

Devon Energy

**Lea County, NM (NAD-83)
Fighting Okra 18-19 Fed
3H**

**OH
Plan #1**

Anticollision Report

06 September, 2017

LEAM Drilling Systems LLC

Anticollision Report

Company:	Devon Energy	Local Co-ordinate Reference:	Well 3H
Project:	Lea County, NM (NAD-83)	TVD Reference:	3372.2 GE + 25' KB @ 3397.20usft
Reference Site:	Fighting Okra 18-19 Fed	MD Reference:	3372.2 GE + 25' KB @ 3397.20usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	3H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.1 Multi User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Reference	Plan #1
Filter type:	NO GLOBAL FILTER: Using user defined selection & filtering criteria
Interpolation Method:	Stations
Depth Range:	Unlimited
Results Limited by:	Maximum center-center distance of 9,999.98 usft
Warning Levels Evaluated at:	2.00 Sigma
Error Model:	ISCWSA
Scan Method:	Closest Approach 3D
Error Surface:	Elliptical Conic
Casing Method:	Not applied

Survey Tool Program	Date	9/6/2017		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
0.00	22,329.42	Plan #1 (OH)	LEAM MWD+HDGM	MWD+HDGM

Summary						
Site Name	Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
Fighting Okra 18-19 Fed						
4H - OH - Plan #1	2,500.00	2,492.80	925.86	914.91	84.621	CC, ES
4H - OH - Plan #1	22,329.42	22,329.57	1,348.72	1,021.67	4.124	SF
5H - OH - Plan #1	22,322.85	22,746.73	704.25	382.90	2.192	CC
5H - OH - Plan #1	22,329.42	22,746.83	704.28	382.72	2.190	ES, SF
6H - OH - Plan #1	22,310.23	22,751.00	2,014.52	1,689.60	6.200	CC
6H - OH - Plan #1	22,329.42	22,751.03	2,014.62	1,689.30	6.193	ES, SF
7H - OH - Plan #1	3,000.00	2,999.50	29.99	16.79	2.271	CC, ES
7H - OH - Plan #1	22,329.42	22,848.13	230.50	78.37	1.515	SF
8H - OH - Plan #1	3,548.58	3,472.15	876.88	861.63	57.510	CC, ES
8H - OH - Plan #1	22,329.42	22,848.63	1,371.04	1,048.42	4.250	SF

Offset Design												Fighting Okra 18-19 Fed - 4H - OH - Plan #1		Offset Site Error: 0.00 usft	
Survey Program: 0-LEAM MWD+HDGM														Offset Well Error: 0.00 usft	
Reference	Offset	Semi Major Axis		Distance		Offset Wellbore Centre		Minimum Separation		Warning					
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	+N-S (usft)	+E-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Separation Factor				
0.00	0.00	0.00	0.00	0.00	0.00	92.34	-37.88	925.08	925.88						
100.00	100.00	92.80	92.80	0.08	0.08	92.34	-37.88	925.08	925.86	925.69	0.16	5,697.358			
200.00	200.00	192.80	192.80	0.31	0.29	92.34	-37.88	925.08	925.86	925.25	0.60	1,538.161			
300.00	300.00	292.80	292.80	0.53	0.52	92.34	-37.88	925.08	925.86	924.80	1.05	880.546			
400.00	400.00	392.80	392.80	0.76	0.74	92.34	-37.88	925.08	925.86	924.35	1.50	616.831			
500.00	500.00	492.80	492.80	0.98	0.97	92.34	-37.88	925.08	925.86	923.90	1.95	474.671			
600.00	600.00	592.80	592.80	1.21	1.19	92.34	-37.88	925.08	925.86	923.46	2.40	385.765			
700.00	700.00	692.80	692.80	1.43	1.42	92.34	-37.88	925.08	925.86	923.01	2.85	324.909			
800.00	800.00	792.80	792.80	1.66	1.64	92.34	-37.88	925.08	925.86	922.56	3.30	280.637			
900.00	900.00	892.80	892.80	1.88	1.87	92.34	-37.88	925.08	925.86	922.11	3.75	246.984			
1,000.00	1,000.00	992.80	992.80	2.11	2.09	92.34	-37.88	925.08	925.86	921.66	4.20	220.537			
1,100.00	1,100.00	1,092.80	1,092.80	2.33	2.32	92.34	-37.88	925.08	925.86	921.21	4.65	199.207			
1,200.00	1,200.00	1,192.80	1,192.80	2.56	2.54	92.34	-37.88	925.08	925.86	920.76	5.10	181.638			
1,300.00	1,300.00	1,292.80	1,292.80	2.78	2.77	92.34	-37.88	925.08	925.86	920.31	5.55	166.918			
1,400.00	1,400.00	1,392.80	1,392.80	3.01	2.99	92.34	-37.88	925.08	925.86	919.86	6.00	154.404			
1,500.00	1,500.00	1,492.80	1,492.80	3.23	3.21	92.34	-37.88	925.08	925.86	919.41	6.45	143.636			
1,600.00	1,600.00	1,592.80	1,592.80	3.46	3.44	92.34	-37.88	925.08	925.86	918.96	6.90	134.272			

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

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Anticollision Report

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Project: Lea County, NM (NAD-83)
Reference Site: Fighting Okra 18-19 Fed
Site Error: 0.00 usft
Reference Well: 3H
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Plan #1

Local Co-ordinate Reference: Well 3H
TVD Reference: 3372.2 GE + 25' KB @ 3397.20usft
MD Reference: 3372.2 GE + 25' KB @ 3397.20usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at: 2.00 sigma
Database: EDM 5000.1 Multi User Db
Offset TVD Reference: Offset Datum

Offset Design Fighting Okra 18-19 Fed - 4H - OH - Plan #1														Offset Site Error: 0.00 usft
Survey Program: O-LEAM MWD+HDGM														Offset Well Error: 0.00 usft
Reference		Offset		Semi Major Axis		Distance		Warning						
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning	
1,700.00	1,700.00	1,692.80	1,692.80	3.68	3.66	92.34	-37.88	925.08	925.86	918.51	7.34	126.054		
1,800.00	1,800.00	1,792.80	1,792.80	3.91	3.89	92.34	-37.88	925.08	925.86	918.06	7.79	118.784		
1,900.00	1,900.00	1,892.80	1,892.80	4.13	4.11	92.34	-37.88	925.08	925.86	917.61	8.24	112.307		
2,000.00	2,000.00	1,992.80	1,992.80	4.35	4.34	92.34	-37.88	925.08	925.86	917.16	8.69	106.500		
2,100.00	2,100.00	2,092.80	2,092.80	4.58	4.56	92.34	-37.88	925.08	925.86	916.71	9.14	101.263		
2,200.00	2,200.00	2,192.80	2,192.80	4.80	4.79	92.34	-37.88	925.08	925.86	916.26	9.59	96.518		
2,300.00	2,300.00	2,292.80	2,292.80	5.03	5.01	92.34	-37.88	925.08	925.86	915.81	10.04	92.197		
2,400.00	2,400.00	2,392.80	2,392.80	5.25	5.24	92.34	-37.88	925.08	925.86	915.36	10.49	88.247		
2,500.00	2,500.00	2,492.80	2,492.80	5.48	5.46	92.34	-37.88	925.08	925.86	914.91	10.94	84.621 CC, ES		
2,600.00	2,600.00	2,579.89	2,579.89	5.70	5.65	92.34	-37.88	925.64	926.50	915.15	11.35	81.636		
2,700.00	2,700.00	2,665.95	2,665.93	5.93	5.82	92.34	-37.88	927.48	928.65	916.90	11.74	79.081		
2,800.00	2,800.00	2,751.93	2,751.85	6.15	5.99	92.33	-37.88	930.62	932.29	920.16	12.13	76.842		
2,900.00	2,900.00	2,837.80	2,837.61	6.38	6.17	92.32	-37.88	935.04	937.43	924.91	12.52	74.873		
3,000.00	3,000.00	2,923.52	2,923.14	6.60	6.35	92.31	-37.88	940.73	944.06	931.16	12.91	73.149		
3,100.00	3,099.99	3,009.11	3,008.44	6.81	6.53	2.29	-37.88	947.68	951.32	938.04	13.27	71.664		
3,200.00	3,199.96	3,100.00	3,098.90	7.01	6.72	2.27	-37.88	956.47	958.34	944.69	13.65	70.230		
3,300.00	3,299.86	3,180.07	3,178.47	7.21	6.90	2.25	-37.88	965.39	965.07	951.09	13.98	69.028		
3,400.00	3,399.68	3,269.68	3,267.38	7.42	7.11	2.24	-37.88	976.63	971.50	957.15	14.35	67.700		
3,452.85	3,452.38	3,322.45	3,319.71	7.53	7.23	2.23	-37.88	983.43	974.39	959.83	14.57	66.891		
3,500.00	3,499.38	3,369.54	3,366.41	7.63	7.34	2.23	-37.88	989.49	976.76	962.00	14.76	66.170		
3,600.00	3,599.07	3,469.42	3,465.45	7.84	7.56	2.21	-37.88	1,002.36	981.77	966.59	15.18	64.688		
3,700.00	3,698.76	3,569.29	3,564.49	8.05	7.83	2.20	-37.88	1,015.23	986.78	971.19	15.60	63.271		
3,800.00	3,798.45	3,669.17	3,663.53	8.27	8.08	2.19	-37.88	1,028.10	991.80	975.78	16.02	61.918		
3,900.00	3,898.13	3,769.04	3,762.57	8.49	8.33	2.18	-37.88	1,040.97	996.81	980.37	16.44	60.623		
4,000.00	3,997.82	3,868.91	3,861.61	8.71	8.59	2.17	-37.88	1,053.84	1,001.82	984.95	16.87	59.384		
4,100.00	4,097.51	3,968.79	3,960.66	8.93	8.84	2.16	-37.88	1,066.72	1,006.83	989.53	17.30	58.198		
4,200.00	4,197.20	4,068.66	4,059.70	9.16	9.11	2.15	-37.88	1,079.59	1,011.85	994.12	17.73	57.063		
4,300.00	4,296.88	4,168.54	4,158.74	9.39	9.37	2.14	-37.88	1,092.46	1,016.86	998.69	18.17	55.975		
4,400.00	4,396.57	4,268.41	4,257.78	9.61	9.64	2.13	-37.88	1,105.33	1,021.87	1,003.27	18.60	54.932		
4,500.00	4,496.26	4,368.28	4,356.82	9.84	9.91	2.12	-37.88	1,118.20	1,026.89	1,007.85	19.04	53.932		
4,600.00	4,595.95	4,468.16	4,455.86	10.07	10.18	2.11	-37.88	1,131.07	1,031.90	1,012.42	19.48	52.972		
4,700.00	4,695.64	4,568.03	4,554.90	10.31	10.46	2.10	-37.88	1,143.94	1,036.91	1,016.99	19.92	52.051		
4,800.00	4,795.32	4,667.91	4,653.95	10.54	10.73	2.09	-37.88	1,156.81	1,041.93	1,021.56	20.36	51.166		
4,900.00	4,895.01	4,767.78	4,752.99	10.78	11.01	2.08	-37.88	1,169.68	1,046.94	1,026.13	20.81	50.315		
5,000.00	4,994.70	4,867.65	4,852.03	11.01	11.29	2.07	-37.88	1,182.55	1,051.95	1,030.70	21.25	49.497		
5,100.00	5,094.39	4,967.53	4,951.07	11.25	11.57	2.06	-37.88	1,195.42	1,056.97	1,035.27	21.70	48.709		
5,200.00	5,194.07	5,067.40	5,050.11	11.49	11.85	2.05	-37.88	1,208.29	1,061.98	1,039.83	22.15	47.951		
5,300.00	5,293.76	5,167.28	5,149.15	11.72	12.13	2.04	-37.88	1,221.16	1,066.99	1,044.40	22.60	47.221		
5,400.00	5,393.45	5,267.15	5,248.19	11.96	12.42	2.03	-37.88	1,234.03	1,072.01	1,048.96	23.05	46.517		
5,500.00	5,493.14	5,367.03	5,347.24	12.20	12.70	2.02	-37.88	1,246.90	1,077.02	1,053.52	23.50	45.838		
5,600.00	5,592.83	5,466.90	5,446.28	12.44	12.99	2.01	-37.88	1,259.77	1,082.03	1,058.08	23.95	45.183		
5,700.00	5,692.51	5,566.77	5,545.32	12.69	13.27	2.00	-37.88	1,272.64	1,087.05	1,062.65	24.40	44.551		
5,800.00	5,792.20	5,666.65	5,644.36	12.93	13.56	1.99	-37.88	1,285.51	1,092.06	1,067.21	24.85	43.940		
5,900.00	5,891.89	5,766.52	5,743.40	13.17	13.85	1.98	-37.88	1,298.38	1,097.07	1,071.77	25.31	43.350		
6,000.00	5,991.58	5,866.40	5,842.44	13.41	14.14	1.97	-37.88	1,311.25	1,102.09	1,076.32	25.76	42.780		
6,100.00	6,091.26	5,966.27	5,941.48	13.66	14.43	1.96	-37.88	1,324.12	1,107.10	1,080.88	26.22	42.228		
6,200.00	6,190.95	6,066.14	6,040.52	13.90	14.72	1.95	-37.88	1,336.99	1,112.11	1,085.44	26.67	41.694		
6,300.00	6,290.64	6,166.02	6,139.57	14.15	15.01	1.95	-37.88	1,349.86	1,117.13	1,090.00	27.13	41.177		
6,400.00	6,390.33	6,265.89	6,238.61	14.39	15.30	1.94	-37.88	1,362.73	1,122.14	1,094.55	27.59	40.677		
6,500.00	6,490.02	6,365.77	6,337.65	14.64	15.59	1.93	-37.88	1,375.60	1,127.15	1,099.11	28.04	40.191		
6,600.00	6,589.70	6,465.64	6,436.69	14.89	15.89	1.92	-37.88	1,388.47	1,132.17	1,103.67	28.50	39.721		
6,700.00	6,689.39	6,565.51	6,535.73	15.13	16.18	1.91	-37.88	1,401.34	1,137.18	1,108.22	28.96	39.265		

