				
7,200.00	6,765.91	6,401.82	5,506.36	50.13	59.30	102.46	2,250.58	-1,663.39	3,026.59	2,936.66	89.93	33.656				
7,300.00	6,856.90	6,483.28	5,574.53	50.99	60.28	95.26	2,290.17	-1,695.46	3,078.87	2,987.45	91.42	33.679				
7,400.00	6,939.78	6,567.70	5,642.15	52.14	61.30	87.61	2,329.43	-1,727.28	3,130.28	3,036.96	93.32	33.545				
7,500.00	7,011.80	6,648.91	5,707.19	53.58	62.29	81.55	2,367.21	-1,757.89	3,179.50	3,083.94	95.56	33.271				
7,600.00	7,070.78	6,724.45	5,767.70	55.27	63.20	76.70	2,402.35	-1,786.37	3,225.50	3,127.41	98.09	32.884				
7,700.00	7,114.93	6,807.98	5,821.82	57.16	64.21	72.81	2,433.78	-1,811.84	3,267.51	3,166.55	100.96	32.364				
7,800.00	7,142.90	6,849.58	5,867.92	59.19	64.72	69.71	2,460.55	-1,833.53	3,304.98	3,201.37	103.61	31.898				
7,900.00	7,153.85	6,904.63	5,904.60	61.28	65.38	67.26	2,481.85	-1,850.79	3,337.50	3,231.02	106.48	31.345				
8,000.00	7,154.00	6,933.15	5,934.86	63.38	65.73	67.52	2,499.42	-1,865.03	3,367.64	3,258.57	109.08	30.874				
8,100.00	7,154.00	6,970.82	5,965.03	65.52	66.19	68.14	2,516.95	-1,879.23	3,399.98	3,288.23	111.75	30.424				
8,200.00	7,154.00	7,008.48	5,995.20	67.71	66.64	68.76	2,534.47	-1,893.43	3,434.52	3,320.11	114.40	30.022				
8,300.00	7,154.00	7,046.15	6,025.37	69.93	67.10	69.37	2,551.99	-1,907.62	3,471.18	3,354.16	117.02	29.664				
8,400.00	7,154.00	7,083.82	6,055.54	72.19	67.56	69.98	2,569.51	-1,921.82	3,509.90	3,390.31	119.59	29.348				
8,500.00	7,154.00	7,121.49	6,085.72	74.47	68.01	70.59	2,587.03	-1,936.02	3,550.62	3,428.49	122.13	29.072				
8,600.00	7,154.00	7,159.16	6,115.89	76.79	68.47	71.20	2,604.55	-1,950.22	3,593.27	3,468.65	124.62	28.833				
8,700.00	7,154.00	7,203.18	6,146.06	79.12	69.00	71.81	2,622.08	-1,964.42	3,637.77	3,510.64	127.14	28.613				
8,800.00	7,154.00	9,634.08	7,154.00	81.48	105.97	89.94	3,209.22	-3,709.68	3,667.05	3,497.99	169.07	21.690				
8,900.00	7,154.00	9,734.08	7,154.00	83.87	107.90	89.94	3,209.36	-3,809.68	3,667.24	3,493.41	173.83	21.097				
9,000.00	7,154.00	9,834.08	7,154.00	86.27	109.86	89.94	3,209.50	-3,909.68	3,667.44	3,488.81	178.63	20.531				
9,100.00	7,154.00	9,934.08	7,154.00	88.68	111.85	89.94	3,209.64	-4,009.68	3,667.63	3,484.16	183.47	19.991				
9,200.00	7,154.00	10,034.08	7,154.00	91.12	113.87	89.94	3,209.78	-4,109.68	3,667.82	3,479.49	188.33	19.475				
9,300.00	7,154.00	10,134.08	7,154.00	93.57	115.91	89.94	3,209.92	-4,209.68	3,668.02	3,474.79	193.23	18.983				
9,400.00	7,154.00	10,234.07	7,154.00	96.03	117.99	89.94	3,210.06	-4,309.68	3,668.21	3,470.06	198.15	18.512				
9,500.00	7,154.00	10,334.07	7,154.00	98.50	120.09	89.94	3,210.20	-4,409.68	3,668.40	3,465.31	203.09	18.063				
9,600.00	7,154.00	10,434.07	7,154.00	100.99	122.21	89.94	3,210.34	-4,509.68	3,668.60	3,460.53	208.06	17.632				
9,700.00	7,154.00	10,534.07	7,154.00	103.49	124.36	89.94	3,210.48	-4,609.68	3,668.79	3,455.73	213.05	17.220				
9,800.00	7,154.00	10,634.07	7,154.00	106.00	126.53	89.94	3,210.62	-4,709.68	3,668.98	3,450.92	218.06	16.825				
9,900.00	7,154.00	10,734.07	7,154.00	108.51	128.71	89.94	3,210.76	-4,809.68	3,669.17	3,446.08	223.09	16.447				
10,000.00	7,154.00	10,834.07	7,154.00	111.04	130.92	89.94	3,210.91	-4,909.68	3,669.37	3,441.23	228.14	16.084				
10,100.00	7,154.00	10,934.07	7,154.00	113.58	133.15	89.94	3,211.05	-5,009.68	3,669.56	3,436.36	233.20	15.736				
10,200.00	7,154.00	11,034.07	7,154.00	116.12	135.40	89.94	3,211.19	-5,109.68	3,669.75	3,431.48	238.28	15.401				
10,300.00	7,154.00	11,134.07	7,154.00	118.67	137.66	89.94	3,211.33	-5,209.68	3,669.95	3,426.58	243.37	15.080				

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

# Anticollision Report

<b>Company:</b>	EXTRACTION OIL & GAS	<b>Local Co-ordinate Reference:</b>	Well WARBLER 13W-27-19
<b>Project:</b>	ADAMS COUNTY	<b>TVD Reference:</b>	KB 25' @ 5106.00usft
<b>Reference Site:</b>	Sec 13-T1S-R66W	<b>MD Reference:</b>	KB 25' @ 5106.00usft
<b>Site Error:</b>	0.00 usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	WARBLER 13W-27-19	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00 usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OWB	<b>Database:</b>	EDT_32Bit_ODBC
<b>Reference Design:</b>	PROPOSAL 1	<b>Offset TVD Reference:</b>	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	11,234.07	7,154.00	121.22	139.94	89.94	3,211.47	-5,309.68	3,670.14	3,421.66	248.47	14.771		
10,500.00	7,154.00	11,334.07	7,154.00	123.79	142.23	89.94	3,211.61	-5,409.68	3,670.33	3,416.74	253.59	14.473		
10,600.00	7,154.00	11,434.07	7,154.00	126.35	144.54	89.94	3,211.75	-5,509.68	3,670.52	3,411.80	258.72	14.187		
10,700.00	7,154.00	11,534.07	7,154.00	128.93	146.87	89.94	3,211.89	-5,609.68	3,670.72	3,406.86	263.86	13.912		
10,800.00	7,154.00	11,634.07	7,154.00	131.51	149.20	89.94	3,212.03	-5,709.68	3,670.91	3,401.90	269.01	13.646		
10,900.00	7,154.00	11,734.07	7,154.00	134.09	151.55	89.94	3,212.17	-5,809.68	3,671.10	3,396.93	274.17	13.390		
11,000.00	7,154.00	11,834.07	7,154.00	136.68	153.91	89.94	3,212.31	-5,909.68	3,671.30	3,391.96	279.34	13.143		
11,100.00	7,154.00	11,934.07	7,154.00	139.27	156.29	89.94	3,212.45	-6,009.68	3,671.49	3,386.97	284.52	12.904		
11,200.00	7,154.00	12,034.07	7,154.00	141.87	158.67	89.94	3,212.59	-6,109.68	3,671.68	3,381.98	289.71	12.674		
11,300.00	7,154.00	12,134.07	7,154.00	144.47	161.07	89.94	3,212.73	-6,209.68	3,671.88	3,376.97	294.90	12.451		
11,400.00	7,154.00	12,234.07	7,154.00	147.08	163.47	89.94	3,212.87	-6,309.68	3,672.07	3,371.96	300.10	12.236		
11,500.00	7,154.00	12,334.07	7,154.00	149.68	165.89	89.94	3,213.01	-6,409.68	3,672.26	3,366.95	305.31	12.028		
11,600.00	7,154.00	12,434.07	7,154.00	152.30	168.31	89.94	3,213.15	-6,509.68	3,672.45	3,361.92	310.53	11.826		
11,700.00	7,154.00	12,534.07	7,154.00	154.91	170.75	89.94	3,213.29	-6,609.68	3,672.65	3,356.90	315.75	11.631		
11,800.00	7,154.00	12,634.07	7,154.00	157.53	173.19	89.94	3,213.43	-6,709.68	3,672.84	3,351.86	320.98	11.443		
11,900.00	7,154.00	12,734.07	7,154.00	160.15	175.64	89.94	3,213.58	-6,809.68	3,673.03	3,346.82	326.22	11.260		
12,000.00	7,154.00	12,834.07	7,154.00	162.77	178.10	89.94	3,213.72	-6,909.68	3,673.23	3,341.77	331.46	11.082		
12,100.00	7,154.00	12,934.07	7,154.00	165.40	180.56	89.94	3,213.86	-7,009.68	3,673.42	3,336.72	336.70	10.910		
12,200.00	7,154.00	13,034.07	7,154.00	168.03	183.03	89.94	3,214.00	-7,109.68	3,673.61	3,331.66	341.95	10.743		
12,300.00	7,154.00	13,134.07	7,154.00	170.66	185.51	89.94	3,214.14	-7,209.67	3,673.80	3,326.60	347.21	10.581		
12,400.00	7,154.00	13,234.07	7,154.00	173.29	188.00	89.94	3,214.28	-7,309.67	3,674.00	3,321.53	352.47	10.424		
12,500.00	7,154.00	13,334.07	7,154.00	175.93	190.49	89.94	3,214.42	-7,409.67	3,674.19	3,316.46	357.73	10.271		
12,600.00	7,154.00	13,434.07	7,154.00	178.56	192.99	89.94	3,214.56	-7,509.67	3,674.38	3,311.39	363.00	10.122		
12,700.00	7,154.00	13,534.07	7,154.00	181.20	195.49	89.94	3,214.70	-7,609.67	3,674.58	3,306.31	368.27	9.978		
12,800.00	7,154.00	13,634.07	7,154.00	183.84	198.00	89.94	3,214.84	-7,709.67	3,674.77	3,301.22	373.55	9.838		
12,900.00	7,154.00	13,734.07	7,154.00	186.49	200.52	89.94	3,214.98	-7,809.67	3,674.96	3,296.14	378.83	9.701		
13,000.00	7,154.00	13,834.07	7,154.00	189.13	203.04	89.94	3,215.12	-7,909.67	3,675.16	3,291.05	384.11	9.568		
13,100.00	7,154.00	13,934.07	7,154.00	191.78	205.56	89.94	3,215.26	-8,009.67	3,675.35	3,285.95	389.40	9.439		
13,200.00	7,154.00	14,034.07	7,154.00	194.43	208.09	89.94	3,215.40	-8,109.67	3,675.54	3,280.85	394.69	9.313		
13,300.00	7,154.00	14,134.07	7,154.00	197.07	210.63	89.94	3,215.54	-8,209.67	3,675.73	3,275.75	399.98	9.190		
13,400.00	7,154.00	14,234.07	7,154.00	199.73	213.16	89.94	3,215.68	-8,309.67	3,675.93	3,270.65	405.28	9.070		
13,500.00	7,154.00	14,334.07	7,154.00	202.38	215.71	89.94	3,215.82	-8,409.67	3,676.12	3,265.55	410.57	8.954		
13,600.00	7,154.00	14,434.07	7,154.00	205.03	218.25	89.94	3,215.96	-8,509.67	3,676.31	3,260.44	415.88	8.840		
13,700.00	7,154.00	14,534.07	7,154.00	207.69	220.80	89.94	3,216.10	-8,609.67	3,676.51	3,255.32	421.18	8.729		
13,800.00	7,154.00	14,634.07	7,154.00	210.34	223.36	89.94	3,216.25	-8,709.67	3,676.70	3,250.21	426.49	8.621		
13,900.00	7,154.00	14,734.07	7,154.00	213.00	225.92	89.94	3,216.39	-8,809.67	3,676.89	3,245.09	431.80	8.515		
14,000.00	7,154.00	14,834.07	7,154.00	215.66	228.48	89.94	3,216.53	-8,909.67	3,677.08	3,239.98	437.11	8.412		
14,100.00	7,154.00	14,934.07	7,154.00	218.32	231.04	89.94	3,216.67	-9,009.67	3,677.28	3,234.85	442.42	8.312		
14,200.00	7,154.00	15,034.07	7,154.00	220.98	233.61	89.94	3,216.81	-9,109.67	3,677.47	3,229.73	447.74	8.213		
14,300.00	7,154.00	15,134.07	7,154.00	223.64	236.19	89.94	3,216.95	-9,209.67	3,677.66	3,224.60	453.06	8.117		
14,400.00	7,154.00	15,234.07	7,154.00	226.30	238.76	89.94	3,217.09	-9,309.67	3,677.86	3,219.48	458.38	8.024		
14,500.00	7,154.00	15,334.07	7,154.00	228.97	241.34	89.94	3,217.23	-9,409.67	3,678.05	3,214.35	463.70	7.932		
14,600.00	7,154.00	15,434.07	7,154.00	231.63	243.92	89.94	3,217.37	-9,509.67	3,678.24	3,209.22	469.03	7.842		
14,700.00	7,154.00	15,534.07	7,154.00	234.29	246.50	89.94	3,217.51	-9,609.67	3,678.44	3,204.08	474.35	7.755		
14,800.00	7,154.00	15,634.07	7,154.00	236.96	249.09	89.94	3,217.65	-9,709.67	3,678.63	3,198.95	479.68	7.669		
14,900.00	7,154.00	15,734.06	7,154.00	239.63	251.68	89.94	3,217.79	-9,809.67	3,678.82	3,193.81	485.01	7.585		
15,000.00	7,154.00	15,834.06	7,154.00	242.30	254.27	89.94	3,217.93	-9,909.67	3,679.01	3,188.67	490.34	7.503		
15,100.00	7,154.00	15,934.06	7,154.00	244.96	256.86	89.94	3,218.07	-10,009.67	3,679.21	3,183.53	495.68	7.423		
15,200.00	7,154.00	16,034.06	7,154.00	247.63	259.46	89.94	3,218.21	-10,109.67	3,679.40	3,178.39	501.01	7.344		
15,300.00	7,154.00	16,134.06	7,154.00	250.30	262.06	89.94	3,218.35	-10,209.67	3,679.59	3,173.25	506.35	7.267		
15,400.00	7,154.00	16,234.06	7,154.00	252.98	264.66	89.94	3,218.49	-10,309.67	3,679.79	3,168.10	511.69	7.191		
15,500.00	7,154.00	16,334.06	7,154.00	255.65	267.26	89.94	3,218.63	-10,409.67	3,679.98	3,162.95	517.02	7.118		

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

# Anticollision Report

<b>Company:</b>	EXTRACTION OIL & GAS	<b>Local Co-ordinate Reference:</b>	Well WARBLER 13W-27-19
<b>Project:</b>	ADAMS COUNTY	<b>TVD Reference:</b>	KB 25' @ 5106.00usft
<b>Reference Site:</b>	Sec 13-T1S-R66W	<b>MD Reference:</b>	KB 25' @ 5106.00usft
<b>Site Error:</b>	0.00 usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	WARBLER 13W-27-19	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00 usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OWB	<b>Database:</b>	EDT_32Bit_ODBC
<b>Reference Design:</b>	PROPOSAL 1	<b>Offset TVD Reference:</b>	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	16,434.06	7,154.00	258.32	269.87	89.94	3,218.78	-10,509.67	3,680.17	3,157.81	522.37	7.045		
15,700.00	7,154.00	16,534.06	7,154.00	260.99	272.47	89.94	3,218.92	-10,609.67	3,680.36	3,152.66	527.71	6.974		
15,800.00	7,154.00	16,634.06	7,154.00	263.67	275.08	89.94	3,219.06	-10,709.66	3,680.56	3,147.51	533.05	6.905		
15,900.00	7,154.00	16,734.06	7,154.00	266.34	277.69	89.94	3,219.20	-10,809.66	3,680.75	3,142.35	538.40	6.837		
16,000.00	7,154.00	16,834.06	7,154.00	269.01	280.30	89.94	3,219.34	-10,909.66	3,680.94	3,137.20	543.74	6.770		
16,100.00	7,154.00	16,934.06	7,154.00	271.69	282.92	89.94	3,219.48	-11,009.66	3,681.14	3,132.05	549.09	6.704		
16,200.00	7,154.00	17,034.06	7,154.00	274.36	285.54	89.94	3,219.62	-11,109.66	3,681.33	3,126.89	554.44	6.640		
16,300.00	7,154.00	17,134.06	7,154.00	277.04	288.15	89.94	3,219.76	-11,209.66	3,681.52	3,121.74	559.79	6.577		
16,400.00	7,154.00	17,234.06	7,154.00	279.72	290.77	89.94	3,219.90	-11,309.66	3,681.72	3,116.58	565.14	6.515		
16,500.00	7,154.00	17,334.06	7,154.00	282.40	293.39	89.94	3,220.04	-11,409.66	3,681.91	3,111.42	570.49	6.454		
16,600.00	7,154.00	17,434.06	7,154.00	285.07	296.02	89.94	3,220.18	-11,509.66	3,682.10	3,106.26	575.84	6.394		
16,700.00	7,154.00	17,534.06	7,154.00	287.75	298.64	89.94	3,220.32	-11,609.66	3,682.29	3,101.10	581.19	6.336		
16,800.00	7,154.00	17,634.06	7,154.00	290.43	301.27	89.94	3,220.46	-11,709.66	3,682.49	3,095.94	586.55	6.278		
16,900.00	7,154.00	17,734.06	7,154.00	293.11	303.89	89.94	3,220.60	-11,809.66	3,682.68	3,090.78	591.90	6.222		
17,000.00	7,154.00	17,834.06	7,154.00	295.79	306.52	89.94	3,220.74	-11,909.66	3,682.87	3,085.61	597.26	6.166		
17,100.00	7,154.00	17,934.06	7,154.00	298.47	309.15	89.94	3,220.88	-12,009.66	3,683.07	3,080.45	602.62	6.112		
17,200.00	7,154.00	18,034.06	7,154.00	301.15	311.78	89.94	3,221.02	-12,109.66	3,683.26	3,075.28	607.98	6.058		
17,300.00	7,154.00	18,134.06	7,154.00	303.83	314.42	89.94	3,221.16	-12,209.66	3,683.45	3,070.12	613.34	6.006		
17,400.00	7,154.00	18,234.06	7,154.00	306.51	317.05	89.94	3,221.30	-12,309.66	3,683.64	3,064.95	618.70	5.954		
17,500.00	7,154.00	18,334.06	7,154.00	309.19	319.68	89.94	3,221.45	-12,409.66	3,683.84	3,059.78	624.06	5.903		
17,600.00	7,154.00	18,434.06	7,154.00	311.88	322.32	89.94	3,221.59	-12,509.66	3,684.03	3,054.61	629.42	5.853		
17,700.00	7,154.00	18,534.06	7,154.00	314.56	324.96	89.94	3,221.73	-12,609.66	3,684.22	3,049.44	634.78	5.804		
17,800.00	7,154.00	18,634.06	7,154.00	317.24	327.60	89.94	3,221.87	-12,709.66	3,684.42	3,044.27	640.14	5.756		
17,900.00	7,154.00	18,734.06	7,154.00	319.92	330.24	89.94	3,222.01	-12,809.66	3,684.61	3,039.10	645.51	5.708		
18,000.00	7,154.00	18,834.06	7,154.00	322.61	332.88	89.94	3,222.15	-12,909.66	3,684.80	3,033.93	650.87	5.661		
18,100.00	7,154.00	18,934.06	7,154.00	325.29	335.52	89.94	3,222.29	-13,009.66	3,685.00	3,028.76	656.24	5.615		
18,200.00	7,154.00	19,034.06	7,154.00	327.98	338.16	89.94	3,222.43	-13,109.66	3,685.19	3,023.59	661.60	5.570		
18,300.00	7,154.00	19,134.06	7,154.00	330.66	340.80	89.94	3,222.57	-13,209.66	3,685.38	3,018.41	666.97	5.526		
18,400.00	7,154.00	19,234.06	7,154.00	333.34	343.45	89.94	3,222.71	-13,309.66	3,685.57	3,013.24	672.34	5.482		
18,500.00	7,154.00	19,334.06	7,154.00	336.03	346.09	89.94	3,222.85	-13,409.66	3,685.77	3,008.06	677.70	5.439		
18,600.00	7,154.00	19,434.06	7,154.00	338.71	348.74	89.94	3,222.99	-13,509.66	3,685.96	3,002.89	683.07	5.396		
18,700.00	7,154.00	19,534.06	7,154.00	341.40	351.39	89.94	3,223.13	-13,609.66	3,686.15	2,997.71	688.44	5.354		
18,800.00	7,154.00	19,634.06	7,154.00	344.09	354.04	89.94	3,223.27	-13,709.66	3,686.35	2,992.54	693.81	5.313		
18,900.00	7,154.00	19,734.06	7,154.00	346.77	356.69	89.94	3,223.41	-13,809.66	3,686.54	2,987.36	699.18	5.273		
19,000.00	7,154.00	19,834.06	7,154.00	349.46	359.34	89.94	3,223.55	-13,909.66	3,686.73	2,982.18	704.55	5.233		
19,100.00	7,154.00	19,934.06	7,154.00	352.15	361.99	89.94	3,223.69	-14,009.66	3,686.92	2,977.00	709.92	5.193		
19,200.00	7,154.00	20,034.06	7,154.00	354.83	364.64	89.94	3,223.83	-14,109.66	3,687.12	2,971.82	715.29	5.155		
19,300.00	7,154.00	20,134.06	7,154.00	357.52	367.29	89.94	3,223.97	-14,209.66	3,687.31	2,966.64	720.67	5.117		
19,400.00	7,154.00	20,234.06	7,154.00	360.21	369.94	89.94	3,224.12	-14,309.65	3,687.50	2,961.46	726.04	5.079		
19,500.00	7,154.00	20,334.06	7,154.00	362.90	372.60	89.94	3,224.26	-14,409.65	3,687.70	2,956.28	731.41	5.042		
19,600.00	7,154.00	20,434.06	7,154.00	365.58	375.25	89.94	3,224.40	-14,509.65	3,687.89	2,951.10	736.79	5.005		
19,700.00	7,154.00	20,534.06	7,154.00	368.27	377.91	89.94	3,224.54	-14,609.65	3,688.08	2,945.92	742.16	4.969		
19,800.00	7,154.00	20,634.06	7,154.00	370.96	380.57	89.94	3,224.68	-14,709.65	3,688.28	2,940.74	747.54	4.934		
19,900.00	7,154.00	20,734.06	7,154.00	373.65	383.22	89.94	3,224.82	-14,809.65	3,688.47	2,935.56	752.91	4.899		
20,000.00	7,154.00	20,834.06	7,154.00	376.34	385.88	89.94	3,224.96	-14,909.65	3,688.66	2,930.37	758.29	4.864		
20,100.00	7,154.00	20,934.06	7,154.00	379.03	388.54	89.94	3,225.10	-15,009.65	3,688.85	2,925.19	763.66	4.830		
20,200.00	7,154.00	21,034.06	7,154.00	381.71	391.20	89.94	3,225.24	-15,109.65	3,689.05	2,920.01	769.04	4.797		
20,300.00	7,154.00	21,134.05	7,154.00	384.40	393.86	89.94	3,225.38	-15,209.65	3,689.24	2,914.82	774.42	4.764		
20,400.00	7,154.00	21,234.05	7,154.00	387.09	396.52	89.94	3,225.52	-15,309.65	3,689.43	2,909.64	779.79	4.731		
20,500.00	7,154.00	21,334.05	7,154.00	389.78	399.18	89.94	3,225.66	-15,409.65	3,689.63	2,904.45	785.17	4.699		
20,600.00	7,154.00	21,434.05	7,154.00	392.47	401.84	89.94	3,225.80	-15,509.65	3,689.82	2,899.27	790.55	4.667		
20,700.00	7,154.00	21,534.05	7,154.00	395.16	404.50	89.94	3,225.94	-15,609.65	3,690.01	2,894.08	795.93	4.636		

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



## Anticollision Report

<b>Company:</b>	EXTRACTION OIL & GAS	<b>Local Co-ordinate Reference:</b>	Well WARBLER 13W-27-19
<b>Project:</b>	ADAMS COUNTY	<b>TVD Reference:</b>	KB 25' @ 5106.00usft
<b>Reference Site:</b>	Sec 13-T1S-R66W	<b>MD Reference:</b>	KB 25' @ 5106.00usft
<b>Site Error:</b>	0.00 usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	WARBLER 13W-27-19	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00 usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OWB	<b>Database:</b>	EDT_32Bit_ODBC
<b>Reference Design:</b>	PROPOSAL 1	<b>Offset TVD Reference:</b>	Offset Datum

<b>Offset Design</b> Sec 13-T1S-R66W - WARBLER 13W-27-13 - OWB - PROPOSAL 1												<b>Offset Site Error:</b>	0.00 usft
Survey Program: 0-MWD OWSG												<b>Offset Well Error:</b>	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	21,634.05	7,154.00	397.85	407.16	89.94	3,226.08	-15,709.65	3,690.20	2,888.90	801.31	4.605	
20,900.00	7,154.00	21,734.05	7,154.00	400.54	409.83	89.94	3,226.22	-15,809.65	3,690.40	2,883.71	806.69	4.575	
21,000.00	7,154.00	21,834.05	7,154.00	403.24	412.49	89.94	3,226.36	-15,909.65	3,690.59	2,878.52	812.07	4.545	
21,100.00	7,154.00	21,934.05	7,154.00	405.93	415.15	89.94	3,226.50	-16,009.65	3,690.78	2,873.34	817.45	4.515	
21,200.00	7,154.00	22,034.05	7,154.00	408.62	417.82	89.94	3,226.64	-16,109.65	3,690.98	2,868.15	822.83	4.486	
21,300.00	7,154.00	22,134.05	7,154.00	411.31	420.48	89.94	3,226.79	-16,209.65	3,691.17	2,862.96	828.21	4.457	
21,400.00	7,154.00	22,234.05	7,154.00	414.00	423.15	89.94	3,226.93	-16,309.65	3,691.36	2,857.77	833.59	4.428	
21,500.00	7,154.00	22,334.05	7,154.00	416.69	425.81	89.94	3,227.07	-16,409.65	3,691.56	2,852.58	838.97	4.400	
21,505.33	7,154.00	22,339.38	7,154.00	416.83	425.96	89.94	3,227.07	-16,414.98	3,691.57	2,852.31	839.26	4.399 SF	

# Anticollision Report

<b>Company:</b>	EXTRACTION OIL & GAS	<b>Local Co-ordinate Reference:</b>	Well WARBLER 13W-27-19
<b>Project:</b>	ADAMS COUNTY	<b>TVD Reference:</b>	KB 25' @ 5106.00usft
<b>Reference Site:</b>	Sec 13-T1S-R66W	<b>MD Reference:</b>	KB 25' @ 5106.00usft
<b>Site Error:</b>	0.00 usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	WARBLER 13W-27-19	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00 usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OWB	<b>Database:</b>	EDT_32Bit_ODBC
<b>Reference Design:</b>	PROPOSAL 1	<b>Offset TVD Reference:</b>	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	106.28	-43.72	149.69	155.95					
100.00	100.00	105.00	105.00	0.13	0.15	106.28	-43.72	149.69	155.95	155.66	0.29	543.785		
200.00	200.00	205.00	205.00	0.49	0.51	106.28	-43.72	149.69	155.95	154.94	1.00	155.367		
300.00	300.00	305.00	305.00	0.85	0.87	106.28	-43.72	149.69	155.95	154.22	1.72	90.631		
400.00	400.00	405.00	405.00	1.21	1.23	106.28	-43.72	149.69	155.95	153.51	2.44	63.975 CC, ES		
500.00	499.98	504.98	504.98	1.56	1.59	-153.37	-43.72	149.69	157.50	154.36	3.15	50.073		
600.00	599.84	604.84	604.84	1.91	1.94	-154.16	-43.72	149.69	162.20	158.35	3.85	42.104		
700.00	699.45	704.45	704.45	2.27	2.30	-155.37	-43.72	149.69	170.09	165.52	4.57	37.252		
800.00	798.70	803.70	803.70	2.65	2.66	-156.88	-43.72	149.69	181.25	175.96	5.28	34.299		
900.00	897.47	902.62	902.62	3.06	3.01	-158.58	-43.72	149.69	195.75	189.74	6.01	32.587		
1,000.00	995.62	1,007.57	1,007.55	3.49	3.38	-160.72	-42.48	148.10	212.01	205.27	6.75	31.422		
1,100.00	1,093.06	1,112.62	1,112.43	3.96	3.76	-163.33	-38.87	143.47	228.74	221.26	7.49	30.553		
1,200.00	1,189.64	1,217.64	1,216.99	4.47	4.14	-166.30	-32.90	135.82	246.23	238.00	8.23	29.924		
1,300.00	1,285.27	1,322.48	1,320.95	5.02	4.53	-169.52	-24.59	125.18	264.77	255.80	8.97	29.501		
1,400.00	1,379.82	1,427.02	1,424.05	5.63	4.94	-172.92	-13.98	111.58	284.67	274.94	9.73	29.248		
1,500.00	1,473.18	1,531.11	1,526.02	6.29	5.37	-176.42	-1.13	95.11	306.19	295.68	10.51	29.131		
1,600.00	1,566.03	1,635.13	1,627.09	6.99	5.82	-179.96	13.99	75.74	327.56	316.24	11.32	28.947		
1,700.00	1,658.89	1,739.16	1,727.21	7.71	6.32	176.48	31.35	53.48	347.63	335.46	12.17	28.560		
1,800.00	1,751.74	1,842.93	1,826.00	8.44	6.86	172.86	50.88	28.45	366.68	353.58	13.10	27.995		
1,900.00	1,844.60	1,946.18	1,923.08	9.17	7.45	169.18	72.49	0.75	385.00	370.89	14.11	27.280		
2,000.00	1,937.45	2,048.63	2,018.10	9.91	8.08	165.42	96.05	-29.43	402.93	387.69	15.23	26.448		
2,100.00	2,030.31	2,150.04	2,110.75	10.66	8.77	161.59	121.41	-61.94	420.82	404.35	16.48	25.540		
2,200.00	2,123.16	2,250.18	2,200.75	11.41	9.51	157.71	148.41	-96.55	439.06	421.22	17.85	24.603		
2,300.00	2,216.02	2,348.83	2,287.86	12.17	10.30	153.80	176.89	-133.05	458.04	438.69	19.34	23.681		
2,400.00	2,308.87	2,445.80	2,371.87	12.93	11.14	149.88	206.67	-171.21	478.12	457.17	20.95	22.824		
2,500.00	2,401.73	2,538.49	2,451.18	13.69	12.00	146.21	236.18	-209.03	499.87	477.27	22.60	22.120		
2,600.00	2,494.58	2,630.64	2,530.01	14.45	12.87	142.85	265.54	-246.66	523.59	499.32	24.27	21.573		
2,700.00	2,587.44	2,722.79	2,608.83	15.22	13.75	139.76	294.90	-284.29	549.03	523.08	25.96	21.152		
2,800.00	2,680.29	2,814.94	2,687.66	15.98	14.65	136.93	324.26	-321.91	575.98	548.33	27.65	20.832		
2,900.00	2,773.15	2,907.08	2,766.49	16.75	15.57	134.33	353.61	-359.54	604.22	574.88	29.34	20.595		
3,000.00	2,866.00	2,999.23	2,845.31	17.52	16.49	131.96	382.97	-397.17	633.58	602.56	31.02	20.424		
3,100.00	2,958.86	3,108.62	2,924.14	18.29	17.59	129.78	412.33	-434.79	663.92	631.05	32.87	20.199		
3,200.00	3,051.71	3,183.53	3,002.97	19.06	18.35	127.79	441.69	-472.42	695.11	660.74	34.36	20.229		
3,300.00	3,144.57	3,275.68	3,081.79	19.83	19.29	125.96	471.05	-510.05	727.03	691.01	36.02	20.186		
3,400.00	3,237.42	3,367.82	3,160.62	20.60	20.24	124.28	500.41	-547.68	759.60	721.94	37.66	20.169		
3,500.00	3,330.28	3,459.97	3,239.44	21.37	21.18	122.73	529.77	-585.30	792.73	753.44	39.30	20.174		
3,600.00	3,423.13	3,552.12	3,318.27	22.15	22.14	121.30	559.12	-622.93	826.36	785.44	40.92	20.194		
3,700.00	3,515.99	3,644.27	3,397.10	22.92	23.09	119.98	588.48	-660.56	860.43	817.89	42.54	20.228		
3,800.00	3,608.84	3,736.42	3,475.92	23.70	24.05	118.75	617.84	-698.18	894.89	850.74	44.15	20.271		
3,900.00	3,701.70	3,828.57	3,554.75	24.47	25.01	117.62	647.20	-735.81	929.70	883.95	45.75	20.323		
4,000.00	3,794.55	3,920.71	3,633.58	25.25	25.98	116.56	676.56	-773.44	964.81	917.47	47.34	20.380		
4,100.00	3,887.41	4,012.86	3,712.40	26.02	26.94	115.58	705.92	-811.06	1,000.20	951.27	48.93	20.442		
4,200.00	3,980.26	4,105.01	3,791.23	26.80	27.91	114.66	735.27	-848.69	1,035.83	985.32	50.51	20.507		
4,300.00	4,073.12	4,202.84	3,870.06	27.57	28.94	113.80	764.63	-886.32	1,071.69	1,019.55	52.14	20.552		
4,400.00	4,165.97	4,289.31	3,948.88	28.35	29.85	113.00	793.99	-923.94	1,107.75	1,054.09	53.66	20.644		
4,500.00	4,258.83	4,381.45	4,027.71	29.12	30.82	112.24	823.35	-961.57	1,143.99	1,088.77	55.23	20.714		
4,600.00	4,351.68	4,473.60	4,106.53	29.90	31.79	111.54	852.71	-999.20	1,180.40	1,123.61	56.79	20.784		
4,700.00	4,444.54	4,565.75	4,185.36	30.68	32.77	110.87	882.07	-1,036.82	1,216.96	1,158.61	58.35	20.855		
4,800.00	4,537.39	4,657.90	4,264.19	31.45	33.74	110.24	911.43	-1,074.45	1,253.66	1,193.74	59.91	20.925		
4,900.00	4,630.25	4,750.05	4,343.01	32.23	34.72	109.65	940.78	-1,112.08	1,290.48	1,229.01	61.47	20.995		
5,000.00	4,723.10	4,842.20	4,421.84	33.01	35.69	109.08	970.14	-1,149.70	1,327.41	1,264.40	63.02	21.064		
5,100.00	4,815.96	4,934.34	4,500.67	33.79	36.67	108.55	999.50	-1,187.33	1,364.46	1,299.89	64.57	21.133		

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

# Anticollision Report

<b>Company:</b>	EXTRACTION OIL & GAS	<b>Local Co-ordinate Reference:</b>	Well WARBLER 13W-27-19
<b>Project:</b>	ADAMS COUNTY	<b>TVD Reference:</b>	KB 25' @ 5106.00usft
<b>Reference Site:</b>	Sec 13-T1S-R66W	<b>MD Reference:</b>	KB 25' @ 5106.00usft
<b>Site Error:</b>	0.00 usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	WARBLER 13W-27-19	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00 usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OWB	<b>Database:</b>	EDT_32Bit_ODBC
<b>Reference Design:</b>	PROPOSAL 1	<b>Offset TVD Reference:</b>	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	4,908.81	5,026.49	4,579.49	34.56	37.65	108.05	1,028.86	-1,224.96	1,401.60	1,335.48	66.11	21.200		
5,300.00	5,001.67	5,118.64	4,658.32	35.34	38.63	107.57	1,058.22	-1,262.58	1,438.82	1,371.17	67.66	21.266		
5,400.00	5,094.52	5,210.79	4,737.15	36.12	39.61	107.12	1,087.58	-1,300.21	1,476.14	1,406.94	69.20	21.331		
5,500.00	5,187.38	5,302.94	4,815.97	36.90	40.59	106.68	1,116.93	-1,337.84	1,513.53	1,442.79	70.74	21.395		
5,600.00	5,280.23	5,404.92	4,894.80	37.67	41.67	106.27	1,146.29	-1,375.46	1,550.99	1,478.61	72.38	21.430		
5,700.00	5,373.09	5,487.23	4,973.62	38.45	42.55	105.88	1,175.65	-1,413.09	1,588.52	1,514.70	73.82	21.519		
5,800.00	5,465.94	5,579.38	5,052.45	39.23	43.53	105.51	1,205.01	-1,450.72	1,626.11	1,550.75	75.36	21.579		
5,900.00	5,558.80	5,671.53	5,131.28	40.01	44.51	105.15	1,234.37	-1,488.34	1,663.75	1,586.86	76.89	21.638		
6,000.00	5,651.65	5,763.68	5,210.10	40.79	45.49	104.81	1,263.73	-1,525.97	1,701.45	1,623.03	78.43	21.695		
6,100.00	5,744.51	5,855.82	5,288.93	41.57	46.47	104.48	1,293.09	-1,563.60	1,739.20	1,659.24	79.96	21.751		
6,200.00	5,837.36	5,947.97	5,367.76	42.34	47.46	104.17	1,322.44	-1,601.22	1,777.00	1,695.51	81.49	21.806		
6,300.00	5,930.22	6,040.12	5,446.58	43.12	48.44	103.87	1,351.80	-1,638.85	1,814.84	1,731.82	83.02	21.860		
6,400.00	6,023.07	6,132.27	5,525.41	43.90	49.42	103.58	1,381.16	-1,676.48	1,852.73	1,768.17	84.55	21.912		
6,500.00	6,115.93	6,224.42	5,604.24	44.68	50.41	103.30	1,410.52	-1,714.10	1,890.65	1,804.57	86.08	21.963		
6,600.00	6,208.78	6,316.57	5,683.06	45.46	51.39	103.03	1,439.88	-1,751.73	1,928.61	1,841.00	87.61	22.013		
6,700.00	6,301.64	6,408.71	5,761.89	46.24	52.37	102.78	1,469.24	-1,789.36	1,966.60	1,877.46	89.14	22.062		
6,800.00	6,394.49	6,500.86	5,840.71	47.02	53.36	102.53	1,498.60	-1,826.98	2,004.63	1,913.96	90.67	22.110		
6,900.00	6,487.35	6,593.01	5,919.54	47.80	54.34	102.29	1,527.95	-1,864.61	2,042.68	1,950.49	92.19	22.157		
7,000.00	6,580.20	6,685.16	5,998.37	48.57	55.33	102.07	1,557.31	-1,902.24	2,080.77	1,987.05	93.72	22.202		
7,100.00	6,673.06	6,777.31	6,077.19	49.35	56.31	101.85	1,586.67	-1,939.86	2,118.88	2,023.64	95.24	22.247		
7,200.00	6,765.91	6,869.45	6,156.02	50.13	57.30	101.63	1,616.03	-1,977.49	2,157.02	2,060.25	96.77	22.290		
7,300.00	6,856.90	6,961.78	6,235.00	50.99	58.29	95.87	1,645.44	-2,015.19	2,195.12	2,096.71	98.41	22.306		
7,400.00	6,939.78	7,053.34	6,313.32	52.14	59.26	90.25	1,674.62	-2,052.58	2,232.46	2,132.02	100.44	22.227		
7,500.00	7,011.80	7,141.43	6,388.67	53.58	60.21	86.12	1,702.68	-2,088.54	2,268.23	2,165.41	102.82	22.059		
7,600.00	7,070.78	7,223.35	6,458.75	55.27	61.08	82.99	1,728.78	-2,121.99	2,302.00	2,196.51	105.49	21.823		
7,700.00	7,114.93	7,303.38	6,521.43	57.16	61.94	80.54	1,752.12	-2,151.91	2,333.60	2,225.22	108.38	21.531		
7,800.00	7,142.90	7,359.02	6,574.81	59.19	62.54	78.54	1,772.00	-2,177.39	2,363.10	2,251.92	111.18	21.254		
7,900.00	7,153.85	7,408.64	6,617.26	61.28	63.07	76.78	1,787.81	-2,197.66	2,390.60	2,276.66	113.94	20.981		
8,000.00	7,154.00	7,449.58	6,652.28	63.38	63.50	77.35	1,800.86	-2,214.37	2,418.09	2,301.55	116.54	20.749		
8,100.00	7,154.00	8,511.59	7,154.00	65.52	80.54	89.88	1,988.13	-3,013.04	2,445.60	2,309.49	136.11	17.968		
8,200.00	7,154.00	8,611.59	7,154.00	67.71	82.51	89.88	1,988.21	-3,113.04	2,445.72	2,305.17	140.55	17.401		
8,300.00	7,154.00	8,711.59	7,154.00	69.93	84.51	89.88	1,988.28	-3,213.04	2,445.85	2,300.79	145.06	16.861		
8,400.00	7,154.00	8,811.59	7,154.00	72.19	86.55	89.88	1,988.35	-3,313.04	2,445.98	2,296.34	149.63	16.346		
8,500.00	7,154.00	8,911.59	7,154.00	74.47	88.63	89.88	1,988.43	-3,413.04	2,446.10	2,291.84	154.26	15.857		
8,600.00	7,154.00	9,011.59	7,154.00	76.79	90.74	89.88	1,988.50	-3,513.04	2,446.23	2,287.30	158.93	15.392		
8,700.00	7,154.00	9,111.59	7,154.00	79.12	92.88	89.88	1,988.57	-3,613.04	2,446.35	2,282.70	163.65	14.948		
8,800.00	7,154.00	9,211.59	7,154.00	81.48	95.04	89.88	1,988.65	-3,713.04	2,446.48	2,278.07	168.41	14.527		
8,900.00	7,154.00	9,311.59	7,154.00	83.87	97.24	89.88	1,988.72	-3,813.04	2,446.61	2,273.39	173.21	14.125		
9,000.00	7,154.00	9,411.59	7,154.00	86.27	99.45	89.88	1,988.79	-3,913.04	2,446.73	2,268.68	178.05	13.742		
9,100.00	7,154.00	9,511.59	7,154.00	88.68	101.70	89.88	1,988.87	-4,013.04	2,446.86	2,263.94	182.91	13.377		
9,200.00	7,154.00	9,611.59	7,154.00	91.12	103.96	89.88	1,988.94	-4,113.04	2,446.98	2,259.17	187.81	13.029		
9,300.00	7,154.00	9,711.59	7,154.00	93.57	106.24	89.88	1,989.01	-4,213.04	2,447.11	2,254.38	192.73	12.697		
9,400.00	7,154.00	9,811.59	7,154.00	96.03	108.55	89.88	1,989.09	-4,313.04	2,447.24	2,249.55	197.68	12.380		
9,500.00	7,154.00	9,911.59	7,154.00	98.50	110.87	89.88	1,989.16	-4,413.04	2,447.36	2,244.71	202.65	12.077		
9,600.00	7,154.00	10,011.59	7,154.00	100.99	113.21	89.88	1,989.23	-4,513.04	2,447.49	2,239.84	207.65	11.787		
9,700.00	7,154.00	10,111.59	7,154.00	103.49	115.57	89.88	1,989.31	-4,613.04	2,447.61	2,234.95	212.66	11.509		
9,800.00	7,154.00	10,211.59	7,154.00	106.00	117.94	89.88	1,989.38	-4,713.04	2,447.74	2,230.05	217.69	11.244		
9,900.00	7,154.00	10,311.59	7,154.00	108.51	120.32	89.88	1,989.46	-4,813.04	2,447.86	2,225.12	222.74	10.990		
10,000.00	7,154.00	10,411.59	7,154.00	111.04	122.72	89.88	1,989.53	-4,913.04	2,447.99	2,220.18	227.81	10.746		
10,100.00	7,154.00	10,511.59	7,154.00	113.58	125.13	89.88	1,989.60	-5,013.04	2,448.12	2,215.22	232.89	10.512		
10,200.00	7,154.00	10,611.59	7,154.00	116.12	127.55	89.88	1,989.68	-5,113.04	2,448.24	2,210.25	237.99	10.287		
10,300.00	7,154.00	10,711.59	7,154.00	118.67	129.99	89.88	1,989.75	-5,213.04	2,448.37	2,205.27	243.10	10.072		

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

# Anticollision Report

<b>Company:</b>	EXTRACTION OIL & GAS	<b>Local Co-ordinate Reference:</b>	Well WARBLER 13W-27-19
<b>Project:</b>	ADAMS COUNTY	<b>TVD Reference:</b>	KB 25' @ 5106.00usft
<b>Reference Site:</b>	Sec 13-T1S-R66W	<b>MD Reference:</b>	KB 25' @ 5106.00usft
<b>Site Error:</b>	0.00 usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	WARBLER 13W-27-19	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00 usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OWB	<b>Database:</b>	EDT_32Bit_ODBC
<b>Reference Design:</b>	PROPOSAL 1	<b>Offset TVD Reference:</b>	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	10,811.59	7,154.00	121.22	132.43	89.88	1,989.82	-5,313.04	2,448.49	2,200.27	248.22	9.864		
10,500.00	7,154.00	10,911.59	7,154.00	123.79	134.89	89.88	1,989.90	-5,413.04	2,448.62	2,195.27	253.35	9.665		
10,600.00	7,154.00	11,011.59	7,154.00	126.35	137.35	89.88	1,989.97	-5,513.04	2,448.75	2,190.25	258.50	9.473		
10,700.00	7,154.00	11,111.59	7,154.00	128.93	139.83	89.88	1,990.04	-5,613.04	2,448.87	2,185.22	263.66	9.288		
10,800.00	7,154.00	11,211.59	7,154.00	131.51	142.31	89.88	1,990.12	-5,713.04	2,449.00	2,180.18	268.82	9.110		
10,900.00	7,154.00	11,311.59	7,154.00	134.09	144.80	89.88	1,990.19	-5,813.04	2,449.12	2,175.13	274.00	8.939		
11,000.00	7,154.00	11,411.59	7,154.00	136.68	147.30	89.88	1,990.26	-5,913.04	2,449.25	2,170.07	279.18	8.773		
11,100.00	7,154.00	11,511.59	7,154.00	139.27	149.81	89.88	1,990.34	-6,013.04	2,449.38	2,165.00	284.37	8.613		
11,200.00	7,154.00	11,611.59	7,154.00	141.87	152.32	89.88	1,990.41	-6,113.04	2,449.50	2,159.93	289.57	8.459		
11,300.00	7,154.00	11,711.59	7,154.00	144.47	154.84	89.88	1,990.48	-6,213.04	2,449.63	2,154.85	294.78	8.310		
11,400.00	7,154.00	11,811.59	7,154.00	147.08	157.36	89.88	1,990.56	-6,313.04	2,449.75	2,149.76	299.99	8.166		
11,500.00	7,154.00	11,911.59	7,154.00	149.68	159.90	89.88	1,990.63	-6,413.04	2,449.88	2,144.66	305.22	8.027		
11,600.00	7,154.00	12,011.59	7,154.00	152.30	162.43	89.88	1,990.70	-6,513.04	2,450.01	2,139.56	310.44	7.892		
11,700.00	7,154.00	12,111.59	7,154.00	154.91	164.98	89.88	1,990.78	-6,613.04	2,450.13	2,134.45	315.68	7.762		
11,800.00	7,154.00	12,211.59	7,154.00	157.53	167.53	89.88	1,990.85	-6,713.04	2,450.26	2,129.34	320.92	7.635		
11,900.00	7,154.00	12,311.59	7,154.00	160.15	170.08	89.88	1,990.93	-6,813.04	2,450.38	2,124.22	326.16	7.513		
12,000.00	7,154.00	12,411.59	7,154.00	162.77	172.64	89.88	1,991.00	-6,913.04	2,450.51	2,119.10	331.41	7.394		
12,100.00	7,154.00	12,511.59	7,154.00	165.40	175.20	89.88	1,991.07	-7,013.04	2,450.63	2,113.97	336.67	7.279		
12,200.00	7,154.00	12,611.59	7,154.00	168.03	177.77	89.88	1,991.15	-7,113.04	2,450.76	2,108.84	341.92	7.168		
12,300.00	7,154.00	12,711.59	7,154.00	170.66	180.34	89.88	1,991.22	-7,213.04	2,450.89	2,103.70	347.19	7.059		
12,400.00	7,154.00	12,811.59	7,154.00	173.29	182.91	89.88	1,991.29	-7,313.04	2,451.01	2,098.55	352.46	6.954		
12,500.00	7,154.00	12,911.59	7,154.00	175.93	185.49	89.88	1,991.37	-7,413.04	2,451.14	2,093.41	357.73	6.852		
12,600.00	7,154.00	13,011.59	7,154.00	178.56	188.07	89.88	1,991.44	-7,513.04	2,451.26	2,088.26	363.01	6.753		
12,700.00	7,154.00	13,111.59	7,154.00	181.20	190.66	89.88	1,991.51	-7,613.04	2,451.39	2,083.10	368.29	6.656		
12,800.00	7,154.00	13,211.59	7,154.00	183.84	193.25	89.88	1,991.59	-7,713.04	2,451.52	2,077.94	373.57	6.562		
12,900.00	7,154.00	13,311.59	7,154.00	186.49	195.84	89.88	1,991.66	-7,813.04	2,451.64	2,072.78	378.86	6.471		
13,000.00	7,154.00	13,411.59	7,154.00	189.13	198.44	89.88	1,991.73	-7,913.04	2,451.77	2,067.62	384.15	6.382		
13,100.00	7,154.00	13,511.59	7,154.00	191.78	201.03	89.88	1,991.81	-8,013.04	2,451.89	2,062.45	389.44	6.296		
13,200.00	7,154.00	13,611.59	7,154.00	194.43	203.64	89.88	1,991.88	-8,113.04	2,452.02	2,057.28	394.74	6.212		
13,300.00	7,154.00	13,711.59	7,154.00	197.07	206.24	89.88	1,991.95	-8,213.04	2,452.15	2,052.11	400.04	6.130		
13,400.00	7,154.00	13,811.59	7,154.00	199.73	208.85	89.88	1,992.03	-8,313.04	2,452.27	2,046.93	405.34	6.050		
13,500.00	7,154.00	13,911.59	7,154.00	202.38	211.45	89.88	1,992.10	-8,413.04	2,452.40	2,041.75	410.65	5.972		
13,600.00	7,154.00	14,011.59	7,154.00	205.03	214.07	89.88	1,992.17	-8,513.04	2,452.52	2,036.57	415.96	5.896		
13,700.00	7,154.00	14,111.58	7,154.00	207.69	216.68	89.88	1,992.25	-8,613.04	2,452.65	2,031.38	421.27	5.822		
13,800.00	7,154.00	14,211.58	7,154.00	210.34	219.30	89.88	1,992.32	-8,713.03	2,452.77	2,026.19	426.58	5.750		
13,900.00	7,154.00	14,311.58	7,154.00	213.00	221.91	89.88	1,992.40	-8,813.03	2,452.90	2,021.01	431.90	5.679		
14,000.00	7,154.00	14,411.58	7,154.00	215.66	224.53	89.88	1,992.47	-8,913.03	2,453.03	2,015.81	437.21	5.611		
14,100.00	7,154.00	14,511.58	7,154.00	218.32	227.16	89.88	1,992.54	-9,013.03	2,453.15	2,010.62	442.53	5.543		
14,200.00	7,154.00	14,611.58	7,154.00	220.98	229.78	89.88	1,992.62	-9,113.03	2,453.28	2,005.42	447.85	5.478		
14,300.00	7,154.00	14,711.58	7,154.00	223.64	232.41	89.88	1,992.69	-9,213.03	2,453.40	2,000.23	453.18	5.414		
14,400.00	7,154.00	14,811.58	7,154.00	226.30	235.03	89.88	1,992.76	-9,313.03	2,453.53	1,995.03	458.50	5.351		
14,500.00	7,154.00	14,911.58	7,154.00	228.97	237.66	89.88	1,992.84	-9,413.03	2,453.66	1,989.82	463.83	5.290		
14,600.00	7,154.00	15,011.58	7,154.00	231.63	240.30	89.88	1,992.91	-9,513.03	2,453.78	1,984.62	469.16	5.230		
14,700.00	7,154.00	15,111.58	7,154.00	234.29	242.93	89.88	1,992.98	-9,613.03	2,453.91	1,979.42	474.49	5.172		
14,800.00	7,154.00	15,211.58	7,154.00	236.96	245.56	89.88	1,993.06	-9,713.03	2,454.03	1,974.21	479.83	5.114		
14,900.00	7,154.00	15,311.58	7,154.00	239.63	248.20	89.88	1,993.13	-9,813.03	2,454.16	1,969.00	485.16	5.058		
15,000.00	7,154.00	15,411.58	7,154.00	242.30	250.84	89.88	1,993.20	-9,913.03	2,454.29	1,963.79	490.50	5.004		
15,100.00	7,154.00	15,511.58	7,154.00	244.96	253.48	89.88	1,993.28	-10,013.03	2,454.41	1,958.58	495.83	4.950		
15,200.00	7,154.00	15,611.58	7,154.00	247.63	256.12	89.88	1,993.35	-10,113.03	2,454.54	1,953.36	501.17	4.898		
15,300.00	7,154.00	15,711.58	7,154.00	250.30	258.76	89.88	1,993.42	-10,213.03	2,454.66	1,948.15	506.51	4.846		
15,400.00	7,154.00	15,811.58	7,154.00	252.98	261.40	89.88	1,993.50	-10,313.03	2,454.79	1,942.93	511.86	4.796		
15,500.00	7,154.00	15,911.58	7,154.00	255.65	264.05	89.88	1,993.57	-10,413.03	2,454.92	1,937.72	517.20	4.747		

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

# Anticollision Report

<b>Company:</b>	EXTRACTION OIL & GAS	<b>Local Co-ordinate Reference:</b>	Well WARBLER 13W-27-19
<b>Project:</b>	ADAMS COUNTY	<b>TVD Reference:</b>	KB 25' @ 5106.00usft
<b>Reference Site:</b>	Sec 13-T1S-R66W	<b>MD Reference:</b>	KB 25' @ 5106.00usft
<b>Site Error:</b>	0.00 usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	WARBLER 13W-27-19	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00 usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OWB	<b>Database:</b>	EDT_32Bit_ODBC
<b>Reference Design:</b>	PROPOSAL 1	<b>Offset TVD Reference:</b>	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	16,011.58	7,154.00	258.32	266.69	89.88	1,993.64	-10,513.03	2,455.04	1,932.50	522.54	4.698		
15,700.00	7,154.00	16,111.58	7,154.00	260.99	269.34	89.88	1,993.72	-10,613.03	2,455.17	1,927.28	527.89	4.651		
15,800.00	7,154.00	16,211.58	7,154.00	263.67	271.99	89.88	1,993.79	-10,713.03	2,455.29	1,922.06	533.24	4.605		
15,900.00	7,154.00	16,311.58	7,154.00	266.34	274.63	89.88	1,993.86	-10,813.03	2,455.42	1,916.83	538.59	4.559		
16,000.00	7,154.00	16,411.58	7,154.00	269.01	277.28	89.88	1,993.94	-10,913.03	2,455.54	1,911.61	543.93	4.514		
16,100.00	7,154.00	16,511.58	7,154.00	271.69	279.94	89.88	1,994.01	-11,013.03	2,455.67	1,906.39	549.29	4.471		
16,200.00	7,154.00	16,611.58	7,154.00	274.36	282.59	89.88	1,994.09	-11,113.03	2,455.80	1,901.16	554.64	4.428		
16,300.00	7,154.00	16,711.58	7,154.00	277.04	285.24	89.88	1,994.16	-11,213.03	2,455.92	1,895.93	559.99	4.386		
16,400.00	7,154.00	16,811.58	7,154.00	279.72	287.90	89.88	1,994.23	-11,313.03	2,456.05	1,890.70	565.34	4.344		
16,500.00	7,154.00	16,911.58	7,154.00	282.40	290.55	89.88	1,994.31	-11,413.03	2,456.17	1,885.48	570.70	4.304		
16,600.00	7,154.00	17,011.58	7,154.00	285.07	293.21	89.88	1,994.38	-11,513.03	2,456.30	1,880.25	576.05	4.264		
16,700.00	7,154.00	17,111.58	7,154.00	287.75	295.86	89.88	1,994.45	-11,613.03	2,456.43	1,875.01	581.41	4.225		
16,800.00	7,154.00	17,211.58	7,154.00	290.43	298.52	89.88	1,994.53	-11,713.03	2,456.55	1,869.78	586.77	4.187		
16,900.00	7,154.00	17,311.58	7,154.00	293.11	301.18	89.88	1,994.60	-11,813.03	2,456.68	1,864.55	592.13	4.149		
17,000.00	7,154.00	17,411.58	7,154.00	295.79	303.84	89.88	1,994.67	-11,913.03	2,456.80	1,859.32	597.49	4.112		
17,100.00	7,154.00	17,511.58	7,154.00	298.47	306.50	89.88	1,994.75	-12,013.03	2,456.93	1,854.08	602.85	4.076		
17,200.00	7,154.00	17,611.58	7,154.00	301.15	309.16	89.88	1,994.82	-12,113.03	2,457.06	1,848.85	608.21	4.040		
17,300.00	7,154.00	17,711.58	7,154.00	303.83	311.82	89.88	1,994.89	-12,213.03	2,457.18	1,843.61	613.57	4.005		
17,400.00	7,154.00	17,811.58	7,154.00	306.51	314.48	89.88	1,994.97	-12,313.03	2,457.31	1,838.37	618.93	3.970		
17,500.00	7,154.00	17,911.58	7,154.00	309.19	317.15	89.88	1,995.04	-12,413.03	2,457.43	1,833.14	624.30	3.936		
17,600.00	7,154.00	18,011.58	7,154.00	311.88	319.81	89.88	1,995.11	-12,513.03	2,457.56	1,827.90	629.66	3.903		
17,700.00	7,154.00	18,111.58	7,154.00	314.56	322.47	89.88	1,995.19	-12,613.03	2,457.68	1,822.66	635.03	3.870		
17,800.00	7,154.00	18,211.58	7,154.00	317.24	325.14	89.88	1,995.26	-12,713.03	2,457.81	1,817.42	640.39	3.838		
17,900.00	7,154.00	18,311.58	7,154.00	319.92	327.81	89.88	1,995.33	-12,813.03	2,457.94	1,812.18	645.76	3.806		
18,000.00	7,154.00	18,411.58	7,154.00	322.61	330.47	89.88	1,995.41	-12,913.03	2,458.06	1,806.94	651.12	3.775		
18,100.00	7,154.00	18,511.58	7,154.00	325.29	333.14	89.88	1,995.48	-13,013.03	2,458.19	1,801.70	656.49	3.744		
18,200.00	7,154.00	18,611.58	7,154.00	327.98	335.81	89.88	1,995.56	-13,113.03	2,458.31	1,796.45	661.86	3.714		
18,300.00	7,154.00	18,711.58	7,154.00	330.66	338.48	89.88	1,995.63	-13,213.03	2,458.44	1,791.21	667.23	3.685		
18,400.00	7,154.00	18,811.58	7,154.00	333.34	341.14	89.88	1,995.70	-13,313.03	2,458.57	1,785.97	672.60	3.655		
18,500.00	7,154.00	18,911.58	7,154.00	336.03	343.81	89.88	1,995.78	-13,413.03	2,458.69	1,780.72	677.97	3.627		
18,600.00	7,154.00	19,011.58	7,154.00	338.71	346.48	89.88	1,995.85	-13,513.03	2,458.82	1,775.48	683.34	3.598		
18,700.00	7,154.00	19,111.58	7,154.00	341.40	349.15	89.88	1,995.92	-13,613.03	2,458.94	1,770.23	688.71	3.570		
18,800.00	7,154.00	19,211.58	7,154.00	344.09	351.82	89.88	1,996.00	-13,713.03	2,459.07	1,764.99	694.08	3.543		
18,900.00	7,154.00	19,311.58	7,154.00	346.77	354.50	89.88	1,996.07	-13,813.03	2,459.20	1,759.74	699.45	3.516		
19,000.00	7,154.00	19,411.58	7,154.00	349.46	357.17	89.88	1,996.14	-13,913.03	2,459.32	1,754.49	704.83	3.489		
19,100.00	7,154.00	19,511.58	7,154.00	352.15	359.84	89.88	1,996.22	-14,013.03	2,459.45	1,749.25	710.20	3.463		
19,200.00	7,154.00	19,611.58	7,154.00	354.83	362.51	89.88	1,996.29	-14,113.03	2,459.57	1,744.00	715.57	3.437		
19,300.00	7,154.00	19,711.58	7,154.00	357.52	365.19	89.88	1,996.36	-14,213.03	2,459.70	1,738.75	720.95	3.412		
19,400.00	7,154.00	19,811.58	7,154.00	360.21	367.86	89.88	1,996.44	-14,313.03	2,459.83	1,733.50	726.32	3.387		
19,500.00	7,154.00	19,911.58	7,154.00	362.90	370.53	89.88	1,996.51	-14,413.03	2,459.95	1,728.25	731.70	3.362		
19,600.00	7,154.00	20,011.58	7,154.00	365.58	373.21	89.88	1,996.58	-14,513.03	2,460.08	1,723.00	737.07	3.338		
19,700.00	7,154.00	20,111.58	7,154.00	368.27	375.88	89.88	1,996.66	-14,613.03	2,460.20	1,717.75	742.45	3.314		
19,800.00	7,154.00	20,211.58	7,154.00	370.96	378.56	89.88	1,996.73	-14,713.03	2,460.33	1,712.50	747.83	3.290		
19,900.00	7,154.00	20,311.58	7,154.00	373.65	381.24	89.88	1,996.80	-14,813.03	2,460.45	1,707.25	753.20	3.267		
20,000.00	7,154.00	20,411.58	7,154.00	376.34	383.91	89.88	1,996.88	-14,913.03	2,460.58	1,702.00	758.58	3.244		
20,100.00	7,154.00	20,511.58	7,154.00	379.03	386.59	89.88	1,996.95	-15,013.03	2,460.71	1,696.75	763.96	3.221		
20,200.00	7,154.00	20,611.58	7,154.00	381.71	389.27	89.88	1,997.03	-15,113.03	2,460.83	1,691.49	769.34	3.199		
20,300.00	7,154.00	20,711.58	7,154.00	384.40	391.94	89.88	1,997.10	-15,213.03	2,460.96	1,686.24	774.72	3.177		
20,400.00	7,154.00	20,811.58	7,154.00	387.09	394.62	89.88	1,997.17	-15,313.03	2,461.08	1,680.99	780.10	3.155		
20,500.00	7,154.00	20,911.58	7,154.00	389.78	397.30	89.88	1,997.25	-15,413.03	2,461.21	1,675.73	785.48	3.133		
20,600.00	7,154.00	21,011.58	7,154.00	392.47	399.98	89.88	1,997.32	-15,513.03	2,461.34	1,670.48	790.86	3.112		
20,700.00	7,154.00	21,111.58	7,154.00	395.16	402.66	89.88	1,997.39	-15,613.03	2,461.46	1,665.23	796.24	3.091		

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

## Anticollision Report

<b>Company:</b>	EXTRACTION OIL & GAS	<b>Local Co-ordinate Reference:</b>	Well WARBLER 13W-27-19
<b>Project:</b>	ADAMS COUNTY	<b>TVD Reference:</b>	KB 25' @ 5106.00usft
<b>Reference Site:</b>	Sec 13-T1S-R66W	<b>MD Reference:</b>	KB 25' @ 5106.00usft
<b>Site Error:</b>	0.00 usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	WARBLER 13W-27-19	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00 usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OWB	<b>Database:</b>	EDT_32Bit_ODBC
<b>Reference Design:</b>	PROPOSAL 1	<b>Offset TVD Reference:</b>	Offset Datum

<b>Offset Design</b> Sec 13-T1S-R66W - WARBLER 13W-27-15 - OWB - PROPOSAL 1												<b>Offset Site Error:</b>	0.00 usft
Survey Program: 0-MWD OWSG												<b>Offset Well Error:</b>	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	21,211.58	7,154.00	397.85	405.34	89.88	1,997.47	-15,713.03	2,461.59	1,659.97	801.62	3.071	
20,900.00	7,154.00	21,311.58	7,154.00	400.54	408.02	89.88	1,997.54	-15,813.03	2,461.71	1,654.72	807.00	3.050	
21,000.00	7,154.00	21,411.58	7,154.00	403.24	410.70	89.88	1,997.61	-15,913.03	2,461.84	1,649.46	812.38	3.030	
21,100.00	7,154.00	21,511.58	7,154.00	405.93	413.38	89.88	1,997.69	-16,013.03	2,461.97	1,644.20	817.76	3.011	
21,200.00	7,154.00	21,611.58	7,154.00	408.62	416.06	89.88	1,997.76	-16,113.03	2,462.09	1,638.95	823.14	2.991	
21,300.00	7,154.00	21,711.58	7,154.00	411.31	418.74	89.88	1,997.83	-16,213.03	2,462.22	1,633.69	828.53	2.972	
21,400.00	7,154.00	21,811.58	7,154.00	414.00	421.42	89.88	1,997.91	-16,313.03	2,462.34	1,628.44	833.91	2.953	
21,500.00	7,154.00	21,911.58	7,154.00	416.69	424.10	89.88	1,997.98	-16,413.03	2,462.47	1,623.18	839.29	2.934	
21,505.33	7,154.00	21,914.25	7,154.00	416.83	424.17	89.88	1,997.98	-16,415.70	2,462.48	1,622.94	839.53	2.933 SF	

# Anticollision Report

<b>Company:</b>	EXTRACTION OIL & GAS	<b>Local Co-ordinate Reference:</b>	Well WARBLER 13W-27-19
<b>Project:</b>	ADAMS COUNTY	<b>TVD Reference:</b>	KB 25' @ 5106.00usft
<b>Reference Site:</b>	Sec 13-T1S-R66W	<b>MD Reference:</b>	KB 25' @ 5106.00usft
<b>Site Error:</b>	0.00 usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	WARBLER 13W-27-19	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00 usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OWB	<b>Database:</b>	EDT_32Bit_ODBC
<b>Reference Design:</b>	PROPOSAL 1	<b>Offset TVD Reference:</b>	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	123.79	-99.81	149.13	179.45					
100.00	100.00	105.00	105.00	0.13	0.15	123.79	-99.81	149.13	179.45	179.17	0.29	625.753		
200.00	200.00	205.00	205.00	0.49	0.51	123.79	-99.81	149.13	179.45	178.45	1.00	178.787		
300.00	300.00	305.00	305.00	0.85	0.87	123.79	-99.81	149.13	179.45	177.73	1.72	104.292		
400.00	400.00	405.00	405.00	1.21	1.23	123.79	-99.81	149.13	179.45	177.01	2.44	73.618 CC, ES		
500.00	499.98	504.98	504.98	1.56	1.59	-135.95	-99.81	149.13	180.70	177.56	3.15	57.449		
600.00	599.84	604.84	604.84	1.91	1.94	-137.03	-99.81	149.13	184.50	180.65	3.85	47.893		
700.00	699.45	704.45	704.45	2.27	2.30	-138.72	-99.81	149.13	190.98	186.41	4.57	41.808		
800.00	798.70	803.70	803.70	2.65	2.66	-140.90	-99.81	149.13	200.32	195.03	5.29	37.855		
900.00	897.47	902.47	902.47	3.06	3.01	-143.40	-99.81	149.13	212.73	206.71	6.02	35.320		
1,000.00	995.62	1,000.62	1,000.62	3.49	3.36	-146.06	-99.81	149.13	228.41	221.65	6.76	33.789		
1,100.00	1,093.06	1,098.06	1,098.06	3.96	3.71	-148.74	-99.81	149.13	247.50	240.00	7.50	32.997		
1,200.00	1,189.64	1,204.44	1,204.42	4.47	4.09	-151.65	-99.19	147.33	268.40	260.13	8.27	32.454		
1,300.00	1,285.27	1,311.76	1,311.56	5.02	4.47	-154.51	-97.27	141.73	289.31	280.27	9.04	32.013		
1,400.00	1,379.82	1,419.76	1,419.10	5.63	4.85	-157.35	-94.02	132.27	310.31	300.50	9.80	31.649		
1,500.00	1,473.18	1,528.42	1,526.83	6.29	5.25	-160.20	-89.42	118.89	331.48	320.90	10.57	31.350		
1,600.00	1,566.03	1,638.21	1,635.05	6.99	5.68	-163.04	-83.43	101.46	350.96	339.62	11.33	30.974		
1,700.00	1,658.89	1,749.25	1,743.71	7.71	6.14	-165.75	-76.01	79.85	367.40	355.31	12.09	30.397		
1,800.00	1,751.74	1,861.24	1,852.31	8.44	6.63	-168.41	-67.14	54.04	380.79	367.94	12.84	29.645		
1,900.00	1,844.60	1,973.83	1,960.34	9.17	7.17	-171.10	-56.84	24.07	391.13	377.52	13.61	28.739		
2,000.00	1,937.45	2,086.68	2,067.29	9.91	7.77	-173.86	-45.14	-9.98	398.52	384.12	14.39	27.693		
2,100.00	2,030.31	2,199.45	2,172.66	10.66	8.42	-176.77	-32.09	-47.95	403.07	387.87	15.20	26.513		
2,200.00	2,123.16	2,311.78	2,275.96	11.41	9.15	-179.87	-17.76	-89.65	404.98	388.91	16.07	25.203		
2,300.00	2,216.02	2,423.33	2,376.77	12.17	9.96	176.79	-2.23	-134.82	404.51	387.48	17.02	23.760		
2,400.00	2,308.87	2,525.73	2,467.90	12.93	10.75	173.48	12.94	-178.98	402.60	384.49	18.11	22.228		
2,500.00	2,401.73	2,623.05	2,554.38	13.69	11.55	170.29	27.45	-221.19	401.77	382.45	19.32	20.801		
2,513.26	2,414.04	2,635.95	2,565.84	13.79	11.65	169.87	29.37	-226.78	401.75	382.27	19.48	20.621		
2,600.00	2,494.58	2,720.37	2,640.86	14.45	12.36	167.10	41.95	-263.40	402.25	381.62	20.62	19.504		
2,700.00	2,587.44	2,817.68	2,727.34	15.22	13.19	163.93	56.46	-305.61	404.04	382.00	22.04	18.332		
2,800.00	2,680.29	2,915.00	2,813.81	15.98	14.03	160.79	70.97	-347.82	407.13	383.58	23.56	17.283		
2,900.00	2,773.15	3,012.32	2,900.29	16.75	14.89	157.70	85.47	-390.03	411.49	386.32	25.17	16.349		
3,000.00	2,866.00	3,109.64	2,986.77	17.52	15.75	154.69	99.98	-432.25	417.07	390.20	26.87	15.525		
3,100.00	2,958.86	3,206.95	3,073.25	18.29	16.63	151.76	114.48	-474.46	423.82	395.19	28.63	14.803		
3,200.00	3,051.71	3,304.27	3,159.73	19.06	17.51	148.93	128.99	-516.67	431.70	401.25	30.46	14.175		
3,300.00	3,144.57	3,401.59	3,246.21	19.83	18.40	146.19	143.50	-558.88	440.64	408.32	32.33	13.631		
3,400.00	3,237.42	3,501.09	3,332.68	20.60	19.31	143.57	158.00	-601.09	450.58	416.33	34.25	13.157		
3,500.00	3,330.28	3,596.23	3,419.16	21.37	20.19	141.06	172.51	-643.30	461.45	425.30	36.15	12.764		
3,600.00	3,423.13	3,706.46	3,505.64	22.15	21.21	138.67	187.01	-685.51	473.20	434.99	38.21	12.386		
3,700.00	3,515.99	3,809.14	3,592.12	22.92	22.16	136.39	201.52	-727.72	485.74	445.55	40.20	12.084		
3,800.00	3,608.84	3,888.18	3,678.60	23.70	22.90	134.22	216.03	-769.94	499.04	457.06	41.98	11.888		
3,900.00	3,701.70	3,985.50	3,765.08	24.47	23.81	132.17	230.53	-812.15	513.02	469.10	43.92	11.682		
4,000.00	3,794.55	4,082.81	3,851.55	25.25	24.73	130.22	245.04	-854.36	527.63	481.79	45.84	11.509		
4,100.00	3,887.41	4,180.13	3,938.03	26.02	25.64	128.38	259.54	-896.57	542.83	495.07	47.76	11.366		
4,200.00	3,980.26	4,277.45	4,024.51	26.80	26.56	126.64	274.05	-938.78	558.56	508.90	49.66	11.247		
4,300.00	4,073.12	4,374.77	4,110.99	27.57	27.48	124.99	288.56	-980.99	574.78	523.23	51.55	11.150		
4,400.00	4,165.97	4,472.08	4,197.47	28.35	28.40	123.43	303.06	-1,023.20	591.45	538.03	53.42	11.071		
4,500.00	4,258.83	4,569.40	4,283.95	29.12	29.32	121.96	317.57	-1,065.41	608.54	553.26	55.28	11.008		
4,600.00	4,351.68	4,666.72	4,370.42	29.90	30.24	120.56	332.07	-1,107.63	626.00	568.88	57.12	10.959		
4,700.00	4,444.54	4,764.04	4,456.90	30.68	31.17	119.24	346.58	-1,149.84	643.82	584.87	58.95	10.922		
4,800.00	4,537.39	4,861.35	4,543.38	31.45	32.09	117.99	361.09	-1,192.05	661.95	601.19	60.76	10.894		
4,900.00	4,630.25	4,958.67	4,629.86	32.23	33.02	116.80	375.59	-1,234.26	680.38	617.82	62.56	10.876		
5,000.00	4,723.10	5,055.99	4,716.34	33.01	33.95	115.68	390.10	-1,276.47	699.07	634.73	64.34	10.865		

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



# Anticollision Report

<b>Company:</b>	EXTRACTION OIL & GAS	<b>Local Co-ordinate Reference:</b>	Well WARBLER 13W-27-19
<b>Project:</b>	ADAMS COUNTY	<b>TVD Reference:</b>	KB 25' @ 5106.00usft
<b>Reference Site:</b>	Sec 13-T1S-R66W	<b>MD Reference:</b>	KB 25' @ 5106.00usft
<b>Site Error:</b>	0.00 usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	WARBLER 13W-27-19	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00 usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OWB	<b>Database:</b>	EDT_32Bit_ODBC
<b>Reference Design:</b>	PROPOSAL 1	<b>Offset TVD Reference:</b>	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	4,815.96	5,153.31	4,802.82	33.79	34.88	114.62	404.60	-1,318.68	718.02	651.91	66.12	10.860		
5,200.00	4,908.81	5,250.63	4,889.29	34.56	35.81	113.61	419.11	-1,360.89	737.20	669.33	67.88	10.861		
5,300.00	5,001.67	5,347.94	4,975.77	35.34	36.74	112.65	433.62	-1,403.11	756.60	686.97	69.63	10.867		
5,400.00	5,094.52	5,445.26	5,062.25	36.12	37.67	111.73	448.12	-1,445.32	776.19	704.82	71.36	10.877		
5,500.00	5,187.38	5,542.58	5,148.73	36.90	38.60	110.86	462.63	-1,487.53	795.96	722.87	73.09	10.890		
5,600.00	5,280.23	5,639.90	5,235.21	37.67	39.53	110.04	477.13	-1,529.74	815.90	741.09	74.81	10.906		
5,700.00	5,373.09	5,737.21	5,321.69	38.45	40.46	109.25	491.64	-1,571.95	836.00	759.48	76.52	10.925		
5,800.00	5,465.94	5,834.53	5,408.16	39.23	41.39	108.50	506.15	-1,614.16	856.25	778.03	78.22	10.946		
5,900.00	5,558.80	5,931.85	5,494.64	40.01	42.33	107.78	520.65	-1,656.37	876.63	796.72	79.92	10.969		
6,000.00	5,651.65	6,029.17	5,581.12	40.79	43.26	107.10	535.16	-1,698.58	897.14	815.54	81.60	10.994		
6,100.00	5,744.51	6,126.48	5,667.60	41.57	44.19	106.45	549.66	-1,740.80	917.77	834.49	83.28	11.020		
6,200.00	5,837.36	6,223.80	5,754.08	42.34	45.13	105.82	564.17	-1,783.01	938.51	853.55	84.96	11.047		
6,300.00	5,930.22	6,321.12	5,840.56	43.12	46.06	105.22	578.68	-1,825.22	959.35	872.73	86.63	11.075		
6,400.00	6,023.07	6,418.44	5,927.03	43.90	47.00	104.65	593.18	-1,867.43	980.29	892.00	88.29	11.103		
6,500.00	6,115.93	6,515.75	6,013.51	44.68	47.93	104.10	607.69	-1,909.64	1,001.32	911.37	89.95	11.132		
6,600.00	6,208.78	6,613.07	6,099.99	45.46	48.87	103.57	622.19	-1,951.85	1,022.44	930.84	91.60	11.162		
6,700.00	6,301.64	6,710.39	6,186.47	46.24	49.80	103.07	636.70	-1,994.06	1,043.63	950.38	93.25	11.192		
6,800.00	6,394.49	6,807.71	6,272.95	47.02	50.74	102.58	651.21	-2,036.27	1,064.90	970.01	94.89	11.222		
6,900.00	6,487.35	6,905.03	6,359.43	47.80	51.68	102.11	665.71	-2,078.49	1,086.24	989.71	96.54	11.252		
7,000.00	6,580.20	7,002.34	6,445.90	48.57	52.61	101.67	680.22	-2,120.70	1,107.65	1,009.48	98.17	11.283		
7,100.00	6,673.06	7,100.34	6,532.38	49.35	53.56	101.23	694.72	-2,162.91	1,129.12	1,029.31	99.81	11.312		
7,200.00	6,765.91	7,203.02	6,618.86	50.13	54.55	100.82	709.23	-2,205.12	1,150.65	1,049.16	101.49	11.337		
7,300.00	6,856.90	7,305.50	6,705.52	50.99	55.53	96.36	723.77	-2,247.42	1,172.12	1,068.86	103.27	11.350		
7,400.00	6,939.78	7,391.26	6,791.50	52.14	56.36	92.88	738.19	-2,289.39	1,192.99	1,087.75	105.24	11.335		
7,500.00	7,011.80	7,497.86	6,884.86	53.58	57.44	91.21	753.85	-2,338.29	1,212.92	1,105.01	107.91	11.240		
7,600.00	7,070.78	7,624.98	6,983.53	55.27	59.16	90.41	770.40	-2,416.28	1,230.26	1,118.66	111.59	11.025		
7,700.00	7,114.93	7,762.96	7,068.61	57.16	61.53	90.00	784.68	-2,523.54	1,243.85	1,127.77	116.07	10.716		
7,800.00	7,142.90	7,910.51	7,128.86	59.19	64.49	89.84	794.79	-2,657.40	1,252.78	1,131.62	121.15	10.341		
7,900.00	7,153.85	8,064.04	7,153.72	61.28	67.77	89.78	798.97	-2,808.38	1,256.34	1,129.90	126.44	9.936		
8,000.00	7,154.00	8,170.42	7,154.00	63.38	70.05	89.77	799.02	-2,914.76	1,256.44	1,125.56	130.88	9.600		
8,100.00	7,154.00	8,270.42	7,154.00	65.52	72.23	89.77	799.03	-3,014.76	1,256.50	1,121.21	135.29	9.287		
8,200.00	7,154.00	8,370.42	7,154.00	67.71	74.44	89.77	799.04	-3,114.76	1,256.56	1,116.79	139.77	8.990		
8,300.00	7,154.00	8,470.42	7,154.00	69.93	76.68	89.77	799.04	-3,214.76	1,256.62	1,112.30	144.32	8.707		
8,400.00	7,154.00	8,570.42	7,154.00	72.19	78.95	89.77	799.05	-3,314.76	1,256.68	1,107.76	148.92	8.439		
8,500.00	7,154.00	8,670.42	7,154.00	74.47	81.25	89.77	799.06	-3,414.76	1,256.74	1,103.17	153.57	8.183		
8,600.00	7,154.00	8,770.42	7,154.00	76.79	83.57	89.77	799.06	-3,514.76	1,256.80	1,098.52	158.27	7.941		
8,700.00	7,154.00	8,870.42	7,154.00	79.12	85.91	89.77	799.07	-3,614.76	1,256.86	1,093.84	163.02	7.710		
8,800.00	7,154.00	8,970.42	7,154.00	81.48	88.27	89.77	799.08	-3,714.76	1,256.91	1,089.11	167.80	7.490		
8,900.00	7,154.00	9,070.42	7,154.00	83.87	90.66	89.77	799.08	-3,814.76	1,256.97	1,084.35	172.63	7.281		
9,000.00	7,154.00	9,170.42	7,154.00	86.27	93.06	89.77	799.09	-3,914.76	1,257.03	1,079.55	177.48	7.083		
9,100.00	7,154.00	9,270.42	7,154.00	88.68	95.47	89.77	799.10	-4,014.76	1,257.09	1,074.72	182.37	6.893		
9,200.00	7,154.00	9,370.42	7,154.00	91.12	97.90	89.77	799.10	-4,114.76	1,257.15	1,069.86	187.29	6.712		
9,300.00	7,154.00	9,470.42	7,154.00	93.57	100.35	89.77	799.11	-4,214.76	1,257.21	1,064.98	192.23	6.540		
9,400.00	7,154.00	9,570.42	7,154.00	96.03	102.81	89.77	799.12	-4,314.76	1,257.27	1,060.07	197.20	6.376		
9,500.00	7,154.00	9,670.42	7,154.00	98.50	105.28	89.77	799.12	-4,414.76	1,257.33	1,055.14	202.19	6.219		
9,600.00	7,154.00	9,770.42	7,154.00	100.99	107.76	89.77	799.13	-4,514.76	1,257.39	1,050.19	207.20	6.069		
9,700.00	7,154.00	9,870.42	7,154.00	103.49	110.25	89.77	799.14	-4,614.76	1,257.44	1,045.22	212.23	5.925		
9,800.00	7,154.00	9,970.42	7,154.00	106.00	112.75	89.77	799.14	-4,714.76	1,257.50	1,040.23	217.28	5.788		
9,900.00	7,154.00	10,070.42	7,154.00	108.51	115.26	89.77	799.15	-4,814.76	1,257.56	1,035.22	222.34	5.656		
10,000.00	7,154.00	10,170.42	7,154.00	111.04	117.78	89.77	799.16	-4,914.76	1,257.62	1,030.20	227.42	5.530		
10,100.00	7,154.00	10,270.42	7,154.00	113.58	120.31	89.77	799.16	-5,014.76	1,257.68	1,025.16	232.52	5.409		
10,200.00	7,154.00	10,370.42	7,154.00	116.12	122.85	89.77	799.17	-5,114.76	1,257.74	1,020.11	237.63	5.293		