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Offset Design Fighting Okra 18-19 Fed - 4H - OH - Plan #1												Offset Site Error: 0.00 usft	
Survey Program: O-LEAM MWD+HDGM												Offset Well Error: 0.00 usft	
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Distance					Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)		Separation Factor
6,800.00	6,789.08	6,665.39	6,634.77	15.38	16.47	1.90	-37.88	1,414.21	1,142.20	1,112.77	29.42	38.823	
6,900.00	6,888.77	6,765.26	6,733.81	15.63	16.77	1.89	-37.88	1,427.08	1,147.21	1,117.33	29.88	38.393	
7,000.00	6,988.46	6,865.14	6,832.86	15.87	17.06	1.89	-37.88	1,439.95	1,152.22	1,121.88	30.34	37.976	
7,100.00	7,088.14	6,965.01	6,931.90	16.12	17.36	1.88	-37.88	1,452.82	1,157.24	1,126.44	30.80	37.571	
7,200.00	7,187.83	7,064.88	7,030.94	16.37	17.65	1.87	-37.88	1,465.69	1,162.25	1,130.99	31.26	37.177	
7,300.00	7,287.52	7,164.76	7,129.98	16.62	17.95	1.86	-37.88	1,478.56	1,167.26	1,135.54	31.72	36.795	
7,400.00	7,387.21	7,264.63	7,229.02	16.87	18.25	1.85	-37.88	1,491.43	1,172.28	1,140.09	32.19	36.423	
7,500.00	7,486.89	7,364.51	7,328.06	17.12	18.54	1.85	-37.88	1,504.30	1,177.29	1,144.65	32.65	36.061	
7,600.00	7,586.58	7,464.38	7,427.10	17.37	18.84	1.84	-37.88	1,517.17	1,182.31	1,149.20	33.11	35.709	
7,700.00	7,686.27	7,564.26	7,526.15	17.62	19.14	1.83	-37.88	1,530.04	1,187.32	1,153.75	33.57	35.366	
7,800.00	7,785.96	7,664.13	7,625.19	17.87	19.43	1.82	-37.88	1,542.91	1,192.33	1,158.30	34.04	35.032	
7,900.00	7,885.65	7,764.00	7,724.23	18.12	19.73	1.82	-37.88	1,555.78	1,197.35	1,162.85	34.50	34.707	
8,000.00	7,985.33	7,863.88	7,823.27	18.37	20.03	1.81	-37.88	1,568.65	1,202.36	1,167.40	34.96	34.390	
8,100.00	8,085.02	7,963.75	7,922.31	18.62	20.33	1.80	-37.88	1,581.52	1,207.38	1,171.95	35.43	34.081	
8,200.00	8,184.71	8,063.63	8,021.35	18.87	20.63	1.79	-37.88	1,594.39	1,212.39	1,176.50	35.89	33.780	
8,300.00	8,284.40	8,163.50	8,120.39	19.12	20.93	1.79	-37.88	1,607.26	1,217.40	1,181.05	36.36	33.487	
8,400.00	8,384.08	8,263.37	8,219.44	19.37	21.22	1.78	-37.88	1,620.13	1,222.42	1,185.60	36.82	33.200	
8,500.00	8,483.77	8,363.25	8,318.48	19.62	21.52	1.77	-37.88	1,633.00	1,227.43	1,190.15	37.28	32.921	
8,600.00	8,583.46	8,463.12	8,417.52	19.87	21.82	1.76	-37.88	1,645.87	1,232.45	1,194.70	37.75	32.648	
8,700.00	8,683.15	8,563.00	8,516.56	20.12	22.12	1.76	-37.88	1,658.74	1,237.46	1,199.25	38.22	32.381	
8,800.00	8,782.84	8,662.87	8,615.60	20.37	22.42	1.75	-37.88	1,671.61	1,242.48	1,203.79	38.68	32.121	
8,900.00	8,882.52	8,762.74	8,714.64	20.63	22.72	1.74	-37.88	1,684.48	1,247.49	1,208.34	39.15	31.867	
9,000.00	8,982.21	8,862.62	8,813.68	20.88	23.02	1.74	-37.88	1,697.35	1,252.50	1,212.89	39.61	31.619	
9,100.00	9,081.90	8,962.49	8,912.72	21.13	23.32	1.73	-37.88	1,710.22	1,257.52	1,217.44	40.08	31.376	
9,200.00	9,181.59	9,062.37	9,011.77	21.38	23.62	1.72	-37.88	1,723.09	1,262.53	1,221.99	40.54	31.139	
9,300.00	9,281.28	9,162.24	9,110.81	21.64	23.92	1.71	-37.88	1,735.96	1,267.55	1,226.54	41.01	30.907	
9,400.00	9,380.96	9,262.11	9,209.85	21.89	24.23	1.71	-37.88	1,748.83	1,272.56	1,231.08	41.48	30.680	
9,500.00	9,480.65	9,361.99	9,308.89	22.14	24.53	1.70	-37.88	1,761.70	1,277.58	1,235.63	41.95	30.458	
9,600.00	9,580.34	9,461.86	9,407.93	22.39	24.83	1.69	-37.88	1,774.57	1,282.59	1,240.18	42.41	30.241	
9,700.00	9,680.03	9,561.74	9,506.97	22.65	25.13	1.69	-37.88	1,787.44	1,287.60	1,244.72	42.88	30.029	
9,800.00	9,779.71	9,661.61	9,606.01	22.90	25.43	1.68	-37.88	1,800.31	1,292.62	1,249.27	43.35	29.820	
9,900.00	9,879.40	9,761.49	9,705.06	23.15	25.73	1.67	-37.88	1,813.18	1,297.63	1,253.82	43.81	29.617	
10,000.00	9,979.09	9,861.36	9,804.10	23.41	26.03	1.67	-37.88	1,826.05	1,302.65	1,258.37	44.28	29.417	
10,100.00	10,078.78	9,961.23	9,903.14	23.66	26.33	1.66	-37.88	1,838.92	1,307.66	1,262.91	44.75	29.222	
10,200.00	10,178.47	10,061.11	10,002.18	23.91	26.64	1.66	-37.88	1,851.79	1,312.68	1,267.46	45.22	29.030	
10,300.00	10,278.15	10,160.98	10,101.22	24.17	26.94	1.65	-37.88	1,864.66	1,317.69	1,272.00	45.69	28.843	
10,400.00	10,377.84	10,260.86	10,200.26	24.42	27.24	1.64	-37.88	1,877.53	1,322.70	1,276.55	46.15	28.659	
10,500.00	10,477.53	10,360.73	10,299.30	24.67	27.54	1.64	-37.88	1,890.40	1,327.72	1,281.10	46.62	28.478	
10,570.31	10,547.62	10,433.18	10,371.15	24.85	27.76	1.63	-37.88	1,899.73	1,331.24	1,284.28	46.96	28.350	
10,600.00	10,577.22	10,471.80	10,409.48	24.92	27.86	1.63	-37.88	1,904.52	1,332.65	1,285.54	47.12	28.285	
10,700.00	10,677.01	10,602.04	10,538.93	25.11	28.16	1.62	-37.88	1,918.74	1,337.08	1,289.49	47.59	28.095	
10,800.00	10,776.89	10,732.42	10,668.82	25.30	28.42	1.62	-37.88	1,930.03	1,340.98	1,292.95	48.04	27.915	
10,900.00	10,876.85	10,862.94	10,799.07	25.48	28.67	1.62	-37.88	1,938.37	1,344.35	1,295.89	48.46	27.739	
11,000.00	10,976.84	10,993.57	10,929.58	25.65	28.90	1.61	-37.88	1,943.75	1,347.19	1,298.32	48.87	27.569	
11,023.16	11,000.00	11,023.84	10,959.84	25.70	28.95	91.61	-37.88	1,944.57	1,347.77	1,298.81	48.96	27.529	
11,100.00	11,076.84	11,124.30	11,060.29	25.84	29.11	91.61	-37.88	1,946.14	1,348.98	1,299.71	49.27	27.382	
11,200.00	11,176.84	11,233.65	11,169.64	26.04	29.29	91.61	-37.88	1,946.28	1,349.08	1,299.41	49.67	27.161	
11,300.00	11,276.84	11,333.65	11,269.64	26.23	29.47	91.61	-37.88	1,946.28	1,349.08	1,299.01	50.08	26.941	
11,400.00	11,376.84	11,433.65	11,369.64	26.43	29.65	91.61	-37.88	1,946.28	1,349.08	1,298.60	50.48	26.724	
11,500.00	11,476.84	11,533.65	11,469.64	26.63	29.82	91.61	-37.88	1,946.28	1,349.08	1,298.19	50.89	26.510	
11,600.00	11,576.84	11,633.65	11,569.64	26.83	30.00	91.61	-37.88	1,946.28	1,349.08	1,297.78	51.30	26.299	
11,700.00	11,676.84	11,733.65	11,669.64	27.03	30.18	91.61	-37.88	1,946.28	1,349.08	1,297.37	51.71	26.090	

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

LEAM Drilling Systems LLC

Anticollision Report

Company: Devon Energy
Project: Lea County, NM (NAD-83)
Reference Site: Fighting Okra 18-19 Fed
Site Error: 0.00 usft
Reference Well: 3H
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Plan #1

Local Co-ordinate Reference: Well 3H
TVD Reference: 3372.2 GE + 25' KB @ 3397.20usft
MD Reference: 3372.2 GE + 25' KB @ 3397.20usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at: 2.00 sigma
Database: EDM 5000.1 Multi User Db
Offset TVD Reference: Offset Datum

Offset Design: Fighting Okra 18-19 Fed - 4H - OH - Plan #1													Offset Site Error: 0.00 usft
Survey Program: O-LEAM MWD+HDGM													Offset Well Error: 0.00 usft
Reference				Offset			Semi Major Axis			Distance			
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
11,800.00	11,776.84	11,833.65	11,769.64	27.23	30.36	91.61	-37.88	1,946.28	1,349.08	1,296.96	52.12	25.885	
11,900.00	11,876.84	11,933.65	11,869.64	27.43	30.54	91.61	-37.88	1,946.28	1,349.08	1,296.55	52.53	25.683	
12,000.00	11,976.84	12,033.65	11,969.64	27.63	30.72	91.61	-37.88	1,946.28	1,349.08	1,296.14	52.94	25.484	
12,104.20	12,081.04	12,137.85	12,073.84	27.84	30.91	91.61	-37.88	1,946.28	1,349.08	1,295.71	53.37	25.279	
12,150.00	12,126.79	12,181.89	12,117.87	27.93	30.98	-88.44	-38.51	1,946.28	1,349.05	1,295.50	53.55	25.193	
12,200.00	12,176.39	12,228.92	12,164.70	28.02	31.06	-88.52	-42.63	1,946.28	1,349.00	1,295.27	53.73	25.106	
12,250.00	12,225.27	12,276.08	12,211.17	28.11	31.14	-88.60	-50.62	1,946.28	1,348.95	1,295.04	53.91	25.022	
12,300.00	12,273.05	12,323.40	12,256.98	28.20	31.22	-88.70	-62.44	1,946.28	1,348.90	1,294.81	54.09	24.938	
12,350.00	12,319.37	12,370.90	12,301.83	28.29	31.30	-88.81	-78.06	1,946.28	1,348.84	1,294.57	54.27	24.854	
12,400.00	12,363.87	12,418.60	12,345.40	28.39	31.38	-88.92	-97.43	1,946.28	1,348.79	1,294.33	54.46	24.769	
12,450.00	12,406.22	12,466.51	12,387.39	28.48	31.46	-89.05	-120.47	1,946.28	1,348.74	1,294.09	54.65	24.681	
12,500.00	12,446.10	12,514.66	12,427.50	28.58	31.54	-89.18	-147.07	1,946.28	1,348.69	1,293.84	54.85	24.588	
12,550.00	12,483.20	12,563.05	12,465.42	28.68	31.63	-89.31	-177.11	1,946.28	1,348.65	1,293.58	55.07	24.489	
12,600.00	12,517.24	12,611.70	12,500.86	28.79	31.72	-89.46	-210.43	1,946.28	1,348.61	1,293.30	55.31	24.383	
12,650.00	12,547.96	12,660.63	12,533.52	28.91	31.81	-89.60	-246.84	1,946.28	1,348.58	1,293.01	55.57	24.267	
12,700.00	12,575.12	12,709.86	12,563.12	29.04	31.92	-89.75	-286.15	1,946.28	1,348.56	1,292.70	55.86	24.141	
12,750.00	12,598.53	12,759.38	12,589.39	29.19	32.04	-89.91	-328.11	1,946.28	1,348.55	1,292.37	56.18	24.003	
12,780.80	12,610.99	12,790.03	12,603.79	29.29	32.11	-90.00	-355.17	1,946.28	1,348.55	1,292.15	56.40	23.912	
12,800.00	12,617.99	12,809.21	12,612.06	29.35	32.16	-90.06	-372.47	1,946.28	1,348.55	1,292.02	56.53	23.854	
12,850.00	12,633.37	12,859.36	12,630.90	29.53	32.31	-90.21	-418.93	1,946.28	1,348.55	1,291.64	56.92	23.694	
12,900.00	12,644.55	12,909.83	12,645.69	29.73	32.47	-90.37	-467.17	1,946.28	1,348.58	1,291.25	57.33	23.523	
12,950.00	12,651.44	12,960.63	12,656.24	29.95	32.65	-90.52	-516.84	1,946.28	1,348.60	1,290.83	57.78	23.342	
13,004.20	12,654.00	13,016.06	12,662.67	30.20	32.86	-90.67	-571.88	1,946.28	1,348.64	1,290.35	58.29	23.136	
13,100.00	12,654.00	13,112.97	12,664.00	30.71	33.30	-90.73	-668.76	1,946.28	1,348.66	1,289.35	59.31	22.739	
13,200.00	12,654.00	13,212.97	12,664.00	31.32	33.82	-90.73	-768.76	1,946.28	1,348.66	1,288.13	60.52	22.283	
13,300.00	12,654.00	13,312.97	12,664.00	31.99	34.41	-90.73	-868.76	1,946.28	1,348.66	1,286.77	61.89	21.792	
13,400.00	12,654.00	13,412.97	12,664.00	32.74	35.07	-90.73	-968.76	1,946.28	1,348.66	1,285.27	63.39	21.275	
13,500.00	12,654.00	13,512.97	12,664.00	33.55	35.79	-90.73	-1,068.76	1,946.28	1,348.66	1,283.64	65.02	20.741	
13,600.00	12,654.00	13,612.97	12,664.00	34.41	36.57	-90.73	-1,168.76	1,946.28	1,348.66	1,281.88	66.78	20.196	
13,700.00	12,654.00	13,712.97	12,664.00	35.33	37.41	-90.73	-1,268.76	1,946.28	1,348.66	1,280.02	68.64	19.648	
13,800.00	12,654.00	13,812.97	12,664.00	36.30	38.30	-90.73	-1,368.76	1,946.28	1,348.66	1,278.05	70.61	19.101	
13,900.00	12,654.00	13,912.97	12,664.00	37.32	39.24	-90.73	-1,468.76	1,946.28	1,348.66	1,275.99	72.67	18.559	
14,000.00	12,654.00	14,012.97	12,664.00	38.38	40.23	-90.73	-1,568.76	1,946.28	1,348.66	1,273.85	74.81	18.027	
14,100.00	12,654.00	14,112.97	12,664.00	39.48	41.25	-90.73	-1,668.76	1,946.28	1,348.66	1,271.62	77.04	17.506	
14,200.00	12,654.00	14,212.97	12,664.00	40.61	42.32	-90.73	-1,768.76	1,946.28	1,348.66	1,269.32	79.34	16.999	
14,300.00	12,654.00	14,312.97	12,664.00	41.78	43.41	-90.73	-1,868.76	1,946.28	1,348.66	1,266.96	81.70	16.508	
14,400.00	12,654.00	14,412.97	12,664.00	42.98	44.55	-90.73	-1,968.76	1,946.28	1,348.66	1,264.54	84.12	16.032	
14,500.00	12,654.00	14,512.97	12,664.00	44.21	45.71	-90.73	-2,068.76	1,946.28	1,348.66	1,262.06	86.60	15.573	
14,600.00	12,654.00	14,612.97	12,664.00	45.46	46.90	-90.73	-2,168.76	1,946.28	1,348.66	1,259.53	89.13	15.131	
14,700.00	12,654.00	14,712.97	12,664.00	46.74	48.12	-90.73	-2,268.76	1,946.28	1,348.66	1,256.95	91.71	14.706	
14,800.00	12,654.00	14,812.97	12,664.00	48.03	49.36	-90.73	-2,368.76	1,946.28	1,348.66	1,254.33	94.33	14.297	
14,900.00	12,654.00	14,912.97	12,664.00	49.35	50.62	-90.73	-2,468.76	1,946.28	1,348.66	1,251.67	96.99	13.905	
15,000.00	12,654.00	15,012.97	12,664.00	50.69	51.91	-90.73	-2,568.76	1,946.28	1,348.66	1,248.97	99.68	13.529	
15,100.00	12,654.00	15,112.97	12,664.00	52.04	53.21	-90.73	-2,668.76	1,946.28	1,348.66	1,246.25	102.41	13.169	
15,200.00	12,654.00	15,212.97	12,664.00	53.41	54.53	-90.73	-2,768.76	1,946.28	1,348.66	1,243.49	105.17	12.823	
15,300.00	12,654.00	15,312.97	12,664.00	54.79	55.87	-90.73	-2,868.76	1,946.28	1,348.66	1,240.70	107.96	12.492	
15,400.00	12,654.00	15,412.97	12,664.00	56.19	57.23	-90.73	-2,968.76	1,946.28	1,348.66	1,237.88	110.78	12.175	
15,500.00	12,654.00	15,512.97	12,664.00	57.60	58.59	-90.73	-3,068.76	1,946.28	1,348.66	1,235.04	113.61	11.870	
15,600.00	12,654.00	15,612.97	12,664.00	59.02	59.98	-90.73	-3,168.76	1,946.28	1,348.66	1,232.18	116.48	11.579	
15,700.00	12,654.00	15,712.97	12,664.00	60.45	61.37	-90.73	-3,268.76	1,946.28	1,348.66	1,229.30	119.36	11.299	
15,800.00	12,654.00	15,812.97	12,664.00	61.89	62.78	-90.73	-3,368.76	1,946.28	1,348.66	1,226.40	122.26	11.031	
15,900.00	12,654.00	15,912.97	12,664.00	63.34	64.19	-90.73	-3,468.76	1,946.28	1,348.66	1,223.48	125.18	10.774	

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

LEAM Drilling Systems LLC

Anticollision Report

Company: Devon Energy
Project: Lea County, NM (NAD-83)
Reference Site: Fighting Okra 18-19 Fed
Site Error: 0.00 usft
Reference Well: 3H
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Plan #1

Local Co-ordinate Reference: Well 3H
TVD Reference: 3372.2 GE + 25' KB @ 3397.20usft
MD Reference: 3372.2 GE + 25' KB @ 3397.20usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at: 2.00 sigma
Database: EDM 5000.1 Multi User Db
Offset TVD Reference: Offset Datum