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

# Anticollision Report

<b>Company:</b>	EXTRACTION OIL & GAS	<b>Local Co-ordinate Reference:</b>	Well WARBLER 13W-27-19
<b>Project:</b>	ADAMS COUNTY	<b>TVD Reference:</b>	KB 25' @ 5106.00usft
<b>Reference Site:</b>	Sec 13-T1S-R66W	<b>MD Reference:</b>	KB 25' @ 5106.00usft
<b>Site Error:</b>	0.00 usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	WARBLER 13W-27-19	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00 usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OWB	<b>Database:</b>	EDT_32Bit_ODBC
<b>Reference Design:</b>	PROPOSAL 1	<b>Offset TVD Reference:</b>	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				
10,300.00	7,154.00	10,470.42	7,154.00	118.67	125.39	89.77	799.18	-5,214.76	1,257.80	1,015.05	242.75	5.181				
10,400.00	7,154.00	10,570.42	7,154.00	121.22	127.94	89.77	799.18	-5,314.76	1,257.86	1,009.97	247.88	5.074				
10,500.00	7,154.00	10,670.42	7,154.00	123.79	130.49	89.77	799.19	-5,414.76	1,257.92	1,004.89	253.03	4.971				
10,600.00	7,154.00	10,770.42	7,154.00	126.35	133.05	89.77	799.19	-5,514.76	1,257.98	999.79	258.18	4.872				
10,700.00	7,154.00	10,870.42	7,154.00	128.93	135.62	89.77	799.20	-5,614.76	1,258.03	994.68	263.35	4.777				
10,800.00	7,154.00	10,970.42	7,154.00	131.51	138.19	89.77	799.21	-5,714.76	1,258.09	989.57	268.53	4.685				
10,900.00	7,154.00	11,070.42	7,154.00	134.09	140.77	89.77	799.21	-5,814.76	1,258.15	984.44	273.71	4.597				
11,000.00	7,154.00	11,170.42	7,154.00	136.68	143.35	89.77	799.22	-5,914.76	1,258.21	979.31	278.91	4.511				
11,100.00	7,154.00	11,270.42	7,154.00	139.27	145.93	89.77	799.23	-6,014.76	1,258.27	974.16	284.11	4.429				
11,200.00	7,154.00	11,370.42	7,154.00	141.87	148.52	89.77	799.23	-6,114.76	1,258.33	969.01	289.32	4.349				
11,300.00	7,154.00	11,470.42	7,154.00	144.47	151.12	89.77	799.24	-6,214.76	1,258.39	963.86	294.53	4.273				
11,400.00	7,154.00	11,570.42	7,154.00	147.08	153.72	89.77	799.25	-6,314.76	1,258.45	958.69	299.75	4.198				
11,500.00	7,154.00	11,670.42	7,154.00	149.68	156.32	89.77	799.25	-6,414.76	1,258.51	953.52	304.98	4.126				
11,600.00	7,154.00	11,770.42	7,154.00	152.30	158.92	89.77	799.26	-6,514.76	1,258.56	948.35	310.22	4.057				
11,700.00	7,154.00	11,870.42	7,154.00	154.91	161.53	89.77	799.27	-6,614.76	1,258.62	943.16	315.46	3.990				
11,800.00	7,154.00	11,970.42	7,154.00	157.53	164.14	89.77	799.27	-6,714.76	1,258.68	937.98	320.71	3.925				
11,900.00	7,154.00	12,070.42	7,154.00	160.15	166.76	89.77	799.28	-6,814.76	1,258.74	932.78	325.96	3.862				
12,000.00	7,154.00	12,170.42	7,154.00	162.77	169.37	89.77	799.29	-6,914.76	1,258.80	927.59	331.21	3.801				
12,100.00	7,154.00	12,270.42	7,154.00	165.40	171.99	89.77	799.29	-7,014.76	1,258.86	922.38	336.48	3.741				
12,200.00	7,154.00	12,370.42	7,154.00	168.03	174.62	89.77	799.30	-7,114.76	1,258.92	917.18	341.74	3.684				
12,300.00	7,154.00	12,470.42	7,154.00	170.66	177.24	89.77	799.31	-7,214.76	1,258.98	911.97	347.01	3.628				
12,400.00	7,154.00	12,570.42	7,154.00	173.29	179.87	89.77	799.31	-7,314.76	1,259.04	906.75	352.29	3.574				
12,500.00	7,154.00	12,670.42	7,154.00	175.93	182.50	89.77	799.32	-7,414.76	1,259.10	901.53	357.57	3.521				
12,600.00	7,154.00	12,770.42	7,154.00	178.56	185.13	89.77	799.33	-7,514.76	1,259.15	896.31	362.85	3.470				
12,700.00	7,154.00	12,870.42	7,154.00	181.20	187.76	89.77	799.33	-7,614.76	1,259.21	891.08	368.13	3.421				
12,800.00	7,154.00	12,970.42	7,154.00	183.84	190.40	89.77	799.34	-7,714.76	1,259.27	885.85	373.42	3.372				
12,900.00	7,154.00	13,070.42	7,154.00	186.49	193.04	89.77	799.34	-7,814.76	1,259.33	880.62	378.72	3.325				
13,000.00	7,154.00	13,170.42	7,154.00	189.13	195.68	89.77	799.35	-7,914.76	1,259.39	875.38	384.01	3.280				
13,100.00	7,154.00	13,270.42	7,154.00	191.78	198.32	89.77	799.36	-8,014.76	1,259.45	870.14	389.31	3.235				
13,200.00	7,154.00	13,370.42	7,154.00	194.43	200.96	89.77	799.36	-8,114.76	1,259.51	864.90	394.61	3.192				
13,300.00	7,154.00	13,470.42	7,154.00	197.07	203.60	89.77	799.37	-8,214.76	1,259.57	859.65	399.92	3.150				
13,400.00	7,154.00	13,570.42	7,154.00	199.73	206.25	89.77	799.38	-8,314.76	1,259.63	854.40	405.22	3.108				
13,500.00	7,154.00	13,670.42	7,154.00	202.38	208.90	89.77	799.38	-8,414.76	1,259.68	849.15	410.53	3.068				
13,600.00	7,154.00	13,770.42	7,154.00	205.03	211.55	89.77	799.39	-8,514.76	1,259.74	843.90	415.85	3.029				
13,700.00	7,154.00	13,870.42	7,154.00	207.69	214.20	89.77	799.40	-8,614.76	1,259.80	838.64	421.16	2.991				
13,800.00	7,154.00	13,970.42	7,154.00	210.34	216.85	89.77	799.40	-8,714.76	1,259.86	833.38	426.48	2.954				
13,900.00	7,154.00	14,070.42	7,154.00	213.00	219.50	89.77	799.41	-8,814.76	1,259.92	828.12	431.80	2.918				
14,000.00	7,154.00	14,170.42	7,154.00	215.66	222.15	89.77	799.42	-8,914.76	1,259.98	822.86	437.12	2.882				
14,100.00	7,154.00	14,270.42	7,154.00	218.32	224.81	89.77	799.42	-9,014.76	1,260.04	817.60	442.44	2.848				
14,200.00	7,154.00	14,370.42	7,154.00	220.98	227.46	89.77	799.43	-9,114.76	1,260.10	812.33	447.77	2.814				
14,300.00	7,154.00	14,470.42	7,154.00	223.64	230.12	89.77	799.44	-9,214.76	1,260.16	807.06	453.10	2.781				
14,400.00	7,154.00	14,570.42	7,154.00	226.30	232.78	89.77	799.44	-9,314.76	1,260.22	801.79	458.42	2.749				
14,500.00	7,154.00	14,670.42	7,154.00	228.97	235.44	89.77	799.45	-9,414.76	1,260.27	796.52	463.76	2.718				
14,600.00	7,154.00	14,770.42	7,154.00	231.63	238.10	89.77	799.46	-9,514.76	1,260.33	791.24	469.09	2.687				
14,700.00	7,154.00	14,870.42	7,154.00	234.29	240.76	89.77	799.46	-9,614.76	1,260.39	785.97	474.42	2.657				
14,800.00	7,154.00	14,970.42	7,154.00	236.96	243.42	89.77	799.47	-9,714.76	1,260.45	780.69	479.76	2.627				
14,900.00	7,154.00	15,070.42	7,154.00	239.63	246.09	89.77	799.48	-9,814.76	1,260.51	775.41	485.10	2.598				
15,000.00	7,154.00	15,170.42	7,154.00	242.30	248.75	89.77	799.48	-9,914.76	1,260.57	770.13	490.44	2.570				
15,100.00	7,154.00	15,270.42	7,154.00	244.96	251.42	89.77	799.49	-10,014.76	1,260.63	764.85	495.78	2.543				
15,200.00	7,154.00	15,370.42	7,154.00	247.63	254.08	89.77	799.50	-10,114.75	1,260.69	759.57	501.12	2.516				
15,300.00	7,154.00	15,470.42	7,154.00	250.30	256.75	89.77	799.50	-10,214.75	1,260.75	754.28	506.46	2.489				
15,400.00	7,154.00	15,570.42	7,154.00	252.98	259.42	89.77	799.51	-10,314.75	1,260.80	749.00	511.81	2.463				

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

# Anticollision Report

<b>Company:</b>	EXTRACTION OIL & GAS	<b>Local Co-ordinate Reference:</b>	Well WARBLER 13W-27-19
<b>Project:</b>	ADAMS COUNTY	<b>TVD Reference:</b>	KB 25' @ 5106.00usft
<b>Reference Site:</b>	Sec 13-T1S-R66W	<b>MD Reference:</b>	KB 25' @ 5106.00usft
<b>Site Error:</b>	0.00 usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	WARBLER 13W-27-19	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00 usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OWB	<b>Database:</b>	EDT_32Bit_ODBC
<b>Reference Design:</b>	PROPOSAL 1	<b>Offset TVD Reference:</b>	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	15,670.42	7,154.00	255.65	262.09	89.77	799.51	-10,414.75	1,260.86	743.71	517.15	2.438		
15,600.00	7,154.00	15,770.42	7,154.00	258.32	264.75	89.77	799.52	-10,514.75	1,260.92	738.42	522.50	2.413		
15,700.00	7,154.00	15,870.42	7,154.00	260.99	267.42	89.77	799.53	-10,614.75	1,260.98	733.13	527.85	2.389		
15,800.00	7,154.00	15,970.42	7,154.00	263.67	270.09	89.77	799.53	-10,714.75	1,261.04	727.84	533.20	2.365		
15,900.00	7,154.00	16,070.42	7,154.00	266.34	272.76	89.77	799.54	-10,814.75	1,261.10	722.55	538.55	2.342		
16,000.00	7,154.00	16,170.42	7,154.00	269.01	275.44	89.77	799.55	-10,914.75	1,261.16	717.26	543.90	2.319		
16,100.00	7,154.00	16,270.42	7,154.00	271.69	278.11	89.77	799.55	-11,014.75	1,261.22	711.96	549.25	2.296		
16,200.00	7,154.00	16,370.42	7,154.00	274.36	280.78	89.77	799.56	-11,114.75	1,261.28	706.67	554.61	2.274		
16,300.00	7,154.00	16,470.42	7,154.00	277.04	283.45	89.77	799.57	-11,214.75	1,261.33	701.37	559.96	2.253		
16,400.00	7,154.00	16,570.42	7,154.00	279.72	286.13	89.77	799.57	-11,314.75	1,261.39	696.07	565.32	2.231		
16,500.00	7,154.00	16,670.42	7,154.00	282.40	288.80	89.77	799.58	-11,414.75	1,261.45	690.78	570.68	2.210		
16,600.00	7,154.00	16,770.42	7,154.00	285.07	291.48	89.77	799.59	-11,514.75	1,261.51	685.48	576.03	2.190		
16,700.00	7,154.00	16,870.42	7,154.00	287.75	294.15	89.77	799.59	-11,614.75	1,261.57	680.18	581.39	2.170		
16,800.00	7,154.00	16,970.42	7,154.00	290.43	296.83	89.77	799.60	-11,714.75	1,261.63	674.88	586.75	2.150		
16,900.00	7,154.00	17,070.42	7,154.00	293.11	299.51	89.77	799.61	-11,814.75	1,261.69	669.57	592.11	2.131		
17,000.00	7,154.00	17,170.42	7,154.00	295.79	302.18	89.77	799.61	-11,914.75	1,261.75	664.27	597.48	2.112		
17,100.00	7,154.00	17,270.42	7,154.00	298.47	304.86	89.77	799.62	-12,014.75	1,261.81	658.97	602.84	2.093		
17,200.00	7,154.00	17,370.42	7,154.00	301.15	307.54	89.77	799.63	-12,114.75	1,261.87	653.66	608.20	2.075		
17,300.00	7,154.00	17,470.42	7,154.00	303.83	310.22	89.77	799.63	-12,214.75	1,261.92	648.36	613.56	2.057		
17,400.00	7,154.00	17,570.42	7,154.00	306.51	312.90	89.77	799.64	-12,314.75	1,261.98	643.05	618.93	2.039		
17,500.00	7,154.00	17,670.42	7,154.00	309.19	315.58	89.77	799.65	-12,414.75	1,262.04	637.75	624.29	2.022		
17,600.00	7,154.00	17,770.42	7,154.00	311.88	318.25	89.77	799.65	-12,514.75	1,262.10	632.44	629.66	2.004		
17,700.00	7,154.00	17,870.42	7,154.00	314.56	320.93	89.77	799.66	-12,614.75	1,262.16	627.13	635.03	1.988		
17,800.00	7,154.00	17,970.42	7,154.00	317.24	323.62	89.77	799.67	-12,714.75	1,262.22	621.82	640.39	1.971		
17,900.00	7,154.00	18,070.42	7,154.00	319.92	326.30	89.77	799.67	-12,814.75	1,262.28	616.52	645.76	1.955		
18,000.00	7,154.00	18,170.42	7,154.00	322.61	328.98	89.77	799.68	-12,914.75	1,262.34	611.21	651.13	1.939		
18,100.00	7,154.00	18,270.42	7,154.00	325.29	331.66	89.77	799.68	-13,014.75	1,262.40	605.90	656.50	1.923		
18,200.00	7,154.00	18,370.42	7,154.00	327.98	334.34	89.77	799.69	-13,114.75	1,262.45	600.58	661.87	1.907		
18,300.00	7,154.00	18,470.42	7,154.00	330.66	337.02	89.77	799.70	-13,214.75	1,262.51	595.27	667.24	1.892		
18,400.00	7,154.00	18,570.42	7,154.00	333.34	339.71	89.77	799.70	-13,314.75	1,262.57	589.96	672.61	1.877		
18,500.00	7,154.00	18,670.42	7,154.00	336.03	342.39	89.77	799.71	-13,414.75	1,262.63	584.65	677.98	1.862		
18,600.00	7,154.00	18,770.42	7,154.00	338.71	345.07	89.77	799.72	-13,514.75	1,262.69	579.33	683.36	1.848		
18,700.00	7,154.00	18,870.42	7,154.00	341.40	347.76	89.77	799.72	-13,614.75	1,262.75	574.02	688.73	1.833		
18,800.00	7,154.00	18,970.42	7,154.00	344.09	350.44	89.77	799.73	-13,714.75	1,262.81	568.71	694.10	1.819		
18,900.00	7,154.00	19,070.42	7,154.00	346.77	353.12	89.77	799.74	-13,814.75	1,262.87	563.39	699.48	1.805		
19,000.00	7,154.00	19,170.42	7,154.00	349.46	355.81	89.77	799.74	-13,914.75	1,262.93	558.08	704.85	1.792		
19,100.00	7,154.00	19,270.42	7,154.00	352.15	358.49	89.77	799.75	-14,014.75	1,262.99	552.76	710.22	1.778		
19,200.00	7,154.00	19,370.42	7,154.00	354.83	361.18	89.77	799.76	-14,114.75	1,263.04	547.44	715.60	1.765		
19,300.00	7,154.00	19,470.42	7,154.00	357.52	363.86	89.77	799.76	-14,214.75	1,263.10	542.13	720.98	1.752		
19,400.00	7,154.00	19,570.42	7,154.00	360.21	366.55	89.77	799.77	-14,314.75	1,263.16	536.81	726.35	1.739		
19,500.00	7,154.00	19,670.42	7,154.00	362.90	369.23	89.77	799.78	-14,414.75	1,263.22	531.49	731.73	1.726		
19,600.00	7,154.00	19,770.42	7,154.00	365.58	371.92	89.77	799.78	-14,514.75	1,263.28	526.17	737.11	1.714		
19,700.00	7,154.00	19,870.42	7,154.00	368.27	374.61	89.77	799.79	-14,614.75	1,263.34	520.86	742.48	1.702		
19,800.00	7,154.00	19,970.42	7,154.00	370.96	377.29	89.77	799.80	-14,714.75	1,263.40	515.54	747.86	1.689		
19,900.00	7,154.00	20,070.42	7,154.00	373.65	379.98	89.77	799.80	-14,814.75	1,263.46	510.22	753.24	1.677		
20,000.00	7,154.00	20,170.42	7,154.00	376.34	382.67	89.77	799.81	-14,914.75	1,263.52	504.90	758.62	1.666		
20,100.00	7,154.00	20,270.42	7,154.00	379.03	385.35	89.77	799.82	-15,014.75	1,263.57	499.58	764.00	1.654		
20,200.00	7,154.00	20,370.42	7,154.00	381.71	388.04	89.77	799.82	-15,114.75	1,263.63	494.26	769.38	1.642		
20,300.00	7,154.00	20,470.42	7,154.00	384.40	390.73	89.77	799.83	-15,214.75	1,263.69	488.94	774.76	1.631		
20,400.00	7,154.00	20,570.42	7,154.00	387.09	393.42	89.77	799.84	-15,314.75	1,263.75	483.62	780.14	1.620		
20,500.00	7,154.00	20,670.42	7,154.00	389.78	396.11	89.77	799.84	-15,414.75	1,263.81	478.29	785.52	1.609		
20,600.00	7,154.00	20,770.42	7,154.00	392.47	398.79	89.77	799.85	-15,514.75	1,263.87	472.97	790.90	1.598		

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

## Anticollision Report

<b>Company:</b>	EXTRACTION OIL & GAS	<b>Local Co-ordinate Reference:</b>	Well WARBLER 13W-27-19
<b>Project:</b>	ADAMS COUNTY	<b>TVD Reference:</b>	KB 25' @ 5106.00usft
<b>Reference Site:</b>	Sec 13-T1S-R66W	<b>MD Reference:</b>	KB 25' @ 5106.00usft
<b>Site Error:</b>	0.00 usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	WARBLER 13W-27-19	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00 usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OWB	<b>Database:</b>	EDT_32Bit_ODBC
<b>Reference Design:</b>	PROPOSAL 1	<b>Offset TVD Reference:</b>	Offset Datum

<b>Offset Design</b> Sec 13-T1S-R66W - WARBLER 13W-27-17 - OWB - PROPOSAL 1												<b>Offset Site Error:</b>	0.00 usft
Survey Program: 0-MWD OWSG												<b>Offset Well Error:</b>	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	20,870.42	7,154.00	395.16	401.48	89.77	799.85	-15,614.75	1,263.93	467.65	796.28	1.587	
20,800.00	7,154.00	20,970.42	7,154.00	397.85	404.17	89.77	799.86	-15,714.75	1,263.99	462.33	801.66	1.577	
20,900.00	7,154.00	21,070.42	7,154.00	400.54	406.86	89.77	799.87	-15,814.75	1,264.05	457.00	807.04	1.566	
21,000.00	7,154.00	21,170.42	7,154.00	403.24	409.55	89.77	799.87	-15,914.75	1,264.11	451.68	812.43	1.556	
21,100.00	7,154.00	21,270.42	7,154.00	405.93	412.24	89.77	799.88	-16,014.75	1,264.16	446.36	817.81	1.546	
21,200.00	7,154.00	21,370.42	7,154.00	408.62	414.93	89.77	799.89	-16,114.75	1,264.22	441.03	823.19	1.536	
21,300.00	7,154.00	21,470.42	7,154.00	411.31	417.62	89.77	799.89	-16,214.75	1,264.28	435.71	828.57	1.526	
21,400.00	7,154.00	21,570.42	7,154.00	414.00	420.31	89.77	799.90	-16,314.75	1,264.34	430.38	833.96	1.516	
21,500.00	7,154.00	21,670.42	7,154.00	416.69	423.00	89.77	799.91	-16,414.75	1,264.40	425.06	839.34	1.506	
21,505.33	7,154.00	21,675.74	7,154.00	416.83	423.14	89.77	799.91	-16,420.08	1,264.40	424.77	839.63	1.506 SF	

# Anticollision Report

<b>Company:</b>	EXTRACTION OIL & GAS	<b>Local Co-ordinate Reference:</b>	Well WARBLER 13W-27-19
<b>Project:</b>	ADAMS COUNTY	<b>TVD Reference:</b>	KB 25' @ 5106.00usft
<b>Reference Site:</b>	Sec 13-T1S-R66W	<b>MD Reference:</b>	KB 25' @ 5106.00usft
<b>Site Error:</b>	0.00 usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	WARBLER 13W-27-19	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00 usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OWB	<b>Database:</b>	EDT_32Bit_ODBC
<b>Reference Design:</b>	PROPOSAL 1	<b>Offset TVD Reference:</b>	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	0.58	83.79	0.84	83.79					
100.00	100.00	101.00	99.00	0.13	0.14	0.58	83.79	0.84	83.79	83.52	0.27	307.553		
200.00	200.00	201.00	199.00	0.49	0.50	0.58	83.79	0.84	83.79	82.80	0.99	84.689		
300.00	300.00	301.00	299.00	0.85	0.85	0.58	83.79	0.84	83.79	82.08	1.71	49.105		
400.00	400.00	399.00	399.00	1.21	1.21	0.58	83.79	0.84	83.79	81.37	2.42	34.680		
500.00	499.98	500.45	500.43	1.56	1.56	101.35	82.93	-0.70	83.27	80.15	3.12	26.708		
600.00	599.84	601.90	601.73	1.91	1.91	101.78	80.33	-5.37	81.68	77.86	3.82	21.406		
700.00	699.45	703.30	702.74	2.27	2.27	102.51	75.99	-13.18	79.03	74.49	4.54	17.416		
800.00	798.70	804.65	803.30	2.65	2.66	103.61	69.91	-24.09	75.33	70.05	5.29	14.246		
900.00	897.47	905.91	903.28	3.06	3.07	105.17	62.12	-38.09	70.63	64.55	6.08	11.626		
1,000.00	995.62	1,007.07	1,002.53	3.49	3.50	107.36	52.63	-55.15	64.97	58.07	6.90	9.417		
1,100.00	1,093.06	1,108.11	1,100.92	3.96	3.98	110.46	41.45	-75.24	58.43	50.66	7.76	7.527		
1,200.00	1,189.64	1,209.00	1,198.29	4.47	4.50	114.96	28.61	-98.31	51.15	42.51	8.64	5.921		
1,300.00	1,285.27	1,309.75	1,294.53	5.02	5.06	121.76	14.13	-124.32	43.43	33.95	9.48	4.581		
1,400.00	1,379.82	1,410.31	1,389.50	5.63	5.67	132.52	-1.95	-153.22	35.82	25.66	10.17	3.523		
1,500.00	1,473.18	1,510.69	1,483.08	6.29	6.34	149.89	-19.61	-184.96	29.60	19.05	10.56	2.804		
1,600.00	1,566.03	1,610.85	1,575.11	6.99	7.05	174.69	-38.80	-219.45	25.09	14.02	11.08	2.265		
1,654.78	1,616.90	1,665.24	1,624.64	7.39	7.47	-168.46	-49.74	-239.11	24.03	11.99	12.03	1.997 CC		
1,700.00	1,658.89	1,710.05	1,665.43	7.71	7.81	-154.44	-58.77	-255.33	24.78	11.53	13.24	1.871		
1,800.00	1,751.74	1,809.15	1,755.63	8.44	8.58	-129.73	-78.72	-291.18	30.91	14.88	16.03	1.928		
1,900.00	1,844.60	1,908.25	1,845.84	9.17	9.36	-114.90	-98.67	-327.04	40.69	22.53	18.15	2.242		
2,000.00	1,937.45	2,007.35	1,936.04	9.91	10.16	-106.13	-118.63	-362.89	52.09	32.22	19.87	2.621		
2,100.00	2,030.31	2,106.45	2,026.24	10.66	10.96	-100.59	-138.58	-398.75	64.27	42.83	21.44	2.998		
2,200.00	2,123.16	2,205.55	2,116.45	11.41	11.76	-96.83	-158.53	-434.61	76.85	53.90	22.96	3.348		
2,300.00	2,216.02	2,304.65	2,206.65	12.17	12.57	-94.13	-178.49	-470.46	89.67	65.22	24.45	3.668		
2,400.00	2,308.87	2,403.75	2,296.86	12.93	13.38	-92.11	-198.44	-506.32	102.63	76.70	25.93	3.958		
2,500.00	2,401.73	2,502.85	2,387.06	13.69	14.20	-90.55	-218.40	-542.18	115.69	88.28	27.42	4.220		
2,600.00	2,494.58	2,601.95	2,477.27	14.45	15.02	-89.30	-238.35	-578.03	128.82	99.92	28.90	4.457		
2,700.00	2,587.44	2,701.05	2,567.47	15.22	15.84	-88.29	-258.30	-613.89	142.00	111.60	30.39	4.672		
2,800.00	2,680.29	2,800.15	2,657.68	15.98	16.66	-87.44	-278.26	-649.75	155.21	123.33	31.89	4.868		
2,900.00	2,773.15	2,900.75	2,747.88	16.75	17.50	-86.73	-298.21	-685.60	168.45	135.06	33.39	5.045		
3,000.00	2,866.00	3,001.66	2,838.09	17.52	18.34	-86.12	-318.16	-721.46	181.71	146.81	34.90	5.206		
3,100.00	2,958.86	3,102.56	2,928.29	18.29	19.18	-85.60	-338.12	-757.31	194.99	158.58	36.42	5.355		
3,200.00	3,051.71	3,203.46	3,018.50	19.06	20.02	-85.14	-358.07	-793.17	208.29	170.36	37.93	5.491		
3,300.00	3,144.57	3,304.36	3,108.70	19.83	20.87	-84.74	-378.02	-829.03	221.59	182.15	39.45	5.617		
3,400.00	3,237.42	3,405.26	3,198.91	20.60	21.71	-84.38	-397.98	-864.88	234.91	193.94	40.97	5.734		
3,500.00	3,330.28	3,493.84	3,289.11	21.37	22.46	-84.06	-417.93	-900.74	248.23	205.84	42.39	5.856		
3,600.00	3,423.13	3,607.06	3,379.32	22.15	23.41	-83.78	-437.88	-936.60	261.56	217.55	44.01	5.943		
3,700.00	3,515.99	3,692.04	3,469.52	22.92	24.12	-83.52	-457.84	-972.45	274.90	229.49	45.41	6.054		
3,800.00	3,608.84	3,808.86	3,559.73	23.70	25.10	-83.28	-477.79	-1,008.31	288.24	241.18	47.06	6.125		
3,900.00	3,701.70	3,890.24	3,649.93	24.47	25.78	-83.07	-497.74	-1,044.17	301.58	253.16	48.43	6.227		
4,000.00	3,794.55	3,989.34	3,740.13	25.25	26.62	-82.87	-517.70	-1,080.02	314.93	264.99	49.94	6.306		
4,100.00	3,887.41	4,088.44	3,830.34	26.02	27.45	-82.69	-537.65	-1,115.88	328.29	276.83	51.46	6.380		
4,200.00	3,980.26	4,187.54	3,920.54	26.80	28.28	-82.53	-557.60	-1,151.73	341.64	288.67	52.97	6.450		
4,300.00	4,073.12	4,286.64	4,010.75	27.57	29.12	-82.37	-577.56	-1,187.59	355.00	300.51	54.48	6.516		
4,400.00	4,165.97	4,385.74	4,100.95	28.35	29.95	-82.23	-597.51	-1,223.45	368.36	312.36	56.00	6.578		
4,500.00	4,258.83	4,484.84	4,191.16	29.12	30.79	-82.10	-617.46	-1,259.30	381.72	324.21	57.52	6.637		
4,600.00	4,351.68	4,583.94	4,281.36	29.90	31.62	-81.98	-637.42	-1,295.16	395.08	336.05	59.03	6.693		
4,700.00	4,444.54	4,683.04	4,371.57	30.68	32.46	-81.86	-657.37	-1,331.02	408.45	347.90	60.55	6.746		
4,800.00	4,537.39	4,782.14	4,461.77	31.45	33.29	-81.75	-677.33	-1,366.87	421.82	359.75	62.07	6.796		
4,900.00	4,630.25	4,881.24	4,551.98	32.23	34.13	-81.65	-697.28	-1,402.73	435.19	371.60	63.58	6.844		
5,000.00	4,723.10	4,980.34	4,642.18	33.01	34.96	-81.56	-717.23	-1,438.59	448.56	383.45	65.10	6.890		

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

# Anticollision Report

<b>Company:</b>	EXTRACTION OIL & GAS	<b>Local Co-ordinate Reference:</b>	Well WARBLER 13W-27-19
<b>Project:</b>	ADAMS COUNTY	<b>TVD Reference:</b>	KB 25' @ 5106.00usft
<b>Reference Site:</b>	Sec 13-T1S-R66W	<b>MD Reference:</b>	KB 25' @ 5106.00usft
<b>Site Error:</b>	0.00 usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	WARBLER 13W-27-19	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00 usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OWB	<b>Database:</b>	EDT_32Bit_ODBC
<b>Reference Design:</b>	PROPOSAL 1	<b>Offset TVD Reference:</b>	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	4,815.96	5,079.43	4,732.39	33.79	35.80	-81.47	-737.19	-1,474.44	461.93	395.30	66.62	6.934		
5,200.00	4,908.81	5,178.53	4,822.59	34.56	36.64	-81.38	-757.14	-1,510.30	475.30	407.16	68.14	6.975		
5,300.00	5,001.67	5,277.63	4,912.80	35.34	37.47	-81.30	-777.09	-1,546.15	488.67	419.01	69.66	7.015		
5,400.00	5,094.52	5,376.73	5,003.00	36.12	38.31	-81.23	-797.05	-1,582.01	502.05	430.86	71.18	7.053		
5,500.00	5,187.38	5,475.83	5,093.21	36.90	39.15	-81.15	-817.00	-1,617.87	515.42	442.72	72.70	7.090		
5,600.00	5,280.23	5,574.93	5,183.41	37.67	39.98	-81.09	-836.95	-1,653.72	528.80	454.57	74.22	7.124		
5,700.00	5,373.09	5,674.03	5,273.62	38.45	40.82	-81.02	-856.91	-1,689.58	542.17	466.43	75.74	7.158		
5,800.00	5,465.94	5,773.13	5,363.82	39.23	41.66	-80.96	-876.86	-1,725.44	555.55	478.28	77.26	7.190		
5,900.00	5,558.80	5,872.23	5,454.03	40.01	42.49	-80.90	-896.81	-1,761.29	568.93	490.14	78.79	7.221		
6,000.00	5,651.65	5,971.33	5,544.23	40.79	43.33	-80.84	-916.77	-1,797.15	582.30	502.00	80.31	7.251		
6,100.00	5,744.51	6,070.43	5,634.43	41.57	44.17	-80.79	-936.72	-1,833.01	595.68	513.85	81.83	7.280		
6,200.00	5,837.36	6,169.53	5,724.64	42.34	45.00	-80.74	-956.67	-1,868.86	609.06	525.71	83.35	7.307		
6,300.00	5,930.22	6,268.63	5,814.84	43.12	45.84	-80.69	-976.63	-1,904.72	622.44	537.57	84.87	7.334		
6,400.00	6,023.07	6,367.73	5,905.05	43.90	46.68	-80.64	-996.58	-1,940.57	635.82	549.43	86.40	7.359		
6,500.00	6,115.93	6,466.83	5,995.25	44.68	47.52	-80.60	-1,016.53	-1,976.43	649.20	561.28	87.92	7.384		
6,600.00	6,208.78	6,565.93	6,085.46	45.46	48.35	-80.55	-1,036.49	-2,012.29	662.58	573.14	89.44	7.408		
6,700.00	6,301.64	6,665.03	6,175.66	46.24	49.19	-80.51	-1,056.44	-2,048.14	675.96	585.00	90.96	7.431		
6,800.00	6,394.49	6,764.13	6,265.87	47.02	50.03	-80.47	-1,076.40	-2,084.00	689.34	596.86	92.49	7.453		
6,900.00	6,487.35	6,863.23	6,356.07	47.80	50.87	-80.43	-1,096.35	-2,119.86	702.73	608.72	94.01	7.475		
7,000.00	6,580.20	6,962.33	6,446.28	48.57	51.71	-80.40	-1,116.30	-2,155.71	716.11	620.57	95.53	7.496		
7,100.00	6,673.06	7,061.43	6,536.48	49.35	52.54	-80.36	-1,136.26	-2,191.57	729.49	632.43	97.06	7.516		
7,200.00	6,765.91	7,160.53	6,626.69	50.13	53.38	-80.33	-1,156.21	-2,227.43	742.87	644.29	98.58	7.536		
7,300.00	6,858.76	7,259.63	6,716.72	50.91	54.22	-82.33	-1,176.12	-2,263.21	756.38	656.06	100.32	7.540		
7,400.00	6,951.61	7,358.73	6,806.81	51.69	55.05	-84.46	-1,195.90	-2,298.84	770.45	667.65	102.81	7.494		
7,500.00	7,044.46	7,457.83	6,896.94	52.47	55.89	-86.43	-1,215.78	-2,334.36	784.33	678.20	106.14	7.390		
7,600.00	7,137.31	7,556.93	6,987.07	53.25	56.73	-88.43	-1,235.66	-2,369.88	798.61	688.76	109.85	7.252		
7,700.00	7,230.16	7,656.03	7,077.15	54.03	57.57	-90.43	-1,255.54	-2,405.39	812.90	699.31	113.77	7.088		
7,800.00	7,323.01	7,755.13	7,167.28	54.81	58.41	-92.43	-1,275.42	-2,440.90	827.19	710.36	117.68	6.909		
7,900.00	7,415.86	7,854.23	7,257.41	55.59	59.25	-94.43	-1,295.30	-2,476.41	841.48	721.41	121.40	6.720		
8,000.00	7,508.71	7,953.33	7,347.54	56.37	60.09	-96.43	-1,315.18	-2,511.92	855.77	732.46	125.53	6.499		
8,100.00	7,601.56	8,052.43	7,437.67	57.15	60.93	-98.43	-1,335.06	-2,547.43	870.06	743.51	129.84	6.284		
8,200.00	7,694.41	8,151.53	7,527.75	57.93	61.77	-100.43	-1,354.94	-2,582.94	884.35	754.56	134.23	6.079		
8,300.00	7,787.26	8,250.63	7,617.88	58.71	62.61	-102.43	-1,374.82	-2,618.45	898.64	765.61	138.69	5.883		
8,400.00	7,880.11	8,349.73	7,708.01	59.49	63.45	-104.43	-1,394.70	-2,653.96	912.93	776.66	143.22	5.698		
8,500.00	7,972.96	8,448.83	7,798.14	60.27	64.29	-106.43	-1,414.58	-2,689.47	927.22	787.71	147.81	5.521		
8,600.00	8,065.81	8,547.93	7,888.27	61.05	65.13	-108.43	-1,434.46	-2,724.98	941.51	798.76	152.45	5.353		
8,700.00	8,158.66	8,647.03	7,978.40	61.83	65.97	-110.43	-1,454.34	-2,760.49	955.80	809.81	157.13	5.194		
8,800.00	8,251.51	8,746.13	8,068.53	62.61	66.81	-112.43	-1,474.22	-2,795.99	970.09	820.86	161.87	5.042		
8,900.00	8,344.36	8,845.23	8,158.66	63.39	67.65	-114.43	-1,494.10	-2,831.50	984.38	831.91	166.64	4.898		
9,000.00	8,437.21	8,944.33	8,248.79	64.17	68.49	-116.43	-1,513.98	-2,867.01	998.67	842.96	171.45	4.761		
9,100.00	8,530.06	9,043.43	8,338.92	64.95	69.33	-118.43	-1,533.86	-2,902.52	1012.96	854.01	176.30	4.630		
9,200.00	8,622.91	9,142.53	8,429.05	65.73	70.17	-120.43	-1,553.74	-2,938.03	1027.25	865.06	181.18	4.506		
9,300.00	8,715.76	9,241.63	8,519.18	66.51	71.01	-122.43	-1,573.62	-2,973.54	1041.54	876.11	186.09	4.387		
9,400.00	8,808.61	9,340.73	8,609.31	67.29	71.85	-124.43	-1,593.50	-3,009.05	1055.83	887.16	191.02	4.274		
9,500.00	8,901.46	9,439.83	8,699.44	68.07	72.69	-126.43	-1,613.38	-3,044.56	1070.12	898.21	195.98	4.166		
9,600.00	8,994.31	9,538.93	8,789.57	68.85	73.53	-128.43	-1,633.26	-3,080.07	1084.41	909.26	200.96	4.063		
9,700.00	9,087.16	9,638.03	8,879.70	69.63	74.37	-130.43	-1,653.14	-3,115.58	1098.70	920.31	205.97	3.964		
9,800.00	9,180.01	9,737.13	8,969.83	70.41	75.21	-132.43	-1,673.02	-3,151.09	1112.99	931.36	210.99	3.870		
9,900.00	9,272.86	9,836.23	9,059.96	71.19	76.05	-134.43	-1,692.90	-3,186.60	1127.28	942.41	216.03	3.780		
10,000.00	9,365.71	9,935.33	9,150.09	71.97	76.89	-136.43	-1,712.78	-3,222.11	1141.57	953.46	221.09	3.694		
10,100.00	9,458.56	10,034.43	9,240.22	72.75	77.73	-138.43	-1,732.66	-3,257.62	1155.86	964.51	226.17	3.611		
10,200.00	9,551.41	10,133.53	9,330.35	73.53	78.57	-140.43	-1,752.54	-3,293.13	1170.15	975.56	231.26	3.532		

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

# Anticollision Report

<b>Company:</b>	EXTRACTION OIL & GAS	<b>Local Co-ordinate Reference:</b>	Well Warbler 13W-27-19
<b>Project:</b>	ADAMS COUNTY	<b>TVD Reference:</b>	KB 25' @ 5106.00usft
<b>Reference Site:</b>	Sec 13-T1S-R66W	<b>MD Reference:</b>	KB 25' @ 5106.00usft
<b>Site Error:</b>	0.00 usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Warbler 13W-27-19	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00 usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OWB	<b>Database:</b>	EDT_32Bit_ODBC
<b>Reference Design:</b>	PROPOSAL 1	<b>Offset TVD Reference:</b>	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	10,420.39	7,154.00	118.67	120.20	-90.07	-1,275.35	-5,214.10	816.74	580.38	236.36	3.455		
10,400.00	7,154.00	10,520.39	7,154.00	121.22	122.70	-90.07	-1,275.44	-5,314.10	816.77	575.30	241.48	3.382		
10,500.00	7,154.00	10,620.39	7,154.00	123.79	125.21	-90.07	-1,275.53	-5,414.10	816.81	570.20	246.61	3.312		
10,600.00	7,154.00	10,720.39	7,154.00	126.35	127.73	-90.07	-1,275.62	-5,514.10	816.85	565.10	251.75	3.245		
10,700.00	7,154.00	10,820.39	7,154.00	128.93	130.25	-90.07	-1,275.71	-5,614.10	816.89	559.98	256.90	3.180		
10,800.00	7,154.00	10,920.39	7,154.00	131.51	132.78	-90.07	-1,275.80	-5,714.10	816.92	554.86	262.06	3.117		
10,900.00	7,154.00	11,020.39	7,154.00	134.09	135.32	-90.07	-1,275.89	-5,814.10	816.96	549.72	267.24	3.057		
11,000.00	7,154.00	11,120.39	7,154.00	136.68	137.87	-90.07	-1,275.98	-5,914.10	817.00	544.58	272.42	2.999		
11,100.00	7,154.00	11,220.39	7,154.00	139.27	140.42	-90.07	-1,276.07	-6,014.10	817.04	539.43	277.61	2.943		
11,200.00	7,154.00	11,320.39	7,154.00	141.87	142.98	-90.07	-1,276.16	-6,114.10	817.07	534.27	282.81	2.889		
11,300.00	7,154.00	11,420.39	7,154.00	144.47	145.54	-90.07	-1,276.25	-6,214.10	817.11	529.10	288.01	2.837		
11,400.00	7,154.00	11,520.39	7,154.00	147.08	148.11	-90.07	-1,276.34	-6,314.10	817.15	523.92	293.23	2.787		
11,500.00	7,154.00	11,620.39	7,154.00	149.68	150.68	-90.07	-1,276.43	-6,414.10	817.19	518.74	298.45	2.738		
11,600.00	7,154.00	11,720.39	7,154.00	152.30	153.26	-90.07	-1,276.52	-6,514.10	817.22	513.55	303.67	2.691		
11,700.00	7,154.00	11,820.39	7,154.00	154.91	155.84	-90.07	-1,276.61	-6,614.10	817.26	508.36	308.90	2.646		
11,800.00	7,154.00	11,920.39	7,154.00	157.53	158.42	-90.07	-1,276.70	-6,714.10	817.30	503.16	314.14	2.602		
11,900.00	7,154.00	12,020.39	7,154.00	160.15	161.01	-90.07	-1,276.79	-6,814.10	817.34	497.95	319.39	2.559		
12,000.00	7,154.00	12,120.39	7,154.00	162.77	163.61	-90.07	-1,276.88	-6,914.10	817.37	492.74	324.64	2.518		
12,100.00	7,154.00	12,220.39	7,154.00	165.40	166.20	-90.07	-1,276.97	-7,014.10	817.41	487.52	329.89	2.478		
12,200.00	7,154.00	12,320.39	7,154.00	168.03	168.80	-90.07	-1,277.06	-7,114.10	817.45	482.30	335.15	2.439		
12,300.00	7,154.00	12,420.39	7,154.00	170.66	171.41	-90.07	-1,277.15	-7,214.10	817.49	477.07	340.41	2.401		
12,400.00	7,154.00	12,520.39	7,154.00	173.29	174.01	-90.07	-1,277.24	-7,314.10	817.52	471.84	345.68	2.365		
12,500.00	7,154.00	12,620.39	7,154.00	175.93	176.62	-90.07	-1,277.33	-7,414.10	817.56	466.61	350.96	2.330		
12,600.00	7,154.00	12,720.39	7,154.00	178.56	179.24	-90.07	-1,277.42	-7,514.10	817.60	461.37	356.23	2.295		
12,700.00	7,154.00	12,820.39	7,154.00	181.20	181.85	-90.07	-1,277.51	-7,614.10	817.64	456.12	361.51	2.262		
12,800.00	7,154.00	12,920.39	7,154.00	183.84	184.47	-90.07	-1,277.60	-7,714.10	817.67	450.88	366.80	2.229		
12,900.00	7,154.00	13,020.39	7,154.00	186.49	187.09	-90.07	-1,277.69	-7,814.10	817.71	445.63	372.08	2.198		
13,000.00	7,154.00	13,120.39	7,154.00	189.13	189.71	-90.07	-1,277.78	-7,914.10	817.75	440.37	377.38	2.167		
13,100.00	7,154.00	13,220.39	7,154.00	191.78	192.34	-90.07	-1,277.87	-8,014.10	817.79	435.12	382.67	2.137		
13,200.00	7,154.00	13,320.39	7,154.00	194.43	194.97	-90.07	-1,277.96	-8,114.10	817.82	429.86	387.97	2.108		
13,300.00	7,154.00	13,420.39	7,154.00	197.07	197.60	-90.07	-1,278.05	-8,214.10	817.86	424.59	393.27	2.080		
13,400.00	7,154.00	13,520.39	7,154.00	199.73	200.23	-90.07	-1,278.14	-8,314.10	817.90	419.33	398.57	2.052		
13,500.00	7,154.00	13,620.39	7,154.00	202.38	202.86	-90.07	-1,278.23	-8,414.10	817.94	414.06	403.88	2.025		
13,600.00	7,154.00	13,720.39	7,154.00	205.03	205.50	-90.07	-1,278.32	-8,514.10	817.97	408.79	409.18	1.999		
13,700.00	7,154.00	13,820.39	7,154.00	207.69	208.13	-90.07	-1,278.41	-8,614.10	818.01	403.52	414.50	1.974		
13,800.00	7,154.00	13,920.39	7,154.00	210.34	210.77	-90.07	-1,278.50	-8,714.10	818.05	398.24	419.81	1.949		
13,900.00	7,154.00	14,020.39	7,154.00	213.00	213.41	-90.07	-1,278.59	-8,814.10	818.09	392.96	425.13	1.924		
14,000.00	7,154.00	14,120.39	7,154.00	215.66	216.05	-90.07	-1,278.68	-8,914.10	818.12	387.68	430.44	1.901		
14,100.00	7,154.00	14,220.39	7,154.00	218.32	218.70	-90.07	-1,278.77	-9,014.10	818.16	382.40	435.76	1.878		
14,200.00	7,154.00	14,320.39	7,154.00	220.98	221.34	-90.07	-1,278.86	-9,114.10	818.20	377.11	441.09	1.855		
14,300.00	7,154.00	14,420.39	7,154.00	223.64	223.99	-90.07	-1,278.95	-9,214.10	818.24	371.83	446.41	1.833		
14,400.00	7,154.00	14,520.39	7,154.00	226.30	226.64	-90.07	-1,279.03	-9,314.10	818.27	366.54	451.74	1.811		
14,500.00	7,154.00	14,620.39	7,154.00	228.97	229.29	-90.07	-1,279.12	-9,414.10	818.31	361.25	457.07	1.790		
14,600.00	7,154.00	14,720.39	7,154.00	231.63	231.94	-90.07	-1,279.21	-9,514.10	818.35	355.95	462.40	1.770		
14,700.00	7,154.00	14,820.39	7,154.00	234.29	234.59	-90.07	-1,279.30	-9,614.10	818.39	350.66	467.73	1.750		
14,800.00	7,154.00	14,920.39	7,154.00	236.96	237.24	-90.07	-1,279.39	-9,714.10	818.42	345.36	473.06	1.730		
14,900.00	7,154.00	15,020.39	7,154.00	239.63	239.90	-90.07	-1,279.48	-9,814.10	818.46	340.07	478.40	1.711		
15,000.00	7,154.00	15,120.39	7,154.00	242.30	242.55	-90.07	-1,279.57	-9,914.10	818.50	334.77	483.73	1.692		
15,100.00	7,154.00	15,220.39	7,154.00	244.96	245.21	-90.07	-1,279.66	-10,014.10	818.54	329.47	489.07	1.674		
15,200.00	7,154.00	15,320.39	7,154.00	247.63	247.86	-90.07	-1,279.75	-10,114.10	818.57	324.16	494.41	1.656		
15,300.00	7,154.00	15,420.39	7,154.00	250.30	250.52	-90.07	-1,279.84	-10,214.10	818.61	318.86	499.75	1.638		
15,400.00	7,154.00	15,520.39	7,154.00	252.98	253.18	-90.07	-1,279.93	-10,314.10	818.65	313.55	505.09	1.621		

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



# Anticollision Report

<b>Company:</b>	EXTRACTION OIL & GAS	<b>Local Co-ordinate Reference:</b>	Well WARBLER 13W-27-19
<b>Project:</b>	ADAMS COUNTY	<b>TVD Reference:</b>	KB 25' @ 5106.00usft
<b>Reference Site:</b>	Sec 13-T1S-R66W	<b>MD Reference:</b>	KB 25' @ 5106.00usft
<b>Site Error:</b>	0.00 usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	WARBLER 13W-27-19	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00 usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OWB	<b>Database:</b>	EDT_32Bit_ODBC
<b>Reference Design:</b>	PROPOSAL 1	<b>Offset TVD Reference:</b>	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	15,620.39	7,154.00	255.65	255.84	-90.07	-1,280.02	-10,414.10	818.69	308.25	510.44	1.604		
15,600.00	7,154.00	15,720.39	7,154.00	258.32	258.50	-90.07	-1,280.11	-10,514.10	818.72	302.94	515.78	1.587		
15,700.00	7,154.00	15,820.39	7,154.00	260.99	261.17	-90.07	-1,280.20	-10,614.10	818.76	297.63	521.13	1.571		
15,800.00	7,154.00	15,920.39	7,154.00	263.67	263.83	-90.07	-1,280.29	-10,714.10	818.80	292.32	526.48	1.555		
15,900.00	7,154.00	16,020.39	7,154.00	266.34	266.49	-90.07	-1,280.38	-10,814.10	818.84	287.01	531.83	1.540		
16,000.00	7,154.00	16,120.39	7,154.00	269.01	269.16	-90.07	-1,280.47	-10,914.10	818.87	281.70	537.18	1.524		
16,100.00	7,154.00	16,220.39	7,154.00	271.69	271.82	-90.07	-1,280.56	-11,014.10	818.91	276.38	542.53	1.509		
16,200.00	7,154.00	16,320.39	7,154.00	274.36	274.49	-90.07	-1,280.65	-11,114.10	818.95	271.07	547.88	1.495 Level 3		
16,300.00	7,154.00	16,420.39	7,154.00	277.04	277.15	-90.07	-1,280.74	-11,214.10	818.99	265.75	553.23	1.480 Level 3		
16,400.00	7,154.00	16,520.39	7,154.00	279.72	279.82	-90.07	-1,280.83	-11,314.10	819.02	260.44	558.59	1.466 Level 3		
16,500.00	7,154.00	16,620.39	7,154.00	282.40	282.49	-90.07	-1,280.92	-11,414.10	819.06	255.12	563.94	1.452 Level 3		
16,600.00	7,154.00	16,720.39	7,154.00	285.07	285.16	-90.07	-1,281.01	-11,514.10	819.10	249.80	569.30	1.439 Level 3		
16,700.00	7,154.00	16,820.39	7,154.00	287.75	287.83	-90.07	-1,281.10	-11,614.10	819.14	244.48	574.66	1.425 Level 3		
16,800.00	7,154.00	16,920.39	7,154.00	290.43	290.50	-90.07	-1,281.19	-11,714.10	819.17	239.16	580.02	1.412 Level 3		
16,900.00	7,154.00	17,020.39	7,154.00	293.11	293.17	-90.07	-1,281.28	-11,814.10	819.21	233.84	585.37	1.399 Level 3		
17,000.00	7,154.00	17,120.39	7,154.00	295.79	295.84	-90.07	-1,281.37	-11,914.10	819.25	228.51	590.73	1.387 Level 3		
17,100.00	7,154.00	17,220.39	7,154.00	298.47	298.51	-90.07	-1,281.46	-12,014.10	819.29	223.19	596.10	1.374 Level 3		
17,200.00	7,154.00	17,320.39	7,154.00	301.15	301.19	-90.07	-1,281.55	-12,114.10	819.32	217.87	601.46	1.362 Level 3		
17,300.00	7,154.00	17,420.39	7,154.00	303.83	303.86	-90.07	-1,281.64	-12,214.10	819.36	212.54	606.82	1.350 Level 3		
17,400.00	7,154.00	17,520.39	7,154.00	306.51	306.53	-90.07	-1,281.73	-12,314.10	819.40	207.22	612.18	1.338 Level 3		
17,500.00	7,154.00	17,620.39	7,154.00	309.19	309.21	-90.07	-1,281.82	-12,414.10	819.44	201.89	617.55	1.327 Level 3		
17,600.00	7,154.00	17,720.39	7,154.00	311.88	311.88	-90.07	-1,281.91	-12,514.10	819.47	196.56	622.91	1.316 Level 3		
17,700.00	7,154.00	17,820.39	7,154.00	314.56	314.56	-90.07	-1,282.00	-12,614.10	819.51	191.23	628.28	1.304 Level 3		
17,800.00	7,154.00	17,920.39	7,154.00	317.24	317.23	-90.07	-1,282.09	-12,714.10	819.55	185.91	633.64	1.293 Level 3		
17,900.00	7,154.00	18,020.39	7,154.00	319.92	319.91	-90.07	-1,282.18	-12,814.10	819.59	180.58	639.01	1.283 Level 3		
18,000.00	7,154.00	18,120.39	7,154.00	322.61	322.58	-90.07	-1,282.27	-12,914.10	819.62	175.25	644.38	1.272 Level 3		
18,100.00	7,154.00	18,220.39	7,154.00	325.29	325.26	-90.07	-1,282.36	-13,014.10	819.66	169.92	649.74	1.262 Level 3		
18,200.00	7,154.00	18,320.39	7,154.00	327.98	327.94	-90.07	-1,282.45	-13,114.10	819.70	164.59	655.11	1.251 Level 3		
18,300.00	7,154.00	18,420.39	7,154.00	330.66	330.62	-90.07	-1,282.54	-13,214.10	819.74	159.25	660.48	1.241 Level 2		
18,400.00	7,154.00	18,520.39	7,154.00	333.34	333.29	-90.07	-1,282.63	-13,314.10	819.77	153.92	665.85	1.231 Level 2		
18,500.00	7,154.00	18,620.39	7,154.00	336.03	335.97	-90.07	-1,282.72	-13,414.10	819.81	148.59	671.22	1.221 Level 2		
18,600.00	7,154.00	18,720.39	7,154.00	338.71	338.65	-90.07	-1,282.81	-13,514.10	819.85	143.25	676.59	1.212 Level 2		
18,700.00	7,154.00	18,820.39	7,154.00	341.40	341.33	-90.07	-1,282.90	-13,614.10	819.89	137.92	681.97	1.202 Level 2		
18,800.00	7,154.00	18,920.39	7,154.00	344.09	344.01	-90.07	-1,282.99	-13,714.10	819.92	132.59	687.34	1.193 Level 2		
18,900.00	7,154.00	19,020.39	7,154.00	346.77	346.69	-90.07	-1,283.08	-13,814.10	819.96	127.25	692.71	1.184 Level 2		
19,000.00	7,154.00	19,120.39	7,154.00	349.46	349.37	-90.07	-1,283.17	-13,914.10	820.00	121.91	698.08	1.175 Level 2		
19,100.00	7,154.00	19,220.39	7,154.00	352.15	352.05	-90.07	-1,283.26	-14,014.10	820.04	116.58	703.46	1.166 Level 2		
19,200.00	7,154.00	19,320.39	7,154.00	354.83	354.73	-90.07	-1,283.35	-14,114.10	820.07	111.24	708.83	1.157 Level 2		
19,300.00	7,154.00	19,420.39	7,154.00	357.52	357.42	-90.07	-1,283.44	-14,214.10	820.11	105.90	714.21	1.148 Level 2		
19,400.00	7,154.00	19,520.39	7,154.00	360.21	360.10	-90.07	-1,283.53	-14,314.10	820.15	100.57	719.58	1.140 Level 2		
19,500.00	7,154.00	19,620.39	7,154.00	362.90	362.78	-90.07	-1,283.62	-14,414.10	820.19	95.23	724.96	1.131 Level 2		
19,600.00	7,154.00	19,720.39	7,154.00	365.58	365.46	-90.07	-1,283.71	-14,514.10	820.22	89.89	730.33	1.123 Level 2		
19,700.00	7,154.00	19,820.39	7,154.00	368.27	368.15	-90.07	-1,283.80	-14,614.10	820.26	84.55	735.71	1.115 Level 2		
19,800.00	7,154.00	19,920.39	7,154.00	370.96	370.83	-90.07	-1,283.89	-14,714.10	820.30	79.21	741.09	1.107 Level 2		
19,900.00	7,154.00	20,020.39	7,154.00	373.65	373.51	-90.07	-1,283.98	-14,814.10	820.34	73.87	746.47	1.099 Level 2		
20,000.00	7,154.00	20,120.39	7,154.00	376.34	376.20	-90.07	-1,284.07	-14,914.10	820.37	68.53	751.84	1.091 Level 2		
20,100.00	7,154.00	20,220.39	7,154.00	379.03	378.88	-90.07	-1,284.16	-15,014.10	820.41	63.19	757.22	1.083 Level 2		
20,200.00	7,154.00	20,320.39	7,154.00	381.71	381.57	-90.07	-1,284.25	-15,114.10	820.45	57.85	762.60	1.076 Level 2		
20,300.00	7,154.00	20,420.39	7,154.00	384.40	384.25	-90.07	-1,284.34	-15,214.10	820.49	52.51	767.98	1.068 Level 2		
20,400.00	7,154.00	20,520.39	7,154.00	387.09	386.93	-90.07	-1,284.43	-15,314.10	820.52	47.16	773.36	1.061 Level 2		
20,500.00	7,154.00	20,620.39	7,154.00	389.78	389.62	-90.07	-1,284.52	-15,414.10	820.56	41.82	778.74	1.054 Level 2		
20,600.00	7,154.00	20,720.39	7,154.00	392.47	392.31	-90.07	-1,284.61	-15,514.10	820.60	36.48	784.12	1.047 Level 2		

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

## Anticollision Report

<b>Company:</b>	EXTRACTION OIL & GAS	<b>Local Co-ordinate Reference:</b>	Well WARBLER 13W-27-19
<b>Project:</b>	ADAMS COUNTY	<b>TVD Reference:</b>	KB 25' @ 5106.00usft
<b>Reference Site:</b>	Sec 13-T1S-R66W	<b>MD Reference:</b>	KB 25' @ 5106.00usft
<b>Site Error:</b>	0.00 usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	WARBLER 13W-27-19	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00 usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OWB	<b>Database:</b>	EDT_32Bit_ODBC
<b>Reference Design:</b>	PROPOSAL 1	<b>Offset TVD Reference:</b>	Offset Datum

<b>Offset Design</b> Sec 13-T1S-R66W - WARBLER 24W-27-05 - OWB - PROPOSAL 1												<b>Offset Site Error:</b>	0.00 usft
Survey Program: 0-MWD OWSG												<b>Offset Well Error:</b>	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	20,820.39	7,154.00	395.16	394.99	-90.07	-1,284.70	-15,614.10	820.64	31.14	789.50	1.039 Level 2	
20,800.00	7,154.00	20,920.39	7,154.00	397.85	397.68	-90.07	-1,284.79	-15,714.10	820.67	25.79	794.88	1.032 Level 2	
20,900.00	7,154.00	21,020.39	7,154.00	400.54	400.36	-90.07	-1,284.88	-15,814.10	820.71	20.45	800.26	1.026 Level 2	
21,000.00	7,154.00	21,120.39	7,154.00	403.24	403.05	-90.07	-1,284.97	-15,914.10	820.75	15.11	805.64	1.019 Level 2	
21,100.00	7,154.00	21,220.39	7,154.00	405.93	405.74	-90.07	-1,285.06	-16,014.10	820.79	9.76	811.03	1.012 Level 2	
21,200.00	7,154.00	21,320.39	7,154.00	408.62	408.42	-90.07	-1,285.15	-16,114.10	820.82	4.42	816.41	1.005 Level 2	
21,300.00	7,154.00	21,420.39	7,154.00	411.31	411.11	-90.07	-1,285.24	-16,214.10	820.86	-0.93	821.79	0.999 Level 1	
21,400.00	7,154.00	21,520.39	7,154.00	414.00	413.80	-90.07	-1,285.33	-16,314.10	820.90	-6.27	827.17	0.992 Level 1	
21,500.00	7,154.00	21,620.39	7,154.00	416.69	416.48	-90.07	-1,285.42	-16,414.10	820.94	-11.62	832.56	0.986 Level 1	
21,505.33	7,154.00	21,625.72	7,154.00	416.83	416.63	-90.07	-1,285.42	-16,419.43	820.94	-11.91	832.84	0.986 Level 1, ES, SF	

# Anticollision Report

<b>Company:</b>	EXTRACTION OIL & GAS	<b>Local Co-ordinate Reference:</b>	Well WARBLER 13W-27-19
<b>Project:</b>	ADAMS COUNTY	<b>TVD Reference:</b>	KB 25' @ 5106.00usft
<b>Reference Site:</b>	Sec 13-T1S-R66W	<b>MD Reference:</b>	KB 25' @ 5106.00usft
<b>Site Error:</b>	0.00 usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	WARBLER 13W-27-19	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00 usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OWB	<b>Database:</b>	EDT_32Bit_ODBC
<b>Reference Design:</b>	PROPOSAL 1	<b>Offset TVD Reference:</b>	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	0.58	55.74	0.56	55.74					
100.00	100.00	100.00	100.00	0.13	0.13	0.58	55.74	0.56	55.74	55.47	0.27	207.318		
200.00	200.00	200.00	200.00	0.49	0.49	0.58	55.74	0.56	55.74	54.75	0.99	56.541		
300.00	300.00	301.50	301.48	0.85	0.85	-0.61	54.34	-0.58	54.37	52.67	1.70	32.013		
400.00	400.00	402.75	402.58	1.21	1.20	-4.53	50.18	-3.98	50.41	47.99	2.41	20.904		
500.00	499.98	503.61	503.04	1.56	1.57	90.50	43.29	-9.61	44.43	41.30	3.13	14.208		
600.00	599.84	604.07	602.73	1.91	1.96	84.13	33.71	-17.44	36.67	32.81	3.86	9.503		
700.00	699.45	704.05	701.46	2.27	2.39	74.92	21.49	-27.43	27.25	22.61	4.64	5.876		
800.00	798.70	803.48	799.02	2.65	2.83	55.36	6.70	-39.52	16.94	11.47	5.48	3.095		
889.47	887.09	891.90	885.19	3.01	3.26	5.62	-8.64	-52.06	11.26	5.24	6.03	1.869 CC, ES, SF		
900.00	897.47	902.26	895.25	3.06	3.32	-2.56	-10.58	-53.64	11.38	5.32	6.05	1.879		
1,000.00	995.62	1,000.35	989.98	3.49	3.83	-53.64	-30.27	-69.73	21.21	14.46	6.75	3.141		
1,100.00	1,093.06	1,097.66	1,083.04	3.96	4.39	-69.94	-52.27	-87.71	38.14	30.39	7.75	4.920		
1,200.00	1,189.64	1,194.14	1,174.31	4.47	4.98	-77.10	-76.49	-107.51	58.11	49.31	8.80	6.601		
1,300.00	1,285.27	1,289.75	1,263.66	5.02	5.62	-81.19	-102.82	-129.03	80.43	70.52	9.91	8.114		
1,400.00	1,379.82	1,384.43	1,350.97	5.63	6.29	-83.89	-131.16	-152.19	104.90	93.80	11.10	9.453		
1,500.00	1,473.18	1,478.14	1,436.15	6.29	7.01	-85.85	-161.39	-176.90	131.43	119.07	12.36	10.632		
1,600.00	1,566.03	1,570.87	1,519.15	6.99	7.76	-87.11	-193.42	-203.08	160.04	146.38	13.66	11.718		
1,700.00	1,658.89	1,662.52	1,599.81	7.71	8.55	-87.26	-227.10	-230.60	190.64	175.69	14.95	12.754		
1,800.00	1,751.74	1,752.91	1,677.97	8.44	9.38	-86.76	-262.25	-259.34	223.15	206.93	16.23	13.753		
1,900.00	1,844.60	1,844.24	1,755.61	9.17	10.24	-85.92	-299.49	-289.77	257.40	239.87	17.53	14.681		
2,000.00	1,937.45	1,938.01	1,835.10	9.91	11.16	-85.18	-338.00	-321.25	291.99	273.07	18.91	15.437		
2,100.00	2,030.31	2,031.78	1,914.59	10.66	12.08	-84.60	-376.52	-352.73	326.60	306.29	20.31	16.081		
2,200.00	2,123.16	2,125.56	1,994.08	11.41	13.01	-84.13	-415.04	-384.21	361.24	339.52	21.71	16.636		
2,300.00	2,216.02	2,219.33	2,073.57	12.17	13.94	-83.74	-453.55	-415.69	395.89	372.77	23.13	17.117		
2,400.00	2,308.87	2,313.10	2,153.06	12.93	14.87	-83.42	-492.07	-447.17	430.56	406.01	24.55	17.539		
2,500.00	2,401.73	2,406.87	2,232.55	13.69	15.81	-83.14	-530.58	-478.65	465.24	439.27	25.98	17.911		
2,600.00	2,494.58	2,500.64	2,312.04	14.45	16.75	-82.90	-569.10	-510.13	499.93	472.52	27.41	18.241		
2,700.00	2,587.44	2,605.58	2,391.53	15.22	17.81	-82.70	-607.62	-541.61	534.62	505.69	28.93	18.478		
2,800.00	2,680.29	2,688.19	2,471.02	15.98	18.64	-82.52	-646.13	-573.09	569.32	539.04	30.28	18.801		
2,900.00	2,773.15	2,781.96	2,550.52	16.75	19.59	-82.35	-684.65	-604.57	604.03	572.30	31.72	19.040		
3,000.00	2,866.00	2,875.73	2,630.01	17.52	20.54	-82.21	-723.16	-636.05	638.74	605.57	33.17	19.257		
3,100.00	2,958.86	2,969.51	2,709.50	18.29	21.49	-82.08	-761.68	-667.53	673.45	638.83	34.62	19.455		
3,200.00	3,051.71	3,063.28	2,788.99	19.06	22.44	-81.97	-800.20	-699.01	708.16	672.10	36.07	19.635		
3,300.00	3,144.57	3,157.05	2,868.48	19.83	23.39	-81.86	-838.71	-730.49	742.88	705.36	37.52	19.801		
3,400.00	3,237.42	3,250.82	2,947.97	20.60	24.35	-81.77	-877.23	-761.97	777.59	738.63	38.97	19.954		
3,500.00	3,330.28	3,344.59	3,027.46	21.37	25.30	-81.68	-915.74	-793.45	812.31	771.89	40.42	20.095		
3,600.00	3,423.13	3,438.37	3,106.95	22.15	26.25	-81.60	-954.26	-824.93	847.04	805.16	41.88	20.226		
3,700.00	3,515.99	3,532.14	3,186.44	22.92	27.21	-81.52	-992.77	-856.41	881.76	838.42	43.33	20.348		
3,800.00	3,608.84	3,625.91	3,265.93	23.70	28.16	-81.45	-1,031.29	-887.89	916.48	871.69	44.79	20.461		
3,900.00	3,701.70	3,719.68	3,345.42	24.47	29.12	-81.39	-1,069.81	-919.37	951.21	904.96	46.25	20.567		
4,000.00	3,794.55	3,813.46	3,424.91	25.25	30.08	-81.33	-1,108.32	-950.85	985.93	938.22	47.71	20.666		
4,100.00	3,887.41	3,907.23	3,504.40	26.02	31.03	-81.28	-1,146.84	-982.33	1,020.66	971.49	49.17	20.758		
4,200.00	3,980.26	4,001.00	3,583.90	26.80	31.99	-81.23	-1,185.35	-1,013.81	1,055.39	1,004.76	50.63	20.845		
4,300.00	4,073.12	4,105.23	3,663.39	27.57	33.06	-81.18	-1,223.87	-1,045.29	1,090.12	1,037.94	52.17	20.894		
4,400.00	4,165.97	4,188.54	3,742.88	28.35	33.91	-81.13	-1,262.39	-1,076.77	1,124.85	1,071.29	53.55	21.004		
4,500.00	4,258.83	4,282.32	3,822.37	29.12	34.86	-81.09	-1,300.90	-1,108.25	1,159.57	1,104.56	55.02	21.077		
4,600.00	4,351.68	4,376.09	3,901.86	29.90	35.82	-81.05	-1,339.42	-1,139.73	1,194.30	1,137.83	56.48	21.146		
4,700.00	4,444.54	4,469.86	3,981.35	30.68	36.78	-81.01	-1,377.93	-1,171.21	1,229.04	1,171.09	57.94	21.212		
4,800.00	4,537.39	4,563.63	4,060.84	31.45	37.74	-80.98	-1,416.45	-1,202.69	1,263.77	1,204.36	59.41	21.273		
4,900.00	4,630.25	4,657.41	4,140.33	32.23	38.70	-80.94	-1,454.96	-1,234.17	1,298.50	1,237.63	60.87	21.332		
5,000.00	4,723.10	4,751.18	4,219.82	33.01	39.66	-80.91	-1,493.48	-1,265.65	1,333.23	1,270.89	62.34	21.388		

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

# Anticollision Report

<b>Company:</b>	EXTRACTION OIL & GAS	<b>Local Co-ordinate Reference:</b>	Well WARBLER 13W-27-19
<b>Project:</b>	ADAMS COUNTY	<b>TVD Reference:</b>	KB 25' @ 5106.00usft
<b>Reference Site:</b>	Sec 13-T1S-R66W	<b>MD Reference:</b>	KB 25' @ 5106.00usft
<b>Site Error:</b>	0.00 usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	WARBLER 13W-27-19	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00 usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OWB	<b>Database:</b>	EDT_32Bit_ODBC
<b>Reference Design:</b>	PROPOSAL 1	<b>Offset TVD Reference:</b>	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	4,815.96	4,844.95	4,299.31	33.79	40.62	-80.88	-1,532.00	-1,297.13	1,367.96	1,304.16	63.80	21.441		
5,200.00	4,908.81	4,938.72	4,378.80	34.56	41.58	-80.85	-1,570.51	-1,328.61	1,402.69	1,337.43	65.27	21.492		
5,300.00	5,001.67	5,032.49	4,458.29	35.34	42.54	-80.82	-1,609.03	-1,360.09	1,437.43	1,370.69	66.73	21.540		
5,400.00	5,094.52	5,126.27	4,537.78	36.12	43.50	-80.80	-1,647.54	-1,391.57	1,472.16	1,403.96	68.20	21.587		
5,500.00	5,187.38	5,220.04	4,617.27	36.90	44.46	-80.77	-1,686.06	-1,423.05	1,506.89	1,437.23	69.66	21.631		
5,600.00	5,280.23	5,313.81	4,696.77	37.67	45.42	-80.75	-1,724.58	-1,454.53	1,541.63	1,470.49	71.13	21.673		
5,700.00	5,373.09	5,407.58	4,776.26	38.45	46.38	-80.73	-1,763.09	-1,486.01	1,576.36	1,503.76	72.60	21.713		
5,800.00	5,465.94	5,501.36	4,855.75	39.23	47.34	-80.70	-1,801.61	-1,517.49	1,611.09	1,537.03	74.07	21.752		
5,900.00	5,558.80	5,604.87	4,935.24	40.01	48.40	-80.68	-1,840.12	-1,548.97	1,645.83	1,570.22	75.61	21.767		
6,000.00	5,651.65	5,688.90	5,014.73	40.79	49.26	-80.66	-1,878.64	-1,580.45	1,680.56	1,603.56	77.00	21.825		
6,100.00	5,744.51	5,782.67	5,094.22	41.57	50.22	-80.64	-1,917.16	-1,611.93	1,715.30	1,636.83	78.47	21.859		
6,200.00	5,837.36	5,876.44	5,173.71	42.34	51.18	-80.63	-1,955.67	-1,643.41	1,750.03	1,670.09	79.94	21.892		
6,300.00	5,930.22	5,970.22	5,253.20	43.12	52.14	-80.61	-1,994.19	-1,674.89	1,784.77	1,703.36	81.41	21.924		
6,400.00	6,023.07	6,063.99	5,332.69	43.90	53.10	-80.59	-2,032.70	-1,706.37	1,819.50	1,736.63	82.88	21.955		
6,500.00	6,115.93	6,157.76	5,412.18	44.68	54.06	-80.58	-2,071.22	-1,737.85	1,854.24	1,769.89	84.34	21.984		
6,600.00	6,208.78	6,251.53	5,491.67	45.46	55.02	-80.56	-2,109.73	-1,769.33	1,888.97	1,803.16	85.81	22.013		
6,700.00	6,301.64	6,345.31	5,571.16	46.24	55.98	-80.54	-2,148.25	-1,800.81	1,923.71	1,836.42	87.28	22.040		
6,800.00	6,394.49	6,439.08	5,650.65	47.02	56.94	-80.53	-2,186.77	-1,832.29	1,958.44	1,869.69	88.75	22.066		
6,900.00	6,487.35	6,532.85	5,730.15	47.80	57.90	-80.52	-2,225.28	-1,863.77	1,993.18	1,902.96	90.22	22.092		
7,000.00	6,580.20	6,626.62	5,809.64	48.57	58.87	-80.50	-2,263.80	-1,895.25	2,027.91	1,936.22	91.69	22.117		
7,100.00	6,673.06	6,720.40	5,889.13	49.35	59.83	-80.49	-2,302.31	-1,926.72	2,062.65	1,969.49	93.16	22.140		
7,200.00	6,765.91	6,814.17	5,968.62	50.13	60.79	-80.48	-2,340.83	-1,958.20	2,097.38	2,002.75	94.63	22.164		
7,300.00	6,858.76	6,907.72	6,047.93	50.99	61.75	-80.57	-2,379.26	-1,989.61	2,132.20	2,035.95	96.25	22.153		
7,400.00	6,939.78	7,000.91	6,125.38	52.14	62.70	-79.44	-2,416.78	-2,020.28	2,166.88	2,068.49	98.40	22.022		
7,500.00	7,011.80	7,085.49	6,198.62	53.58	63.57	-77.90	-2,452.27	-2,049.29	2,200.88	2,099.89	101.00	21.792		
7,600.00	7,070.78	7,164.30	6,265.43	55.27	64.38	-76.28	-2,484.64	-2,075.75	2,233.93	2,129.94	104.00	21.480		
7,700.00	7,114.93	7,233.13	6,323.78	57.16	65.08	-74.61	-2,512.92	-2,098.85	2,266.01	2,158.74	107.27	21.124		
7,800.00	7,142.90	7,289.89	6,371.89	59.19	65.67	-72.83	-2,536.23	-2,117.91	2,297.17	2,186.51	110.66	20.759		
7,900.00	7,153.85	7,332.85	6,408.30	61.28	66.11	-70.82	-2,553.87	-2,132.33	2,327.46	2,213.46	114.01	20.415		
8,000.00	7,154.00	7,366.57	6,436.89	63.38	66.45	-71.23	-2,567.72	-2,143.65	2,358.48	2,241.27	117.21	20.122		
8,100.00	7,154.00	7,400.16	6,465.37	65.52	66.80	-72.04	-2,581.52	-2,154.93	2,392.76	2,272.47	120.29	19.891		
8,200.00	7,154.00	7,433.75	6,493.84	67.71	67.14	-72.84	-2,595.32	-2,166.20	2,430.21	2,306.95	123.26	19.717		
8,300.00	7,154.00	8,906.28	7,154.00	69.93	87.00	-90.00	-2,915.77	-3,213.02	2,458.20	2,318.82	139.38	17.636		
8,400.00	7,154.00	9,006.28	7,154.00	72.19	88.67	-90.00	-2,915.84	-3,313.02	2,458.22	2,314.41	143.82	17.093		
8,500.00	7,154.00	9,106.28	7,154.00	74.47	90.38	-90.00	-2,915.91	-3,413.02	2,458.24	2,309.93	148.31	16.575		
8,600.00	7,154.00	9,206.28	7,154.00	76.79	92.14	-90.00	-2,915.99	-3,513.02	2,458.27	2,305.40	152.87	16.081		
8,700.00	7,154.00	9,306.28	7,154.00	79.12	93.95	-90.00	-2,916.06	-3,613.02	2,458.29	2,300.81	157.48	15.610		
8,800.00	7,154.00	9,406.28	7,154.00	81.48	95.79	-90.00	-2,916.14	-3,713.02	2,458.31	2,296.17	162.14	15.162		
8,900.00	7,154.00	9,506.28	7,154.00	83.87	97.68	-90.00	-2,916.21	-3,813.02	2,458.33	2,291.48	166.85	14.734		
9,000.00	7,154.00	9,606.28	7,154.00	86.27	99.60	-90.00	-2,916.28	-3,913.02	2,458.35	2,286.76	171.59	14.327		
9,100.00	7,154.00	9,706.28	7,154.00	88.68	101.56	-90.00	-2,916.36	-4,013.02	2,458.37	2,282.00	176.38	13.938		
9,200.00	7,154.00	9,806.28	7,154.00	91.12	103.55	-90.00	-2,916.43	-4,113.02	2,458.39	2,277.20	181.19	13.568		
9,300.00	7,154.00	9,893.72	7,154.00	93.57	105.32	-90.00	-2,916.50	-4,213.02	2,458.42	2,272.67	185.74	13.236		
9,400.00	7,154.00	10,006.28	7,154.00	96.03	107.63	-90.00	-2,916.58	-4,313.02	2,458.44	2,267.51	190.93	12.876		
9,500.00	7,154.00	10,106.28	7,154.00	98.50	109.72	-90.00	-2,916.65	-4,413.02	2,458.46	2,262.62	195.83	12.554		
9,600.00	7,154.00	10,193.72	7,154.00	100.99	111.56	-90.00	-2,916.73	-4,513.02	2,458.48	2,258.02	200.46	12.264		
9,700.00	7,154.00	10,306.28	7,154.00	103.49	113.97	-90.00	-2,916.80	-4,613.02	2,458.50	2,252.77	205.73	11.950		
9,800.00	7,154.00	10,406.28	7,154.00	106.00	116.13	-90.00	-2,916.87	-4,713.02	2,458.52	2,247.82	210.71	11.668		
9,900.00	7,154.00	10,506.28	7,154.00	108.51	118.32	-90.00	-2,916.95	-4,813.02	2,458.54	2,242.84	215.71	11.398		
10,000.00	7,154.00	10,606.28	7,154.00	111.04	120.53	-90.00	-2,917.02	-4,913.02	2,458.56	2,237.84	220.73	11.138		
10,100.00	7,154.00	10,706.28	7,154.00	113.58	122.76	-90.00	-2,917.09	-5,013.02	2,458.59	2,232.82	225.76	10.890		
10,200.00	7,154.00	10,806.28	7,154.00	116.12	125.01	-90.00	-2,917.17	-5,113.02	2,458.61	2,227.79	230.82	10.652		

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

# Anticollision Report

<b>Company:</b>	EXTRACTION OIL & GAS	<b>Local Co-ordinate Reference:</b>	Well Warbler 13W-27-19
<b>Project:</b>	ADAMS COUNTY	<b>TVD Reference:</b>	KB 25' @ 5106.00usft
<b>Reference Site:</b>	Sec 13-T1S-R66W	<b>MD Reference:</b>	KB 25' @ 5106.00usft
<b>Site Error:</b>	0.00 usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Warbler 13W-27-19	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00 usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OWB	<b>Database:</b>	EDT_32Bit_ODBC
<b>Reference Design:</b>	PROPOSAL 1	<b>Offset TVD Reference:</b>	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	10,906.28	7,154.00	118.67	127.28	-90.00	-2,917.24	-5,213.02	2,458.63	2,222.74	235.89	10.423		
10,400.00	7,154.00	11,006.28	7,154.00	121.22	129.57	-90.00	-2,917.32	-5,313.02	2,458.65	2,217.68	240.97	10.203		
10,500.00	7,154.00	11,106.28	7,154.00	123.79	131.87	-90.00	-2,917.39	-5,413.02	2,458.67	2,212.60	246.07	9.992		
10,600.00	7,154.00	11,206.28	7,154.00	126.35	134.19	-90.00	-2,917.46	-5,513.02	2,458.69	2,207.51	251.18	9.788		
10,700.00	7,154.00	11,306.28	7,154.00	128.93	136.53	-90.00	-2,917.54	-5,613.02	2,458.71	2,202.41	256.31	9.593		
10,800.00	7,154.00	11,406.28	7,154.00	131.51	138.88	-90.00	-2,917.61	-5,713.02	2,458.74	2,197.29	261.44	9.405		
10,900.00	7,154.00	11,493.72	7,154.00	134.09	140.95	-90.00	-2,917.68	-5,813.02	2,458.76	2,192.49	266.26	9.234		
11,000.00	7,154.00	11,606.28	7,154.00	136.68	143.62	-90.00	-2,917.76	-5,913.02	2,458.78	2,187.04	271.74	9.048		
11,100.00	7,154.00	11,706.28	7,154.00	139.27	146.01	-90.00	-2,917.83	-6,013.02	2,458.80	2,181.89	276.91	8.880		
11,200.00	7,154.00	11,806.28	7,154.00	141.87	148.41	-90.00	-2,917.91	-6,113.02	2,458.82	2,176.74	282.08	8.717		
11,300.00	7,154.00	11,906.28	7,154.00	144.47	150.82	-90.00	-2,917.98	-6,213.02	2,458.84	2,171.58	287.26	8.560		
11,400.00	7,154.00	11,993.72	7,154.00	147.08	152.94	-90.00	-2,918.05	-6,313.02	2,458.86	2,166.73	292.13	8.417		
11,500.00	7,154.00	12,106.28	7,154.00	149.68	155.68	-90.00	-2,918.13	-6,413.02	2,458.89	2,161.23	297.65	8.261		
11,600.00	7,154.00	12,206.28	7,154.00	152.30	158.12	-90.00	-2,918.20	-6,513.02	2,458.91	2,156.05	302.86	8.119		
11,700.00	7,154.00	12,306.28	7,154.00	154.91	160.57	-90.00	-2,918.27	-6,613.02	2,458.93	2,150.86	308.07	7.982		
11,800.00	7,154.00	12,406.28	7,154.00	157.53	163.03	-90.00	-2,918.35	-6,713.02	2,458.95	2,145.66	313.29	7.849		
11,900.00	7,154.00	12,506.28	7,154.00	160.15	165.50	-90.00	-2,918.42	-6,813.02	2,458.97	2,140.45	318.52	7.720		
12,000.00	7,154.00	12,606.28	7,154.00	162.77	167.98	-90.00	-2,918.50	-6,913.02	2,458.99	2,135.24	323.75	7.595		
12,100.00	7,154.00	12,706.28	7,154.00	165.40	170.46	-90.00	-2,918.57	-7,013.02	2,459.01	2,130.03	328.99	7.475		
12,200.00	7,154.00	12,806.28	7,154.00	168.03	172.95	-90.00	-2,918.64	-7,113.02	2,459.04	2,124.81	334.23	7.357		
12,300.00	7,154.00	12,906.28	7,154.00	170.66	175.45	-90.00	-2,918.72	-7,213.02	2,459.06	2,119.58	339.48	7.244		
12,400.00	7,154.00	13,006.28	7,154.00	173.29	177.95	-90.00	-2,918.79	-7,313.02	2,459.08	2,114.35	344.73	7.133		
12,500.00	7,154.00	13,093.72	7,154.00	175.93	180.15	-90.00	-2,918.86	-7,413.02	2,459.10	2,109.44	349.66	7.033		
12,600.00	7,154.00	13,206.28	7,154.00	178.56	182.98	-90.00	-2,918.94	-7,513.02	2,459.12	2,103.87	355.25	6.922		
12,700.00	7,154.00	13,306.28	7,154.00	181.20	185.50	-90.00	-2,919.01	-7,613.02	2,459.14	2,098.63	360.51	6.821		
12,800.00	7,154.00	13,406.28	7,154.00	183.84	188.03	-90.00	-2,919.09	-7,713.02	2,459.16	2,093.38	365.78	6.723		
12,900.00	7,154.00	13,506.28	7,154.00	186.49	190.56	-90.00	-2,919.16	-7,813.02	2,459.18	2,088.13	371.06	6.627		
13,000.00	7,154.00	13,606.28	7,154.00	189.13	193.10	-90.00	-2,919.23	-7,913.02	2,459.21	2,082.87	376.34	6.535		
13,100.00	7,154.00	13,706.28	7,154.00	191.78	195.64	-90.00	-2,919.31	-8,013.02	2,459.23	2,077.61	381.62	6.444		
13,200.00	7,154.00	13,806.28	7,154.00	194.43	198.19	-90.00	-2,919.38	-8,113.02	2,459.25	2,072.35	386.90	6.356		
13,300.00	7,154.00	13,906.28	7,154.00	197.07	200.74	-90.00	-2,919.46	-8,213.02	2,459.27	2,067.08	392.19	6.271		
13,400.00	7,154.00	14,006.28	7,154.00	199.73	203.29	-90.00	-2,919.53	-8,313.02	2,459.29	2,061.81	397.48	6.187		
13,500.00	7,154.00	14,093.72	7,154.00	202.38	205.53	-90.00	-2,919.60	-8,413.02	2,459.31	2,056.87	402.45	6.111		
13,600.00	7,154.00	14,206.28	7,154.00	205.03	208.42	-90.00	-2,919.68	-8,513.02	2,459.33	2,051.26	408.07	6.027		
13,700.00	7,154.00	14,306.28	7,154.00	207.69	210.98	-90.00	-2,919.75	-8,613.02	2,459.36	2,045.98	413.37	5.949		
13,800.00	7,154.00	14,406.28	7,154.00	210.34	213.56	-90.00	-2,919.82	-8,713.02	2,459.38	2,040.70	418.68	5.874		
13,900.00	7,154.00	14,506.28	7,154.00	213.00	216.13	-90.00	-2,919.90	-8,813.02	2,459.40	2,035.42	423.98	5.801		
14,000.00	7,154.00	14,606.28	7,154.00	215.66	218.71	-90.00	-2,919.97	-8,913.02	2,459.42	2,030.13	429.29	5.729		
14,100.00	7,154.00	14,693.72	7,154.00	218.32	220.96	-90.00	-2,920.05	-9,013.02	2,459.44	2,025.17	434.27	5.663		
14,200.00	7,154.00	14,806.28	7,154.00	220.98	223.87	-90.00	-2,920.12	-9,113.02	2,459.46	2,019.55	439.91	5.591		
14,300.00	7,154.00	14,906.28	7,154.00	223.64	226.46	-90.00	-2,920.19	-9,213.02	2,459.48	2,014.25	445.23	5.524		
14,400.00	7,154.00	15,006.28	7,154.00	226.30	229.05	-90.00	-2,920.27	-9,313.02	2,459.51	2,008.96	450.55	5.459		
14,500.00	7,154.00	15,106.28	7,154.00	228.97	231.64	-90.00	-2,920.34	-9,413.02	2,459.53	2,003.66	455.87	5.395		
14,600.00	7,154.00	15,206.28	7,154.00	231.63	234.24	-90.00	-2,920.41	-9,513.02	2,459.55	1,998.36	461.19	5.333		
14,700.00	7,154.00	15,306.28	7,154.00	234.29	236.84	-90.00	-2,920.49	-9,613.02	2,459.57	1,993.06	466.51	5.272		
14,800.00	7,154.00	15,406.28	7,154.00	236.96	239.44	-90.00	-2,920.56	-9,713.02	2,459.59	1,987.75	471.84	5.213		
14,900.00	7,154.00	15,506.28	7,154.00	239.63	242.04	-90.00	-2,920.64	-9,813.02	2,459.61	1,982.45	477.16	5.155		
15,000.00	7,154.00	15,606.28	7,154.00	242.30	244.64	-90.00	-2,920.71	-9,913.02	2,459.63	1,977.14	482.49	5.098		
15,100.00	7,154.00	15,706.28	7,154.00	244.96	247.25	-90.00	-2,920.78	-10,013.02	2,459.65	1,971.83	487.82	5.042		
15,200.00	7,154.00	15,793.72	7,154.00	247.63	249.53	-90.00	-2,920.86	-10,113.02	2,459.68	1,966.85	492.82	4.991		
15,300.00	7,154.00	15,906.28	7,154.00	250.30	252.47	-90.00	-2,920.93	-10,213.02	2,459.70	1,961.21	498.49	4.934		
15,400.00	7,154.00	16,006.28	7,154.00	252.98	255.09	-90.00	-2,921.00	-10,313.02	2,459.72	1,955.89	503.83	4.882		