Offset Design Fighting Okra 18-19 Fed - 4H - OH - Plan #1													Offset Site Error: 0.00 usft
Survey Program: 0-LEAM MWD+HDGM													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	
16,000.00	12,654.00	16,012.97	12,664.00	64.80	65.82	-90.73	-3,568.76	1,946.28	1,348.66	1,220.54	128.12	10.527	
16,100.00	12,654.00	16,112.97	12,664.00	66.27	67.05	-90.73	-3,668.76	1,946.28	1,348.66	1,217.59	131.07	10.290	
16,200.00	12,654.00	16,212.97	12,664.00	67.74	68.50	-90.73	-3,768.76	1,946.28	1,348.66	1,214.62	134.04	10.062	
16,300.00	12,654.00	16,312.97	12,664.00	69.23	69.95	-90.73	-3,868.76	1,946.28	1,348.66	1,211.64	137.02	9.843	
16,400.00	12,654.00	16,412.97	12,664.00	70.72	71.41	-90.73	-3,968.76	1,946.28	1,348.66	1,208.65	140.01	9.633	
16,500.00	12,654.00	16,512.97	12,664.00	72.21	72.88	-90.73	-4,068.76	1,946.28	1,348.66	1,205.64	143.02	9.430	
16,600.00	12,654.00	16,612.97	12,664.00	73.71	74.36	-90.73	-4,168.76	1,946.28	1,348.66	1,202.63	146.03	9.235	
16,700.00	12,654.00	16,712.97	12,664.00	75.22	75.84	-90.73	-4,268.76	1,946.28	1,348.66	1,199.60	149.06	9.048	
16,800.00	12,654.00	16,812.97	12,664.00	76.73	77.33	-90.73	-4,368.76	1,946.28	1,348.66	1,196.56	152.10	8.867	
16,900.00	12,654.00	16,912.97	12,664.00	78.25	78.82	-90.73	-4,468.76	1,946.28	1,348.66	1,193.52	155.14	8.693	
17,000.00	12,654.00	17,012.97	12,664.00	79.77	80.32	-90.73	-4,568.76	1,946.28	1,348.66	1,190.46	158.20	8.525	
17,100.00	12,654.00	17,112.97	12,664.00	81.30	81.82	-90.73	-4,668.76	1,946.28	1,348.66	1,187.40	161.26	8.363	
17,200.00	12,654.00	17,212.97	12,664.00	82.83	83.33	-90.73	-4,768.76	1,946.28	1,348.66	1,184.32	164.34	8.207	
17,300.00	12,654.00	17,312.97	12,664.00	84.36	84.85	-90.73	-4,868.76	1,946.28	1,348.66	1,181.24	167.41	8.056	
17,400.00	12,654.00	17,412.97	12,664.00	85.90	86.36	-90.73	-4,968.76	1,946.28	1,348.66	1,178.16	170.50	7.910	
17,500.00	12,654.00	17,512.97	12,664.00	87.44	87.89	-90.73	-5,068.76	1,946.28	1,348.66	1,175.07	173.59	7.769	
17,600.00	12,654.00	17,612.97	12,664.00	88.98	89.41	-90.73	-5,168.76	1,946.28	1,348.66	1,171.97	176.69	7.633	
17,700.00	12,654.00	17,712.97	12,664.00	90.53	90.94	-90.73	-5,268.76	1,946.28	1,348.66	1,168.86	179.80	7.501	
17,800.00	12,654.00	17,812.97	12,664.00	92.08	92.48	-90.73	-5,368.76	1,946.28	1,348.66	1,165.75	182.91	7.373	
17,900.00	12,654.00	17,912.97	12,664.00	93.64	94.01	-90.73	-5,468.76	1,946.28	1,348.66	1,162.63	186.03	7.250	
18,000.00	12,654.00	18,012.97	12,664.00	95.19	95.56	-90.73	-5,568.76	1,946.28	1,348.66	1,159.51	189.15	7.130	
18,100.00	12,654.00	18,112.97	12,664.00	96.75	97.10	-90.73	-5,668.76	1,946.28	1,348.66	1,156.39	192.27	7.014	
18,200.00	12,654.00	18,212.97	12,664.00	98.31	98.64	-90.73	-5,768.76	1,946.28	1,348.66	1,153.25	195.41	6.902	
18,300.00	12,654.00	18,312.97	12,664.00	99.88	100.19	-90.73	-5,868.76	1,946.28	1,348.66	1,150.12	198.54	6.793	
18,400.00	12,654.00	18,412.97	12,664.00	101.44	101.75	-90.73	-5,968.76	1,946.28	1,348.66	1,146.98	201.68	6.687	
18,500.00	12,654.00	18,512.97	12,664.00	103.01	103.30	-90.73	-6,068.76	1,946.28	1,348.66	1,143.84	204.82	6.584	
18,600.00	12,654.00	18,612.97	12,664.00	104.58	104.86	-90.73	-6,168.76	1,946.28	1,348.66	1,140.69	207.97	6.485	
18,700.00	12,654.00	18,712.97	12,664.00	106.15	106.42	-90.73	-6,268.76	1,946.28	1,348.66	1,137.54	211.12	6.388	
18,800.00	12,654.00	18,812.97	12,664.00	107.73	107.98	-90.73	-6,368.76	1,946.28	1,348.66	1,134.38	214.28	6.294	
18,900.00	12,654.00	18,912.97	12,664.00	109.30	109.54	-90.73	-6,468.76	1,946.28	1,348.66	1,131.22	217.44	6.203	
19,000.00	12,654.00	19,012.97	12,664.00	110.88	111.11	-90.73	-6,568.76	1,946.28	1,348.66	1,128.06	220.60	6.114	
19,100.00	12,654.00	19,112.97	12,664.00	112.46	112.67	-90.73	-6,668.76	1,946.28	1,348.66	1,124.90	223.76	6.027	
19,200.00	12,654.00	19,212.97	12,664.00	114.04	114.24	-90.73	-6,768.76	1,946.28	1,348.66	1,121.73	226.93	5.943	
19,300.00	12,654.00	19,312.97	12,664.00	115.62	115.81	-90.73	-6,868.76	1,946.28	1,348.66	1,118.56	230.10	5.861	
19,400.00	12,654.00	19,412.97	12,664.00	117.21	117.39	-90.73	-6,968.76	1,946.28	1,348.66	1,115.39	233.27	5.781	
19,500.00	12,654.00	19,512.97	12,664.00	118.79	118.96	-90.73	-7,068.76	1,946.28	1,348.66	1,112.21	236.45	5.704	
19,600.00	12,654.00	19,612.97	12,664.00	120.38	120.54	-90.73	-7,168.76	1,946.28	1,348.66	1,109.03	239.63	5.628	
19,700.00	12,654.00	19,712.97	12,664.00	121.96	122.12	-90.73	-7,268.76	1,946.28	1,348.66	1,105.85	242.81	5.554	
19,800.00	12,654.00	19,812.97	12,664.00	123.55	123.69	-90.73	-7,368.76	1,946.28	1,348.66	1,102.67	245.99	5.483	
19,900.00	12,654.00	19,912.97	12,664.00	125.14	125.28	-90.73	-7,468.76	1,946.28	1,348.66	1,099.48	249.17	5.413	
20,000.00	12,654.00	20,012.97	12,664.00	126.73	126.86	-90.73	-7,568.76	1,946.28	1,348.66	1,096.30	252.36	5.344	
20,100.00	12,654.00	20,112.97	12,664.00	128.33	128.44	-90.73	-7,668.76	1,946.28	1,348.66	1,093.11	255.55	5.277	
20,200.00	12,654.00	20,212.97	12,664.00	129.92	130.02	-90.73	-7,768.76	1,946.28	1,348.66	1,089.92	258.74	5.212	
20,300.00	12,654.00	20,312.97	12,664.00	131.51	131.61	-90.73	-7,868.76	1,946.28	1,348.66	1,086.72	261.94	5.149	
20,400.00	12,654.00	20,412.97	12,664.00	133.11	133.20	-90.73	-7,968.76	1,946.28	1,348.66	1,083.53	265.13	5.087	
20,500.00	12,654.00	20,512.97	12,664.00	134.70	134.79	-90.73	-8,068.76	1,946.28	1,348.66	1,080.33	268.33	5.026	
20,600.00	12,654.00	20,612.97	12,664.00	136.30	136.37	-90.73	-8,168.76	1,946.28	1,348.66	1,077.13	271.53	4.967	
20,700.00	12,654.00	20,712.97	12,664.00	137.90	137.96	-90.73	-8,268.76	1,946.28	1,348.66	1,073.93	274.73	4.909	
20,800.00	12,654.00	20,812.97	12,664.00	139.50	139.56	-90.73	-8,368.76	1,946.28	1,348.66	1,070.73	277.93	4.853	
20,900.00	12,654.00	20,912.97	12,664.00	141.10	141.15	-90.73	-8,468.76	1,946.28	1,348.66	1,067.53	281.13	4.797	
21,000.00	12,654.00	21,012.97	12,664.00	142.70	142.74	-90.73	-8,568.76	1,946.28	1,348.66	1,064.32	284.33	4.743	
21,100.00	12,654.00	21,112.97	12,664.00	144.30	144.34	-90.73	-8,668.76	1,946.28	1,348.66	1,061.12	287.54	4.690	

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

LEAM Drilling Systems LLC

Anticollision Report

Company: Devon Energy
 Project: Lea County, NM (NAD-83)
 Reference Site: Fighting Okra 18-19 Fed
 Site Error: 0.00 usft
 Reference Well: 3H
 Well Error: 0.00 usft
 Reference Wellbore: OH
 Reference Design: Plan #1

Local Co-ordinate Reference: Well 3H
 TVD Reference: 3372.2 GE + 25' KB @ 3397.20usft
 MD Reference: 3372.2 GE + 25' KB @ 3397.20usft
 North Reference: Grid
 Survey Calculation Method: Minimum Curvature
 Output errors are at: 2.00 sigma
 Database: EDM 5000.1 Multi User Db
 Offset TVD Reference: Offset Datum

Offset Design Fighting Okra 18-19 Fed - 4H - OH - Plan #1													Offset Site Error: 0.00 usft
Survey Program: 0-LEAM MWD+HDGM													Offset Well Error: 0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	
21,200.00	12,654.00	21,212.97	12,664.00	145.90	145.93	-90.73	-8,768.76	1,946.28	1,348.66	1,057.91	290.75	4.639	
21,300.00	12,654.00	21,312.97	12,664.00	147.50	147.53	-90.73	-8,868.76	1,946.28	1,348.66	1,054.70	293.86	4.588	
21,400.00	12,654.00	21,412.97	12,664.00	149.11	149.12	-90.73	-8,968.76	1,946.28	1,348.66	1,051.49	297.17	4.538	
21,500.00	12,654.00	21,512.97	12,664.00	150.71	150.72	-90.73	-9,068.76	1,946.28	1,348.66	1,048.28	300.38	4.490	
21,600.00	12,654.00	21,612.97	12,664.00	152.31	152.32	-90.73	-9,168.76	1,946.28	1,348.66	1,045.07	303.59	4.442	
21,700.00	12,654.00	21,712.97	12,664.00	153.92	153.92	-90.73	-9,268.76	1,946.28	1,348.66	1,041.85	306.81	4.396	
21,800.00	12,654.00	21,812.97	12,664.00	155.52	155.52	-90.73	-9,368.76	1,946.28	1,348.66	1,038.64	310.02	4.350	
21,900.00	12,654.00	21,912.97	12,664.00	157.13	157.12	-90.73	-9,468.76	1,946.28	1,348.66	1,035.42	313.24	4.306	
22,000.00	12,654.00	22,012.97	12,664.00	158.74	158.72	-90.73	-9,568.76	1,946.28	1,348.66	1,032.21	316.45	4.262	
22,100.00	12,654.00	22,112.97	12,664.00	160.34	160.32	-90.73	-9,668.76	1,946.28	1,348.66	1,028.99	319.67	4.219	
22,200.00	12,654.00	22,212.97	12,664.00	161.95	161.92	-90.73	-9,768.76	1,946.28	1,348.66	1,025.77	322.89	4.177	
22,300.00	12,654.00	22,312.97	12,664.00	163.56	163.53	-90.73	-9,868.76	1,946.28	1,348.66	1,022.55	326.11	4.136	
22,300.11	12,654.00	22,313.08	12,664.00	163.56	163.53	-90.73	-9,868.87	1,946.28	1,348.66	1,022.55	326.11	4.136	
22,329.42	12,654.00	22,329.57	12,664.00	164.03	163.79	-90.73	-9,885.36	1,946.28	1,348.72	1,021.67	327.05	4.124 SF	

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

LEAM Drilling Systems LLC

Anticollision Report

Company: Devon Energy
Project: Lea County, NM (NAD-83)
Reference Site: Fighting Okra 18-19 Fed
Site Error: 0.00 usft
Reference Well: 3H
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Plan #1

Local Co-ordinate Reference: Well 3H
TVD Reference: 3372.2 GE + 25' KB @ 3397.20usft
MD Reference: 3372.2 GE + 25' KB @ 3397.20usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at: 2.00 sigma
Database: EDM 5000.1 Multi User Db
Offset TVD Reference: Offset Datum

Offset Design Fighting Okra 18-19 Fed - 5H - OH - Plan #1													Offset Site Error: 0.00 usft
Survey Program: 0-LEAM MWD-HDGM													Offset Well Error: 0.00 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
0.00	0.00	0.00	0.00	0.00	0.00	92.55	-37.88	850.16	851.03				
100.00	100.00	92.80	92.80	0.08	0.08	92.55	-37.88	850.16	851.00	850.84	0.16	5,236.749	
200.00	200.00	192.80	192.80	0.31	0.29	92.55	-37.88	850.16	851.00	850.40	0.60	1,413.806	
300.00	300.00	292.80	292.80	0.53	0.52	92.55	-37.88	850.16	851.00	849.95	1.05	809.357	
400.00	400.00	392.80	392.80	0.76	0.74	92.55	-37.88	850.16	851.00	849.50	1.50	566.962	
500.00	500.00	492.80	492.80	0.98	0.97	92.55	-37.88	850.16	851.00	849.05	1.95	436.296	
600.00	600.00	592.80	592.80	1.21	1.19	92.55	-37.88	850.16	851.00	848.60	2.40	354.577	
700.00	700.00	692.80	692.80	1.43	1.42	92.55	-37.88	850.16	851.00	848.15	2.85	298.641	
800.00	800.00	792.80	792.80	1.66	1.64	92.55	-37.88	850.16	851.00	847.70	3.30	257.949	
900.00	900.00	892.80	892.80	1.88	1.87	92.55	-37.88	850.16	851.00	847.25	3.75	227.016	
1,000.00	1,000.00	992.80	992.80	2.11	2.09	92.55	-37.88	850.16	851.00	846.81	4.20	202.708	
1,100.00	1,100.00	1,092.80	1,092.80	2.33	2.32	92.55	-37.88	850.16	851.00	846.36	4.65	183.102	
1,200.00	1,200.00	1,192.80	1,192.80	2.56	2.54	92.55	-37.88	850.16	851.00	845.91	5.10	166.954	
1,300.00	1,300.00	1,292.80	1,292.80	2.78	2.77	92.55	-37.88	850.16	851.00	845.46	5.55	153.423	
1,400.00	1,400.00	1,392.80	1,392.80	3.01	2.99	92.55	-37.88	850.16	851.00	845.01	6.00	141.921	
1,500.00	1,500.00	1,492.80	1,492.80	3.23	3.21	92.55	-37.88	850.16	851.00	844.56	6.45	132.024	
1,600.00	1,600.00	1,592.80	1,592.80	3.46	3.44	92.55	-37.88	850.16	851.00	844.11	6.90	123.417	
1,700.00	1,700.00	1,692.80	1,692.80	3.68	3.66	92.55	-37.88	850.16	851.00	843.66	7.34	115.863	
1,800.00	1,800.00	1,792.80	1,792.80	3.91	3.89	92.55	-37.88	850.16	851.00	843.21	7.79	109.181	
1,900.00	1,900.00	1,892.80	1,892.80	4.13	4.11	92.55	-37.88	850.16	851.00	842.76	8.24	103.227	
2,000.00	2,000.00	1,992.80	1,992.80	4.35	4.34	92.55	-37.88	850.16	851.00	842.31	8.69	97.890	
2,100.00	2,100.00	2,092.80	2,092.80	4.58	4.56	92.55	-37.88	850.16	851.00	841.86	9.14	93.077	
2,200.00	2,200.00	2,192.80	2,192.80	4.80	4.79	92.55	-37.88	850.16	851.00	841.41	9.59	88.715	
2,300.00	2,300.00	2,292.80	2,292.80	5.03	5.01	92.55	-37.88	850.16	851.00	840.96	10.04	84.744	
2,400.00	2,400.00	2,392.80	2,392.80	5.25	5.24	92.55	-37.88	850.16	851.00	840.51	10.49	81.113	
2,500.00	2,500.00	2,492.80	2,492.80	5.48	5.46	92.55	-37.88	850.16	851.00	840.06	10.94	77.780	
2,600.00	2,600.00	2,592.80	2,592.80	5.70	5.69	92.55	-37.88	850.16	851.00	839.61	11.39	74.710	
2,700.00	2,700.00	2,692.80	2,692.80	5.93	5.91	92.55	-37.88	850.16	851.00	839.16	11.84	71.874	
2,800.00	2,800.00	2,792.80	2,792.80	6.15	6.14	92.55	-37.88	850.16	851.00	838.71	12.29	69.245	
2,900.00	2,900.00	2,892.80	2,892.80	6.38	6.36	92.55	-37.88	850.16	851.00	838.26	12.74	66.801	
3,000.00	3,000.00	2,992.80	2,992.80	6.60	6.59	92.55	-37.88	850.16	851.00	837.81	13.19	64.525	
3,100.00	3,099.99	3,092.79	3,092.79	6.81	6.81	2.55	-37.88	850.16	850.13	836.51	13.62	62.400	
3,200.00	3,199.96	3,192.76	3,192.76	7.01	7.04	2.56	-37.88	850.16	847.52	833.47	14.05	60.340	
3,300.00	3,299.86	3,292.66	3,292.66	7.21	7.26	2.58	-37.88	850.16	843.16	828.69	14.47	58.273	
3,400.00	3,399.68	3,392.48	3,392.48	7.42	7.48	2.60	-37.88	850.16	837.06	822.17	14.89	56.202	
3,452.85	3,452.38	3,445.18	3,445.18	7.53	7.60	2.61	-37.88	850.16	833.14	818.02	15.12	55.104	
3,500.00	3,499.38	3,492.18	3,492.18	7.63	7.71	2.63	-37.88	850.16	829.42	814.10	15.32	54.139	
3,600.00	3,599.07	3,582.69	3,582.69	7.84	7.91	2.62	-37.52	850.64	822.04	806.32	15.72	52.291	
3,700.00	3,698.76	3,672.55	3,672.53	8.05	8.10	2.56	-36.33	852.24	815.87	799.76	16.11	50.630	
3,800.00	3,798.45	3,762.51	3,762.41	8.27	8.29	2.43	-34.29	854.98	810.92	794.42	16.51	49.126	
3,900.00	3,898.13	3,852.51	3,852.29	8.49	8.49	2.23	-31.40	858.85	807.20	790.30	16.90	47.765	
4,000.00	3,997.82	3,944.13	3,943.69	8.71	8.69	1.97	-27.62	863.94	804.70	787.40	17.30	46.524	
4,100.00	4,097.51	4,044.02	4,043.29	8.93	8.91	1.65	-23.16	869.91	802.64	784.92	17.72	45.293	
4,200.00	4,197.20	4,143.90	4,142.90	9.16	9.13	1.34	-18.71	875.89	800.62	782.47	18.15	44.115	
4,300.00	4,296.88	4,243.78	4,242.50	9.39	9.35	1.02	-14.26	881.87	798.61	780.04	18.58	42.988	
4,400.00	4,396.57	4,343.66	4,342.11	9.61	9.58	0.71	-9.81	887.84	796.64	777.63	19.01	41.909	
4,500.00	4,496.26	4,443.54	4,441.71	9.84	9.80	0.39	-5.36	893.82	794.68	775.24	19.44	40.876	
4,600.00	4,595.95	4,543.43	4,541.31	10.07	10.03	0.07	-0.91	899.79	792.75	772.88	19.88	39.886	
4,700.00	4,695.64	4,643.31	4,640.92	10.31	10.26	-0.26	3.55	905.77	790.85	770.54	20.31	38.936	
4,800.00	4,795.32	4,743.19	4,740.52	10.54	10.49	-0.58	8.00	911.74	788.97	768.22	20.75	38.025	
4,900.00	4,895.01	4,843.07	4,840.13	10.78	10.72	-0.91	12.45	917.72	787.12	765.93	21.19	37.151	
5,000.00	4,994.70	4,942.96	4,939.73	11.01	10.95	-1.23	16.90	923.69	785.29	763.66	21.63	36.311	

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

LEAM Drilling Systems LLC

Anticollision Report

Company: Devon Energy
Project: Lea County, NM (NAD-83)
Reference Site: Fighting Okra 18-19 Fed
Site Error: 0.00 usft
Reference Well: 3H
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Plan #1

Local Co-ordinate Reference: Well 3H
TVD Reference: 3372.2 GE + 25' KB @ 3397.20usft
MD Reference: 3372.2 GE + 25' KB @ 3397.20usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at: 2.00 sigma
Database: EDM 5000.1 Multi User Db
Offset TVD Reference: Offset Datum