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

# Anticollision Report

<b>Company:</b>	EXTRACTION OIL & GAS	<b>Local Co-ordinate Reference:</b>	Well WARBLER 13W-27-19
<b>Project:</b>	ADAMS COUNTY	<b>TVD Reference:</b>	KB 25' @ 5106.00usft
<b>Reference Site:</b>	Sec 13-T1S-R66W	<b>MD Reference:</b>	KB 25' @ 5106.00usft
<b>Site Error:</b>	0.00 usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	WARBLER 13W-27-19	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00 usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OWB	<b>Database:</b>	EDT_32Bit_ODBC
<b>Reference Design:</b>	PROPOSAL 1	<b>Offset TVD Reference:</b>	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	16,106.28	7,154.00	255.65	257.70	-90.00	-2,921.08	-10,413.02	2,459.74	1,950.58	509.16	4.831		
15,600.00	7,154.00	16,206.28	7,154.00	258.32	260.32	-90.00	-2,921.15	-10,513.02	2,459.76	1,945.26	514.50	4.781		
15,700.00	7,154.00	16,293.72	7,154.00	260.99	262.61	-90.00	-2,921.23	-10,613.02	2,459.78	1,940.28	519.51	4.735		
15,800.00	7,154.00	16,406.28	7,154.00	263.67	265.56	-90.00	-2,921.30	-10,713.02	2,459.80	1,934.62	525.18	4.684		
15,900.00	7,154.00	16,506.28	7,154.00	266.34	268.18	-90.00	-2,921.37	-10,813.02	2,459.83	1,929.30	530.52	4.637		
16,000.00	7,154.00	16,606.28	7,154.00	269.01	270.81	-90.00	-2,921.45	-10,913.02	2,459.85	1,923.98	535.87	4.590		
16,100.00	7,154.00	16,706.28	7,154.00	271.69	273.44	-90.00	-2,921.52	-11,013.02	2,459.87	1,918.66	541.21	4.545		
16,200.00	7,154.00	16,806.28	7,154.00	274.36	276.06	-90.00	-2,921.59	-11,113.02	2,459.89	1,913.33	546.56	4.501		
16,300.00	7,154.00	16,906.28	7,154.00	277.04	278.69	-90.00	-2,921.67	-11,213.02	2,459.91	1,908.00	551.91	4.457		
16,400.00	7,154.00	17,006.28	7,154.00	279.72	281.32	-90.00	-2,921.74	-11,313.02	2,459.93	1,902.68	557.25	4.414		
16,500.00	7,154.00	17,106.28	7,154.00	282.40	283.96	-90.00	-2,921.82	-11,413.02	2,459.95	1,897.35	562.60	4.372		
16,600.00	7,154.00	17,206.28	7,154.00	285.07	286.59	-90.00	-2,921.89	-11,513.02	2,459.98	1,892.02	567.96	4.331		
16,700.00	7,154.00	17,306.28	7,154.00	287.75	289.22	-90.00	-2,921.96	-11,613.02	2,460.00	1,886.69	573.31	4.291		
16,800.00	7,154.00	17,406.28	7,154.00	290.43	291.86	-90.00	-2,922.04	-11,713.02	2,460.02	1,881.36	578.66	4.251		
16,900.00	7,154.00	17,506.28	7,154.00	293.11	294.50	-90.00	-2,922.11	-11,813.02	2,460.04	1,876.03	584.01	4.212		
17,000.00	7,154.00	17,606.28	7,154.00	295.79	297.14	-90.00	-2,922.18	-11,913.02	2,460.06	1,870.69	589.37	4.174		
17,100.00	7,154.00	17,706.28	7,154.00	298.47	299.78	-90.00	-2,922.26	-12,013.02	2,460.08	1,865.36	594.72	4.137		
17,200.00	7,154.00	17,806.28	7,154.00	301.15	302.42	-90.00	-2,922.33	-12,113.02	2,460.10	1,860.02	600.08	4.100		
17,300.00	7,154.00	17,906.28	7,154.00	303.83	305.06	-90.00	-2,922.41	-12,213.02	2,460.13	1,854.69	605.44	4.063		
17,400.00	7,154.00	18,006.28	7,154.00	306.51	307.71	-90.00	-2,922.48	-12,313.02	2,460.15	1,849.35	610.80	4.028		
17,500.00	7,154.00	18,106.28	7,154.00	309.19	310.35	-90.00	-2,922.55	-12,413.02	2,460.17	1,844.01	616.16	3.993		
17,600.00	7,154.00	18,206.28	7,154.00	311.88	313.00	-90.00	-2,922.63	-12,513.02	2,460.19	1,838.67	621.52	3.958		
17,700.00	7,154.00	18,306.28	7,154.00	314.56	315.64	-90.00	-2,922.70	-12,613.02	2,460.21	1,833.33	626.88	3.925		
17,800.00	7,154.00	18,406.28	7,154.00	317.24	318.29	-90.00	-2,922.78	-12,713.02	2,460.23	1,827.99	632.24	3.891		
17,900.00	7,154.00	18,506.28	7,154.00	319.92	320.94	-90.00	-2,922.85	-12,813.02	2,460.25	1,822.65	637.60	3.859		
18,000.00	7,154.00	18,606.28	7,154.00	322.61	323.59	-90.00	-2,922.92	-12,913.02	2,460.27	1,817.31	642.96	3.826		
18,100.00	7,154.00	18,706.28	7,154.00	325.29	326.24	-90.00	-2,923.00	-13,013.02	2,460.30	1,811.97	648.33	3.795		
18,200.00	7,154.00	18,806.28	7,154.00	327.98	328.89	-90.00	-2,923.07	-13,113.02	2,460.32	1,806.63	653.69	3.764		
18,300.00	7,154.00	18,906.28	7,154.00	330.66	331.54	-90.00	-2,923.14	-13,213.02	2,460.34	1,801.28	659.06	3.733		
18,400.00	7,154.00	19,006.28	7,154.00	333.34	334.20	-90.00	-2,923.22	-13,313.02	2,460.36	1,795.94	664.42	3.703		
18,500.00	7,154.00	19,093.72	7,154.00	336.03	336.52	-90.00	-2,923.29	-13,413.02	2,460.38	1,790.93	669.45	3.675		
18,600.00	7,154.00	19,206.28	7,154.00	338.71	339.51	-90.00	-2,923.37	-13,513.02	2,460.40	1,785.25	675.16	3.644		
18,700.00	7,154.00	19,306.28	7,154.00	341.40	342.16	-90.00	-2,923.44	-13,613.02	2,460.42	1,779.90	680.52	3.615		
18,800.00	7,154.00	19,406.28	7,154.00	344.09	344.82	-90.00	-2,923.51	-13,713.02	2,460.45	1,774.55	685.89	3.587		
18,900.00	7,154.00	19,506.28	7,154.00	346.77	347.48	-90.00	-2,923.59	-13,813.02	2,460.47	1,769.20	691.26	3.559		
19,000.00	7,154.00	19,606.28	7,154.00	349.46	350.13	-90.00	-2,923.66	-13,913.02	2,460.49	1,763.86	696.63	3.532		
19,100.00	7,154.00	19,706.28	7,154.00	352.15	352.79	-90.00	-2,923.73	-14,013.02	2,460.51	1,758.51	702.00	3.505		
19,200.00	7,154.00	19,806.28	7,154.00	354.83	355.45	-90.00	-2,923.81	-14,113.02	2,460.53	1,753.16	707.37	3.478		
19,300.00	7,154.00	19,906.28	7,154.00	357.52	358.11	-90.00	-2,923.88	-14,213.02	2,460.55	1,747.81	712.74	3.452		
19,400.00	7,154.00	19,993.72	7,154.00	360.21	360.44	-90.00	-2,923.96	-14,313.02	2,460.57	1,742.80	717.78	3.428		
19,500.00	7,154.00	20,093.72	7,154.00	362.90	363.10	-90.00	-2,924.03	-14,413.02	2,460.60	1,737.44	723.15	3.403		
19,600.00	7,154.00	20,193.72	7,154.00	365.58	365.76	-90.00	-2,924.10	-14,513.02	2,460.62	1,732.09	728.52	3.378		
19,700.00	7,154.00	20,306.28	7,154.00	368.27	368.76	-90.00	-2,924.18	-14,613.02	2,460.64	1,726.40	734.23	3.351		
19,800.00	7,154.00	20,406.28	7,154.00	370.96	371.42	-90.00	-2,924.25	-14,713.02	2,460.66	1,721.05	739.61	3.327		
19,900.00	7,154.00	20,506.28	7,154.00	373.65	374.09	-90.00	-2,924.32	-14,813.02	2,460.68	1,715.70	744.98	3.303		
20,000.00	7,154.00	20,606.28	7,154.00	376.34	376.75	-90.00	-2,924.40	-14,913.02	2,460.70	1,710.34	750.36	3.279		
20,100.00	7,154.00	20,706.28	7,154.00	379.03	379.42	-90.00	-2,924.47	-15,013.02	2,460.72	1,704.99	755.73	3.256		
20,200.00	7,154.00	20,806.28	7,154.00	381.71	382.08	-90.00	-2,924.55	-15,113.02	2,460.74	1,699.64	761.11	3.233		
20,300.00	7,154.00	20,906.28	7,154.00	384.40	384.75	-90.00	-2,924.62	-15,213.02	2,460.77	1,694.28	766.48	3.210		
20,400.00	7,154.00	21,006.28	7,154.00	387.09	387.41	-90.00	-2,924.69	-15,313.02	2,460.79	1,688.93	771.86	3.188		
20,500.00	7,154.00	21,106.28	7,154.00	389.78	390.08	-90.00	-2,924.77	-15,413.02	2,460.81	1,683.57	777.24	3.166		
20,600.00	7,154.00	21,206.28	7,154.00	392.47	392.75	-90.00	-2,924.84	-15,513.02	2,460.83	1,678.22	782.61	3.144		

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

## Anticollision Report

<b>Company:</b>	EXTRACTION OIL & GAS	<b>Local Co-ordinate Reference:</b>	Well WARBLER 13W-27-19
<b>Project:</b>	ADAMS COUNTY	<b>TVD Reference:</b>	KB 25' @ 5106.00usft
<b>Reference Site:</b>	Sec 13-T1S-R66W	<b>MD Reference:</b>	KB 25' @ 5106.00usft
<b>Site Error:</b>	0.00 usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	WARBLER 13W-27-19	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00 usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OWB	<b>Database:</b>	EDT_32Bit_ODBC
<b>Reference Design:</b>	PROPOSAL 1	<b>Offset TVD Reference:</b>	Offset Datum

<b>Offset Design</b> Sec 13-T1S-R66W - WARBLER 24W-27-06 - OWB - PROPOSAL 1												<b>Offset Site Error:</b>	0.00 usft
Survey Program: 0-MWD OWSG												<b>Offset Well Error:</b>	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	21,293.72	7,154.00	395.16	395.08	-90.00	-2,924.91	-15,613.02	2,460.85	1,673.20	787.66	3.124	
20,800.00	7,154.00	21,406.28	7,154.00	397.85	398.09	-90.00	-2,924.99	-15,713.02	2,460.87	1,667.50	793.37	3.102	
20,900.00	7,154.00	21,506.28	7,154.00	400.54	400.76	-90.00	-2,925.06	-15,813.02	2,460.89	1,662.15	798.75	3.081	
21,000.00	7,154.00	21,606.28	7,154.00	403.24	403.43	-90.00	-2,925.14	-15,913.02	2,460.92	1,656.79	804.13	3.060	
21,100.00	7,154.00	21,706.28	7,154.00	405.93	406.10	-90.00	-2,925.21	-16,013.02	2,460.94	1,651.43	809.51	3.040	
21,200.00	7,154.00	21,793.72	7,154.00	408.62	408.43	-90.00	-2,925.28	-16,113.02	2,460.96	1,646.41	814.55	3.021	
21,300.00	7,154.00	21,906.28	7,154.00	411.31	411.44	-90.00	-2,925.36	-16,213.02	2,460.98	1,640.71	820.27	3.000	
21,400.00	7,154.00	21,993.72	7,154.00	414.00	413.77	-90.00	-2,925.43	-16,313.02	2,461.00	1,635.69	825.31	2.982	
21,500.00	7,154.00	22,093.72	7,154.00	416.69	416.45	-90.00	-2,925.50	-16,413.02	2,461.02	1,630.33	830.69	2.963	
21,505.33	7,154.00	22,099.05	7,154.00	416.83	416.59	-90.00	-2,925.51	-16,418.35	2,461.02	1,630.05	830.98	2.962	



# Anticollision Report

<b>Company:</b>	EXTRACTION OIL & GAS	<b>Local Co-ordinate Reference:</b>	Well Warbler 13W-27-19
<b>Project:</b>	ADAMS COUNTY	<b>TVD Reference:</b>	KB 25' @ 5106.00usft
<b>Reference Site:</b>	Sec 13-T1S-R66W	<b>MD Reference:</b>	KB 25' @ 5106.00usft
<b>Site Error:</b>	0.00 usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Warbler 13W-27-19	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00 usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OWB	<b>Database:</b>	EDT_32Bit_ODBC
<b>Reference Design:</b>	PROPOSAL 1	<b>Offset TVD Reference:</b>	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	65.58	68.48	150.81	165.63					
100.00	100.00	103.00	103.00	0.13	0.15	65.58	68.48	150.81	165.63	165.35	0.28	592.375		
200.00	200.00	203.18	203.18	0.49	0.50	65.58	68.48	150.81	165.63	164.63	1.00	166.155		
300.00	300.00	309.02	309.00	0.85	0.87	65.77	67.15	149.22	163.75	162.02	1.73	94.800		
400.00	400.00	414.57	414.37	1.21	1.25	66.36	63.32	144.66	158.32	155.86	2.46	64.423		
500.00	499.98	519.70	519.04	1.56	1.64	168.22	57.04	137.15	151.10	147.92	3.18	47.543		
600.00	599.84	624.43	622.88	1.91	2.05	170.32	48.33	126.75	143.93	140.04	3.89	36.957		
700.00	699.45	728.71	725.72	2.27	2.50	173.42	37.24	113.52	137.03	132.41	4.62	29.635		
800.00	798.70	832.49	827.37	2.65	2.98	177.61	23.83	97.50	130.77	125.39	5.38	24.327		
900.00	897.47	935.73	927.67	3.06	3.50	-177.02	8.15	78.79	125.61	119.45	6.17	20.367		
1,000.00	995.62	1,038.37	1,026.45	3.49	4.06	-170.51	-9.73	57.44	122.19	115.17	7.02	17.404		
1,085.59	1,079.07	1,125.72	1,109.69	3.89	4.57	-164.14	-26.73	37.15	121.16	113.32	7.85	15.443 CC		
1,100.00	1,093.06	1,140.38	1,123.58	3.96	4.66	-163.01	-29.74	33.55	121.20	113.20	7.99	15.163 ES		
1,200.00	1,189.64	1,241.71	1,218.91	4.47	5.31	-154.91	-51.80	7.21	123.27	114.16	9.11	13.538		
1,300.00	1,285.27	1,342.35	1,312.32	5.02	6.02	-146.69	-75.84	-21.49	128.87	118.49	10.38	12.420		
1,400.00	1,379.82	1,442.25	1,403.68	5.63	6.77	-138.86	-101.77	-52.45	138.19	126.40	11.79	11.717		
1,500.00	1,473.18	1,541.30	1,492.83	6.29	7.56	-131.79	-129.48	-85.53	151.12	137.80	13.33	11.341		
1,600.00	1,566.03	1,638.80	1,579.95	6.99	8.38	-125.99	-157.59	-119.09	166.47	151.56	14.90	11.169		
1,700.00	1,658.89	1,736.30	1,667.07	7.71	9.20	-121.18	-185.71	-152.66	183.22	166.74	16.49	11.112		
1,800.00	1,751.74	1,833.80	1,754.18	8.44	10.04	-117.19	-213.82	-186.22	201.05	182.98	18.07	11.127		
1,900.00	1,844.60	1,931.30	1,841.30	9.17	10.88	-113.85	-241.93	-219.78	219.67	200.03	19.64	11.184		
2,000.00	1,937.45	2,028.80	1,928.42	9.91	11.73	-111.04	-270.04	-253.34	238.91	217.70	21.21	11.266		
2,100.00	2,030.31	2,126.30	2,015.54	10.66	12.58	-108.64	-298.16	-286.91	258.63	235.87	22.76	11.362		
2,200.00	2,123.16	2,223.80	2,102.65	11.41	13.43	-106.58	-326.27	-320.47	278.72	254.41	24.31	11.464		
2,300.00	2,216.02	2,321.30	2,189.77	12.17	14.29	-104.80	-354.38	-354.03	299.12	273.26	25.86	11.568		
2,400.00	2,308.87	2,418.80	2,276.89	12.93	15.15	-103.25	-382.49	-387.60	319.76	292.36	27.40	11.670		
2,500.00	2,401.73	2,516.30	2,364.01	13.69	16.01	-101.88	-410.61	-421.16	340.60	311.66	28.94	11.771		
2,600.00	2,494.58	2,613.80	2,451.12	14.45	16.87	-100.68	-438.72	-454.72	361.60	331.13	30.47	11.868		
2,700.00	2,587.44	2,711.30	2,538.24	15.22	17.73	-99.60	-466.83	-488.28	382.75	350.74	32.00	11.960		
2,800.00	2,680.29	2,808.80	2,625.36	15.98	18.60	-98.64	-494.94	-521.85	404.00	370.47	33.53	12.049		
2,900.00	2,773.15	2,906.30	2,712.47	16.75	19.46	-97.77	-523.06	-555.41	425.36	390.30	35.06	12.133		
3,000.00	2,866.00	3,003.80	2,799.59	17.52	20.33	-96.99	-551.17	-588.97	446.80	410.22	36.58	12.213		
3,100.00	2,958.86	3,101.29	2,886.71	18.29	21.20	-96.27	-579.28	-622.54	468.31	430.21	38.11	12.289		
3,200.00	3,051.71	3,198.79	2,973.83	19.06	22.06	-95.62	-607.39	-656.10	489.89	450.26	39.63	12.361		
3,300.00	3,144.57	3,296.29	3,060.94	19.83	22.93	-95.03	-635.51	-689.66	511.52	470.37	41.15	12.430		
3,400.00	3,237.42	3,406.21	3,148.06	20.60	23.91	-94.48	-663.62	-723.22	533.20	490.42	42.78	12.464		
3,500.00	3,330.28	3,508.71	3,235.18	21.37	24.82	-93.97	-691.73	-756.79	554.92	510.58	44.34	12.515		
3,600.00	3,423.13	3,588.79	3,322.29	22.15	25.54	-93.51	-719.84	-790.35	576.69	530.97	45.72	12.615		
3,700.00	3,515.99	3,686.29	3,409.41	22.92	26.41	-93.08	-747.96	-823.91	598.48	551.25	47.24	12.670		
3,800.00	3,608.84	3,783.79	3,496.53	23.70	27.28	-92.67	-776.07	-857.48	620.31	571.55	48.75	12.723		
3,900.00	3,701.70	3,881.29	3,583.65	24.47	28.15	-92.30	-804.18	-891.04	642.16	591.88	50.27	12.773		
4,000.00	3,794.55	3,978.79	3,670.76	25.25	29.02	-91.95	-832.29	-924.60	664.04	612.24	51.79	12.821		
4,100.00	3,887.41	4,076.29	3,757.88	26.02	29.89	-91.62	-860.41	-958.16	685.94	632.62	53.31	12.867		
4,200.00	3,980.26	4,173.79	3,845.00	26.80	30.76	-91.31	-888.52	-991.73	707.85	653.03	54.83	12.910		
4,300.00	4,073.12	4,271.29	3,932.12	27.57	31.63	-91.02	-916.63	-1,025.29	729.79	673.44	56.35	12.952		
4,400.00	4,165.97	4,368.79	4,019.23	28.35	32.50	-90.75	-944.74	-1,058.85	751.75	693.88	57.86	12.991		
4,500.00	4,258.83	4,466.29	4,106.35	29.12	33.37	-90.49	-972.86	-1,092.42	773.72	714.33	59.38	13.029		
4,600.00	4,351.68	4,563.79	4,193.47	29.90	34.24	-90.25	-1,000.97	-1,125.98	795.70	734.80	60.90	13.066		
4,700.00	4,444.54	4,661.29	4,280.58	30.68	35.12	-90.02	-1,029.08	-1,159.54	817.70	755.28	62.42	13.100		
4,800.00	4,537.39	4,758.79	4,367.70	31.45	35.99	-89.80	-1,057.19	-1,193.10	839.70	775.77	63.93	13.134		
4,900.00	4,630.25	4,856.29	4,454.82	32.23	36.86	-89.60	-1,085.31	-1,226.67	861.72	796.27	65.45	13.166		
5,000.00	4,723.10	4,953.79	4,541.94	33.01	37.73	-89.40	-1,113.42	-1,260.23	883.75	816.78	66.97	13.197		

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

# Anticollision Report

<b>Company:</b>	EXTRACTION OIL & GAS	<b>Local Co-ordinate Reference:</b>	Well Warbler 13W-27-19
<b>Project:</b>	ADAMS COUNTY	<b>TVD Reference:</b>	KB 25' @ 5106.00usft
<b>Reference Site:</b>	Sec 13-T1S-R66W	<b>MD Reference:</b>	KB 25' @ 5106.00usft
<b>Site Error:</b>	0.00 usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Warbler 13W-27-19	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00 usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OWB	<b>Database:</b>	EDT_32Bit_ODBC
<b>Reference Design:</b>	PROPOSAL 1	<b>Offset TVD Reference:</b>	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	4,815.96	5,051.29	4,629.05	33.79	38.60	-89.21	-1,141.53	-1,293.79	905.79	837.31	68.49	13.226		
5,200.00	4,908.81	5,148.79	4,716.17	34.56	39.48	-89.04	-1,169.64	-1,327.36	927.84	857.84	70.00	13.254		
5,300.00	5,001.67	5,246.29	4,803.29	35.34	40.35	-88.87	-1,197.76	-1,360.92	949.90	878.38	71.52	13.282		
5,400.00	5,094.52	5,343.79	4,890.41	36.12	41.22	-88.70	-1,225.87	-1,394.48	971.96	898.92	73.04	13.308		
5,500.00	5,187.38	5,441.29	4,977.52	36.90	42.09	-88.55	-1,253.98	-1,428.04	994.03	919.48	74.55	13.333		
5,600.00	5,280.23	5,538.79	5,064.64	37.67	42.97	-88.40	-1,282.09	-1,461.61	1,016.11	940.04	76.07	13.358		
5,700.00	5,373.09	5,636.29	5,151.76	38.45	43.84	-88.26	-1,310.21	-1,495.17	1,038.19	960.60	77.59	13.381		
5,800.00	5,465.94	5,733.79	5,238.87	39.23	44.71	-88.12	-1,338.32	-1,528.73	1,060.28	981.18	79.10	13.404		
5,900.00	5,558.80	5,831.29	5,325.99	40.01	45.59	-87.99	-1,366.43	-1,562.30	1,082.37	1,001.75	80.62	13.426		
6,000.00	5,651.65	5,928.79	5,413.11	40.79	46.46	-87.87	-1,394.54	-1,595.86	1,104.47	1,022.34	82.14	13.447		
6,100.00	5,744.51	6,026.29	5,500.23	41.57	47.33	-87.75	-1,422.65	-1,629.42	1,126.58	1,042.92	83.65	13.467		
6,200.00	5,837.36	6,123.78	5,587.34	42.34	48.20	-87.63	-1,450.77	-1,662.98	1,148.69	1,063.52	85.17	13.487		
6,300.00	5,930.22	6,221.28	5,674.46	43.12	49.08	-87.52	-1,478.88	-1,696.55	1,170.80	1,084.11	86.68	13.506		
6,400.00	6,023.07	6,318.78	5,761.58	43.90	49.95	-87.41	-1,506.99	-1,730.11	1,192.92	1,104.71	88.20	13.525		
6,500.00	6,115.93	6,416.28	5,848.69	44.68	50.82	-87.31	-1,535.10	-1,763.67	1,215.04	1,125.32	89.72	13.543		
6,600.00	6,208.78	6,513.78	5,935.81	45.46	51.70	-87.21	-1,563.22	-1,797.24	1,237.16	1,145.93	91.23	13.560		
6,700.00	6,301.64	6,611.28	6,022.93	46.24	52.57	-87.11	-1,591.33	-1,830.80	1,259.29	1,166.54	92.75	13.577		
6,800.00	6,394.49	6,708.78	6,110.05	47.02	53.44	-87.02	-1,619.44	-1,864.36	1,281.42	1,187.15	94.27	13.593		
6,900.00	6,487.35	6,806.28	6,197.16	47.80	54.32	-86.93	-1,647.55	-1,897.92	1,303.56	1,207.77	95.78	13.609		
7,000.00	6,580.20	6,903.78	6,284.28	48.57	55.19	-86.85	-1,675.67	-1,931.49	1,325.69	1,228.39	97.30	13.625		
7,100.00	6,673.06	7,001.28	6,371.40	49.35	56.06	-86.76	-1,703.78	-1,965.05	1,347.83	1,249.02	98.82	13.640		
7,200.00	6,765.91	7,101.22	6,458.52	50.13	56.96	-86.68	-1,731.89	-1,998.61	1,369.98	1,269.62	100.35	13.652		
7,300.00	6,856.90	7,203.97	6,545.41	50.99	57.88	-87.78	-1,759.93	-2,032.09	1,392.71	1,290.65	102.06	13.646		
7,400.00	6,939.78	7,309.08	6,630.19	52.14	58.82	-88.02	-1,787.29	-2,064.75	1,417.40	1,313.07	104.33	13.586		
7,500.00	7,011.80	7,380.56	6,710.28	53.58	59.46	-87.73	-1,813.14	-2,095.61	1,444.04	1,337.22	106.82	13.519		
7,600.00	7,070.78	7,462.22	6,783.25	55.27	60.19	-87.13	-1,836.68	-2,123.72	1,472.92	1,363.15	109.77	13.418		
7,700.00	7,114.93	7,533.44	6,846.88	57.16	60.83	-86.10	-1,857.22	-2,148.24	1,504.56	1,391.69	112.87	13.330		
7,800.00	7,142.90	7,607.97	6,899.24	59.19	61.50	-84.43	-1,874.11	-2,168.41	1,539.45	1,423.41	116.04	13.267		
7,900.00	7,153.85	7,636.23	6,938.73	61.28	61.75	-81.90	-1,886.86	-2,183.62	1,577.82	1,459.16	118.66	13.297		
8,000.00	7,154.00	7,670.81	6,969.63	63.38	62.06	-82.59	-1,896.83	-2,195.52	1,620.01	1,498.95	121.06	13.382		
8,100.00	7,154.00	7,705.25	7,000.40	65.52	62.37	-83.83	-1,906.76	-2,207.38	1,666.42	1,543.23	123.19	13.527		
8,200.00	7,154.00	8,934.36	7,579.00	67.71	79.90	-104.46	-2,094.03	-3,113.50	1,690.05	1,558.04	132.01	12.803		
8,300.00	7,154.00	9,034.36	7,579.00	69.93	81.76	-104.46	-2,094.11	-3,213.50	1,690.08	1,553.80	136.28	12.402		
8,400.00	7,154.00	9,134.36	7,579.00	72.19	83.67	-104.46	-2,094.19	-3,313.50	1,690.11	1,549.49	140.61	12.020		
8,500.00	7,154.00	9,234.36	7,579.00	74.47	85.62	-104.46	-2,094.27	-3,413.50	1,690.14	1,545.13	145.01	11.655		
8,600.00	7,154.00	9,334.36	7,579.00	76.79	87.60	-104.46	-2,094.36	-3,513.50	1,690.16	1,540.70	149.46	11.308		
8,700.00	7,154.00	9,434.36	7,579.00	79.12	89.62	-104.46	-2,094.44	-3,613.50	1,690.19	1,536.23	153.96	10.978		
8,800.00	7,154.00	9,534.36	7,579.00	81.48	91.68	-104.46	-2,094.52	-3,713.50	1,690.22	1,531.71	158.51	10.663		
8,900.00	7,154.00	9,634.36	7,579.00	83.87	93.77	-104.46	-2,094.60	-3,813.50	1,690.25	1,527.15	163.10	10.363		
9,000.00	7,154.00	9,734.36	7,579.00	86.27	95.89	-104.46	-2,094.68	-3,913.50	1,690.28	1,522.54	167.73	10.077		
9,100.00	7,154.00	9,834.36	7,579.00	88.68	98.05	-104.46	-2,094.76	-4,013.50	1,690.31	1,517.91	172.40	9.805		
9,200.00	7,154.00	9,934.36	7,579.00	91.12	100.22	-104.46	-2,094.85	-4,113.50	1,690.33	1,513.24	177.10	9.545		
9,300.00	7,154.00	10,034.36	7,579.00	93.57	102.43	-104.46	-2,094.93	-4,213.50	1,690.36	1,508.54	181.82	9.297		
9,400.00	7,154.00	10,134.36	7,579.00	96.03	104.66	-104.46	-2,095.01	-4,313.50	1,690.39	1,503.81	186.58	9.060		
9,500.00	7,154.00	10,234.36	7,579.00	98.50	106.91	-104.46	-2,095.09	-4,413.50	1,690.42	1,499.06	191.36	8.834		
9,600.00	7,154.00	10,334.36	7,579.00	100.99	109.18	-104.46	-2,095.17	-4,513.50	1,690.45	1,494.28	196.17	8.617		
9,700.00	7,154.00	10,434.36	7,579.00	103.49	111.47	-104.46	-2,095.26	-4,613.50	1,690.48	1,489.48	201.00	8.410		
9,800.00	7,154.00	10,534.36	7,579.00	106.00	113.78	-104.46	-2,095.34	-4,713.50	1,690.51	1,484.66	205.85	8.212		
9,900.00	7,154.00	10,634.36	7,579.00	108.51	116.11	-104.46	-2,095.42	-4,813.50	1,690.53	1,479.82	210.72	8.023		
10,000.00	7,154.00	10,734.36	7,579.00	111.04	118.46	-104.46	-2,095.50	-4,913.50	1,690.56	1,474.96	215.61	7.841		
10,100.00	7,154.00	10,834.36	7,579.00	113.58	120.82	-104.45	-2,095.58	-5,013.50	1,690.59	1,470.08	220.51	7.667		
10,200.00	7,154.00	10,934.36	7,579.00	116.12	123.20	-104.45	-2,095.66	-5,113.50	1,690.62	1,465.19	225.43	7.500		

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

# Anticollision Report

<b>Company:</b>	EXTRACTION OIL & GAS	<b>Local Co-ordinate Reference:</b>	Well WARBLER 13W-27-19
<b>Project:</b>	ADAMS COUNTY	<b>TVD Reference:</b>	KB 25' @ 5106.00usft
<b>Reference Site:</b>	Sec 13-T1S-R66W	<b>MD Reference:</b>	KB 25' @ 5106.00usft
<b>Site Error:</b>	0.00 usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	WARBLER 13W-27-19	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00 usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OWB	<b>Database:</b>	EDT_32Bit_ODBC
<b>Reference Design:</b>	PROPOSAL 1	<b>Offset TVD Reference:</b>	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	11,034.36	7,579.00	118.67	125.59	-104.45	-2,095.75	-5,213.50	1,690.65	1,460.29	230.36	7.339		
10,400.00	7,154.00	11,134.36	7,579.00	121.22	127.99	-104.45	-2,095.83	-5,313.50	1,690.68	1,455.37	235.31	7.185		
10,500.00	7,154.00	11,234.36	7,579.00	123.79	130.41	-104.45	-2,095.91	-5,413.50	1,690.70	1,450.43	240.27	7.037		
10,600.00	7,154.00	11,334.36	7,579.00	126.35	132.83	-104.45	-2,095.99	-5,513.50	1,690.73	1,445.49	245.25	6.894		
10,700.00	7,154.00	11,434.36	7,579.00	128.93	135.27	-104.45	-2,096.07	-5,613.50	1,690.76	1,440.53	250.23	6.757		
10,800.00	7,154.00	11,534.36	7,579.00	131.51	137.72	-104.45	-2,096.16	-5,713.50	1,690.79	1,435.56	255.23	6.625		
10,900.00	7,154.00	11,634.36	7,579.00	134.09	140.18	-104.45	-2,096.24	-5,813.50	1,690.82	1,430.59	260.23	6.497		
11,000.00	7,154.00	11,734.36	7,579.00	136.68	142.65	-104.45	-2,096.32	-5,913.50	1,690.85	1,425.60	265.25	6.375		
11,100.00	7,154.00	11,834.36	7,579.00	139.27	145.12	-104.45	-2,096.40	-6,013.50	1,690.88	1,420.61	270.27	6.256		
11,200.00	7,154.00	11,934.36	7,579.00	141.87	147.61	-104.45	-2,096.48	-6,113.50	1,690.90	1,415.60	275.30	6.142		
11,300.00	7,154.00	12,034.36	7,579.00	144.47	150.10	-104.45	-2,096.56	-6,213.50	1,690.93	1,410.59	280.34	6.032		
11,400.00	7,154.00	12,134.36	7,579.00	147.08	152.60	-104.45	-2,096.65	-6,313.50	1,690.96	1,405.57	285.39	5.925		
11,500.00	7,154.00	12,234.36	7,579.00	149.68	155.11	-104.45	-2,096.73	-6,413.50	1,690.99	1,400.54	290.45	5.822		
11,600.00	7,154.00	12,334.36	7,579.00	152.30	157.62	-104.45	-2,096.81	-6,513.50	1,691.02	1,395.51	295.51	5.722		
11,700.00	7,154.00	12,434.36	7,579.00	154.91	160.15	-104.45	-2,096.89	-6,613.50	1,691.05	1,390.47	300.58	5.626		
11,800.00	7,154.00	12,534.36	7,579.00	157.53	162.67	-104.45	-2,096.97	-6,713.50	1,691.08	1,385.42	305.66	5.533		
11,900.00	7,154.00	12,634.36	7,579.00	160.15	165.21	-104.45	-2,097.06	-6,813.50	1,691.10	1,380.37	310.74	5.442		
12,000.00	7,154.00	12,734.36	7,579.00	162.77	167.75	-104.45	-2,097.14	-6,913.50	1,691.13	1,375.31	315.82	5.355		
12,100.00	7,154.00	12,834.36	7,579.00	165.40	170.29	-104.45	-2,097.22	-7,013.50	1,691.16	1,370.24	320.92	5.270		
12,200.00	7,154.00	12,934.36	7,579.00	168.03	172.84	-104.45	-2,097.30	-7,113.50	1,691.19	1,365.17	326.01	5.187		
12,300.00	7,154.00	13,034.36	7,579.00	170.66	175.39	-104.45	-2,097.38	-7,213.50	1,691.22	1,360.10	331.12	5.108		
12,400.00	7,154.00	13,134.36	7,579.00	173.29	177.95	-104.45	-2,097.46	-7,313.50	1,691.25	1,355.02	336.22	5.030		
12,500.00	7,154.00	13,234.36	7,579.00	175.93	180.51	-104.45	-2,097.55	-7,413.50	1,691.27	1,349.94	341.34	4.955		
12,600.00	7,154.00	13,334.36	7,579.00	178.56	183.08	-104.45	-2,097.63	-7,513.50	1,691.30	1,344.85	346.45	4.882		
12,700.00	7,154.00	13,434.36	7,579.00	181.20	185.65	-104.45	-2,097.71	-7,613.50	1,691.33	1,339.76	351.57	4.811		
12,800.00	7,154.00	13,534.36	7,579.00	183.84	188.23	-104.45	-2,097.79	-7,713.50	1,691.36	1,334.67	356.69	4.742		
12,900.00	7,154.00	13,634.36	7,579.00	186.49	190.81	-104.45	-2,097.87	-7,813.50	1,691.39	1,329.57	361.82	4.675		
13,000.00	7,154.00	13,734.36	7,579.00	189.13	193.39	-104.45	-2,097.96	-7,913.50	1,691.42	1,324.46	366.95	4.609		
13,100.00	7,154.00	13,834.36	7,579.00	191.78	195.98	-104.45	-2,098.04	-8,013.50	1,691.45	1,319.36	372.09	4.546		
13,200.00	7,154.00	13,934.36	7,579.00	194.43	198.57	-104.45	-2,098.12	-8,113.50	1,691.47	1,314.25	377.23	4.484		
13,300.00	7,154.00	14,034.36	7,579.00	197.07	201.16	-104.45	-2,098.20	-8,213.50	1,691.50	1,309.14	382.37	4.424		
13,400.00	7,154.00	14,134.36	7,579.00	199.73	203.75	-104.45	-2,098.28	-8,313.50	1,691.53	1,304.02	387.51	4.365		
13,500.00	7,154.00	14,234.36	7,579.00	202.38	206.35	-104.45	-2,098.36	-8,413.50	1,691.56	1,298.90	392.66	4.308		
13,600.00	7,154.00	14,334.36	7,579.00	205.03	208.95	-104.45	-2,098.45	-8,513.50	1,691.59	1,293.78	397.81	4.252		
13,700.00	7,154.00	14,434.36	7,579.00	207.69	211.56	-104.45	-2,098.53	-8,613.50	1,691.62	1,288.66	402.96	4.198		
13,800.00	7,154.00	14,534.36	7,579.00	210.34	214.16	-104.45	-2,098.61	-8,713.50	1,691.64	1,283.53	408.11	4.145		
13,900.00	7,154.00	14,634.36	7,579.00	213.00	216.77	-104.45	-2,098.69	-8,813.50	1,691.67	1,278.40	413.27	4.093		
14,000.00	7,154.00	14,734.36	7,579.00	215.66	219.38	-104.45	-2,098.77	-8,913.50	1,691.70	1,273.27	418.43	4.043		
14,100.00	7,154.00	14,834.36	7,579.00	218.32	222.00	-104.44	-2,098.86	-9,013.50	1,691.73	1,268.14	423.59	3.994		
14,200.00	7,154.00	14,934.36	7,579.00	220.98	224.61	-104.44	-2,098.94	-9,113.50	1,691.76	1,263.00	428.76	3.946		
14,300.00	7,154.00	15,034.36	7,579.00	223.64	227.23	-104.44	-2,099.02	-9,213.50	1,691.79	1,257.86	433.92	3.899		
14,400.00	7,154.00	15,134.36	7,579.00	226.30	229.85	-104.44	-2,099.10	-9,313.50	1,691.82	1,252.72	439.09	3.853		
14,500.00	7,154.00	15,234.36	7,579.00	228.97	232.47	-104.44	-2,099.18	-9,413.50	1,691.84	1,247.58	444.26	3.808		
14,600.00	7,154.00	15,334.36	7,579.00	231.63	235.10	-104.44	-2,099.26	-9,513.50	1,691.87	1,242.44	449.44	3.764		
14,700.00	7,154.00	15,434.36	7,579.00	234.29	237.72	-104.44	-2,099.35	-9,613.50	1,691.90	1,237.29	454.61	3.722		
14,800.00	7,154.00	15,534.36	7,579.00	236.96	240.35	-104.44	-2,099.43	-9,713.50	1,691.93	1,232.14	459.79	3.680		
14,900.00	7,154.00	15,634.36	7,579.00	239.63	242.98	-104.44	-2,099.51	-9,813.50	1,691.96	1,226.99	464.96	3.639		
15,000.00	7,154.00	15,734.36	7,579.00	242.30	245.61	-104.44	-2,099.59	-9,913.50	1,691.99	1,221.84	470.14	3.599		
15,100.00	7,154.00	15,834.36	7,579.00	244.96	248.24	-104.44	-2,099.67	-10,013.50	1,692.02	1,216.69	475.32	3.560		
15,200.00	7,154.00	15,934.36	7,579.00	247.63	250.88	-104.44	-2,099.76	-10,113.50	1,692.04	1,211.54	480.51	3.521		
15,300.00	7,154.00	16,034.36	7,579.00	250.30	253.51	-104.44	-2,099.84	-10,213.50	1,692.07	1,206.38	485.69	3.484		
15,400.00	7,154.00	16,134.36	7,579.00	252.98	256.15	-104.44	-2,099.92	-10,313.50	1,692.10	1,201.22	490.88	3.447		

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

# Anticollision Report

<b>Company:</b>	EXTRACTION OIL & GAS	<b>Local Co-ordinate Reference:</b>	Well WARBLER 13W-27-19
<b>Project:</b>	ADAMS COUNTY	<b>TVD Reference:</b>	KB 25' @ 5106.00usft
<b>Reference Site:</b>	Sec 13-T1S-R66W	<b>MD Reference:</b>	KB 25' @ 5106.00usft
<b>Site Error:</b>	0.00 usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	WARBLER 13W-27-19	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00 usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OWB	<b>Database:</b>	EDT_32Bit_ODBC
<b>Reference Design:</b>	PROPOSAL 1	<b>Offset TVD Reference:</b>	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	16,234.36	7,579.00	255.65	258.79	-104.44	-2,100.00	-10,413.50	1,692.13	1,196.06	496.07	3.411		
15,600.00	7,154.00	16,334.36	7,579.00	258.32	261.43	-104.44	-2,100.08	-10,513.50	1,692.16	1,190.90	501.25	3.376		
15,700.00	7,154.00	16,434.36	7,579.00	260.99	264.07	-104.44	-2,100.16	-10,613.50	1,692.19	1,185.74	506.44	3.341		
15,800.00	7,154.00	16,534.36	7,579.00	263.67	266.71	-104.44	-2,100.25	-10,713.50	1,692.21	1,180.58	511.64	3.307		
15,900.00	7,154.00	16,634.36	7,579.00	266.34	269.36	-104.44	-2,100.33	-10,813.50	1,692.24	1,175.42	516.83	3.274		
16,000.00	7,154.00	16,734.36	7,579.00	269.01	272.00	-104.44	-2,100.41	-10,913.50	1,692.27	1,170.25	522.02	3.242		
16,100.00	7,154.00	16,834.36	7,579.00	271.69	274.65	-104.44	-2,100.49	-11,013.50	1,692.30	1,165.08	527.22	3.210		
16,200.00	7,154.00	16,934.36	7,579.00	274.36	277.30	-104.44	-2,100.57	-11,113.50	1,692.33	1,159.92	532.41	3.179		
16,300.00	7,154.00	17,034.36	7,579.00	277.04	279.94	-104.44	-2,100.66	-11,213.50	1,692.36	1,154.75	537.61	3.148		
16,400.00	7,154.00	17,134.36	7,579.00	279.72	282.59	-104.44	-2,100.74	-11,313.50	1,692.39	1,149.58	542.81	3.118		
16,500.00	7,154.00	17,234.36	7,579.00	282.40	285.25	-104.44	-2,100.82	-11,413.50	1,692.41	1,144.41	548.01	3.088		
16,600.00	7,154.00	17,334.36	7,579.00	285.07	287.90	-104.44	-2,100.90	-11,513.50	1,692.44	1,139.23	553.21	3.059		
16,700.00	7,154.00	17,434.36	7,579.00	287.75	290.55	-104.44	-2,100.98	-11,613.50	1,692.47	1,134.06	558.41	3.031		
16,800.00	7,154.00	17,534.36	7,579.00	290.43	293.20	-104.44	-2,101.06	-11,713.50	1,692.50	1,128.89	563.61	3.003		
16,900.00	7,154.00	17,634.36	7,579.00	293.11	295.86	-104.44	-2,101.15	-11,813.50	1,692.53	1,123.71	568.82	2.976		
17,000.00	7,154.00	17,734.36	7,579.00	295.79	298.51	-104.44	-2,101.23	-11,913.50	1,692.56	1,118.54	574.02	2.949		
17,100.00	7,154.00	17,834.36	7,579.00	298.47	301.17	-104.44	-2,101.31	-12,013.50	1,692.58	1,113.36	579.23	2.922		
17,200.00	7,154.00	17,934.36	7,579.00	301.15	303.83	-104.44	-2,101.39	-12,113.50	1,692.61	1,108.18	584.43	2.896		
17,300.00	7,154.00	18,034.36	7,579.00	303.83	306.48	-104.44	-2,101.47	-12,213.50	1,692.64	1,103.00	589.64	2.871		
17,400.00	7,154.00	18,134.36	7,579.00	306.51	309.14	-104.44	-2,101.56	-12,313.50	1,692.67	1,097.82	594.85	2.846		
17,500.00	7,154.00	18,234.36	7,579.00	309.19	311.80	-104.44	-2,101.64	-12,413.50	1,692.70	1,092.64	600.06	2.821		
17,600.00	7,154.00	18,334.36	7,579.00	311.88	314.46	-104.44	-2,101.72	-12,513.50	1,692.73	1,087.46	605.26	2.797		
17,700.00	7,154.00	18,434.36	7,579.00	314.56	317.12	-104.44	-2,101.80	-12,613.50	1,692.76	1,082.28	610.48	2.773		
17,800.00	7,154.00	18,534.36	7,579.00	317.24	319.79	-104.44	-2,101.88	-12,713.50	1,692.78	1,077.10	615.69	2.749		
17,900.00	7,154.00	18,634.36	7,579.00	319.92	322.45	-104.44	-2,101.96	-12,813.50	1,692.81	1,071.91	620.90	2.726		
18,000.00	7,154.00	18,734.36	7,579.00	322.61	325.11	-104.44	-2,102.05	-12,913.50	1,692.84	1,066.73	626.11	2.704		
18,100.00	7,154.00	18,834.36	7,579.00	325.29	327.78	-104.43	-2,102.13	-13,013.50	1,692.87	1,061.55	631.32	2.681		
18,200.00	7,154.00	18,934.36	7,579.00	327.98	330.44	-104.43	-2,102.21	-13,113.50	1,692.90	1,056.36	636.54	2.660		
18,300.00	7,154.00	19,034.36	7,579.00	330.66	333.11	-104.43	-2,102.29	-13,213.50	1,692.93	1,051.18	641.75	2.638		
18,400.00	7,154.00	19,134.36	7,579.00	333.34	335.77	-104.43	-2,102.37	-13,313.50	1,692.96	1,045.99	646.97	2.617		
18,500.00	7,154.00	19,234.36	7,579.00	336.03	338.44	-104.43	-2,102.46	-13,413.50	1,692.98	1,040.80	652.18	2.596		
18,600.00	7,154.00	19,334.36	7,579.00	338.71	341.11	-104.43	-2,102.54	-13,513.50	1,693.01	1,035.61	657.40	2.575		
18,700.00	7,154.00	19,434.36	7,579.00	341.40	343.77	-104.43	-2,102.62	-13,613.50	1,693.04	1,030.42	662.62	2.555		
18,800.00	7,154.00	19,534.36	7,579.00	344.09	346.44	-104.43	-2,102.70	-13,713.50	1,693.07	1,025.24	667.83	2.535		
18,900.00	7,154.00	19,634.36	7,579.00	346.77	349.11	-104.43	-2,102.78	-13,813.50	1,693.10	1,020.05	673.05	2.516		
19,000.00	7,154.00	19,734.36	7,579.00	349.46	351.78	-104.43	-2,102.86	-13,913.50	1,693.13	1,014.86	678.27	2.496		
19,100.00	7,154.00	19,834.36	7,579.00	352.15	354.45	-104.43	-2,102.95	-14,013.50	1,693.15	1,009.67	683.49	2.477		
19,200.00	7,154.00	19,934.36	7,579.00	354.83	357.12	-104.43	-2,103.03	-14,113.50	1,693.18	1,004.47	688.71	2.458		
19,300.00	7,154.00	20,034.36	7,579.00	357.52	359.79	-104.43	-2,103.11	-14,213.50	1,693.21	999.28	693.93	2.440		
19,400.00	7,154.00	20,134.36	7,579.00	360.21	362.46	-104.43	-2,103.19	-14,313.50	1,693.24	994.09	699.15	2.422		
19,500.00	7,154.00	20,234.36	7,579.00	362.90	365.13	-104.43	-2,103.27	-14,413.50	1,693.27	988.90	704.37	2.404		
19,600.00	7,154.00	20,334.36	7,579.00	365.58	367.81	-104.43	-2,103.36	-14,513.50	1,693.30	983.70	709.59	2.386		
19,700.00	7,154.00	20,434.36	7,579.00	368.27	370.48	-104.43	-2,103.44	-14,613.50	1,693.33	978.51	714.82	2.369		
19,800.00	7,154.00	20,534.36	7,579.00	370.96	373.15	-104.43	-2,103.52	-14,713.50	1,693.35	973.32	720.04	2.352		
19,900.00	7,154.00	20,634.36	7,579.00	373.65	375.83	-104.43	-2,103.60	-14,813.50	1,693.38	968.12	725.26	2.335		
20,000.00	7,154.00	20,734.36	7,579.00	376.34	378.50	-104.43	-2,103.68	-14,913.50	1,693.41	962.93	730.49	2.318		
20,100.00	7,154.00	20,834.36	7,579.00	379.03	381.17	-104.43	-2,103.76	-15,013.49	1,693.44	957.73	735.71	2.302		
20,200.00	7,154.00	20,934.36	7,579.00	381.71	383.85	-104.43	-2,103.85	-15,113.49	1,693.47	952.53	740.93	2.286		
20,300.00	7,154.00	21,034.36	7,579.00	384.40	386.53	-104.43	-2,103.93	-15,213.49	1,693.50	947.34	746.16	2.270		
20,400.00	7,154.00	21,134.36	7,579.00	387.09	389.20	-104.43	-2,104.01	-15,313.49	1,693.52	942.14	751.38	2.254		
20,500.00	7,154.00	21,234.36	7,579.00	389.78	391.88	-104.43	-2,104.09	-15,413.49	1,693.55	936.94	756.61	2.238		
20,600.00	7,154.00	21,334.36	7,579.00	392.47	394.55	-104.43	-2,104.17	-15,513.49	1,693.58	931.74	761.84	2.223		

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

# Anticollision Report

<b>Company:</b>	EXTRACTION OIL & GAS	<b>Local Co-ordinate Reference:</b>	Well WARBLER 13W-27-19
<b>Project:</b>	ADAMS COUNTY	<b>TVD Reference:</b>	KB 25' @ 5106.00usft
<b>Reference Site:</b>	Sec 13-T1S-R66W	<b>MD Reference:</b>	KB 25' @ 5106.00usft
<b>Site Error:</b>	0.00 usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	WARBLER 13W-27-19	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00 usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OWB	<b>Database:</b>	EDT_32Bit_ODBC
<b>Reference Design:</b>	PROPOSAL 1	<b>Offset TVD Reference:</b>	Offset Datum

<b>Offset Design</b> Sec 13-T1S-R66W - WARBLER 24W-27-11 - OWB - PROPOSAL 1												<b>Offset Site Error:</b>	0.00 usft
Survey Program: 0-MWD OWSG												<b>Offset Well Error:</b>	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	21,434.36	7,579.00	395.16	397.23	-104.43	-2,104.26	-15,613.49	1,693.61	926.55	767.06	2.208	
20,800.00	7,154.00	21,534.36	7,579.00	397.85	399.91	-104.43	-2,104.34	-15,713.49	1,693.64	921.35	772.29	2.193	
20,900.00	7,154.00	21,634.36	7,579.00	400.54	402.59	-104.43	-2,104.42	-15,813.49	1,693.67	916.15	777.52	2.178	
21,000.00	7,154.00	21,734.36	7,579.00	403.24	405.26	-104.43	-2,104.50	-15,913.49	1,693.70	910.95	782.75	2.164	
21,100.00	7,154.00	21,834.36	7,579.00	405.93	407.94	-104.43	-2,104.58	-16,013.49	1,693.72	905.75	787.97	2.149	
21,200.00	7,154.00	21,934.36	7,579.00	408.62	410.62	-104.43	-2,104.66	-16,113.49	1,693.75	900.55	793.20	2.135	
21,300.00	7,154.00	22,034.36	7,579.00	411.31	413.30	-104.43	-2,104.75	-16,213.49	1,693.78	895.35	798.43	2.121	
21,400.00	7,154.00	22,134.36	7,579.00	414.00	415.98	-104.43	-2,104.83	-16,313.49	1,693.81	890.15	803.66	2.108	
21,500.00	7,154.00	22,234.36	7,579.00	416.69	418.66	-104.43	-2,104.91	-16,413.49	1,693.84	884.95	808.89	2.094	
21,505.33	7,154.00	22,239.69	7,579.00	416.83	418.80	-104.43	-2,104.91	-16,418.82	1,693.84	884.67	809.17	2.093 SF	

# Anticollision Report

<b>Company:</b>	EXTRACTION OIL & GAS	<b>Local Co-ordinate Reference:</b>	Well WARBLER 13W-27-19
<b>Project:</b>	ADAMS COUNTY	<b>TVD Reference:</b>	KB 25' @ 5106.00usft
<b>Reference Site:</b>	Sec 13-T1S-R66W	<b>MD Reference:</b>	KB 25' @ 5106.00usft
<b>Site Error:</b>	0.00 usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	WARBLER 13W-27-19	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00 usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OWB	<b>Database:</b>	EDT_32Bit_ODBC
<b>Reference Design:</b>	PROPOSAL 1	<b>Offset TVD Reference:</b>	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	74.96	40.44	150.53	155.87					
100.00	100.00	103.14	103.14	0.13	0.15	74.96	40.44	150.53	155.87	155.59	0.28	556.987		
200.00	200.00	207.60	207.57	0.49	0.51	75.42	38.84	149.30	154.34	153.33	1.01	153.100		
300.00	300.00	311.77	311.58	0.85	0.89	76.78	34.23	145.77	149.98	148.24	1.74	86.009		
400.00	400.00	415.39	414.75	1.21	1.28	79.21	26.68	139.98	142.98	140.50	2.49	57.468		
500.00	499.98	518.36	516.88	1.56	1.70	-176.45	16.24	131.98	135.43	132.20	3.23	41.926		
600.00	599.84	620.71	617.85	1.91	2.15	-171.33	2.99	121.82	129.62	125.63	3.99	32.470		
700.00	699.45	722.35	717.47	2.27	2.62	-164.86	-13.00	109.56	126.29	121.49	4.80	26.293		
751.33	750.45	774.22	768.01	2.47	2.88	-161.10	-22.23	102.48	125.82	120.57	5.25	23.986 CC, ES		
800.00	798.70	823.19	815.54	2.65	3.14	-157.34	-31.62	95.29	126.27	120.59	5.68	22.231		
900.00	897.47	923.16	911.88	3.06	3.68	-149.28	-52.77	79.07	130.30	123.67	6.63	19.648		
1,000.00	995.62	1,022.18	1,006.34	3.49	4.27	-141.31	-76.34	61.00	138.82	131.16	7.66	18.132		
1,100.00	1,093.06	1,120.19	1,098.76	3.96	4.90	-133.96	-102.20	41.17	151.88	143.14	8.74	17.368		
1,200.00	1,189.64	1,217.13	1,189.03	4.47	5.56	-127.55	-130.24	19.67	169.23	159.34	9.89	17.112		
1,300.00	1,285.27	1,312.95	1,277.04	5.02	6.27	-122.14	-160.32	-3.39	190.46	179.37	11.09	17.174		
1,400.00	1,379.82	1,407.62	1,362.68	5.63	7.01	-117.66	-192.31	-27.91	215.14	202.79	12.34	17.428		
1,500.00	1,473.18	1,501.08	1,445.89	6.29	7.79	-114.03	-226.08	-53.81	242.86	229.19	13.67	17.767		
1,600.00	1,566.03	1,593.31	1,526.59	6.99	8.61	-111.17	-261.50	-80.96	272.60	257.57	15.03	18.135		
1,700.00	1,658.89	1,684.15	1,604.64	7.71	9.46	-108.35	-298.38	-109.24	303.94	287.54	16.41	18.526		
1,800.00	1,751.74	1,775.76	1,682.06	8.44	10.35	-105.62	-337.25	-139.04	336.88	319.07	17.81	18.917		
1,900.00	1,844.60	1,868.92	1,760.63	9.17	11.27	-103.28	-376.97	-169.50	370.53	351.29	19.25	19.253		
2,000.00	1,937.45	1,962.07	1,839.20	9.91	12.20	-101.32	-416.69	-199.95	404.66	383.97	20.69	19.562		
2,100.00	2,030.31	2,055.23	1,917.77	10.66	13.14	-99.67	-456.42	-230.41	439.14	417.01	22.13	19.844		
2,200.00	2,123.16	2,148.39	1,996.34	11.41	14.08	-98.25	-496.14	-260.86	473.90	450.33	23.58	20.102		
2,300.00	2,216.02	2,241.55	2,074.91	12.17	15.02	-97.03	-535.86	-291.32	508.89	483.87	25.02	20.337		
2,400.00	2,308.87	2,334.71	2,153.48	12.93	15.96	-95.96	-575.58	-321.77	544.05	517.58	26.47	20.552		
2,500.00	2,401.73	2,427.87	2,232.05	13.69	16.91	-95.03	-615.31	-352.23	579.36	551.44	27.92	20.749		
2,600.00	2,494.58	2,521.03	2,310.62	14.45	17.86	-94.19	-655.03	-382.68	614.79	585.42	29.37	20.930		
2,700.00	2,587.44	2,614.19	2,389.19	15.22	18.81	-93.45	-694.75	-413.14	650.33	619.50	30.83	21.096		
2,800.00	2,680.29	2,707.35	2,467.76	15.98	19.76	-92.79	-734.47	-443.59	685.95	653.67	32.28	21.250		
2,900.00	2,773.15	2,800.50	2,546.33	16.75	20.71	-92.19	-774.19	-474.05	721.64	687.90	33.74	21.391		
3,000.00	2,866.00	2,906.34	2,624.89	17.52	21.79	-91.65	-813.92	-504.50	757.39	722.09	35.30	21.455		
3,100.00	2,958.86	2,998.82	2,703.46	18.29	22.62	-91.15	-853.64	-534.96	793.20	756.55	36.65	21.645		
3,200.00	3,051.71	3,079.98	2,782.03	19.06	23.57	-90.70	-893.36	-565.41	829.06	790.95	38.10	21.758		
3,300.00	3,144.57	3,173.14	2,860.60	19.83	24.53	-90.29	-933.08	-595.87	864.95	825.39	39.56	21.864		
3,400.00	3,237.42	3,266.30	2,939.17	20.60	25.48	-89.91	-972.81	-626.32	900.89	859.87	41.02	21.963		
3,500.00	3,330.28	3,359.46	3,017.74	21.37	26.44	-89.55	-1,012.53	-656.78	936.85	894.38	42.48	22.055		
3,600.00	3,423.13	3,452.62	3,096.31	22.15	27.40	-89.23	-1,052.25	-687.23	972.85	928.91	43.94	22.142		
3,700.00	3,515.99	3,545.78	3,174.88	22.92	28.36	-88.92	-1,091.97	-717.69	1,008.87	963.47	45.40	22.224		
3,800.00	3,608.84	3,638.94	3,253.45	23.70	29.31	-88.64	-1,131.70	-748.14	1,044.91	998.06	46.85	22.301		
3,900.00	3,701.70	3,732.09	3,332.02	24.47	30.27	-88.38	-1,171.42	-778.60	1,080.98	1,032.66	48.31	22.374		
4,000.00	3,794.55	3,825.25	3,410.59	25.25	31.23	-88.13	-1,211.14	-809.05	1,117.06	1,067.28	49.78	22.442		
4,100.00	3,887.41	3,918.41	3,489.16	26.02	32.19	-87.90	-1,250.86	-839.51	1,153.16	1,101.92	51.24	22.507		
4,200.00	3,980.26	4,011.57	3,567.73	26.80	33.15	-87.68	-1,290.58	-869.96	1,189.27	1,136.58	52.70	22.568		
4,300.00	4,073.12	4,104.73	3,646.30	27.57	34.11	-87.48	-1,330.31	-900.42	1,225.40	1,171.24	54.16	22.626		
4,400.00	4,165.97	4,202.11	3,724.87	28.35	35.11	-87.29	-1,370.03	-930.87	1,261.54	1,205.89	55.65	22.667		
4,500.00	4,258.83	4,291.05	3,803.44	29.12	36.03	-87.11	-1,409.75	-961.33	1,297.70	1,240.61	57.08	22.734		
4,600.00	4,351.68	4,384.21	3,882.01	29.90	36.99	-86.93	-1,449.47	-991.78	1,333.86	1,275.32	58.54	22.784		
4,700.00	4,444.54	4,477.37	3,960.58	30.68	37.95	-86.77	-1,489.20	-1,022.24	1,370.03	1,310.03	60.01	22.832		
4,800.00	4,537.39	4,570.52	4,039.15	31.45	38.91	-86.62	-1,528.92	-1,052.69	1,406.22	1,344.75	61.47	22.877		
4,900.00	4,630.25	4,663.68	4,117.72	32.23	39.87	-86.47	-1,568.64	-1,083.15	1,442.41	1,379.48	62.93	22.921		
5,000.00	4,723.10	4,756.84	4,196.29	33.01	40.83	-86.33	-1,608.36	-1,113.60	1,478.61	1,414.21	64.39	22.962		

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

# Anticollision Report

<b>Company:</b>	EXTRACTION OIL & GAS	<b>Local Co-ordinate Reference:</b>	Well WARBLER 13W-27-19
<b>Project:</b>	ADAMS COUNTY	<b>TVD Reference:</b>	KB 25' @ 5106.00usft
<b>Reference Site:</b>	Sec 13-T1S-R66W	<b>MD Reference:</b>	KB 25' @ 5106.00usft
<b>Site Error:</b>	0.00 usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	WARBLER 13W-27-19	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00 usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OWB	<b>Database:</b>	EDT_32Bit_ODBC
<b>Reference Design:</b>	PROPOSAL 1	<b>Offset TVD Reference:</b>	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	4,815.96	4,850.00	4,274.86	33.79	41.79	-86.20	-1,648.09	-1,144.06	1,514.81	1,448.96	65.86	23.002					
5,200.00	4,908.81	4,943.16	4,353.43	34.56	42.75	-86.07	-1,687.81	-1,174.51	1,551.03	1,483.71	67.32	23.040					
5,300.00	5,001.67	5,036.32	4,432.00	35.34	43.72	-85.95	-1,727.53	-1,204.97	1,587.25	1,518.47	68.78	23.077					
5,400.00	5,094.52	5,129.48	4,510.57	36.12	44.68	-85.83	-1,767.25	-1,235.42	1,623.47	1,553.23	70.25	23.111					
5,500.00	5,187.38	5,222.64	4,589.14	36.90	45.64	-85.72	-1,806.98	-1,265.88	1,659.70	1,587.99	71.71	23.145					
5,600.00	5,280.23	5,315.80	4,667.71	37.67	46.60	-85.62	-1,846.70	-1,296.33	1,695.94	1,622.77	73.17	23.177					
5,700.00	5,373.09	5,408.95	4,746.28	38.45	47.56	-85.51	-1,886.42	-1,326.79	1,732.18	1,657.54	74.64	23.208					
5,800.00	5,465.94	5,502.11	4,824.85	39.23	48.52	-85.42	-1,926.14	-1,357.24	1,768.43	1,692.33	76.10	23.238					
5,900.00	5,558.80	5,604.73	4,903.42	40.01	49.58	-85.32	-1,965.86	-1,387.70	1,804.68	1,727.03	77.64	23.243					
6,000.00	5,651.65	5,688.43	4,981.99	40.79	50.45	-85.23	-2,005.59	-1,418.15	1,840.93	1,761.90	79.03	23.294					
6,100.00	5,744.51	5,781.59	5,060.56	41.57	51.41	-85.15	-2,045.31	-1,448.61	1,877.19	1,796.69	80.49	23.321					
6,200.00	5,837.36	5,874.75	5,139.13	42.34	52.37	-85.07	-2,085.03	-1,479.06	1,913.45	1,831.49	81.96	23.347					
6,300.00	5,930.22	5,967.91	5,217.70	43.12	53.33	-84.99	-2,124.75	-1,509.52	1,949.71	1,866.29	83.42	23.371					
6,400.00	6,023.07	6,061.07	5,296.27	43.90	54.30	-84.91	-2,164.48	-1,539.97	1,985.98	1,901.09	84.89	23.395					
6,500.00	6,115.93	6,154.23	5,374.84	44.68	55.26	-84.83	-2,204.20	-1,570.43	2,022.25	1,935.90	86.35	23.418					
6,600.00	6,208.78	6,247.38	5,453.41	45.46	56.22	-84.76	-2,243.92	-1,600.88	2,058.53	1,970.71	87.82	23.441					
6,700.00	6,301.64	6,340.54	5,531.98	46.24	57.18	-84.69	-2,283.64	-1,631.34	2,094.80	2,005.52	89.28	23.462					
6,800.00	6,394.49	6,433.70	5,610.55	47.02	58.14	-84.63	-2,323.37	-1,661.79	2,131.08	2,040.33	90.75	23.483					
6,900.00	6,487.35	6,526.86	5,689.12	47.80	59.11	-84.56	-2,363.09	-1,692.25	2,167.36	2,075.15	92.21	23.504					
7,000.00	6,580.20	6,620.02	5,767.69	48.57	60.07	-84.50	-2,402.81	-1,722.71	2,203.64	2,109.96	93.68	23.523					
7,100.00	6,673.06	6,713.18	5,846.26	49.35	61.03	-84.44	-2,442.53	-1,753.16	2,239.93	2,144.78	95.15	23.542					
7,200.00	6,765.91	6,806.34	5,924.83	50.13	61.99	-84.38	-2,482.25	-1,783.62	2,276.22	2,179.61	96.61	23.560					
7,300.00	6,856.90	6,900.75	6,003.19	50.99	62.97	-84.26	-2,521.87	-1,813.99	2,312.87	2,214.64	98.23	23.546					
7,400.00	6,939.78	6,989.87	6,079.61	52.14	63.89	-82.70	-2,560.51	-1,843.61	2,350.37	2,250.08	100.29	23.435					
7,500.00	7,011.80	7,075.44	6,151.78	53.58	64.78	-80.60	-2,597.00	-1,871.59	2,388.04	2,285.23	102.82	23.226					
7,600.00	7,070.78	7,153.36	6,217.50	55.27	65.58	-78.33	-2,630.22	-1,897.06	2,425.43	2,319.74	105.69	22.948					
7,700.00	7,114.93	7,221.26	6,274.77	57.16	66.28	-75.98	-2,659.18	-1,919.26	2,462.25	2,353.45	108.80	22.631					
7,800.00	7,142.90	7,277.09	6,321.85	59.19	66.86	-73.51	-2,682.98	-1,937.51	2,498.34	2,386.33	112.01	22.305					
7,900.00	7,153.85	7,319.14	6,357.32	61.28	67.29	-70.85	-2,700.91	-1,951.26	2,533.50	2,418.35	115.15	22.002					
8,000.00	7,154.00	7,351.98	6,385.02	63.38	67.63	-71.13	-2,714.91	-1,961.99	2,569.08	2,450.93	118.15	21.744					
8,100.00	7,154.00	7,384.70	6,412.61	65.52	67.97	-71.86	-2,728.86	-1,972.69	2,607.58	2,486.52	121.05	21.540					
8,200.00	7,154.00	7,417.41	6,440.20	67.71	68.31	-72.59	-2,742.81	-1,983.38	2,648.88	2,525.03	123.85	21.388					
8,300.00	7,154.00	7,450.12	6,467.79	69.93	68.65	-73.32	-2,756.76	-1,994.08	2,692.87	2,566.33	126.54	21.281					
8,400.00	7,154.00	7,482.84	6,495.38	72.19	68.99	-74.04	-2,770.71	-2,004.77	2,739.42	2,610.30	129.12	21.216					
8,500.00	7,154.00	7,515.55	6,522.97	74.47	69.32	-74.76	-2,784.66	-2,015.47	2,788.39	2,656.80	131.59	21.191					
8,600.00	7,154.00	7,548.26	6,550.56	76.79	69.66	-75.48	-2,798.61	-2,026.16	2,839.66	2,705.71	133.95	21.200					
8,700.00	7,154.00	9,849.02	7,579.00	79.12	100.03	-98.39	-3,319.30	-3,613.03	2,892.48	2,735.02	157.45	18.370					
8,800.00	7,154.00	9,949.02	7,579.00	81.48	101.79	-98.39	-3,319.36	-3,713.03	2,892.49	2,730.45	162.04	17.851					
8,900.00	7,154.00	10,049.02	7,579.00	83.87	103.58	-98.39	-3,319.43	-3,813.03	2,892.50	2,725.83	166.66	17.355					
9,000.00	7,154.00	10,149.02	7,579.00	86.27	105.41	-98.39	-3,319.49	-3,913.03	2,892.51	2,721.17	171.34	16.882					
9,100.00	7,154.00	10,249.02	7,579.00	88.68	107.28	-98.39	-3,319.55	-4,013.03	2,892.52	2,716.47	176.04	16.431					
9,200.00	7,154.00	10,349.02	7,579.00	91.12	109.19	-98.39	-3,319.62	-4,113.03	2,892.53	2,711.74	180.79	15.999					
9,300.00	7,154.00	10,449.02	7,579.00	93.57	111.13	-98.39	-3,319.68	-4,213.03	2,892.54	2,706.97	185.57	15.587					
9,400.00	7,154.00	10,549.02	7,579.00	96.03	113.10	-98.39	-3,319.74	-4,313.03	2,892.55	2,702.17	190.38	15.194					
9,500.00	7,154.00	10,649.02	7,579.00	98.50	115.10	-98.39	-3,319.81	-4,413.03	2,892.56	2,697.35	195.22	14.817					
9,600.00	7,154.00	10,749.02	7,579.00	100.99	117.13	-98.39	-3,319.87	-4,513.03	2,892.57	2,692.49	200.08	14.457					
9,700.00	7,154.00	10,849.02	7,579.00	103.49	119.19	-98.39	-3,319.93	-4,613.03	2,892.58	2,687.61	204.97	14.112					
9,800.00	7,154.00	10,949.02	7,579.00	106.00	121.27	-98.39	-3,320.00	-4,713.03	2,892.59	2,682.71	209.88	13.782					
9,900.00	7,154.00	11,049.02	7,579.00	108.51	123.38	-98.39	-3,320.06	-4,813.03	2,892.60	2,677.79	214.81	13.466					
10,000.00	7,154.00	11,149.02	7,579.00	111.04	125.52	-98.39	-3,320.12	-4,913.03	2,892.61	2,672.85	219.76	13.162					
10,100.00	7,154.00	11,249.02	7,579.00	113.58	127.67	-98.39	-3,320.18	-5,013.03	2,892.62	2,667.89	224.73	12.871					
10,200.00	7,154.00	11,349.02	7,579.00	116.12	129.85	-98.39	-3,320.25	-5,113.03	2,892.63	2,662.91	229.72	12.592					

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



# Anticollision Report

<b>Company:</b>	EXTRACTION OIL & GAS	<b>Local Co-ordinate Reference:</b>	Well WARBLER 13W-27-19
<b>Project:</b>	ADAMS COUNTY	<b>TVD Reference:</b>	KB 25' @ 5106.00usft
<b>Reference Site:</b>	Sec 13-T1S-R66W	<b>MD Reference:</b>	KB 25' @ 5106.00usft
<b>Site Error:</b>	0.00 usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	WARBLER 13W-27-19	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00 usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OWB	<b>Database:</b>	EDT_32Bit_ODBC
<b>Reference Design:</b>	PROPOSAL 1	<b>Offset TVD Reference:</b>	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	11,449.02	7,579.00	118.67	132.05	-98.39	-3,320.31	-5,213.03	2,892.65	2,657.92	234.73	12.323		
10,400.00	7,154.00	11,549.02	7,579.00	121.22	134.27	-98.39	-3,320.37	-5,313.03	2,892.66	2,652.91	239.75	12.066		
10,500.00	7,154.00	11,649.02	7,579.00	123.79	136.51	-98.39	-3,320.44	-5,413.03	2,892.67	2,647.89	244.78	11.817		
10,600.00	7,154.00	11,749.02	7,579.00	126.35	138.77	-98.39	-3,320.50	-5,513.03	2,892.68	2,642.85	249.83	11.579		
10,700.00	7,154.00	11,849.02	7,579.00	128.93	141.04	-98.39	-3,320.56	-5,613.03	2,892.69	2,637.80	254.88	11.349		
10,800.00	7,154.00	11,949.02	7,579.00	131.51	143.33	-98.39	-3,320.63	-5,713.03	2,892.70	2,632.74	259.96	11.128		
10,900.00	7,154.00	12,049.02	7,579.00	134.09	145.64	-98.39	-3,320.69	-5,813.03	2,892.71	2,627.67	265.04	10.914		
11,000.00	7,154.00	12,149.02	7,579.00	136.68	147.96	-98.39	-3,320.75	-5,913.03	2,892.72	2,622.59	270.13	10.709		
11,100.00	7,154.00	12,249.02	7,579.00	139.27	150.29	-98.39	-3,320.82	-6,013.03	2,892.73	2,617.50	275.23	10.510		
11,200.00	7,154.00	12,349.02	7,579.00	141.87	152.64	-98.39	-3,320.88	-6,113.03	2,892.74	2,612.39	280.35	10.318		
11,300.00	7,154.00	12,449.02	7,579.00	144.47	155.00	-98.39	-3,320.94	-6,213.03	2,892.75	2,607.28	285.47	10.133		
11,400.00	7,154.00	12,549.02	7,579.00	147.08	157.37	-98.39	-3,321.00	-6,313.03	2,892.76	2,602.16	290.60	9.955		
11,500.00	7,154.00	12,649.02	7,579.00	149.68	159.75	-98.39	-3,321.07	-6,413.03	2,892.77	2,597.04	295.74	9.782		
11,600.00	7,154.00	12,749.02	7,579.00	152.30	162.15	-98.39	-3,321.13	-6,513.03	2,892.78	2,591.90	300.88	9.614		
11,700.00	7,154.00	12,849.02	7,579.00	154.91	164.55	-98.39	-3,321.19	-6,613.03	2,892.79	2,586.76	306.03	9.453		
11,800.00	7,154.00	12,949.02	7,579.00	157.53	166.97	-98.39	-3,321.26	-6,713.03	2,892.80	2,581.61	311.19	9.296		
11,900.00	7,154.00	13,049.02	7,579.00	160.15	169.39	-98.39	-3,321.32	-6,813.03	2,892.81	2,576.46	316.36	9.144		
12,000.00	7,154.00	13,149.02	7,579.00	162.77	171.82	-98.39	-3,321.38	-6,913.03	2,892.82	2,571.30	321.53	8.997		
12,100.00	7,154.00	13,249.02	7,579.00	165.40	174.26	-98.39	-3,321.45	-7,013.03	2,892.84	2,566.13	326.71	8.855		
12,200.00	7,154.00	13,349.02	7,579.00	168.03	176.72	-98.39	-3,321.51	-7,113.03	2,892.85	2,560.95	331.89	8.716		
12,300.00	7,154.00	13,449.02	7,579.00	170.66	179.17	-98.39	-3,321.57	-7,213.03	2,892.86	2,555.78	337.08	8.582		
12,400.00	7,154.00	13,549.02	7,579.00	173.29	181.64	-98.39	-3,321.64	-7,313.03	2,892.87	2,550.59	342.27	8.452		
12,500.00	7,154.00	13,649.02	7,579.00	175.93	184.11	-98.39	-3,321.70	-7,413.03	2,892.88	2,545.40	347.47	8.325		
12,600.00	7,154.00	13,749.02	7,579.00	178.56	186.59	-98.39	-3,321.76	-7,513.03	2,892.89	2,540.21	352.68	8.203		
12,700.00	7,154.00	13,849.02	7,579.00	181.20	189.08	-98.39	-3,321.82	-7,613.03	2,892.90	2,535.01	357.88	8.083		
12,800.00	7,154.00	13,949.02	7,579.00	183.84	191.57	-98.39	-3,321.89	-7,713.03	2,892.91	2,529.81	363.10	7.967		
12,900.00	7,154.00	14,049.02	7,579.00	186.49	194.07	-98.39	-3,321.95	-7,813.03	2,892.92	2,524.61	368.31	7.855		
13,000.00	7,154.00	14,149.02	7,579.00	189.13	196.58	-98.39	-3,322.01	-7,913.03	2,892.93	2,519.40	373.53	7.745		
13,100.00	7,154.00	14,249.02	7,579.00	191.78	199.09	-98.39	-3,322.08	-8,013.03	2,892.94	2,514.18	378.76	7.638		
13,200.00	7,154.00	14,349.02	7,579.00	194.43	201.61	-98.39	-3,322.14	-8,113.03	2,892.95	2,508.97	383.99	7.534		
13,300.00	7,154.00	14,449.02	7,579.00	197.07	204.13	-98.39	-3,322.20	-8,213.03	2,892.96	2,503.74	389.22	7.433		
13,400.00	7,154.00	14,549.02	7,579.00	199.73	206.65	-98.39	-3,322.27	-8,313.03	2,892.97	2,498.52	394.45	7.334		
13,500.00	7,154.00	14,649.02	7,579.00	202.38	209.19	-98.39	-3,322.33	-8,413.03	2,892.98	2,493.29	399.69	7.238		
13,600.00	7,154.00	14,749.02	7,579.00	205.03	211.72	-98.39	-3,322.39	-8,513.03	2,892.99	2,488.06	404.93	7.144		
13,700.00	7,154.00	14,849.02	7,579.00	207.69	214.26	-98.39	-3,322.46	-8,613.03	2,893.00	2,482.83	410.17	7.053		
13,800.00	7,154.00	14,949.02	7,579.00	210.34	216.81	-98.39	-3,322.52	-8,713.03	2,893.01	2,477.59	415.42	6.964		
13,900.00	7,154.00	15,049.02	7,579.00	213.00	219.36	-98.39	-3,322.58	-8,813.03	2,893.03	2,472.36	420.67	6.877		
14,000.00	7,154.00	15,149.02	7,579.00	215.66	221.91	-98.39	-3,322.64	-8,913.03	2,893.04	2,467.11	425.92	6.792		
14,100.00	7,154.00	15,249.02	7,579.00	218.32	224.47	-98.39	-3,322.71	-9,013.03	2,893.05	2,461.87	431.18	6.710		
14,200.00	7,154.00	15,349.02	7,579.00	220.98	227.03	-98.39	-3,322.77	-9,113.03	2,893.06	2,456.62	436.43	6.629		
14,300.00	7,154.00	15,449.02	7,579.00	223.64	229.59	-98.39	-3,322.83	-9,213.03	2,893.07	2,451.37	441.69	6.550		
14,400.00	7,154.00	15,549.02	7,579.00	226.30	232.16	-98.39	-3,322.90	-9,313.03	2,893.08	2,446.12	446.95	6.473		
14,500.00	7,154.00	15,649.02	7,579.00	228.97	234.73	-98.39	-3,322.96	-9,413.03	2,893.09	2,440.87	452.22	6.398		
14,600.00	7,154.00	15,749.02	7,579.00	231.63	237.30	-98.39	-3,323.02	-9,513.03	2,893.10	2,435.61	457.48	6.324		
14,700.00	7,154.00	15,849.02	7,579.00	234.29	239.88	-98.39	-3,323.09	-9,613.03	2,893.11	2,430.36	462.75	6.252		
14,800.00	7,154.00	15,949.02	7,579.00	236.96	242.46	-98.39	-3,323.15	-9,713.03	2,893.12	2,425.10	468.02	6.182		
14,900.00	7,154.00	16,049.02	7,579.00	239.63	245.04	-98.39	-3,323.21	-9,813.03	2,893.13	2,419.84	473.29	6.113		
15,000.00	7,154.00	16,149.02	7,579.00	242.30	247.63	-98.39	-3,323.27	-9,913.03	2,893.14	2,414.57	478.57	6.045		
15,100.00	7,154.00	16,249.02	7,579.00	244.96	250.21	-98.39	-3,323.34	-10,013.03	2,893.15	2,409.31	483.84	5.980		
15,200.00	7,154.00	16,349.02	7,579.00	247.63	252.80	-98.39	-3,323.40	-10,113.03	2,893.16	2,404.04	489.12	5.915		
15,300.00	7,154.00	16,449.02	7,579.00	250.30	255.40	-98.39	-3,323.46	-10,213.03	2,893.17	2,398.77	494.40	5.852		
15,400.00	7,154.00	16,549.02	7,579.00	252.98	257.99	-98.39	-3,323.53	-10,313.03	2,893.18	2,393.50	499.68	5.790		

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

# Anticollision Report

<b>Company:</b>	EXTRACTION OIL & GAS	<b>Local Co-ordinate Reference:</b>	Well WARBLER 13W-27-19
<b>Project:</b>	ADAMS COUNTY	<b>TVD Reference:</b>	KB 25' @ 5106.00usft
<b>Reference Site:</b>	Sec 13-T1S-R66W	<b>MD Reference:</b>	KB 25' @ 5106.00usft
<b>Site Error:</b>	0.00 usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	WARBLER 13W-27-19	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00 usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OWB	<b>Database:</b>	EDT_32Bit_ODBC
<b>Reference Design:</b>	PROPOSAL 1	<b>Offset TVD Reference:</b>	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	16,649.02	7,579.00	255.65	260.59	-98.39	-3,323.59	-10,413.03	2,893.19	2,388.23	504.96	5.730		
15,600.00	7,154.00	16,749.02	7,579.00	258.32	263.19	-98.39	-3,323.65	-10,513.03	2,893.20	2,382.96	510.25	5.670		
15,700.00	7,154.00	16,849.02	7,579.00	260.99	265.79	-98.39	-3,323.72	-10,613.03	2,893.22	2,377.68	515.53	5.612		
15,800.00	7,154.00	16,949.02	7,579.00	263.67	268.40	-98.39	-3,323.78	-10,713.03	2,893.23	2,372.41	520.82	5.555		
15,900.00	7,154.00	17,049.02	7,579.00	266.34	271.01	-98.39	-3,323.84	-10,813.03	2,893.24	2,367.13	526.11	5.499		
16,000.00	7,154.00	17,149.02	7,579.00	269.01	273.61	-98.39	-3,323.91	-10,913.03	2,893.25	2,361.85	531.40	5.445		
16,100.00	7,154.00	17,249.02	7,579.00	271.69	276.23	-98.39	-3,323.97	-11,013.03	2,893.26	2,356.57	536.69	5.391		
16,200.00	7,154.00	17,349.02	7,579.00	274.36	278.84	-98.39	-3,324.03	-11,113.03	2,893.27	2,351.29	541.98	5.338		
16,300.00	7,154.00	17,449.02	7,579.00	277.04	281.45	-98.39	-3,324.09	-11,213.03	2,893.28	2,346.01	547.27	5.287		
16,400.00	7,154.00	17,549.02	7,579.00	279.72	284.07	-98.39	-3,324.16	-11,313.03	2,893.29	2,340.72	552.57	5.236		
16,500.00	7,154.00	17,649.02	7,579.00	282.40	286.69	-98.39	-3,324.22	-11,413.03	2,893.30	2,335.44	557.86	5.186		
16,600.00	7,154.00	17,749.02	7,579.00	285.07	289.31	-98.39	-3,324.28	-11,513.03	2,893.31	2,330.15	563.16	5.138		
16,700.00	7,154.00	17,849.02	7,579.00	287.75	291.93	-98.39	-3,324.35	-11,613.03	2,893.32	2,324.86	568.46	5.090		
16,800.00	7,154.00	17,949.02	7,579.00	290.43	294.55	-98.39	-3,324.41	-11,713.03	2,893.33	2,319.58	573.76	5.043		
16,900.00	7,154.00	18,049.02	7,579.00	293.11	297.17	-98.39	-3,324.47	-11,813.03	2,893.34	2,314.29	579.06	4.997		
17,000.00	7,154.00	18,149.02	7,579.00	295.79	299.80	-98.39	-3,324.54	-11,913.03	2,893.35	2,309.00	584.36	4.951		
17,100.00	7,154.00	18,249.02	7,579.00	298.47	302.43	-98.39	-3,324.60	-12,013.03	2,893.36	2,303.70	589.66	4.907		
17,200.00	7,154.00	18,349.02	7,579.00	301.15	305.06	-98.39	-3,324.66	-12,113.03	2,893.37	2,298.41	594.96	4.863		
17,300.00	7,154.00	18,449.02	7,579.00	303.83	307.69	-98.39	-3,324.73	-12,213.03	2,893.38	2,293.12	600.26	4.820		
17,400.00	7,154.00	18,549.02	7,579.00	306.51	310.32	-98.39	-3,324.79	-12,313.03	2,893.39	2,287.83	605.57	4.778		
17,500.00	7,154.00	18,649.02	7,579.00	309.19	312.95	-98.39	-3,324.85	-12,413.03	2,893.41	2,282.53	610.88	4.736		
17,600.00	7,154.00	18,749.02	7,579.00	311.88	315.59	-98.39	-3,324.91	-12,513.03	2,893.42	2,277.23	616.18	4.696		
17,700.00	7,154.00	18,849.02	7,579.00	314.56	318.22	-98.39	-3,324.98	-12,613.03	2,893.43	2,271.94	621.49	4.656		
17,800.00	7,154.00	18,949.02	7,579.00	317.24	320.86	-98.39	-3,325.04	-12,713.03	2,893.44	2,266.64	626.80	4.616		
17,900.00	7,154.00	19,049.02	7,579.00	319.92	323.49	-98.39	-3,325.10	-12,813.03	2,893.45	2,261.34	632.11	4.577		
18,000.00	7,154.00	19,149.02	7,579.00	322.61	326.13	-98.39	-3,325.17	-12,913.03	2,893.46	2,256.04	637.42	4.539		
18,100.00	7,154.00	19,249.02	7,579.00	325.29	328.77	-98.39	-3,325.23	-13,013.03	2,893.47	2,250.74	642.73	4.502		
18,200.00	7,154.00	19,349.02	7,579.00	327.98	331.41	-98.39	-3,325.29	-13,113.03	2,893.48	2,245.44	648.04	4.465		
18,300.00	7,154.00	19,449.02	7,579.00	330.66	334.06	-98.39	-3,325.36	-13,213.03	2,893.49	2,240.14	653.35	4.429		
18,400.00	7,154.00	19,549.02	7,579.00	333.34	336.70	-98.39	-3,325.42	-13,313.03	2,893.50	2,234.84	658.66	4.393		
18,500.00	7,154.00	19,649.02	7,579.00	336.03	339.34	-98.39	-3,325.48	-13,413.03	2,893.51	2,229.54	663.97	4.358		
18,600.00	7,154.00	19,749.02	7,579.00	338.71	341.99	-98.39	-3,325.55	-13,513.03	2,893.52	2,224.23	669.29	4.323		
18,700.00	7,154.00	19,849.02	7,579.00	341.40	344.63	-98.39	-3,325.61	-13,613.03	2,893.53	2,218.93	674.60	4.289		
18,800.00	7,154.00	19,949.02	7,579.00	344.09	347.28	-98.39	-3,325.67	-13,713.03	2,893.54	2,213.62	679.92	4.256		
18,900.00	7,154.00	20,049.02	7,579.00	346.77	349.93	-98.39	-3,325.73	-13,813.03	2,893.55	2,208.32	685.23	4.223		
19,000.00	7,154.00	20,149.02	7,579.00	349.46	352.58	-98.39	-3,325.80	-13,913.03	2,893.56	2,203.01	690.55	4.190		
19,100.00	7,154.00	20,249.02	7,579.00	352.15	355.23	-98.39	-3,325.86	-14,013.03	2,893.57	2,197.71	695.87	4.158		
19,200.00	7,154.00	20,349.02	7,579.00	354.83	357.88	-98.39	-3,325.92	-14,113.03	2,893.58	2,192.40	701.19	4.127		
19,300.00	7,154.00	20,449.02	7,579.00	357.52	360.53	-98.39	-3,325.99	-14,213.03	2,893.60	2,187.09	706.50	4.096		
19,400.00	7,154.00	20,549.02	7,579.00	360.21	363.18	-98.39	-3,326.05	-14,313.03	2,893.61	2,181.78	711.82	4.065		
19,500.00	7,154.00	20,649.02	7,579.00	362.90	365.83	-98.39	-3,326.11	-14,413.03	2,893.62	2,176.47	717.14	4.035		
19,600.00	7,154.00	20,749.02	7,579.00	365.58	368.49	-98.39	-3,326.18	-14,513.03	2,893.63	2,171.16	722.46	4.005		
19,700.00	7,154.00	20,849.02	7,579.00	368.27	371.14	-98.39	-3,326.24	-14,613.03	2,893.64	2,165.85	727.78	3.976		
19,800.00	7,154.00	20,949.02	7,579.00	370.96	373.80	-98.39	-3,326.30	-14,713.03	2,893.65	2,160.54	733.10	3.947		
19,900.00	7,154.00	21,049.02	7,579.00	373.65	376.45	-98.39	-3,326.37	-14,813.03	2,893.66	2,155.23	738.43	3.919		
20,000.00	7,154.00	21,149.02	7,579.00	376.34	379.11	-98.39	-3,326.43	-14,913.03	2,893.67	2,149.92	743.75	3.891		
20,100.00	7,154.00	21,249.02	7,579.00	379.03	381.77	-98.39	-3,326.49	-15,013.03	2,893.68	2,144.61	749.07	3.863		
20,200.00	7,154.00	21,349.02	7,579.00	381.71	384.43	-98.39	-3,326.55	-15,113.03	2,893.69	2,139.30	754.39	3.836		
20,300.00	7,154.00	21,449.02	7,579.00	384.40	387.08	-98.39	-3,326.62	-15,213.03	2,893.70	2,133.99	759.72	3.809		
20,400.00	7,154.00	21,549.02	7,579.00	387.09	389.74	-98.39	-3,326.68	-15,313.03	2,893.71	2,128.67	765.04	3.782		
20,500.00	7,154.00	21,649.02	7,579.00	389.78	392.40	-98.39	-3,326.74	-15,413.03	2,893.72	2,123.36	770.36	3.756		
20,600.00	7,154.00	21,749.02	7,579.00	392.47	395.06	-98.39	-3,326.81	-15,513.03	2,893.73	2,118.04	775.69	3.731		

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

# Anticollision Report

<b>Company:</b>	EXTRACTION OIL & GAS	<b>Local Co-ordinate Reference:</b>	Well WARBLER 13W-27-19
<b>Project:</b>	ADAMS COUNTY	<b>TVD Reference:</b>	KB 25' @ 5106.00usft
<b>Reference Site:</b>	Sec 13-T1S-R66W	<b>MD Reference:</b>	KB 25' @ 5106.00usft
<b>Site Error:</b>	0.00 usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	WARBLER 13W-27-19	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00 usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OWB	<b>Database:</b>	EDT_32Bit_ODBC
<b>Reference Design:</b>	PROPOSAL 1	<b>Offset TVD Reference:</b>	Offset Datum

<b>Offset Design</b> Sec 13-T1S-R66W - WARBLER 24W-27-12 - OWB - PROPOSAL 1												<b>Offset Site Error:</b>	0.00 usft
Survey Program: 0-MWD OWSG												<b>Offset Well Error:</b>	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	21,849.02	7,579.00	395.16	397.73	-98.39	-3,326.87	-15,613.03	2,893.74	2,112.73	781.01	3.705	
20,800.00	7,154.00	21,949.02	7,579.00	397.85	400.39	-98.39	-3,326.93	-15,713.03	2,893.75	2,107.42	786.34	3.680	
20,900.00	7,154.00	22,049.02	7,579.00	400.54	403.05	-98.39	-3,327.00	-15,813.03	2,893.76	2,102.10	791.66	3.655	
21,000.00	7,154.00	22,149.02	7,579.00	403.24	405.71	-98.39	-3,327.06	-15,913.03	2,893.77	2,096.78	796.99	3.631	
21,100.00	7,154.00	22,249.02	7,579.00	405.93	408.38	-98.39	-3,327.12	-16,013.03	2,893.79	2,091.47	802.32	3.607	
21,200.00	7,154.00	22,349.02	7,579.00	408.62	411.04	-98.39	-3,327.19	-16,113.03	2,893.80	2,086.15	807.64	3.583	
21,300.00	7,154.00	22,449.02	7,579.00	411.31	413.70	-98.39	-3,327.25	-16,213.03	2,893.81	2,080.83	812.97	3.560	
21,400.00	7,154.00	22,549.02	7,579.00	414.00	416.37	-98.39	-3,327.31	-16,313.03	2,893.82	2,075.52	818.30	3.536	
21,500.00	7,154.00	22,649.02	7,579.00	416.69	419.03	-98.39	-3,327.37	-16,413.03	2,893.83	2,070.20	823.63	3.514	
21,505.33	7,154.00	22,654.35	7,579.00	416.83	419.18	-98.39	-3,327.38	-16,418.36	2,893.83	2,069.92	823.91	3.512 SF	

# Anticollision Report

<b>Company:</b>	EXTRACTION OIL & GAS	<b>Local Co-ordinate Reference:</b>	Well WARBLER 13W-27-19
<b>Project:</b>	ADAMS COUNTY	<b>TVD Reference:</b>	KB 25' @ 5106.00usft
<b>Reference Site:</b>	Sec 13-T1S-R66W	<b>MD Reference:</b>	KB 25' @ 5106.00usft
<b>Site Error:</b>	0.00 usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	WARBLER 13W-27-19	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00 usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OWB	<b>Database:</b>	EDT_32Bit_ODBC
<b>Reference Design:</b>	PROPOSAL 1	<b>Offset TVD Reference:</b>	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	-56.10	-0.56	56.10					
100.00	100.00	101.00	101.00	0.13	0.14	-179.43	-56.10	-0.56	56.10	55.83	0.27	205.927		
200.00	200.00	201.00	201.00	0.49	0.50	-179.43	-56.10	-0.56	56.10	55.11	0.99	56.705 CC, ES		
300.00	300.00	299.85	299.83	0.85	0.84	-177.99	-57.07	-2.01	57.12	55.42	1.69	33.733		
400.00	400.00	398.48	398.32	1.21	1.19	-174.03	-59.92	-6.27	60.31	57.91	2.40	25.139		
500.00	499.98	496.79	496.26	1.56	1.55	-69.02	-64.65	-13.32	65.54	62.43	3.10	21.112		
600.00	599.84	594.81	593.57	1.91	1.93	-65.96	-71.22	-23.13	72.17	68.35	3.81	18.927		
700.00	699.45	692.54	690.12	2.27	2.34	-64.02	-79.61	-35.65	80.00	75.47	4.54	17.623		
800.00	798.70	789.95	785.79	2.65	2.78	-62.99	-89.79	-50.85	88.93	83.64	5.29	16.808		
900.00	897.47	887.02	880.45	3.06	3.25	-62.63	-101.73	-68.68	98.87	92.80	6.07	16.276		
1,000.00	995.62	983.72	973.98	3.49	3.76	-62.77	-115.39	-89.07	109.80	102.90	6.90	15.908		
1,100.00	1,093.06	1,080.05	1,066.27	3.96	4.30	-63.26	-130.74	-111.99	121.70	113.92	7.78	15.644		
1,200.00	1,189.64	1,175.97	1,157.20	4.47	4.89	-63.99	-147.73	-137.35	134.59	125.86	8.73	15.417		
1,300.00	1,285.27	1,271.49	1,246.68	5.02	5.53	-64.88	-166.32	-165.11	148.48	138.72	9.76	15.218		
1,400.00	1,379.82	1,366.58	1,334.60	5.63	6.21	-65.85	-186.47	-195.19	163.36	152.49	10.87	15.026		
1,500.00	1,473.18	1,462.08	1,421.68	6.29	6.93	-66.92	-208.30	-227.77	179.22	167.12	12.09	14.820		
1,600.00	1,566.03	1,560.68	1,511.16	6.99	7.72	-68.24	-231.34	-262.17	195.35	181.90	13.44	14.533		
1,700.00	1,658.89	1,659.28	1,600.65	7.71	8.51	-69.36	-254.39	-296.58	211.56	196.74	14.82	14.272		
1,800.00	1,751.74	1,757.88	1,690.13	8.44	9.32	-70.32	-277.43	-330.98	227.84	211.61	16.23	14.038		
1,900.00	1,844.60	1,856.48	1,779.61	9.17	10.13	-71.15	-300.48	-365.39	244.18	226.52	17.66	13.828		
2,000.00	1,937.45	1,955.08	1,869.09	9.91	10.94	-71.87	-323.53	-399.79	260.56	241.46	19.10	13.641		
2,100.00	2,030.31	2,053.68	1,958.57	10.66	11.76	-72.51	-346.57	-434.20	276.97	256.42	20.56	13.474		
2,200.00	2,123.16	2,152.28	2,048.05	11.41	12.58	-73.08	-369.62	-468.60	293.42	271.40	22.02	13.325		
2,300.00	2,216.02	2,250.88	2,137.53	12.17	13.40	-73.59	-392.67	-503.01	309.89	286.39	23.49	13.190		
2,400.00	2,308.87	2,349.47	2,227.02	12.93	14.22	-74.04	-415.71	-537.41	326.38	301.41	24.97	13.069		
2,500.00	2,401.73	2,448.07	2,316.50	13.69	15.05	-74.46	-438.76	-571.82	342.89	316.43	26.46	12.959		
2,600.00	2,494.58	2,546.67	2,405.98	14.45	15.88	-74.83	-461.80	-606.22	359.41	331.47	27.95	12.860		
2,700.00	2,587.44	2,645.27	2,495.46	15.22	16.71	-75.17	-484.85	-640.63	375.95	346.51	29.44	12.769		
2,800.00	2,680.29	2,743.87	2,584.94	15.98	17.54	-75.49	-507.90	-675.03	392.50	361.56	30.94	12.686		
2,900.00	2,773.15	2,842.47	2,674.42	16.75	18.37	-75.78	-530.94	-709.44	409.07	376.62	32.44	12.609		
3,000.00	2,866.00	2,941.07	2,763.91	17.52	19.20	-76.04	-553.99	-743.84	425.64	391.69	33.94	12.539		
3,100.00	2,958.86	3,039.67	2,853.39	18.29	20.03	-76.29	-577.04	-778.25	442.22	406.77	35.45	12.474		
3,200.00	3,051.71	3,138.27	2,942.87	19.06	20.87	-76.51	-600.08	-812.65	458.80	421.84	36.96	12.414		
3,300.00	3,144.57	3,236.87	3,032.35	19.83	21.70	-76.73	-623.13	-847.06	475.39	436.93	38.47	12.358		
3,400.00	3,237.42	3,335.47	3,121.83	20.60	22.53	-76.92	-646.17	-881.46	491.99	452.02	39.98	12.307		
3,500.00	3,330.28	3,434.06	3,211.31	21.37	23.37	-77.11	-669.22	-915.87	508.60	467.11	41.49	12.258		
3,600.00	3,423.13	3,532.66	3,300.80	22.15	24.20	-77.28	-692.27	-950.27	525.21	482.20	43.00	12.213		
3,700.00	3,515.99	3,631.26	3,390.28	22.92	25.04	-77.44	-715.31	-984.68	541.82	497.30	44.52	12.171		
3,800.00	3,608.84	3,729.86	3,479.76	23.70	25.87	-77.60	-738.36	-1,019.08	558.44	512.40	46.03	12.131		
3,900.00	3,701.70	3,828.46	3,569.24	24.47	26.71	-77.74	-761.41	-1,053.49	575.06	527.51	47.55	12.094		
4,000.00	3,794.55	3,927.06	3,658.72	25.25	27.54	-77.88	-784.45	-1,087.89	591.68	542.61	49.07	12.058		
4,100.00	3,887.41	4,025.66	3,748.20	26.02	28.38	-78.00	-807.50	-1,122.30	608.31	557.72	50.59	12.025		
4,200.00	3,980.26	4,124.26	3,837.68	26.80	29.22	-78.13	-830.54	-1,156.70	624.94	572.83	52.10	11.994		
4,300.00	4,073.12	4,222.86	3,927.17	27.57	30.05	-78.24	-853.59	-1,191.11	641.57	587.95	53.62	11.964		
4,400.00	4,165.97	4,321.46	4,016.65	28.35	30.89	-78.35	-876.64	-1,225.51	658.21	603.06	55.14	11.936		
4,500.00	4,258.83	4,420.06	4,106.13	29.12	31.73	-78.45	-899.68	-1,259.92	674.84	618.18	56.66	11.909		
4,600.00	4,351.68	4,518.65	4,195.61	29.90	32.57	-78.55	-922.73	-1,294.32	691.48	633.30	58.19	11.884		
4,700.00	4,444.54	4,617.25	4,285.09	30.68	33.40	-78.65	-945.78	-1,328.73	708.12	648.42	59.71	11.860		
4,800.00	4,537.39	4,715.85	4,374.57	31.45	34.24	-78.74	-968.82	-1,363.13	724.77	663.54	61.23	11.837		
4,900.00	4,630.25	4,814.45	4,464.06	32.23	35.08	-78.82	-991.87	-1,397.54	741.41	678.66	62.75	11.815		
5,000.00	4,723.10	4,913.05	4,553.54	33.01	35.92	-78.91	-1,014.91	-1,431.94	758.06	693.78	64.27	11.794		
5,100.00	4,815.96	5,011.65	4,643.02	33.79	36.75	-78.98	-1,037.96	-1,466.35	774.71	708.91	65.80	11.774		

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

# Anticollision Report

<b>Company:</b>	EXTRACTION OIL & GAS	<b>Local Co-ordinate Reference:</b>	Well WARBLER 13W-27-19
<b>Project:</b>	ADAMS COUNTY	<b>TVD Reference:</b>	KB 25' @ 5106.00usft
<b>Reference Site:</b>	Sec 13-T1S-R66W	<b>MD Reference:</b>	KB 25' @ 5106.00usft
<b>Site Error:</b>	0.00 usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	WARBLER 13W-27-19	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00 usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OWB	<b>Database:</b>	EDT_32Bit_ODBC
<b>Reference Design:</b>	PROPOSAL 1	<b>Offset TVD Reference:</b>	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	4,908.81	5,110.25	4,732.50	34.56	37.59	-79.06	-1,061.01	-1,500.75	791.36	724.03	67.32	11.755		
5,300.00	5,001.67	5,208.85	4,821.98	35.34	38.43	-79.13	-1,084.05	-1,535.16	808.01	739.16	68.84	11.737		
5,400.00	5,094.52	5,307.45	4,911.46	36.12	39.27	-79.20	-1,107.10	-1,569.56	824.66	754.29	70.37	11.719		
5,500.00	5,187.38	5,406.05	5,000.94	36.90	40.10	-79.27	-1,130.15	-1,603.97	841.31	769.42	71.89	11.702		
5,600.00	5,280.23	5,504.64	5,090.43	37.67	40.94	-79.33	-1,153.19	-1,638.37	857.96	784.55	73.42	11.686		
5,700.00	5,373.09	5,603.24	5,179.91	38.45	41.78	-79.39	-1,176.24	-1,672.78	874.62	799.68	74.94	11.671		
5,800.00	5,465.94	5,701.84	5,269.39	39.23	42.62	-79.45	-1,199.28	-1,707.18	891.27	814.81	76.47	11.656		
5,900.00	5,558.80	5,800.44	5,358.87	40.01	43.46	-79.51	-1,222.33	-1,741.59	907.93	829.94	77.99	11.642		
6,000.00	5,651.65	5,900.96	5,448.35	40.79	44.31	-79.57	-1,245.38	-1,775.99	924.59	845.06	79.53	11.626		
6,100.00	5,744.51	5,997.64	5,537.83	41.57	45.14	-79.62	-1,268.42	-1,810.40	941.25	860.20	81.04	11.614		
6,200.00	5,837.36	6,096.24	5,627.32	42.34	45.97	-79.67	-1,291.47	-1,844.80	957.90	875.34	82.57	11.602		
6,300.00	5,930.22	6,205.16	5,716.80	43.12	46.90	-79.72	-1,314.52	-1,879.21	974.56	890.39	84.17	11.578		
6,400.00	6,023.07	6,306.56	5,806.28	43.90	47.76	-79.77	-1,337.56	-1,913.61	991.22	905.51	85.72	11.564		
6,500.00	6,115.93	6,407.96	5,895.76	44.68	48.63	-79.81	-1,360.61	-1,948.02	1,007.89	920.62	87.27	11.550		
6,600.00	6,208.78	6,490.64	5,985.24	45.46	49.33	-79.86	-1,383.65	-1,982.42	1,024.55	935.88	88.67	11.555		
6,700.00	6,301.64	6,589.23	6,074.72	46.24	50.17	-79.90	-1,406.70	-2,016.83	1,041.21	951.01	90.20	11.544		
6,800.00	6,394.49	6,687.83	6,164.20	47.02	51.01	-79.94	-1,429.75	-2,051.23	1,057.87	966.15	91.72	11.533		
6,900.00	6,487.35	6,786.43	6,253.69	47.80	51.84	-79.98	-1,452.79	-2,085.64	1,074.54	981.29	93.25	11.523		
7,000.00	6,580.20	6,885.03	6,343.17	48.57	52.68	-80.02	-1,475.84	-2,120.04	1,091.20	996.42	94.78	11.513		
7,100.00	6,673.06	6,983.63	6,432.65	49.35	53.52	-80.06	-1,498.89	-2,154.44	1,107.86	1,011.56	96.30	11.504		
7,200.00	6,765.91	7,082.23	6,522.13	50.13	54.36	-80.10	-1,521.93	-2,188.85	1,124.53	1,026.70	97.83	11.495		
7,300.00	6,856.90	7,180.58	6,611.39	50.99	55.20	-81.81	-1,544.92	-2,223.17	1,141.29	1,041.76	99.53	11.466		
7,400.00	6,939.78	7,276.56	6,698.49	52.14	56.02	-83.14	-1,567.35	-2,256.66	1,158.41	1,056.55	101.85	11.373		
7,500.00	7,011.80	7,367.24	6,780.78	53.58	56.79	-84.17	-1,588.55	-2,288.30	1,176.30	1,071.59	104.71	11.234		
7,600.00	7,070.78	7,493.66	6,891.09	55.27	58.03	-85.87	-1,616.97	-2,342.59	1,194.62	1,086.06	108.56	11.004		
7,700.00	7,114.93	7,650.22	7,007.59	57.16	60.07	-87.65	-1,647.02	-2,442.00	1,210.66	1,097.74	112.92	10.721		
7,800.00	7,142.90	7,834.87	7,105.51	59.19	63.08	-89.16	-1,672.33	-2,595.53	1,222.36	1,105.02	117.34	10.418		
7,900.00	7,153.85	8,042.16	7,153.02	61.28	66.84	-89.93	-1,684.72	-2,795.76	1,227.52	1,106.22	121.30	10.119		
8,000.00	7,154.00	8,160.25	7,154.00	63.38	69.02	-89.95	-1,685.07	-2,913.83	1,227.66	1,102.25	125.41	9.789		
8,100.00	7,154.00	8,260.25	7,154.00	65.52	70.92	-89.95	-1,685.15	-3,013.83	1,227.69	1,097.99	129.70	9.466		
8,200.00	7,154.00	8,360.25	7,154.00	67.71	72.86	-89.95	-1,685.23	-3,113.83	1,227.72	1,093.66	134.06	9.158		
8,300.00	7,154.00	8,460.25	7,154.00	69.93	74.85	-89.95	-1,685.31	-3,213.83	1,227.75	1,089.25	138.50	8.864		
8,400.00	7,154.00	8,560.25	7,154.00	72.19	76.88	-89.95	-1,685.39	-3,313.83	1,227.78	1,084.77	143.01	8.585		
8,500.00	7,154.00	8,660.25	7,154.00	74.47	78.95	-89.95	-1,685.48	-3,413.83	1,227.81	1,080.23	147.58	8.320		
8,600.00	7,154.00	8,760.25	7,154.00	76.79	81.06	-89.95	-1,685.56	-3,513.83	1,227.84	1,075.64	152.20	8.067		
8,700.00	7,154.00	8,860.25	7,154.00	79.12	83.21	-89.95	-1,685.64	-3,613.83	1,227.87	1,071.00	156.87	7.827		
8,800.00	7,154.00	8,960.25	7,154.00	81.48	85.38	-89.95	-1,685.72	-3,713.83	1,227.90	1,066.31	161.59	7.599		
8,900.00	7,154.00	9,060.25	7,154.00	83.87	87.59	-89.95	-1,685.80	-3,813.83	1,227.92	1,061.58	166.35	7.382		
9,000.00	7,154.00	9,160.25	7,154.00	86.27	89.82	-89.95	-1,685.89	-3,913.83	1,227.95	1,056.81	171.15	7.175		
9,100.00	7,154.00	9,260.25	7,154.00	88.68	92.08	-89.95	-1,685.97	-4,013.83	1,227.98	1,052.00	175.98	6.978		
9,200.00	7,154.00	9,360.25	7,154.00	91.12	94.37	-89.95	-1,686.05	-4,113.83	1,228.01	1,047.17	180.85	6.790		
9,300.00	7,154.00	9,460.25	7,154.00	93.57	96.67	-89.95	-1,686.13	-4,213.83	1,228.04	1,042.30	185.74	6.612		
9,400.00	7,154.00	9,560.25	7,154.00	96.03	99.00	-89.95	-1,686.21	-4,313.83	1,228.07	1,037.41	190.67	6.441		
9,500.00	7,154.00	9,660.25	7,154.00	98.50	101.34	-89.95	-1,686.29	-4,413.83	1,228.10	1,032.49	195.62	6.278		
9,600.00	7,154.00	9,760.25	7,154.00	100.99	103.71	-89.95	-1,686.38	-4,513.83	1,228.13	1,027.54	200.59	6.123		
9,700.00	7,154.00	9,860.25	7,154.00	103.49	106.09	-89.95	-1,686.46	-4,613.83	1,228.16	1,022.58	205.58	5.974		
9,800.00	7,154.00	9,960.25	7,154.00	106.00	108.48	-89.95	-1,686.54	-4,713.83	1,228.19	1,017.59	210.60	5.832		
9,900.00	7,154.00	10,060.25	7,154.00	108.51	110.90	-89.95	-1,686.62	-4,813.83	1,228.22	1,012.59	215.63	5.696		
10,000.00	7,154.00	10,160.25	7,154.00	111.04	113.32	-89.95	-1,686.70	-4,913.83	1,228.25	1,007.56	220.68	5.566		
10,100.00	7,154.00	10,260.25	7,154.00	113.58	115.76	-89.95	-1,686.79	-5,013.83	1,228.28	1,002.53	225.75	5.441		
10,200.00	7,154.00	10,360.25	7,154.00	116.12	118.21	-89.95	-1,686.87	-5,113.83	1,228.31	997.47	230.84	5.321		
10,300.00	7,154.00	10,460.25	7,154.00	118.67	120.67	-89.95	-1,686.95	-5,213.83	1,228.34	992.40	235.93	5.206		

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

# Anticollision Report

<b>Company:</b>	EXTRACTION OIL & GAS	<b>Local Co-ordinate Reference:</b>	Well WARBLER 13W-27-19
<b>Project:</b>	ADAMS COUNTY	<b>TVD Reference:</b>	KB 25' @ 5106.00usft
<b>Reference Site:</b>	Sec 13-T1S-R66W	<b>MD Reference:</b>	KB 25' @ 5106.00usft
<b>Site Error:</b>	0.00 usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	WARBLER 13W-27-19	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00 usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OWB	<b>Database:</b>	EDT_32Bit_ODBC
<b>Reference Design:</b>	PROPOSAL 1	<b>Offset TVD Reference:</b>	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	10,560.25	7,154.00	121.22	123.14	-89.95	-1,687.03	-5,313.83	1,228.37	987.32	241.04	5.096		
10,500.00	7,154.00	10,660.25	7,154.00	123.79	125.62	-89.95	-1,687.11	-5,413.83	1,228.40	982.23	246.17	4.990		
10,600.00	7,154.00	10,760.25	7,154.00	126.35	128.11	-89.95	-1,687.20	-5,513.83	1,228.43	977.12	251.30	4.888		
10,700.00	7,154.00	10,860.25	7,154.00	128.93	130.61	-89.95	-1,687.28	-5,613.83	1,228.46	972.00	256.45	4.790		
10,800.00	7,154.00	10,960.25	7,154.00	131.51	133.12	-89.95	-1,687.36	-5,713.83	1,228.48	966.88	261.61	4.696		
10,900.00	7,154.00	11,060.25	7,154.00	134.09	135.63	-89.95	-1,687.44	-5,813.83	1,228.51	961.74	266.78	4.605		
11,000.00	7,154.00	11,160.25	7,154.00	136.68	138.16	-89.95	-1,687.52	-5,913.83	1,228.54	956.59	271.95	4.517		
11,100.00	7,154.00	11,260.25	7,154.00	139.27	140.69	-89.95	-1,687.60	-6,013.83	1,228.57	951.44	277.14	4.433		
11,200.00	7,154.00	11,360.25	7,154.00	141.87	143.22	-89.95	-1,687.69	-6,113.83	1,228.60	946.27	282.33	4.352		
11,300.00	7,154.00	11,460.25	7,154.00	144.47	145.77	-89.95	-1,687.77	-6,213.83	1,228.63	941.10	287.53	4.273		
11,400.00	7,154.00	11,560.25	7,154.00	147.08	148.32	-89.95	-1,687.85	-6,313.83	1,228.66	935.92	292.74	4.197		
11,500.00	7,154.00	11,660.25	7,154.00	149.68	150.87	-89.95	-1,687.93	-6,413.83	1,228.69	930.73	297.96	4.124		
11,600.00	7,154.00	11,760.25	7,154.00	152.30	153.43	-89.95	-1,688.01	-6,513.83	1,228.72	925.54	303.18	4.053		
11,700.00	7,154.00	11,860.25	7,154.00	154.91	155.99	-89.95	-1,688.10	-6,613.83	1,228.75	920.34	308.41	3.984		
11,800.00	7,154.00	11,960.25	7,154.00	157.53	158.56	-89.95	-1,688.18	-6,713.83	1,228.78	915.14	313.64	3.918		
11,900.00	7,154.00	12,060.25	7,154.00	160.15	161.14	-89.95	-1,688.26	-6,813.83	1,228.81	909.92	318.88	3.853		
12,000.00	7,154.00	12,160.25	7,154.00	162.77	163.72	-89.95	-1,688.34	-6,913.83	1,228.84	904.71	324.13	3.791		
12,100.00	7,154.00	12,260.25	7,154.00	165.40	166.30	-89.95	-1,688.42	-7,013.83	1,228.87	899.49	329.38	3.731		
12,200.00	7,154.00	12,360.25	7,154.00	168.03	168.88	-89.95	-1,688.51	-7,113.83	1,228.90	894.26	334.64	3.672		
12,300.00	7,154.00	12,460.25	7,154.00	170.66	171.47	-89.95	-1,688.59	-7,213.83	1,228.93	889.03	339.90	3.616		
12,400.00	7,154.00	12,560.25	7,154.00	173.29	174.07	-89.95	-1,688.67	-7,313.83	1,228.96	883.79	345.16	3.560		
12,500.00	7,154.00	12,660.25	7,154.00	175.93	176.67	-89.95	-1,688.75	-7,413.83	1,228.99	878.55	350.43	3.507		
12,600.00	7,154.00	12,760.25	7,154.00	178.56	179.27	-89.95	-1,688.83	-7,513.83	1,229.01	873.31	355.71	3.455		
12,700.00	7,154.00	12,860.25	7,154.00	181.20	181.87	-89.95	-1,688.91	-7,613.83	1,229.04	868.06	360.99	3.405		
12,800.00	7,154.00	12,960.25	7,154.00	183.84	184.48	-89.95	-1,689.00	-7,713.83	1,229.07	862.81	366.27	3.356		
12,900.00	7,154.00	13,060.25	7,154.00	186.49	187.08	-89.95	-1,689.08	-7,813.83	1,229.10	857.55	371.55	3.308		
13,000.00	7,154.00	13,160.25	7,154.00	189.13	189.70	-89.95	-1,689.16	-7,913.83	1,229.13	852.29	376.84	3.262		
13,100.00	7,154.00	13,260.25	7,154.00	191.78	192.31	-89.95	-1,689.24	-8,013.83	1,229.16	847.03	382.13	3.217		
13,200.00	7,154.00	13,360.25	7,154.00	194.43	194.93	-89.95	-1,689.32	-8,113.83	1,229.19	841.76	387.43	3.173		
13,300.00	7,154.00	13,460.25	7,154.00	197.07	197.55	-89.95	-1,689.41	-8,213.83	1,229.22	836.49	392.73	3.130		
13,400.00	7,154.00	13,560.25	7,154.00	199.73	200.17	-89.95	-1,689.49	-8,313.83	1,229.25	831.22	398.03	3.088		
13,500.00	7,154.00	13,660.25	7,154.00	202.38	202.79	-89.95	-1,689.57	-8,413.83	1,229.28	825.95	403.33	3.048		
13,600.00	7,154.00	13,760.25	7,154.00	205.03	205.42	-89.95	-1,689.65	-8,513.83	1,229.31	820.67	408.64	3.008		
13,700.00	7,154.00	13,860.25	7,154.00	207.69	208.05	-89.95	-1,689.73	-8,613.83	1,229.34	815.39	413.95	2.970		
13,800.00	7,154.00	13,960.25	7,154.00	210.34	210.68	-89.95	-1,689.82	-8,713.83	1,229.37	810.11	419.26	2.932		
13,900.00	7,154.00	14,060.25	7,154.00	213.00	213.31	-89.95	-1,689.90	-8,813.83	1,229.40	804.82	424.57	2.896		
14,000.00	7,154.00	14,160.25	7,154.00	215.66	215.94	-89.95	-1,689.98	-8,913.83	1,229.43	799.54	429.89	2.860		
14,100.00	7,154.00	14,260.25	7,154.00	218.32	218.58	-89.95	-1,690.06	-9,013.83	1,229.46	794.25	435.21	2.825		
14,200.00	7,154.00	14,360.25	7,154.00	220.98	221.22	-89.95	-1,690.14	-9,113.83	1,229.49	788.96	440.53	2.791		
14,300.00	7,154.00	14,460.25	7,154.00	223.64	223.86	-89.95	-1,690.22	-9,213.83	1,229.52	783.66	445.85	2.758		
14,400.00	7,154.00	14,560.25	7,154.00	226.30	226.50	-89.95	-1,690.31	-9,313.83	1,229.55	778.37	451.18	2.725		
14,500.00	7,154.00	14,660.25	7,154.00	228.97	229.14	-89.95	-1,690.39	-9,413.83	1,229.57	773.07	456.50	2.693		
14,600.00	7,154.00	14,760.25	7,154.00	231.63	231.78	-89.95	-1,690.47	-9,513.83	1,229.60	767.77	461.83	2.662		
14,700.00	7,154.00	14,860.25	7,154.00	234.29	234.43	-89.95	-1,690.55	-9,613.83	1,229.63	762.47	467.16	2.632		
14,800.00	7,154.00	14,960.25	7,154.00	236.96	237.07	-89.95	-1,690.63	-9,713.83	1,229.66	757.17	472.49	2.602		
14,900.00	7,154.00	15,060.25	7,154.00	239.63	239.72	-89.95	-1,690.72	-9,813.83	1,229.69	751.87	477.83	2.574		
15,000.00	7,154.00	15,160.25	7,154.00	242.30	242.37	-89.95	-1,690.80	-9,913.83	1,229.72	746.56	483.16	2.545		
15,100.00	7,154.00	15,260.25	7,154.00	244.96	245.02	-89.95	-1,690.88	-10,013.83	1,229.75	741.25	488.50	2.517		
15,200.00	7,154.00	15,360.25	7,154.00	247.63	247.67	-89.95	-1,690.96	-10,113.83	1,229.78	735.94	493.84	2.490		
15,300.00	7,154.00	15,460.25	7,154.00	250.30	250.32	-89.95	-1,691.04	-10,213.83	1,229.81	730.63	499.18	2.464		
15,400.00	7,154.00	15,560.25	7,154.00	252.98	252.98	-89.95	-1,691.13	-10,313.83	1,229.84	725.32	504.52	2.438		
15,500.00	7,154.00	15,660.25	7,154.00	255.65	255.63	-89.95	-1,691.21	-10,413.83	1,229.87	720.01	509.86	2.412		

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

# Anticollision Report

<b>Company:</b>	EXTRACTION OIL & GAS	<b>Local Co-ordinate Reference:</b>	Well WARBLER 13W-27-19
<b>Project:</b>	ADAMS COUNTY	<b>TVD Reference:</b>	KB 25' @ 5106.00usft
<b>Reference Site:</b>	Sec 13-T1S-R66W	<b>MD Reference:</b>	KB 25' @ 5106.00usft
<b>Site Error:</b>	0.00 usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	WARBLER 13W-27-19	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00 usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OWB	<b>Database:</b>	EDT_32Bit_ODBC
<b>Reference Design:</b>	PROPOSAL 1	<b>Offset TVD Reference:</b>	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	15,760.25	7,154.00	258.32	258.29	-89.95	-1,691.29	-10,513.83	1,229.90	714.69	515.21	2.387		
15,700.00	7,154.00	15,860.25	7,154.00	260.99	260.94	-89.95	-1,691.37	-10,613.83	1,229.93	709.38	520.55	2.363		
15,800.00	7,154.00	15,960.25	7,154.00	263.67	263.60	-89.95	-1,691.45	-10,713.83	1,229.96	704.06	525.90	2.339		
15,900.00	7,154.00	16,060.25	7,154.00	266.34	266.26	-89.95	-1,691.53	-10,813.83	1,229.99	698.74	531.25	2.315		
16,000.00	7,154.00	16,160.25	7,154.00	269.01	268.92	-89.95	-1,691.62	-10,913.83	1,230.02	693.42	536.59	2.292		
16,100.00	7,154.00	16,260.25	7,154.00	271.69	271.58	-89.95	-1,691.70	-11,013.83	1,230.05	688.10	541.94	2.270		
16,200.00	7,154.00	16,360.25	7,154.00	274.36	274.24	-89.95	-1,691.78	-11,113.83	1,230.08	682.78	547.30	2.248		
16,300.00	7,154.00	16,460.25	7,154.00	277.04	276.90	-89.95	-1,691.86	-11,213.83	1,230.11	677.46	552.65	2.226		
16,400.00	7,154.00	16,560.25	7,154.00	279.72	279.57	-89.95	-1,691.94	-11,313.83	1,230.13	672.13	558.00	2.205		
16,500.00	7,154.00	16,660.25	7,154.00	282.40	282.23	-89.95	-1,692.03	-11,413.83	1,230.16	666.81	563.36	2.184		
16,600.00	7,154.00	16,760.25	7,154.00	285.07	284.89	-89.95	-1,692.11	-11,513.83	1,230.19	661.48	568.71	2.163		
16,700.00	7,154.00	16,860.25	7,154.00	287.75	287.56	-89.95	-1,692.19	-11,613.83	1,230.22	656.16	574.07	2.143		
16,800.00	7,154.00	16,960.25	7,154.00	290.43	290.22	-89.95	-1,692.27	-11,713.83	1,230.25	650.83	579.42	2.123		
16,900.00	7,154.00	17,060.25	7,154.00	293.11	292.89	-89.95	-1,692.35	-11,813.83	1,230.28	645.50	584.78	2.104		
17,000.00	7,154.00	17,160.25	7,154.00	295.79	295.56	-89.95	-1,692.44	-11,913.83	1,230.31	640.17	590.14	2.085		
17,100.00	7,154.00	17,260.25	7,154.00	298.47	298.23	-89.95	-1,692.52	-12,013.83	1,230.34	634.84	595.50	2.066		
17,200.00	7,154.00	17,360.25	7,154.00	301.15	300.90	-89.95	-1,692.60	-12,113.83	1,230.37	629.51	600.86	2.048		
17,300.00	7,154.00	17,460.25	7,154.00	303.83	303.56	-89.95	-1,692.68	-12,213.83	1,230.40	624.18	606.22	2.030		
17,400.00	7,154.00	17,560.25	7,154.00	306.51	306.23	-89.95	-1,692.76	-12,313.83	1,230.43	618.84	611.59	2.012		
17,500.00	7,154.00	17,660.25	7,154.00	309.19	308.90	-89.95	-1,692.84	-12,413.83	1,230.46	613.51	616.95	1.994		
17,600.00	7,154.00	17,760.25	7,154.00	311.88	311.58	-89.95	-1,692.93	-12,513.83	1,230.49	608.17	622.31	1.977		
17,700.00	7,154.00	17,860.25	7,154.00	314.56	314.25	-89.95	-1,693.01	-12,613.83	1,230.52	602.84	627.68	1.960		
17,800.00	7,154.00	17,960.25	7,154.00	317.24	316.92	-89.95	-1,693.09	-12,713.83	1,230.55	597.50	633.04	1.944		
17,900.00	7,154.00	18,060.25	7,154.00	319.92	319.59	-89.95	-1,693.17	-12,813.83	1,230.58	592.17	638.41	1.928		
18,000.00	7,154.00	18,160.25	7,154.00	322.61	322.26	-89.95	-1,693.25	-12,913.83	1,230.61	586.83	643.78	1.912		
18,100.00	7,154.00	18,260.25	7,154.00	325.29	324.94	-89.95	-1,693.34	-13,013.83	1,230.64	581.49	649.14	1.896		
18,200.00	7,154.00	18,360.25	7,154.00	327.98	327.61	-89.95	-1,693.42	-13,113.83	1,230.67	576.15	654.51	1.880		
18,300.00	7,154.00	18,460.25	7,154.00	330.66	330.29	-89.95	-1,693.50	-13,213.83	1,230.69	570.81	659.88	1.865		
18,400.00	7,154.00	18,560.25	7,154.00	333.34	332.96	-89.95	-1,693.58	-13,313.83	1,230.72	565.47	665.25	1.850		
18,500.00	7,154.00	18,660.25	7,154.00	336.03	335.64	-89.95	-1,693.66	-13,413.83	1,230.75	560.13	670.62	1.835		
18,600.00	7,154.00	18,760.25	7,154.00	338.71	338.31	-89.95	-1,693.75	-13,513.83	1,230.78	554.79	675.99	1.821		
18,700.00	7,154.00	18,860.25	7,154.00	341.40	340.99	-89.95	-1,693.83	-13,613.83	1,230.81	549.45	681.36	1.806		
18,800.00	7,154.00	18,960.25	7,154.00	344.09	343.67	-89.95	-1,693.91	-13,713.83	1,230.84	544.11	686.73	1.792		
18,900.00	7,154.00	19,060.25	7,154.00	346.77	346.34	-89.95	-1,693.99	-13,813.83	1,230.87	538.77	692.10	1.778		
19,000.00	7,154.00	19,160.25	7,154.00	349.46	349.02	-89.95	-1,694.07	-13,913.83	1,230.90	533.42	697.48	1.765		
19,100.00	7,154.00	19,260.25	7,154.00	352.15	351.70	-89.95	-1,694.15	-14,013.83	1,230.93	528.08	702.85	1.751		
19,200.00	7,154.00	19,360.25	7,154.00	354.83	354.38	-89.95	-1,694.24	-14,113.83	1,230.96	522.74	708.22	1.738		
19,300.00	7,154.00	19,460.25	7,154.00	357.52	357.06	-89.95	-1,694.32	-14,213.83	1,230.99	517.39	713.60	1.725		
19,400.00	7,154.00	19,560.25	7,154.00	360.21	359.74	-89.95	-1,694.40	-14,313.83	1,231.02	512.05	718.97	1.712		
19,500.00	7,154.00	19,660.25	7,154.00	362.90	362.42	-89.95	-1,694.48	-14,413.83	1,231.05	506.70	724.35	1.700		
19,600.00	7,154.00	19,760.25	7,154.00	365.58	365.10	-89.95	-1,694.56	-14,513.83	1,231.08	501.35	729.72	1.687		
19,700.00	7,154.00	19,860.25	7,154.00	368.27	367.78	-89.95	-1,694.65	-14,613.83	1,231.11	496.01	735.10	1.675		
19,800.00	7,154.00	19,960.25	7,154.00	370.96	370.46	-89.95	-1,694.73	-14,713.83	1,231.14	490.66	740.48	1.663		
19,900.00	7,154.00	20,060.25	7,154.00	373.65	373.14	-89.95	-1,694.81	-14,813.83	1,231.17	485.31	745.85	1.651		
20,000.00	7,154.00	20,160.25	7,154.00	376.34	375.82	-89.95	-1,694.89	-14,913.83	1,231.20	479.97	751.23	1.639		
20,100.00	7,154.00	20,260.25	7,154.00	379.03	378.50	-89.95	-1,694.97	-15,013.83	1,231.22	474.62	756.61	1.627		
20,200.00	7,154.00	20,360.25	7,154.00	381.71	381.18	-89.95	-1,695.06	-15,113.83	1,231.25	469.27	761.99	1.616		
20,300.00	7,154.00	20,460.25	7,154.00	384.40	383.87	-89.95	-1,695.14	-15,213.83	1,231.28	463.92	767.36	1.605		
20,400.00	7,154.00	20,560.25	7,154.00	387.09	386.55	-89.95	-1,695.22	-15,313.83	1,231.31	458.57	772.74	1.593		
20,500.00	7,154.00	20,660.25	7,154.00	389.78	389.23	-89.95	-1,695.30	-15,413.83	1,231.34	453.22	778.12	1.582		
20,600.00	7,154.00	20,760.25	7,154.00	392.47	391.91	-89.95	-1,695.38	-15,513.83	1,231.37	447.87	783.50	1.572		
20,700.00	7,154.00	20,860.25	7,154.00	395.16	394.60	-89.95	-1,695.46	-15,613.83	1,231.40	442.52	788.88	1.561		

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



## Anticollision Report

<b>Company:</b>	EXTRACTION OIL & GAS	<b>Local Co-ordinate Reference:</b>	Well WARBLER 13W-27-19
<b>Project:</b>	ADAMS COUNTY	<b>TVD Reference:</b>	KB 25' @ 5106.00usft
<b>Reference Site:</b>	Sec 13-T1S-R66W	<b>MD Reference:</b>	KB 25' @ 5106.00usft
<b>Site Error:</b>	0.00 usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	WARBLER 13W-27-19	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00 usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OWB	<b>Database:</b>	EDT_32Bit_ODBC
<b>Reference Design:</b>	PROPOSAL 1	<b>Offset TVD Reference:</b>	Offset Datum

<b>Offset Design</b> Sec 13-T1S-R66W - WARBLER 24W-27-21 - OWB - PROPOSAL 1												<b>Offset Site Error:</b>	0.00 usft
Survey Program: 0-MWD OWSG												<b>Offset Well Error:</b>	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	20,960.25	7,154.00	397.85	397.28	-89.95	-1,695.55	-15,713.83	1,231.43	437.17	794.26	1.550	
20,900.00	7,154.00	21,060.25	7,154.00	400.54	399.97	-89.95	-1,695.63	-15,813.83	1,231.46	431.82	799.64	1.540	
21,000.00	7,154.00	21,160.25	7,154.00	403.24	402.65	-89.95	-1,695.71	-15,913.83	1,231.49	426.47	805.02	1.530	
21,100.00	7,154.00	21,260.25	7,154.00	405.93	405.33	-89.95	-1,695.79	-16,013.83	1,231.52	421.11	810.41	1.520	
21,200.00	7,154.00	21,360.25	7,154.00	408.62	408.02	-89.95	-1,695.87	-16,113.83	1,231.55	415.76	815.79	1.510	
21,300.00	7,154.00	21,460.25	7,154.00	411.31	410.70	-89.95	-1,695.96	-16,213.83	1,231.58	410.41	821.17	1.500	Level 3
21,400.00	7,154.00	21,560.25	7,154.00	414.00	413.39	-89.95	-1,696.04	-16,313.83	1,231.61	405.06	826.55	1.490	Level 3
21,500.00	7,154.00	21,660.25	7,154.00	416.69	416.07	-89.95	-1,696.12	-16,413.83	1,231.64	399.70	831.93	1.480	Level 3
21,505.33	7,154.00	21,665.58	7,154.00	416.83	416.22	-89.95	-1,696.12	-16,419.16	1,231.64	399.42	832.22	1.480	Level 3, SF

# Anticollision Report

<b>Company:</b>	EXTRACTION OIL & GAS	<b>Local Co-ordinate Reference:</b>	Well WARBLER 13W-27-19
<b>Project:</b>	ADAMS COUNTY	<b>TVD Reference:</b>	KB 25' @ 5106.00usft
<b>Reference Site:</b>	Sec 13-T1S-R66W	<b>MD Reference:</b>	KB 25' @ 5106.00usft
<b>Site Error:</b>	0.00 usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	WARBLER 13W-27-19	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00 usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OWB	<b>Database:</b>	EDT_32Bit_ODBC
<b>Reference Design:</b>	PROPOSAL 1	<b>Offset TVD Reference:</b>	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	311.452	CC, ES	
200.00	200.00	197.83	197.79	0.49	0.48	-178.26	-85.92	-2.61	86.02	85.04	0.98	87.736		
300.00	300.00	294.20	293.86	0.85	0.84	-175.10	-91.12	-7.82	91.74	90.04	1.70	54.040		
400.00	400.00	389.58	388.47	1.21	1.22	-170.69	-99.64	-16.34	101.74	99.32	2.42	42.013		
500.00	499.98	483.78	481.21	1.56	1.64	-65.74	-111.31	-28.03	115.77	112.64	3.13	36.946		
600.00	599.84	576.83	571.89	1.91	2.10	-62.60	-126.01	-42.73	132.96	129.13	3.84	34.649		
700.00	699.45	668.58	660.22	2.27	2.61	-60.40	-143.53	-60.27	153.00	148.45	4.55	33.628		
800.00	798.70	758.93	745.93	2.65	3.17	-58.91	-163.70	-80.45	175.64	170.36	5.28	33.293		
900.00	897.47	847.79	828.82	3.06	3.78	-57.93	-186.31	-103.08	200.68	194.66	6.03	33.298		
1,000.00	995.62	935.07	908.72	3.49	4.44	-57.29	-211.15	-127.93	228.00	221.22	6.77	33.666		
1,100.00	1,093.06	1,021.38	986.05	3.96	5.14	-56.90	-238.22	-155.02	257.45	249.86	7.59	33.930		
1,200.00	1,189.64	1,116.93	1,070.84	4.47	5.96	-56.94	-269.37	-186.19	286.80	278.25	8.56	33.512		
1,300.00	1,285.27	1,212.91	1,156.00	5.02	6.81	-57.46	-300.66	-217.50	314.39	304.78	9.61	32.722		
1,400.00	1,379.82	1,309.20	1,241.44	5.63	7.66	-58.37	-332.05	-248.91	340.30	329.55	10.75	31.666		
1,500.00	1,473.18	1,405.67	1,327.04	6.29	8.51	-59.63	-363.50	-280.39	364.67	352.69	11.98	30.433		
1,600.00	1,566.03	1,502.20	1,412.69	6.99	9.38	-61.26	-394.97	-311.87	388.64	375.35	13.29	29.240		
1,700.00	1,658.89	1,598.72	1,498.33	7.71	10.24	-62.69	-426.43	-343.36	412.88	398.24	14.63	28.213		
1,800.00	1,751.74	1,704.76	1,583.98	8.44	11.19	-63.97	-457.90	-374.85	437.33	421.27	16.06	27.225		
1,900.00	1,844.60	1,791.77	1,669.62	9.17	11.98	-65.11	-489.36	-406.34	461.97	444.57	17.40	26.558		
2,000.00	1,937.45	1,888.29	1,755.27	9.91	12.85	-66.14	-520.83	-437.83	486.76	467.96	18.80	25.888		
2,100.00	2,030.31	1,984.82	1,840.92	10.66	13.72	-67.07	-552.30	-469.32	511.69	491.47	20.22	25.300		
2,200.00	2,123.16	2,081.34	1,926.56	11.41	14.59	-67.91	-583.76	-500.80	536.74	515.08	21.66	24.782		
2,300.00	2,216.02	2,177.86	2,012.21	12.17	15.46	-68.68	-615.23	-532.29	561.88	538.78	23.10	24.323		
2,400.00	2,308.87	2,274.39	2,097.85	12.93	16.34	-69.38	-646.70	-563.78	587.11	562.56	24.55	23.914		
2,500.00	2,401.73	2,370.91	2,183.50	13.69	17.21	-70.03	-678.16	-595.27	612.42	586.41	26.01	23.548		
2,600.00	2,494.58	2,467.43	2,269.14	14.45	18.09	-70.62	-709.63	-626.76	637.79	610.32	27.47	23.218		
2,700.00	2,587.44	2,563.96	2,354.79	15.22	18.96	-71.17	-741.09	-658.24	663.22	634.29	28.94	22.920		
2,800.00	2,680.29	2,660.48	2,440.44	15.98	19.84	-71.68	-772.56	-689.73	688.71	658.30	30.41	22.649		
2,900.00	2,773.15	2,757.00	2,526.08	16.75	20.71	-72.15	-804.03	-721.22	714.24	682.36	31.88	22.403		
3,000.00	2,866.00	2,853.53	2,611.73	17.52	21.59	-72.59	-835.49	-752.71	739.82	706.46	33.36	22.177		
3,100.00	2,958.86	2,950.05	2,697.37	18.29	22.46	-73.00	-866.96	-784.20	765.43	730.59	34.84	21.970		
3,200.00	3,051.71	3,046.58	2,783.02	19.06	23.34	-73.38	-898.43	-815.68	791.08	754.75	36.32	21.779		
3,300.00	3,144.57	3,143.10	2,868.66	19.83	24.22	-73.74	-929.89	-847.17	816.76	778.95	37.81	21.603		
3,400.00	3,237.42	3,239.62	2,954.31	20.60	25.09	-74.08	-961.36	-878.66	842.46	803.17	39.29	21.440		
3,500.00	3,330.28	3,336.15	3,039.96	21.37	25.97	-74.39	-992.82	-910.15	868.20	827.41	40.78	21.289		
3,600.00	3,423.13	3,432.67	3,125.60	22.15	26.85	-74.69	-1,024.29	-941.64	893.95	851.68	42.27	21.149		
3,700.00	3,515.99	3,529.19	3,211.25	22.92	27.72	-74.98	-1,055.76	-973.13	919.73	875.97	43.76	21.017		
3,800.00	3,608.84	3,625.72	3,296.89	23.70	28.60	-75.24	-1,087.22	-1,004.61	945.53	900.27	45.25	20.894		
3,900.00	3,701.70	3,722.24	3,382.54	24.47	29.48	-75.50	-1,118.69	-1,036.10	971.34	924.60	46.75	20.780		
4,000.00	3,794.55	3,818.76	3,468.18	25.25	30.36	-75.74	-1,150.15	-1,067.59	997.17	948.94	48.24	20.672		
4,100.00	3,887.41	3,915.29	3,553.83	26.02	31.23	-75.96	-1,181.62	-1,099.08	1,023.02	973.29	49.73	20.570		
4,200.00	3,980.26	4,011.81	3,639.47	26.80	32.11	-76.18	-1,213.09	-1,130.57	1,048.89	997.66	51.23	20.475		
4,300.00	4,073.12	4,108.33	3,725.12	27.57	32.99	-76.39	-1,244.55	-1,162.05	1,074.76	1,022.04	52.72	20.384		
4,400.00	4,165.97	4,204.86	3,810.77	28.35	33.86	-76.58	-1,276.02	-1,193.54	1,100.65	1,046.43	54.22	20.299		
4,500.00	4,258.83	4,301.38	3,896.41	29.12	34.74	-76.77	-1,307.49	-1,225.03	1,126.55	1,070.83	55.72	20.219		
4,600.00	4,351.68	4,402.09	3,982.06	29.90	35.66	-76.95	-1,338.95	-1,256.52	1,152.46	1,095.21	57.25	20.132		
4,700.00	4,444.54	4,505.57	4,067.70	30.68	36.60	-77.12	-1,370.42	-1,288.01	1,178.38	1,119.58	58.80	20.042		
4,800.00	4,537.39	4,590.95	4,153.35	31.45	37.38	-77.28	-1,401.88	-1,319.50	1,204.31	1,144.10	60.21	20.001		
4,900.00	4,630.25	4,687.48	4,238.99	32.23	38.25	-77.44	-1,433.35	-1,350.98	1,230.25	1,168.54	61.71	19.935		
5,000.00	4,723.10	4,784.00	4,324.64	33.01	39.13	-77.59	-1,464.82	-1,382.47	1,256.20	1,192.98	63.21	19.873		
5,100.00	4,815.96	4,880.52	4,410.29	33.79	40.01	-77.74	-1,496.28	-1,413.96	1,282.15	1,217.44	64.71	19.813		

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

# Anticollision Report

<b>Company:</b>	EXTRACTION OIL & GAS	<b>Local Co-ordinate Reference:</b>	Well WARBLER 13W-27-19
<b>Project:</b>	ADAMS COUNTY	<b>TVD Reference:</b>	KB 25' @ 5106.00usft
<b>Reference Site:</b>	Sec 13-T1S-R66W	<b>MD Reference:</b>	KB 25' @ 5106.00usft
<b>Site Error:</b>	0.00 usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	WARBLER 13W-27-19	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00 usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OWB	<b>Database:</b>	EDT_32Bit_ODBC
<b>Reference Design:</b>	PROPOSAL 1	<b>Offset TVD Reference:</b>	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	4,908.81	4,977.05	4,495.93	34.56	40.89	-77.88	-1,527.75	-1,445.45	1,308.11	1,241.90	66.21	19.757		
5,300.00	5,001.67	5,073.57	4,581.58	35.34	41.76	-78.01	-1,559.22	-1,476.94	1,334.08	1,266.37	67.71	19.702		
5,400.00	5,094.52	5,170.09	4,667.22	36.12	42.64	-78.14	-1,590.68	-1,508.42	1,360.06	1,290.84	69.21	19.650		
5,500.00	5,187.38	5,266.62	4,752.87	36.90	43.52	-78.26	-1,622.15	-1,539.91	1,386.04	1,315.32	70.71	19.601		
5,600.00	5,280.23	5,363.14	4,838.51	37.67	44.40	-78.38	-1,653.61	-1,571.40	1,412.03	1,339.81	72.22	19.553		
5,700.00	5,373.09	5,459.66	4,924.16	38.45	45.28	-78.49	-1,685.08	-1,602.89	1,438.02	1,364.30	73.72	19.507		
5,800.00	5,465.94	5,556.19	5,009.81	39.23	46.15	-78.60	-1,716.55	-1,634.38	1,464.02	1,388.80	75.22	19.463		
5,900.00	5,558.80	5,652.71	5,095.45	40.01	47.03	-78.71	-1,748.01	-1,665.86	1,490.02	1,413.30	76.72	19.421		
6,000.00	5,651.65	5,749.24	5,181.10	40.79	47.91	-78.81	-1,779.48	-1,697.35	1,516.03	1,437.80	78.22	19.381		
6,100.00	5,744.51	5,845.76	5,266.74	41.57	48.79	-78.91	-1,810.95	-1,728.84	1,542.04	1,462.31	79.73	19.342		
6,200.00	5,837.36	5,942.28	5,352.39	42.34	49.67	-79.01	-1,842.41	-1,760.33	1,568.05	1,486.83	81.23	19.304		
6,300.00	5,930.22	6,038.81	5,438.03	43.12	50.55	-79.10	-1,873.88	-1,791.82	1,594.07	1,511.34	82.73	19.268		
6,400.00	6,023.07	6,135.33	5,523.68	43.90	51.42	-79.19	-1,905.34	-1,823.31	1,620.10	1,535.86	84.23	19.233		
6,500.00	6,115.93	6,231.85	5,609.32	44.68	52.30	-79.28	-1,936.81	-1,854.79	1,646.13	1,560.39	85.74	19.200		
6,600.00	6,208.78	6,328.38	5,694.97	45.46	53.18	-79.36	-1,968.28	-1,886.28	1,672.16	1,584.92	87.24	19.167		
6,700.00	6,301.64	6,424.90	5,780.62	46.24	54.06	-79.45	-1,999.74	-1,917.77	1,698.19	1,609.45	88.74	19.136		
6,800.00	6,394.49	6,521.42	5,866.26	47.02	54.94	-79.53	-2,031.21	-1,949.26	1,724.23	1,633.98	90.25	19.106		
6,900.00	6,487.35	6,617.95	5,951.91	47.80	55.81	-79.60	-2,062.67	-1,980.75	1,750.27	1,658.52	91.75	19.076		
7,000.00	6,580.20	6,714.47	6,037.55	48.57	56.69	-79.68	-2,094.14	-2,012.23	1,776.31	1,683.06	93.26	19.048		
7,100.00	6,673.06	6,810.99	6,123.20	49.35	57.57	-79.75	-2,125.61	-2,043.72	1,802.36	1,707.60	94.76	19.020		
7,200.00	6,765.91	6,907.52	6,208.84	50.13	58.45	-79.82	-2,157.07	-2,075.21	1,828.41	1,732.14	96.26	18.994		
7,300.00	6,856.90	7,003.72	6,294.21	50.99	59.33	-80.75	-2,188.44	-2,106.59	1,854.51	1,756.59	97.92	18.939		
7,400.00	6,939.78	7,097.33	6,377.26	52.14	60.18	-80.76	-2,218.95	-2,137.13	1,880.59	1,780.49	100.11	18.786		
7,500.00	7,011.80	7,185.48	6,455.48	53.58	60.98	-80.31	-2,247.69	-2,165.89	1,906.48	1,803.69	102.79	18.548		
7,600.00	7,070.78	7,265.49	6,526.47	55.27	61.71	-79.70	-2,273.77	-2,191.99	1,932.33	1,826.48	105.86	18.254		
7,700.00	7,114.93	7,334.94	6,588.10	57.16	62.34	-78.87	-2,296.41	-2,214.65	1,958.51	1,849.34	109.18	17.939		
7,800.00	7,142.90	7,408.28	6,638.47	59.19	63.01	-77.70	-2,314.92	-2,233.17	1,985.43	1,872.72	112.71	17.615		
7,900.00	7,153.85	7,434.09	6,676.08	61.28	63.24	-76.03	-2,328.73	-2,246.99	2,013.40	1,897.52	115.88	17.375		
8,000.00	7,154.00	7,466.87	6,705.16	63.38	63.54	-76.56	-2,339.42	-2,257.68	2,043.57	1,924.60	118.97	17.177		
8,100.00	7,154.00	8,456.19	7,154.00	65.52	77.50	-89.97	-2,504.78	-3,013.27	2,047.32	1,917.38	129.93	15.757		
8,200.00	7,154.00	8,556.19	7,154.00	67.71	79.22	-89.97	-2,504.85	-3,113.27	2,047.34	1,913.10	134.24	15.252		
8,300.00	7,154.00	8,656.19	7,154.00	69.93	80.98	-89.97	-2,504.93	-3,213.27	2,047.36	1,908.74	138.62	14.769		
8,400.00	7,154.00	8,756.19	7,154.00	72.19	82.79	-89.97	-2,505.00	-3,313.27	2,047.39	1,904.31	143.08	14.310		
8,500.00	7,154.00	8,856.19	7,154.00	74.47	84.65	-89.97	-2,505.08	-3,413.27	2,047.41	1,899.82	147.59	13.872		
8,600.00	7,154.00	8,956.19	7,154.00	76.79	86.55	-89.97	-2,505.16	-3,513.27	2,047.44	1,895.27	152.17	13.455		
8,700.00	7,154.00	9,056.19	7,154.00	79.12	88.49	-89.97	-2,505.23	-3,613.27	2,047.46	1,890.66	156.80	13.058		
8,800.00	7,154.00	9,156.19	7,154.00	81.48	90.47	-89.97	-2,505.31	-3,713.27	2,047.48	1,886.01	161.48	12.680		
8,900.00	7,154.00	9,256.19	7,154.00	83.87	92.49	-89.97	-2,505.39	-3,813.27	2,047.51	1,881.31	166.20	12.320		
9,000.00	7,154.00	9,356.19	7,154.00	86.27	94.54	-89.97	-2,505.46	-3,913.27	2,047.53	1,876.57	170.96	11.977		
9,100.00	7,154.00	9,456.19	7,154.00	88.68	96.62	-89.97	-2,505.54	-4,013.27	2,047.56	1,871.80	175.76	11.650		
9,200.00	7,154.00	9,556.19	7,154.00	91.12	98.74	-89.97	-2,505.62	-4,113.27	2,047.58	1,866.99	180.59	11.338		
9,300.00	7,154.00	9,656.19	7,154.00	93.57	100.88	-89.97	-2,505.69	-4,213.27	2,047.60	1,862.15	185.46	11.041		
9,400.00	7,154.00	9,756.19	7,154.00	96.03	103.05	-89.97	-2,505.77	-4,313.27	2,047.63	1,857.28	190.35	10.757		
9,500.00	7,154.00	9,856.19	7,154.00	98.50	105.25	-89.97	-2,505.85	-4,413.27	2,047.65	1,852.38	195.27	10.486		
9,600.00	7,154.00	9,956.19	7,154.00	100.99	107.47	-89.97	-2,505.92	-4,513.27	2,047.68	1,847.46	200.22	10.227		
9,700.00	7,154.00	10,056.19	7,154.00	103.49	109.72	-89.97	-2,506.00	-4,613.27	2,047.70	1,842.51	205.19	9.980		
9,800.00	7,154.00	10,156.19	7,154.00	106.00	111.98	-89.97	-2,506.08	-4,713.27	2,047.73	1,837.55	210.18	9.743		
9,900.00	7,154.00	10,256.19	7,154.00	108.51	114.27	-89.97	-2,506.15	-4,813.27	2,047.75	1,832.56	215.19	9.516		
10,000.00	7,154.00	10,356.19	7,154.00	111.04	116.57	-89.97	-2,506.23	-4,913.27	2,047.77	1,827.55	220.22	9.299		
10,100.00	7,154.00	10,456.19	7,154.00	113.58	118.89	-89.97	-2,506.31	-5,013.27	2,047.80	1,822.53	225.27	9.091		
10,200.00	7,154.00	10,556.19	7,154.00	116.12	121.23	-89.97	-2,506.38	-5,113.27	2,047.82	1,817.49	230.33	8.891		
10,300.00	7,154.00	10,656.19	7,154.00	118.67	123.59	-89.97	-2,506.46	-5,213.27	2,047.85	1,812.44	235.41	8.699		

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

# Anticollision Report

<b>Company:</b>	EXTRACTION OIL & GAS	<b>Local Co-ordinate Reference:</b>	Well WARBLER 13W-27-19
<b>Project:</b>	ADAMS COUNTY	<b>TVD Reference:</b>	KB 25' @ 5106.00usft
<b>Reference Site:</b>	Sec 13-T1S-R66W	<b>MD Reference:</b>	KB 25' @ 5106.00usft
<b>Site Error:</b>	0.00 usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	WARBLER 13W-27-19	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00 usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OWB	<b>Database:</b>	EDT_32Bit_ODBC
<b>Reference Design:</b>	PROPOSAL 1	<b>Offset TVD Reference:</b>	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	10,756.19	7,154.00	121.22	125.96	-89.97	-2,506.53	-5,313.27	2,047.87	1,807.37	240.50	8.515		
10,500.00	7,154.00	10,856.19	7,154.00	123.79	128.34	-89.97	-2,506.61	-5,413.27	2,047.89	1,802.28	245.61	8.338		
10,600.00	7,154.00	10,956.19	7,154.00	126.35	130.74	-89.97	-2,506.69	-5,513.27	2,047.92	1,797.19	250.73	8.168		
10,700.00	7,154.00	11,056.19	7,154.00	128.93	133.15	-89.97	-2,506.76	-5,613.27	2,047.94	1,792.08	255.86	8.004		
10,800.00	7,154.00	11,156.19	7,154.00	131.51	135.57	-89.97	-2,506.84	-5,713.27	2,047.97	1,786.96	261.00	7.847		
10,900.00	7,154.00	11,256.19	7,154.00	134.09	138.00	-89.97	-2,506.92	-5,813.27	2,047.99	1,781.83	266.16	7.695		
11,000.00	7,154.00	11,356.19	7,154.00	136.68	140.45	-89.97	-2,506.99	-5,913.27	2,048.01	1,776.70	271.32	7.548		
11,100.00	7,154.00	11,456.19	7,154.00	139.27	142.90	-89.97	-2,507.07	-6,013.27	2,048.04	1,771.55	276.49	7.407		
11,200.00	7,154.00	11,556.19	7,154.00	141.87	145.36	-89.97	-2,507.15	-6,113.27	2,048.06	1,766.39	281.67	7.271		
11,300.00	7,154.00	11,656.19	7,154.00	144.47	147.83	-89.97	-2,507.22	-6,213.27	2,048.09	1,761.23	286.86	7.140		
11,400.00	7,154.00	11,756.19	7,154.00	147.08	150.31	-89.97	-2,507.30	-6,313.27	2,048.11	1,756.05	292.06	7.013		
11,500.00	7,154.00	11,856.19	7,154.00	149.68	152.80	-89.97	-2,507.38	-6,413.27	2,048.13	1,750.87	297.26	6.890		
11,600.00	7,154.00	11,956.19	7,154.00	152.30	155.30	-89.97	-2,507.45	-6,513.27	2,048.16	1,745.69	302.47	6.771		
11,700.00	7,154.00	12,056.19	7,154.00	154.91	157.80	-89.97	-2,507.53	-6,613.27	2,048.18	1,740.49	307.69	6.657		
11,800.00	7,154.00	12,156.19	7,154.00	157.53	160.31	-89.97	-2,507.61	-6,713.27	2,048.21	1,735.29	312.92	6.546		
11,900.00	7,154.00	12,256.19	7,154.00	160.15	162.83	-89.97	-2,507.68	-6,813.27	2,048.23	1,730.08	318.15	6.438		
12,000.00	7,154.00	12,356.19	7,154.00	162.77	165.35	-89.97	-2,507.76	-6,913.27	2,048.25	1,724.87	323.38	6.334		
12,100.00	7,154.00	12,456.19	7,154.00	165.40	167.88	-89.97	-2,507.83	-7,013.27	2,048.28	1,719.65	328.62	6.233		
12,200.00	7,154.00	12,556.19	7,154.00	168.03	170.42	-89.97	-2,507.91	-7,113.27	2,048.30	1,714.43	333.87	6.135		
12,300.00	7,154.00	12,656.19	7,154.00	170.66	172.96	-89.97	-2,507.99	-7,213.27	2,048.33	1,709.20	339.12	6.040		
12,400.00	7,154.00	12,756.19	7,154.00	173.29	175.50	-89.97	-2,508.06	-7,313.27	2,048.35	1,703.97	344.38	5.948		
12,500.00	7,154.00	12,856.19	7,154.00	175.93	178.05	-89.97	-2,508.14	-7,413.27	2,048.38	1,698.73	349.64	5.858		
12,600.00	7,154.00	12,956.19	7,154.00	178.56	180.61	-89.97	-2,508.22	-7,513.27	2,048.40	1,693.49	354.91	5.772		
12,700.00	7,154.00	13,056.19	7,154.00	181.20	183.17	-89.97	-2,508.29	-7,613.27	2,048.42	1,688.24	360.18	5.687		
12,800.00	7,154.00	13,156.19	7,154.00	183.84	185.73	-89.97	-2,508.37	-7,713.27	2,048.45	1,682.99	365.45	5.605		
12,900.00	7,154.00	13,256.19	7,154.00	186.49	188.30	-89.97	-2,508.45	-7,813.27	2,048.47	1,677.74	370.73	5.525		
13,000.00	7,154.00	13,356.19	7,154.00	189.13	190.87	-89.97	-2,508.52	-7,913.27	2,048.50	1,672.48	376.01	5.448		
13,100.00	7,154.00	13,456.19	7,154.00	191.78	193.45	-89.97	-2,508.60	-8,013.27	2,048.52	1,667.22	381.30	5.372		
13,200.00	7,154.00	13,556.19	7,154.00	194.43	196.03	-89.97	-2,508.68	-8,113.27	2,048.54	1,661.96	386.59	5.299		
13,300.00	7,154.00	13,656.19	7,154.00	197.07	198.61	-89.97	-2,508.75	-8,213.27	2,048.57	1,656.69	391.88	5.228		
13,400.00	7,154.00	13,756.19	7,154.00	199.73	201.20	-89.97	-2,508.83	-8,313.27	2,048.59	1,651.42	397.17	5.158		
13,500.00	7,154.00	13,856.19	7,154.00	202.38	203.79	-89.97	-2,508.91	-8,413.27	2,048.62	1,646.15	402.47	5.090		
13,600.00	7,154.00	13,956.19	7,154.00	205.03	206.38	-89.97	-2,508.98	-8,513.27	2,048.64	1,640.87	407.77	5.024		
13,700.00	7,154.00	14,056.19	7,154.00	207.69	208.98	-89.97	-2,509.06	-8,613.27	2,048.66	1,635.59	413.08	4.960		
13,800.00	7,154.00	14,156.19	7,154.00	210.34	211.57	-89.97	-2,509.14	-8,713.27	2,048.69	1,630.31	418.38	4.897		
13,900.00	7,154.00	14,256.19	7,154.00	213.00	214.18	-89.97	-2,509.21	-8,813.27	2,048.71	1,625.02	423.69	4.835		
14,000.00	7,154.00	14,356.19	7,154.00	215.66	216.78	-89.97	-2,509.29	-8,913.27	2,048.74	1,619.74	429.00	4.776		
14,100.00	7,154.00	14,456.19	7,154.00	218.32	219.39	-89.97	-2,509.36	-9,013.27	2,048.76	1,614.45	434.31	4.717		
14,200.00	7,154.00	14,556.19	7,154.00	220.98	221.99	-89.97	-2,509.44	-9,113.27	2,048.78	1,609.16	439.63	4.660		
14,300.00	7,154.00	14,656.19	7,154.00	223.64	224.61	-89.97	-2,509.52	-9,213.27	2,048.81	1,603.86	444.95	4.605		
14,400.00	7,154.00	14,756.19	7,154.00	226.30	227.22	-89.97	-2,509.59	-9,313.27	2,048.83	1,598.57	450.27	4.550		
14,500.00	7,154.00	14,856.19	7,154.00	228.97	229.84	-89.97	-2,509.67	-9,413.27	2,048.86	1,593.27	455.59	4.497		
14,600.00	7,154.00	14,956.19	7,154.00	231.63	232.45	-89.97	-2,509.75	-9,513.27	2,048.88	1,587.97	460.91	4.445		
14,700.00	7,154.00	15,056.19	7,154.00	234.29	235.07	-89.97	-2,509.82	-9,613.27	2,048.91	1,582.67	466.24	4.395		
14,800.00	7,154.00	15,156.19	7,154.00	236.96	237.69	-89.97	-2,509.90	-9,713.27	2,048.93	1,577.36	471.57	4.345		
14,900.00	7,154.00	15,256.19	7,154.00	239.63	240.32	-89.97	-2,509.98	-9,813.27	2,048.95	1,572.06	476.90	4.296		
15,000.00	7,154.00	15,356.19	7,154.00	242.30	242.94	-89.97	-2,510.05	-9,913.27	2,048.98	1,566.75	482.23	4.249		
15,100.00	7,154.00	15,456.19	7,154.00	244.96	245.57	-89.97	-2,510.13	-10,013.27	2,049.00	1,561.44	487.56	4.203		
15,200.00	7,154.00	15,556.19	7,154.00	247.63	248.20	-89.97	-2,510.21	-10,113.27	2,049.03	1,556.13	492.90	4.157		
15,300.00	7,154.00	15,656.19	7,154.00	250.30	250.83	-89.97	-2,510.28	-10,213.27	2,049.05	1,550.82	498.23	4.113		
15,400.00	7,154.00	15,756.19	7,154.00	252.98	253.46	-89.97	-2,510.36	-10,313.27	2,049.07	1,545.51	503.57	4.069		
15,500.00	7,154.00	15,856.19	7,154.00	255.65	256.10	-89.97	-2,510.44	-10,413.27	2,049.10	1,540.19	508.91	4.026		