Offset Design Fighting Okra 18-19 Fed - 5H - OH - Plan #1													Offset Site Error: 0.00 usft
Survey Program: 0-LEAM MWD+HDGM													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	5,094.39	5,042.84	5,039.33	11.25	11.18	-1.56	21.35	929.67	783.49	761.42	22.07	35.504	
5,200.00	5,194.07	5,142.72	5,138.94	11.49	11.41	-1.89	25.80	935.64	781.71	759.20	22.51	34.728	
5,300.00	5,293.76	5,242.60	5,238.54	11.72	11.65	-2.22	30.25	941.62	779.96	757.01	22.95	33.981	
5,400.00	5,393.45	5,342.49	5,338.15	11.96	11.88	-2.56	34.71	947.59	778.24	754.84	23.40	33.263	
5,500.00	5,493.14	5,442.37	5,437.75	12.20	12.12	-2.89	39.16	953.57	776.54	752.70	23.84	32.571	
5,600.00	5,592.83	5,542.25	5,537.36	12.44	12.35	-3.23	43.61	959.55	774.87	750.58	24.29	31.905	
5,700.00	5,692.51	5,642.13	5,636.96	12.69	12.59	-3.56	48.06	965.52	773.22	748.49	24.73	31.262	
5,800.00	5,792.20	5,742.02	5,736.56	12.93	12.83	-3.90	52.51	971.50	771.61	746.43	25.18	30.643	
5,900.00	5,891.89	5,841.90	5,836.17	13.17	13.06	-4.24	56.96	977.47	770.02	744.39	25.63	30.046	
6,000.00	5,991.58	5,941.78	5,935.77	13.41	13.30	-4.58	61.42	983.45	768.45	742.38	26.08	29.469	
6,100.00	6,091.26	6,041.66	6,035.38	13.66	13.54	-4.93	65.87	989.42	766.92	740.39	26.53	28.912	
6,200.00	6,190.95	6,141.55	6,134.98	13.90	13.78	-5.27	70.32	995.40	765.41	738.43	26.98	28.374	
6,300.00	6,290.64	6,241.43	6,234.58	14.15	14.02	-5.62	74.77	1,001.37	763.93	736.50	27.43	27.854	
6,400.00	6,390.33	6,341.31	6,334.19	14.39	14.26	-5.96	79.22	1,007.35	762.48	734.60	27.88	27.351	
6,500.00	6,490.02	6,441.19	6,433.79	14.64	14.50	-6.31	83.67	1,013.32	761.06	732.73	28.33	26.865	
6,600.00	6,589.70	6,541.08	6,533.40	14.89	14.74	-6.66	88.12	1,019.30	759.66	730.88	28.78	26.395	
6,700.00	6,689.39	6,640.96	6,633.00	15.13	14.98	-7.01	92.58	1,025.28	758.29	729.06	29.23	25.939	
6,800.00	6,789.08	6,740.84	6,732.60	15.38	15.23	-7.37	97.03	1,031.25	756.95	727.27	29.69	25.499	
6,900.00	6,888.77	6,840.72	6,832.21	15.63	15.47	-7.72	101.48	1,037.23	755.65	725.51	30.14	25.071	
7,000.00	6,988.46	6,940.60	6,931.81	15.87	15.71	-8.07	105.93	1,043.20	754.36	723.77	30.59	24.658	
7,100.00	7,088.14	7,040.49	7,031.42	16.12	15.95	-8.43	110.38	1,049.18	753.11	722.06	31.05	24.256	
7,200.00	7,187.83	7,140.37	7,131.02	16.37	16.20	-8.79	114.83	1,055.15	751.89	720.39	31.50	23.867	
7,300.00	7,287.52	7,240.25	7,230.62	16.62	16.44	-9.14	119.28	1,061.13	750.70	718.74	31.96	23.490	
7,400.00	7,387.21	7,340.13	7,330.23	16.87	16.68	-9.50	123.74	1,067.10	749.53	717.12	32.41	23.124	
7,500.00	7,486.89	7,440.02	7,429.83	17.12	16.93	-9.86	128.19	1,073.08	748.40	715.53	32.87	22.769	
7,600.00	7,586.58	7,539.90	7,529.44	17.37	17.17	-10.22	132.64	1,079.05	747.29	713.97	33.33	22.424	
7,700.00	7,686.27	7,639.78	7,629.04	17.62	17.42	-10.59	137.09	1,085.03	746.22	712.44	33.78	22.089	
7,800.00	7,785.96	7,739.66	7,728.64	17.87	17.66	-10.95	141.54	1,091.01	745.18	710.94	34.24	21.763	
7,900.00	7,885.65	7,839.55	7,828.25	18.12	17.91	-11.31	145.99	1,096.98	744.16	709.46	34.70	21.447	
8,000.00	7,985.33	7,939.43	7,927.85	18.37	18.15	-11.68	150.45	1,102.96	743.18	708.02	35.16	21.140	
8,100.00	8,085.02	8,039.31	8,027.46	18.62	18.40	-12.05	154.90	1,108.93	742.22	706.61	35.61	20.841	
8,200.00	8,184.71	8,139.19	8,127.06	18.87	18.64	-12.41	159.35	1,114.91	741.30	705.23	36.07	20.550	
8,300.00	8,284.40	8,239.08	8,226.66	19.12	18.89	-12.78	163.80	1,120.88	740.41	703.88	36.53	20.268	
8,400.00	8,384.08	8,338.96	8,326.27	19.37	19.13	-13.15	168.25	1,126.86	739.55	702.55	36.99	19.993	
8,500.00	8,483.77	8,438.84	8,425.87	19.62	19.38	-13.52	172.70	1,132.83	738.71	701.26	37.45	19.725	
8,600.00	8,583.46	8,538.72	8,525.48	19.87	19.63	-13.89	177.15	1,138.81	737.91	700.00	37.91	19.464	
8,700.00	8,683.15	8,638.61	8,625.08	20.12	19.87	-14.26	181.61	1,144.78	737.15	698.77	38.37	19.211	
8,800.00	8,782.84	8,738.49	8,724.69	20.37	20.12	-14.64	186.06	1,150.76	736.41	697.57	38.83	18.964	
8,900.00	8,882.52	8,838.37	8,824.29	20.63	20.37	-15.01	190.51	1,156.74	735.70	696.41	39.29	18.723	
9,000.00	8,982.21	8,938.25	8,923.89	20.88	20.61	-15.38	194.96	1,162.71	735.02	695.27	39.76	18.489	
9,100.00	9,081.90	9,038.13	9,023.50	21.13	20.86	-15.76	199.41	1,168.69	734.38	694.16	40.22	18.260	
9,200.00	9,181.59	9,138.02	9,123.10	21.38	21.11	-16.13	203.86	1,174.66	733.77	693.09	40.68	18.038	
9,300.00	9,281.28	9,237.90	9,222.71	21.64	21.35	-16.51	208.32	1,180.64	733.19	692.04	41.14	17.821	
9,400.00	9,380.96	9,337.78	9,322.31	21.89	21.60	-16.88	212.77	1,186.61	732.64	691.03	41.61	17.609	
9,500.00	9,480.65	9,437.66	9,421.91	22.14	21.85	-17.26	217.22	1,192.59	732.12	690.05	42.07	17.403	
9,600.00	9,580.34	9,537.55	9,521.52	22.39	22.10	-17.64	221.67	1,198.56	731.63	689.10	42.53	17.201	
9,700.00	9,680.03	9,637.43	9,621.12	22.65	22.34	-18.01	226.12	1,204.54	731.18	688.18	43.00	17.005	
9,800.00	9,779.71	9,737.31	9,720.73	22.90	22.59	-18.39	230.57	1,210.51	730.76	687.29	43.46	16.813	
9,900.00	9,879.40	9,837.19	9,820.33	23.15	22.84	-18.77	235.02	1,216.49	730.37	686.44	43.93	16.626	
10,000.00	9,979.09	9,937.08	9,919.93	23.41	23.09	-19.15	239.48	1,222.47	730.01	685.61	44.39	16.444	
10,100.00	10,078.78	10,036.96	10,019.54	23.66	23.34	-19.53	243.93	1,228.44	729.68	684.82	44.86	16.266	
10,200.00	10,178.47	10,136.84	10,119.14	23.91	23.58	-19.91	248.38	1,234.42	729.39	684.06	45.33	16.092	

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

LEAM Drilling Systems LLC

Anticollision Report

Company: Devon Energy
Project: Lea County, NM (NAD-83)
Reference Site: Fighting Okra 18-19 Fed
Site Error: 0.00 usft
Reference Well: 3H
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Plan #1

Local Co-ordinate Reference: Well 3H
TVD Reference: 3372.2 GE + 25' KB @ 3397.20usft
MD Reference: 3372.2 GE + 25' KB @ 3397.20usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at: 2.00 sigma
Database: EDM 5000.1 Multi User Db
Offset TVD Reference: Offset Datum

Offset Design Fighting Okra 18-19 Fed - 5H - OH - Plan #1													Offset Site Error: 0.00 usft
Survey Program: 0-LEAM MWD+HDGM													Offset Well Error: 0.00 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Distance		Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		Offset Wellbore Centre +N-S (usft)	Offset Wellbore Centre +E-W (usft)					
10,300.00	10,278.15	10,236.72	10,218.75	24.17	23.83	-20.29	252.83	1,240.39	729.13	683.33	45.79	15.922	
10,400.00	10,377.84	10,336.61	10,318.35	24.42	24.08	-20.67	257.28	1,246.37	728.90	682.63	46.26	15.756	
10,500.00	10,477.53	10,436.49	10,417.95	24.67	24.33	-21.05	261.73	1,252.34	728.70	681.97	46.73	15.594	
10,570.31	10,547.62	10,506.72	10,487.99	24.85	24.50	-21.32	264.86	1,256.54	728.58	681.52	47.06	15.483	
10,579.91	10,557.19	10,516.30	10,497.54	24.88	24.53	-21.35	265.29	1,257.12	728.57	681.47	47.10	15.468	
10,600.00	10,577.22	10,536.37	10,517.56	24.92	24.58	-21.43	266.19	1,258.32	728.60	681.41	47.19	15.440	
10,700.00	10,677.01	10,636.27	10,617.18	25.11	24.83	-21.77	270.64	1,264.29	729.76	682.15	47.61	15.329	
10,800.00	10,776.89	10,736.16	10,716.79	25.30	25.07	-22.07	275.09	1,270.27	732.56	684.54	48.02	15.254	
10,900.00	10,876.85	10,842.27	10,822.62	25.48	25.31	-22.33	279.69	1,276.44	736.81	688.37	48.44	15.212	
11,000.00	10,976.84	10,956.44	10,936.61	25.65	25.53	-22.51	283.50	1,281.56	741.05	692.22	48.83	15.176	
11,023.16	11,000.00	10,982.90	10,963.04	25.70	25.58	67.46	284.19	1,282.49	741.99	693.07	48.92	15.168	
11,100.00	11,076.84	11,070.74	11,050.84	25.84	25.73	67.40	285.96	1,284.86	744.50	695.27	49.22	15.125	
11,200.00	11,176.84	11,185.17	11,165.25	26.04	25.93	67.37	287.06	1,286.34	746.06	696.44	49.62	15.036	
11,300.00	11,276.84	11,289.56	11,269.64	26.23	26.12	67.37	287.12	1,286.42	746.14	696.13	50.01	14.919	
11,400.00	11,376.84	11,389.56	11,369.64	26.43	26.33	67.37	287.12	1,286.42	746.14	695.71	50.43	14.795	
11,500.00	11,476.84	11,489.56	11,469.64	26.63	26.53	67.37	287.12	1,286.42	746.14	695.29	50.85	14.672	
11,600.00	11,576.84	11,589.56	11,569.64	26.83	26.74	67.37	287.12	1,286.42	746.14	694.87	51.28	14.551	
11,700.00	11,676.84	11,689.56	11,669.64	27.03	26.95	67.37	287.12	1,286.42	746.14	694.45	51.70	14.432	
11,800.00	11,776.84	11,789.56	11,769.64	27.23	27.16	67.37	287.12	1,286.42	746.14	694.02	52.12	14.315	
11,900.00	11,876.84	11,889.56	11,869.64	27.43	27.37	67.37	287.12	1,286.42	746.14	693.60	52.55	14.200	
12,000.00	11,976.84	11,989.56	11,969.64	27.63	27.58	67.37	287.12	1,286.42	746.14	693.17	52.97	14.086	
12,104.20	12,081.04	12,093.76	12,073.84	27.84	27.80	67.37	287.12	1,286.42	746.14	692.73	53.41	13.969	
12,150.00	12,126.79	12,139.51	12,119.59	27.93	27.90	-112.70	287.12	1,286.42	746.85	693.24	53.61	13.932	
12,200.00	12,176.39	12,189.11	12,169.19	28.02	28.00	-112.91	287.12	1,286.42	749.26	695.43	53.82	13.921	
12,250.00	12,225.27	12,237.99	12,218.07	28.11	28.10	-113.24	287.12	1,286.42	753.44	699.39	54.05	13.940	
12,300.00	12,273.05	12,341.51	12,321.08	28.20	28.26	-114.37	278.32	1,286.42	757.86	703.65	54.20	13.982	
12,350.00	12,319.37	12,453.81	12,429.02	28.29	28.38	-115.02	248.04	1,286.42	760.21	706.07	54.14	14.041	
12,400.00	12,363.87	12,568.09	12,530.68	28.39	28.46	-115.02	196.24	1,286.42	760.24	706.34	53.91	14.103	
12,450.00	12,406.22	12,680.48	12,618.71	28.48	28.50	-114.39	126.65	1,286.42	757.94	704.33	53.61	14.137	
12,500.00	12,446.10	12,787.57	12,688.42	28.58	28.52	-113.21	45.57	1,286.42	753.56	700.16	53.40	14.111	
12,550.00	12,483.20	12,887.11	12,738.68	28.68	28.55	-111.63	-40.21	1,286.42	747.55	694.18	53.37	14.006	
12,600.00	12,517.24	12,978.20	12,771.03	28.79	28.60	-109.81	-125.26	1,286.42	740.42	686.88	53.54	13.829	
12,650.00	12,547.96	13,060.94	12,788.42	28.91	28.70	-107.87	-206.07	1,286.42	732.70	678.80	53.89	13.595	
12,700.00	12,575.12	13,136.02	12,793.98	29.04	28.86	-105.88	-280.90	1,286.42	724.84	670.47	54.37	13.331	
12,750.00	12,598.53	13,182.14	12,794.00	29.19	28.98	-104.88	-327.01	1,286.42	717.89	662.99	54.90	13.076	
12,800.00	12,617.99	13,228.18	12,794.00	29.35	29.13	-104.00	-373.05	1,286.42	712.64	657.22	55.42	12.859	
12,850.00	12,633.37	13,275.74	12,794.00	29.53	29.30	-103.22	-420.61	1,286.42	708.84	652.92	55.93	12.675	
12,900.00	12,644.55	13,324.45	12,794.00	29.73	29.50	-102.61	-469.33	1,286.42	706.28	649.85	56.43	12.516	
12,950.00	12,651.44	13,373.96	12,794.00	29.95	29.72	-102.22	-518.84	1,286.42	704.79	647.86	56.93	12.380	
13,004.20	12,654.00	13,428.08	12,794.00	30.20	29.99	-102.06	-572.96	1,286.42	704.25	646.78	57.46	12.256	
13,100.00	12,654.00	13,523.88	12,794.00	30.71	30.52	-102.06	-668.76	1,286.42	704.25	645.78	58.47	12.045	
13,200.00	12,654.00	13,623.88	12,794.00	31.32	31.15	-102.06	-768.76	1,286.42	704.25	644.57	59.67	11.802	
13,300.00	12,654.00	13,723.88	12,794.00	31.99	31.85	-102.06	-868.76	1,286.42	704.25	643.23	61.02	11.542	
13,400.00	12,654.00	13,823.88	12,794.00	32.74	32.62	-102.06	-968.76	1,286.42	704.25	641.74	62.50	11.268	
13,500.00	12,654.00	13,923.88	12,794.00	33.55	33.44	-102.06	-1,068.76	1,286.42	704.25	640.13	64.11	10.985	
13,600.00	12,654.00	14,023.88	12,794.00	34.41	34.33	-102.06	-1,168.76	1,286.42	704.25	638.41	65.84	10.696	
13,700.00	12,654.00	14,123.88	12,794.00	35.33	35.27	-102.06	-1,268.76	1,286.42	704.25	636.57	67.68	10.406	
13,800.00	12,654.00	14,223.88	12,794.00	36.30	36.26	-102.06	-1,368.76	1,286.42	704.25	634.63	69.61	10.117	
13,900.00	12,654.00	14,323.88	12,794.00	37.32	37.29	-102.06	-1,468.76	1,286.42	704.25	632.61	71.64	9.831	
14,000.00	12,654.00	14,423.88	12,794.00	38.38	38.36	-102.06	-1,568.76	1,286.42	704.25	630.50	73.75	9.549	
14,100.00	12,654.00	14,523.88	12,794.00	39.48	39.48	-102.06	-1,668.76	1,286.42	704.25	628.31	75.94	9.274	
14,200.00	12,654.00	14,623.88	12,794.00	40.61	40.62	-102.06	-1,768.76	1,286.42	704.25	626.05	78.20	9.006	