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

# Anticollision Report

<b>Company:</b>	EXTRACTION OIL & GAS	<b>Local Co-ordinate Reference:</b>	Well WARBLER 13W-27-19
<b>Project:</b>	ADAMS COUNTY	<b>TVD Reference:</b>	KB 25' @ 5106.00usft
<b>Reference Site:</b>	Sec 13-T1S-R66W	<b>MD Reference:</b>	KB 25' @ 5106.00usft
<b>Site Error:</b>	0.00 usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	WARBLER 13W-27-19	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00 usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OWB	<b>Database:</b>	EDT_32Bit_ODBC
<b>Reference Design:</b>	PROPOSAL 1	<b>Offset TVD Reference:</b>	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		
15,600.00	7,154.00	15,956.19	7,154.00	258.32	258.73	-89.97	-2,510.51	-10,513.27	2,049.12	1,534.87	514.25	3.985		
15,700.00	7,154.00	16,056.19	7,154.00	260.99	261.37	-89.97	-2,510.59	-10,613.27	2,049.15	1,529.56	519.59	3.944		
15,800.00	7,154.00	16,156.19	7,154.00	263.67	264.01	-89.97	-2,510.67	-10,713.27	2,049.17	1,524.24	524.93	3.904		
15,900.00	7,154.00	16,256.19	7,154.00	266.34	266.65	-89.97	-2,510.74	-10,813.27	2,049.19	1,518.92	530.28	3.864		
16,000.00	7,154.00	16,356.19	7,154.00	269.01	269.29	-89.97	-2,510.82	-10,913.27	2,049.22	1,513.60	535.62	3.826		
16,100.00	7,154.00	16,456.19	7,154.00	271.69	271.93	-89.97	-2,510.89	-11,013.27	2,049.24	1,508.27	540.97	3.788		
16,200.00	7,154.00	16,556.19	7,154.00	274.36	274.57	-89.97	-2,510.97	-11,113.27	2,049.27	1,502.95	546.32	3.751		
16,300.00	7,154.00	16,656.19	7,154.00	277.04	277.22	-89.97	-2,511.05	-11,213.27	2,049.29	1,497.62	551.67	3.715		
16,400.00	7,154.00	16,756.19	7,154.00	279.72	279.86	-89.97	-2,511.12	-11,313.27	2,049.31	1,492.30	557.02	3.679		
16,500.00	7,154.00	16,856.19	7,154.00	282.40	282.51	-89.97	-2,511.20	-11,413.27	2,049.34	1,486.97	562.37	3.644		
16,600.00	7,154.00	16,956.19	7,154.00	285.07	285.16	-89.97	-2,511.28	-11,513.27	2,049.36	1,481.64	567.72	3.610		
16,700.00	7,154.00	17,056.19	7,154.00	287.75	287.81	-89.97	-2,511.35	-11,613.27	2,049.39	1,476.31	573.07	3.576		
16,800.00	7,154.00	17,156.19	7,154.00	290.43	290.46	-89.97	-2,511.43	-11,713.27	2,049.41	1,470.98	578.43	3.543		
16,900.00	7,154.00	17,256.19	7,154.00	293.11	293.11	-89.97	-2,511.51	-11,813.27	2,049.44	1,465.65	583.78	3.511		
17,000.00	7,154.00	17,356.19	7,154.00	295.79	295.76	-89.97	-2,511.58	-11,913.27	2,049.46	1,460.32	589.14	3.479		
17,100.00	7,154.00	17,456.19	7,154.00	298.47	298.42	-89.97	-2,511.66	-12,013.27	2,049.48	1,454.99	594.50	3.447		
17,200.00	7,154.00	17,556.19	7,154.00	301.15	301.07	-89.97	-2,511.74	-12,113.27	2,049.51	1,449.65	599.86	3.417		
17,300.00	7,154.00	17,656.19	7,154.00	303.83	303.72	-89.97	-2,511.81	-12,213.27	2,049.53	1,444.32	605.21	3.386		
17,400.00	7,154.00	17,756.19	7,154.00	306.51	306.38	-89.97	-2,511.89	-12,313.27	2,049.56	1,438.98	610.57	3.357		
17,500.00	7,154.00	17,856.19	7,154.00	309.19	309.04	-89.97	-2,511.97	-12,413.27	2,049.58	1,433.64	615.93	3.328		
17,600.00	7,154.00	17,956.19	7,154.00	311.88	311.69	-89.97	-2,512.04	-12,513.27	2,049.60	1,428.31	621.30	3.299		
17,700.00	7,154.00	18,056.19	7,154.00	314.56	314.35	-89.97	-2,512.12	-12,613.27	2,049.63	1,422.97	626.66	3.271		
17,800.00	7,154.00	18,156.19	7,154.00	317.24	317.01	-89.97	-2,512.20	-12,713.27	2,049.65	1,417.63	632.02	3.243		
17,900.00	7,154.00	18,256.19	7,154.00	319.92	319.67	-89.97	-2,512.27	-12,813.27	2,049.68	1,412.29	637.39	3.216		
18,000.00	7,154.00	18,356.19	7,154.00	322.61	322.33	-89.97	-2,512.35	-12,913.27	2,049.70	1,406.95	642.75	3.189		
18,100.00	7,154.00	18,456.19	7,154.00	325.29	324.99	-89.97	-2,512.42	-13,013.27	2,049.72	1,401.61	648.11	3.163		
18,200.00	7,154.00	18,556.19	7,154.00	327.98	327.66	-89.97	-2,512.50	-13,113.27	2,049.75	1,396.27	653.48	3.137		
18,300.00	7,154.00	18,656.19	7,154.00	330.66	330.32	-89.97	-2,512.58	-13,213.27	2,049.77	1,390.93	658.85	3.111		
18,400.00	7,154.00	18,756.19	7,154.00	333.34	332.98	-89.97	-2,512.65	-13,313.27	2,049.80	1,385.58	664.21	3.086		
18,500.00	7,154.00	18,856.19	7,154.00	336.03	335.65	-89.97	-2,512.73	-13,413.27	2,049.82	1,380.24	669.58	3.061		
18,600.00	7,154.00	18,956.19	7,154.00	338.71	338.31	-89.97	-2,512.81	-13,513.27	2,049.84	1,374.89	674.95	3.037		
18,700.00	7,154.00	19,056.19	7,154.00	341.40	340.98	-89.97	-2,512.88	-13,613.27	2,049.87	1,369.55	680.32	3.013		
18,800.00	7,154.00	19,156.19	7,154.00	344.09	343.64	-89.97	-2,512.96	-13,713.27	2,049.89	1,364.20	685.69	2.990		
18,900.00	7,154.00	19,256.19	7,154.00	346.77	346.31	-89.97	-2,513.04	-13,813.27	2,049.92	1,358.86	691.06	2.966		
19,000.00	7,154.00	19,356.19	7,154.00	349.46	348.98	-89.97	-2,513.11	-13,913.27	2,049.94	1,353.51	696.43	2.944		
19,100.00	7,154.00	19,456.19	7,154.00	352.15	351.65	-89.97	-2,513.19	-14,013.27	2,049.97	1,348.16	701.80	2.921		
19,200.00	7,154.00	19,556.19	7,154.00	354.83	354.31	-89.97	-2,513.27	-14,113.27	2,049.99	1,342.82	707.17	2.899		
19,300.00	7,154.00	19,656.19	7,154.00	357.52	356.98	-89.97	-2,513.34	-14,213.27	2,050.01	1,337.47	712.54	2.877		
19,400.00	7,154.00	19,756.19	7,154.00	360.21	359.65	-89.97	-2,513.42	-14,313.27	2,050.04	1,332.12	717.92	2.856		
19,500.00	7,154.00	19,856.19	7,154.00	362.90	362.32	-89.97	-2,513.50	-14,413.27	2,050.06	1,326.77	723.29	2.834		
19,600.00	7,154.00	19,956.19	7,154.00	365.58	364.99	-89.97	-2,513.57	-14,513.27	2,050.09	1,321.42	728.66	2.813		
19,700.00	7,154.00	20,056.19	7,154.00	368.27	367.66	-89.97	-2,513.65	-14,613.27	2,050.11	1,316.07	734.04	2.793		
19,800.00	7,154.00	20,156.19	7,154.00	370.96	370.33	-89.97	-2,513.73	-14,713.27	2,050.13	1,310.72	739.41	2.773		
19,900.00	7,154.00	20,256.19	7,154.00	373.65	373.01	-89.97	-2,513.80	-14,813.27	2,050.16	1,305.37	744.79	2.753		
20,000.00	7,154.00	20,356.19	7,154.00	376.34	375.68	-89.97	-2,513.88	-14,913.27	2,050.18	1,300.02	750.16	2.733		
20,100.00	7,154.00	20,456.19	7,154.00	379.03	378.35	-89.97	-2,513.95	-15,013.27	2,050.21	1,294.67	755.54	2.714		
20,200.00	7,154.00	20,556.19	7,154.00	381.71	381.03	-89.97	-2,514.03	-15,113.27	2,050.23	1,289.31	760.92	2.694		
20,300.00	7,154.00	20,656.19	7,154.00	384.40	383.70	-89.97	-2,514.11	-15,213.27	2,050.25	1,283.96	766.29	2.676		
20,400.00	7,154.00	20,756.19	7,154.00	387.09	386.37	-89.97	-2,514.18	-15,313.27	2,050.28	1,278.61	771.67	2.657		
20,500.00	7,154.00	20,856.19	7,154.00	389.78	389.05	-89.97	-2,514.26	-15,413.27	2,050.30	1,273.25	777.05	2.639		
20,600.00	7,154.00	20,956.19	7,154.00	392.47	391.72	-89.97	-2,514.34	-15,513.27	2,050.33	1,267.90	782.43	2.620		
20,700.00	7,154.00	21,056.19	7,154.00	395.16	394.40	-89.97	-2,514.41	-15,613.27	2,050.35	1,262.54	787.81	2.603		

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

## Anticollision Report

<b>Company:</b>	EXTRACTION OIL & GAS	<b>Local Co-ordinate Reference:</b>	Well WARBLER 13W-27-19
<b>Project:</b>	ADAMS COUNTY	<b>TVD Reference:</b>	KB 25' @ 5106.00usft
<b>Reference Site:</b>	Sec 13-T1S-R66W	<b>MD Reference:</b>	KB 25' @ 5106.00usft
<b>Site Error:</b>	0.00 usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	WARBLER 13W-27-19	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00 usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OWB	<b>Database:</b>	EDT_32Bit_ODBC
<b>Reference Design:</b>	PROPOSAL 1	<b>Offset TVD Reference:</b>	Offset Datum

<b>Offset Design</b> Sec 13-T1S-R66W - WARBLER 24W-27-22 - OWB - PROPOSAL 1												<b>Offset Site Error:</b>	0.00 usft
Survey Program: 0-MWD OWSG												<b>Offset Well Error:</b>	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	21,156.19	7,154.00	397.85	397.07	-89.97	-2,514.49	-15,713.27	2,050.37	1,257.19	793.19	2.585	
20,900.00	7,154.00	21,256.19	7,154.00	400.54	399.75	-89.97	-2,514.57	-15,813.27	2,050.40	1,251.83	798.56	2.568	
21,000.00	7,154.00	21,356.19	7,154.00	403.24	402.43	-89.97	-2,514.64	-15,913.27	2,050.42	1,246.48	803.94	2.550	
21,100.00	7,154.00	21,456.19	7,154.00	405.93	405.10	-89.97	-2,514.72	-16,013.27	2,050.45	1,241.12	809.32	2.534	
21,200.00	7,154.00	21,556.19	7,154.00	408.62	407.78	-89.97	-2,514.80	-16,113.27	2,050.47	1,235.77	814.70	2.517	
21,300.00	7,154.00	21,656.19	7,154.00	411.31	410.46	-89.97	-2,514.87	-16,213.27	2,050.50	1,230.41	820.09	2.500	
21,400.00	7,154.00	21,756.19	7,154.00	414.00	413.14	-89.97	-2,514.95	-16,313.27	2,050.52	1,225.05	825.47	2.484	
21,500.00	7,154.00	21,856.19	7,154.00	416.69	415.81	-89.97	-2,515.03	-16,413.27	2,050.54	1,219.70	830.85	2.468	
21,505.33	7,154.00	21,861.52	7,154.00	416.83	415.96	-89.97	-2,515.03	-16,418.60	2,050.54	1,219.41	831.13	2.467 SF	

# Anticollision Report

<b>Company:</b>	EXTRACTION OIL & GAS	<b>Local Co-ordinate Reference:</b>	Well WARBLER 13W-27-19
<b>Project:</b>	ADAMS COUNTY	<b>TVD Reference:</b>	KB 25' @ 5106.00usft
<b>Reference Site:</b>	Sec 13-T1S-R66W	<b>MD Reference:</b>	KB 25' @ 5106.00usft
<b>Site Error:</b>	0.00 usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	WARBLER 13W-27-19	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00 usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OWB	<b>Database:</b>	EDT_32Bit_ODBC
<b>Reference Design:</b>	PROPOSAL 1	<b>Offset TVD Reference:</b>	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	-59.43	2,945.01	-4,986.34	5,791.27					
100.00	100.00	54.00	54.00	0.13	0.65	-59.43	2,945.01	-4,986.34	5,791.08	5,790.30	0.78	7,410.530		
200.00	200.00	154.00	154.00	0.49	2.43	-59.43	2,945.01	-4,986.34	5,791.08	5,788.16	2.93	1,978.145		
300.00	300.00	254.00	254.00	0.85	4.61	-59.43	2,945.01	-4,986.34	5,791.08	5,785.62	5.46	1,060.340		
400.00	400.00	354.00	354.00	1.21	6.67	-59.43	2,945.01	-4,986.34	5,791.08	5,783.21	7.88	735.019		
500.00	499.98	453.98	453.98	1.56	8.70	41.22	2,945.01	-4,986.34	5,789.77	5,779.51	10.26	564.143		
600.00	599.84	553.84	553.84	1.91	10.73	41.31	2,945.01	-4,986.34	5,785.83	5,773.20	12.63	457.933		
700.00	699.45	653.45	653.45	2.27	12.74	41.45	2,945.01	-4,986.34	5,779.28	5,764.28	15.01	385.123		
800.00	798.70	752.70	752.70	2.65	14.74	41.65	2,945.01	-4,986.34	5,770.13	5,752.75	17.38	332.026		
900.00	897.47	851.47	851.47	3.06	16.73	41.91	2,945.01	-4,986.34	5,758.40	5,738.65	19.75	291.530		
1,000.00	995.62	949.62	949.62	3.49	18.71	42.23	2,945.01	-4,986.34	5,744.12	5,721.99	22.13	259.578		
1,100.00	1,093.06	1,047.06	1,047.06	3.96	20.67	42.61	2,945.01	-4,986.34	5,727.32	5,702.81	24.51	233.684		
1,200.00	1,189.64	1,143.64	1,143.64	4.47	22.62	43.05	2,945.01	-4,986.34	5,708.04	5,681.15	26.89	212.241		
1,300.00	1,285.27	1,239.27	1,239.27	5.02	24.55	43.55	2,945.01	-4,986.34	5,686.32	5,657.04	29.29	194.166		
1,400.00	1,379.82	1,333.82	1,333.82	5.63	26.45	44.12	2,945.01	-4,986.34	5,662.22	5,630.53	31.69	178.699		
1,500.00	1,473.18	1,427.18	1,427.18	6.29	28.33	44.71	2,945.01	-4,986.34	5,635.79	5,601.70	34.10	165.287		
1,600.00	1,566.03	1,520.03	1,520.03	6.99	30.20	44.97	2,945.01	-4,986.34	5,608.52	5,572.01	36.51	153.596		
1,700.00	1,658.89	1,612.89	1,612.89	7.71	32.06	45.23	2,945.01	-4,986.34	5,581.36	5,542.41	38.95	143.304		
1,800.00	1,751.74	1,705.74	1,705.74	8.44	33.93	45.49	2,945.01	-4,986.34	5,554.32	5,512.92	41.39	134.184		
1,900.00	1,844.60	1,801.40	1,798.60	9.17	35.86	45.75	2,945.01	-4,986.34	5,527.39	5,483.48	43.91	125.892		
2,000.00	1,937.45	1,908.55	1,891.45	9.91	38.01	46.02	2,945.01	-4,986.34	5,500.58	5,453.92	46.66	117.890		
2,100.00	2,030.31	1,984.31	1,984.31	10.66	39.54	46.29	2,945.01	-4,986.34	5,473.89	5,425.10	48.79	112.198		
2,200.00	2,123.16	2,077.16	2,077.16	11.41	41.41	46.56	2,945.01	-4,986.34	5,447.33	5,396.06	51.27	106.250		
2,300.00	2,216.02	2,170.02	2,170.02	12.17	43.27	46.83	2,945.01	-4,986.34	5,420.88	5,367.13	53.76	100.842		
2,400.00	2,308.87	2,262.87	2,262.87	12.93	45.14	47.11	2,945.01	-4,986.34	5,394.57	5,338.32	56.25	95.903		
2,500.00	2,401.73	2,355.73	2,355.73	13.69	47.01	47.39	2,945.01	-4,986.34	5,368.38	5,309.63	58.75	91.377		
2,600.00	2,494.58	2,448.58	2,448.58	14.45	48.88	47.67	2,945.01	-4,986.34	5,342.32	5,281.06	61.25	87.215		
2,700.00	2,587.44	2,541.44	2,541.44	15.22	50.74	47.96	2,945.01	-4,986.34	5,316.39	5,252.63	63.77	83.374		
2,800.00	2,680.29	2,634.29	2,634.29	15.98	52.61	48.24	2,945.01	-4,986.34	5,290.60	5,224.32	66.28	79.821		
2,900.00	2,773.15	2,727.15	2,727.15	16.75	54.48	48.53	2,945.01	-4,986.34	5,264.94	5,196.14	68.80	76.524		
3,000.00	2,866.00	2,820.00	2,820.00	17.52	56.35	48.83	2,945.01	-4,986.34	5,239.42	5,168.09	71.33	73.457		
3,100.00	2,958.86	2,912.86	2,912.86	18.29	58.22	49.12	2,945.01	-4,986.34	5,214.03	5,140.18	73.86	70.597		
3,200.00	3,051.71	3,005.71	3,005.71	19.06	60.08	49.42	2,945.01	-4,986.34	5,188.79	5,112.40	76.39	67.924		
3,300.00	3,144.57	3,101.43	3,098.57	19.83	62.01	49.72	2,945.01	-4,986.34	5,163.69	5,084.71	78.99	65.373		
3,400.00	3,237.42	3,208.58	3,191.42	20.60	64.16	50.02	2,945.01	-4,986.34	5,138.74	5,056.92	81.82	62.806		
3,500.00	3,330.28	3,284.28	3,284.28	21.37	65.69	50.33	2,945.01	-4,986.34	5,113.94	5,029.92	84.02	60.864		
3,600.00	3,423.13	3,377.13	3,377.13	22.15	67.55	50.63	2,945.01	-4,986.34	5,089.28	5,002.71	86.57	58.785		
3,700.00	3,515.99	3,469.99	3,469.99	22.92	69.42	50.94	2,945.01	-4,986.34	5,064.78	4,975.65	89.13	56.824		
3,800.00	3,608.84	3,562.84	3,562.84	23.70	71.29	51.26	2,945.01	-4,986.34	5,040.43	4,948.74	91.69	54.971		
3,900.00	3,701.70	3,655.70	3,655.70	24.47	73.16	51.57	2,945.01	-4,986.34	5,016.24	4,921.98	94.26	53.218		
4,000.00	3,794.55	3,748.55	3,748.55	25.25	75.02	51.89	2,945.01	-4,986.34	4,992.21	4,895.38	96.83	51.557		
4,100.00	3,887.41	3,841.41	3,841.41	26.02	76.89	52.22	2,945.01	-4,986.34	4,968.34	4,868.94	99.40	49.982		
4,200.00	3,980.26	3,934.26	3,934.26	26.80	78.76	52.54	2,945.01	-4,986.34	4,944.63	4,842.65	101.98	48.486		
4,300.00	4,073.12	4,027.12	4,027.12	27.57	80.63	52.87	2,945.01	-4,986.34	4,921.09	4,816.52	104.56	47.063		
4,400.00	4,165.97	4,119.97	4,119.97	28.35	82.49	53.20	2,945.01	-4,986.34	4,897.71	4,790.56	107.15	45.708		
4,500.00	4,258.83	4,212.83	4,212.83	29.12	84.36	53.53	2,945.01	-4,986.34	4,874.51	4,764.77	109.74	44.418		
4,600.00	4,351.68	4,305.68	4,305.68	29.90	86.23	53.87	2,945.01	-4,986.34	4,851.48	4,739.14	112.34	43.186		
4,700.00	4,444.54	4,401.46	4,398.54	30.68	88.15	54.21	2,945.01	-4,986.34	4,828.62	4,713.63	115.00	41.989		
4,800.00	4,537.39	4,508.61	4,491.39	31.45	90.31	54.55	2,945.01	-4,986.34	4,805.95	4,688.06	117.89	40.767		
4,900.00	4,630.25	4,584.25	4,584.25	32.23	91.83	54.89	2,945.01	-4,986.34	4,783.45	4,663.30	120.15	39.812		
5,000.00	4,723.10	4,677.10	4,677.10	33.01	93.70	55.24	2,945.01	-4,986.34	4,761.14	4,638.37	122.76	38.783		
5,100.00	4,815.96	4,769.96	4,769.96	33.79	95.57	55.59	2,945.01	-4,986.34	4,739.01	4,613.63	125.38	37.797		

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



# Anticollision Report

<b>Company:</b>	EXTRACTION OIL & GAS	<b>Local Co-ordinate Reference:</b>	Well WARBLER 13W-27-19
<b>Project:</b>	ADAMS COUNTY	<b>TVD Reference:</b>	KB 25' @ 5106.00usft
<b>Reference Site:</b>	Sec 13-T1S-R66W	<b>MD Reference:</b>	KB 25' @ 5106.00usft
<b>Site Error:</b>	0.00 usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	WARBLER 13W-27-19	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00 usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OWB	<b>Database:</b>	EDT_32Bit_ODBC
<b>Reference Design:</b>	PROPOSAL 1	<b>Offset TVD Reference:</b>	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	4,908.81	4,862.81	4,862.81	34.56	97.43	55.95	2,945.01	-4,986.34	4,717.07	4,589.07	128.00	36.852		
5,300.00	5,001.67	4,955.67	4,955.67	35.34	99.30	56.30	2,945.01	-4,986.34	4,695.32	4,564.70	130.63	35.945		
5,400.00	5,094.52	5,048.52	5,048.52	36.12	101.17	56.66	2,945.01	-4,986.34	4,673.77	4,540.51	133.26	35.074		
5,500.00	5,187.38	5,141.38	5,141.38	36.90	103.03	57.03	2,945.01	-4,986.34	4,652.41	4,516.52	135.89	34.237		
5,600.00	5,280.23	5,234.23	5,234.23	37.67	104.90	57.39	2,945.01	-4,986.34	4,631.25	4,492.72	138.53	33.432		
5,700.00	5,373.09	5,327.09	5,327.09	38.45	106.77	57.76	2,945.01	-4,986.34	4,610.29	4,469.12	141.17	32.658		
5,800.00	5,465.94	5,419.94	5,419.94	39.23	108.64	58.13	2,945.01	-4,986.34	4,589.54	4,445.73	143.81	31.913		
5,900.00	5,558.80	5,512.80	5,512.80	40.01	110.50	58.51	2,945.01	-4,986.34	4,568.99	4,422.53	146.46	31.196		
6,000.00	5,651.65	5,605.65	5,605.65	40.79	112.37	58.89	2,945.01	-4,986.34	4,548.66	4,399.54	149.12	30.504		
6,100.00	5,744.51	5,701.49	5,698.51	41.57	114.30	59.27	2,945.01	-4,986.34	4,528.53	4,376.70	151.83	29.826		
6,200.00	5,837.36	5,808.64	5,791.36	42.34	116.45	59.65	2,945.01	-4,986.34	4,508.63	4,353.85	154.78	29.129		
6,300.00	5,930.22	5,884.22	5,884.22	43.12	117.97	60.04	2,945.01	-4,986.34	4,488.94	4,331.84	157.10	28.574		
6,400.00	6,023.07	5,977.07	5,977.07	43.90	119.84	60.43	2,945.01	-4,986.34	4,469.47	4,309.71	159.77	27.975		
6,500.00	6,115.93	6,069.93	6,069.93	44.68	121.71	60.82	2,945.01	-4,986.34	4,450.23	4,287.79	162.44	27.396		
6,600.00	6,208.78	6,162.78	6,162.78	45.46	123.58	61.22	2,945.01	-4,986.34	4,431.22	4,266.10	165.12	26.837		
6,700.00	6,301.64	6,255.64	6,255.64	46.24	125.44	61.62	2,945.01	-4,986.34	4,412.43	4,244.64	167.80	26.296		
6,800.00	6,394.49	6,348.49	6,348.49	47.02	127.31	62.02	2,945.01	-4,986.34	4,393.88	4,223.40	170.48	25.774		
6,900.00	6,487.35	6,441.35	6,441.35	47.80	129.18	62.43	2,945.01	-4,986.34	4,375.57	4,202.40	173.17	25.268		
7,000.00	6,580.20	6,534.20	6,534.20	48.57	131.05	62.84	2,945.01	-4,986.34	4,357.49	4,181.63	175.86	24.779		
7,100.00	6,673.06	6,627.06	6,627.06	49.35	132.91	63.25	2,945.01	-4,986.34	4,339.66	4,161.11	178.55	24.305		
7,200.00	6,765.91	6,719.91	6,719.91	50.13	134.78	63.66	2,945.01	-4,986.34	4,322.07	4,140.82	181.25	23.846		
7,300.00	6,856.90	6,810.90	6,810.90	50.99	136.61	62.69	2,945.01	-4,986.34	4,302.00	4,118.01	183.99	23.382		
7,400.00	6,939.78	6,906.22	6,893.78	52.14	138.53	63.78	2,945.01	-4,986.34	4,272.81	4,085.72	187.08	22.839		
7,500.00	7,011.80	6,965.80	6,965.80	53.58	139.72	66.79	2,945.01	-4,986.34	4,235.36	4,045.63	189.72	22.324		
7,600.00	7,070.78	7,024.78	7,024.78	55.27	140.91	71.20	2,945.01	-4,986.34	4,191.20	3,998.61	192.59	21.762		
7,700.00	7,114.93	7,068.93	7,068.93	57.16	141.80	76.67	2,945.01	-4,986.34	4,142.07	3,946.72	195.36	21.203		
7,800.00	7,142.90	7,103.10	7,096.90	59.19	142.49	82.80	2,945.01	-4,986.34	4,089.82	3,891.75	198.06	20.649		
7,900.00	7,153.85	7,107.85	7,107.85	61.28	142.58	89.17	2,945.01	-4,986.34	4,036.27	3,836.01	200.25	20.156		
8,000.00	7,154.00	7,108.00	7,108.00	63.38	142.58	90.00	2,945.01	-4,986.34	3,983.41	3,781.02	202.39	19.681		
8,100.00	7,154.00	7,108.00	7,108.00	65.52	142.58	90.00	2,945.01	-4,986.34	3,932.38	3,727.77	204.62	19.218		
8,200.00	7,154.00	7,108.00	7,108.00	67.71	142.58	90.00	2,945.01	-4,986.34	3,883.26	3,676.35	206.91	18.768		
8,300.00	7,154.00	7,108.00	7,108.00	69.93	142.58	90.00	2,945.01	-4,986.34	3,836.11	3,626.83	209.28	18.330		
8,400.00	7,154.00	7,108.00	7,108.00	72.19	142.58	90.00	2,945.01	-4,986.34	3,791.02	3,579.30	211.72	17.906		
8,500.00	7,154.00	7,108.00	7,108.00	74.47	142.58	90.00	2,945.01	-4,986.34	3,748.05	3,533.83	214.22	17.497		
8,600.00	7,154.00	7,108.00	7,108.00	76.79	142.58	90.00	2,945.01	-4,986.34	3,707.28	3,490.51	216.77	17.103		
8,700.00	7,154.00	7,108.00	7,108.00	79.12	142.58	90.00	2,945.01	-4,986.34	3,668.78	3,449.42	219.36	16.725		
8,800.00	7,154.00	7,108.00	7,108.00	81.48	142.58	90.00	2,945.01	-4,986.34	3,632.64	3,410.64	222.00	16.363		
8,900.00	7,154.00	7,108.00	7,108.00	83.87	142.58	90.00	2,945.01	-4,986.34	3,598.90	3,374.24	224.67	16.019		
9,000.00	7,154.00	7,108.00	7,108.00	86.27	142.58	90.00	2,945.01	-4,986.34	3,567.65	3,340.30	227.36	15.692		
9,100.00	7,154.00	7,108.00	7,108.00	88.68	142.58	90.00	2,945.01	-4,986.34	3,538.96	3,308.90	230.06	15.383		
9,200.00	7,154.00	7,108.00	7,108.00	91.12	142.58	90.00	2,945.01	-4,986.34	3,512.87	3,280.10	232.77	15.092		
9,300.00	7,154.00	7,108.00	7,108.00	93.57	142.58	90.00	2,945.01	-4,986.34	3,489.46	3,253.99	235.47	14.819		
9,400.00	7,154.00	7,108.00	7,108.00	96.03	142.58	90.00	2,945.01	-4,986.34	3,468.77	3,230.61	238.16	14.565		
9,500.00	7,154.00	7,108.00	7,108.00	98.50	142.58	90.00	2,945.01	-4,986.34	3,450.86	3,210.04	240.82	14.329		
9,600.00	7,154.00	7,108.00	7,108.00	100.99	142.58	90.00	2,945.01	-4,986.34	3,435.77	3,192.31	243.46	14.113		
9,700.00	7,154.00	7,108.00	7,108.00	103.49	142.58	90.00	2,945.01	-4,986.34	3,423.53	3,177.49	246.04	13.914		
9,800.00	7,154.00	7,108.00	7,108.00	106.00	142.58	90.00	2,945.01	-4,986.34	3,414.18	3,165.60	248.58	13.735		
9,900.00	7,154.00	7,108.00	7,108.00	108.51	142.58	90.00	2,945.01	-4,986.34	3,407.74	3,156.68	251.06	13.574		
10,000.00	7,154.00	7,108.00	7,108.00	111.04	142.58	90.00	2,945.01	-4,986.34	3,404.22	3,150.76	253.46	13.431		
10,069.71	7,154.00	7,108.00	7,108.00	112.81	142.58	90.00	2,945.01	-4,986.34	3,403.51	3,148.41	255.10	13.342 CC		
10,100.00	7,154.00	7,108.00	7,108.00	113.58	142.58	90.00	2,945.01	-4,986.34	3,403.64	3,147.85	255.80	13.306 ES		
10,200.00	7,154.00	7,108.00	7,108.00	116.12	142.58	90.00	2,945.01	-4,986.34	3,406.00	3,147.96	258.04	13.199		

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

# Anticollision Report

<b>Company:</b>	EXTRACTION OIL & GAS	<b>Local Co-ordinate Reference:</b>	Well WARBLER 13W-27-19
<b>Project:</b>	ADAMS COUNTY	<b>TVD Reference:</b>	KB 25' @ 5106.00usft
<b>Reference Site:</b>	Sec 13-T1S-R66W	<b>MD Reference:</b>	KB 25' @ 5106.00usft
<b>Site Error:</b>	0.00 usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	WARBLER 13W-27-19	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00 usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OWB	<b>Database:</b>	EDT_32Bit_ODBC
<b>Reference Design:</b>	PROPOSAL 1	<b>Offset TVD Reference:</b>	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	7,108.00	7,108.00	118.67	142.58	90.00	2,945.01	-4,986.34	3,411.29	3,151.09	260.20	13.110						
10,400.00	7,154.00	7,108.00	7,108.00	121.22	142.58	90.00	2,945.01	-4,986.34	3,419.50	3,157.24	262.26	13.039						
10,500.00	7,154.00	7,108.00	7,108.00	123.79	142.58	90.00	2,945.01	-4,986.34	3,430.60	3,166.38	264.22	12.984						
10,600.00	7,154.00	7,108.00	7,108.00	126.35	142.58	90.00	2,945.01	-4,986.34	3,444.57	3,178.49	266.08	12.946						
10,700.00	7,154.00	7,108.00	7,108.00	128.93	142.58	90.00	2,945.01	-4,986.34	3,461.38	3,193.54	267.83	12.924						
10,800.00	7,154.00	7,108.00	7,108.00	131.51	142.58	90.00	2,945.01	-4,986.34	3,480.97	3,211.50	269.48	12.918 SF						
10,900.00	7,154.00	7,108.00	7,108.00	134.09	142.58	90.00	2,945.01	-4,986.34	3,503.32	3,232.31	271.01	12.927						
11,000.00	7,154.00	7,108.00	7,108.00	136.68	142.58	90.00	2,945.01	-4,986.34	3,528.36	3,255.92	272.44	12.951						
11,100.00	7,154.00	7,108.00	7,108.00	139.27	142.58	90.00	2,945.01	-4,986.34	3,556.03	3,282.28	273.75	12.990						
11,200.00	7,154.00	7,108.00	7,108.00	141.87	142.58	90.00	2,945.01	-4,986.34	3,586.28	3,311.32	274.96	13.043						
11,300.00	7,154.00	7,108.00	7,108.00	144.47	142.58	90.00	2,945.01	-4,986.34	3,619.04	3,342.97	276.07	13.109						
11,400.00	7,154.00	7,108.00	7,108.00	147.08	142.58	90.00	2,945.01	-4,986.34	3,654.25	3,377.18	277.07	13.189						
11,500.00	7,154.00	7,108.00	7,108.00	149.68	142.58	90.00	2,945.01	-4,986.34	3,691.83	3,413.85	277.98	13.281						
11,600.00	7,154.00	7,108.00	7,108.00	152.30	142.58	90.00	2,945.01	-4,986.34	3,731.71	3,452.92	278.78	13.386						
11,700.00	7,154.00	7,108.00	7,108.00	154.91	142.58	90.00	2,945.01	-4,986.34	3,773.82	3,494.32	279.50	13.502						
11,800.00	7,154.00	7,108.00	7,108.00	157.53	142.58	90.00	2,945.01	-4,986.34	3,818.08	3,537.95	280.13	13.630						
11,900.00	7,154.00	7,108.00	7,108.00	160.15	142.58	90.00	2,945.01	-4,986.34	3,864.43	3,583.75	280.68	13.768						
12,000.00	7,154.00	7,108.00	7,108.00	162.77	142.58	90.00	2,945.01	-4,986.34	3,912.78	3,631.64	281.15	13.917						
12,100.00	7,154.00	7,108.00	7,108.00	165.40	142.58	90.00	2,945.01	-4,986.34	3,963.07	3,681.53	281.54	14.076						
12,200.00	7,154.00	7,108.00	7,108.00	168.03	142.58	90.00	2,945.01	-4,986.34	4,015.22	3,733.35	281.87	14.245						
12,300.00	7,154.00	7,108.00	7,108.00	170.66	142.58	90.00	2,945.01	-4,986.34	4,069.16	3,787.03	282.13	14.423						
12,400.00	7,154.00	7,108.00	7,108.00	173.29	142.58	90.00	2,945.01	-4,986.34	4,124.81	3,842.49	282.33	14.610						
12,500.00	7,154.00	7,108.00	7,108.00	175.93	142.58	90.00	2,945.01	-4,986.34	4,182.12	3,899.65	282.47	14.805						
12,600.00	7,154.00	7,108.00	7,108.00	178.56	142.58	90.00	2,945.01	-4,986.34	4,241.02	3,958.45	282.56	15.009						
12,700.00	7,154.00	7,108.00	7,108.00	181.20	142.58	90.00	2,945.01	-4,986.34	4,301.43	4,018.82	282.61	15.220						
12,800.00	7,154.00	7,108.00	7,108.00	183.84	142.58	90.00	2,945.01	-4,986.34	4,363.29	4,080.68	282.61	15.439						
12,900.00	7,154.00	7,108.00	7,108.00	186.49	142.58	90.00	2,945.01	-4,986.34	4,426.55	4,143.99	282.57	15.665						
13,000.00	7,154.00	7,108.00	7,108.00	189.13	142.58	90.00	2,945.01	-4,986.34	4,491.15	4,208.66	282.49	15.898						
13,100.00	7,154.00	7,108.00	7,108.00	191.78	142.58	90.00	2,945.01	-4,986.34	4,557.03	4,274.65	282.38	16.138						
13,200.00	7,154.00	7,108.00	7,108.00	194.43	142.58	90.00	2,945.01	-4,986.34	4,624.13	4,341.89	282.24	16.384						
13,300.00	7,154.00	7,108.00	7,108.00	197.07	142.58	90.00	2,945.01	-4,986.34	4,692.40	4,410.33	282.07	16.636						
13,400.00	7,154.00	7,108.00	7,108.00	199.73	142.58	90.00	2,945.01	-4,986.34	4,761.79	4,479.92	281.88	16.893						
13,500.00	7,154.00	7,108.00	7,108.00	202.38	142.58	90.00	2,945.01	-4,986.34	4,832.26	4,550.60	281.66	17.156						
13,600.00	7,154.00	7,108.00	7,108.00	205.03	142.58	90.00	2,945.01	-4,986.34	4,903.75	4,622.33	281.42	17.425						
13,700.00	7,154.00	7,108.00	7,108.00	207.69	142.58	90.00	2,945.01	-4,986.34	4,976.23	4,695.06	281.17	17.698						
13,800.00	7,154.00	7,108.00	7,108.00	210.34	142.58	90.00	2,945.01	-4,986.34	5,049.64	4,768.74	280.90	17.977						
13,900.00	7,154.00	7,108.00	7,108.00	213.00	142.58	90.00	2,945.01	-4,986.34	5,123.96	4,843.34	280.62	18.260						
14,000.00	7,154.00	7,108.00	7,108.00	215.66	142.58	90.00	2,945.01	-4,986.34	5,199.14	4,918.81	280.32	18.547						
14,100.00	7,154.00	7,108.00	7,108.00	218.32	142.58	90.00	2,945.01	-4,986.34	5,275.14	4,995.12	280.02	18.839						
14,200.00	7,154.00	7,108.00	7,108.00	220.98	142.58	90.00	2,945.01	-4,986.34	5,351.93	5,072.23	279.70	19.135						
14,300.00	7,154.00	7,108.00	7,108.00	223.64	142.58	90.00	2,945.01	-4,986.34	5,429.47	5,150.10	279.38	19.434						
14,400.00	7,154.00	7,108.00	7,108.00	226.30	142.58	90.00	2,945.01	-4,986.34	5,507.74	5,228.70	279.05	19.738						
14,500.00	7,154.00	7,108.00	7,108.00	228.97	142.58	90.00	2,945.01	-4,986.34	5,586.71	5,308.00	278.71	20.045						
14,600.00	7,154.00	7,108.00	7,108.00	231.63	142.58	90.00	2,945.01	-4,986.34	5,666.34	5,387.96	278.37	20.355						
14,700.00	7,154.00	7,108.00	7,108.00	234.29	142.58	90.00	2,945.01	-4,986.34	5,746.60	5,468.57	278.03	20.669						
14,800.00	7,154.00	7,108.00	7,108.00	236.96	142.58	90.00	2,945.01	-4,986.34	5,827.48	5,549.79	277.68	20.986						
14,900.00	7,154.00	7,108.00	7,108.00	239.63	142.58	90.00	2,945.01	-4,986.34	5,908.94	5,631.60	277.33	21.306						
15,000.00	7,154.00	7,108.00	7,108.00	242.30	142.58	90.00	2,945.01	-4,986.34	5,990.96	5,713.98	276.98	21.629						
15,100.00	7,154.00	7,108.00	7,108.00	244.96	142.58	90.00	2,945.01	-4,986.34	6,073.52	5,796.89	276.63	21.955						
15,200.00	7,154.00	7,108.00	7,108.00	247.63	142.58	90.00	2,945.01	-4,986.34	6,156.60	5,880.32	276.28	22.284						
15,300.00	7,154.00	7,108.00	7,108.00	250.30	142.58	90.00	2,945.01	-4,986.34	6,240.17	5,964.24	275.93	22.615						
15,400.00	7,154.00	7,108.00	7,108.00	252.98	142.58	90.00	2,945.01	-4,986.34	6,324.22	6,048.64	275.58	22.948						

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

# Anticollision Report

<b>Company:</b>	EXTRACTION OIL & GAS	<b>Local Co-ordinate Reference:</b>	Well WARBLER 13W-27-19
<b>Project:</b>	ADAMS COUNTY	<b>TVD Reference:</b>	KB 25' @ 5106.00usft
<b>Reference Site:</b>	Sec 13-T1S-R66W	<b>MD Reference:</b>	KB 25' @ 5106.00usft
<b>Site Error:</b>	0.00 usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	WARBLER 13W-27-19	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00 usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OWB	<b>Database:</b>	EDT_32Bit_ODBC
<b>Reference Design:</b>	PROPOSAL 1	<b>Offset TVD Reference:</b>	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	7,108.00	7,108.00	255.65	142.58	90.00	2,945.01	-4,986.34	6,408.73	6,133.50	275.24	23.284		
15,600.00	7,154.00	7,108.00	7,108.00	258.32	142.58	90.00	2,945.01	-4,986.34	6,493.68	6,218.79	274.89	23.623		
15,700.00	7,154.00	7,108.00	7,108.00	260.99	142.58	90.00	2,945.01	-4,986.34	6,579.06	6,304.51	274.55	23.963		
15,800.00	7,154.00	7,108.00	7,108.00	263.67	142.58	90.00	2,945.01	-4,986.34	6,664.84	6,390.63	274.21	24.306		
15,900.00	7,154.00	7,108.00	7,108.00	266.34	142.58	90.00	2,945.01	-4,986.34	6,751.01	6,477.14	273.87	24.651		
16,000.00	7,154.00	7,108.00	7,108.00	269.01	142.58	90.00	2,945.01	-4,986.34	6,837.55	6,564.02	273.53	24.997		
16,100.00	7,154.00	7,108.00	7,108.00	271.69	142.58	90.00	2,945.01	-4,986.34	6,924.46	6,651.26	273.20	25.346		
16,200.00	7,154.00	7,108.00	7,108.00	274.36	142.58	90.00	2,945.01	-4,986.34	7,011.72	6,738.85	272.87	25.696		
16,300.00	7,154.00	7,108.00	7,108.00	277.04	142.58	90.00	2,945.01	-4,986.34	7,099.32	6,826.77	272.55	26.048		
16,400.00	7,154.00	7,108.00	7,108.00	279.72	142.58	90.00	2,945.01	-4,986.34	7,187.24	6,915.01	272.22	26.402		
16,500.00	7,154.00	7,108.00	7,108.00	282.40	142.58	90.00	2,945.01	-4,986.34	7,275.47	7,003.56	271.91	26.757		
16,600.00	7,154.00	7,108.00	7,108.00	285.07	142.58	90.00	2,945.01	-4,986.34	7,364.00	7,092.41	271.59	27.114		
16,700.00	7,154.00	7,108.00	7,108.00	287.75	142.58	90.00	2,945.01	-4,986.34	7,452.82	7,181.54	271.28	27.473		
16,800.00	7,154.00	7,108.00	7,108.00	290.43	142.58	90.00	2,945.01	-4,986.34	7,541.92	7,270.95	270.97	27.833		
16,900.00	7,154.00	7,108.00	7,108.00	293.11	142.58	90.00	2,945.01	-4,986.34	7,631.30	7,360.63	270.67	28.194		
17,000.00	7,154.00	7,108.00	7,108.00	295.79	142.58	90.00	2,945.01	-4,986.34	7,720.93	7,450.56	270.37	28.557		
17,100.00	7,154.00	7,108.00	7,108.00	298.47	142.58	90.00	2,945.01	-4,986.34	7,810.81	7,540.74	270.08	28.921		
17,200.00	7,154.00	7,108.00	7,108.00	301.15	142.58	90.00	2,945.01	-4,986.34	7,900.94	7,631.15	269.79	29.286		
17,300.00	7,154.00	7,108.00	7,108.00	303.83	142.58	90.00	2,945.01	-4,986.34	7,991.30	7,721.80	269.50	29.652		
17,400.00	7,154.00	7,108.00	7,108.00	306.51	142.58	90.00	2,945.01	-4,986.34	8,081.89	7,812.67	269.22	30.020		
17,500.00	7,154.00	7,108.00	7,108.00	309.19	142.58	90.00	2,945.01	-4,986.34	8,172.70	7,903.76	268.94	30.389		
17,600.00	7,154.00	7,108.00	7,108.00	311.88	142.58	90.00	2,945.01	-4,986.34	8,263.72	7,995.06	268.66	30.759		
17,700.00	7,154.00	7,108.00	7,108.00	314.56	142.58	90.00	2,945.01	-4,986.34	8,354.95	8,086.55	268.39	31.129		
17,800.00	7,154.00	7,108.00	7,108.00	317.24	142.58	90.00	2,945.01	-4,986.34	8,446.37	8,178.24	268.13	31.501		
17,900.00	7,154.00	7,108.00	7,108.00	319.92	142.58	90.00	2,945.01	-4,986.34	8,537.99	8,270.12	267.87	31.874		
18,000.00	7,154.00	7,108.00	7,108.00	322.61	142.58	90.00	2,945.01	-4,986.34	8,629.79	8,362.18	267.61	32.248		
18,100.00	7,154.00	7,108.00	7,108.00	325.29	142.58	90.00	2,945.01	-4,986.34	8,721.77	8,454.42	267.35	32.623		
18,200.00	7,154.00	7,108.00	7,108.00	327.98	142.58	90.00	2,945.01	-4,986.34	8,813.93	8,546.83	267.10	32.998		
18,300.00	7,154.00	7,108.00	7,108.00	330.66	142.58	90.00	2,945.01	-4,986.34	8,906.26	8,639.40	266.86	33.374		
18,400.00	7,154.00	7,108.00	7,108.00	333.34	142.58	90.00	2,945.01	-4,986.34	8,998.75	8,732.13	266.62	33.752		
18,500.00	7,154.00	7,108.00	7,108.00	336.03	142.58	90.00	2,945.01	-4,986.34	9,091.40	8,825.02	266.38	34.130		
18,600.00	7,154.00	7,108.00	7,108.00	338.71	142.58	90.00	2,945.01	-4,986.34	9,184.21	8,918.06	266.14	34.508		
18,700.00	7,154.00	7,108.00	7,108.00	341.40	142.58	90.00	2,945.01	-4,986.34	9,277.16	9,011.25	265.91	34.888		
18,800.00	7,154.00	7,108.00	7,108.00	344.09	142.58	90.00	2,945.01	-4,986.34	9,370.26	9,104.57	265.69	35.268		
18,900.00	7,154.00	7,108.00	7,108.00	346.77	142.58	90.00	2,945.01	-4,986.34	9,463.50	9,198.03	265.47	35.649		
19,000.00	7,154.00	7,108.00	7,108.00	349.46	142.58	90.00	2,945.01	-4,986.34	9,556.88	9,291.63	265.25	36.030		
19,100.00	7,154.00	7,108.00	7,108.00	352.15	142.58	90.00	2,945.01	-4,986.34	9,650.38	9,385.35	265.03	36.412		
19,200.00	7,154.00	7,108.00	7,108.00	354.83	142.58	90.00	2,945.01	-4,986.34	9,744.02	9,479.20	264.82	36.795		
19,300.00	7,154.00	7,108.00	7,108.00	357.52	142.58	90.00	2,945.01	-4,986.34	9,837.79	9,573.17	264.61	37.178		
19,400.00	7,154.00	7,108.00	7,108.00	360.21	142.58	90.00	2,945.01	-4,986.34	9,931.67	9,667.26	264.41	37.562		

# Anticollision Report

<b>Company:</b>	EXTRACTION OIL & GAS	<b>Local Co-ordinate Reference:</b>	Well WARBLER 13W-27-19
<b>Project:</b>	ADAMS COUNTY	<b>TVD Reference:</b>	KB 25' @ 5106.00usft
<b>Reference Site:</b>	Sec 13-T1S-R66W	<b>MD Reference:</b>	KB 25' @ 5106.00usft
<b>Site Error:</b>	0.00 usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	WARBLER 13W-27-19	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00 usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OWB	<b>Database:</b>	EDT_32Bit_ODBC
<b>Reference Design:</b>	PROPOSAL 1	<b>Offset TVD Reference:</b>	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	-92.60	-359.37	-7,915.28	7,923.55					
100.00	100.00	58.00	58.00	0.13	0.69	-92.60	-359.37	-7,915.28	7,923.44	7,922.61	0.83	9,553.265		
200.00	200.00	158.00	158.00	0.49	2.53	-92.60	-359.37	-7,915.28	7,923.44	7,920.42	3.02	2,624.421		
300.00	300.00	258.00	258.00	0.85	4.69	-92.60	-359.37	-7,915.28	7,923.44	7,917.89	5.54	1,429.019		
400.00	400.00	358.00	358.00	1.21	6.75	-92.60	-359.37	-7,915.28	7,923.44	7,915.48	7.96	995.344		
500.00	499.98	457.98	457.98	1.56	8.78	8.03	-359.37	-7,915.28	7,921.71	7,911.37	10.34	765.810		
600.00	599.84	557.84	557.84	1.91	10.81	8.05	-359.37	-7,915.28	7,916.53	7,903.81	12.72	622.582		
700.00	699.45	657.45	657.45	2.27	12.82	8.08	-359.37	-7,915.28	7,907.90	7,892.81	15.08	524.268		
800.00	798.70	756.70	756.70	2.65	14.82	8.13	-359.37	-7,915.28	7,895.83	7,878.39	17.45	452.580		
900.00	897.47	855.47	855.47	3.06	16.81	8.19	-359.37	-7,915.28	7,880.34	7,860.54	19.80	397.969		
1,000.00	995.62	953.62	953.62	3.49	18.79	8.27	-359.37	-7,915.28	7,861.45	7,839.31	22.15	354.963		
1,100.00	1,093.06	1,051.06	1,051.06	3.96	20.76	8.36	-359.37	-7,915.28	7,839.18	7,814.70	24.48	320.202		
1,200.00	1,189.64	1,147.64	1,147.64	4.47	22.70	8.46	-359.37	-7,915.28	7,813.56	7,786.76	26.80	291.509		
1,300.00	1,285.27	1,243.27	1,243.27	5.02	24.63	8.58	-359.37	-7,915.28	7,784.62	7,755.51	29.11	267.413		
1,400.00	1,379.82	1,337.82	1,337.82	5.63	26.53	8.72	-359.37	-7,915.28	7,752.40	7,721.00	31.40	246.884		
1,500.00	1,473.18	1,431.18	1,431.18	6.29	28.41	8.87	-359.37	-7,915.28	7,716.95	7,683.27	33.68	229.145		
1,600.00	1,566.03	1,524.03	1,524.03	6.99	30.28	8.91	-359.37	-7,915.28	7,680.21	7,644.28	35.93	213.741		
1,700.00	1,658.89	1,616.89	1,616.89	7.71	32.15	8.95	-359.37	-7,915.28	7,643.48	7,605.29	38.19	200.127		
1,800.00	1,751.74	1,709.74	1,709.74	8.44	34.01	8.99	-359.37	-7,915.28	7,606.76	7,566.30	40.46	188.013		
1,900.00	1,844.60	1,802.60	1,802.60	9.17	35.88	9.04	-359.37	-7,915.28	7,570.03	7,527.30	42.73	177.167		
2,000.00	1,937.45	1,904.55	1,895.45	9.91	37.93	9.08	-359.37	-7,915.28	7,533.31	7,488.13	45.18	166.725		
2,100.00	2,030.31	1,988.31	1,988.31	10.66	39.62	9.13	-359.37	-7,915.28	7,496.59	7,449.32	47.28	158.568		
2,200.00	2,123.16	2,081.16	2,081.16	11.41	41.49	9.17	-359.37	-7,915.28	7,459.88	7,410.33	49.55	150.538		
2,300.00	2,216.02	2,174.02	2,174.02	12.17	43.35	9.22	-359.37	-7,915.28	7,423.17	7,371.34	51.84	143.207		
2,400.00	2,308.87	2,266.87	2,266.87	12.93	45.22	9.26	-359.37	-7,915.28	7,386.47	7,332.35	54.12	136.490		
2,500.00	2,401.73	2,359.73	2,359.73	13.69	47.09	9.31	-359.37	-7,915.28	7,349.77	7,293.37	56.40	130.312		
2,600.00	2,494.58	2,452.58	2,452.58	14.45	48.96	9.36	-359.37	-7,915.28	7,313.07	7,254.39	58.69	124.612		
2,700.00	2,587.44	2,545.44	2,545.44	15.22	50.83	9.40	-359.37	-7,915.28	7,276.38	7,215.41	60.97	119.336		
2,800.00	2,680.29	2,638.29	2,638.29	15.98	52.69	9.45	-359.37	-7,915.28	7,239.70	7,176.43	63.26	114.440		
2,900.00	2,773.15	2,731.15	2,731.15	16.75	54.56	9.50	-359.37	-7,915.28	7,203.01	7,137.46	65.55	109.883		
3,000.00	2,866.00	2,824.00	2,824.00	17.52	56.43	9.55	-359.37	-7,915.28	7,166.34	7,098.49	67.84	105.633		
3,100.00	2,958.86	2,916.86	2,916.86	18.29	58.30	9.60	-359.37	-7,915.28	7,129.66	7,059.53	70.13	101.659		
3,200.00	3,051.71	3,009.71	3,009.71	19.06	60.16	9.65	-359.37	-7,915.28	7,092.99	7,020.57	72.43	97.935		
3,300.00	3,144.57	3,102.57	3,102.57	19.83	62.03	9.70	-359.37	-7,915.28	7,056.33	6,981.61	74.72	94.438		
3,400.00	3,237.42	3,204.58	3,195.42	20.60	64.08	9.75	-359.37	-7,915.28	7,019.67	6,942.47	77.20	90.931		
3,500.00	3,330.28	3,288.28	3,288.28	21.37	65.77	9.80	-359.37	-7,915.28	6,983.02	6,903.71	79.31	88.049		
3,600.00	3,423.13	3,381.13	3,381.13	22.15	67.63	9.85	-359.37	-7,915.28	6,946.37	6,864.76	81.60	85.122		
3,700.00	3,515.99	3,473.99	3,473.99	22.92	69.50	9.91	-359.37	-7,915.28	6,909.72	6,825.82	83.90	82.356		
3,800.00	3,608.84	3,566.84	3,566.84	23.70	71.37	9.96	-359.37	-7,915.28	6,873.08	6,786.88	86.20	79.736		
3,900.00	3,701.70	3,659.70	3,659.70	24.47	73.24	10.01	-359.37	-7,915.28	6,836.45	6,747.95	88.50	77.251		
4,000.00	3,794.55	3,752.55	3,752.55	25.25	75.10	10.07	-359.37	-7,915.28	6,799.82	6,709.02	90.80	74.892		
4,100.00	3,887.41	3,845.41	3,845.41	26.02	76.97	10.12	-359.37	-7,915.28	6,763.20	6,670.10	93.09	72.648		
4,200.00	3,980.26	3,938.26	3,938.26	26.80	78.84	10.18	-359.37	-7,915.28	6,726.58	6,631.18	95.40	70.513		
4,300.00	4,073.12	4,031.12	4,031.12	27.57	80.71	10.23	-359.37	-7,915.28	6,689.97	6,592.27	97.70	68.477		
4,400.00	4,165.97	4,123.97	4,123.97	28.35	82.57	10.29	-359.37	-7,915.28	6,653.36	6,553.36	100.00	66.535		
4,500.00	4,258.83	4,216.83	4,216.83	29.12	84.44	10.35	-359.37	-7,915.28	6,616.76	6,514.46	102.30	64.680		
4,600.00	4,351.68	4,309.68	4,309.68	29.90	86.31	10.41	-359.37	-7,915.28	6,580.16	6,475.56	104.60	62.906		
4,700.00	4,444.54	4,402.54	4,402.54	30.68	88.18	10.46	-359.37	-7,915.28	6,543.57	6,436.67	106.91	61.208		
4,800.00	4,537.39	4,504.61	4,495.39	31.45	90.23	10.52	-359.37	-7,915.28	6,506.99	6,397.59	109.40	59.481		
4,900.00	4,630.25	4,588.25	4,588.25	32.23	91.91	10.58	-359.37	-7,915.28	6,470.41	6,358.90	111.52	58.022		
5,000.00	4,723.10	4,681.10	4,681.10	33.01	93.78	10.64	-359.37	-7,915.28	6,433.84	6,320.02	113.82	56.525		
5,100.00	4,815.96	4,773.96	4,773.96	33.79	95.65	10.71	-359.37	-7,915.28	6,397.28	6,281.15	116.13	55.088		

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

# Anticollision Report

<b>Company:</b>	EXTRACTION OIL & GAS	<b>Local Co-ordinate Reference:</b>	Well WARBLER 13W-27-19
<b>Project:</b>	ADAMS COUNTY	<b>TVD Reference:</b>	KB 25' @ 5106.00usft
<b>Reference Site:</b>	Sec 13-T1S-R66W	<b>MD Reference:</b>	KB 25' @ 5106.00usft
<b>Site Error:</b>	0.00 usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	WARBLER 13W-27-19	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00 usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OWB	<b>Database:</b>	EDT_32Bit_ODBC
<b>Reference Design:</b>	PROPOSAL 1	<b>Offset TVD Reference:</b>	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	4,908.81	4,866.81	4,866.81	34.56	97.51	10.77	-359.37	-7,915.28	6,360.72	6,242.28	118.44	53.706		
5,300.00	5,001.67	4,959.67	4,959.67	35.34	99.38	10.83	-359.37	-7,915.28	6,324.17	6,203.42	120.74	52.377		
5,400.00	5,094.52	5,052.52	5,052.52	36.12	101.25	10.89	-359.37	-7,915.28	6,287.62	6,164.57	123.05	51.097		
5,500.00	5,187.38	5,145.38	5,145.38	36.90	103.12	10.96	-359.37	-7,915.28	6,251.08	6,125.72	125.36	49.865		
5,600.00	5,280.23	5,238.23	5,238.23	37.67	104.98	11.02	-359.37	-7,915.28	6,214.55	6,086.88	127.67	48.676		
5,700.00	5,373.09	5,331.09	5,331.09	38.45	106.85	11.09	-359.37	-7,915.28	6,178.03	6,048.05	129.98	47.530		
5,800.00	5,465.94	5,423.94	5,423.94	39.23	108.72	11.15	-359.37	-7,915.28	6,141.51	6,009.22	132.29	46.424		
5,900.00	5,558.80	5,516.80	5,516.80	40.01	110.58	11.22	-359.37	-7,915.28	6,105.00	5,970.40	134.61	45.355		
6,000.00	5,651.65	5,609.65	5,609.65	40.79	112.45	11.29	-359.37	-7,915.28	6,068.50	5,931.58	136.92	44.322		
6,100.00	5,744.51	5,702.51	5,702.51	41.57	114.32	11.36	-359.37	-7,915.28	6,032.00	5,892.77	139.23	43.323		
6,200.00	5,837.36	5,804.64	5,795.36	42.34	116.37	11.43	-359.37	-7,915.28	5,995.52	5,853.78	141.73	42.302		
6,300.00	5,930.22	5,888.22	5,888.22	43.12	118.05	11.50	-359.37	-7,915.28	5,959.04	5,815.17	143.86	41.422		
6,400.00	6,023.07	5,981.07	5,981.07	43.90	119.92	11.57	-359.37	-7,915.28	5,922.56	5,776.39	146.18	40.516		
6,500.00	6,115.93	6,073.93	6,073.93	44.68	121.79	11.64	-359.37	-7,915.28	5,886.10	5,737.61	148.49	39.638		
6,600.00	6,208.78	6,166.78	6,166.78	45.46	123.66	11.72	-359.37	-7,915.28	5,849.65	5,698.83	150.81	38.788		
6,700.00	6,301.64	6,259.64	6,259.64	46.24	125.52	11.79	-359.37	-7,915.28	5,813.20	5,660.07	153.13	37.962		
6,800.00	6,394.49	6,352.49	6,352.49	47.02	127.39	11.87	-359.37	-7,915.28	5,776.76	5,621.31	155.45	37.161		
6,900.00	6,487.35	6,445.35	6,445.35	47.80	129.26	11.94	-359.37	-7,915.28	5,740.33	5,582.56	157.77	36.384		
7,000.00	6,580.20	6,538.20	6,538.20	48.57	131.13	12.02	-359.37	-7,915.28	5,703.91	5,543.82	160.09	35.629		
7,100.00	6,673.06	6,631.06	6,631.06	49.35	132.99	12.10	-359.37	-7,915.28	5,667.50	5,505.09	162.41	34.895		
7,200.00	6,765.91	6,723.91	6,723.91	50.13	134.86	12.17	-359.37	-7,915.28	5,631.10	5,466.36	164.74	34.182		
7,300.00	6,856.90	6,814.90	6,814.90	50.99	136.69	9.62	-359.37	-7,915.28	5,590.46	5,423.43	167.04	33.469		
7,400.00	6,939.78	6,902.22	6,897.78	52.14	138.45	7.83	-359.37	-7,915.28	5,535.16	5,365.89	169.27	32.700		
7,500.00	7,011.80	6,969.80	6,969.80	53.58	139.80	7.01	-359.37	-7,915.28	5,466.27	5,295.18	171.09	31.950		
7,600.00	7,070.78	7,028.78	7,028.78	55.27	140.99	6.84	-359.37	-7,915.28	5,385.87	5,213.20	172.67	31.191		
7,700.00	7,114.93	7,072.93	7,072.93	57.16	141.88	7.40	-359.37	-7,915.28	5,296.42	5,122.54	173.88	30.461		
7,800.00	7,142.90	7,100.90	7,100.90	59.19	142.44	9.82	-359.37	-7,915.28	5,200.62	5,025.97	174.65	29.777		
7,900.00	7,153.85	7,111.85	7,111.85	61.28	142.66	43.20	-359.37	-7,915.28	5,101.39	4,926.40	174.98	29.154		
8,000.00	7,154.00	7,112.00	7,112.00	63.38	142.66	90.00	-359.37	-7,915.28	5,001.41	4,826.38	175.03	28.575		
8,100.00	7,154.00	7,112.00	7,112.00	65.52	142.66	90.00	-359.37	-7,915.28	4,901.43	4,726.35	175.07	27.996		
8,200.00	7,154.00	7,112.00	7,112.00	67.71	142.66	90.00	-359.37	-7,915.28	4,801.45	4,626.33	175.12	27.418		
8,300.00	7,154.00	7,112.00	7,112.00	69.93	142.66	90.00	-359.37	-7,915.28	4,701.47	4,526.30	175.17	26.840		
8,400.00	7,154.00	7,112.00	7,112.00	72.19	142.66	90.00	-359.37	-7,915.28	4,601.49	4,426.28	175.22	26.262		
8,500.00	7,154.00	7,112.00	7,112.00	74.47	142.66	90.00	-359.37	-7,915.28	4,501.52	4,326.25	175.27	25.683		
8,600.00	7,154.00	7,112.00	7,112.00	76.79	142.66	90.00	-359.37	-7,915.28	4,401.54	4,226.22	175.32	25.105		
8,700.00	7,154.00	7,112.00	7,112.00	79.12	142.66	90.00	-359.37	-7,915.28	4,301.57	4,126.19	175.38	24.527		
8,800.00	7,154.00	7,112.00	7,112.00	81.48	142.66	90.00	-359.37	-7,915.28	4,201.60	4,026.16	175.44	23.949		
8,900.00	7,154.00	7,112.00	7,112.00	83.87	142.66	90.00	-359.37	-7,915.28	4,101.63	3,926.13	175.50	23.371		
9,000.00	7,154.00	7,112.00	7,112.00	86.27	142.66	90.00	-359.37	-7,915.28	4,001.66	3,826.09	175.57	22.793		
9,100.00	7,154.00	7,112.00	7,112.00	88.68	142.66	90.00	-359.37	-7,915.28	3,901.69	3,726.06	175.63	22.215		
9,200.00	7,154.00	7,112.00	7,112.00	91.12	142.66	90.00	-359.37	-7,915.28	3,801.73	3,626.03	175.70	21.637		
9,300.00	7,154.00	7,112.00	7,112.00	93.57	142.66	90.00	-359.37	-7,915.28	3,701.76	3,525.99	175.77	21.060		
9,400.00	7,154.00	7,112.00	7,112.00	96.03	142.66	90.00	-359.37	-7,915.28	3,601.80	3,425.95	175.85	20.482		
9,500.00	7,154.00	7,112.00	7,112.00	98.50	142.66	90.00	-359.37	-7,915.28	3,501.84	3,325.91	175.93	19.905		
9,600.00	7,154.00	7,112.00	7,112.00	100.99	142.66	90.00	-359.37	-7,915.28	3,401.88	3,225.87	176.01	19.327		
9,700.00	7,154.00	7,112.00	7,112.00	103.49	142.66	90.00	-359.37	-7,915.28	3,301.93	3,125.83	176.10	18.750		
9,800.00	7,154.00	7,112.00	7,112.00	106.00	142.66	90.00	-359.37	-7,915.28	3,201.98	3,025.78	176.19	18.173		
9,900.00	7,154.00	7,112.00	7,112.00	108.51	142.66	90.00	-359.37	-7,915.28	3,102.03	2,925.74	176.29	17.596		
10,000.00	7,154.00	7,112.00	7,112.00	111.04	142.66	90.00	-359.37	-7,915.28	3,002.08	2,825.69	176.40	17.019		
10,100.00	7,154.00	7,112.00	7,112.00	113.58	142.66	90.00	-359.37	-7,915.28	2,902.14	2,725.63	176.51	16.442		
10,200.00	7,154.00	7,112.00	7,112.00	116.12	142.66	90.00	-359.37	-7,915.28	2,802.20	2,625.58	176.62	15.865		
10,300.00	7,154.00	7,112.00	7,112.00	118.67	142.66	90.00	-359.37	-7,915.28	2,702.27	2,525.52	176.75	15.289		

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

# Anticollision Report

<b>Company:</b>	EXTRACTION OIL & GAS	<b>Local Co-ordinate Reference:</b>	Well WARBLER 13W-27-19
<b>Project:</b>	ADAMS COUNTY	<b>TVD Reference:</b>	KB 25' @ 5106.00usft
<b>Reference Site:</b>	Sec 13-T1S-R66W	<b>MD Reference:</b>	KB 25' @ 5106.00usft
<b>Site Error:</b>	0.00 usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	WARBLER 13W-27-19	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00 usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OWB	<b>Database:</b>	EDT_32Bit_ODBC
<b>Reference Design:</b>	PROPOSAL 1	<b>Offset TVD Reference:</b>	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				
10,400.00	7,154.00	7,112.00	7,112.00	121.22	142.66	90.00	-359.37	-7,915.28	2,602.34	2,425.46	176.88	14.712				
10,500.00	7,154.00	7,112.00	7,112.00	123.79	142.66	90.00	-359.37	-7,915.28	2,502.42	2,325.39	177.02	14.136				
10,600.00	7,154.00	7,112.00	7,112.00	126.35	142.66	90.00	-359.37	-7,915.28	2,402.50	2,225.32	177.18	13.560				
10,700.00	7,154.00	7,112.00	7,112.00	128.93	142.66	90.00	-359.37	-7,915.28	2,302.59	2,125.25	177.35	12.984				
10,800.00	7,154.00	7,112.00	7,112.00	131.51	142.66	90.00	-359.37	-7,915.28	2,202.69	2,025.16	177.53	12.407				
10,900.00	7,154.00	7,112.00	7,112.00	134.09	142.66	90.00	-359.37	-7,915.28	2,102.80	1,925.07	177.73	11.831				
11,000.00	7,154.00	7,112.00	7,112.00	136.68	142.66	90.00	-359.37	-7,915.28	2,002.92	1,824.97	177.95	11.255				
11,100.00	7,154.00	7,112.00	7,112.00	139.27	142.66	90.00	-359.37	-7,915.28	1,903.06	1,724.86	178.20	10.680				
11,200.00	7,154.00	7,112.00	7,112.00	141.87	142.66	90.00	-359.37	-7,915.28	1,803.21	1,624.73	178.47	10.104				
11,300.00	7,154.00	7,112.00	7,112.00	144.47	142.66	90.00	-359.37	-7,915.28	1,703.37	1,524.59	178.78	9.528				
11,400.00	7,154.00	7,112.00	7,112.00	147.08	142.66	90.00	-359.37	-7,915.28	1,603.56	1,424.42	179.13	8.952				
11,500.00	7,154.00	7,112.00	7,112.00	149.68	142.66	90.00	-359.37	-7,915.28	1,503.77	1,324.23	179.54	8.376				
11,600.00	7,154.00	7,112.00	7,112.00	152.30	142.66	90.00	-359.37	-7,915.28	1,404.01	1,224.00	180.01	7.800				
11,700.00	7,154.00	7,112.00	7,112.00	154.91	142.66	90.00	-359.37	-7,915.28	1,304.28	1,123.72	180.56	7.223				
11,800.00	7,154.00	7,112.00	7,112.00	157.53	142.66	90.00	-359.37	-7,915.28	1,204.61	1,023.38	181.23	6.647				
11,900.00	7,154.00	7,112.00	7,112.00	160.15	142.66	90.00	-359.37	-7,915.28	1,104.99	922.95	182.04	6.070				
12,000.00	7,154.00	7,112.00	7,112.00	162.77	142.66	90.00	-359.37	-7,915.28	1,005.44	822.41	183.04	5.493				
12,100.00	7,154.00	7,112.00	7,112.00	165.40	142.66	90.00	-359.37	-7,915.28	906.00	721.69	184.31	4.916				
12,200.00	7,154.00	7,112.00	7,112.00	168.03	142.66	90.00	-359.37	-7,915.28	806.70	620.74	185.96	4.338				
12,300.00	7,154.00	7,112.00	7,112.00	170.66	142.66	90.00	-359.37	-7,915.28	707.59	519.41	188.18	3.760				
12,400.00	7,154.00	7,112.00	7,112.00	173.29	142.66	90.00	-359.37	-7,915.28	608.77	417.50	191.28	3.183				
12,500.00	7,154.00	7,112.00	7,112.00	175.93	142.66	90.00	-359.37	-7,915.28	510.42	314.62	195.80	2.607				
12,600.00	7,154.00	7,112.00	7,112.00	178.56	142.66	90.00	-359.37	-7,915.28	412.85	210.03	202.82	2.036				
12,700.00	7,154.00	7,112.00	7,112.00	181.20	142.66	90.00	-359.37	-7,915.28	316.81	102.17	214.64	1.476	Level 3			
12,800.00	7,154.00	7,112.00	7,112.00	183.84	142.66	90.00	-359.37	-7,915.28	224.25	-12.48	236.73	0.947	Level 1			
12,900.00	7,154.00	7,112.00	7,112.00	186.49	142.66	90.00	-359.37	-7,915.28	142.16	-139.82	281.98	0.504	Level 1			
13,000.00	7,154.00	7,112.00	7,112.00	189.13	142.66	90.00	-359.37	-7,915.28	100.66	-231.01	331.66	0.303	Level 1, ES, SF			
13,000.39	7,154.00	7,112.00	7,112.00	189.14	142.66	90.00	-359.37	-7,915.28	100.66	-230.99	331.65	0.304	Level 1, CC			
13,100.00	7,154.00	7,112.00	7,112.00	191.78	142.66	90.00	-359.37	-7,915.28	141.61	-133.96	275.57	0.514	Level 1			
13,200.00	7,154.00	7,112.00	7,112.00	194.43	142.66	90.00	-359.37	-7,915.28	223.55	-5.09	228.64	0.978	Level 1			
13,300.00	7,154.00	7,112.00	7,112.00	197.07	142.66	90.00	-359.37	-7,915.28	316.06	109.51	206.55	1.530				
13,400.00	7,154.00	7,112.00	7,112.00	199.73	142.66	90.00	-359.37	-7,915.28	412.09	216.84	195.25	2.111				
13,500.00	7,154.00	7,112.00	7,112.00	202.38	142.66	90.00	-359.37	-7,915.28	509.65	320.76	188.89	2.698				
13,600.00	7,154.00	7,112.00	7,112.00	205.03	142.66	90.00	-359.37	-7,915.28	608.00	422.94	185.05	3.286				
13,700.00	7,154.00	7,112.00	7,112.00	207.69	142.66	90.00	-359.37	-7,915.28	706.81	524.19	182.62	3.870				
13,800.00	7,154.00	7,112.00	7,112.00	210.34	142.66	90.00	-359.37	-7,915.28	805.92	624.89	181.02	4.452				
13,900.00	7,154.00	7,112.00	7,112.00	213.00	142.66	90.00	-359.37	-7,915.28	905.22	725.28	179.94	5.031				
14,000.00	7,154.00	7,112.00	7,112.00	215.66	142.66	90.00	-359.37	-7,915.28	1,004.66	825.48	179.18	5.607				
14,100.00	7,154.00	7,112.00	7,112.00	218.32	142.66	90.00	-359.37	-7,915.28	1,104.20	925.55	178.65	6.181				
14,200.00	7,154.00	7,112.00	7,112.00	220.98	142.66	90.00	-359.37	-7,915.28	1,203.82	1,025.55	178.28	6.753				
14,300.00	7,154.00	7,112.00	7,112.00	223.64	142.66	90.00	-359.37	-7,915.28	1,303.50	1,125.49	178.01	7.323				
14,400.00	7,154.00	7,112.00	7,112.00	226.30	142.66	90.00	-359.37	-7,915.28	1,403.22	1,225.40	177.82	7.891				
14,500.00	7,154.00	7,112.00	7,112.00	228.97	142.66	90.00	-359.37	-7,915.28	1,502.98	1,325.29	177.69	8.459				
14,600.00	7,154.00	7,112.00	7,112.00	231.63	142.66	90.00	-359.37	-7,915.28	1,602.77	1,425.17	177.60	9.025				
14,700.00	7,154.00	7,112.00	7,112.00	234.29	142.66	90.00	-359.37	-7,915.28	1,702.58	1,525.04	177.54	9.590				
14,800.00	7,154.00	7,112.00	7,112.00	236.96	142.66	90.00	-359.37	-7,915.28	1,802.42	1,624.91	177.51	10.154				
14,900.00	7,154.00	7,112.00	7,112.00	239.63	142.66	90.00	-359.37	-7,915.28	1,902.27	1,724.77	177.50	10.717				
15,000.00	7,154.00	7,112.00	7,112.00	242.30	142.66	90.00	-359.37	-7,915.28	2,002.14	1,824.63	177.51	11.279				
15,100.00	7,154.00	7,112.00	7,112.00	244.96	142.66	90.00	-359.37	-7,915.28	2,102.02	1,924.49	177.53	11.840				
15,200.00	7,154.00	7,112.00	7,112.00	247.63	142.66	90.00	-359.37	-7,915.28	2,201.91	2,024.35	177.56	12.401				
15,300.00	7,154.00	7,112.00	7,112.00	250.30	142.66	90.00	-359.37	-7,915.28	2,301.81	2,124.21	177.60	12.961				
15,400.00	7,154.00	7,112.00	7,112.00	252.98	142.66	90.00	-359.37	-7,915.28	2,401.72	2,224.07	177.64	13.520				

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

# Anticollision Report

<b>Company:</b>	EXTRACTION OIL & GAS	<b>Local Co-ordinate Reference:</b>	Well WARBLER 13W-27-19
<b>Project:</b>	ADAMS COUNTY	<b>TVD Reference:</b>	KB 25' @ 5106.00usft
<b>Reference Site:</b>	Sec 13-T1S-R66W	<b>MD Reference:</b>	KB 25' @ 5106.00usft
<b>Site Error:</b>	0.00 usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	WARBLER 13W-27-19	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00 usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OWB	<b>Database:</b>	EDT_32Bit_ODBC
<b>Reference Design:</b>	PROPOSAL 1	<b>Offset TVD Reference:</b>	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				
15,500.00	7,154.00	7,112.00	7,112.00	255.65	142.66	90.00	-359.37	-7,915.28	2,501.63	2,323.94	177.69	14.078				
15,600.00	7,154.00	7,112.00	7,112.00	258.32	142.66	90.00	-359.37	-7,915.28	2,601.55	2,423.80	177.75	14.636				
15,700.00	7,154.00	7,112.00	7,112.00	260.99	142.66	90.00	-359.37	-7,915.28	2,701.48	2,523.67	177.81	15.193				
15,800.00	7,154.00	7,112.00	7,112.00	263.67	142.66	90.00	-359.37	-7,915.28	2,801.42	2,623.54	177.87	15.750				
15,900.00	7,154.00	7,112.00	7,112.00	266.34	142.66	90.00	-359.37	-7,915.28	2,901.35	2,723.41	177.94	16.305				
16,000.00	7,154.00	7,112.00	7,112.00	269.01	142.66	90.00	-359.37	-7,915.28	3,001.29	2,823.29	178.01	16.860				
16,100.00	7,154.00	7,112.00	7,112.00	271.69	142.66	90.00	-359.37	-7,915.28	3,101.24	2,923.16	178.08	17.415				
16,200.00	7,154.00	7,112.00	7,112.00	274.36	142.66	90.00	-359.37	-7,915.28	3,201.19	3,023.04	178.15	17.969				
16,300.00	7,154.00	7,112.00	7,112.00	277.04	142.66	90.00	-359.37	-7,915.28	3,301.14	3,122.91	178.23	18.522				
16,400.00	7,154.00	7,112.00	7,112.00	279.72	142.66	90.00	-359.37	-7,915.28	3,401.10	3,222.79	178.30	19.075				
16,500.00	7,154.00	7,112.00	7,112.00	282.40	142.66	90.00	-359.37	-7,915.28	3,501.05	3,322.67	178.38	19.627				
16,600.00	7,154.00	7,112.00	7,112.00	285.07	142.66	90.00	-359.37	-7,915.28	3,601.01	3,422.55	178.46	20.178				
16,700.00	7,154.00	7,112.00	7,112.00	287.75	142.66	90.00	-359.37	-7,915.28	3,700.98	3,522.44	178.54	20.729				
16,800.00	7,154.00	7,112.00	7,112.00	290.43	142.66	90.00	-359.37	-7,915.28	3,800.94	3,622.32	178.62	21.279				
16,900.00	7,154.00	7,112.00	7,112.00	293.11	142.66	90.00	-359.37	-7,915.28	3,900.91	3,722.20	178.70	21.829				
17,000.00	7,154.00	7,112.00	7,112.00	295.79	142.66	90.00	-359.37	-7,915.28	4,000.87	3,822.09	178.78	22.378				
17,100.00	7,154.00	7,112.00	7,112.00	298.47	142.66	90.00	-359.37	-7,915.28	4,100.84	3,921.97	178.87	22.927				
17,200.00	7,154.00	7,112.00	7,112.00	301.15	142.66	90.00	-359.37	-7,915.28	4,200.81	4,021.86	178.95	23.474				
17,300.00	7,154.00	7,112.00	7,112.00	303.83	142.66	90.00	-359.37	-7,915.28	4,300.78	4,121.75	179.04	24.022				
17,400.00	7,154.00	7,112.00	7,112.00	306.51	142.66	90.00	-359.37	-7,915.28	4,400.76	4,221.63	179.12	24.568				
17,500.00	7,154.00	7,112.00	7,112.00	309.19	142.66	90.00	-359.37	-7,915.28	4,500.73	4,321.52	179.21	25.114				
17,600.00	7,154.00	7,112.00	7,112.00	311.88	142.66	90.00	-359.37	-7,915.28	4,600.71	4,421.41	179.30	25.660				
17,700.00	7,154.00	7,112.00	7,112.00	314.56	142.66	90.00	-359.37	-7,915.28	4,700.68	4,521.30	179.38	26.205				
17,800.00	7,154.00	7,112.00	7,112.00	317.24	142.66	90.00	-359.37	-7,915.28	4,800.66	4,621.19	179.47	26.749				
17,900.00	7,154.00	7,112.00	7,112.00	319.92	142.66	90.00	-359.37	-7,915.28	4,900.64	4,721.08	179.56	27.292				
18,000.00	7,154.00	7,112.00	7,112.00	322.61	142.66	90.00	-359.37	-7,915.28	5,000.62	4,820.97	179.65	27.835				
18,100.00	7,154.00	7,112.00	7,112.00	325.29	142.66	90.00	-359.37	-7,915.28	5,100.60	4,920.86	179.74	28.378				
18,200.00	7,154.00	7,112.00	7,112.00	327.98	142.66	90.00	-359.37	-7,915.28	5,200.58	5,020.75	179.83	28.919				
18,300.00	7,154.00	7,112.00	7,112.00	330.66	142.66	90.00	-359.37	-7,915.28	5,300.56	5,120.64	179.92	29.461				
18,400.00	7,154.00	7,112.00	7,112.00	333.34	142.66	90.00	-359.37	-7,915.28	5,400.54	5,220.53	180.01	30.001				
18,500.00	7,154.00	7,112.00	7,112.00	336.03	142.66	90.00	-359.37	-7,915.28	5,500.53	5,320.42	180.10	30.541				
18,600.00	7,154.00	7,112.00	7,112.00	338.71	142.66	90.00	-359.37	-7,915.28	5,600.51	5,420.32	180.19	31.080				
18,700.00	7,154.00	7,112.00	7,112.00	341.40	142.66	90.00	-359.37	-7,915.28	5,700.50	5,520.21	180.29	31.619				
18,800.00	7,154.00	7,112.00	7,112.00	344.09	142.66	90.00	-359.37	-7,915.28	5,800.48	5,620.10	180.38	32.157				
18,900.00	7,154.00	7,112.00	7,112.00	346.77	142.66	90.00	-359.37	-7,915.28	5,900.46	5,719.99	180.47	32.695				
19,000.00	7,154.00	7,112.00	7,112.00	349.46	142.66	90.00	-359.37	-7,915.28	6,000.45	5,819.88	180.57	33.231				
19,100.00	7,154.00	7,112.00	7,112.00	352.15	142.66	90.00	-359.37	-7,915.28	6,100.44	5,919.78	180.66	33.768				
19,200.00	7,154.00	7,112.00	7,112.00	354.83	142.66	90.00	-359.37	-7,915.28	6,200.42	6,019.67	180.75	34.303				
19,300.00	7,154.00	7,112.00	7,112.00	357.52	142.66	90.00	-359.37	-7,915.28	6,300.41	6,119.56	180.85	34.838				
19,400.00	7,154.00	7,112.00	7,112.00	360.21	142.66	90.00	-359.37	-7,915.28	6,400.40	6,219.45	180.94	35.372				
19,500.00	7,154.00	7,112.00	7,112.00	362.90	142.66	90.00	-359.37	-7,915.28	6,500.39	6,319.35	181.04	35.906				
19,600.00	7,154.00	7,112.00	7,112.00	365.58	142.66	90.00	-359.37	-7,915.28	6,600.37	6,419.24	181.13	36.439				
19,700.00	7,154.00	7,112.00	7,112.00	368.27	142.66	90.00	-359.37	-7,915.28	6,700.36	6,519.13	181.23	36.971				
19,800.00	7,154.00	7,112.00	7,112.00	370.96	142.66	90.00	-359.37	-7,915.28	6,800.35	6,619.02	181.33	37.503				
19,900.00	7,154.00	7,112.00	7,112.00	373.65	142.66	90.00	-359.37	-7,915.28	6,900.34	6,718.92	181.42	38.034				
20,000.00	7,154.00	7,112.00	7,112.00	376.34	142.66	90.00	-359.37	-7,915.28	7,000.33	6,818.81	181.52	38.565				
20,100.00	7,154.00	7,112.00	7,112.00	379.03	142.66	90.00	-359.37	-7,915.28	7,100.32	6,918.70	181.62	39.095				
20,200.00	7,154.00	7,112.00	7,112.00	381.71	142.66	90.00	-359.37	-7,915.28	7,200.31	7,018.59	181.72	39.624				
20,300.00	7,154.00	7,112.00	7,112.00	384.40	142.66	90.00	-359.37	-7,915.28	7,300.30	7,118.49	181.82	40.152				
20,400.00	7,154.00	7,112.00	7,112.00	387.09	142.66	90.00	-359.37	-7,915.28	7,400.29	7,218.38	181.91	40.680				
20,500.00	7,154.00	7,112.00	7,112.00	389.78	142.66	90.00	-359.37	-7,915.28	7,500.28	7,318.27	182.01	41.207				
20,600.00	7,154.00	7,112.00	7,112.00	392.47	142.66	90.00	-359.37	-7,915.28	7,600.27	7,418.16	182.11	41.734				

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



## Anticollision Report

<b>Company:</b>	EXTRACTION OIL & GAS	<b>Local Co-ordinate Reference:</b>	Well WARBLER 13W-27-19
<b>Project:</b>	ADAMS COUNTY	<b>TVD Reference:</b>	KB 25' @ 5106.00usft
<b>Reference Site:</b>	Sec 13-T1S-R66W	<b>MD Reference:</b>	KB 25' @ 5106.00usft
<b>Site Error:</b>	0.00 usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	WARBLER 13W-27-19	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00 usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OWB	<b>Database:</b>	EDT_32Bit_ODBC
<b>Reference Design:</b>	PROPOSAL 1	<b>Offset TVD Reference:</b>	Offset Datum