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

LEAM Drilling Systems LLC

Anticollision Report

Company: Devon Energy
Project: Lea County, NM (NAD-83)
Reference Site: Fighting Okra 18-19 Fed
Site Error: 0.00 usft
Reference Well: 3H
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Plan #1

Local Co-ordinate Reference: Well 3H
TVD Reference: 3372.2 GE + 25' KB @ 3397.20usft
MD Reference: 3372.2 GE + 25' KB @ 3397.20usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at: 2.00 sigma
Database: EDM 5000.1 Multi User Db
Offset TVD Reference: Offset Datum

Offset Design Fighting Okra 18-19 Fed - 5H - OH - Plan #1													Offset Site Error: 0.00 usft
Survey Program: 0-LEAM MWD+HDGM													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	
14,300.00	12,654.00	14,723.88	12,794.00	41.78	41.80	-102.06	-1,868.76	1,286.42	704.25	623.72	80.52	8.746	
14,400.00	12,654.00	14,823.88	12,794.00	42.98	43.01	-102.06	-1,968.76	1,286.42	704.25	621.34	82.91	8.495	
14,500.00	12,654.00	14,923.88	12,794.00	44.21	44.25	-102.06	-2,068.76	1,286.42	704.25	618.90	85.34	8.252	
14,600.00	12,654.00	15,023.88	12,794.00	45.46	45.51	-102.06	-2,168.76	1,286.42	704.25	616.42	87.83	8.018	
14,700.00	12,654.00	15,123.88	12,794.00	46.74	46.80	-102.06	-2,268.76	1,286.42	704.25	613.88	90.36	7.794	
14,800.00	12,654.00	15,223.88	12,794.00	48.03	48.11	-102.06	-2,368.76	1,286.42	704.25	611.31	92.94	7.578	
14,900.00	12,654.00	15,323.88	12,794.00	49.35	49.43	-102.06	-2,468.76	1,286.42	704.25	608.69	95.55	7.370	
15,000.00	12,654.00	15,423.88	12,794.00	50.69	50.77	-102.06	-2,568.76	1,286.42	704.25	606.05	98.20	7.172	
15,100.00	12,654.00	15,523.88	12,794.00	52.04	52.13	-102.06	-2,668.76	1,286.42	704.25	603.36	100.88	6.981	
15,200.00	12,654.00	15,623.88	12,794.00	53.41	53.51	-102.06	-2,768.76	1,286.42	704.25	600.65	103.59	6.798	
15,300.00	12,654.00	15,723.88	12,794.00	54.79	54.90	-102.06	-2,868.76	1,286.42	704.25	597.91	106.33	6.623	
15,400.00	12,654.00	15,823.88	12,794.00	56.19	56.30	-102.06	-2,968.76	1,286.42	704.25	595.15	109.10	6.455	
15,500.00	12,654.00	15,923.88	12,794.00	57.60	57.72	-102.06	-3,068.76	1,286.42	704.25	592.36	111.89	6.294	
15,600.00	12,654.00	16,023.88	12,794.00	59.02	59.14	-102.06	-3,168.76	1,286.42	704.25	589.55	114.70	6.140	
15,700.00	12,654.00	16,123.88	12,794.00	60.45	60.58	-102.06	-3,268.76	1,286.42	704.25	586.72	117.53	5.992	
15,800.00	12,654.00	16,223.88	12,794.00	61.89	62.03	-102.06	-3,368.76	1,286.42	704.25	583.87	120.38	5.850	
15,900.00	12,654.00	16,323.88	12,794.00	63.34	63.48	-102.06	-3,468.76	1,286.42	704.25	581.00	123.25	5.714	
16,000.00	12,654.00	16,423.88	12,794.00	64.80	64.95	-102.06	-3,568.76	1,286.42	704.25	578.11	126.13	5.583	
16,100.00	12,654.00	16,523.88	12,794.00	66.27	66.42	-102.06	-3,668.76	1,286.42	704.25	575.21	129.03	5.458	
16,200.00	12,654.00	16,623.88	12,794.00	67.74	67.90	-102.06	-3,768.76	1,286.42	704.25	572.30	131.95	5.337	
16,300.00	12,654.00	16,723.88	12,794.00	69.23	69.39	-102.06	-3,868.76	1,286.42	704.25	569.37	134.87	5.221	
16,400.00	12,654.00	16,823.88	12,794.00	70.72	70.88	-102.06	-3,968.76	1,286.42	704.25	566.43	137.81	5.110	
16,500.00	12,654.00	16,923.88	12,794.00	72.21	72.38	-102.06	-4,068.76	1,286.42	704.25	563.48	140.77	5.003	
16,600.00	12,654.00	17,023.88	12,794.00	73.71	73.88	-102.06	-4,168.76	1,286.42	704.25	560.51	143.73	4.900	
16,700.00	12,654.00	17,123.88	12,794.00	75.22	75.39	-102.06	-4,268.76	1,286.42	704.25	557.54	146.70	4.800	
16,800.00	12,654.00	17,223.88	12,794.00	76.73	76.91	-102.06	-4,368.76	1,286.42	704.25	554.56	149.69	4.705	
16,900.00	12,654.00	17,323.88	12,794.00	78.25	78.43	-102.06	-4,468.76	1,286.42	704.25	551.56	152.68	4.613	
17,000.00	12,654.00	17,423.88	12,794.00	79.77	79.95	-102.06	-4,568.76	1,286.42	704.25	548.56	155.68	4.524	
17,100.00	12,654.00	17,523.88	12,794.00	81.30	81.48	-102.06	-4,668.76	1,286.42	704.25	545.55	158.69	4.438	
17,200.00	12,654.00	17,623.88	12,794.00	82.83	83.01	-102.06	-4,768.76	1,286.42	704.25	542.54	161.71	4.355	
17,300.00	12,654.00	17,723.88	12,794.00	84.36	84.55	-102.06	-4,868.76	1,286.42	704.25	539.51	164.74	4.275	
17,400.00	12,654.00	17,823.88	12,794.00	85.90	86.09	-102.06	-4,968.76	1,286.42	704.25	536.48	167.77	4.198	
17,500.00	12,654.00	17,923.88	12,794.00	87.44	87.64	-102.06	-5,068.76	1,286.42	704.25	533.44	170.81	4.123	
17,600.00	12,654.00	18,023.88	12,794.00	88.98	89.18	-102.06	-5,168.76	1,286.42	704.25	530.40	173.85	4.051	
17,700.00	12,654.00	18,123.88	12,794.00	90.53	90.73	-102.06	-5,268.76	1,286.42	704.25	527.35	176.90	3.981	
17,800.00	12,654.00	18,223.88	12,794.00	92.08	92.28	-102.06	-5,368.76	1,286.42	704.25	524.29	179.96	3.913	
17,900.00	12,654.00	18,323.88	12,794.00	93.64	93.84	-102.06	-5,468.76	1,286.42	704.25	521.23	183.02	3.848	
18,000.00	12,654.00	18,423.88	12,794.00	95.19	95.40	-102.06	-5,568.76	1,286.42	704.25	518.16	186.08	3.785	
18,100.00	12,654.00	18,523.88	12,794.00	96.75	96.96	-102.06	-5,668.76	1,286.42	704.25	515.09	189.15	3.723	
18,200.00	12,654.00	18,623.88	12,794.00	98.31	98.52	-102.06	-5,768.76	1,286.42	704.25	512.01	192.23	3.664	
18,300.00	12,654.00	18,723.88	12,794.00	99.88	100.09	-102.06	-5,868.76	1,286.42	704.25	508.93	195.31	3.606	
18,400.00	12,654.00	18,823.88	12,794.00	101.44	101.66	-102.06	-5,968.76	1,286.42	704.25	505.85	198.39	3.550	
18,500.00	12,654.00	18,923.88	12,794.00	103.01	103.23	-102.06	-6,068.76	1,286.42	704.25	502.76	201.48	3.495	
18,600.00	12,654.00	19,023.88	12,794.00	104.58	104.80	-102.06	-6,168.76	1,286.42	704.25	499.67	204.57	3.442	
18,700.00	12,654.00	19,123.88	12,794.00	106.15	106.37	-102.06	-6,268.76	1,286.42	704.25	496.58	207.67	3.391	
18,800.00	12,654.00	19,223.88	12,794.00	107.73	107.95	-102.06	-6,368.76	1,286.42	704.25	493.48	210.77	3.341	
18,900.00	12,654.00	19,323.88	12,794.00	109.30	109.52	-102.06	-6,468.76	1,286.42	704.25	490.37	213.87	3.293	
19,000.00	12,654.00	19,423.88	12,794.00	110.88	111.10	-102.06	-6,568.76	1,286.42	704.25	487.27	216.98	3.246	
19,100.00	12,654.00	19,523.88	12,794.00	112.46	112.68	-102.06	-6,668.76	1,286.42	704.25	484.16	220.09	3.200	
19,200.00	12,654.00	19,623.88	12,794.00	114.04	114.26	-102.06	-6,768.76	1,286.42	704.25	481.05	223.20	3.155	
19,300.00	12,654.00	19,723.88	12,794.00	115.62	115.85	-102.06	-6,868.76	1,286.42	704.25	477.93	226.31	3.112	
19,400.00	12,654.00	19,823.88	12,794.00	117.21	117.43	-102.06	-6,968.76	1,286.42	704.25	474.82	229.43	3.070	