<b>Offset Design</b> Sec 14-T1S-R66W - ABND VERT HECKENDORF 2 - Wellbore #1 - Design #1												<b>Offset Site Error:</b>	0.00 usft
Survey Program: 0-INC												<b>Offset Well Error:</b>	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	7,112.00	7,112.00	395.16	142.66	90.00	-359.37	-7,915.28	7,700.26	7,518.05	182.21	42.260	
20,800.00	7,154.00	7,112.00	7,112.00	397.85	142.66	90.00	-359.37	-7,915.28	7,800.26	7,617.94	182.31	42.785	
20,900.00	7,154.00	7,112.00	7,112.00	400.54	142.66	90.00	-359.37	-7,915.28	7,900.25	7,717.84	182.41	43.310	
21,000.00	7,154.00	7,112.00	7,112.00	403.24	142.66	90.00	-359.37	-7,915.28	8,000.24	7,817.73	182.51	43.834	
21,100.00	7,154.00	7,112.00	7,112.00	405.93	142.66	90.00	-359.37	-7,915.28	8,100.23	7,917.62	182.61	44.357	
21,200.00	7,154.00	7,112.00	7,112.00	408.62	142.66	90.00	-359.37	-7,915.28	8,200.22	8,017.51	182.72	44.880	
21,300.00	7,154.00	7,112.00	7,112.00	411.31	142.66	90.00	-359.37	-7,915.28	8,300.22	8,117.40	182.82	45.402	
21,400.00	7,154.00	7,112.00	7,112.00	414.00	142.66	90.00	-359.37	-7,915.28	8,400.21	8,217.29	182.92	45.923	
21,500.00	7,154.00	7,112.00	7,112.00	416.69	142.66	90.00	-359.37	-7,915.28	8,500.20	8,317.18	183.02	46.444	
21,505.33	7,154.00	7,112.00	7,112.00	416.83	142.66	90.00	-359.37	-7,915.28	8,505.53	8,322.50	183.03	46.472	

# Anticollision Report

<b>Company:</b>	EXTRACTION OIL & GAS	<b>Local Co-ordinate Reference:</b>	Well WARBLER 13W-27-19
<b>Project:</b>	ADAMS COUNTY	<b>TVD Reference:</b>	KB 25' @ 5106.00usft
<b>Reference Site:</b>	Sec 13-T1S-R66W	<b>MD Reference:</b>	KB 25' @ 5106.00usft
<b>Site Error:</b>	0.00 usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	WARBLER 13W-27-19	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00 usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OWB	<b>Database:</b>	EDT_32Bit_ODBC
<b>Reference Design:</b>	PROPOSAL 1	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design      Sec 14-T1S-R66W - SI VERT REBA SHAW 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		
8,400.00	7,154.00	7,155.00	7,155.00	72.19	143.53	90.00	-158.93	-13,251.74	9,941.39	9,765.13	176.26	56.402		
8,500.00	7,154.00	7,155.00	7,155.00	74.47	143.53	90.00	-158.93	-13,251.74	9,841.44	9,665.13	176.32	55.817		
8,600.00	7,154.00	7,155.00	7,155.00	76.79	143.53	90.00	-158.93	-13,251.74	9,741.49	9,565.12	176.37	55.232		
8,700.00	7,154.00	7,155.00	7,155.00	79.12	143.53	90.00	-158.93	-13,251.74	9,641.54	9,465.11	176.43	54.647		
8,800.00	7,154.00	7,155.00	7,155.00	81.48	143.53	90.00	-158.93	-13,251.74	9,541.59	9,365.10	176.49	54.062		
8,900.00	7,154.00	7,155.00	7,155.00	83.87	143.53	90.00	-158.93	-13,251.74	9,441.64	9,265.08	176.56	53.477		
9,000.00	7,154.00	7,155.00	7,155.00	86.27	143.53	90.00	-158.93	-13,251.74	9,341.69	9,165.07	176.62	52.891		
9,100.00	7,154.00	7,155.00	7,155.00	88.68	143.53	90.00	-158.93	-13,251.74	9,241.75	9,065.06	176.69	52.306		
9,200.00	7,154.00	7,155.00	7,155.00	91.12	143.53	90.00	-158.93	-13,251.74	9,141.80	8,965.05	176.75	51.720		
9,300.00	7,154.00	7,155.00	7,155.00	93.57	143.53	90.00	-158.93	-13,251.74	9,041.86	8,865.03	176.82	51.135		
9,400.00	7,154.00	7,155.00	7,155.00	96.03	143.53	90.00	-158.93	-13,251.74	8,941.91	8,765.02	176.90	50.549		
9,500.00	7,154.00	7,155.00	7,155.00	98.50	143.53	90.00	-158.93	-13,251.74	8,841.97	8,665.00	176.97	49.963		
9,600.00	7,154.00	7,155.00	7,155.00	100.99	143.53	90.00	-158.93	-13,251.74	8,742.03	8,564.99	177.04	49.377		
9,700.00	7,154.00	7,155.00	7,155.00	103.49	143.53	90.00	-158.93	-13,251.74	8,642.09	8,464.97	177.12	48.792		
9,800.00	7,154.00	7,155.00	7,155.00	106.00	143.53	90.00	-158.93	-13,251.74	8,542.15	8,364.95	177.20	48.206		
9,900.00	7,154.00	7,155.00	7,155.00	108.51	143.53	90.00	-158.93	-13,251.74	8,442.22	8,264.94	177.28	47.620		
10,000.00	7,154.00	7,155.00	7,155.00	111.04	143.53	90.00	-158.93	-13,251.74	8,342.28	8,164.92	177.37	47.034		
10,100.00	7,154.00	7,155.00	7,155.00	113.58	143.53	90.00	-158.93	-13,251.74	8,242.35	8,064.90	177.45	46.448		
10,200.00	7,154.00	7,155.00	7,155.00	116.12	143.53	90.00	-158.93	-13,251.74	8,142.42	7,964.88	177.54	45.862		
10,300.00	7,154.00	7,155.00	7,155.00	118.67	143.53	90.00	-158.93	-13,251.74	8,042.49	7,864.86	177.63	45.276		
10,400.00	7,154.00	7,155.00	7,155.00	121.22	143.53	90.00	-158.93	-13,251.74	7,942.56	7,764.84	177.73	44.690		
10,500.00	7,154.00	7,155.00	7,155.00	123.79	143.53	90.00	-158.93	-13,251.74	7,842.64	7,664.81	177.82	44.103		
10,600.00	7,154.00	7,155.00	7,155.00	126.35	143.53	90.00	-158.93	-13,251.74	7,742.71	7,564.79	177.92	43.517		
10,700.00	7,154.00	7,155.00	7,155.00	128.93	143.53	90.00	-158.93	-13,251.74	7,642.79	7,464.77	178.02	42.931		
10,800.00	7,154.00	7,155.00	7,155.00	131.51	143.53	90.00	-158.93	-13,251.74	7,542.87	7,364.74	178.13	42.345		
10,900.00	7,154.00	7,155.00	7,155.00	134.09	143.53	90.00	-158.93	-13,251.74	7,442.95	7,264.72	178.24	41.759		
11,000.00	7,154.00	7,155.00	7,155.00	136.68	143.53	90.00	-158.93	-13,251.74	7,343.04	7,164.69	178.35	41.173		
11,100.00	7,154.00	7,155.00	7,155.00	139.27	143.53	90.00	-158.93	-13,251.74	7,243.13	7,064.67	178.46	40.587		
11,200.00	7,154.00	7,155.00	7,155.00	141.87	143.53	90.00	-158.93	-13,251.74	7,143.21	6,964.64	178.58	40.001		
11,300.00	7,154.00	7,155.00	7,155.00	144.47	143.53	90.00	-158.93	-13,251.74	7,043.31	6,864.61	178.70	39.415		
11,400.00	7,154.00	7,155.00	7,155.00	147.08	143.53	90.00	-158.93	-13,251.74	6,943.40	6,764.58	178.82	38.829		
11,500.00	7,154.00	7,155.00	7,155.00	149.68	143.53	90.00	-158.93	-13,251.74	6,843.50	6,664.55	178.95	38.243		
11,600.00	7,154.00	7,155.00	7,155.00	152.30	143.53	90.00	-158.93	-13,251.74	6,743.60	6,564.52	179.08	37.657		
11,700.00	7,154.00	7,155.00	7,155.00	154.91	143.53	90.00	-158.93	-13,251.74	6,643.70	6,464.48	179.22	37.071		
11,800.00	7,154.00	7,155.00	7,155.00	157.53	143.53	90.00	-158.93	-13,251.74	6,543.81	6,364.45	179.36	36.485		
11,900.00	7,154.00	7,155.00	7,155.00	160.15	143.53	90.00	-158.93	-13,251.74	6,443.92	6,264.41	179.50	35.899		
12,000.00	7,154.00	7,155.00	7,155.00	162.77	143.53	90.00	-158.93	-13,251.74	6,344.03	6,164.38	179.65	35.313		
12,100.00	7,154.00	7,155.00	7,155.00	165.40	143.53	90.00	-158.93	-13,251.74	6,244.15	6,064.34	179.81	34.727		
12,200.00	7,154.00	7,155.00	7,155.00	168.03	143.53	90.00	-158.93	-13,251.74	6,144.27	5,964.30	179.97	34.141		
12,300.00	7,154.00	7,155.00	7,155.00	170.66	143.53	90.00	-158.93	-13,251.74	6,044.39	5,864.26	180.13	33.555		
12,400.00	7,154.00	7,155.00	7,155.00	173.29	143.53	90.00	-158.93	-13,251.74	5,944.52	5,764.22	180.30	32.969		
12,500.00	7,154.00	7,155.00	7,155.00	175.93	143.53	90.00	-158.93	-13,251.74	5,844.65	5,664.17	180.48	32.384		
12,600.00	7,154.00	7,155.00	7,155.00	178.56	143.53	90.00	-158.93	-13,251.74	5,744.79	5,564.12	180.67	31.798		
12,700.00	7,154.00	7,155.00	7,155.00	181.20	143.53	90.00	-158.93	-13,251.74	5,644.93	5,464.08	180.86	31.212		
12,800.00	7,154.00	7,155.00	7,155.00	183.84	143.53	90.00	-158.93	-13,251.74	5,545.08	5,364.03	181.06	30.626		
12,900.00	7,154.00	7,155.00	7,155.00	186.49	143.53	90.00	-158.93	-13,251.74	5,445.23	5,263.97	181.26	30.041		
13,000.00	7,154.00	7,155.00	7,155.00	189.13	143.53	90.00	-158.93	-13,251.74	5,345.39	5,163.92	181.48	29.455		
13,100.00	7,154.00	7,155.00	7,155.00	191.78	143.53	90.00	-158.93	-13,251.74	5,245.56	5,063.86	181.70	28.869		
13,200.00	7,154.00	7,155.00	7,155.00	194.43	143.53	90.00	-158.93	-13,251.74	5,145.73	4,963.80	181.93	28.284		
13,300.00	7,154.00	7,155.00	7,155.00	197.07	143.53	90.00	-158.93	-13,251.74	5,045.91	4,863.73	182.18	27.698		
13,400.00	7,154.00	7,155.00	7,155.00	199.73	143.53	90.00	-158.93	-13,251.74	4,946.09	4,763.66	182.43	27.112		
13,500.00	7,154.00	7,155.00	7,155.00	202.38	143.53	90.00	-158.93	-13,251.74	4,846.29	4,663.59	182.69	26.527		

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

# Anticollision Report

<b>Company:</b>	EXTRACTION OIL & GAS	<b>Local Co-ordinate Reference:</b>	Well Warbler 13W-27-19
<b>Project:</b>	ADAMS COUNTY	<b>TVD Reference:</b>	KB 25' @ 5106.00usft
<b>Reference Site:</b>	Sec 13-T1S-R66W	<b>MD Reference:</b>	KB 25' @ 5106.00usft
<b>Site Error:</b>	0.00 usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Warbler 13W-27-19	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00 usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OWB	<b>Database:</b>	EDT_32Bit_ODBC
<b>Reference Design:</b>	PROPOSAL 1	<b>Offset TVD Reference:</b>	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		
13,600.00	7,154.00	7,155.00	7,155.00	205.03	143.53	90.00	-158.93	-13,251.74	4,746.49	4,563.51	182.97	25.941		
13,700.00	7,154.00	7,155.00	7,155.00	207.69	143.53	90.00	-158.93	-13,251.74	4,646.70	4,463.43	183.26	25.355		
13,800.00	7,154.00	7,155.00	7,155.00	210.34	143.53	90.00	-158.93	-13,251.74	4,546.91	4,363.35	183.57	24.770		
13,900.00	7,154.00	7,155.00	7,155.00	213.00	143.53	90.00	-158.93	-13,251.74	4,447.14	4,263.26	183.89	24.184		
14,000.00	7,154.00	7,155.00	7,155.00	215.66	143.53	90.00	-158.93	-13,251.74	4,347.38	4,163.16	184.22	23.598		
14,100.00	7,154.00	7,155.00	7,155.00	218.32	143.53	90.00	-158.93	-13,251.74	4,247.63	4,063.05	184.58	23.013		
14,200.00	7,154.00	7,155.00	7,155.00	220.98	143.53	90.00	-158.93	-13,251.74	4,147.89	3,962.94	184.95	22.427		
14,300.00	7,154.00	7,155.00	7,155.00	223.64	143.53	90.00	-158.93	-13,251.74	4,048.17	3,862.82	185.35	21.841		
14,400.00	7,154.00	7,155.00	7,155.00	226.30	143.53	90.00	-158.93	-13,251.74	3,948.46	3,762.69	185.77	21.255		
14,500.00	7,154.00	7,155.00	7,155.00	228.97	143.53	90.00	-158.93	-13,251.74	3,848.76	3,662.56	186.21	20.669		
14,600.00	7,154.00	7,155.00	7,155.00	231.63	143.53	90.00	-158.93	-13,251.74	3,749.08	3,562.41	186.68	20.083		
14,700.00	7,154.00	7,155.00	7,155.00	234.29	143.53	90.00	-158.93	-13,251.74	3,649.42	3,462.25	187.18	19.497		
14,800.00	7,154.00	7,155.00	7,155.00	236.96	143.53	90.00	-158.93	-13,251.74	3,549.78	3,362.07	187.71	18.911		
14,900.00	7,154.00	7,155.00	7,155.00	239.63	143.53	90.00	-158.93	-13,251.74	3,450.16	3,261.88	188.27	18.325		
15,000.00	7,154.00	7,155.00	7,155.00	242.30	143.53	90.00	-158.93	-13,251.74	3,350.56	3,161.68	188.88	17.739		
15,100.00	7,154.00	7,155.00	7,155.00	244.96	143.53	90.00	-158.93	-13,251.74	3,250.98	3,061.45	189.53	17.153		
15,200.00	7,154.00	7,155.00	7,155.00	247.63	143.53	90.00	-158.93	-13,251.74	3,151.43	2,961.21	190.23	16.567		
15,300.00	7,154.00	7,155.00	7,155.00	250.30	143.53	90.00	-158.93	-13,251.74	3,051.92	2,860.94	190.98	15.981		
15,400.00	7,154.00	7,155.00	7,155.00	252.98	143.53	90.00	-158.93	-13,251.74	2,952.43	2,760.64	191.79	15.394		
15,500.00	7,154.00	7,155.00	7,155.00	255.65	143.53	90.00	-158.93	-13,251.74	2,852.98	2,660.32	192.66	14.808		
15,600.00	7,154.00	7,155.00	7,155.00	258.32	143.53	90.00	-158.93	-13,251.74	2,753.57	2,559.96	193.61	14.222		
15,700.00	7,154.00	7,155.00	7,155.00	260.99	143.53	90.00	-158.93	-13,251.74	2,654.20	2,459.56	194.64	13.636		
15,800.00	7,154.00	7,155.00	7,155.00	263.67	143.53	90.00	-158.93	-13,251.74	2,554.89	2,359.12	195.77	13.051		
15,900.00	7,154.00	7,155.00	7,155.00	266.34	143.53	90.00	-158.93	-13,251.74	2,455.62	2,258.63	197.00	12.465		
16,000.00	7,154.00	7,155.00	7,155.00	269.01	143.53	90.00	-158.93	-13,251.74	2,356.43	2,158.08	198.34	11.880		
16,100.00	7,154.00	7,155.00	7,155.00	271.69	143.53	90.00	-158.93	-13,251.74	2,257.30	2,057.47	199.83	11.296		
16,200.00	7,154.00	7,155.00	7,155.00	274.36	143.53	90.00	-158.93	-13,251.74	2,158.25	1,956.78	201.47	10.712		
16,300.00	7,154.00	7,155.00	7,155.00	277.04	143.53	90.00	-158.93	-13,251.74	2,059.29	1,856.00	203.30	10.130		
16,400.00	7,154.00	7,155.00	7,155.00	279.72	143.53	90.00	-158.93	-13,251.74	1,960.44	1,755.12	205.33	9.548		
16,500.00	7,154.00	7,155.00	7,155.00	282.40	143.53	90.00	-158.93	-13,251.74	1,861.72	1,654.12	207.60	8.968		
16,600.00	7,154.00	7,155.00	7,155.00	285.07	143.53	90.00	-158.93	-13,251.74	1,763.13	1,552.98	210.16	8.390		
16,700.00	7,154.00	7,155.00	7,155.00	287.75	143.53	90.00	-158.93	-13,251.74	1,664.72	1,451.67	213.05	7.814		
16,800.00	7,154.00	7,155.00	7,155.00	290.43	143.53	90.00	-158.93	-13,251.74	1,566.51	1,350.16	216.35	7.241		
16,900.00	7,154.00	7,155.00	7,155.00	293.11	143.53	90.00	-158.93	-13,251.74	1,468.54	1,248.41	220.12	6.672		
17,000.00	7,154.00	7,155.00	7,155.00	295.79	143.53	90.00	-158.93	-13,251.74	1,370.86	1,146.38	224.47	6.107		
17,100.00	7,154.00	7,155.00	7,155.00	298.47	143.53	90.00	-158.93	-13,251.74	1,273.54	1,044.00	229.54	5.548		
17,200.00	7,154.00	7,155.00	7,155.00	301.15	143.53	90.00	-158.93	-13,251.74	1,176.67	941.18	235.48	4.997		
17,300.00	7,154.00	7,155.00	7,155.00	303.83	143.53	90.00	-158.93	-13,251.74	1,080.37	837.84	242.53	4.455		
17,400.00	7,154.00	7,155.00	7,155.00	306.51	143.53	90.00	-158.93	-13,251.74	984.81	733.83	250.97	3.924		
17,500.00	7,154.00	7,155.00	7,155.00	309.19	143.53	90.00	-158.93	-13,251.74	890.22	629.00	261.22	3.408		
17,600.00	7,154.00	7,155.00	7,155.00	311.88	143.53	90.00	-158.93	-13,251.74	796.96	523.13	273.83	2.910		
17,700.00	7,154.00	7,155.00	7,155.00	314.56	143.53	90.00	-158.93	-13,251.74	705.55	416.00	289.55	2.437		
17,800.00	7,154.00	7,155.00	7,155.00	317.24	143.53	90.00	-158.93	-13,251.74	616.81	307.38	309.43	1.993		
17,900.00	7,154.00	7,155.00	7,155.00	319.92	143.53	90.00	-158.93	-13,251.74	532.07	197.31	334.77	1.589		
18,000.00	7,154.00	7,155.00	7,155.00	322.61	143.53	90.00	-158.93	-13,251.74	453.60	86.74	366.86	1.236 Level 2		
18,100.00	7,154.00	7,155.00	7,155.00	325.29	143.53	90.00	-158.93	-13,251.74	385.23	-20.44	405.67	0.950 Level 1		
18,200.00	7,154.00	7,155.00	7,155.00	327.98	143.53	90.00	-158.93	-13,251.74	333.25	-112.75	446.00	0.747 Level 1		
18,300.00	7,154.00	7,155.00	7,155.00	330.66	143.53	90.00	-158.93	-13,251.74	306.11	-166.53	472.64	0.648 Level 1		
18,336.75	7,154.00	7,155.00	7,155.00	331.65	143.53	90.00	-158.93	-13,251.74	303.90	-171.19	475.09	0.640 Level 1, CC, ES, SF		
18,400.00	7,154.00	7,155.00	7,155.00	333.34	143.53	90.00	-158.93	-13,251.74	310.41	-157.95	468.36	0.663 Level 1		
18,500.00	7,154.00	7,155.00	7,155.00	336.03	143.53	90.00	-158.93	-13,251.74	344.97	-91.50	436.47	0.790 Level 1		
18,600.00	7,154.00	7,155.00	7,155.00	338.71	143.53	90.00	-158.93	-13,251.74	402.06	6.28	395.78	1.016 Level 2		

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

# Anticollision Report

<b>Company:</b>	EXTRACTION OIL & GAS	<b>Local Co-ordinate Reference:</b>	Well WARBLER 13W-27-19
<b>Project:</b>	ADAMS COUNTY	<b>TVD Reference:</b>	KB 25' @ 5106.00usft
<b>Reference Site:</b>	Sec 13-T1S-R66W	<b>MD Reference:</b>	KB 25' @ 5106.00usft
<b>Site Error:</b>	0.00 usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	WARBLER 13W-27-19	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00 usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OWB	<b>Database:</b>	EDT_32Bit_ODBC
<b>Reference Design:</b>	PROPOSAL 1	<b>Offset TVD Reference:</b>	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		
18,700.00	7,154.00	7,155.00	7,155.00	341.40	143.53	90.00	-158.93	-13,251.74	473.61	114.86	358.75	1.320	Level 3	
18,800.00	7,154.00	7,155.00	7,155.00	344.09	143.53	90.00	-158.93	-13,251.74	554.04	225.36	328.67	1.686		
18,900.00	7,154.00	7,155.00	7,155.00	346.77	143.53	90.00	-158.93	-13,251.74	640.00	334.97	305.04	2.098		
19,000.00	7,154.00	7,155.00	7,155.00	349.46	143.53	90.00	-158.93	-13,251.74	729.56	443.08	286.48	2.547		
19,100.00	7,154.00	7,155.00	7,155.00	352.15	143.53	90.00	-158.93	-13,251.74	821.53	549.75	271.77	3.023		
19,200.00	7,154.00	7,155.00	7,155.00	354.83	143.53	90.00	-158.93	-13,251.74	915.18	655.22	259.96	3.520		
19,300.00	7,154.00	7,155.00	7,155.00	357.52	143.53	90.00	-158.93	-13,251.74	1,010.05	759.71	250.34	4.035		
19,400.00	7,154.00	7,155.00	7,155.00	360.21	143.53	90.00	-158.93	-13,251.74	1,105.83	863.41	242.41	4.562		
19,500.00	7,154.00	7,155.00	7,155.00	362.90	143.53	90.00	-158.93	-13,251.74	1,202.29	966.49	235.80	5.099		
19,600.00	7,154.00	7,155.00	7,155.00	365.58	143.53	90.00	-158.93	-13,251.74	1,299.29	1,069.06	230.23	5.643		
19,700.00	7,154.00	7,155.00	7,155.00	368.27	143.53	90.00	-158.93	-13,251.74	1,396.71	1,171.22	225.50	6.194		
19,800.00	7,154.00	7,155.00	7,155.00	370.96	143.53	90.00	-158.93	-13,251.74	1,494.48	1,273.04	221.44	6.749		
19,900.00	7,154.00	7,155.00	7,155.00	373.65	143.53	90.00	-158.93	-13,251.74	1,592.52	1,374.58	217.94	7.307		
20,000.00	7,154.00	7,155.00	7,155.00	376.34	143.53	90.00	-158.93	-13,251.74	1,690.79	1,475.89	214.90	7.868		
20,100.00	7,154.00	7,155.00	7,155.00	379.03	143.53	90.00	-158.93	-13,251.74	1,789.25	1,577.01	212.24	8.430		
20,200.00	7,154.00	7,155.00	7,155.00	381.71	143.53	90.00	-158.93	-13,251.74	1,887.87	1,677.96	209.91	8.994		
20,300.00	7,154.00	7,155.00	7,155.00	384.40	143.53	90.00	-158.93	-13,251.74	1,986.63	1,778.78	207.86	9.558		
20,400.00	7,154.00	7,155.00	7,155.00	387.09	143.53	90.00	-158.93	-13,251.74	2,085.51	1,879.47	206.04	10.122		
20,500.00	7,154.00	7,155.00	7,155.00	389.78	143.53	90.00	-158.93	-13,251.74	2,184.49	1,980.07	204.43	10.686		
20,600.00	7,154.00	7,155.00	7,155.00	392.47	143.53	90.00	-158.93	-13,251.74	2,283.56	2,080.58	202.99	11.250		
20,700.00	7,154.00	7,155.00	7,155.00	395.16	143.53	90.00	-158.93	-13,251.74	2,382.71	2,181.01	201.70	11.813		
20,800.00	7,154.00	7,155.00	7,155.00	397.85	143.53	90.00	-158.93	-13,251.74	2,481.93	2,281.38	200.55	12.376		
20,900.00	7,154.00	7,155.00	7,155.00	400.54	143.53	90.00	-158.93	-13,251.74	2,581.20	2,381.69	199.51	12.938		
21,000.00	7,154.00	7,155.00	7,155.00	403.24	143.53	90.00	-158.93	-13,251.74	2,680.53	2,481.95	198.58	13.498		
21,100.00	7,154.00	7,155.00	7,155.00	405.93	143.53	90.00	-158.93	-13,251.74	2,779.91	2,582.17	197.74	14.058		
21,200.00	7,154.00	7,155.00	7,155.00	408.62	143.53	90.00	-158.93	-13,251.74	2,879.33	2,682.35	196.98	14.617		
21,300.00	7,154.00	7,155.00	7,155.00	411.31	143.53	90.00	-158.93	-13,251.74	2,978.79	2,782.50	196.30	15.175		
21,400.00	7,154.00	7,155.00	7,155.00	414.00	143.53	90.00	-158.93	-13,251.74	3,078.29	2,882.61	195.68	15.732		
21,500.00	7,154.00	7,155.00	7,155.00	416.69	143.53	90.00	-158.93	-13,251.74	3,177.82	2,982.70	195.11	16.287		
21,505.33	7,154.00	7,155.00	7,155.00	416.83	143.53	90.00	-158.93	-13,251.74	3,183.12	2,988.04	195.08	16.317		

# Anticollision Report

<b>Company:</b>	EXTRACTION OIL & GAS	<b>Local Co-ordinate Reference:</b>	Well WARBLER 13W-27-19
<b>Project:</b>	ADAMS COUNTY	<b>TVD Reference:</b>	KB 25' @ 5106.00usft
<b>Reference Site:</b>	Sec 13-T1S-R66W	<b>MD Reference:</b>	KB 25' @ 5106.00usft
<b>Site Error:</b>	0.00 usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	WARBLER 13W-27-19	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00 usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OWB	<b>Database:</b>	EDT_32Bit_ODBC
<b>Reference Design:</b>	PROPOSAL 1	<b>Offset TVD Reference:</b>	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		
11,400.00	7,154.00	7,152.00	7,152.00	147.08	143.47	90.00	2,440.31	-15,863.82	9,979.49	9,777.09	202.40	49.306		
11,500.00	7,154.00	7,152.00	7,152.00	149.68	143.47	90.00	2,440.31	-15,863.82	9,883.86	9,680.45	203.41	48.591		
11,600.00	7,154.00	7,152.00	7,152.00	152.30	143.47	90.00	2,440.31	-15,863.82	9,788.32	9,583.88	204.44	47.878		
11,700.00	7,154.00	7,152.00	7,152.00	154.91	143.47	90.00	2,440.31	-15,863.82	9,692.87	9,487.37	205.50	47.166		
11,800.00	7,154.00	7,152.00	7,152.00	157.53	143.47	90.00	2,440.31	-15,863.82	9,597.51	9,390.92	206.59	46.456		
11,900.00	7,154.00	7,152.00	7,152.00	160.15	143.47	90.00	2,440.31	-15,863.82	9,502.25	9,294.54	207.71	45.748		
12,000.00	7,154.00	7,152.00	7,152.00	162.77	143.47	90.00	2,440.31	-15,863.82	9,407.09	9,198.23	208.85	45.042		
12,100.00	7,154.00	7,152.00	7,152.00	165.40	143.47	90.00	2,440.31	-15,863.82	9,312.02	9,102.00	210.02	44.338		
12,200.00	7,154.00	7,152.00	7,152.00	168.03	143.47	90.00	2,440.31	-15,863.82	9,217.06	9,005.84	211.23	43.636		
12,300.00	7,154.00	7,152.00	7,152.00	170.66	143.47	90.00	2,440.31	-15,863.82	9,122.21	8,909.76	212.46	42.937		
12,400.00	7,154.00	7,152.00	7,152.00	173.29	143.47	90.00	2,440.31	-15,863.82	9,027.47	8,813.75	213.72	42.239		
12,500.00	7,154.00	7,152.00	7,152.00	175.93	143.47	90.00	2,440.31	-15,863.82	8,932.85	8,717.83	215.02	41.545		
12,600.00	7,154.00	7,152.00	7,152.00	178.56	143.47	90.00	2,440.31	-15,863.82	8,838.34	8,622.00	216.34	40.853		
12,700.00	7,154.00	7,152.00	7,152.00	181.20	143.47	90.00	2,440.31	-15,863.82	8,743.96	8,526.25	217.71	40.164		
12,800.00	7,154.00	7,152.00	7,152.00	183.84	143.47	90.00	2,440.31	-15,863.82	8,649.70	8,430.60	219.10	39.478		
12,900.00	7,154.00	7,152.00	7,152.00	186.49	143.47	90.00	2,440.31	-15,863.82	8,555.57	8,335.04	220.53	38.795		
13,000.00	7,154.00	7,152.00	7,152.00	189.13	143.47	90.00	2,440.31	-15,863.82	8,461.58	8,239.58	222.00	38.115		
13,100.00	7,154.00	7,152.00	7,152.00	191.78	143.47	90.00	2,440.31	-15,863.82	8,367.73	8,144.22	223.50	37.439		
13,200.00	7,154.00	7,152.00	7,152.00	194.43	143.47	90.00	2,440.31	-15,863.82	8,274.02	8,048.97	225.04	36.766		
13,300.00	7,154.00	7,152.00	7,152.00	197.07	143.47	90.00	2,440.31	-15,863.82	8,180.46	7,953.83	226.63	36.097		
13,400.00	7,154.00	7,152.00	7,152.00	199.73	143.47	90.00	2,440.31	-15,863.82	8,087.05	7,858.80	228.25	35.431		
13,500.00	7,154.00	7,152.00	7,152.00	202.38	143.47	90.00	2,440.31	-15,863.82	7,993.80	7,763.89	229.91	34.769		
13,600.00	7,154.00	7,152.00	7,152.00	205.03	143.47	90.00	2,440.31	-15,863.82	7,900.72	7,669.11	231.61	34.112		
13,700.00	7,154.00	7,152.00	7,152.00	207.69	143.47	90.00	2,440.31	-15,863.82	7,807.81	7,574.45	233.36	33.458		
13,800.00	7,154.00	7,152.00	7,152.00	210.34	143.47	90.00	2,440.31	-15,863.82	7,715.08	7,479.92	235.16	32.808		
13,900.00	7,154.00	7,152.00	7,152.00	213.00	143.47	90.00	2,440.31	-15,863.82	7,622.53	7,385.53	237.00	32.163		
14,000.00	7,154.00	7,152.00	7,152.00	215.66	143.47	90.00	2,440.31	-15,863.82	7,530.17	7,291.28	238.89	31.522		
14,100.00	7,154.00	7,152.00	7,152.00	218.32	143.47	90.00	2,440.31	-15,863.82	7,438.00	7,197.18	240.82	30.886		
14,200.00	7,154.00	7,152.00	7,152.00	220.98	143.47	90.00	2,440.31	-15,863.82	7,346.05	7,103.24	242.81	30.254		
14,300.00	7,154.00	7,152.00	7,152.00	223.64	143.47	90.00	2,440.31	-15,863.82	7,254.30	7,009.45	244.85	29.627		
14,400.00	7,154.00	7,152.00	7,152.00	226.30	143.47	90.00	2,440.31	-15,863.82	7,162.78	6,915.84	246.95	29.006		
14,500.00	7,154.00	7,152.00	7,152.00	228.97	143.47	90.00	2,440.31	-15,863.82	7,071.49	6,822.39	249.09	28.389		
14,600.00	7,154.00	7,152.00	7,152.00	231.63	143.47	90.00	2,440.31	-15,863.82	6,980.43	6,729.13	251.30	27.777		
14,700.00	7,154.00	7,152.00	7,152.00	234.29	143.47	90.00	2,440.31	-15,863.82	6,889.63	6,636.06	253.57	27.171		
14,800.00	7,154.00	7,152.00	7,152.00	236.96	143.47	90.00	2,440.31	-15,863.82	6,799.08	6,543.18	255.89	26.570		
14,900.00	7,154.00	7,152.00	7,152.00	239.63	143.47	90.00	2,440.31	-15,863.82	6,708.80	6,450.51	258.28	25.975		
15,000.00	7,154.00	7,152.00	7,152.00	242.30	143.47	90.00	2,440.31	-15,863.82	6,618.80	6,358.06	260.74	25.385		
15,100.00	7,154.00	7,152.00	7,152.00	244.96	143.47	90.00	2,440.31	-15,863.82	6,529.09	6,265.83	263.26	24.801		
15,200.00	7,154.00	7,152.00	7,152.00	247.63	143.47	90.00	2,440.31	-15,863.82	6,439.68	6,173.83	265.85	24.223		
15,300.00	7,154.00	7,152.00	7,152.00	250.30	143.47	90.00	2,440.31	-15,863.82	6,350.59	6,082.08	268.51	23.651		
15,400.00	7,154.00	7,152.00	7,152.00	252.98	143.47	90.00	2,440.31	-15,863.82	6,261.83	5,990.58	271.24	23.086		
15,500.00	7,154.00	7,152.00	7,152.00	255.65	143.47	90.00	2,440.31	-15,863.82	6,173.41	5,899.36	274.05	22.526		
15,600.00	7,154.00	7,152.00	7,152.00	258.32	143.47	90.00	2,440.31	-15,863.82	6,085.35	5,808.41	276.94	21.973		
15,700.00	7,154.00	7,152.00	7,152.00	260.99	143.47	90.00	2,440.31	-15,863.82	5,997.67	5,717.76	279.91	21.427		
15,800.00	7,154.00	7,152.00	7,152.00	263.67	143.47	90.00	2,440.31	-15,863.82	5,910.37	5,627.41	282.96	20.887		
15,900.00	7,154.00	7,152.00	7,152.00	266.34	143.47	90.00	2,440.31	-15,863.82	5,823.49	5,537.39	286.10	20.355		
16,000.00	7,154.00	7,152.00	7,152.00	269.01	143.47	90.00	2,440.31	-15,863.82	5,737.03	5,447.70	289.33	19.829		
16,100.00	7,154.00	7,152.00	7,152.00	271.69	143.47	90.00	2,440.31	-15,863.82	5,651.02	5,358.38	292.65	19.310		
16,200.00	7,154.00	7,152.00	7,152.00	274.36	143.47	90.00	2,440.31	-15,863.82	5,565.48	5,269.42	296.06	18.799		
16,300.00	7,154.00	7,152.00	7,152.00	277.04	143.47	90.00	2,440.31	-15,863.82	5,480.43	5,180.86	299.57	18.294		
16,400.00	7,154.00	7,152.00	7,152.00	279.72	143.47	90.00	2,440.31	-15,863.82	5,395.88	5,092.71	303.18	17.798		
16,500.00	7,154.00	7,152.00	7,152.00	282.40	143.47	90.00	2,440.31	-15,863.82	5,311.88	5,004.99	306.89	17.309		

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

# Anticollision Report

<b>Company:</b>	EXTRACTION OIL & GAS	<b>Local Co-ordinate Reference:</b>	Well WARBLER 13W-27-19
<b>Project:</b>	ADAMS COUNTY	<b>TVD Reference:</b>	KB 25' @ 5106.00usft
<b>Reference Site:</b>	Sec 13-T1S-R66W	<b>MD Reference:</b>	KB 25' @ 5106.00usft
<b>Site Error:</b>	0.00 usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	WARBLER 13W-27-19	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00 usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OWB	<b>Database:</b>	EDT_32Bit_ODBC
<b>Reference Design:</b>	PROPOSAL 1	<b>Offset TVD Reference:</b>	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		
16,600.00	7,154.00	7,152.00	7,152.00	285.07	143.47	90.00	2,440.31	-15,863.82	5,228.44	4,917.74	310.70	16.828		
16,700.00	7,154.00	7,152.00	7,152.00	287.75	143.47	90.00	2,440.31	-15,863.82	5,145.59	4,830.96	314.63	16.354		
16,800.00	7,154.00	7,152.00	7,152.00	290.43	143.47	90.00	2,440.31	-15,863.82	5,063.36	4,744.69	318.66	15.889		
16,900.00	7,154.00	7,152.00	7,152.00	293.11	143.47	90.00	2,440.31	-15,863.82	4,981.78	4,658.96	322.82	15.432		
17,000.00	7,154.00	7,152.00	7,152.00	295.79	143.47	90.00	2,440.31	-15,863.82	4,900.88	4,573.80	327.08	14.984		
17,100.00	7,154.00	7,152.00	7,152.00	298.47	143.47	90.00	2,440.31	-15,863.82	4,820.70	4,489.23	331.47	14.543		
17,200.00	7,154.00	7,152.00	7,152.00	301.15	143.47	90.00	2,440.31	-15,863.82	4,741.27	4,405.29	335.98	14.112		
17,300.00	7,154.00	7,152.00	7,152.00	303.83	143.47	90.00	2,440.31	-15,863.82	4,662.63	4,322.02	340.61	13.689		
17,400.00	7,154.00	7,152.00	7,152.00	306.51	143.47	90.00	2,440.31	-15,863.82	4,584.83	4,239.45	345.37	13.275		
17,500.00	7,154.00	7,152.00	7,152.00	309.19	143.47	90.00	2,440.31	-15,863.82	4,507.90	4,157.64	350.26	12.870		
17,600.00	7,154.00	7,152.00	7,152.00	311.88	143.47	90.00	2,440.31	-15,863.82	4,431.89	4,076.61	355.28	12.474		
17,700.00	7,154.00	7,152.00	7,152.00	314.56	143.47	90.00	2,440.31	-15,863.82	4,356.85	3,996.42	360.43	12.088		
17,800.00	7,154.00	7,152.00	7,152.00	317.24	143.47	90.00	2,440.31	-15,863.82	4,282.83	3,917.12	365.71	11.711		
17,900.00	7,154.00	7,152.00	7,152.00	319.92	143.47	90.00	2,440.31	-15,863.82	4,209.89	3,838.77	371.13	11.344		
18,000.00	7,154.00	7,152.00	7,152.00	322.61	143.47	90.00	2,440.31	-15,863.82	4,138.08	3,761.41	376.67	10.986		
18,100.00	7,154.00	7,152.00	7,152.00	325.29	143.47	90.00	2,440.31	-15,863.82	4,067.45	3,685.11	382.35	10.638		
18,200.00	7,154.00	7,152.00	7,152.00	327.98	143.47	90.00	2,440.31	-15,863.82	3,998.09	3,609.94	388.15	10.300		
18,300.00	7,154.00	7,152.00	7,152.00	330.66	143.47	90.00	2,440.31	-15,863.82	3,930.04	3,535.96	394.08	9.973		
18,400.00	7,154.00	7,152.00	7,152.00	333.34	143.47	90.00	2,440.31	-15,863.82	3,863.38	3,463.25	400.13	9.655		
18,500.00	7,154.00	7,152.00	7,152.00	336.03	143.47	90.00	2,440.31	-15,863.82	3,798.19	3,391.89	406.30	9.348		
18,600.00	7,154.00	7,152.00	7,152.00	338.71	143.47	90.00	2,440.31	-15,863.82	3,734.53	3,321.96	412.57	9.052		
18,700.00	7,154.00	7,152.00	7,152.00	341.40	143.47	90.00	2,440.31	-15,863.82	3,672.50	3,253.55	418.95	8.766		
18,800.00	7,154.00	7,152.00	7,152.00	344.09	143.47	90.00	2,440.31	-15,863.82	3,612.17	3,186.75	425.41	8.491		
18,900.00	7,154.00	7,152.00	7,152.00	346.77	143.47	90.00	2,440.31	-15,863.82	3,553.62	3,121.67	431.96	8.227		
19,000.00	7,154.00	7,152.00	7,152.00	349.46	143.47	90.00	2,440.31	-15,863.82	3,496.96	3,058.39	438.57	7.974		
19,100.00	7,154.00	7,152.00	7,152.00	352.15	143.47	90.00	2,440.31	-15,863.82	3,442.28	2,997.05	445.23	7.731		
19,200.00	7,154.00	7,152.00	7,152.00	354.83	143.47	90.00	2,440.31	-15,863.82	3,389.66	2,937.74	451.92	7.501		
19,300.00	7,154.00	7,152.00	7,152.00	357.52	143.47	90.00	2,440.31	-15,863.82	3,339.20	2,880.58	458.62	7.281		
19,400.00	7,154.00	7,152.00	7,152.00	360.21	143.47	90.00	2,440.31	-15,863.82	3,291.01	2,825.70	465.31	7.073		
19,500.00	7,154.00	7,152.00	7,152.00	362.90	143.47	90.00	2,440.31	-15,863.82	3,245.19	2,773.23	471.97	6.876		
19,600.00	7,154.00	7,152.00	7,152.00	365.58	143.47	90.00	2,440.31	-15,863.82	3,201.84	2,723.28	478.56	6.691		
19,700.00	7,154.00	7,152.00	7,152.00	368.27	143.47	90.00	2,440.31	-15,863.82	3,161.06	2,676.00	485.06	6.517		
19,800.00	7,154.00	7,152.00	7,152.00	370.96	143.47	90.00	2,440.31	-15,863.82	3,122.95	2,631.51	491.44	6.355		
19,900.00	7,154.00	7,152.00	7,152.00	373.65	143.47	90.00	2,440.31	-15,863.82	3,087.61	2,589.95	497.66	6.204		
20,000.00	7,154.00	7,152.00	7,152.00	376.34	143.47	90.00	2,440.31	-15,863.82	3,055.13	2,551.44	503.69	6.065		
20,100.00	7,154.00	7,152.00	7,152.00	379.03	143.47	90.00	2,440.31	-15,863.82	3,025.61	2,516.11	509.50	5.938		
20,200.00	7,154.00	7,152.00	7,152.00	381.71	143.47	90.00	2,440.31	-15,863.82	2,999.14	2,484.09	515.05	5.823		
20,300.00	7,154.00	7,152.00	7,152.00	384.40	143.47	90.00	2,440.31	-15,863.82	2,975.79	2,455.48	520.31	5.719		
20,400.00	7,154.00	7,152.00	7,152.00	387.09	143.47	90.00	2,440.31	-15,863.82	2,955.65	2,430.41	525.24	5.627		
20,500.00	7,154.00	7,152.00	7,152.00	389.78	143.47	90.00	2,440.31	-15,863.82	2,938.77	2,408.95	529.82	5.547		
20,600.00	7,154.00	7,152.00	7,152.00	392.47	143.47	90.00	2,440.31	-15,863.82	2,925.21	2,391.21	534.00	5.478		
20,700.00	7,154.00	7,152.00	7,152.00	395.16	143.47	90.00	2,440.31	-15,863.82	2,915.02	2,377.24	537.78	5.420		
20,800.00	7,154.00	7,152.00	7,152.00	397.85	143.47	90.00	2,440.31	-15,863.82	2,908.24	2,367.12	541.12	5.374		
20,900.00	7,154.00	7,152.00	7,152.00	400.54	143.47	90.00	2,440.31	-15,863.82	2,904.89	2,360.88	544.01	5.340		
20,947.47	7,154.00	7,152.00	7,152.00	401.82	143.47	90.00	2,440.31	-15,863.82	2,904.50	2,359.28	545.22	5.327 CC		
21,000.00	7,154.00	7,152.00	7,152.00	403.24	143.47	90.00	2,440.31	-15,863.82	2,904.98	2,358.54	546.44	5.316 ES		
21,100.00	7,154.00	7,152.00	7,152.00	405.93	143.47	90.00	2,440.31	-15,863.82	2,908.50	2,360.12	548.38	5.304		
21,200.00	7,154.00	7,152.00	7,152.00	408.62	143.47	90.00	2,440.31	-15,863.82	2,915.46	2,365.61	549.85	5.302 SF		
21,300.00	7,154.00	7,152.00	7,152.00	411.31	143.47	90.00	2,440.31	-15,863.82	2,925.82	2,374.97	550.85	5.311		
21,400.00	7,154.00	7,152.00	7,152.00	414.00	143.47	90.00	2,440.31	-15,863.82	2,939.54	2,388.17	551.37	5.331		
21,500.00	7,154.00	7,152.00	7,152.00	416.69	143.47	90.00	2,440.31	-15,863.82	2,956.59	2,405.16	551.43	5.362		
21,505.33	7,154.00	7,152.00	7,152.00	416.83	143.47	90.00	2,440.31	-15,863.82	2,957.59	2,406.16	551.43	5.364		

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

## Anticollision Report

<b>Company:</b>	EXTRACTION OIL & GAS	<b>Local Co-ordinate Reference:</b>	Well WARBLER 13W-27-19
<b>Project:</b>	ADAMS COUNTY	<b>TVD Reference:</b>	KB 25' @ 5106.00usft
<b>Reference Site:</b>	Sec 13-T1S-R66W	<b>MD Reference:</b>	KB 25' @ 5106.00usft
<b>Site Error:</b>	0.00 usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	WARBLER 13W-27-19	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00 usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OWB	<b>Database:</b>	EDT_32Bit_ODBC
<b>Reference Design:</b>	PROPOSAL 1	<b>Offset TVD Reference:</b>	Offset Datum



# Anticollision Report

<b>Company:</b>	EXTRACTION OIL & GAS	<b>Local Co-ordinate Reference:</b>	Well WARBLER 13W-27-19
<b>Project:</b>	ADAMS COUNTY	<b>TVD Reference:</b>	KB 25' @ 5106.00usft
<b>Reference Site:</b>	Sec 13-T1S-R66W	<b>MD Reference:</b>	KB 25' @ 5106.00usft
<b>Site Error:</b>	0.00 usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	WARBLER 13W-27-19	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00 usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OWB	<b>Database:</b>	EDT_32Bit_ODBC
<b>Reference Design:</b>	PROPOSAL 1	<b>Offset TVD Reference:</b>	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		
8,900.00	7,154.00	7,155.00	7,155.00	83.87	143.53	-90.00	-2,741.19	-13,528.99	9,978.89	9,802.77	176.12	56.661		
9,000.00	7,154.00	7,155.00	7,155.00	86.27	143.53	-90.00	-2,741.19	-13,528.99	9,881.55	9,705.16	176.40	56.019		
9,100.00	7,154.00	7,155.00	7,155.00	88.68	143.53	-90.00	-2,741.19	-13,528.99	9,784.28	9,607.58	176.70	55.372		
9,200.00	7,154.00	7,155.00	7,155.00	91.12	143.53	-90.00	-2,741.19	-13,528.99	9,687.05	9,510.03	177.03	54.721		
9,300.00	7,154.00	7,155.00	7,155.00	93.57	143.53	-90.00	-2,741.19	-13,528.99	9,589.89	9,412.51	177.38	54.065		
9,400.00	7,154.00	7,155.00	7,155.00	96.03	143.53	-90.00	-2,741.19	-13,528.99	9,492.78	9,315.03	177.75	53.404		
9,500.00	7,154.00	7,155.00	7,155.00	98.50	143.53	-90.00	-2,741.19	-13,528.99	9,395.73	9,217.58	178.15	52.739		
9,600.00	7,154.00	7,155.00	7,155.00	100.99	143.53	-90.00	-2,741.19	-13,528.99	9,298.75	9,120.17	178.58	52.070		
9,700.00	7,154.00	7,155.00	7,155.00	103.49	143.53	-90.00	-2,741.19	-13,528.99	9,201.83	9,022.79	179.04	51.397		
9,800.00	7,154.00	7,155.00	7,155.00	106.00	143.53	-90.00	-2,741.19	-13,528.99	9,104.98	8,925.46	179.52	50.719		
9,900.00	7,154.00	7,155.00	7,155.00	108.51	143.53	-90.00	-2,741.19	-13,528.99	9,008.19	8,828.16	180.03	50.038		
10,000.00	7,154.00	7,155.00	7,155.00	111.04	143.53	-90.00	-2,741.19	-13,528.99	8,911.48	8,730.91	180.57	49.352		
10,100.00	7,154.00	7,155.00	7,155.00	113.58	143.53	-90.00	-2,741.19	-13,528.99	8,814.84	8,633.70	181.14	48.664		
10,200.00	7,154.00	7,155.00	7,155.00	116.12	143.53	-90.00	-2,741.19	-13,528.99	8,718.27	8,536.54	181.74	47.972		
10,300.00	7,154.00	7,155.00	7,155.00	118.67	143.53	-90.00	-2,741.19	-13,528.99	8,621.79	8,439.42	182.37	47.277		
10,400.00	7,154.00	7,155.00	7,155.00	121.22	143.53	-90.00	-2,741.19	-13,528.99	8,525.38	8,342.35	183.03	46.579		
10,500.00	7,154.00	7,155.00	7,155.00	123.79	143.53	-90.00	-2,741.19	-13,528.99	8,429.06	8,245.33	183.73	45.878		
10,600.00	7,154.00	7,155.00	7,155.00	126.35	143.53	-90.00	-2,741.19	-13,528.99	8,332.83	8,148.37	184.46	45.175		
10,700.00	7,154.00	7,155.00	7,155.00	128.93	143.53	-90.00	-2,741.19	-13,528.99	8,236.68	8,051.46	185.22	44.470		
10,800.00	7,154.00	7,155.00	7,155.00	131.51	143.53	-90.00	-2,741.19	-13,528.99	8,140.63	7,954.61	186.02	43.763		
10,900.00	7,154.00	7,155.00	7,155.00	134.09	143.53	-90.00	-2,741.19	-13,528.99	8,044.68	7,857.82	186.85	43.054		
11,000.00	7,154.00	7,155.00	7,155.00	136.68	143.53	-90.00	-2,741.19	-13,528.99	7,948.82	7,761.10	187.72	42.343		
11,100.00	7,154.00	7,155.00	7,155.00	139.27	143.53	-90.00	-2,741.19	-13,528.99	7,853.07	7,664.44	188.63	41.632		
11,200.00	7,154.00	7,155.00	7,155.00	141.87	143.53	-90.00	-2,741.19	-13,528.99	7,757.42	7,567.84	189.58	40.919		
11,300.00	7,154.00	7,155.00	7,155.00	144.47	143.53	-90.00	-2,741.19	-13,528.99	7,661.89	7,471.32	190.56	40.206		
11,400.00	7,154.00	7,155.00	7,155.00	147.08	143.53	-90.00	-2,741.19	-13,528.99	7,566.47	7,374.88	191.59	39.493		
11,500.00	7,154.00	7,155.00	7,155.00	149.68	143.53	-90.00	-2,741.19	-13,528.99	7,471.17	7,278.51	192.66	38.779		
11,600.00	7,154.00	7,155.00	7,155.00	152.30	143.53	-90.00	-2,741.19	-13,528.99	7,376.00	7,182.23	193.77	38.066		
11,700.00	7,154.00	7,155.00	7,155.00	154.91	143.53	-90.00	-2,741.19	-13,528.99	7,280.95	7,086.03	194.92	37.353		
11,800.00	7,154.00	7,155.00	7,155.00	157.53	143.53	-90.00	-2,741.19	-13,528.99	7,186.04	6,989.92	196.12	36.641		
11,900.00	7,154.00	7,155.00	7,155.00	160.15	143.53	-90.00	-2,741.19	-13,528.99	7,091.27	6,893.90	197.37	35.929		
12,000.00	7,154.00	7,155.00	7,155.00	162.77	143.53	-90.00	-2,741.19	-13,528.99	6,996.65	6,797.99	198.66	35.219		
12,100.00	7,154.00	7,155.00	7,155.00	165.40	143.53	-90.00	-2,741.19	-13,528.99	6,902.17	6,702.17	200.00	34.511		
12,200.00	7,154.00	7,155.00	7,155.00	168.03	143.53	-90.00	-2,741.19	-13,528.99	6,807.86	6,606.47	201.39	33.804		
12,300.00	7,154.00	7,155.00	7,155.00	170.66	143.53	-90.00	-2,741.19	-13,528.99	6,713.71	6,510.87	202.83	33.100		
12,400.00	7,154.00	7,155.00	7,155.00	173.29	143.53	-90.00	-2,741.19	-13,528.99	6,619.73	6,415.40	204.33	32.398		
12,500.00	7,154.00	7,155.00	7,155.00	175.93	143.53	-90.00	-2,741.19	-13,528.99	6,525.93	6,320.05	205.88	31.698		
12,600.00	7,154.00	7,155.00	7,155.00	178.56	143.53	-90.00	-2,741.19	-13,528.99	6,432.31	6,224.83	207.49	31.001		
12,700.00	7,154.00	7,155.00	7,155.00	181.20	143.53	-90.00	-2,741.19	-13,528.99	6,338.89	6,129.74	209.15	30.308		
12,800.00	7,154.00	7,155.00	7,155.00	183.84	143.53	-90.00	-2,741.19	-13,528.99	6,245.68	6,034.80	210.88	29.618		
12,900.00	7,154.00	7,155.00	7,155.00	186.49	143.53	-90.00	-2,741.19	-13,528.99	6,152.68	5,940.01	212.67	28.931		
13,000.00	7,154.00	7,155.00	7,155.00	189.13	143.53	-90.00	-2,741.19	-13,528.99	6,059.90	5,845.38	214.52	28.249		
13,100.00	7,154.00	7,155.00	7,155.00	191.78	143.53	-90.00	-2,741.19	-13,528.99	5,967.35	5,750.91	216.44	27.571		
13,200.00	7,154.00	7,155.00	7,155.00	194.43	143.53	-90.00	-2,741.19	-13,528.99	5,875.05	5,656.62	218.43	26.897		
13,300.00	7,154.00	7,155.00	7,155.00	197.07	143.53	-90.00	-2,741.19	-13,528.99	5,783.01	5,562.52	220.49	26.228		
13,400.00	7,154.00	7,155.00	7,155.00	199.73	143.53	-90.00	-2,741.19	-13,528.99	5,691.23	5,468.60	222.63	25.564		
13,500.00	7,154.00	7,155.00	7,155.00	202.38	143.53	-90.00	-2,741.19	-13,528.99	5,599.73	5,374.90	224.84	24.906		
13,600.00	7,154.00	7,155.00	7,155.00	205.03	143.53	-90.00	-2,741.19	-13,528.99	5,508.53	5,281.40	227.13	24.253		
13,700.00	7,154.00	7,155.00	7,155.00	207.69	143.53	-90.00	-2,741.19	-13,528.99	5,417.65	5,188.14	229.51	23.605		
13,800.00	7,154.00	7,155.00	7,155.00	210.34	143.53	-90.00	-2,741.19	-13,528.99	5,327.08	5,095.11	231.97	22.964		
13,900.00	7,154.00	7,155.00	7,155.00	213.00	143.53	-90.00	-2,741.19	-13,528.99	5,236.86	5,002.34	234.52	22.330		
14,000.00	7,154.00	7,155.00	7,155.00	215.66	143.53	-90.00	-2,741.19	-13,528.99	5,147.01	4,909.84	237.17	21.702		

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

# Anticollision Report

<b>Company:</b>	EXTRACTION OIL & GAS	<b>Local Co-ordinate Reference:</b>	Well WARBLER 13W-27-19
<b>Project:</b>	ADAMS COUNTY	<b>TVD Reference:</b>	KB 25' @ 5106.00usft
<b>Reference Site:</b>	Sec 13-T1S-R66W	<b>MD Reference:</b>	KB 25' @ 5106.00usft
<b>Site Error:</b>	0.00 usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	WARBLER 13W-27-19	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00 usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OWB	<b>Database:</b>	EDT_32Bit_ODBC
<b>Reference Design:</b>	PROPOSAL 1	<b>Offset TVD Reference:</b>	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		
14,100.00	7,154.00	7,155.00	7,155.00	218.32	143.53	-90.00	-2,741.19	-13,528.99	5,057.53	4,817.62	239.91	21.081		
14,200.00	7,154.00	7,155.00	7,155.00	220.98	143.53	-90.00	-2,741.19	-13,528.99	4,968.45	4,725.70	242.76	20.467		
14,300.00	7,154.00	7,155.00	7,155.00	223.64	143.53	-90.00	-2,741.19	-13,528.99	4,879.80	4,634.09	245.71	19.860		
14,400.00	7,154.00	7,155.00	7,155.00	226.30	143.53	-90.00	-2,741.19	-13,528.99	4,791.60	4,542.83	248.77	19.261		
14,500.00	7,154.00	7,155.00	7,155.00	228.97	143.53	-90.00	-2,741.19	-13,528.99	4,703.86	4,451.92	251.94	18.671		
14,600.00	7,154.00	7,155.00	7,155.00	231.63	143.53	-90.00	-2,741.19	-13,528.99	4,616.63	4,361.40	255.23	18.088		
14,700.00	7,154.00	7,155.00	7,155.00	234.29	143.53	-90.00	-2,741.19	-13,528.99	4,529.92	4,271.28	258.64	17.514		
14,800.00	7,154.00	7,155.00	7,155.00	236.96	143.53	-90.00	-2,741.19	-13,528.99	4,443.77	4,181.59	262.19	16.949		
14,900.00	7,154.00	7,155.00	7,155.00	239.63	143.53	-90.00	-2,741.19	-13,528.99	4,358.22	4,092.36	265.86	16.393		
15,000.00	7,154.00	7,155.00	7,155.00	242.30	143.53	-90.00	-2,741.19	-13,528.99	4,273.29	4,003.61	269.67	15.846		
15,100.00	7,154.00	7,155.00	7,155.00	244.96	143.53	-90.00	-2,741.19	-13,528.99	4,189.02	3,915.39	273.63	15.309		
15,200.00	7,154.00	7,155.00	7,155.00	247.63	143.53	-90.00	-2,741.19	-13,528.99	4,105.47	3,827.73	277.74	14.782		
15,300.00	7,154.00	7,155.00	7,155.00	250.30	143.53	-90.00	-2,741.19	-13,528.99	4,022.66	3,740.66	281.99	14.265		
15,400.00	7,154.00	7,155.00	7,155.00	252.98	143.53	-90.00	-2,741.19	-13,528.99	3,940.65	3,654.24	286.41	13.759		
15,500.00	7,154.00	7,155.00	7,155.00	255.65	143.53	-90.00	-2,741.19	-13,528.99	3,859.49	3,568.49	290.99	13.263		
15,600.00	7,154.00	7,155.00	7,155.00	258.32	143.53	-90.00	-2,741.19	-13,528.99	3,779.23	3,483.48	295.74	12.779		
15,700.00	7,154.00	7,155.00	7,155.00	260.99	143.53	-90.00	-2,741.19	-13,528.99	3,699.93	3,399.26	300.67	12.306		
15,800.00	7,154.00	7,155.00	7,155.00	263.67	143.53	-90.00	-2,741.19	-13,528.99	3,621.66	3,315.89	305.77	11.844		
15,900.00	7,154.00	7,155.00	7,155.00	266.34	143.53	-90.00	-2,741.19	-13,528.99	3,544.48	3,233.42	311.06	11.395		
16,000.00	7,154.00	7,155.00	7,155.00	269.01	143.53	-90.00	-2,741.19	-13,528.99	3,468.47	3,151.94	316.53	10.958		
16,100.00	7,154.00	7,155.00	7,155.00	271.69	143.53	-90.00	-2,741.19	-13,528.99	3,393.70	3,071.51	322.20	10.533		
16,200.00	7,154.00	7,155.00	7,155.00	274.36	143.53	-90.00	-2,741.19	-13,528.99	3,320.26	2,992.22	328.05	10.121		
16,300.00	7,154.00	7,155.00	7,155.00	277.04	143.53	-90.00	-2,741.19	-13,528.99	3,248.24	2,914.15	334.09	9.723		
16,400.00	7,154.00	7,155.00	7,155.00	279.72	143.53	-90.00	-2,741.19	-13,528.99	3,177.74	2,837.42	340.32	9.337		
16,500.00	7,154.00	7,155.00	7,155.00	282.40	143.53	-90.00	-2,741.19	-13,528.99	3,108.85	2,762.11	346.74	8.966		
16,600.00	7,154.00	7,155.00	7,155.00	285.07	143.53	-90.00	-2,741.19	-13,528.99	3,041.69	2,688.36	353.33	8.609		
16,700.00	7,154.00	7,155.00	7,155.00	287.75	143.53	-90.00	-2,741.19	-13,528.99	2,976.38	2,616.27	360.10	8.265		
16,800.00	7,154.00	7,155.00	7,155.00	290.43	143.53	-90.00	-2,741.19	-13,528.99	2,913.03	2,546.00	367.03	7.937		
16,900.00	7,154.00	7,155.00	7,155.00	293.11	143.53	-90.00	-2,741.19	-13,528.99	2,851.78	2,477.67	374.11	7.623		
17,000.00	7,154.00	7,155.00	7,155.00	295.79	143.53	-90.00	-2,741.19	-13,528.99	2,792.78	2,411.46	381.32	7.324		
17,100.00	7,154.00	7,155.00	7,155.00	298.47	143.53	-90.00	-2,741.19	-13,528.99	2,736.15	2,347.53	388.63	7.041		
17,200.00	7,154.00	7,155.00	7,155.00	301.15	143.53	-90.00	-2,741.19	-13,528.99	2,682.06	2,286.05	396.02	6.773		
17,300.00	7,154.00	7,155.00	7,155.00	303.83	143.53	-90.00	-2,741.19	-13,528.99	2,630.67	2,227.21	403.46	6.520		
17,400.00	7,154.00	7,155.00	7,155.00	306.51	143.53	-90.00	-2,741.19	-13,528.99	2,582.12	2,171.21	410.90	6.284		
17,500.00	7,154.00	7,155.00	7,155.00	309.19	143.53	-90.00	-2,741.19	-13,528.99	2,536.58	2,118.27	418.32	6.064		
17,600.00	7,154.00	7,155.00	7,155.00	311.88	143.53	-90.00	-2,741.19	-13,528.99	2,494.23	2,068.58	425.65	5.860		
17,700.00	7,154.00	7,155.00	7,155.00	314.56	143.53	-90.00	-2,741.19	-13,528.99	2,455.22	2,022.37	432.86	5.672		
17,800.00	7,154.00	7,155.00	7,155.00	317.24	143.53	-90.00	-2,741.19	-13,528.99	2,419.72	1,979.85	439.87	5.501		
17,900.00	7,154.00	7,155.00	7,155.00	319.92	143.53	-90.00	-2,741.19	-13,528.99	2,387.88	1,941.25	446.63	5.346		
18,000.00	7,154.00	7,155.00	7,155.00	322.61	143.53	-90.00	-2,741.19	-13,528.99	2,359.86	1,906.77	453.09	5.208		
18,100.00	7,154.00	7,155.00	7,155.00	325.29	143.53	-90.00	-2,741.19	-13,528.99	2,335.78	1,876.60	459.17	5.087		
18,200.00	7,154.00	7,155.00	7,155.00	327.98	143.53	-90.00	-2,741.19	-13,528.99	2,315.77	1,850.94	464.83	4.982		
18,300.00	7,154.00	7,155.00	7,155.00	330.66	143.53	-90.00	-2,741.19	-13,528.99	2,299.94	1,829.94	470.00	4.894		
18,400.00	7,154.00	7,155.00	7,155.00	333.34	143.53	-90.00	-2,741.19	-13,528.99	2,288.37	1,813.75	474.62	4.821		
18,500.00	7,154.00	7,155.00	7,155.00	336.03	143.53	-90.00	-2,741.19	-13,528.99	2,281.13	1,802.46	478.67	4.766		
18,600.00	7,154.00	7,155.00	7,155.00	338.71	143.53	-90.00	-2,741.19	-13,528.99	2,278.27	1,796.16	482.10	4.726		
18,615.34	7,154.00	7,155.00	7,155.00	339.13	143.53	-90.00	-2,741.19	-13,528.99	2,278.22	1,795.64	482.57	4.721 CC		
18,700.00	7,154.00	7,155.00	7,155.00	341.40	143.53	-90.00	-2,741.19	-13,528.99	2,279.79	1,794.90	484.89	4.702 ES		
18,800.00	7,154.00	7,155.00	7,155.00	344.09	143.53	-90.00	-2,741.19	-13,528.99	2,285.69	1,798.66	487.03	4.693 SF		
18,900.00	7,154.00	7,155.00	7,155.00	346.77	143.53	-90.00	-2,741.19	-13,528.99	2,295.93	1,807.43	488.50	4.700		
19,000.00	7,154.00	7,155.00	7,155.00	349.46	143.53	-90.00	-2,741.19	-13,528.99	2,310.46	1,821.13	489.33	4.722		
19,100.00	7,154.00	7,155.00	7,155.00	352.15	143.53	-90.00	-2,741.19	-13,528.99	2,329.20	1,839.66	489.53	4.758		

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

# Anticollision Report

<b>Company:</b>	EXTRACTION OIL & GAS	<b>Local Co-ordinate Reference:</b>	Well WARBLER 13W-27-19
<b>Project:</b>	ADAMS COUNTY	<b>TVD Reference:</b>	KB 25' @ 5106.00usft
<b>Reference Site:</b>	Sec 13-T1S-R66W	<b>MD Reference:</b>	KB 25' @ 5106.00usft
<b>Site Error:</b>	0.00 usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	WARBLER 13W-27-19	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00 usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OWB	<b>Database:</b>	EDT_32Bit_ODBC
<b>Reference Design:</b>	PROPOSAL 1	<b>Offset TVD Reference:</b>	Offset Datum

<b>Offset Design</b> Sec 22-T1S-R66W - ABND VERT FARMER 1 - Wellbore #1 - Design #1												<b>Offset Site Error:</b>	0.00 usft
Survey Program: 0-INC												<b>Offset Well Error:</b>	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	
19,200.00	7,154.00	7,155.00	7,155.00	354.83	143.53	-90.00	-2,741.19	-13,528.99	2,352.04	1,862.91	489.13	4.809	
19,300.00	7,154.00	7,155.00	7,155.00	357.52	143.53	-90.00	-2,741.19	-13,528.99	2,378.87	1,890.70	488.17	4.873	
19,400.00	7,154.00	7,155.00	7,155.00	360.21	143.53	-90.00	-2,741.19	-13,528.99	2,409.55	1,922.87	486.68	4.951	
19,500.00	7,154.00	7,155.00	7,155.00	362.90	143.53	-90.00	-2,741.19	-13,528.99	2,443.95	1,959.22	484.72	5.042	
19,600.00	7,154.00	7,155.00	7,155.00	365.58	143.53	-90.00	-2,741.19	-13,528.99	2,481.90	1,999.56	482.34	5.146	
19,700.00	7,154.00	7,155.00	7,155.00	368.27	143.53	-90.00	-2,741.19	-13,528.99	2,523.24	2,043.66	479.58	5.261	
19,800.00	7,154.00	7,155.00	7,155.00	370.96	143.53	-90.00	-2,741.19	-13,528.99	2,567.82	2,091.32	476.50	5.389	
19,900.00	7,154.00	7,155.00	7,155.00	373.65	143.53	-90.00	-2,741.19	-13,528.99	2,615.46	2,142.31	473.14	5.528	
20,000.00	7,154.00	7,155.00	7,155.00	376.34	143.53	-90.00	-2,741.19	-13,528.99	2,666.00	2,196.44	469.56	5.678	
20,100.00	7,154.00	7,155.00	7,155.00	379.03	143.53	-90.00	-2,741.19	-13,528.99	2,719.28	2,253.49	465.78	5.838	
20,200.00	7,154.00	7,155.00	7,155.00	381.71	143.53	-90.00	-2,741.19	-13,528.99	2,775.14	2,313.28	461.86	6.009	
20,300.00	7,154.00	7,155.00	7,155.00	384.40	143.53	-90.00	-2,741.19	-13,528.99	2,833.43	2,375.59	457.84	6.189	
20,400.00	7,154.00	7,155.00	7,155.00	387.09	143.53	-90.00	-2,741.19	-13,528.99	2,894.00	2,440.27	453.73	6.378	
20,500.00	7,154.00	7,155.00	7,155.00	389.78	143.53	-90.00	-2,741.19	-13,528.99	2,956.72	2,507.14	449.58	6.577	
20,600.00	7,154.00	7,155.00	7,155.00	392.47	143.53	-90.00	-2,741.19	-13,528.99	3,021.44	2,576.04	445.40	6.784	
20,700.00	7,154.00	7,155.00	7,155.00	395.16	143.53	-90.00	-2,741.19	-13,528.99	3,088.05	2,646.82	441.23	6.999	
20,800.00	7,154.00	7,155.00	7,155.00	397.85	143.53	-90.00	-2,741.19	-13,528.99	3,156.42	2,719.35	437.07	7.222	
20,900.00	7,154.00	7,155.00	7,155.00	400.54	143.53	-90.00	-2,741.19	-13,528.99	3,226.44	2,793.50	432.94	7.452	
21,000.00	7,154.00	7,155.00	7,155.00	403.24	143.53	-90.00	-2,741.19	-13,528.99	3,298.01	2,869.15	428.86	7.690	
21,100.00	7,154.00	7,155.00	7,155.00	405.93	143.53	-90.00	-2,741.19	-13,528.99	3,371.02	2,946.19	424.84	7.935	
21,200.00	7,154.00	7,155.00	7,155.00	408.62	143.53	-90.00	-2,741.19	-13,528.99	3,445.39	3,024.51	420.88	8.186	
21,300.00	7,154.00	7,155.00	7,155.00	411.31	143.53	-90.00	-2,741.19	-13,528.99	3,521.03	3,104.04	416.99	8.444	
21,400.00	7,154.00	7,155.00	7,155.00	414.00	143.53	-90.00	-2,741.19	-13,528.99	3,597.86	3,184.67	413.19	8.708	
21,500.00	7,154.00	7,155.00	7,155.00	416.69	143.53	-90.00	-2,741.19	-13,528.99	3,675.80	3,266.34	409.46	8.977	
21,505.33	7,154.00	7,155.00	7,155.00	416.83	143.53	-90.00	-2,741.19	-13,528.99	3,679.98	3,270.72	409.27	8.992	

# Anticollision Report

<b>Company:</b>	EXTRACTION OIL & GAS	<b>Local Co-ordinate Reference:</b>	Well WARBLER 13W-27-19
<b>Project:</b>	ADAMS COUNTY	<b>TVD Reference:</b>	KB 25' @ 5106.00usft
<b>Reference Site:</b>	Sec 13-T1S-R66W	<b>MD Reference:</b>	KB 25' @ 5106.00usft
<b>Site Error:</b>	0.00 usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	WARBLER 13W-27-19	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00 usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OWB	<b>Database:</b>	EDT_32Bit_ODBC
<b>Reference Design:</b>	PROPOSAL 1	<b>Offset TVD Reference:</b>	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		
0.00	0.00	4.00	4.00	0.00	0.05	-126.50	-5,377.57	-7,266.39	9,039.85					
100.00	100.00	104.00	104.00	0.13	1.29	-126.50	-5,377.57	-7,266.39	9,039.85	9,038.42	1.42	6,347.157		
200.00	200.00	204.00	204.00	0.49	3.57	-126.50	-5,377.57	-7,266.39	9,039.85	9,035.78	4.06	2,224.424		
300.00	300.00	304.00	304.00	0.85	5.65	-126.50	-5,377.57	-7,266.39	9,039.85	9,033.35	6.50	1,390.906		
400.00	400.00	404.00	404.00	1.21	7.69	-126.50	-5,377.57	-7,266.39	9,039.85	9,030.95	8.90	1,015.783		
500.00	499.98	503.98	503.98	1.56	9.72	-25.90	-5,377.57	-7,266.39	9,038.28	9,027.00	11.28	801.447		
600.00	599.84	603.84	603.84	1.91	11.74	-25.95	-5,377.57	-7,266.39	9,033.57	9,019.92	13.65	661.987		
700.00	699.45	703.45	703.45	2.27	13.75	-26.05	-5,377.57	-7,266.39	9,025.73	9,009.71	16.01	563.630		
800.00	798.70	802.70	802.70	2.65	15.75	-26.18	-5,377.57	-7,266.39	9,014.77	8,996.39	18.38	490.522		
900.00	897.47	901.47	901.47	3.06	17.74	-26.35	-5,377.57	-7,266.39	9,000.71	8,979.97	20.74	434.019		
1,000.00	995.62	1,000.38	999.62	3.49	19.73	-26.56	-5,377.57	-7,266.39	8,983.56	8,960.45	23.11	388.758		
1,100.00	1,093.06	1,102.94	1,097.06	3.96	21.80	-26.81	-5,377.57	-7,266.39	8,963.36	8,937.80	25.56	350.662		
1,200.00	1,189.64	1,206.36	1,193.64	4.47	23.88	-27.10	-5,377.57	-7,266.39	8,940.13	8,912.09	28.04	318.813		
1,300.00	1,285.27	1,289.27	1,289.27	5.02	25.55	-27.43	-5,377.57	-7,266.39	8,913.90	8,883.78	30.12	295.922		
1,400.00	1,379.82	1,383.82	1,383.82	5.63	27.45	-27.81	-5,377.57	-7,266.39	8,884.72	8,852.27	32.45	273.780		
1,500.00	1,473.18	1,477.18	1,477.18	6.29	29.33	-28.20	-5,377.57	-7,266.39	8,852.65	8,817.87	34.78	254.549		
1,600.00	1,566.03	1,570.03	1,570.03	6.99	31.20	-28.31	-5,377.57	-7,266.39	8,819.43	8,782.34	37.09	237.761		
1,700.00	1,658.89	1,662.89	1,662.89	7.71	33.07	-28.43	-5,377.57	-7,266.39	8,786.25	8,746.83	39.42	222.891		
1,800.00	1,751.74	1,755.74	1,755.74	8.44	34.94	-28.54	-5,377.57	-7,266.39	8,753.10	8,711.34	41.75	209.638		
1,900.00	1,844.60	1,848.60	1,848.60	9.17	36.81	-28.65	-5,377.57	-7,266.39	8,719.98	8,675.88	44.09	197.758		
2,000.00	1,937.45	1,941.45	1,941.45	9.91	38.68	-28.77	-5,377.57	-7,266.39	8,686.89	8,640.45	46.44	187.053		
2,100.00	2,030.31	2,034.31	2,034.31	10.66	40.54	-28.89	-5,377.57	-7,266.39	8,653.84	8,605.05	48.79	177.359		
2,200.00	2,123.16	2,127.16	2,127.16	11.41	42.41	-29.00	-5,377.57	-7,266.39	8,620.82	8,569.67	51.15	168.543		
2,300.00	2,216.02	2,220.02	2,220.02	12.17	44.28	-29.12	-5,377.57	-7,266.39	8,587.83	8,534.32	53.51	160.492		
2,400.00	2,308.87	2,312.87	2,312.87	12.93	46.15	-29.24	-5,377.57	-7,266.39	8,554.88	8,499.00	55.87	153.112		
2,500.00	2,401.73	2,405.73	2,405.73	13.69	48.02	-29.36	-5,377.57	-7,266.39	8,521.96	8,463.72	58.24	146.322		
2,600.00	2,494.58	2,501.42	2,498.58	14.45	49.94	-29.48	-5,377.57	-7,266.39	8,489.07	8,428.40	60.67	139.925		
2,700.00	2,587.44	2,608.56	2,591.44	15.22	52.10	-29.60	-5,377.57	-7,266.39	8,456.22	8,392.89	63.33	133.527		
2,800.00	2,680.29	2,684.29	2,684.29	15.98	53.62	-29.73	-5,377.57	-7,266.39	8,423.41	8,358.05	65.36	128.874		
2,900.00	2,773.15	2,777.15	2,777.15	16.75	55.49	-29.85	-5,377.57	-7,266.39	8,390.63	8,322.89	67.74	123.864		
3,000.00	2,866.00	2,870.00	2,870.00	17.52	57.35	-29.97	-5,377.57	-7,266.39	8,357.89	8,287.77	70.12	119.190		
3,100.00	2,958.86	2,962.86	2,962.86	18.29	59.22	-30.10	-5,377.57	-7,266.39	8,325.18	8,252.68	72.51	114.820		
3,200.00	3,051.71	3,055.71	3,055.71	19.06	61.09	-30.23	-5,377.57	-7,266.39	8,292.52	8,217.62	74.89	110.725		
3,300.00	3,144.57	3,148.57	3,148.57	19.83	62.96	-30.35	-5,377.57	-7,266.39	8,259.89	8,182.60	77.28	106.880		
3,400.00	3,237.42	3,241.42	3,241.42	20.60	64.82	-30.48	-5,377.57	-7,266.39	8,227.29	8,147.62	79.67	103.263		
3,500.00	3,330.28	3,334.28	3,334.28	21.37	66.69	-30.61	-5,377.57	-7,266.39	8,194.74	8,112.67	82.07	99.855		
3,600.00	3,423.13	3,427.13	3,427.13	22.15	68.56	-30.74	-5,377.57	-7,266.39	8,162.22	8,077.76	84.46	96.637		
3,700.00	3,515.99	3,519.99	3,519.99	22.92	70.43	-30.87	-5,377.57	-7,266.39	8,129.75	8,042.89	86.86	93.596		
3,800.00	3,608.84	3,612.84	3,612.84	23.70	72.29	-31.00	-5,377.57	-7,266.39	8,097.31	8,008.05	89.26	90.716		
3,900.00	3,701.70	3,705.70	3,705.70	24.47	74.16	-31.14	-5,377.57	-7,266.39	8,064.92	7,973.26	91.66	87.985		
4,000.00	3,794.55	3,801.45	3,798.55	25.25	76.09	-31.27	-5,377.57	-7,266.39	8,032.56	7,938.44	94.13	85.339		
4,100.00	3,887.41	3,908.59	3,891.41	26.02	78.24	-31.41	-5,377.57	-7,266.39	8,000.25	7,903.43	96.82	82.631		
4,200.00	3,980.26	3,984.26	3,984.26	26.80	79.76	-31.54	-5,377.57	-7,266.39	7,967.98	7,869.10	98.88	80.580		
4,300.00	4,073.12	4,077.12	4,077.12	27.57	81.63	-31.68	-5,377.57	-7,266.39	7,935.75	7,834.46	101.29	78.344		
4,400.00	4,165.97	4,169.97	4,169.97	28.35	83.50	-31.82	-5,377.57	-7,266.39	7,903.57	7,799.86	103.71	76.211		
4,500.00	4,258.83	4,262.83	4,262.83	29.12	85.37	-31.96	-5,377.57	-7,266.39	7,871.43	7,765.30	106.12	74.173		
4,600.00	4,351.68	4,355.68	4,355.68	29.90	87.23	-32.10	-5,377.57	-7,266.39	7,839.33	7,730.79	108.54	72.225		
4,700.00	4,444.54	4,448.54	4,448.54	30.68	89.10	-32.24	-5,377.57	-7,266.39	7,807.27	7,696.31	110.96	70.362		
4,800.00	4,537.39	4,541.39	4,541.39	31.45	90.97	-32.39	-5,377.57	-7,266.39	7,775.27	7,661.88	113.38	68.576		
4,900.00	4,630.25	4,634.25	4,634.25	32.23	92.84	-32.53	-5,377.57	-7,266.39	7,743.30	7,627.50	115.81	66.865		
5,000.00	4,723.10	4,727.10	4,727.10	33.01	94.70	-32.67	-5,377.57	-7,266.39	7,711.39	7,593.15	118.23	65.223		
5,100.00	4,815.96	4,819.96	4,819.96	33.79	96.57	-32.82	-5,377.57	-7,266.39	7,679.52	7,558.86	120.66	63.646		

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

# Anticollision Report

<b>Company:</b>	EXTRACTION OIL & GAS	<b>Local Co-ordinate Reference:</b>	Well WARBLER 13W-27-19
<b>Project:</b>	ADAMS COUNTY	<b>TVD Reference:</b>	KB 25' @ 5106.00usft
<b>Reference Site:</b>	Sec 13-T1S-R66W	<b>MD Reference:</b>	KB 25' @ 5106.00usft
<b>Site Error:</b>	0.00 usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	WARBLER 13W-27-19	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00 usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OWB	<b>Database:</b>	EDT_32Bit_ODBC
<b>Reference Design:</b>	PROPOSAL 1	<b>Offset TVD Reference:</b>	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	4,908.81	4,912.81	4,912.81	34.56	98.44	-32.97	-5,377.57	-7,266.39	7,647.69	7,524.60	123.09	62.130		
5,300.00	5,001.67	5,005.67	5,005.67	35.34	100.31	-33.12	-5,377.57	-7,266.39	7,615.92	7,490.39	125.53	60.673		
5,400.00	5,094.52	5,101.48	5,098.52	36.12	102.23	-33.27	-5,377.57	-7,266.39	7,584.19	7,456.17	128.02	59.242		
5,500.00	5,187.38	5,208.62	5,191.38	36.90	104.39	-33.42	-5,377.57	-7,266.39	7,552.52	7,421.77	130.75	57.765		
5,600.00	5,280.23	5,284.23	5,284.23	37.67	105.91	-33.57	-5,377.57	-7,266.39	7,520.89	7,388.05	132.84	56.617		
5,700.00	5,373.09	5,377.09	5,377.09	38.45	107.78	-33.72	-5,377.57	-7,266.39	7,489.31	7,354.03	135.28	55.361		
5,800.00	5,465.94	5,469.94	5,469.94	39.23	109.64	-33.88	-5,377.57	-7,266.39	7,457.79	7,320.06	137.73	54.149		
5,900.00	5,558.80	5,562.80	5,562.80	40.01	111.51	-34.04	-5,377.57	-7,266.39	7,426.31	7,286.14	140.17	52.979		
6,000.00	5,651.65	5,655.65	5,655.65	40.79	113.38	-34.19	-5,377.57	-7,266.39	7,394.89	7,252.27	142.62	51.849		
6,100.00	5,744.51	5,748.51	5,748.51	41.57	115.24	-34.35	-5,377.57	-7,266.39	7,363.52	7,218.45	145.08	50.756		
6,200.00	5,837.36	5,841.36	5,841.36	42.34	117.11	-34.51	-5,377.57	-7,266.39	7,332.21	7,184.68	147.53	49.699		
6,300.00	5,930.22	5,934.22	5,934.22	43.12	118.98	-34.67	-5,377.57	-7,266.39	7,300.95	7,150.96	149.99	48.676		
6,400.00	6,023.07	6,027.07	6,027.07	43.90	120.85	-34.84	-5,377.57	-7,266.39	7,269.75	7,117.29	152.45	47.686		
6,500.00	6,115.93	6,119.93	6,119.93	44.68	122.71	-35.00	-5,377.57	-7,266.39	7,238.60	7,083.68	154.91	46.727		
6,600.00	6,208.78	6,212.78	6,212.78	45.46	124.58	-35.17	-5,377.57	-7,266.39	7,207.50	7,050.12	157.38	45.797		
6,700.00	6,301.64	6,305.64	6,305.64	46.24	126.45	-35.33	-5,377.57	-7,266.39	7,176.47	7,016.62	159.85	44.896		
6,800.00	6,394.49	6,401.51	6,398.49	47.02	128.38	-35.50	-5,377.57	-7,266.39	7,145.49	6,983.11	162.38	44.005		
6,900.00	6,487.35	6,508.65	6,491.35	47.80	130.53	-35.67	-5,377.57	-7,266.39	7,114.57	6,949.43	165.14	43.082		
7,000.00	6,580.20	6,584.20	6,584.20	48.57	132.05	-35.84	-5,377.57	-7,266.39	7,083.71	6,916.45	167.27	42.350		
7,100.00	6,673.06	6,677.06	6,677.06	49.35	133.92	-36.01	-5,377.57	-7,266.39	7,052.91	6,883.17	169.75	41.550		
7,200.00	6,765.91	6,769.91	6,769.91	50.13	135.79	-36.19	-5,377.57	-7,266.39	7,022.18	6,849.95	172.23	40.772		
7,300.00	6,856.90	6,860.90	6,860.90	50.99	137.61	-41.10	-5,377.57	-7,266.39	6,988.60	6,813.86	174.73	39.995		
7,400.00	6,939.78	6,943.78	6,943.78	52.14	139.28	-47.18	-5,377.57	-7,266.39	6,945.19	6,767.91	177.28	39.175		
7,500.00	7,011.80	7,015.80	7,015.80	53.58	140.73	-53.78	-5,377.57	-7,266.39	6,893.02	6,713.21	179.82	38.333		
7,600.00	7,070.78	7,074.78	7,074.78	55.27	141.92	-61.40	-5,377.57	-7,266.39	6,833.88	6,651.60	182.28	37.492		
7,700.00	7,114.93	7,118.93	7,118.93	57.16	142.80	-70.07	-5,377.57	-7,266.39	6,769.74	6,585.14	184.60	36.672		
7,800.00	7,142.90	7,146.90	7,146.90	59.19	143.37	-79.44	-5,377.57	-7,266.39	6,702.77	6,516.03	186.74	35.894		
7,900.00	7,153.85	7,157.85	7,157.85	61.28	143.59	-88.81	-5,377.57	-7,266.39	6,635.13	6,446.51	188.62	35.177		
8,000.00	7,154.00	7,158.00	7,158.00	63.38	143.59	-90.00	-5,377.57	-7,266.39	6,568.42	6,378.05	190.36	34.505		
8,100.00	7,154.00	7,158.00	7,158.00	65.52	143.59	-90.00	-5,377.57	-7,266.39	6,502.56	6,310.36	192.19	33.833		
8,200.00	7,154.00	7,158.00	7,158.00	67.71	143.59	-90.00	-5,377.57	-7,266.39	6,437.58	6,243.46	194.12	33.163		
8,300.00	7,154.00	7,158.00	7,158.00	69.93	143.59	-90.00	-5,377.57	-7,266.39	6,373.51	6,177.38	196.13	32.496		
8,400.00	7,154.00	7,158.00	7,158.00	72.19	143.59	-90.00	-5,377.57	-7,266.39	6,310.37	6,112.14	198.23	31.834		
8,500.00	7,154.00	7,158.00	7,158.00	74.47	143.59	-90.00	-5,377.57	-7,266.39	6,248.20	6,047.79	200.41	31.178		
8,600.00	7,154.00	7,158.00	7,158.00	76.79	143.59	-90.00	-5,377.57	-7,266.39	6,187.01	5,984.35	202.66	30.528		
8,700.00	7,154.00	7,158.00	7,158.00	79.12	143.59	-90.00	-5,377.57	-7,266.39	6,126.85	5,921.85	205.00	29.887		
8,800.00	7,154.00	7,158.00	7,158.00	81.48	143.59	-90.00	-5,377.57	-7,266.39	6,067.74	5,860.34	207.41	29.256		
8,900.00	7,154.00	7,158.00	7,158.00	83.87	143.59	-90.00	-5,377.57	-7,266.39	6,009.71	5,799.83	209.88	28.634		
9,000.00	7,154.00	7,158.00	7,158.00	86.27	143.59	-90.00	-5,377.57	-7,266.39	5,952.80	5,740.37	212.43	28.022		
9,100.00	7,154.00	7,158.00	7,158.00	88.68	143.59	-90.00	-5,377.57	-7,266.39	5,897.03	5,681.99	215.04	27.423		
9,200.00	7,154.00	7,158.00	7,158.00	91.12	143.59	-90.00	-5,377.57	-7,266.39	5,842.44	5,624.73	217.72	26.835		
9,300.00	7,154.00	7,158.00	7,158.00	93.57	143.59	-90.00	-5,377.57	-7,266.39	5,789.07	5,568.62	220.45	26.260		
9,400.00	7,154.00	7,158.00	7,158.00	96.03	143.59	-90.00	-5,377.57	-7,266.39	5,736.94	5,513.70	223.25	25.698		
9,500.00	7,154.00	7,158.00	7,158.00	98.50	143.59	-90.00	-5,377.57	-7,266.39	5,686.10	5,460.00	226.10	25.149		
9,600.00	7,154.00	7,158.00	7,158.00	100.99	143.59	-90.00	-5,377.57	-7,266.39	5,636.56	5,407.57	229.00	24.614		
9,700.00	7,154.00	7,158.00	7,158.00	103.49	143.59	-90.00	-5,377.57	-7,266.39	5,588.38	5,356.43	231.95	24.093		
9,800.00	7,154.00	7,158.00	7,158.00	106.00	143.59	-90.00	-5,377.57	-7,266.39	5,541.59	5,306.64	234.95	23.586		
9,900.00	7,154.00	7,158.00	7,158.00	108.51	143.59	-90.00	-5,377.57	-7,266.39	5,496.21	5,258.22	237.99	23.094		
10,000.00	7,154.00	7,158.00	7,158.00	111.04	143.59	-90.00	-5,377.57	-7,266.39	5,452.30	5,211.22	241.08	22.617		
10,100.00	7,154.00	7,158.00	7,158.00	113.58	143.59	-90.00	-5,377.57	-7,266.39	5,409.87	5,165.68	244.20	22.154		
10,200.00	7,154.00	7,158.00	7,158.00	116.12	143.59	-90.00	-5,377.57	-7,266.39	5,368.98	5,121.62	247.35	21.706		
10,300.00	7,154.00	7,158.00	7,158.00	118.67	143.59	-90.00	-5,377.57	-7,266.39	5,329.64	5,079.10	250.54	21.273		

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

# Anticollision Report

<b>Company:</b>	EXTRACTION OIL & GAS	<b>Local Co-ordinate Reference:</b>	Well WARBLER 13W-27-19
<b>Project:</b>	ADAMS COUNTY	<b>TVD Reference:</b>	KB 25' @ 5106.00usft
<b>Reference Site:</b>	Sec 13-T1S-R66W	<b>MD Reference:</b>	KB 25' @ 5106.00usft
<b>Site Error:</b>	0.00 usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	WARBLER 13W-27-19	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00 usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OWB	<b>Database:</b>	EDT_32Bit_ODBC
<b>Reference Design:</b>	PROPOSAL 1	<b>Offset TVD Reference:</b>	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	7,158.00	7,158.00	121.22	143.59	-90.00	-5,377.57	-7,266.39	5,291.90	5,038.15	253.75	20.855		
10,500.00	7,154.00	7,158.00	7,158.00	123.79	143.59	-90.00	-5,377.57	-7,266.39	5,255.80	4,998.81	256.99	20.452		
10,600.00	7,154.00	7,158.00	7,158.00	126.35	143.59	-90.00	-5,377.57	-7,266.39	5,221.36	4,961.12	260.24	20.063		
10,700.00	7,154.00	7,158.00	7,158.00	128.93	143.59	-90.00	-5,377.57	-7,266.39	5,188.62	4,925.11	263.51	19.690		
10,800.00	7,154.00	7,158.00	7,158.00	131.51	143.59	-90.00	-5,377.57	-7,266.39	5,157.61	4,890.82	266.79	19.332		
10,900.00	7,154.00	7,158.00	7,158.00	134.09	143.59	-90.00	-5,377.57	-7,266.39	5,128.36	4,858.29	270.08	18.989		
11,000.00	7,154.00	7,158.00	7,158.00	136.68	143.59	-90.00	-5,377.57	-7,266.39	5,100.91	4,827.55	273.36	18.660		
11,100.00	7,154.00	7,158.00	7,158.00	139.27	143.59	-90.00	-5,377.57	-7,266.39	5,075.28	4,798.63	276.65	18.346		
11,200.00	7,154.00	7,158.00	7,158.00	141.87	143.59	-90.00	-5,377.57	-7,266.39	5,051.50	4,771.58	279.92	18.046		
11,300.00	7,154.00	7,158.00	7,158.00	144.47	143.59	-90.00	-5,377.57	-7,266.39	5,029.59	4,746.41	283.18	17.761		
11,400.00	7,154.00	7,158.00	7,158.00	147.08	143.59	-90.00	-5,377.57	-7,266.39	5,009.59	4,723.16	286.42	17.490		
11,500.00	7,154.00	7,158.00	7,158.00	149.68	143.59	-90.00	-5,377.57	-7,266.39	4,991.51	4,701.86	289.64	17.233		
11,600.00	7,154.00	7,158.00	7,158.00	152.30	143.59	-90.00	-5,377.57	-7,266.39	4,975.37	4,682.54	292.83	16.990		
11,700.00	7,154.00	7,158.00	7,158.00	154.91	143.59	-90.00	-5,377.57	-7,266.39	4,961.20	4,665.21	295.99	16.761		
11,800.00	7,154.00	7,158.00	7,158.00	157.53	143.59	-90.00	-5,377.57	-7,266.39	4,949.01	4,649.90	299.11	16.546		
11,900.00	7,154.00	7,158.00	7,158.00	160.15	143.59	-90.00	-5,377.57	-7,266.39	4,938.81	4,636.62	302.19	16.344		
12,000.00	7,154.00	7,158.00	7,158.00	162.77	143.59	-90.00	-5,377.57	-7,266.39	4,930.62	4,625.40	305.22	16.155		
12,100.00	7,154.00	7,158.00	7,158.00	165.40	143.59	-90.00	-5,377.57	-7,266.39	4,924.45	4,616.25	308.19	15.978		
12,200.00	7,154.00	7,158.00	7,158.00	168.03	143.59	-90.00	-5,377.57	-7,266.39	4,920.30	4,609.19	311.11	15.815		
12,300.00	7,154.00	7,158.00	7,158.00	170.66	143.59	-90.00	-5,377.57	-7,266.39	4,918.18	4,604.21	313.97	15.664		
12,354.13	7,154.00	7,158.00	7,158.00	172.08	143.59	-90.00	-5,377.57	-7,266.39	4,917.89	4,602.39	315.49	15.588 CC		
12,400.00	7,154.00	7,158.00	7,158.00	173.29	143.59	-90.00	-5,377.57	-7,266.39	4,918.10	4,601.33	316.77	15.526		
12,500.00	7,154.00	7,158.00	7,158.00	175.93	143.59	-90.00	-5,377.57	-7,266.39	4,920.05	4,600.55	319.50	15.399 ES		
12,600.00	7,154.00	7,158.00	7,158.00	178.56	143.59	-90.00	-5,377.57	-7,266.39	4,924.03	4,601.88	322.15	15.285		
12,700.00	7,154.00	7,158.00	7,158.00	181.20	143.59	-90.00	-5,377.57	-7,266.39	4,930.03	4,605.30	324.73	15.182		
12,800.00	7,154.00	7,158.00	7,158.00	183.84	143.59	-90.00	-5,377.57	-7,266.39	4,938.06	4,610.82	327.23	15.090		
12,900.00	7,154.00	7,158.00	7,158.00	186.49	143.59	-90.00	-5,377.57	-7,266.39	4,948.09	4,618.43	329.66	15.010		
13,000.00	7,154.00	7,158.00	7,158.00	189.13	143.59	-90.00	-5,377.57	-7,266.39	4,960.12	4,628.12	332.00	14.940		
13,100.00	7,154.00	7,158.00	7,158.00	191.78	143.59	-90.00	-5,377.57	-7,266.39	4,974.12	4,639.87	334.26	14.881		
13,200.00	7,154.00	7,158.00	7,158.00	194.43	143.59	-90.00	-5,377.57	-7,266.39	4,990.10	4,653.67	336.43	14.833		
13,300.00	7,154.00	7,158.00	7,158.00	197.07	143.59	-90.00	-5,377.57	-7,266.39	5,008.02	4,669.51	338.51	14.794		
13,400.00	7,154.00	7,158.00	7,158.00	199.73	143.59	-90.00	-5,377.57	-7,266.39	5,027.87	4,687.36	340.51	14.766		
13,500.00	7,154.00	7,158.00	7,158.00	202.38	143.59	-90.00	-5,377.57	-7,266.39	5,049.61	4,707.19	342.42	14.747		
13,600.00	7,154.00	7,158.00	7,158.00	205.03	143.59	-90.00	-5,377.57	-7,266.39	5,073.24	4,729.00	344.24	14.737		
13,700.00	7,154.00	7,158.00	7,158.00	207.69	143.59	-90.00	-5,377.57	-7,266.39	5,098.72	4,752.74	345.98	14.737 SF		
13,800.00	7,154.00	7,158.00	7,158.00	210.34	143.59	-90.00	-5,377.57	-7,266.39	5,126.02	4,778.40	347.63	14.746		
13,900.00	7,154.00	7,158.00	7,158.00	213.00	143.59	-90.00	-5,377.57	-7,266.39	5,155.12	4,805.94	349.19	14.763		
14,000.00	7,154.00	7,158.00	7,158.00	215.66	143.59	-90.00	-5,377.57	-7,266.39	5,185.99	4,835.33	350.66	14.789		
14,100.00	7,154.00	7,158.00	7,158.00	218.32	143.59	-90.00	-5,377.57	-7,266.39	5,218.59	4,866.53	352.05	14.823		
14,200.00	7,154.00	7,158.00	7,158.00	220.98	143.59	-90.00	-5,377.57	-7,266.39	5,252.89	4,899.53	353.36	14.866		
14,300.00	7,154.00	7,158.00	7,158.00	223.64	143.59	-90.00	-5,377.57	-7,266.39	5,288.86	4,934.27	354.59	14.916		
14,400.00	7,154.00	7,158.00	7,158.00	226.30	143.59	-90.00	-5,377.57	-7,266.39	5,326.46	4,970.72	355.73	14.973		
14,500.00	7,154.00	7,158.00	7,158.00	228.97	143.59	-90.00	-5,377.57	-7,266.39	5,365.66	5,008.86	356.80	15.038		
14,600.00	7,154.00	7,158.00	7,158.00	231.63	143.59	-90.00	-5,377.57	-7,266.39	5,406.43	5,048.63	357.80	15.110		
14,700.00	7,154.00	7,158.00	7,158.00	234.29	143.59	-90.00	-5,377.57	-7,266.39	5,448.73	5,090.01	358.72	15.189		
14,800.00	7,154.00	7,158.00	7,158.00	236.96	143.59	-90.00	-5,377.57	-7,266.39	5,492.53	5,132.96	359.57	15.275		
14,900.00	7,154.00	7,158.00	7,158.00	239.63	143.59	-90.00	-5,377.57	-7,266.39	5,537.78	5,177.43	360.35	15.368		
15,000.00	7,154.00	7,158.00	7,158.00	242.30	143.59	-90.00	-5,377.57	-7,266.39	5,584.46	5,223.40	361.06	15.467		
15,100.00	7,154.00	7,158.00	7,158.00	244.96	143.59	-90.00	-5,377.57	-7,266.39	5,632.53	5,270.81	361.71	15.572		
15,200.00	7,154.00	7,158.00	7,158.00	247.63	143.59	-90.00	-5,377.57	-7,266.39	5,681.95	5,319.65	362.30	15.683		
15,300.00	7,154.00	7,158.00	7,158.00	250.30	143.59	-90.00	-5,377.57	-7,266.39	5,732.69	5,369.86	362.83	15.800		
15,400.00	7,154.00	7,158.00	7,158.00	252.98	143.59	-90.00	-5,377.57	-7,266.39	5,784.71	5,421.41	363.31	15.922		

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

# Anticollision Report

<b>Company:</b>	EXTRACTION OIL & GAS	<b>Local Co-ordinate Reference:</b>	Well WARBLER 13W-27-19
<b>Project:</b>	ADAMS COUNTY	<b>TVD Reference:</b>	KB 25' @ 5106.00usft
<b>Reference Site:</b>	Sec 13-T1S-R66W	<b>MD Reference:</b>	KB 25' @ 5106.00usft
<b>Site Error:</b>	0.00 usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	WARBLER 13W-27-19	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00 usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OWB	<b>Database:</b>	EDT_32Bit_ODBC
<b>Reference Design:</b>	PROPOSAL 1	<b>Offset TVD Reference:</b>	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	7,158.00	7,158.00	255.65	143.59	-90.00	-5,377.57	-7,266.39	5,837.99	5,474.26	363.73	16.050		
15,600.00	7,154.00	7,158.00	7,158.00	258.32	143.59	-90.00	-5,377.57	-7,266.39	5,892.47	5,528.38	364.10	16.184		
15,700.00	7,154.00	7,158.00	7,158.00	260.99	143.59	-90.00	-5,377.57	-7,266.39	5,948.14	5,583.73	364.41	16.322		
15,800.00	7,154.00	7,158.00	7,158.00	263.67	143.59	-90.00	-5,377.57	-7,266.39	6,004.96	5,640.28	364.69	16.466		
15,900.00	7,154.00	7,158.00	7,158.00	266.34	143.59	-90.00	-5,377.57	-7,266.39	6,062.90	5,697.99	364.91	16.615		
16,000.00	7,154.00	7,158.00	7,158.00	269.01	143.59	-90.00	-5,377.57	-7,266.39	6,121.92	5,756.82	365.10	16.768		
16,100.00	7,154.00	7,158.00	7,158.00	271.69	143.59	-90.00	-5,377.57	-7,266.39	6,182.00	5,816.75	365.25	16.926		
16,200.00	7,154.00	7,158.00	7,158.00	274.36	143.59	-90.00	-5,377.57	-7,266.39	6,243.10	5,877.75	365.35	17.088		
16,300.00	7,154.00	7,158.00	7,158.00	277.04	143.59	-90.00	-5,377.57	-7,266.39	6,305.19	5,939.77	365.43	17.254		
16,400.00	7,154.00	7,158.00	7,158.00	279.72	143.59	-90.00	-5,377.57	-7,266.39	6,368.25	6,002.79	365.46	17.425		
16,500.00	7,154.00	7,158.00	7,158.00	282.40	143.59	-90.00	-5,377.57	-7,266.39	6,432.25	6,066.78	365.47	17.600		
16,600.00	7,154.00	7,158.00	7,158.00	285.07	143.59	-90.00	-5,377.57	-7,266.39	6,497.15	6,131.70	365.45	17.779		
16,700.00	7,154.00	7,158.00	7,158.00	287.75	143.59	-90.00	-5,377.57	-7,266.39	6,562.94	6,197.54	365.40	17.961		
16,800.00	7,154.00	7,158.00	7,158.00	290.43	143.59	-90.00	-5,377.57	-7,266.39	6,629.58	6,264.26	365.32	18.147		
16,900.00	7,154.00	7,158.00	7,158.00	293.11	143.59	-90.00	-5,377.57	-7,266.39	6,697.05	6,331.84	365.21	18.337		
17,000.00	7,154.00	7,158.00	7,158.00	295.79	143.59	-90.00	-5,377.57	-7,266.39	6,765.33	6,400.24	365.09	18.531		
17,100.00	7,154.00	7,158.00	7,158.00	298.47	143.59	-90.00	-5,377.57	-7,266.39	6,834.39	6,469.45	364.94	18.727		
17,200.00	7,154.00	7,158.00	7,158.00	301.15	143.59	-90.00	-5,377.57	-7,266.39	6,904.20	6,539.43	364.77	18.927		
17,300.00	7,154.00	7,158.00	7,158.00	303.83	143.59	-90.00	-5,377.57	-7,266.39	6,974.75	6,610.17	364.59	19.131		
17,400.00	7,154.00	7,158.00	7,158.00	306.51	143.59	-90.00	-5,377.57	-7,266.39	7,046.02	6,681.64	364.38	19.337		
17,500.00	7,154.00	7,158.00	7,158.00	309.19	143.59	-90.00	-5,377.57	-7,266.39	7,117.97	6,753.81	364.16	19.546		
17,600.00	7,154.00	7,158.00	7,158.00	311.88	143.59	-90.00	-5,377.57	-7,266.39	7,190.60	6,826.67	363.93	19.758		
17,700.00	7,154.00	7,158.00	7,158.00	314.56	143.59	-90.00	-5,377.57	-7,266.39	7,263.88	6,900.20	363.68	19.973		
17,800.00	7,154.00	7,158.00	7,158.00	317.24	143.59	-90.00	-5,377.57	-7,266.39	7,337.78	6,974.37	363.41	20.191		
17,900.00	7,154.00	7,158.00	7,158.00	319.92	143.59	-90.00	-5,377.57	-7,266.39	7,412.30	7,049.16	363.14	20.412		
18,000.00	7,154.00	7,158.00	7,158.00	322.61	143.59	-90.00	-5,377.57	-7,266.39	7,487.42	7,124.56	362.85	20.635		
18,100.00	7,154.00	7,158.00	7,158.00	325.29	143.59	-90.00	-5,377.57	-7,266.39	7,563.11	7,200.55	362.56	20.860		
18,200.00	7,154.00	7,158.00	7,158.00	327.98	143.59	-90.00	-5,377.57	-7,266.39	7,639.36	7,277.10	362.25	21.088		
18,300.00	7,154.00	7,158.00	7,158.00	330.66	143.59	-90.00	-5,377.57	-7,266.39	7,716.15	7,354.21	361.94	21.319		
18,400.00	7,154.00	7,158.00	7,158.00	333.34	143.59	-90.00	-5,377.57	-7,266.39	7,793.46	7,431.84	361.62	21.552		
18,500.00	7,154.00	7,158.00	7,158.00	336.03	143.59	-90.00	-5,377.57	-7,266.39	7,871.29	7,510.00	361.29	21.786		
18,600.00	7,154.00	7,158.00	7,158.00	338.71	143.59	-90.00	-5,377.57	-7,266.39	7,949.62	7,588.66	360.96	22.024		
18,700.00	7,154.00	7,158.00	7,158.00	341.40	143.59	-90.00	-5,377.57	-7,266.39	8,028.43	7,667.81	360.62	22.263		
18,800.00	7,154.00	7,158.00	7,158.00	344.09	143.59	-90.00	-5,377.57	-7,266.39	8,107.70	7,747.42	360.27	22.504		
18,900.00	7,154.00	7,158.00	7,158.00	346.77	143.59	-90.00	-5,377.57	-7,266.39	8,187.43	7,827.50	359.93	22.748		
19,000.00	7,154.00	7,158.00	7,158.00	349.46	143.59	-90.00	-5,377.57	-7,266.39	8,267.60	7,908.02	359.57	22.993		
19,100.00	7,154.00	7,158.00	7,158.00	352.15	143.59	-90.00	-5,377.57	-7,266.39	8,348.19	7,988.98	359.22	23.240		
19,200.00	7,154.00	7,158.00	7,158.00	354.83	143.59	-90.00	-5,377.57	-7,266.39	8,429.20	8,070.35	358.86	23.489		
19,300.00	7,154.00	7,158.00	7,158.00	357.52	143.59	-90.00	-5,377.57	-7,266.39	8,510.62	8,152.12	358.50	23.740		
19,400.00	7,154.00	7,158.00	7,158.00	360.21	143.59	-90.00	-5,377.57	-7,266.39	8,592.43	8,234.30	358.13	23.992		
19,500.00	7,154.00	7,158.00	7,158.00	362.90	143.59	-90.00	-5,377.57	-7,266.39	8,674.62	8,316.85	357.77	24.247		
19,600.00	7,154.00	7,158.00	7,158.00	365.58	143.59	-90.00	-5,377.57	-7,266.39	8,757.18	8,399.78	357.40	24.503		
19,700.00	7,154.00	7,158.00	7,158.00	368.27	143.59	-90.00	-5,377.57	-7,266.39	8,840.10	8,483.07	357.03	24.760		
19,800.00	7,154.00	7,158.00	7,158.00	370.96	143.59	-90.00	-5,377.57	-7,266.39	8,923.37	8,566.71	356.66	25.019		
19,900.00	7,154.00	7,158.00	7,158.00	373.65	143.59	-90.00	-5,377.57	-7,266.39	9,006.98	8,650.69	356.29	25.280		
20,000.00	7,154.00	7,158.00	7,158.00	376.34	143.59	-90.00	-5,377.57	-7,266.39	9,090.92	8,735.00	355.92	25.542		
20,100.00	7,154.00	7,158.00	7,158.00	379.03	143.59	-90.00	-5,377.57	-7,266.39	9,175.19	8,819.63	355.55	25.805		
20,200.00	7,154.00	7,158.00	7,158.00	381.71	143.59	-90.00	-5,377.57	-7,266.39	9,259.76	8,904.58	355.19	26.070		
20,300.00	7,154.00	7,158.00	7,158.00	384.40	143.59	-90.00	-5,377.57	-7,266.39	9,344.64	8,989.83	354.82	26.336		
20,400.00	7,154.00	7,158.00	7,158.00	387.09	143.59	-90.00	-5,377.57	-7,266.39	9,429.82	9,075.37	354.45	26.604		
20,500.00	7,154.00	7,158.00	7,158.00	389.78	143.59	-90.00	-5,377.57	-7,266.39	9,515.29	9,161.21	354.08	26.873		
20,600.00	7,154.00	7,158.00	7,158.00	392.47	143.59	-90.00	-5,377.57	-7,266.39	9,601.04	9,247.32	353.72	27.143		

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



## Anticollision Report

<b>Company:</b>	EXTRACTION OIL & GAS	<b>Local Co-ordinate Reference:</b>	Well WARBLER 13W-27-19
<b>Project:</b>	ADAMS COUNTY	<b>TVD Reference:</b>	KB 25' @ 5106.00usft
<b>Reference Site:</b>	Sec 13-T1S-R66W	<b>MD Reference:</b>	KB 25' @ 5106.00usft
<b>Site Error:</b>	0.00 usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	WARBLER 13W-27-19	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00 usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OWB	<b>Database:</b>	EDT_32Bit_ODBC
<b>Reference Design:</b>	PROPOSAL 1	<b>Offset TVD Reference:</b>	Offset Datum

<b>Offset Design</b> Sec 24-T1S-R66W - ABND VERT BARR 1 - Wellbore #1 - Design #1												<b>Offset Site Error:</b>	0.00 usft
Survey Program: 0-INC												<b>Offset Well Error:</b>	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	7,158.00	7,158.00	395.16	143.59	-90.00	-5,377.57	-7,266.39	9,687.06	9,333.70	353.35	27.415	
20,800.00	7,154.00	7,158.00	7,158.00	397.85	143.59	-90.00	-5,377.57	-7,266.39	9,773.34	9,420.35	352.99	27.687	
20,900.00	7,154.00	7,158.00	7,158.00	400.54	143.59	-90.00	-5,377.57	-7,266.39	9,859.89	9,507.26	352.63	27.961	
21,000.00	7,154.00	7,158.00	7,158.00	403.24	143.59	-90.00	-5,377.57	-7,266.39	9,946.69	9,594.42	352.27	28.236	

# Anticollision Report

<b>Company:</b>	EXTRACTION OIL & GAS	<b>Local Co-ordinate Reference:</b>	Well WARBLER 13W-27-19
<b>Project:</b>	ADAMS COUNTY	<b>TVD Reference:</b>	KB 25' @ 5106.00usft
<b>Reference Site:</b>	Sec 13-T1S-R66W	<b>MD Reference:</b>	KB 25' @ 5106.00usft
<b>Site Error:</b>	0.00 usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	WARBLER 13W-27-19	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00 usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OWB	<b>Database:</b>	EDT_32Bit_ODBC
<b>Reference Design:</b>	PROPOSAL 1	<b>Offset TVD Reference:</b>	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	-110.62	-1,910.14	-5,076.74	5,424.27					
100.00	100.00	72.00	72.00	0.13	0.86	-110.62	-1,910.14	-5,076.74	5,424.20	5,423.20	1.00	5,439.718		
200.00	200.00	172.00	172.00	0.49	2.85	-110.62	-1,910.14	-5,076.74	5,424.20	5,420.86	3.34	1,624.172		
300.00	300.00	272.00	272.00	0.85	4.98	-110.62	-1,910.14	-5,076.74	5,424.20	5,418.36	5.84	929.496		
400.00	400.00	372.00	372.00	1.21	7.04	-110.62	-1,910.14	-5,076.74	5,424.20	5,415.95	8.25	657.765		
500.00	499.98	471.98	471.98	1.56	9.07	-10.00	-1,910.14	-5,076.74	5,422.48	5,411.85	10.63	510.190		
600.00	599.84	571.84	571.84	1.91	11.09	-10.03	-1,910.14	-5,076.74	5,417.33	5,404.33	13.00	416.752		
700.00	699.45	671.45	671.45	2.27	13.10	-10.08	-1,910.14	-5,076.74	5,408.74	5,393.38	15.37	351.987		
800.00	798.70	770.70	770.70	2.65	15.11	-10.14	-1,910.14	-5,076.74	5,396.74	5,379.01	17.73	304.415		
900.00	897.47	869.47	869.47	3.06	17.10	-10.23	-1,910.14	-5,076.74	5,381.34	5,361.26	20.08	267.959		
1,000.00	995.62	967.62	967.62	3.49	19.07	-10.33	-1,910.14	-5,076.74	5,362.56	5,340.13	22.43	239.102		
1,100.00	1,093.06	1,065.06	1,065.06	3.96	21.04	-10.46	-1,910.14	-5,076.74	5,340.41	5,315.65	24.76	215.670		
1,200.00	1,189.64	1,161.64	1,161.64	4.47	22.98	-10.60	-1,910.14	-5,076.74	5,314.94	5,287.86	27.08	196.245		
1,300.00	1,285.27	1,257.27	1,257.27	5.02	24.91	-10.77	-1,910.14	-5,076.74	5,286.17	5,256.78	29.39	179.865		
1,400.00	1,379.82	1,351.82	1,351.82	5.63	26.81	-10.97	-1,910.14	-5,076.74	5,254.14	5,222.46	31.68	165.852		
1,500.00	1,473.18	1,445.18	1,445.18	6.29	28.69	-11.17	-1,910.14	-5,076.74	5,218.90	5,184.95	33.96	153.695		
1,600.00	1,566.03	1,538.03	1,538.03	6.99	30.56	-11.25	-1,910.14	-5,076.74	5,182.40	5,146.18	36.21	143.112		
1,700.00	1,658.89	1,630.89	1,630.89	7.71	32.43	-11.33	-1,910.14	-5,076.74	5,145.90	5,107.42	38.47	133.750		
1,800.00	1,751.74	1,723.74	1,723.74	8.44	34.30	-11.41	-1,910.14	-5,076.74	5,109.41	5,068.67	40.74	125.412		
1,900.00	1,844.60	1,816.60	1,816.60	9.17	36.16	-11.50	-1,910.14	-5,076.74	5,072.93	5,029.92	43.01	117.942		
2,000.00	1,937.45	1,909.45	1,909.45	9.91	38.03	-11.58	-1,910.14	-5,076.74	5,036.46	4,991.17	45.29	111.212		
2,100.00	2,030.31	2,002.31	2,002.31	10.66	39.90	-11.67	-1,910.14	-5,076.74	5,000.00	4,952.43	47.56	105.119		
2,200.00	2,123.16	2,104.84	2,095.16	11.41	41.96	-11.75	-1,910.14	-5,076.74	4,963.54	4,913.50	50.04	99.191		
2,300.00	2,216.02	2,188.02	2,188.02	12.17	43.64	-11.84	-1,910.14	-5,076.74	4,927.10	4,874.97	52.13	94.518		
2,400.00	2,308.87	2,280.87	2,280.87	12.93	45.50	-11.93	-1,910.14	-5,076.74	4,890.67	4,836.26	54.41	89.878		
2,500.00	2,401.73	2,373.73	2,373.73	13.69	47.37	-12.02	-1,910.14	-5,076.74	4,854.25	4,797.55	56.70	85.610		
2,600.00	2,494.58	2,466.58	2,466.58	14.45	49.24	-12.11	-1,910.14	-5,076.74	4,817.84	4,758.85	58.99	81.671		
2,700.00	2,587.44	2,559.44	2,559.44	15.22	51.11	-12.20	-1,910.14	-5,076.74	4,781.44	4,720.16	61.28	78.023		
2,800.00	2,680.29	2,652.29	2,652.29	15.98	52.97	-12.30	-1,910.14	-5,076.74	4,745.05	4,681.48	63.57	74.637		
2,900.00	2,773.15	2,745.15	2,745.15	16.75	54.84	-12.39	-1,910.14	-5,076.74	4,708.67	4,642.80	65.87	71.485		
3,000.00	2,866.00	2,838.00	2,838.00	17.52	56.71	-12.49	-1,910.14	-5,076.74	4,672.31	4,604.14	68.16	68.544		
3,100.00	2,958.86	2,930.86	2,930.86	18.29	58.58	-12.59	-1,910.14	-5,076.74	4,635.96	4,565.49	70.46	65.794		
3,200.00	3,051.71	3,023.71	3,023.71	19.06	60.45	-12.69	-1,910.14	-5,076.74	4,599.61	4,526.85	72.76	63.216		
3,300.00	3,144.57	3,116.57	3,116.57	19.83	62.31	-12.79	-1,910.14	-5,076.74	4,563.29	4,488.23	75.06	60.795		
3,400.00	3,237.42	3,209.42	3,209.42	20.60	64.18	-12.90	-1,910.14	-5,076.74	4,526.97	4,449.61	77.36	58.517		
3,500.00	3,330.28	3,302.28	3,302.28	21.37	66.05	-13.00	-1,910.14	-5,076.74	4,490.67	4,411.00	79.66	56.370		
3,600.00	3,423.13	3,404.87	3,395.13	22.15	68.11	-13.11	-1,910.14	-5,076.74	4,454.38	4,372.21	82.16	54.213		
3,700.00	3,515.99	3,487.99	3,487.99	22.92	69.78	-13.22	-1,910.14	-5,076.74	4,418.10	4,333.83	84.27	52.426		
3,800.00	3,608.84	3,580.84	3,580.84	23.70	71.65	-13.33	-1,910.14	-5,076.74	4,381.84	4,295.26	86.58	50.610		
3,900.00	3,701.70	3,673.70	3,673.70	24.47	73.52	-13.44	-1,910.14	-5,076.74	4,345.60	4,256.71	88.89	48.889		
4,000.00	3,794.55	3,766.55	3,766.55	25.25	75.39	-13.55	-1,910.14	-5,076.74	4,309.36	4,218.17	91.20	47.254		
4,100.00	3,887.41	3,859.41	3,859.41	26.02	77.25	-13.67	-1,910.14	-5,076.74	4,273.15	4,179.64	93.51	45.699		
4,200.00	3,980.26	3,952.26	3,952.26	26.80	79.12	-13.79	-1,910.14	-5,076.74	4,236.95	4,141.13	95.82	44.218		
4,300.00	4,073.12	4,045.12	4,045.12	27.57	80.99	-13.91	-1,910.14	-5,076.74	4,200.76	4,102.63	98.13	42.807		
4,400.00	4,165.97	4,137.97	4,137.97	28.35	82.86	-14.03	-1,910.14	-5,076.74	4,164.60	4,064.15	100.45	41.461		
4,500.00	4,258.83	4,230.83	4,230.83	29.12	84.72	-14.16	-1,910.14	-5,076.74	4,128.44	4,025.68	102.76	40.175		
4,600.00	4,351.68	4,323.68	4,323.68	29.90	86.59	-14.28	-1,910.14	-5,076.74	4,092.31	3,987.23	105.08	38.945		
4,700.00	4,444.54	4,416.54	4,416.54	30.68	88.46	-14.41	-1,910.14	-5,076.74	4,056.19	3,948.80	107.40	37.768		
4,800.00	4,537.39	4,509.39	4,509.39	31.45	90.33	-14.54	-1,910.14	-5,076.74	4,020.10	3,910.38	109.72	36.640		
4,900.00	4,630.25	4,602.25	4,602.25	32.23	92.19	-14.68	-1,910.14	-5,076.74	3,984.02	3,871.98	112.04	35.559		
5,000.00	4,723.10	4,704.90	4,695.10	33.01	94.26	-14.81	-1,910.14	-5,076.74	3,947.96	3,833.40	114.56	34.462		
5,100.00	4,815.96	4,787.96	4,787.96	33.79	95.93	-14.95	-1,910.14	-5,076.74	3,911.92	3,795.23	116.69	33.525		

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

# Anticollision Report

<b>Company:</b>	EXTRACTION OIL & GAS	<b>Local Co-ordinate Reference:</b>	Well WARBLER 13W-27-19
<b>Project:</b>	ADAMS COUNTY	<b>TVD Reference:</b>	KB 25' @ 5106.00usft
<b>Reference Site:</b>	Sec 13-T1S-R66W	<b>MD Reference:</b>	KB 25' @ 5106.00usft
<b>Site Error:</b>	0.00 usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	WARBLER 13W-27-19	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00 usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OWB	<b>Database:</b>	EDT_32Bit_ODBC
<b>Reference Design:</b>	PROPOSAL 1	<b>Offset TVD Reference:</b>	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	4,908.81	4,880.81	4,880.81	34.56	97.79	-15.09	-1,910.14	-5,076.74	3,875.90	3,756.88	119.01	32.566		
5,300.00	5,001.67	4,973.67	4,973.67	35.34	99.66	-15.23	-1,910.14	-5,076.74	3,839.90	3,718.56	121.34	31.645		
5,400.00	5,094.52	5,066.52	5,066.52	36.12	101.53	-15.38	-1,910.14	-5,076.74	3,803.92	3,680.25	123.67	30.758		
5,500.00	5,187.38	5,159.38	5,159.38	36.90	103.40	-15.53	-1,910.14	-5,076.74	3,767.97	3,641.96	126.01	29.903		
5,600.00	5,280.23	5,252.23	5,252.23	37.67	105.26	-15.68	-1,910.14	-5,076.74	3,732.04	3,603.70	128.34	29.079		
5,700.00	5,373.09	5,345.09	5,345.09	38.45	107.13	-15.84	-1,910.14	-5,076.74	3,696.13	3,565.45	130.68	28.285		
5,800.00	5,465.94	5,437.94	5,437.94	39.23	109.00	-15.99	-1,910.14	-5,076.74	3,660.24	3,527.23	133.01	27.518		
5,900.00	5,558.80	5,530.80	5,530.80	40.01	110.87	-16.15	-1,910.14	-5,076.74	3,624.39	3,489.03	135.35	26.777		
6,000.00	5,651.65	5,623.65	5,623.65	40.79	112.73	-16.32	-1,910.14	-5,076.74	3,588.55	3,450.86	137.70	26.061		
6,100.00	5,744.51	5,716.51	5,716.51	41.57	114.60	-16.49	-1,910.14	-5,076.74	3,552.75	3,412.70	140.04	25.369		
6,200.00	5,837.36	5,809.36	5,809.36	42.34	116.47	-16.66	-1,910.14	-5,076.74	3,516.97	3,374.58	142.39	24.700		
6,300.00	5,930.22	5,902.22	5,902.22	43.12	118.34	-16.83	-1,910.14	-5,076.74	3,481.21	3,336.48	144.74	24.052		
6,400.00	6,023.07	6,004.93	5,995.07	43.90	120.40	-17.01	-1,910.14	-5,076.74	3,445.49	3,298.20	147.29	23.393		
6,500.00	6,115.93	6,087.93	6,087.93	44.68	122.07	-17.19	-1,910.14	-5,076.74	3,409.80	3,260.35	149.44	22.817		
6,600.00	6,208.78	6,180.78	6,180.78	45.46	123.94	-17.38	-1,910.14	-5,076.74	3,374.14	3,222.34	151.80	22.227		
6,700.00	6,301.64	6,273.64	6,273.64	46.24	125.81	-17.56	-1,910.14	-5,076.74	3,338.50	3,184.34	154.16	21.656		
6,800.00	6,394.49	6,366.49	6,366.49	47.02	127.67	-17.76	-1,910.14	-5,076.74	3,302.91	3,146.38	156.52	21.102		
6,900.00	6,487.35	6,459.35	6,459.35	47.80	129.54	-17.95	-1,910.14	-5,076.74	3,267.34	3,108.45	158.89	20.564		
7,000.00	6,580.20	6,552.20	6,552.20	48.57	131.41	-18.16	-1,910.14	-5,076.74	3,231.81	3,070.56	161.26	20.041		
7,100.00	6,673.06	6,645.06	6,645.06	49.35	133.27	-18.36	-1,910.14	-5,076.74	3,196.32	3,032.69	163.63	19.534		
7,200.00	6,765.91	6,737.91	6,737.91	50.13	135.14	-18.57	-1,910.14	-5,076.74	3,160.87	2,994.86	166.01	19.041		
7,300.00	6,856.90	6,828.90	6,828.90	50.99	136.97	-23.18	-1,910.14	-5,076.74	3,121.78	2,953.39	168.39	18.539		
7,400.00	6,939.78	6,911.78	6,911.78	52.14	138.64	-28.98	-1,910.14	-5,076.74	3,070.13	2,899.41	170.73	17.983		
7,500.00	7,011.80	6,983.80	6,983.80	53.58	140.09	-35.81	-1,910.14	-5,076.74	3,007.14	2,834.18	172.96	17.386		
7,600.00	7,070.78	7,042.78	7,042.78	55.27	141.27	-44.79	-1,910.14	-5,076.74	2,934.91	2,759.87	175.05	16.766		
7,700.00	7,114.93	7,086.93	7,086.93	57.16	142.16	-56.80	-1,910.14	-5,076.74	2,855.90	2,678.95	176.95	16.140		
7,800.00	7,142.90	7,114.90	7,114.90	59.19	142.72	-71.80	-1,910.14	-5,076.74	2,772.76	2,594.11	178.65	15.521		
7,900.00	7,153.85	7,125.85	7,125.85	61.28	142.94	-87.96	-1,910.14	-5,076.74	2,688.27	2,508.13	180.14	14.923		
8,000.00	7,154.00	7,126.00	7,126.00	63.38	142.95	-90.00	-1,910.14	-5,076.74	2,604.66	2,423.10	181.56	14.346		
8,100.00	7,154.00	7,126.00	7,126.00	65.52	142.95	-90.00	-1,910.14	-5,076.74	2,522.24	2,339.07	183.18	13.770		
8,200.00	7,154.00	7,126.00	7,126.00	67.71	142.95	-90.00	-1,910.14	-5,076.74	2,441.14	2,256.15	184.99	13.196		
8,300.00	7,154.00	7,126.00	7,126.00	69.93	142.95	-90.00	-1,910.14	-5,076.74	2,361.49	2,174.46	187.03	12.626		
8,400.00	7,154.00	7,126.00	7,126.00	72.19	142.95	-90.00	-1,910.14	-5,076.74	2,283.44	2,094.15	189.30	12.063		
8,500.00	7,154.00	7,126.00	7,126.00	74.47	142.95	-90.00	-1,910.14	-5,076.74	2,207.17	2,015.37	191.80	11.508		
8,600.00	7,154.00	7,126.00	7,126.00	76.79	142.95	-90.00	-1,910.14	-5,076.74	2,132.85	1,938.30	194.55	10.963		
8,700.00	7,154.00	7,126.00	7,126.00	79.12	142.95	-90.00	-1,910.14	-5,076.74	2,060.71	1,863.15	197.56	10.431		
8,800.00	7,154.00	7,126.00	7,126.00	81.48	142.95	-90.00	-1,910.14	-5,076.74	1,990.98	1,790.16	200.82	9.914		
8,900.00	7,154.00	7,126.00	7,126.00	83.87	142.95	-90.00	-1,910.14	-5,076.74	1,923.92	1,719.59	204.33	9.416		
9,000.00	7,154.00	7,126.00	7,126.00	86.27	142.95	-90.00	-1,910.14	-5,076.74	1,859.82	1,651.72	208.10	8.937		
9,100.00	7,154.00	7,126.00	7,126.00	88.68	142.95	-90.00	-1,910.14	-5,076.74	1,799.00	1,586.89	212.11	8.482		
9,200.00	7,154.00	7,126.00	7,126.00	91.12	142.95	-90.00	-1,910.14	-5,076.74	1,741.80	1,525.47	216.33	8.052		
9,300.00	7,154.00	7,126.00	7,126.00	93.57	142.95	-90.00	-1,910.14	-5,076.74	1,688.59	1,467.84	220.75	7.649		
9,400.00	7,154.00	7,126.00	7,126.00	96.03	142.95	-90.00	-1,910.14	-5,076.74	1,639.75	1,414.44	225.32	7.278		
9,500.00	7,154.00	7,126.00	7,126.00	98.50	142.95	-90.00	-1,910.14	-5,076.74	1,595.70	1,365.72	229.98	6.938		
9,600.00	7,154.00	7,126.00	7,126.00	100.99	142.95	-90.00	-1,910.14	-5,076.74	1,556.83	1,322.15	234.69	6.634		
9,700.00	7,154.00	7,126.00	7,126.00	103.49	142.95	-90.00	-1,910.14	-5,076.74	1,523.55	1,284.20	239.34	6.366		
9,800.00	7,154.00	7,126.00	7,126.00	106.00	142.95	-90.00	-1,910.14	-5,076.74	1,496.22	1,252.34	243.87	6.135		
9,900.00	7,154.00	7,126.00	7,126.00	108.51	142.95	-90.00	-1,910.14	-5,076.74	1,475.17	1,226.99	248.19	5.944		
10,000.00	7,154.00	7,126.00	7,126.00	111.04	142.95	-90.00	-1,910.14	-5,076.74	1,460.68	1,208.50	252.19	5.792		
10,100.00	7,154.00	7,126.00	7,126.00	113.58	142.95	-90.00	-1,910.14	-5,076.74	1,452.95	1,197.15	255.80	5.680		
10,162.66	7,154.00	7,126.00	7,126.00	115.17	142.95	-90.00	-1,910.14	-5,076.74	1,451.60	1,193.77	257.83	5.630 CC		
10,200.00	7,154.00	7,126.00	7,126.00	116.12	142.95	-90.00	-1,910.14	-5,076.74	1,452.08	1,193.13	258.95	5.608 ES		

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

# Anticollision Report

<b>Company:</b>	EXTRACTION OIL & GAS	<b>Local Co-ordinate Reference:</b>	Well WARBLER 13W-27-19
<b>Project:</b>	ADAMS COUNTY	<b>TVD Reference:</b>	KB 25' @ 5106.00usft
<b>Reference Site:</b>	Sec 13-T1S-R66W	<b>MD Reference:</b>	KB 25' @ 5106.00usft
<b>Site Error:</b>	0.00 usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	WARBLER 13W-27-19	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00 usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OWB	<b>Database:</b>	EDT_32Bit_ODBC
<b>Reference Design:</b>	PROPOSAL 1	<b>Offset TVD Reference:</b>	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	7,126.00	7,126.00	118.67	142.95	-90.00	-1,910.14	-5,076.74	1,458.08	1,196.50	261.58	5.574 SF		
10,400.00	7,154.00	7,126.00	7,126.00	121.22	142.95	-90.00	-1,910.14	-5,076.74	1,470.87	1,207.19	263.68	5.578		
10,500.00	7,154.00	7,126.00	7,126.00	123.79	142.95	-90.00	-1,910.14	-5,076.74	1,490.28	1,225.04	265.24	5.619		
10,600.00	7,154.00	7,126.00	7,126.00	126.35	142.95	-90.00	-1,910.14	-5,076.74	1,516.05	1,249.78	266.27	5.694		
10,700.00	7,154.00	7,126.00	7,126.00	128.93	142.95	-90.00	-1,910.14	-5,076.74	1,547.86	1,281.04	266.82	5.801		
10,800.00	7,154.00	7,126.00	7,126.00	131.51	142.95	-90.00	-1,910.14	-5,076.74	1,585.35	1,318.42	266.93	5.939		
10,900.00	7,154.00	7,126.00	7,126.00	134.09	142.95	-90.00	-1,910.14	-5,076.74	1,628.13	1,361.47	266.66	6.106		
11,000.00	7,154.00	7,126.00	7,126.00	136.68	142.95	-90.00	-1,910.14	-5,076.74	1,675.79	1,409.72	266.07	6.298		
11,100.00	7,154.00	7,126.00	7,126.00	139.27	142.95	-90.00	-1,910.14	-5,076.74	1,727.93	1,462.72	265.21	6.515		
11,200.00	7,154.00	7,126.00	7,126.00	141.87	142.95	-90.00	-1,910.14	-5,076.74	1,784.16	1,520.00	264.15	6.754		
11,300.00	7,154.00	7,126.00	7,126.00	144.47	142.95	-90.00	-1,910.14	-5,076.74	1,844.09	1,581.16	262.94	7.013		
11,400.00	7,154.00	7,126.00	7,126.00	147.08	142.95	-90.00	-1,910.14	-5,076.74	1,907.39	1,645.79	261.60	7.291		
11,500.00	7,154.00	7,126.00	7,126.00	149.68	142.95	-90.00	-1,910.14	-5,076.74	1,973.73	1,713.54	260.19	7.586		
11,600.00	7,154.00	7,126.00	7,126.00	152.30	142.95	-90.00	-1,910.14	-5,076.74	2,042.81	1,784.08	258.73	7.896		
11,700.00	7,154.00	7,126.00	7,126.00	154.91	142.95	-90.00	-1,910.14	-5,076.74	2,114.37	1,857.12	257.24	8.219		
11,800.00	7,154.00	7,126.00	7,126.00	157.53	142.95	-90.00	-1,910.14	-5,076.74	2,188.15	1,932.40	255.75	8.556		
11,900.00	7,154.00	7,126.00	7,126.00	160.15	142.95	-90.00	-1,910.14	-5,076.74	2,263.95	2,009.68	254.27	8.904		
12,000.00	7,154.00	7,126.00	7,126.00	162.77	142.95	-90.00	-1,910.14	-5,076.74	2,341.57	2,088.76	252.81	9.262		
12,100.00	7,154.00	7,126.00	7,126.00	165.40	142.95	-90.00	-1,910.14	-5,076.74	2,420.83	2,169.45	251.38	9.630		
12,200.00	7,154.00	7,126.00	7,126.00	168.03	142.95	-90.00	-1,910.14	-5,076.74	2,501.58	2,251.59	249.99	10.007		
12,300.00	7,154.00	7,126.00	7,126.00	170.66	142.95	-90.00	-1,910.14	-5,076.74	2,583.67	2,335.03	248.64	10.391		
12,400.00	7,154.00	7,126.00	7,126.00	173.29	142.95	-90.00	-1,910.14	-5,076.74	2,666.99	2,419.66	247.33	10.783		
12,500.00	7,154.00	7,126.00	7,126.00	175.93	142.95	-90.00	-1,910.14	-5,076.74	2,751.42	2,505.35	246.06	11.182		
12,600.00	7,154.00	7,126.00	7,126.00	178.56	142.95	-90.00	-1,910.14	-5,076.74	2,836.86	2,592.01	244.85	11.586		
12,700.00	7,154.00	7,126.00	7,126.00	181.20	142.95	-90.00	-1,910.14	-5,076.74	2,923.22	2,679.55	243.67	11.996		
12,800.00	7,154.00	7,126.00	7,126.00	183.84	142.95	-90.00	-1,910.14	-5,076.74	3,010.43	2,767.88	242.55	12.412		
12,900.00	7,154.00	7,126.00	7,126.00	186.49	142.95	-90.00	-1,910.14	-5,076.74	3,098.41	2,856.95	241.47	12.832		
13,000.00	7,154.00	7,126.00	7,126.00	189.13	142.95	-90.00	-1,910.14	-5,076.74	3,187.10	2,946.67	240.43	13.256		
13,100.00	7,154.00	7,126.00	7,126.00	191.78	142.95	-90.00	-1,910.14	-5,076.74	3,276.45	3,037.01	239.43	13.684		
13,200.00	7,154.00	7,126.00	7,126.00	194.43	142.95	-90.00	-1,910.14	-5,076.74	3,366.39	3,127.91	238.48	14.116		
13,300.00	7,154.00	7,126.00	7,126.00	197.07	142.95	-90.00	-1,910.14	-5,076.74	3,456.88	3,219.31	237.57	14.551		
13,400.00	7,154.00	7,126.00	7,126.00	199.73	142.95	-90.00	-1,910.14	-5,076.74	3,547.89	3,311.20	236.69	14.990		
13,500.00	7,154.00	7,126.00	7,126.00	202.38	142.95	-90.00	-1,910.14	-5,076.74	3,639.36	3,403.51	235.85	15.431		
13,600.00	7,154.00	7,126.00	7,126.00	205.03	142.95	-90.00	-1,910.14	-5,076.74	3,731.28	3,496.23	235.04	15.875		
13,700.00	7,154.00	7,126.00	7,126.00	207.69	142.95	-90.00	-1,910.14	-5,076.74	3,823.60	3,589.33	234.27	16.321		
13,800.00	7,154.00	7,126.00	7,126.00	210.34	142.95	-90.00	-1,910.14	-5,076.74	3,916.29	3,682.76	233.53	16.770		
13,900.00	7,154.00	7,126.00	7,126.00	213.00	142.95	-90.00	-1,910.14	-5,076.74	4,009.34	3,776.52	232.82	17.221		
14,000.00	7,154.00	7,126.00	7,126.00	215.66	142.95	-90.00	-1,910.14	-5,076.74	4,102.72	3,870.58	232.14	17.674		
14,100.00	7,154.00	7,126.00	7,126.00	218.32	142.95	-90.00	-1,910.14	-5,076.74	4,196.40	3,964.92	231.48	18.128		
14,200.00	7,154.00	7,126.00	7,126.00	220.98	142.95	-90.00	-1,910.14	-5,076.74	4,290.37	4,059.51	230.86	18.585		
14,300.00	7,154.00	7,126.00	7,126.00	223.64	142.95	-90.00	-1,910.14	-5,076.74	4,384.60	4,154.35	230.25	19.043		
14,400.00	7,154.00	7,126.00	7,126.00	226.30	142.95	-90.00	-1,910.14	-5,076.74	4,479.08	4,249.41	229.67	19.502		
14,500.00	7,154.00	7,126.00	7,126.00	228.97	142.95	-90.00	-1,910.14	-5,076.74	4,573.80	4,344.68	229.12	19.963		
14,600.00	7,154.00	7,126.00	7,126.00	231.63	142.95	-90.00	-1,910.14	-5,076.74	4,668.74	4,440.16	228.58	20.425		
14,700.00	7,154.00	7,126.00	7,126.00	234.29	142.95	-90.00	-1,910.14	-5,076.74	4,763.88	4,535.82	228.07	20.888		
14,800.00	7,154.00	7,126.00	7,126.00	236.96	142.95	-90.00	-1,910.14	-5,076.74	4,859.22	4,631.65	227.57	21.352		
14,900.00	7,154.00	7,126.00	7,126.00	239.63	142.95	-90.00	-1,910.14	-5,076.74	4,954.75	4,727.65	227.10	21.818		
15,000.00	7,154.00	7,126.00	7,126.00	242.30	142.95	-90.00	-1,910.14	-5,076.74	5,050.44	4,823.81	226.64	22.284		
15,100.00	7,154.00	7,126.00	7,126.00	244.96	142.95	-90.00	-1,910.14	-5,076.74	5,146.30	4,920.11	226.20	22.751		
15,200.00	7,154.00	7,126.00	7,126.00	247.63	142.95	-90.00	-1,910.14	-5,076.74	5,242.32	5,016.55	225.77	23.220		
15,300.00	7,154.00	7,126.00	7,126.00	250.30	142.95	-90.00	-1,910.14	-5,076.74	5,338.48	5,113.12	225.36	23.688		
15,400.00	7,154.00	7,126.00	7,126.00	252.98	142.95	-90.00	-1,910.14	-5,076.74	5,434.78	5,209.81	224.97	24.158		

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

# Anticollision Report

<b>Company:</b>	EXTRACTION OIL & GAS	<b>Local Co-ordinate Reference:</b>	Well WARBLER 13W-27-19
<b>Project:</b>	ADAMS COUNTY	<b>TVD Reference:</b>	KB 25' @ 5106.00usft
<b>Reference Site:</b>	Sec 13-T1S-R66W	<b>MD Reference:</b>	KB 25' @ 5106.00usft
<b>Site Error:</b>	0.00 usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	WARBLER 13W-27-19	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00 usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OWB	<b>Database:</b>	EDT_32Bit_ODBC
<b>Reference Design:</b>	PROPOSAL 1	<b>Offset TVD Reference:</b>	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	7,126.00	7,126.00	255.65	142.95	-90.00	-1,910.14	-5,076.74	5,531.21	5,306.62	224.59	24.628		
15,600.00	7,154.00	7,126.00	7,126.00	258.32	142.95	-90.00	-1,910.14	-5,076.74	5,627.77	5,403.55	224.22	25.099		
15,700.00	7,154.00	7,126.00	7,126.00	260.99	142.95	-90.00	-1,910.14	-5,076.74	5,724.44	5,500.57	223.87	25.570		
15,800.00	7,154.00	7,126.00	7,126.00	263.67	142.95	-90.00	-1,910.14	-5,076.74	5,821.23	5,597.70	223.53	26.042		
15,900.00	7,154.00	7,126.00	7,126.00	266.34	142.95	-90.00	-1,910.14	-5,076.74	5,918.12	5,694.92	223.20	26.515		
16,000.00	7,154.00	7,126.00	7,126.00	269.01	142.95	-90.00	-1,910.14	-5,076.74	6,015.12	5,792.23	222.88	26.988		
16,100.00	7,154.00	7,126.00	7,126.00	271.69	142.95	-90.00	-1,910.14	-5,076.74	6,112.21	5,889.63	222.58	27.461		
16,200.00	7,154.00	7,126.00	7,126.00	274.36	142.95	-90.00	-1,910.14	-5,076.74	6,209.40	5,987.11	222.28	27.935		
16,300.00	7,154.00	7,126.00	7,126.00	277.04	142.95	-90.00	-1,910.14	-5,076.74	6,306.67	6,084.67	222.00	28.409		
16,400.00	7,154.00	7,126.00	7,126.00	279.72	142.95	-90.00	-1,910.14	-5,076.74	6,404.02	6,182.30	221.72	28.883		
16,500.00	7,154.00	7,126.00	7,126.00	282.40	142.95	-90.00	-1,910.14	-5,076.74	6,501.46	6,280.00	221.46	29.358		
16,600.00	7,154.00	7,126.00	7,126.00	285.07	142.95	-90.00	-1,910.14	-5,076.74	6,598.97	6,377.78	221.20	29.833		
16,700.00	7,154.00	7,126.00	7,126.00	287.75	142.95	-90.00	-1,910.14	-5,076.74	6,696.56	6,475.61	220.95	30.308		
16,800.00	7,154.00	7,126.00	7,126.00	290.43	142.95	-90.00	-1,910.14	-5,076.74	6,794.22	6,573.51	220.71	30.783		
16,900.00	7,154.00	7,126.00	7,126.00	293.11	142.95	-90.00	-1,910.14	-5,076.74	6,891.94	6,671.46	220.48	31.259		
17,000.00	7,154.00	7,126.00	7,126.00	295.79	142.95	-90.00	-1,910.14	-5,076.74	6,989.73	6,769.48	220.26	31.735		
17,100.00	7,154.00	7,126.00	7,126.00	298.47	142.95	-90.00	-1,910.14	-5,076.74	7,087.58	6,867.54	220.04	32.211		
17,200.00	7,154.00	7,126.00	7,126.00	301.15	142.95	-90.00	-1,910.14	-5,076.74	7,185.49	6,965.66	219.83	32.687		
17,300.00	7,154.00	7,126.00	7,126.00	303.83	142.95	-90.00	-1,910.14	-5,076.74	7,283.46	7,063.83	219.63	33.163		
17,400.00	7,154.00	7,126.00	7,126.00	306.51	142.95	-90.00	-1,910.14	-5,076.74	7,381.48	7,162.05	219.43	33.639		
17,500.00	7,154.00	7,126.00	7,126.00	309.19	142.95	-90.00	-1,910.14	-5,076.74	7,479.55	7,260.31	219.24	34.115		
17,600.00	7,154.00	7,126.00	7,126.00	311.88	142.95	-90.00	-1,910.14	-5,076.74	7,577.67	7,358.61	219.06	34.592		
17,700.00	7,154.00	7,126.00	7,126.00	314.56	142.95	-90.00	-1,910.14	-5,076.74	7,675.85	7,456.96	218.88	35.068		
17,800.00	7,154.00	7,126.00	7,126.00	317.24	142.95	-90.00	-1,910.14	-5,076.74	7,774.06	7,555.35	218.71	35.545		
17,900.00	7,154.00	7,126.00	7,126.00	319.92	142.95	-90.00	-1,910.14	-5,076.74	7,872.33	7,653.78	218.55	36.021		
18,000.00	7,154.00	7,126.00	7,126.00	322.61	142.95	-90.00	-1,910.14	-5,076.74	7,970.63	7,752.25	218.39	36.498		
18,100.00	7,154.00	7,126.00	7,126.00	325.29	142.95	-90.00	-1,910.14	-5,076.74	8,068.98	7,850.75	218.23	36.974		
18,200.00	7,154.00	7,126.00	7,126.00	327.98	142.95	-90.00	-1,910.14	-5,076.74	8,167.37	7,949.29	218.08	37.451		
18,300.00	7,154.00	7,126.00	7,126.00	330.66	142.95	-90.00	-1,910.14	-5,076.74	8,265.80	8,047.86	217.94	37.927		
18,400.00	7,154.00	7,126.00	7,126.00	333.34	142.95	-90.00	-1,910.14	-5,076.74	8,364.26	8,146.46	217.80	38.403		
18,500.00	7,154.00	7,126.00	7,126.00	336.03	142.95	-90.00	-1,910.14	-5,076.74	8,462.76	8,245.10	217.67	38.880		
18,600.00	7,154.00	7,126.00	7,126.00	338.71	142.95	-90.00	-1,910.14	-5,076.74	8,561.30	8,343.76	217.54	39.356		
18,700.00	7,154.00	7,126.00	7,126.00	341.40	142.95	-90.00	-1,910.14	-5,076.74	8,659.87	8,442.46	217.41	39.832		
18,800.00	7,154.00	7,126.00	7,126.00	344.09	142.95	-90.00	-1,910.14	-5,076.74	8,758.47	8,541.18	217.29	40.308		
18,900.00	7,154.00	7,126.00	7,126.00	346.77	142.95	-90.00	-1,910.14	-5,076.74	8,857.10	8,639.93	217.17	40.784		
19,000.00	7,154.00	7,126.00	7,126.00	349.46	142.95	-90.00	-1,910.14	-5,076.74	8,955.76	8,738.71	217.06	41.260		
19,100.00	7,154.00	7,126.00	7,126.00	352.15	142.95	-90.00	-1,910.14	-5,076.74	9,054.45	8,837.51	216.95	41.736		
19,200.00	7,154.00	7,126.00	7,126.00	354.83	142.95	-90.00	-1,910.14	-5,076.74	9,153.18	8,936.33	216.84	42.211		
19,300.00	7,154.00	7,126.00	7,126.00	357.52	142.95	-90.00	-1,910.14	-5,076.74	9,251.92	9,035.18	216.74	42.687		
19,400.00	7,154.00	7,126.00	7,126.00	360.21	142.95	-90.00	-1,910.14	-5,076.74	9,350.70	9,134.06	216.64	43.162		
19,500.00	7,154.00	7,126.00	7,126.00	362.90	142.95	-90.00	-1,910.14	-5,076.74	9,449.50	9,232.95	216.55	43.637		
19,600.00	7,154.00	7,126.00	7,126.00	365.58	142.95	-90.00	-1,910.14	-5,076.74	9,548.32	9,331.87	216.46	44.112		
19,700.00	7,154.00	7,126.00	7,126.00	368.27	142.95	-90.00	-1,910.14	-5,076.74	9,647.17	9,430.81	216.37	44.587		
19,800.00	7,154.00	7,126.00	7,126.00	370.96	142.95	-90.00	-1,910.14	-5,076.74	9,746.05	9,529.76	216.28	45.062		
19,900.00	7,154.00	7,126.00	7,126.00	373.65	142.95	-90.00	-1,910.14	-5,076.74	9,844.94	9,628.74	216.20	45.536		
20,000.00	7,154.00	7,126.00	7,126.00	376.34	142.95	-90.00	-1,910.14	-5,076.74	9,943.86	9,727.74	216.12	46.010		

# Anticollision Report

<b>Company:</b>	EXTRACTION OIL & GAS	<b>Local Co-ordinate Reference:</b>	Well WARBLER 13W-27-19
<b>Project:</b>	ADAMS COUNTY	<b>TVD Reference:</b>	KB 25' @ 5106.00usft
<b>Reference Site:</b>	Sec 13-T1S-R66W	<b>MD Reference:</b>	KB 25' @ 5106.00usft
<b>Site Error:</b>	0.00 usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	WARBLER 13W-27-19	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00 usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OWB	<b>Database:</b>	EDT_32Bit_ODBC
<b>Reference Design:</b>	PROPOSAL 1	<b>Offset TVD Reference:</b>	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	-136.76	-2,211.83	-2,080.17	3,036.40					
100.00	100.00	81.00	81.00	0.13	0.97	-136.76	-2,211.83	-2,080.17	3,036.34	3,035.23	1.10	2,747.847		
200.00	200.00	181.00	181.00	0.49	3.05	-136.76	-2,211.83	-2,080.17	3,036.34	3,032.79	3.55	856.334		
300.00	300.00	281.00	281.00	0.85	5.17	-136.76	-2,211.83	-2,080.17	3,036.34	3,030.31	6.02	504.150		
400.00	400.00	381.00	381.00	1.21	7.22	-136.76	-2,211.83	-2,080.17	3,036.34	3,027.91	8.43	360.173		
500.00	499.98	480.98	480.98	1.56	9.25	-36.17	-2,211.83	-2,080.17	3,034.93	3,024.12	10.81	280.725		
600.00	599.84	580.84	580.84	1.91	11.27	-36.28	-2,211.83	-2,080.17	3,030.70	3,017.52	13.18	229.928		
700.00	699.45	680.45	680.45	2.27	13.28	-36.46	-2,211.83	-2,080.17	3,023.67	3,008.12	15.55	194.443		
800.00	798.70	779.70	779.70	2.65	15.29	-36.71	-2,211.83	-2,080.17	3,013.86	2,995.94	17.92	168.198		
900.00	897.47	878.47	878.47	3.06	17.28	-37.04	-2,211.83	-2,080.17	3,001.29	2,981.01	20.29	147.952		
1,000.00	995.62	976.62	976.62	3.49	19.26	-37.45	-2,211.83	-2,080.17	2,986.00	2,963.35	22.65	131.820		
1,100.00	1,093.06	1,074.06	1,074.06	3.96	21.22	-37.94	-2,211.83	-2,080.17	2,968.03	2,943.01	25.02	118.631		
1,200.00	1,189.64	1,170.64	1,170.64	4.47	23.16	-38.50	-2,211.83	-2,080.17	2,947.43	2,920.04	27.39	107.620		
1,300.00	1,285.27	1,266.27	1,266.27	5.02	25.09	-39.15	-2,211.83	-2,080.17	2,924.26	2,894.50	29.76	98.266		
1,400.00	1,379.82	1,360.82	1,360.82	5.63	26.99	-39.89	-2,211.83	-2,080.17	2,898.59	2,866.46	32.13	90.202		
1,500.00	1,473.18	1,454.18	1,454.18	6.29	28.87	-40.67	-2,211.83	-2,080.17	2,870.51	2,835.99	34.52	83.156		
1,600.00	1,566.03	1,547.03	1,547.03	6.99	30.74	-41.15	-2,211.83	-2,080.17	2,841.59	2,804.68	36.91	76.989		
1,700.00	1,658.89	1,639.89	1,639.89	7.71	32.61	-41.63	-2,211.83	-2,080.17	2,812.86	2,773.54	39.32	71.545		
1,800.00	1,751.74	1,732.74	1,732.74	8.44	34.48	-42.12	-2,211.83	-2,080.17	2,784.33	2,742.59	41.74	66.710		
1,900.00	1,844.60	1,825.60	1,825.60	9.17	36.34	-42.62	-2,211.83	-2,080.17	2,756.00	2,711.83	44.17	62.392		
2,000.00	1,937.45	1,918.45	1,918.45	9.91	38.21	-43.13	-2,211.83	-2,080.17	2,727.89	2,681.27	46.62	58.513		
2,100.00	2,030.31	2,011.31	2,011.31	10.66	40.08	-43.65	-2,211.83	-2,080.17	2,699.99	2,650.91	49.08	55.013		
2,200.00	2,123.16	2,104.16	2,104.16	11.41	41.95	-44.18	-2,211.83	-2,080.17	2,672.32	2,620.77	51.55	51.841		
2,300.00	2,216.02	2,202.98	2,197.02	12.17	43.94	-44.73	-2,211.83	-2,080.17	2,644.88	2,590.73	54.15	48.845		
2,400.00	2,308.87	2,289.87	2,289.87	12.93	45.68	-45.28	-2,211.83	-2,080.17	2,617.68	2,561.16	56.52	46.315		
2,500.00	2,401.73	2,382.73	2,382.73	13.69	47.55	-45.84	-2,211.83	-2,080.17	2,590.72	2,531.70	59.02	43.896		
2,600.00	2,494.58	2,475.58	2,475.58	14.45	49.42	-46.41	-2,211.83	-2,080.17	2,564.02	2,502.49	61.53	41.671		
2,700.00	2,587.44	2,568.44	2,568.44	15.22	51.29	-47.00	-2,211.83	-2,080.17	2,537.58	2,473.53	64.05	39.619		
2,800.00	2,680.29	2,661.29	2,661.29	15.98	53.16	-47.59	-2,211.83	-2,080.17	2,511.41	2,444.83	66.58	37.721		
2,900.00	2,773.15	2,754.15	2,754.15	16.75	55.02	-48.20	-2,211.83	-2,080.17	2,485.52	2,416.40	69.12	35.960		
3,000.00	2,866.00	2,847.00	2,847.00	17.52	56.89	-48.82	-2,211.83	-2,080.17	2,459.92	2,388.25	71.67	34.324		
3,100.00	2,958.86	2,939.86	2,939.86	18.29	58.76	-49.45	-2,211.83	-2,080.17	2,434.61	2,360.39	74.23	32.800		
3,200.00	3,051.71	3,032.71	3,032.71	19.06	60.63	-50.09	-2,211.83	-2,080.17	2,409.61	2,332.82	76.79	31.378		
3,300.00	3,144.57	3,125.57	3,125.57	19.83	62.49	-50.75	-2,211.83	-2,080.17	2,384.93	2,305.56	79.37	30.047		
3,400.00	3,237.42	3,218.42	3,218.42	20.60	64.36	-51.41	-2,211.83	-2,080.17	2,360.57	2,278.61	81.96	28.802		
3,500.00	3,330.28	3,311.28	3,311.28	21.37	66.23	-52.10	-2,211.83	-2,080.17	2,336.55	2,251.99	84.56	27.633		
3,600.00	3,423.13	3,404.13	3,404.13	22.15	68.10	-52.79	-2,211.83	-2,080.17	2,312.87	2,225.71	87.16	26.535		
3,700.00	3,515.99	3,503.01	3,496.99	22.92	70.09	-53.49	-2,211.83	-2,080.17	2,289.55	2,199.65	89.90	25.467		
3,800.00	3,608.84	3,589.84	3,589.84	23.70	71.83	-54.21	-2,211.83	-2,080.17	2,266.60	2,174.19	92.41	24.528		
3,900.00	3,701.70	3,682.70	3,682.70	24.47	73.70	-54.95	-2,211.83	-2,080.17	2,244.03	2,148.99	95.04	23.610		
4,000.00	3,794.55	3,775.55	3,775.55	25.25	75.57	-55.69	-2,211.83	-2,080.17	2,221.85	2,124.16	97.69	22.744		
4,100.00	3,887.41	3,868.41	3,868.41	26.02	77.43	-56.45	-2,211.83	-2,080.17	2,200.07	2,099.72	100.35	21.925		
4,200.00	3,980.26	3,961.26	3,961.26	26.80	79.30	-57.22	-2,211.83	-2,080.17	2,178.71	2,075.70	103.01	21.150		
4,300.00	4,073.12	4,054.12	4,054.12	27.57	81.17	-58.01	-2,211.83	-2,080.17	2,157.77	2,052.09	105.69	20.417		
4,400.00	4,165.97	4,146.97	4,146.97	28.35	83.04	-58.81	-2,211.83	-2,080.17	2,137.28	2,028.90	108.37	19.722		
4,500.00	4,258.83	4,239.83	4,239.83	29.12	84.90	-59.63	-2,211.83	-2,080.17	2,117.23	2,006.17	111.06	19.063		
4,600.00	4,351.68	4,332.68	4,332.68	29.90	86.77	-60.45	-2,211.83	-2,080.17	2,097.65	1,983.89	113.77	18.438		
4,700.00	4,444.54	4,425.54	4,425.54	30.68	88.64	-61.29	-2,211.83	-2,080.17	2,078.55	1,962.08	116.48	17.845		
4,800.00	4,537.39	4,518.39	4,518.39	31.45	90.51	-62.15	-2,211.83	-2,080.17	2,059.94	1,940.75	119.19	17.282		
4,900.00	4,630.25	4,611.25	4,611.25	32.23	92.37	-63.02	-2,211.83	-2,080.17	2,041.84	1,919.92	121.92	16.747		
5,000.00	4,723.10	4,704.10	4,704.10	33.01	94.24	-63.90	-2,211.83	-2,080.17	2,024.26	1,899.60	124.66	16.239		
5,100.00	4,815.96	4,803.04	4,796.96	33.79	96.23	-64.80	-2,211.83	-2,080.17	2,007.21	1,879.69	127.52	15.740		

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

# Anticollision Report

<b>Company:</b>	EXTRACTION OIL & GAS	<b>Local Co-ordinate Reference:</b>	Well Warbler 13W-27-19
<b>Project:</b>	ADAMS COUNTY	<b>TVD Reference:</b>	KB 25' @ 5106.00usft
<b>Reference Site:</b>	Sec 13-T1S-R66W	<b>MD Reference:</b>	KB 25' @ 5106.00usft
<b>Site Error:</b>	0.00 usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Warbler 13W-27-19	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00 usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OWB	<b>Database:</b>	EDT_32Bit_ODBC
<b>Reference Design:</b>	PROPOSAL 1	<b>Offset TVD Reference:</b>	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		
5,200.00	4,908.81	4,889.81	4,889.81	34.56	97.98	-65.71	-2,211.83	-2,080.17	1,990.70	1,860.56	130.14	15.296		
5,300.00	5,001.67	4,982.67	4,982.67	35.34	99.84	-66.63	-2,211.83	-2,080.17	1,974.75	1,841.86	132.90	14.859		
5,400.00	5,094.52	5,075.52	5,075.52	36.12	101.71	-67.57	-2,211.83	-2,080.17	1,959.38	1,823.73	135.66	14.444		
5,500.00	5,187.38	5,168.38	5,168.38	36.90	103.58	-68.52	-2,211.83	-2,080.17	1,944.60	1,806.18	138.42	14.048		
5,600.00	5,280.23	5,261.23	5,261.23	37.67	105.45	-69.48	-2,211.83	-2,080.17	1,930.41	1,789.22	141.19	13.672		
5,700.00	5,373.09	5,354.09	5,354.09	38.45	107.31	-70.45	-2,211.83	-2,080.17	1,916.84	1,772.88	143.96	13.315		
5,800.00	5,465.94	5,446.94	5,446.94	39.23	109.18	-71.44	-2,211.83	-2,080.17	1,903.90	1,757.17	146.74	12.975		
5,900.00	5,558.80	5,539.80	5,539.80	40.01	111.05	-72.43	-2,211.83	-2,080.17	1,891.60	1,742.09	149.51	12.652		
6,000.00	5,651.65	5,632.65	5,632.65	40.79	112.91	-73.44	-2,211.83	-2,080.17	1,879.95	1,727.66	152.29	12.345		
6,100.00	5,744.51	5,725.51	5,725.51	41.57	114.78	-74.46	-2,211.83	-2,080.17	1,868.96	1,713.90	155.07	12.053		
6,200.00	5,837.36	5,818.36	5,818.36	42.34	116.65	-75.49	-2,211.83	-2,080.17	1,858.65	1,700.81	157.84	11.775		
6,300.00	5,930.22	5,911.22	5,911.22	43.12	118.52	-76.53	-2,211.83	-2,080.17	1,849.03	1,688.42	160.62	11.512		
6,400.00	6,023.07	6,004.07	6,004.07	43.90	120.38	-77.58	-2,211.83	-2,080.17	1,840.11	1,676.72	163.39	11.262		
6,500.00	6,115.93	6,103.07	6,096.93	44.68	122.37	-78.63	-2,211.83	-2,080.17	1,831.90	1,665.62	166.28	11.017		
6,600.00	6,208.78	6,189.78	6,189.78	45.46	124.12	-79.70	-2,211.83	-2,080.17	1,824.40	1,655.48	168.92	10.801		
6,700.00	6,301.64	6,282.64	6,282.64	46.24	125.99	-80.77	-2,211.83	-2,080.17	1,817.63	1,645.96	171.67	10.588		
6,800.00	6,394.49	6,375.49	6,375.49	47.02	127.85	-81.84	-2,211.83	-2,080.17	1,811.60	1,637.18	174.42	10.386		
6,900.00	6,487.35	6,468.35	6,468.35	47.80	129.72	-82.93	-2,211.83	-2,080.17	1,806.31	1,629.15	177.16	10.196		
7,000.00	6,580.20	6,561.20	6,561.20	48.57	131.59	-84.02	-2,211.83	-2,080.17	1,801.77	1,621.88	179.90	10.016		
7,100.00	6,673.06	6,654.06	6,654.06	49.35	133.46	-85.11	-2,211.83	-2,080.17	1,797.99	1,615.37	182.62	9.846		
7,200.00	6,765.91	6,746.91	6,746.91	50.13	135.32	-86.21	-2,211.83	-2,080.17	1,794.96	1,609.63	185.33	9.685		
7,296.39	6,853.04	6,834.04	6,834.04	50.96	137.07	-90.10	-2,211.83	-2,080.17	1,793.67	1,605.70	187.97	9.543		
7,300.00	6,856.90	6,837.90	6,837.90	50.99	137.15	-90.17	-2,211.83	-2,080.17	1,793.41	1,605.33	188.07	9.536 CC		
7,400.00	6,939.78	6,920.78	6,920.78	52.14	138.82	-93.41	-2,211.83	-2,080.17	1,795.78	1,604.84	190.94	9.405 ES		
7,500.00	7,011.80	7,007.20	6,992.80	53.58	140.56	-95.36	-2,211.83	-2,080.17	1,803.39	1,609.26	194.13	9.289		
7,600.00	7,070.78	7,051.78	7,051.78	55.27	141.45	-96.15	-2,211.83	-2,080.17	1,817.34	1,620.69	196.65	9.242		
7,700.00	7,114.93	7,104.07	7,095.93	57.16	142.51	-95.70	-2,211.83	-2,080.17	1,838.41	1,639.02	199.39	9.220 SF		
7,800.00	7,142.90	7,123.90	7,123.90	59.19	142.90	-93.86	-2,211.83	-2,080.17	1,866.81	1,665.36	201.45	9.267		
7,900.00	7,153.85	7,134.85	7,134.85	61.28	143.12	-90.54	-2,211.83	-2,080.17	1,902.10	1,698.90	203.20	9.361		
8,000.00	7,154.00	7,135.00	7,135.00	63.38	143.13	-90.00	-2,211.83	-2,080.17	1,942.85	1,738.30	204.56	9.498		
8,100.00	7,154.00	7,135.00	7,135.00	65.52	143.13	-90.00	-2,211.83	-2,080.17	1,987.82	1,782.04	205.78	9.660		
8,200.00	7,154.00	7,135.00	7,135.00	67.71	143.13	-90.00	-2,211.83	-2,080.17	2,036.71	1,829.83	206.88	9.845		
8,300.00	7,154.00	7,135.00	7,135.00	69.93	143.13	-90.00	-2,211.83	-2,080.17	2,089.24	1,881.39	207.85	10.052		
8,400.00	7,154.00	7,135.00	7,135.00	72.19	143.13	-90.00	-2,211.83	-2,080.17	2,145.15	1,936.44	208.71	10.278		
8,500.00	7,154.00	7,135.00	7,135.00	74.47	143.13	-90.00	-2,211.83	-2,080.17	2,204.18	1,994.72	209.47	10.523		
8,600.00	7,154.00	7,135.00	7,135.00	76.79	143.13	-90.00	-2,211.83	-2,080.17	2,266.09	2,055.97	210.12	10.785		
8,700.00	7,154.00	7,135.00	7,135.00	79.12	143.13	-90.00	-2,211.83	-2,080.17	2,330.65	2,119.95	210.69	11.062		
8,800.00	7,154.00	7,135.00	7,135.00	81.48	143.13	-90.00	-2,211.83	-2,080.17	2,397.64	2,186.45	211.19	11.353		
8,900.00	7,154.00	7,135.00	7,135.00	83.87	143.13	-90.00	-2,211.83	-2,080.17	2,466.86	2,255.26	211.61	11.658		
9,000.00	7,154.00	7,135.00	7,135.00	86.27	143.13	-90.00	-2,211.83	-2,080.17	2,538.14	2,326.18	211.97	11.974		
9,100.00	7,154.00	7,135.00	7,135.00	88.68	143.13	-90.00	-2,211.83	-2,080.17	2,611.31	2,399.03	212.27	12.302		
9,200.00	7,154.00	7,135.00	7,135.00	91.12	143.13	-90.00	-2,211.83	-2,080.17	2,686.20	2,473.67	212.53	12.639		
9,300.00	7,154.00	7,135.00	7,135.00	93.57	143.13	-90.00	-2,211.83	-2,080.17	2,762.68	2,549.94	212.74	12.986		
9,400.00	7,154.00	7,135.00	7,135.00	96.03	143.13	-90.00	-2,211.83	-2,080.17	2,840.63	2,627.71	212.92	13.341		
9,500.00	7,154.00	7,135.00	7,135.00	98.50	143.13	-90.00	-2,211.83	-2,080.17	2,919.92	2,706.85	213.07	13.704		
9,600.00	7,154.00	7,135.00	7,135.00	100.99	143.13	-90.00	-2,211.83	-2,080.17	3,000.44	2,787.26	213.18	14.074		
9,700.00	7,154.00	7,135.00	7,135.00	103.49	143.13	-90.00	-2,211.83	-2,080.17	3,082.11	2,868.83	213.28	14.451		
9,800.00	7,154.00	7,135.00	7,135.00	106.00	143.13	-90.00	-2,211.83	-2,080.17	3,164.83	2,951.48	213.35	14.834		
9,900.00	7,154.00	7,135.00	7,135.00	108.51	143.13	-90.00	-2,211.83	-2,080.17	3,248.52	3,035.12	213.41	15.222		
10,000.00	7,154.00	7,135.00	7,135.00	111.04	143.13	-90.00	-2,211.83	-2,080.17	3,333.12	3,119.67	213.44	15.616		
10,100.00	7,154.00	7,135.00	7,135.00	113.58	143.13	-90.00	-2,211.83	-2,080.17	3,418.54	3,205.07	213.47	16.014		
10,200.00	7,154.00	7,135.00	7,135.00	116.12	143.13	-90.00	-2,211.83	-2,080.17	3,504.73	3,291.25	213.48	16.417		

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



# Anticollision Report

<b>Company:</b>	EXTRACTION OIL & GAS	<b>Local Co-ordinate Reference:</b>	Well WARBLER 13W-27-19
<b>Project:</b>	ADAMS COUNTY	<b>TVD Reference:</b>	KB 25' @ 5106.00usft
<b>Reference Site:</b>	Sec 13-T1S-R66W	<b>MD Reference:</b>	KB 25' @ 5106.00usft
<b>Site Error:</b>	0.00 usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	WARBLER 13W-27-19	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00 usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OWB	<b>Database:</b>	EDT_32Bit_ODBC
<b>Reference Design:</b>	PROPOSAL 1	<b>Offset TVD Reference:</b>	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		
10,300.00	7,154.00	7,135.00	7,135.00	118.67	143.13	-90.00	-2,211.83	-2,080.17	3,591.64	3,378.15	213.49	16.824		
10,400.00	7,154.00	7,135.00	7,135.00	121.22	143.13	-90.00	-2,211.83	-2,080.17	3,679.22	3,465.73	213.49	17.234		
10,500.00	7,154.00	7,135.00	7,135.00	123.79	143.13	-90.00	-2,211.83	-2,080.17	3,767.41	3,553.94	213.48	17.648		
10,600.00	7,154.00	7,135.00	7,135.00	126.35	143.13	-90.00	-2,211.83	-2,080.17	3,856.18	3,642.73	213.46	18.065		
10,700.00	7,154.00	7,135.00	7,135.00	128.93	143.13	-90.00	-2,211.83	-2,080.17	3,945.49	3,732.05	213.44	18.486		
10,800.00	7,154.00	7,135.00	7,135.00	131.51	143.13	-90.00	-2,211.83	-2,080.17	4,035.30	3,821.89	213.41	18.909		
10,900.00	7,154.00	7,135.00	7,135.00	134.09	143.13	-90.00	-2,211.83	-2,080.17	4,125.58	3,912.20	213.38	19.334		
11,000.00	7,154.00	7,135.00	7,135.00	136.68	143.13	-90.00	-2,211.83	-2,080.17	4,216.30	4,002.95	213.35	19.762		
11,100.00	7,154.00	7,135.00	7,135.00	139.27	143.13	-90.00	-2,211.83	-2,080.17	4,307.42	4,094.11	213.31	20.193		
11,200.00	7,154.00	7,135.00	7,135.00	141.87	143.13	-90.00	-2,211.83	-2,080.17	4,398.94	4,185.66	213.28	20.625		
11,300.00	7,154.00	7,135.00	7,135.00	144.47	143.13	-90.00	-2,211.83	-2,080.17	4,490.81	4,277.57	213.24	21.060		
11,400.00	7,154.00	7,135.00	7,135.00	147.08	143.13	-90.00	-2,211.83	-2,080.17	4,583.03	4,369.83	213.20	21.496		
11,500.00	7,154.00	7,135.00	7,135.00	149.68	143.13	-90.00	-2,211.83	-2,080.17	4,675.56	4,462.40	213.16	21.934		
11,600.00	7,154.00	7,135.00	7,135.00	152.30	143.13	-90.00	-2,211.83	-2,080.17	4,768.40	4,555.28	213.12	22.374		
11,700.00	7,154.00	7,135.00	7,135.00	154.91	143.13	-90.00	-2,211.83	-2,080.17	4,861.52	4,648.44	213.08	22.815		
11,800.00	7,154.00	7,135.00	7,135.00	157.53	143.13	-90.00	-2,211.83	-2,080.17	4,954.91	4,741.87	213.04	23.258		
11,900.00	7,154.00	7,135.00	7,135.00	160.15	143.13	-90.00	-2,211.83	-2,080.17	5,048.55	4,835.55	213.00	23.702		
12,000.00	7,154.00	7,135.00	7,135.00	162.77	143.13	-90.00	-2,211.83	-2,080.17	5,142.44	4,929.47	212.96	24.147		
12,100.00	7,154.00	7,135.00	7,135.00	165.40	143.13	-90.00	-2,211.83	-2,080.17	5,236.54	5,023.62	212.93	24.593		
12,200.00	7,154.00	7,135.00	7,135.00	168.03	143.13	-90.00	-2,211.83	-2,080.17	5,330.87	5,117.98	212.89	25.041		
12,300.00	7,154.00	7,135.00	7,135.00	170.66	143.13	-90.00	-2,211.83	-2,080.17	5,425.39	5,212.54	212.85	25.489		
12,400.00	7,154.00	7,135.00	7,135.00	173.29	143.13	-90.00	-2,211.83	-2,080.17	5,520.11	5,307.30	212.81	25.939		
12,500.00	7,154.00	7,135.00	7,135.00	175.93	143.13	-90.00	-2,211.83	-2,080.17	5,615.01	5,402.24	212.78	26.389		
12,600.00	7,154.00	7,135.00	7,135.00	178.56	143.13	-90.00	-2,211.83	-2,080.17	5,710.09	5,497.35	212.74	26.840		
12,700.00	7,154.00	7,135.00	7,135.00	181.20	143.13	-90.00	-2,211.83	-2,080.17	5,805.33	5,592.62	212.71	27.292		
12,800.00	7,154.00	7,135.00	7,135.00	183.84	143.13	-90.00	-2,211.83	-2,080.17	5,900.73	5,688.05	212.68	27.745		
12,900.00	7,154.00	7,135.00	7,135.00	186.49	143.13	-90.00	-2,211.83	-2,080.17	5,996.28	5,783.64	212.64	28.199		
13,000.00	7,154.00	7,135.00	7,135.00	189.13	143.13	-90.00	-2,211.83	-2,080.17	6,091.97	5,879.36	212.61	28.653		
13,100.00	7,154.00	7,135.00	7,135.00	191.78	143.13	-90.00	-2,211.83	-2,080.17	6,187.80	5,975.22	212.59	29.107		
13,200.00	7,154.00	7,135.00	7,135.00	194.43	143.13	-90.00	-2,211.83	-2,080.17	6,283.76	6,071.20	212.56	29.563		
13,300.00	7,154.00	7,135.00	7,135.00	197.07	143.13	-90.00	-2,211.83	-2,080.17	6,379.84	6,167.31	212.53	30.019		
13,400.00	7,154.00	7,135.00	7,135.00	199.73	143.13	-90.00	-2,211.83	-2,080.17	6,476.04	6,263.54	212.50	30.475		
13,500.00	7,154.00	7,135.00	7,135.00	202.38	143.13	-90.00	-2,211.83	-2,080.17	6,572.36	6,359.88	212.48	30.932		
13,600.00	7,154.00	7,135.00	7,135.00	205.03	143.13	-90.00	-2,211.83	-2,080.17	6,668.78	6,456.32	212.46	31.389		
13,700.00	7,154.00	7,135.00	7,135.00	207.69	143.13	-90.00	-2,211.83	-2,080.17	6,765.31	6,552.87	212.43	31.847		
13,800.00	7,154.00	7,135.00	7,135.00	210.34	143.13	-90.00	-2,211.83	-2,080.17	6,861.93	6,649.52	212.41	32.305		
13,900.00	7,154.00	7,135.00	7,135.00	213.00	143.13	-90.00	-2,211.83	-2,080.17	6,958.65	6,746.26	212.39	32.763		
14,000.00	7,154.00	7,135.00	7,135.00	215.66	143.13	-90.00	-2,211.83	-2,080.17	7,055.47	6,843.09	212.37	33.222		
14,100.00	7,154.00	7,135.00	7,135.00	218.32	143.13	-90.00	-2,211.83	-2,080.17	7,152.37	6,940.01	212.36	33.681		
14,200.00	7,154.00	7,135.00	7,135.00	220.98	143.13	-90.00	-2,211.83	-2,080.17	7,249.35	7,037.01	212.34	34.140		
14,300.00	7,154.00	7,135.00	7,135.00	223.64	143.13	-90.00	-2,211.83	-2,080.17	7,346.42	7,134.09	212.33	34.600		
14,400.00	7,154.00	7,135.00	7,135.00	226.30	143.13	-90.00	-2,211.83	-2,080.17	7,443.56	7,231.25	212.31	35.060		
14,500.00	7,154.00	7,135.00	7,135.00	228.97	143.13	-90.00	-2,211.83	-2,080.17	7,540.78	7,328.48	212.30	35.520		
14,600.00	7,154.00	7,135.00	7,135.00	231.63	143.13	-90.00	-2,211.83	-2,080.17	7,638.07	7,425.78	212.29	35.980		
14,700.00	7,154.00	7,135.00	7,135.00	234.29	143.13	-90.00	-2,211.83	-2,080.17	7,735.43	7,523.15	212.28	36.440		
14,800.00	7,154.00	7,135.00	7,135.00	236.96	143.13	-90.00	-2,211.83	-2,080.17	7,832.85	7,620.59	212.27	36.901		
14,900.00	7,154.00	7,135.00	7,135.00	239.63	143.13	-90.00	-2,211.83	-2,080.17	7,930.34	7,718.09	212.26	37.362		
15,000.00	7,154.00	7,135.00	7,135.00	242.30	143.13	-90.00	-2,211.83	-2,080.17	8,027.90	7,815.64	212.25	37.823		
15,100.00	7,154.00	7,135.00	7,135.00	244.96	143.13	-90.00	-2,211.83	-2,080.17	8,125.51	7,913.26	212.25	38.284		
15,200.00	7,154.00	7,135.00	7,135.00	247.63	143.13	-90.00	-2,211.83	-2,080.17	8,223.18	8,010.94	212.24	38.745		
15,300.00	7,154.00	7,135.00	7,135.00	250.30	143.13	-90.00	-2,211.83	-2,080.17	8,320.90	8,108.66	212.24	39.206		
15,400.00	7,154.00	7,135.00	7,135.00	252.98	143.13	-90.00	-2,211.83	-2,080.17	8,418.68	8,206.44	212.23	39.667		

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

# Anticollision Report

<b>Company:</b>	EXTRACTION OIL & GAS	<b>Local Co-ordinate Reference:</b>	Well WARBLER 13W-27-19
<b>Project:</b>	ADAMS COUNTY	<b>TVD Reference:</b>	KB 25' @ 5106.00usft
<b>Reference Site:</b>	Sec 13-T1S-R66W	<b>MD Reference:</b>	KB 25' @ 5106.00usft
<b>Site Error:</b>	0.00 usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	WARBLER 13W-27-19	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00 usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OWB	<b>Database:</b>	EDT_32Bit_ODBC
<b>Reference Design:</b>	PROPOSAL 1	<b>Offset TVD Reference:</b>	Offset Datum

<b>Offset Design</b> Sec 24-T1S-R66W - ABND VERT JOSEPHINE 1 - Wellbore #1 - Design #1												<b>Offset Site Error:</b>	0.00 usft
Survey Program: 0-INC												<b>Offset Well Error:</b>	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	7,135.00	7,135.00	255.65	143.13	-90.00	-2,211.83	-2,080.17	8,516.50	8,304.27	212.23	40.129	
15,600.00	7,154.00	7,135.00	7,135.00	258.32	143.13	-90.00	-2,211.83	-2,080.17	8,614.38	8,402.15	212.23	40.590	
15,700.00	7,154.00	7,135.00	7,135.00	260.99	143.13	-90.00	-2,211.83	-2,080.17	8,712.31	8,500.08	212.23	41.051	
15,800.00	7,154.00	7,135.00	7,135.00	263.67	143.13	-90.00	-2,211.83	-2,080.17	8,810.28	8,598.05	212.23	41.513	
15,900.00	7,154.00	7,135.00	7,135.00	266.34	143.13	-90.00	-2,211.83	-2,080.17	8,908.30	8,696.07	212.23	41.974	
16,000.00	7,154.00	7,135.00	7,135.00	269.01	143.13	-90.00	-2,211.83	-2,080.17	9,006.36	8,794.13	212.23	42.436	
16,100.00	7,154.00	7,135.00	7,135.00	271.69	143.13	-90.00	-2,211.83	-2,080.17	9,104.47	8,892.23	212.24	42.897	
16,200.00	7,154.00	7,135.00	7,135.00	274.36	143.13	-90.00	-2,211.83	-2,080.17	9,202.61	8,990.37	212.24	43.359	
16,300.00	7,154.00	7,135.00	7,135.00	277.04	143.13	-90.00	-2,211.83	-2,080.17	9,300.80	9,088.55	212.25	43.820	
16,400.00	7,154.00	7,135.00	7,135.00	279.72	143.13	-90.00	-2,211.83	-2,080.17	9,399.02	9,186.77	212.26	44.282	
16,500.00	7,154.00	7,135.00	7,135.00	282.40	143.13	-90.00	-2,211.83	-2,080.17	9,497.28	9,285.02	212.26	44.743	
16,600.00	7,154.00	7,135.00	7,135.00	285.07	143.13	-90.00	-2,211.83	-2,080.17	9,595.58	9,383.31	212.27	45.204	
16,700.00	7,154.00	7,135.00	7,135.00	287.75	143.13	-90.00	-2,211.83	-2,080.17	9,693.91	9,481.63	212.28	45.666	
16,800.00	7,154.00	7,135.00	7,135.00	290.43	143.13	-90.00	-2,211.83	-2,080.17	9,792.27	9,579.98	212.29	46.127	
16,900.00	7,154.00	7,135.00	7,135.00	293.11	143.13	-90.00	-2,211.83	-2,080.17	9,890.67	9,678.37	212.30	46.588	
17,000.00	7,154.00	7,135.00	7,135.00	295.79	143.13	-90.00	-2,211.83	-2,080.17	9,989.10	9,776.79	212.31	47.049	

# Anticollision Report

<b>Company:</b>	EXTRACTION OIL & GAS	<b>Local Co-ordinate Reference:</b>	Well WARBLER 13W-27-19
<b>Project:</b>	ADAMS COUNTY	<b>TVD Reference:</b>	KB 25' @ 5106.00usft
<b>Reference Site:</b>	Sec 13-T1S-R66W	<b>MD Reference:</b>	KB 25' @ 5106.00usft
<b>Site Error:</b>	0.00 usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	WARBLER 13W-27-19	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00 usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OWB	<b>Database:</b>	EDT_32Bit_ODBC
<b>Reference Design:</b>	PROPOSAL 1	<b>Offset TVD Reference:</b>	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	34.00	34.00	0.00	0.40	-154.44	-5,531.86	-2,646.27	6,132.23					
100.00	100.00	134.00	134.00	0.13	1.95	-154.44	-5,531.86	-2,646.27	6,132.23	6,130.14	2.09	2,938.976		
200.00	200.00	234.00	234.00	0.49	4.17	-154.44	-5,531.86	-2,646.27	6,132.23	6,127.56	4.67	1,313.995		
300.00	300.00	334.00	334.00	0.85	6.24	-154.44	-5,531.86	-2,646.27	6,132.23	6,125.13	7.09	864.703		
400.00	400.00	434.00	434.00	1.21	8.28	-154.44	-5,531.86	-2,646.27	6,132.23	6,122.74	9.49	646.314		
500.00	499.98	533.98	533.98	1.56	10.30	-53.84	-5,531.86	-2,646.27	6,131.20	6,119.33	11.86	516.781		
600.00	599.84	633.84	633.84	1.91	12.32	-53.93	-5,531.86	-2,646.27	6,128.11	6,113.88	14.23	430.588		
700.00	699.45	733.45	733.45	2.27	14.33	-54.08	-5,531.86	-2,646.27	6,122.97	6,106.37	16.60	368.805		
800.00	798.70	832.70	832.70	2.65	16.34	-54.29	-5,531.86	-2,646.27	6,115.81	6,096.83	18.98	322.293		
900.00	897.47	931.47	931.47	3.06	18.33	-54.56	-5,531.86	-2,646.27	6,106.63	6,085.27	21.35	285.960		
1,000.00	995.62	1,029.62	1,029.62	3.49	20.30	-54.88	-5,531.86	-2,646.27	6,095.47	6,071.73	23.74	256.747		
1,100.00	1,093.06	1,127.06	1,127.06	3.96	22.27	-55.27	-5,531.86	-2,646.27	6,082.37	6,056.23	26.14	232.709		
1,200.00	1,189.64	1,223.64	1,223.64	4.47	24.21	-55.72	-5,531.86	-2,646.27	6,067.36	6,038.81	28.55	212.550		
1,300.00	1,285.27	1,319.27	1,319.27	5.02	26.14	-56.22	-5,531.86	-2,646.27	6,050.49	6,019.53	30.97	195.374		
1,400.00	1,379.82	1,413.82	1,413.82	5.63	28.04	-56.79	-5,531.86	-2,646.27	6,031.83	5,998.42	33.41	180.544		
1,500.00	1,473.18	1,507.18	1,507.18	6.29	29.92	-57.37	-5,531.86	-2,646.27	6,011.42	5,975.55	35.87	167.588		
1,600.00	1,566.03	1,600.03	1,600.03	6.99	31.79	-57.66	-5,531.86	-2,646.27	5,990.43	5,952.08	38.35	156.216		
1,700.00	1,658.89	1,707.11	1,692.89	7.71	33.94	-57.94	-5,531.86	-2,646.27	5,969.60	5,928.47	41.13	145.150		
1,800.00	1,751.74	1,785.74	1,785.74	8.44	35.52	-58.23	-5,531.86	-2,646.27	5,948.92	5,905.57	43.35	137.236		
1,900.00	1,844.60	1,878.60	1,878.60	9.17	37.39	-58.52	-5,531.86	-2,646.27	5,928.40	5,882.54	45.87	129.253		
2,000.00	1,937.45	1,971.45	1,971.45	9.91	39.26	-58.81	-5,531.86	-2,646.27	5,908.05	5,859.65	48.39	122.081		
2,100.00	2,030.31	2,064.31	2,064.31	10.66	41.13	-59.10	-5,531.86	-2,646.27	5,887.86	5,836.93	50.93	115.604		
2,200.00	2,123.16	2,157.16	2,157.16	11.41	43.00	-59.40	-5,531.86	-2,646.27	5,867.83	5,814.36	53.47	109.731		
2,300.00	2,216.02	2,250.02	2,250.02	12.17	44.86	-59.69	-5,531.86	-2,646.27	5,847.97	5,791.95	56.03	104.381		
2,400.00	2,308.87	2,342.87	2,342.87	12.93	46.73	-59.99	-5,531.86	-2,646.27	5,828.28	5,769.70	58.58	99.490		
2,500.00	2,401.73	2,435.73	2,435.73	13.69	48.60	-60.29	-5,531.86	-2,646.27	5,808.76	5,747.62	61.14	95.002		
2,600.00	2,494.58	2,528.58	2,528.58	14.45	50.47	-60.60	-5,531.86	-2,646.27	5,789.42	5,725.71	63.71	90.870		
2,700.00	2,587.44	2,621.44	2,621.44	15.22	52.33	-60.90	-5,531.86	-2,646.27	5,770.24	5,703.96	66.28	87.055		
2,800.00	2,680.29	2,714.29	2,714.29	15.98	54.20	-61.20	-5,531.86	-2,646.27	5,751.25	5,682.39	68.86	83.522		
2,900.00	2,773.15	2,807.15	2,807.15	16.75	56.07	-61.51	-5,531.86	-2,646.27	5,732.43	5,660.99	71.44	80.241		
3,000.00	2,866.00	2,900.00	2,900.00	17.52	57.94	-61.82	-5,531.86	-2,646.27	5,713.79	5,639.76	74.03	77.187		
3,100.00	2,958.86	3,007.14	2,992.86	18.29	60.09	-62.13	-5,531.86	-2,646.27	5,695.33	5,618.42	76.90	74.060		
3,200.00	3,051.71	3,085.71	3,085.71	19.06	61.67	-62.44	-5,531.86	-2,646.27	5,677.05	5,597.84	79.21	71.673		
3,300.00	3,144.57	3,178.57	3,178.57	19.83	63.54	-62.76	-5,531.86	-2,646.27	5,658.96	5,577.15	81.80	69.177		
3,400.00	3,237.42	3,271.42	3,271.42	20.60	65.41	-63.08	-5,531.86	-2,646.27	5,641.05	5,556.64	84.41	66.833		
3,500.00	3,330.28	3,364.28	3,364.28	21.37	67.27	-63.39	-5,531.86	-2,646.27	5,623.33	5,536.32	87.01	64.629		
3,600.00	3,423.13	3,457.13	3,457.13	22.15	69.14	-63.71	-5,531.86	-2,646.27	5,605.80	5,516.19	89.62	62.553		
3,700.00	3,515.99	3,549.99	3,549.99	22.92	71.01	-64.04	-5,531.86	-2,646.27	5,588.47	5,496.24	92.23	60.594		
3,800.00	3,608.84	3,642.84	3,642.84	23.70	72.88	-64.36	-5,531.86	-2,646.27	5,571.32	5,476.48	94.84	58.743		
3,900.00	3,701.70	3,735.70	3,735.70	24.47	74.74	-64.68	-5,531.86	-2,646.27	5,554.37	5,456.91	97.46	56.991		
4,000.00	3,794.55	3,828.55	3,828.55	25.25	76.61	-65.01	-5,531.86	-2,646.27	5,537.62	5,437.54	100.08	55.331		
4,100.00	3,887.41	3,921.41	3,921.41	26.02	78.48	-65.34	-5,531.86	-2,646.27	5,521.07	5,418.36	102.71	53.756		
4,200.00	3,980.26	4,014.26	4,014.26	26.80	80.35	-65.67	-5,531.86	-2,646.27	5,504.72	5,399.38	105.33	52.260		
4,300.00	4,073.12	4,107.12	4,107.12	27.57	82.21	-66.00	-5,531.86	-2,646.27	5,488.57	5,380.60	107.96	50.837		
4,400.00	4,165.97	4,200.03	4,199.97	28.35	84.08	-66.34	-5,531.86	-2,646.27	5,472.62	5,362.02	110.60	49.482		
4,500.00	4,258.83	4,307.17	4,292.83	29.12	86.24	-66.67	-5,531.86	-2,646.27	5,456.88	5,343.36	113.52	48.069		
4,600.00	4,351.68	4,385.68	4,385.68	29.90	87.82	-67.01	-5,531.86	-2,646.27	5,441.35	5,325.48	115.87	46.960		
4,700.00	4,444.54	4,478.54	4,478.54	30.68	89.68	-67.35	-5,531.86	-2,646.27	5,426.03	5,307.51	118.51	45.784		
4,800.00	4,537.39	4,571.39	4,571.39	31.45	91.55	-67.69	-5,531.86	-2,646.27	5,410.92	5,289.76	121.16	44.660		
4,900.00	4,630.25	4,664.25	4,664.25	32.23	93.42	-68.03	-5,531.86	-2,646.27	5,396.02	5,272.21	123.81	43.585		
5,000.00	4,723.10	4,757.10	4,757.10	33.01	95.29	-68.37	-5,531.86	-2,646.27	5,381.33	5,254.88	126.45	42.555		
5,100.00	4,815.96	4,849.96	4,849.96	33.79	97.15	-68.72	-5,531.86	-2,646.27	5,366.87	5,237.76	129.11	41.569		

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

# Anticollision Report

<b>Company:</b>	EXTRACTION OIL & GAS	<b>Local Co-ordinate Reference:</b>	Well WARBLER 13W-27-19
<b>Project:</b>	ADAMS COUNTY	<b>TVD Reference:</b>	KB 25' @ 5106.00usft
<b>Reference Site:</b>	Sec 13-T1S-R66W	<b>MD Reference:</b>	KB 25' @ 5106.00usft
<b>Site Error:</b>	0.00 usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	WARBLER 13W-27-19	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00 usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OWB	<b>Database:</b>	EDT_32Bit_ODBC
<b>Reference Design:</b>	PROPOSAL 1	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-INC													Offset Well Error:	0.00 usft
Sec 24-T1S-R66W - EXIST VERT D G H L 1 - Wellbore #1 - Design #1														
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	4,908.81	4,942.81	4,942.81	34.56	99.02	-69.07	-5,531.86	-2,646.27	5,352.62	5,220.86	131.76	40.623		
5,300.00	5,001.67	5,035.67	5,035.67	35.34	100.89	-69.42	-5,531.86	-2,646.27	5,338.59	5,204.17	134.42	39.716		
5,400.00	5,094.52	5,128.52	5,128.52	36.12	102.76	-69.77	-5,531.86	-2,646.27	5,324.78	5,187.70	137.08	38.845		
5,500.00	5,187.38	5,221.38	5,221.38	36.90	104.62	-70.12	-5,531.86	-2,646.27	5,311.20	5,171.46	139.74	38.008		
5,600.00	5,280.23	5,314.23	5,314.23	37.67	106.49	-70.47	-5,531.86	-2,646.27	5,297.84	5,155.44	142.40	37.203		
5,700.00	5,373.09	5,407.09	5,407.09	38.45	108.36	-70.83	-5,531.86	-2,646.27	5,284.71	5,139.64	145.07	36.429		
5,800.00	5,465.94	5,500.06	5,499.94	39.23	110.23	-71.18	-5,531.86	-2,646.27	5,271.81	5,124.07	147.74	35.683		
5,900.00	5,558.80	5,607.20	5,592.80	40.01	112.38	-71.54	-5,531.86	-2,646.27	5,259.14	5,108.44	150.70	34.898		
6,000.00	5,651.65	5,685.65	5,685.65	40.79	113.96	-71.90	-5,531.86	-2,646.27	5,246.70	5,093.62	153.08	34.274		
6,100.00	5,744.51	5,778.51	5,778.51	41.57	115.83	-72.26	-5,531.86	-2,646.27	5,234.49	5,078.74	155.76	33.607		
6,200.00	5,837.36	5,871.36	5,871.36	42.34	117.70	-72.63	-5,531.86	-2,646.27	5,222.52	5,064.09	158.43	32.964		
6,300.00	5,930.22	5,964.22	5,964.22	43.12	119.56	-72.99	-5,531.86	-2,646.27	5,210.79	5,049.68	161.11	32.343		
6,400.00	6,023.07	6,057.07	6,057.07	43.90	121.43	-73.36	-5,531.86	-2,646.27	5,199.29	5,035.50	163.79	31.744		
6,500.00	6,115.93	6,149.93	6,149.93	44.68	123.30	-73.72	-5,531.86	-2,646.27	5,188.04	5,021.57	166.47	31.165		
6,600.00	6,208.78	6,242.78	6,242.78	45.46	125.16	-74.09	-5,531.86	-2,646.27	5,177.02	5,007.87	169.15	30.606		
6,700.00	6,301.64	6,335.64	6,335.64	46.24	127.03	-74.46	-5,531.86	-2,646.27	5,166.25	4,994.42	171.83	30.065		
6,800.00	6,394.49	6,428.49	6,428.49	47.02	128.90	-74.83	-5,531.86	-2,646.27	5,155.73	4,981.21	174.52	29.543		
6,900.00	6,487.35	6,521.35	6,521.35	47.80	130.77	-75.21	-5,531.86	-2,646.27	5,145.45	4,968.24	177.20	29.037		
7,000.00	6,580.20	6,614.20	6,614.20	48.57	132.63	-75.58	-5,531.86	-2,646.27	5,135.42	4,955.53	179.89	28.547		
7,100.00	6,673.06	6,707.06	6,707.06	49.35	134.50	-75.95	-5,531.86	-2,646.27	5,125.64	4,943.06	182.58	28.074		
7,200.00	6,765.91	6,800.09	6,799.91	50.13	136.37	-76.33	-5,531.86	-2,646.27	5,116.10	4,930.83	185.27	27.614		
7,300.00	6,856.90	6,909.10	6,890.90	50.99	138.56	-80.12	-5,531.86	-2,646.27	5,106.69	4,918.32	188.37	27.109		
7,400.00	6,939.78	6,973.78	6,973.78	52.14	139.86	-83.56	-5,531.86	-2,646.27	5,097.40	4,906.49	190.90	26.701		
7,500.00	7,011.80	7,045.80	7,045.80	53.58	141.31	-86.09	-5,531.86	-2,646.27	5,088.94	4,895.05	193.90	26.246		
7,600.00	7,070.78	7,104.78	7,104.78	55.27	142.50	-87.98	-5,531.86	-2,646.27	5,082.09	4,885.19	196.91	25.810		
7,700.00	7,114.93	7,148.93	7,148.93	57.16	143.39	-89.29	-5,531.86	-2,646.27	5,077.55	4,877.71	199.84	25.409		
7,800.00	7,142.90	7,176.90	7,176.90	59.19	143.95	-89.98	-5,531.86	-2,646.27	5,075.84	4,873.26	202.58	25.056		
7,804.69	7,143.80	7,177.80	7,177.80	59.29	143.97	-90.00	-5,531.86	-2,646.27	5,075.84	4,873.13	202.71	25.040 CC		
7,900.00	7,153.85	7,187.85	7,187.85	61.28	144.17	-90.04	-5,531.86	-2,646.27	5,077.31	4,872.27	205.04	24.762 ES		
8,000.00	7,154.00	7,188.00	7,188.00	63.38	144.17	-90.00	-5,531.86	-2,646.27	5,081.55	4,874.27	207.28	24.515		
8,100.00	7,154.00	7,188.00	7,188.00	65.52	144.17	-90.00	-5,531.86	-2,646.27	5,087.77	4,878.23	209.54	24.281		
8,200.00	7,154.00	7,188.00	7,188.00	67.71	144.17	-90.00	-5,531.86	-2,646.27	5,095.93	4,884.12	211.81	24.059		
8,300.00	7,154.00	7,188.00	7,188.00	69.93	144.17	-90.00	-5,531.86	-2,646.27	5,106.05	4,891.96	214.09	23.850		
8,400.00	7,154.00	7,188.00	7,188.00	72.19	144.17	-90.00	-5,531.86	-2,646.27	5,118.10	4,901.73	216.36	23.655		
8,500.00	7,154.00	7,188.00	7,188.00	74.47	144.17	-90.00	-5,531.86	-2,646.27	5,132.07	4,913.44	218.63	23.474		
8,600.00	7,154.00	7,188.00	7,188.00	76.79	144.17	-90.00	-5,531.86	-2,646.27	5,147.94	4,927.05	220.89	23.306		
8,700.00	7,154.00	7,188.00	7,188.00	79.12	144.17	-90.00	-5,531.86	-2,646.27	5,165.70	4,942.57	223.13	23.151		
8,800.00	7,154.00	7,188.00	7,188.00	81.48	144.17	-90.00	-5,531.86	-2,646.27	5,185.33	4,959.98	225.35	23.011		
8,900.00	7,154.00	7,188.00	7,188.00	83.87	144.17	-90.00	-5,531.86	-2,646.27	5,206.81	4,979.27	227.54	22.883		
9,000.00	7,154.00	7,188.00	7,188.00	86.27	144.17	-90.00	-5,531.86	-2,646.27	5,230.11	5,000.40	229.71	22.769		
9,100.00	7,154.00	7,188.00	7,188.00	88.68	144.17	-90.00	-5,531.86	-2,646.27	5,255.21	5,023.37	231.84	22.667		
9,200.00	7,154.00	7,188.00	7,188.00	91.12	144.17	-90.00	-5,531.86	-2,646.27	5,282.08	5,048.14	233.94	22.579		
9,300.00	7,154.00	7,188.00	7,188.00	93.57	144.17	-90.00	-5,531.86	-2,646.27	5,310.70	5,074.70	236.00	22.503		
9,400.00	7,154.00	7,188.00	7,188.00	96.03	144.17	-90.00	-5,531.86	-2,646.27	5,341.04	5,103.02	238.03	22.439		
9,500.00	7,154.00	7,188.00	7,188.00	98.50	144.17	-90.00	-5,531.86	-2,646.27	5,373.07	5,133.06	240.01	22.387		
9,600.00	7,154.00	7,188.00	7,188.00	100.99	144.17	-90.00	-5,531.86	-2,646.27	5,406.76	5,164.81	241.95	22.347		
9,700.00	7,154.00	7,188.00	7,188.00	103.49	144.17	-90.00	-5,531.86	-2,646.27	5,442.08	5,198.24	243.85	22.317		
9,800.00	7,154.00	7,188.00	7,188.00	106.00	144.17	-90.00	-5,531.86	-2,646.27	5,479.00	5,233.30	245.70	22.299		
9,900.00	7,154.00	7,188.00	7,188.00	108.51	144.17	-90.00	-5,531.86	-2,646.27	5,517.49	5,269.98	247.51	22.292 SF		
10,000.00	7,154.00	7,188.00	7,188.00	111.04	144.17	-90.00	-5,531.86	-2,646.27	5,557.50	5,308.23	249.27	22.295		
10,100.00	7,154.00	7,188.00	7,188.00	113.58	144.17	-90.00	-5,531.86	-2,646.27	5,599.02	5,348.03	250.99	22.308		
10,200.00	7,154.00	7,188.00	7,188.00	116.12	144.17	-90.00	-5,531.86	-2,646.27	5,642.00	5,389.34	252.66	22.330		

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

# Anticollision Report

<b>Company:</b>	EXTRACTION OIL & GAS	<b>Local Co-ordinate Reference:</b>	Well WARBLER 13W-27-19
<b>Project:</b>	ADAMS COUNTY	<b>TVD Reference:</b>	KB 25' @ 5106.00usft
<b>Reference Site:</b>	Sec 13-T1S-R66W	<b>MD Reference:</b>	KB 25' @ 5106.00usft
<b>Site Error:</b>	0.00 usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	WARBLER 13W-27-19	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00 usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OWB	<b>Database:</b>	EDT_32Bit_ODBC
<b>Reference Design:</b>	PROPOSAL 1	<b>Offset TVD Reference:</b>	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	7,188.00	7,188.00	118.67	144.17	-90.00	-5,531.86	-2,646.27	5,686.42	5,432.14	254.28	22.363		
10,400.00	7,154.00	7,188.00	7,188.00	121.22	144.17	-90.00	-5,531.86	-2,646.27	5,732.24	5,476.38	255.86	22.404		
10,500.00	7,154.00	7,188.00	7,188.00	123.79	144.17	-90.00	-5,531.86	-2,646.27	5,779.42	5,522.03	257.39	22.454		
10,600.00	7,154.00	7,188.00	7,188.00	126.35	144.17	-90.00	-5,531.86	-2,646.27	5,827.94	5,569.07	258.88	22.512		
10,700.00	7,154.00	7,188.00	7,188.00	128.93	144.17	-90.00	-5,531.86	-2,646.27	5,877.76	5,617.45	260.32	22.579		
10,800.00	7,154.00	7,188.00	7,188.00	131.51	144.17	-90.00	-5,531.86	-2,646.27	5,928.85	5,667.14	261.71	22.654		
10,900.00	7,154.00	7,188.00	7,188.00	134.09	144.17	-90.00	-5,531.86	-2,646.27	5,981.18	5,718.11	263.07	22.736		
11,000.00	7,154.00	7,188.00	7,188.00	136.68	144.17	-90.00	-5,531.86	-2,646.27	6,034.70	5,770.33	264.37	22.826		
11,100.00	7,154.00	7,188.00	7,188.00	139.27	144.17	-90.00	-5,531.86	-2,646.27	6,089.40	5,823.76	265.64	22.923		
11,200.00	7,154.00	7,188.00	7,188.00	141.87	144.17	-90.00	-5,531.86	-2,646.27	6,145.24	5,878.38	266.87	23.028		
11,300.00	7,154.00	7,188.00	7,188.00	144.47	144.17	-90.00	-5,531.86	-2,646.27	6,202.19	5,934.14	268.05	23.138		
11,400.00	7,154.00	7,188.00	7,188.00	147.08	144.17	-90.00	-5,531.86	-2,646.27	6,260.22	5,991.03	269.19	23.256		
11,500.00	7,154.00	7,188.00	7,188.00	149.68	144.17	-90.00	-5,531.86	-2,646.27	6,319.30	6,049.00	270.30	23.379		
11,600.00	7,154.00	7,188.00	7,188.00	152.30	144.17	-90.00	-5,531.86	-2,646.27	6,379.40	6,108.03	271.37	23.509		
11,700.00	7,154.00	7,188.00	7,188.00	154.91	144.17	-90.00	-5,531.86	-2,646.27	6,440.49	6,168.10	272.40	23.644		
11,800.00	7,154.00	7,188.00	7,188.00	157.53	144.17	-90.00	-5,531.86	-2,646.27	6,502.55	6,229.16	273.39	23.785		
11,900.00	7,154.00	7,188.00	7,188.00	160.15	144.17	-90.00	-5,531.86	-2,646.27	6,565.54	6,291.19	274.35	23.931		
12,000.00	7,154.00	7,188.00	7,188.00	162.77	144.17	-90.00	-5,531.86	-2,646.27	6,629.44	6,354.16	275.28	24.083		
12,100.00	7,154.00	7,188.00	7,188.00	165.40	144.17	-90.00	-5,531.86	-2,646.27	6,694.23	6,418.06	276.17	24.240		
12,200.00	7,154.00	7,188.00	7,188.00	168.03	144.17	-90.00	-5,531.86	-2,646.27	6,759.87	6,482.84	277.03	24.401		
12,300.00	7,154.00	7,188.00	7,188.00	170.66	144.17	-90.00	-5,531.86	-2,646.27	6,826.35	6,548.49	277.86	24.568		
12,400.00	7,154.00	7,188.00	7,188.00	173.29	144.17	-90.00	-5,531.86	-2,646.27	6,893.64	6,614.97	278.66	24.738		
12,500.00	7,154.00	7,188.00	7,188.00	175.93	144.17	-90.00	-5,531.86	-2,646.27	6,961.71	6,682.28	279.43	24.914		
12,600.00	7,154.00	7,188.00	7,188.00	178.56	144.17	-90.00	-5,531.86	-2,646.27	7,030.55	6,750.37	280.18	25.093		
12,700.00	7,154.00	7,188.00	7,188.00	181.20	144.17	-90.00	-5,531.86	-2,646.27	7,100.12	6,819.23	280.89	25.277		
12,800.00	7,154.00	7,188.00	7,188.00	183.84	144.17	-90.00	-5,531.86	-2,646.27	7,170.42	6,888.84	281.58	25.465		
12,900.00	7,154.00	7,188.00	7,188.00	186.49	144.17	-90.00	-5,531.86	-2,646.27	7,241.42	6,959.17	282.25	25.656		
13,000.00	7,154.00	7,188.00	7,188.00	189.13	144.17	-90.00	-5,531.86	-2,646.27	7,313.09	7,030.20	282.89	25.851		
13,100.00	7,154.00	7,188.00	7,188.00	191.78	144.17	-90.00	-5,531.86	-2,646.27	7,385.42	7,101.91	283.51	26.050		
13,200.00	7,154.00	7,188.00	7,188.00	194.43	144.17	-90.00	-5,531.86	-2,646.27	7,458.40	7,174.29	284.11	26.252		
13,300.00	7,154.00	7,188.00	7,188.00	197.07	144.17	-90.00	-5,531.86	-2,646.27	7,531.99	7,247.31	284.68	26.458		
13,400.00	7,154.00	7,188.00	7,188.00	199.73	144.17	-90.00	-5,531.86	-2,646.27	7,606.18	7,320.95	285.23	26.667		
13,500.00	7,154.00	7,188.00	7,188.00	202.38	144.17	-90.00	-5,531.86	-2,646.27	7,680.96	7,395.20	285.77	26.878		
13,600.00	7,154.00	7,188.00	7,188.00	205.03	144.17	-90.00	-5,531.86	-2,646.27	7,756.31	7,470.03	286.28	27.093		
13,700.00	7,154.00	7,188.00	7,188.00	207.69	144.17	-90.00	-5,531.86	-2,646.27	7,832.21	7,545.44	286.77	27.311		
13,800.00	7,154.00	7,188.00	7,188.00	210.34	144.17	-90.00	-5,531.86	-2,646.27	7,908.65	7,621.40	287.25	27.532		
13,900.00	7,154.00	7,188.00	7,188.00	213.00	144.17	-90.00	-5,531.86	-2,646.27	7,985.61	7,697.90	287.71	27.756		
14,000.00	7,154.00	7,188.00	7,188.00	215.66	144.17	-90.00	-5,531.86	-2,646.27	8,063.07	7,774.92	288.15	27.982		
14,100.00	7,154.00	7,188.00	7,188.00	218.32	144.17	-90.00	-5,531.86	-2,646.27	8,141.03	7,852.45	288.58	28.211		
14,200.00	7,154.00	7,188.00	7,188.00	220.98	144.17	-90.00	-5,531.86	-2,646.27	8,219.46	7,930.47	288.99	28.442		
14,300.00	7,154.00	7,188.00	7,188.00	223.64	144.17	-90.00	-5,531.86	-2,646.27	8,298.35	8,008.96	289.39	28.675		
14,400.00	7,154.00	7,188.00	7,188.00	226.30	144.17	-90.00	-5,531.86	-2,646.27	8,377.70	8,087.93	289.77	28.911		
14,500.00	7,154.00	7,188.00	7,188.00	228.97	144.17	-90.00	-5,531.86	-2,646.27	8,457.48	8,167.34	290.14	29.150		
14,600.00	7,154.00	7,188.00	7,188.00	231.63	144.17	-90.00	-5,531.86	-2,646.27	8,537.69	8,247.20	290.50	29.390		
14,700.00	7,154.00	7,188.00	7,188.00	234.29	144.17	-90.00	-5,531.86	-2,646.27	8,618.32	8,327.48	290.84	29.633		
14,800.00	7,154.00	7,188.00	7,188.00	236.96	144.17	-90.00	-5,531.86	-2,646.27	8,699.34	8,408.18	291.17	29.877		
14,900.00	7,154.00	7,188.00	7,188.00	239.63	144.17	-90.00	-5,531.86	-2,646.27	8,780.76	8,489.27	291.49	30.124		
15,000.00	7,154.00	7,188.00	7,188.00	242.30	144.17	-90.00	-5,531.86	-2,646.27	8,862.56	8,570.76	291.79	30.373		
15,100.00	7,154.00	7,188.00	7,188.00	244.96	144.17	-90.00	-5,531.86	-2,646.27	8,944.73	8,652.64	292.09	30.623		
15,200.00	7,154.00	7,188.00	7,188.00	247.63	144.17	-90.00	-5,531.86	-2,646.27	9,027.25	8,734.88	292.38	30.875		
15,300.00	7,154.00	7,188.00	7,188.00	250.30	144.17	-90.00	-5,531.86	-2,646.27	9,110.13	8,817.48	292.65	31.129		
15,400.00	7,154.00	7,188.00	7,188.00	252.98	144.17	-90.00	-5,531.86	-2,646.27	9,193.35	8,900.43	292.92	31.385		

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

# Anticollision Report

<b>Company:</b>	EXTRACTION OIL & GAS	<b>Local Co-ordinate Reference:</b>	Well WARBLER 13W-27-19
<b>Project:</b>	ADAMS COUNTY	<b>TVD Reference:</b>	KB 25' @ 5106.00usft
<b>Reference Site:</b>	Sec 13-T1S-R66W	<b>MD Reference:</b>	KB 25' @ 5106.00usft
<b>Site Error:</b>	0.00 usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	WARBLER 13W-27-19	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00 usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OWB	<b>Database:</b>	EDT_32Bit_ODBC
<b>Reference Design:</b>	PROPOSAL 1	<b>Offset TVD Reference:</b>	Offset Datum

<b>Offset Design</b> Sec 24-T1S-R66W - EXIST VERT D G H L 1 - Wellbore #1 - Design #1												<b>Offset Site Error:</b>	0.00 usft
Survey Program: 0-INC												<b>Offset Well Error:</b>	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	7,188.00	7,188.00	255.65	144.17	-90.00	-5,531.86	-2,646.27	9,276.90	8,983.72	293.18	31.643	
15,600.00	7,154.00	7,188.00	7,188.00	258.32	144.17	-90.00	-5,531.86	-2,646.27	9,360.77	9,067.35	293.43	31.902	
15,700.00	7,154.00	7,188.00	7,188.00	260.99	144.17	-90.00	-5,531.86	-2,646.27	9,444.96	9,151.29	293.67	32.162	
15,800.00	7,154.00	7,188.00	7,188.00	263.67	144.17	-90.00	-5,531.86	-2,646.27	9,529.45	9,235.55	293.90	32.424	
15,900.00	7,154.00	7,188.00	7,188.00	266.34	144.17	-90.00	-5,531.86	-2,646.27	9,614.24	9,320.12	294.12	32.688	
16,000.00	7,154.00	7,188.00	7,188.00	269.01	144.17	-90.00	-5,531.86	-2,646.27	9,699.32	9,404.98	294.34	32.953	
16,100.00	7,154.00	7,188.00	7,188.00	271.69	144.17	-90.00	-5,531.86	-2,646.27	9,784.68	9,490.13	294.55	33.220	
16,200.00	7,154.00	7,188.00	7,188.00	274.36	144.17	-90.00	-5,531.86	-2,646.27	9,870.32	9,575.57	294.75	33.487	
16,300.00	7,154.00	7,188.00	7,188.00	277.04	144.17	-90.00	-5,531.86	-2,646.27	9,956.22	9,661.28	294.94	33.756	

# Anticollision Report

<b>Company:</b>	EXTRACTION OIL & GAS	<b>Local Co-ordinate Reference:</b>	Well WARBLER 13W-27-19
<b>Project:</b>	ADAMS COUNTY	<b>TVD Reference:</b>	KB 25' @ 5106.00usft
<b>Reference Site:</b>	Sec 13-T1S-R66W	<b>MD Reference:</b>	KB 25' @ 5106.00usft
<b>Site Error:</b>	0.00 usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	WARBLER 13W-27-19	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00 usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OWB	<b>Database:</b>	EDT_32Bit_ODBC
<b>Reference Design:</b>	PROPOSAL 1	<b>Offset TVD Reference:</b>	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	5.00	5.00	0.00	0.06	-177.36	-2,794.05	-128.68	2,797.01					
100.00	100.00	105.00	105.00	0.13	1.29	-177.36	-2,794.05	-128.68	2,797.01	2,795.59	1.42	1,968.617		
200.00	200.00	205.00	205.00	0.49	3.57	-177.36	-2,794.05	-128.68	2,797.01	2,792.95	4.06	688.240		
300.00	300.00	305.00	305.00	0.85	5.65	-177.36	-2,794.05	-128.68	2,797.01	2,790.51	6.50	430.346		
400.00	400.00	405.00	405.00	1.21	7.69	-177.36	-2,794.05	-128.68	2,797.01	2,788.11	8.90	314.287		
500.00	499.98	504.98	504.98	1.56	9.72	-76.78	-2,794.05	-128.68	2,796.61	2,785.33	11.28	247.981		
600.00	599.84	604.84	604.84	1.91	11.74	-76.91	-2,794.05	-128.68	2,795.42	2,781.77	13.65	204.848		
700.00	699.45	704.45	704.45	2.27	13.75	-77.12	-2,794.05	-128.68	2,793.45	2,777.43	16.02	174.377		
800.00	798.70	803.70	803.70	2.65	15.75	-77.42	-2,794.05	-128.68	2,790.75	2,772.35	18.40	151.666		
900.00	897.47	902.47	902.47	3.06	17.74	-77.79	-2,794.05	-128.68	2,787.35	2,766.56	20.79	134.054		
1,000.00	995.62	1,000.62	1,000.62	3.49	19.72	-78.25	-2,794.05	-128.68	2,783.32	2,760.12	23.20	119.970		
1,100.00	1,093.06	1,101.94	1,098.06	3.96	21.76	-78.78	-2,794.05	-128.68	2,778.73	2,753.02	25.71	108.100		
1,200.00	1,189.64	1,205.36	1,194.64	4.47	23.84	-79.39	-2,794.05	-128.68	2,773.66	2,745.37	28.29	98.036		
1,300.00	1,285.27	1,309.73	1,290.27	5.02	25.94	-80.06	-2,794.05	-128.68	2,768.21	2,737.27	30.94	89.457		
1,400.00	1,379.82	1,384.82	1,384.82	5.63	27.45	-80.81	-2,794.05	-128.68	2,762.50	2,729.44	33.06	83.563		
1,500.00	1,473.18	1,478.18	1,478.18	6.29	29.33	-81.60	-2,794.05	-128.68	2,756.65	2,721.05	35.60	77.440		
1,600.00	1,566.03	1,571.03	1,571.03	6.99	31.20	-82.31	-2,794.05	-128.68	2,751.06	2,712.90	38.16	72.088		
1,700.00	1,658.89	1,663.89	1,663.89	7.71	33.07	-83.02	-2,794.05	-128.68	2,745.97	2,705.22	40.74	67.394		
1,800.00	1,751.74	1,756.74	1,756.74	8.44	34.94	-83.74	-2,794.05	-128.68	2,741.36	2,698.02	43.34	63.252		
1,900.00	1,844.60	1,849.60	1,849.60	9.17	36.81	-84.46	-2,794.05	-128.68	2,737.26	2,691.31	45.95	59.575		
2,000.00	1,937.45	1,942.45	1,942.45	9.91	38.68	-85.18	-2,794.05	-128.68	2,733.65	2,685.09	48.56	56.294		
2,100.00	2,030.31	2,035.31	2,035.31	10.66	40.54	-85.90	-2,794.05	-128.68	2,730.54	2,679.36	51.18	53.352		
2,200.00	2,123.16	2,128.16	2,128.16	11.41	42.41	-86.62	-2,794.05	-128.68	2,727.93	2,674.13	53.80	50.701		
2,300.00	2,216.02	2,221.02	2,221.02	12.17	44.28	-87.34	-2,794.05	-128.68	2,725.83	2,669.39	56.43	48.302		
2,400.00	2,308.87	2,313.87	2,313.87	12.93	46.15	-88.07	-2,794.05	-128.68	2,724.23	2,665.16	59.06	46.123		
2,500.00	2,401.73	2,406.73	2,406.73	13.69	48.02	-88.79	-2,794.05	-128.68	2,723.13	2,661.43	61.70	44.137		
2,600.00	2,494.58	2,500.42	2,499.58	14.45	49.90	-89.52	-2,794.05	-128.68	2,722.54	2,658.19	64.35	42.310		
2,666.53	2,556.36	2,561.36	2,561.36	14.96	51.13	-90.00	-2,794.05	-128.68	2,722.43	2,656.34	66.08	41.197 CC		
2,700.00	2,587.44	2,607.56	2,592.44	15.22	52.05	-90.24	-2,794.05	-128.68	2,722.46	2,655.19	67.27	40.471		
2,800.00	2,680.29	2,685.29	2,685.29	15.98	53.62	-90.97	-2,794.05	-128.68	2,722.88	2,653.28	69.60	39.122		
2,900.00	2,773.15	2,778.15	2,778.15	16.75	55.49	-91.69	-2,794.05	-128.68	2,723.81	2,651.57	72.23	37.708		
3,000.00	2,866.00	2,871.00	2,871.00	17.52	57.35	-92.42	-2,794.05	-128.68	2,725.24	2,650.37	74.87	36.401		
3,100.00	2,958.86	2,963.86	2,963.86	18.29	59.22	-93.14	-2,794.05	-128.68	2,727.18	2,649.68	77.50	35.190		
3,200.00	3,051.71	3,056.71	3,056.71	19.06	61.09	-93.86	-2,794.05	-128.68	2,729.62	2,649.49	80.13	34.065 ES		
3,300.00	3,144.57	3,149.57	3,149.57	19.83	62.96	-94.59	-2,794.05	-128.68	2,732.56	2,649.81	82.76	33.019		
3,400.00	3,237.42	3,242.42	3,242.42	20.60	64.82	-95.31	-2,794.05	-128.68	2,736.01	2,650.63	85.38	32.044		
3,500.00	3,330.28	3,335.28	3,335.28	21.37	66.69	-96.02	-2,794.05	-128.68	2,739.95	2,651.95	88.00	31.134		
3,600.00	3,423.13	3,428.13	3,428.13	22.15	68.56	-96.74	-2,794.05	-128.68	2,744.39	2,653.77	90.62	30.283		
3,700.00	3,515.99	3,520.99	3,520.99	22.92	70.43	-97.45	-2,794.05	-128.68	2,749.33	2,656.09	93.24	29.487		
3,800.00	3,608.84	3,613.84	3,613.84	23.70	72.29	-98.17	-2,794.05	-128.68	2,754.75	2,658.90	95.85	28.740		
3,900.00	3,701.70	3,706.70	3,706.70	24.47	74.16	-98.88	-2,794.05	-128.68	2,760.66	2,662.21	98.46	28.039		
4,000.00	3,794.55	3,800.45	3,799.55	25.25	76.05	-99.58	-2,794.05	-128.68	2,767.06	2,665.98	101.08	27.375		
4,100.00	3,887.41	3,907.59	3,892.41	26.02	78.20	-100.29	-2,794.05	-128.68	2,773.94	2,669.98	103.96	26.682		
4,200.00	3,980.26	3,985.26	3,985.26	26.80	79.76	-100.99	-2,794.05	-128.68	2,781.30	2,675.05	106.25	26.176		
4,300.00	4,073.12	4,078.12	4,078.12	27.57	81.63	-101.68	-2,794.05	-128.68	2,789.14	2,680.30	108.84	25.626		
4,400.00	4,165.97	4,170.97	4,170.97	28.35	83.50	-102.38	-2,794.05	-128.68	2,797.44	2,686.02	111.42	25.106		
4,500.00	4,258.83	4,263.83	4,263.83	29.12	85.37	-103.07	-2,794.05	-128.68	2,806.21	2,692.21	114.00	24.616		
4,600.00	4,351.68	4,356.68	4,356.68	29.90	87.23	-103.76	-2,794.05	-128.68	2,815.45	2,698.87	116.57	24.152		
4,700.00	4,444.54	4,449.54	4,449.54	30.68	89.10	-104.44	-2,794.05	-128.68	2,825.14	2,706.00	119.14	23.713		
4,800.00	4,537.39	4,542.39	4,542.39	31.45	90.97	-105.12	-2,794.05	-128.68	2,835.28	2,713.58	121.70	23.297		
4,900.00	4,630.25	4,635.25	4,635.25	32.23	92.84	-105.79	-2,794.05	-128.68	2,845.87	2,721.62	124.25	22.904		
5,000.00	4,723.10	4,728.10	4,728.10	33.01	94.70	-106.46	-2,794.05	-128.68	2,856.91	2,730.10	126.80	22.530		

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



# Anticollision Report

<b>Company:</b>	EXTRACTION OIL & GAS	<b>Local Co-ordinate Reference:</b>	Well WARBLER 13W-27-19
<b>Project:</b>	ADAMS COUNTY	<b>TVD Reference:</b>	KB 25' @ 5106.00usft
<b>Reference Site:</b>	Sec 13-T1S-R66W	<b>MD Reference:</b>	KB 25' @ 5106.00usft
<b>Site Error:</b>	0.00 usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	WARBLER 13W-27-19	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00 usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OWB	<b>Database:</b>	EDT_32Bit_ODBC
<b>Reference Design:</b>	PROPOSAL 1	<b>Offset TVD Reference:</b>	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		
5,100.00	4,815.96	4,820.96	4,820.96	33.79	96.57	-107.12	-2,794.05	-128.68	2,868.38	2,739.03	129.34	22.176		
5,200.00	4,908.81	4,913.81	4,913.81	34.56	98.44	-107.78	-2,794.05	-128.68	2,880.28	2,748.40	131.88	21.840		
5,300.00	5,001.67	5,006.67	5,006.67	35.34	100.31	-108.44	-2,794.05	-128.68	2,892.62	2,758.21	134.41	21.521		
5,400.00	5,094.52	5,100.48	5,099.52	36.12	102.19	-109.09	-2,794.05	-128.68	2,905.37	2,768.42	136.95	21.215		
5,500.00	5,187.38	5,207.62	5,192.38	36.90	104.35	-109.74	-2,794.05	-128.68	2,918.54	2,778.79	139.76	20.883		
5,600.00	5,280.23	5,285.23	5,285.23	37.67	105.91	-110.38	-2,794.05	-128.68	2,932.13	2,790.17	141.96	20.655		
5,700.00	5,373.09	5,378.09	5,378.09	38.45	107.78	-111.01	-2,794.05	-128.68	2,946.11	2,801.65	144.46	20.394		
5,800.00	5,465.94	5,470.94	5,470.94	39.23	109.64	-111.64	-2,794.05	-128.68	2,960.50	2,813.54	146.96	20.145		
5,900.00	5,558.80	5,563.80	5,563.80	40.01	111.51	-112.26	-2,794.05	-128.68	2,975.28	2,825.83	149.45	19.908		
6,000.00	5,651.65	5,656.65	5,656.65	40.79	113.38	-112.88	-2,794.05	-128.68	2,990.45	2,838.51	151.93	19.683		
6,100.00	5,744.51	5,749.51	5,749.51	41.57	115.24	-113.49	-2,794.05	-128.68	3,006.00	2,851.59	154.41	19.467		
6,200.00	5,837.36	5,842.36	5,842.36	42.34	117.11	-114.10	-2,794.05	-128.68	3,021.92	2,865.04	156.88	19.262		
6,300.00	5,930.22	5,935.22	5,935.22	43.12	118.98	-114.70	-2,794.05	-128.68	3,038.22	2,878.87	159.35	19.067		
6,400.00	6,023.07	6,028.07	6,028.07	43.90	120.85	-115.30	-2,794.05	-128.68	3,054.88	2,893.07	161.81	18.880		
6,500.00	6,115.93	6,120.93	6,120.93	44.68	122.71	-115.89	-2,794.05	-128.68	3,071.90	2,907.64	164.26	18.702		
6,600.00	6,208.78	6,213.78	6,213.78	45.46	124.58	-116.47	-2,794.05	-128.68	3,089.27	2,922.56	166.70	18.531		
6,700.00	6,301.64	6,306.64	6,306.64	46.24	126.45	-117.05	-2,794.05	-128.68	3,106.99	2,937.84	169.14	18.369		
6,800.00	6,394.49	6,400.51	6,399.49	47.02	128.34	-117.62	-2,794.05	-128.68	3,125.04	2,953.45	171.60	18.211		
6,900.00	6,487.35	6,507.65	6,492.35	47.80	130.49	-118.19	-2,794.05	-128.68	3,143.44	2,969.12	174.31	18.033		
7,000.00	6,580.20	6,585.20	6,585.20	48.57	132.05	-118.75	-2,794.05	-128.68	3,162.16	2,985.73	176.43	17.923		
7,100.00	6,673.06	6,678.06	6,678.06	49.35	133.92	-119.31	-2,794.05	-128.68	3,181.20	3,002.36	178.84	17.788		
7,200.00	6,765.91	6,770.91	6,770.91	50.13	135.79	-119.85	-2,794.05	-128.68	3,200.56	3,019.31	181.25	17.658		
7,300.00	6,856.90	6,861.90	6,861.90	50.99	137.61	-121.78	-2,794.05	-128.68	3,223.22	3,039.56	183.67	17.549		
7,400.00	6,939.78	6,944.78	6,944.78	52.14	139.28	-121.76	-2,794.05	-128.68	3,256.80	3,070.75	186.05	17.505 SF		
7,500.00	7,011.80	7,016.80	7,016.80	53.58	140.73	-119.75	-2,794.05	-128.68	3,301.09	3,112.75	188.34	17.527		
7,600.00	7,070.78	7,075.78	7,075.78	55.27	141.92	-115.89	-2,794.05	-128.68	3,355.10	3,164.66	190.44	17.618		
7,700.00	7,114.93	7,119.93	7,119.93	57.16	142.80	-110.00	-2,794.05	-128.68	3,417.50	3,225.24	192.27	17.775		
7,800.00	7,142.90	7,147.90	7,147.90	59.19	143.37	-101.86	-2,794.05	-128.68	3,486.57	3,292.84	193.74	17.996		
7,900.00	7,153.85	7,158.85	7,158.85	61.28	143.59	-91.49	-2,794.05	-128.68	3,560.29	3,365.49	194.79	18.277		
8,000.00	7,154.00	7,159.00	7,159.00	63.38	143.59	-90.00	-2,794.05	-128.68	3,636.28	3,440.72	195.56	18.594		
8,100.00	7,154.00	7,159.00	7,159.00	65.52	143.59	-90.00	-2,794.05	-128.68	3,713.43	3,517.13	196.30	18.917		
8,200.00	7,154.00	7,159.00	7,159.00	67.71	143.59	-90.00	-2,794.05	-128.68	3,791.64	3,594.63	197.01	19.246		
8,300.00	7,154.00	7,159.00	7,159.00	69.93	143.59	-90.00	-2,794.05	-128.68	3,870.86	3,673.16	197.70	19.580		
8,400.00	7,154.00	7,159.00	7,159.00	72.19	143.59	-90.00	-2,794.05	-128.68	3,951.01	3,752.66	198.36	19.919		
8,500.00	7,154.00	7,159.00	7,159.00	74.47	143.59	-90.00	-2,794.05	-128.68	4,032.06	3,833.07	198.99	20.262		
8,600.00	7,154.00	7,159.00	7,159.00	76.79	143.59	-90.00	-2,794.05	-128.68	4,113.94	3,914.33	199.60	20.610		
8,700.00	7,154.00	7,159.00	7,159.00	79.12	143.59	-90.00	-2,794.05	-128.68	4,196.60	3,996.41	200.19	20.963		
8,800.00	7,154.00	7,159.00	7,159.00	81.48	143.59	-90.00	-2,794.05	-128.68	4,280.01	4,079.25	200.76	21.319		
8,900.00	7,154.00	7,159.00	7,159.00	83.87	143.59	-90.00	-2,794.05	-128.68	4,364.11	4,162.80	201.30	21.679		
9,000.00	7,154.00	7,159.00	7,159.00	86.27	143.59	-90.00	-2,794.05	-128.68	4,448.87	4,247.04	201.83	22.043		
9,100.00	7,154.00	7,159.00	7,159.00	88.68	143.59	-90.00	-2,794.05	-128.68	4,534.25	4,331.92	202.33	22.410		
9,200.00	7,154.00	7,159.00	7,159.00	91.12	143.59	-90.00	-2,794.05	-128.68	4,620.22	4,417.40	202.82	22.780		
9,300.00	7,154.00	7,159.00	7,159.00	93.57	143.59	-90.00	-2,794.05	-128.68	4,706.74	4,503.46	203.28	23.154		
9,400.00	7,154.00	7,159.00	7,159.00	96.03	143.59	-90.00	-2,794.05	-128.68	4,793.78	4,590.05	203.73	23.530		
9,500.00	7,154.00	7,159.00	7,159.00	98.50	143.59	-90.00	-2,794.05	-128.68	4,881.33	4,677.17	204.16	23.909		
9,600.00	7,154.00	7,159.00	7,159.00	100.99	143.59	-90.00	-2,794.05	-128.68	4,969.34	4,764.76	204.58	24.291		
9,700.00	7,154.00	7,159.00	7,159.00	103.49	143.59	-90.00	-2,794.05	-128.68	5,057.80	4,852.82	204.98	24.675		
9,800.00	7,154.00	7,159.00	7,159.00	106.00	143.59	-90.00	-2,794.05	-128.68	5,146.68	4,941.32	205.36	25.061		
9,900.00	7,154.00	7,159.00	7,159.00	108.51	143.59	-90.00	-2,794.05	-128.68	5,235.96	5,030.22	205.74	25.450		
10,000.00	7,154.00	7,159.00	7,159.00	111.04	143.59	-90.00	-2,794.05	-128.68	5,325.63	5,119.53	206.10	25.840		
10,100.00	7,154.00	7,159.00	7,159.00	113.58	143.59	-90.00	-2,794.05	-128.68	5,415.65	5,209.21	206.44	26.233		
10,200.00	7,154.00	7,159.00	7,159.00	116.12	143.59	-90.00	-2,794.05	-128.68	5,506.02	5,299.24	206.78	26.628		

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

# Anticollision Report

<b>Company:</b>	EXTRACTION OIL & GAS	<b>Local Co-ordinate Reference:</b>	Well WARBLER 13W-27-19
<b>Project:</b>	ADAMS COUNTY	<b>TVD Reference:</b>	KB 25' @ 5106.00usft
<b>Reference Site:</b>	Sec 13-T1S-R66W	<b>MD Reference:</b>	KB 25' @ 5106.00usft
<b>Site Error:</b>	0.00 usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	WARBLER 13W-27-19	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00 usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OWB	<b>Database:</b>	EDT_32Bit_ODBC
<b>Reference Design:</b>	PROPOSAL 1	<b>Offset TVD Reference:</b>	Offset Datum

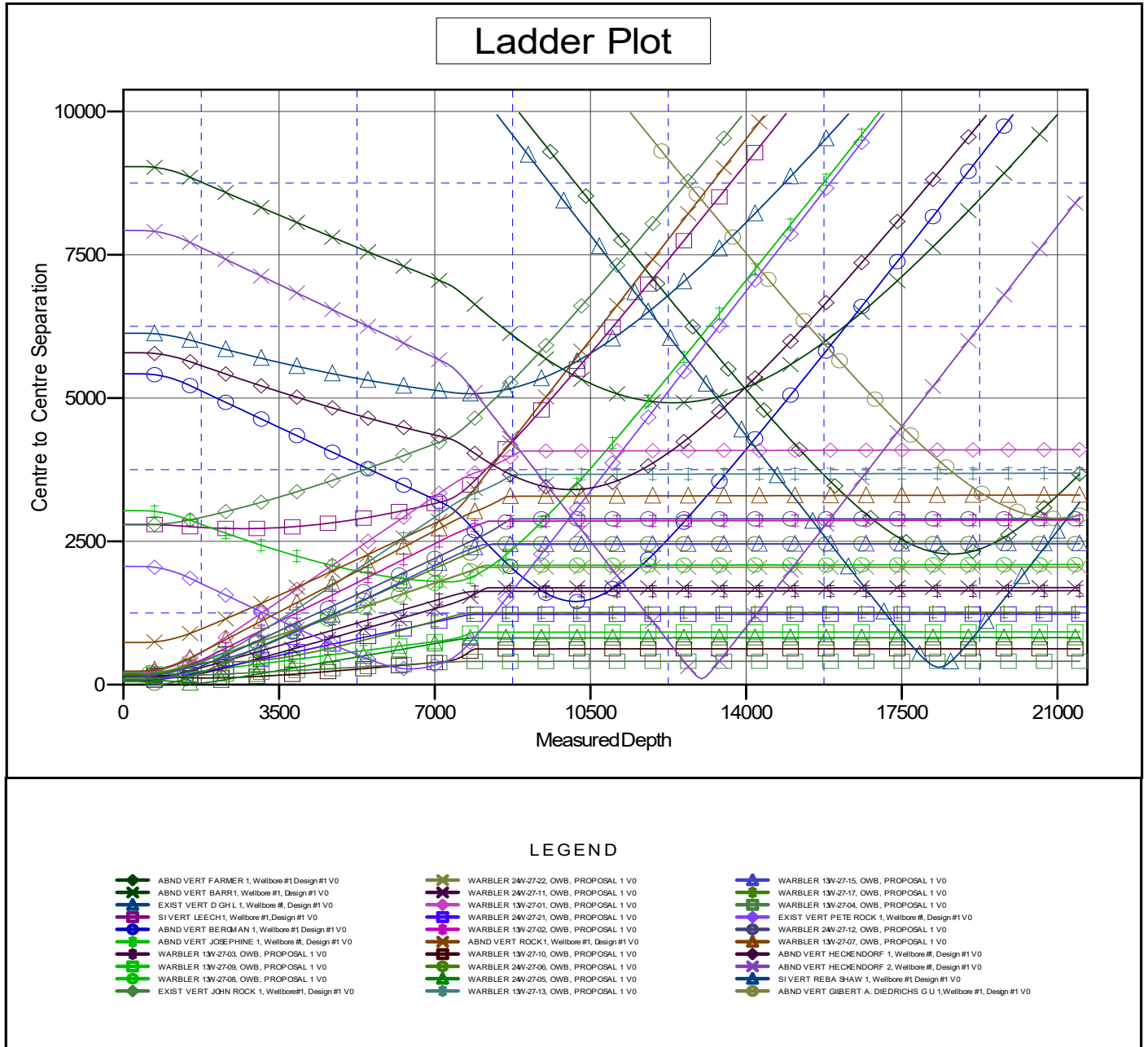
Offset Design      Sec 24-T1S-R66W - SI VERT LEECH 1 - Wellbore #1 - Design #1													Offset Site Error:	0.00 usft
Survey Program: 0-INC													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (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		
10,300.00	7,154.00	7,159.00	7,159.00	118.67	143.59	-90.00	-2,794.05	-128.68	5,596.72	5,389.62	207.10	27.024		
10,400.00	7,154.00	7,159.00	7,159.00	121.22	143.59	-90.00	-2,794.05	-128.68	5,687.73	5,480.31	207.41	27.422		
10,500.00	7,154.00	7,159.00	7,159.00	123.79	143.59	-90.00	-2,794.05	-128.68	5,779.03	5,571.32	207.72	27.822		
10,600.00	7,154.00	7,159.00	7,159.00	126.35	143.59	-90.00	-2,794.05	-128.68	5,870.62	5,662.61	208.01	28.223		
10,700.00	7,154.00	7,159.00	7,159.00	128.93	143.59	-90.00	-2,794.05	-128.68	5,962.48	5,754.19	208.29	28.625		
10,800.00	7,154.00	7,159.00	7,159.00	131.51	143.59	-90.00	-2,794.05	-128.68	6,054.60	5,846.03	208.57	29.029		
10,900.00	7,154.00	7,159.00	7,159.00	134.09	143.59	-90.00	-2,794.05	-128.68	6,146.96	5,938.13	208.83	29.435		
11,000.00	7,154.00	7,159.00	7,159.00	136.68	143.59	-90.00	-2,794.05	-128.68	6,239.56	6,030.47	209.09	29.841		
11,100.00	7,154.00	7,159.00	7,159.00	139.27	143.59	-90.00	-2,794.05	-128.68	6,332.39	6,123.05	209.34	30.249		
11,200.00	7,154.00	7,159.00	7,159.00	141.87	143.59	-90.00	-2,794.05	-128.68	6,425.43	6,215.84	209.58	30.658		
11,300.00	7,154.00	7,159.00	7,159.00	144.47	143.59	-90.00	-2,794.05	-128.68	6,518.67	6,308.85	209.82	31.068		
11,400.00	7,154.00	7,159.00	7,159.00	147.08	143.59	-90.00	-2,794.05	-128.68	6,612.12	6,402.07	210.05	31.479		
11,500.00	7,154.00	7,159.00	7,159.00	149.68	143.59	-90.00	-2,794.05	-128.68	6,705.75	6,495.48	210.27	31.891		
11,600.00	7,154.00	7,159.00	7,159.00	152.30	143.59	-90.00	-2,794.05	-128.68	6,799.56	6,589.08	210.49	32.304		
11,700.00	7,154.00	7,159.00	7,159.00	154.91	143.59	-90.00	-2,794.05	-128.68	6,893.55	6,682.85	210.70	32.718		
11,800.00	7,154.00	7,159.00	7,159.00	157.53	143.59	-90.00	-2,794.05	-128.68	6,987.71	6,776.80	210.90	33.132		
11,900.00	7,154.00	7,159.00	7,159.00	160.15	143.59	-90.00	-2,794.05	-128.68	7,082.02	6,870.92	211.10	33.548		
12,000.00	7,154.00	7,159.00	7,159.00	162.77	143.59	-90.00	-2,794.05	-128.68	7,176.49	6,965.19	211.30	33.964		
12,100.00	7,154.00	7,159.00	7,159.00	165.40	143.59	-90.00	-2,794.05	-128.68	7,271.11	7,059.62	211.49	34.381		
12,200.00	7,154.00	7,159.00	7,159.00	168.03	143.59	-90.00	-2,794.05	-128.68	7,365.87	7,154.19	211.67	34.798		
12,300.00	7,154.00	7,159.00	7,159.00	170.66	143.59	-90.00	-2,794.05	-128.68	7,460.76	7,248.91	211.85	35.217		
12,400.00	7,154.00	7,159.00	7,159.00	173.29	143.59	-90.00	-2,794.05	-128.68	7,555.79	7,343.76	212.03	35.635		
12,500.00	7,154.00	7,159.00	7,159.00	175.93	143.59	-90.00	-2,794.05	-128.68	7,650.94	7,438.74	212.20	36.055		
12,600.00	7,154.00	7,159.00	7,159.00	178.56	143.59	-90.00	-2,794.05	-128.68	7,746.22	7,533.85	212.37	36.475		
12,700.00	7,154.00	7,159.00	7,159.00	181.20	143.59	-90.00	-2,794.05	-128.68	7,841.61	7,629.08	212.54	36.895		
12,800.00	7,154.00	7,159.00	7,159.00	183.84	143.59	-90.00	-2,794.05	-128.68	7,937.12	7,724.42	212.70	37.316		
12,900.00	7,154.00	7,159.00	7,159.00	186.49	143.59	-90.00	-2,794.05	-128.68	8,032.74	7,819.88	212.86	37.738		
13,000.00	7,154.00	7,159.00	7,159.00	189.13	143.59	-90.00	-2,794.05	-128.68	8,128.46	7,915.45	213.01	38.160		
13,100.00	7,154.00	7,159.00	7,159.00	191.78	143.59	-90.00	-2,794.05	-128.68	8,224.28	8,011.12	213.16	38.582		
13,200.00	7,154.00	7,159.00	7,159.00	194.43	143.59	-90.00	-2,794.05	-128.68	8,320.21	8,106.90	213.31	39.005		
13,300.00	7,154.00	7,159.00	7,159.00	197.07	143.59	-90.00	-2,794.05	-128.68	8,416.22	8,202.77	213.45	39.429		
13,400.00	7,154.00	7,159.00	7,159.00	199.73	143.59	-90.00	-2,794.05	-128.68	8,512.33	8,298.74	213.60	39.852		
13,500.00	7,154.00	7,159.00	7,159.00	202.38	143.59	-90.00	-2,794.05	-128.68	8,608.53	8,394.79	213.74	40.276		
13,600.00	7,154.00	7,159.00	7,159.00	205.03	143.59	-90.00	-2,794.05	-128.68	8,704.81	8,490.94	213.87	40.701		
13,700.00	7,154.00	7,159.00	7,159.00	207.69	143.59	-90.00	-2,794.05	-128.68	8,801.18	8,587.17	214.01	41.125		
13,800.00	7,154.00	7,159.00	7,159.00	210.34	143.59	-90.00	-2,794.05	-128.68	8,897.63	8,683.48	214.14	41.550		
13,900.00	7,154.00	7,159.00	7,159.00	213.00	143.59	-90.00	-2,794.05	-128.68	8,994.15	8,779.88	214.27	41.975		
14,000.00	7,154.00	7,159.00	7,159.00	215.66	143.59	-90.00	-2,794.05	-128.68	9,090.75	8,876.35	214.40	42.401		
14,100.00	7,154.00	7,159.00	7,159.00	218.32	143.59	-90.00	-2,794.05	-128.68	9,187.42	8,972.90	214.53	42.827		
14,200.00	7,154.00	7,159.00	7,159.00	220.98	143.59	-90.00	-2,794.05	-128.68	9,284.16	9,069.51	214.65	43.252		
14,300.00	7,154.00	7,159.00	7,159.00	223.64	143.59	-90.00	-2,794.05	-128.68	9,380.98	9,166.20	214.77	43.679		
14,400.00	7,154.00	7,159.00	7,159.00	226.30	143.59	-90.00	-2,794.05	-128.68	9,477.85	9,262.96	214.89	44.105		
14,500.00	7,154.00	7,159.00	7,159.00	228.97	143.59	-90.00	-2,794.05	-128.68	9,574.79	9,359.78	215.01	44.532		
14,600.00	7,154.00	7,159.00	7,159.00	231.63	143.59	-90.00	-2,794.05	-128.68	9,671.80	9,456.67	215.13	44.958		
14,700.00	7,154.00	7,159.00	7,159.00	234.29	143.59	-90.00	-2,794.05	-128.68	9,768.86	9,553.62	215.24	45.385		
14,800.00	7,154.00	7,159.00	7,159.00	236.96	143.59	-90.00	-2,794.05	-128.68	9,865.98	9,650.63	215.36	45.812		
14,900.00	7,154.00	7,159.00	7,159.00	239.63	143.59	-90.00	-2,794.05	-128.68	9,963.16	9,747.70	215.47	46.240		

# Anticollision Report

<b>Company:</b>	EXTRACTION OIL & GAS	<b>Local Co-ordinate Reference:</b>	Well WARBLER 13W-27-19
<b>Project:</b>	ADAMS COUNTY	<b>TVD Reference:</b>	KB 25' @ 5106.00usft
<b>Reference Site:</b>	Sec 13-T1S-R66W	<b>MD Reference:</b>	KB 25' @ 5106.00usft
<b>Site Error:</b>	0.00 usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	WARBLER 13W-27-19	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00 usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OWB	<b>Database:</b>	EDT_32Bit_ODBC
<b>Reference Design:</b>	PROPOSAL 1	<b>Offset TVD Reference:</b>	Offset Datum

Reference Depths are relative to KB 25' @ 5106.00usft  
Offset Depths are relative to Offset Datum  
Central Meridian is 105.500000°W

Coordinates are relative to: WARBLER 13W-27-19  
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

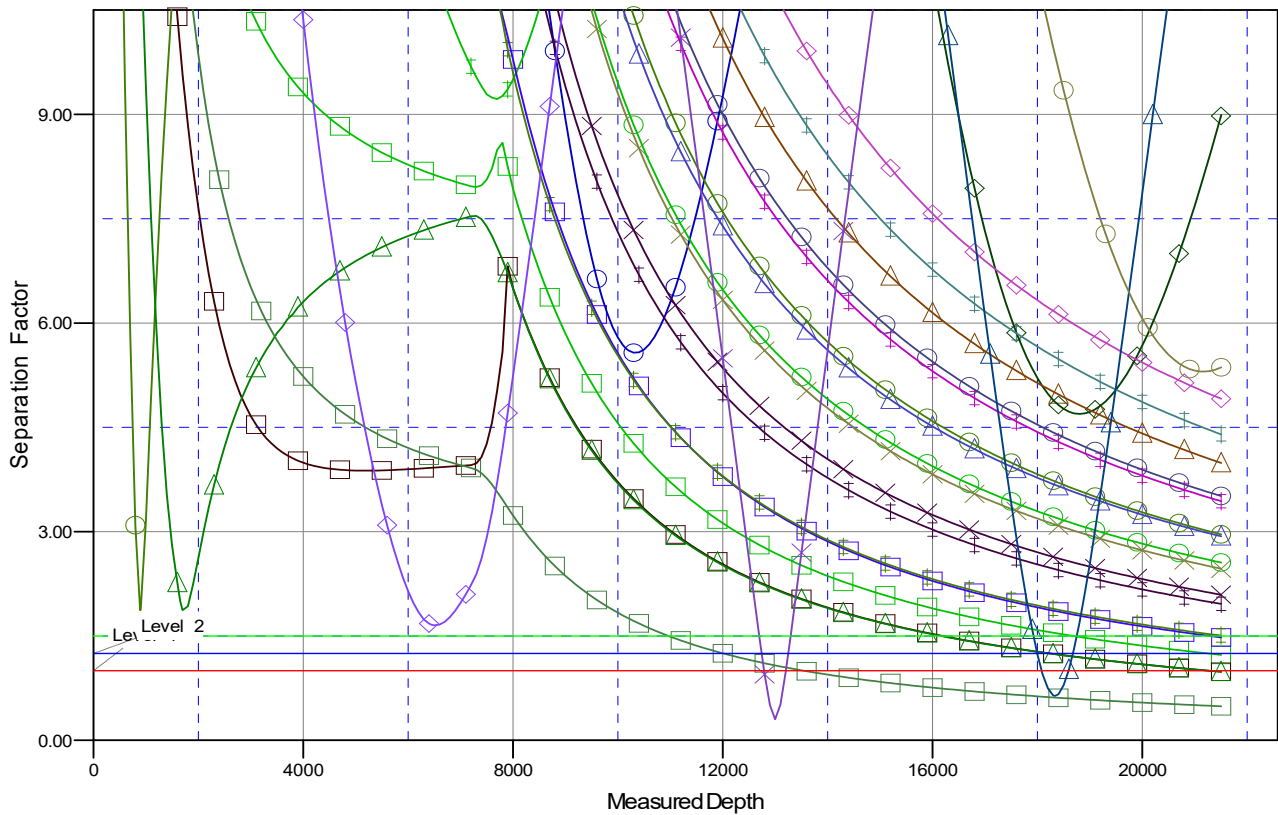
## Anticollision Report

<b>Company:</b>	EXTRACTION OIL & GAS	<b>Local Co-ordinate Reference:</b>	Well WARBLER 13W-27-19
<b>Project:</b>	ADAMS COUNTY	<b>TVD Reference:</b>	KB 25' @ 5106.00usft
<b>Reference Site:</b>	Sec 13-T1S-R66W	<b>MD Reference:</b>	KB 25' @ 5106.00usft
<b>Site Error:</b>	0.00 usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	WARBLER 13W-27-19	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00 usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	OWB	<b>Database:</b>	EDT_32Bit_ODBC
<b>Reference Design:</b>	PROPOSAL 1	<b>Offset TVD Reference:</b>	Offset Datum

Reference Depths are relative to KB 25' @ 5106.00usft  
 Offset Depths are relative to Offset Datum  
 Central Meridian is 105.500000°W

Coordinates are relative to: WARBLER 13W-27-19  
 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-27-22, OWB, PROPOSAL 1 V0	WARBLER 13W-27-15, OWB, PROPOSAL 1 V0
ABND VERT BARR 1, Wellbore #1, Design #1 V0	WARBLER 24W-27-11, OWB, PROPOSAL 1 V0	WARBLER 13W-27-17, OWB, PROPOSAL 1 V0
EXIST VERT D OH L 1, Wellbore #1, Design #1 V0	WARBLER 13W-27-01, OWB, PROPOSAL 1 V0	WARBLER 13W-27-04, OWB, PROPOSAL 1 V0
SIVERT LEECH 1, Wellbore #1, Design #1 V0	WARBLER 24W-27-21, OWB, PROPOSAL 1 V0	EXIST VERT PETE ROCK 1, Wellbore #1, Design #1 V0
ABND VERT BERGMAN 1, Wellbore #1, Design #1 V0	WARBLER 13W-27-02, OWB, PROPOSAL 1 V0	WARBLER 24W-27-12, OWB, PROPOSAL 1 V0
ABND VERT JOSEPHINE 1, Wellbore #1, Design #1 V0	ABND VERT ROCK 1, Wellbore #1, Design #1 V0	WARBLER 13W-27-07, OWB, PROPOSAL 1 V0
WARBLER 13W-27-03, OWB, PROPOSAL 1 V0	WARBLER 13W-27-10, OWB, PROPOSAL 1 V0	ABND VERT HECKENDORF 1, Wellbore #1, Design #1 V0
WARBLER 13W-27-09, OWB, PROPOSAL 1 V0	WARBLER 24W-27-06, OWB, PROPOSAL 1 V0	ABND VERT HECKENDORF 2, Wellbore #1, Design #1 V0
WARBLER 13W-27-08, OWB, PROPOSAL 1 V0	WARBLER 24W-27-05, OWB, PROPOSAL 1 V0	SIVERT REBA SHAW 1, Wellbore #1, Design #1 V0
EXIST VERT JOHN ROCK 1, Wellbore #1, Design #1 V0	WARBLER 13W-27-13, OWB, PROPOSAL 1 V0	ABND VERT GIBERT A. DIEDRICHS G U 1, Wellbore #1, Design #1 V0