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

LEAM Drilling Systems LLC

Anticollision Report

Company:	Devon Energy	Local Co-ordinate Reference:	Well 3H
Project:	Lea County, NM (NAD-83)	TVD Reference:	3372.2 GE + 25' KB @ 3397.20usft
Reference Site:	Fighting Okra 18-19 Fed	MD Reference:	3372.2 GE + 25' KB @ 3397.20usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	3H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.1 Multi User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-LEAM MWD+HDGM													Offset Well Error:	0.00 usft
Reference														
Offset														
Semi Major Axis														
Distance														
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning	
19,500.00	12,654.00	19,923.88	12,794.00	118.79	119.02	-102.06	-7,068.76	1,286.42	704.25	471.70	232.55	3.028		
19,600.00	12,654.00	20,023.88	12,794.00	120.38	120.60	-102.06	-7,168.76	1,286.42	704.25	468.58	235.67	2.988		
19,700.00	12,654.00	20,123.88	12,794.00	121.96	122.19	-102.06	-7,268.76	1,286.42	704.25	465.45	238.79	2.949		
19,800.00	12,654.00	20,223.88	12,794.00	123.55	123.78	-102.06	-7,368.76	1,286.42	704.25	462.33	241.92	2.911		
19,900.00	12,654.00	20,323.88	12,794.00	125.14	125.37	-102.06	-7,468.76	1,286.42	704.25	459.20	245.05	2.874		
20,000.00	12,654.00	20,423.88	12,794.00	126.73	126.97	-102.06	-7,568.76	1,286.42	704.25	456.07	248.18	2.838		
20,100.00	12,654.00	20,523.88	12,794.00	128.33	128.56	-102.06	-7,668.76	1,286.42	704.25	452.93	251.31	2.802		
20,200.00	12,654.00	20,623.88	12,794.00	129.92	130.15	-102.06	-7,768.76	1,286.42	704.25	449.80	254.45	2.768		
20,300.00	12,654.00	20,723.88	12,794.00	131.51	131.75	-102.06	-7,868.76	1,286.42	704.25	446.66	257.58	2.734		
20,400.00	12,654.00	20,823.88	12,794.00	133.11	133.34	-102.06	-7,968.76	1,286.42	704.25	443.52	260.72	2.701		
20,500.00	12,654.00	20,923.88	12,794.00	134.70	134.94	-102.06	-8,068.76	1,286.42	704.25	440.38	263.86	2.669		
20,600.00	12,654.00	21,023.88	12,794.00	136.30	136.54	-102.06	-8,168.76	1,286.42	704.25	437.24	267.00	2.638		
20,700.00	12,654.00	21,123.88	12,794.00	137.90	138.14	-102.06	-8,268.76	1,286.42	704.25	434.10	270.15	2.607		
20,800.00	12,654.00	21,223.88	12,794.00	139.50	139.74	-102.06	-8,368.76	1,286.42	704.25	430.95	273.29	2.577		
20,900.00	12,654.00	21,323.88	12,794.00	141.10	141.34	-102.06	-8,468.76	1,286.42	704.25	427.81	276.44	2.548		
21,000.00	12,654.00	21,423.88	12,794.00	142.70	142.94	-102.06	-8,568.76	1,286.42	704.25	424.66	279.59	2.519		
21,100.00	12,654.00	21,523.88	12,794.00	144.30	144.54	-102.06	-8,668.76	1,286.42	704.25	421.51	282.74	2.491		
21,200.00	12,654.00	21,623.88	12,794.00	145.90	146.14	-102.06	-8,768.76	1,286.42	704.25	418.36	285.89	2.463		
21,300.00	12,654.00	21,723.88	12,794.00	147.50	147.75	-102.06	-8,868.76	1,286.42	704.25	415.21	289.04	2.437		
21,400.00	12,654.00	21,823.88	12,794.00	149.11	149.35	-102.06	-8,968.76	1,286.42	704.25	412.05	292.19	2.410		
21,500.00	12,654.00	21,923.88	12,794.00	150.71	150.95	-102.06	-9,068.76	1,286.42	704.25	408.90	295.35	2.384		
21,600.00	12,654.00	22,023.88	12,794.00	152.31	152.56	-102.06	-9,168.76	1,286.42	704.25	405.74	298.50	2.359		
21,700.00	12,654.00	22,123.88	12,794.00	153.92	154.17	-102.06	-9,268.76	1,286.42	704.25	402.59	301.66	2.335		
21,800.00	12,654.00	22,223.88	12,794.00	155.52	155.77	-102.06	-9,368.76	1,286.42	704.25	399.43	304.82	2.310		
21,900.00	12,654.00	22,323.88	12,794.00	157.13	157.38	-102.06	-9,468.76	1,286.42	704.25	396.27	307.98	2.287		
22,000.00	12,654.00	22,423.88	12,794.00	158.74	158.99	-102.06	-9,568.76	1,286.42	704.25	393.11	311.14	2.263		
22,100.00	12,654.00	22,523.88	12,794.00	160.34	160.59	-102.06	-9,668.76	1,286.42	704.25	389.95	314.30	2.241		
22,200.00	12,654.00	22,623.88	12,794.00	161.95	162.20	-102.06	-9,768.76	1,286.42	704.25	386.78	317.46	2.218		
22,300.00	12,654.00	22,723.88	12,794.00	163.56	163.81	-102.06	-9,868.76	1,286.42	704.25	383.62	320.62	2.196		
22,322.85	12,654.00	22,746.73	12,794.00	163.93	164.18	-102.06	-9,891.60	1,286.42	704.25	382.90	321.35	2.192 CC		
22,329.42	12,654.00	22,746.83	12,794.00	164.03	164.18	-102.06	-9,891.70	1,286.42	704.28	382.72	321.56	2.190 ES, SF		

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

LEAM Drilling Systems LLC

Anticollision Report

Company: Devon Energy
Project: Lea County, NM (NAD-83)
Reference Site: Fighting Okra 18-19 Fed
Site Error: 0.00 usft
Reference Well: 3H
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Plan #1

Local Co-ordinate Reference: Well 3H
TVD Reference: 3372.2 GE + 25' KB @ 3397.20usft
MD Reference: 3372.2 GE + 25' KB @ 3397.20usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at: 2.00 sigma
Database: EDM 5000.1 Multi User Db
Offset TVD Reference: Offset Datum

Offset Design Fighting Okra 18-19 Fed - 6H - OH - Plan #1													Offset Site Error: 0.00 usft
Survey Program: 0-LEAM MWD+HDGM													Offset Well Error: 0.00 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Distance		Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)					
0.00	0.00	0.00	0.00	0.00	0.00	94.09	-175.83	2,457.73	2,464.01	2,463.85	0.17	N/A	
100.00	100.00	96.80	96.80	0.08	0.08	94.09	-175.83	2,457.73	2,464.01	2,463.85	0.17	4,033.318	
200.00	200.00	196.80	196.80	0.31	0.30	94.09	-175.83	2,457.73	2,464.01	2,463.40	0.61	2,323.561	
300.00	300.00	296.80	296.80	0.53	0.53	94.09	-175.83	2,457.73	2,464.01	2,462.95	1.06	1,631.819	
400.00	400.00	396.80	396.80	0.76	0.75	94.09	-175.83	2,457.73	2,464.01	2,462.50	1.51	1,257.463	
500.00	500.00	496.80	496.80	0.98	0.98	94.09	-175.83	2,457.73	2,464.01	2,462.05	1.96	1,022.818	
600.00	600.00	596.80	596.80	1.21	1.20	94.09	-175.83	2,457.73	2,464.01	2,461.60	2.41	861.972	
700.00	700.00	696.80	696.80	1.43	1.43	94.09	-175.83	2,457.73	2,464.01	2,461.15	2.86	744.840	
800.00	800.00	796.80	796.80	1.66	1.65	94.09	-175.83	2,457.73	2,464.01	2,460.70	3.31	655.734	
900.00	900.00	896.80	896.80	1.88	1.88	94.09	-175.83	2,457.73	2,464.01	2,460.25	3.76	585.669	
1,000.00	1,000.00	896.80	896.80	2.11	2.10	94.09	-175.83	2,457.73	2,464.01	2,459.80	4.21	529.132	
1,100.00	1,100.00	1,096.80	1,096.80	2.33	2.32	94.09	-175.83	2,457.73	2,464.01	2,459.35	4.66	482.550	
1,200.00	1,200.00	1,196.80	1,196.80	2.56	2.55	94.09	-175.83	2,457.73	2,464.01	2,458.91	5.11	443.505	
1,300.00	1,300.00	1,296.80	1,296.80	2.78	2.77	94.09	-175.83	2,457.73	2,464.01	2,458.46	5.56	410.306	
1,400.00	1,400.00	1,396.80	1,396.80	3.01	3.00	94.09	-175.83	2,457.73	2,464.01	2,458.01	6.01	381.731	
1,500.00	1,500.00	1,496.80	1,496.80	3.23	3.22	94.09	-175.83	2,457.73	2,464.01	2,457.56	6.45	356.877	
1,600.00	1,600.00	1,596.80	1,596.80	3.46	3.45	94.09	-175.83	2,457.73	2,464.01	2,457.11	6.90	335.062	
1,700.00	1,700.00	1,696.80	1,696.80	3.68	3.67	94.09	-175.83	2,457.73	2,464.01	2,456.66	7.35	315.760	
1,800.00	1,800.00	1,796.80	1,796.80	3.91	3.90	94.09	-175.83	2,457.73	2,464.01	2,456.21	7.80	298.561	
1,900.00	1,900.00	1,896.80	1,896.80	4.13	4.12	94.09	-175.83	2,457.73	2,464.01	2,455.76	8.25	283.139	
2,000.00	2,000.00	1,896.80	1,896.80	4.35	4.35	94.09	-175.83	2,457.73	2,464.01	2,455.31	8.70	269.231	
2,100.00	2,100.00	2,096.80	2,096.80	4.58	4.57	94.09	-175.83	2,457.73	2,464.01	2,454.86	9.15	256.626	
2,200.00	2,200.00	2,196.80	2,196.80	4.80	4.80	94.09	-175.83	2,457.73	2,464.01	2,454.41	9.60	245.149	
2,300.00	2,300.00	2,296.80	2,296.80	5.03	5.02	94.09	-175.83	2,457.73	2,464.01	2,453.96	10.05	234.654	
2,400.00	2,400.00	2,396.80	2,396.80	5.25	5.25	94.09	-175.83	2,457.73	2,464.01	2,453.51	10.50	225.021	
2,500.00	2,500.00	2,496.80	2,496.80	5.48	5.47	94.09	-175.83	2,457.73	2,464.01	2,453.06	10.95	216.147	
2,600.00	2,600.00	2,596.80	2,596.80	5.70	5.70	94.09	-175.83	2,457.73	2,464.01	2,452.61	11.40	207.947	
2,700.00	2,700.00	2,696.80	2,696.80	5.93	5.92	94.09	-175.83	2,457.73	2,464.01	2,452.16	11.85	200.347	
2,800.00	2,800.00	2,796.80	2,796.80	6.15	6.15	94.09	-175.83	2,457.73	2,464.01	2,451.71	12.30	193.282	
2,900.00	2,900.00	2,896.80	2,896.80	6.38	6.37	94.09	-175.83	2,457.73	2,464.01	2,451.26	12.75	186.698	
3,000.00	3,000.00	2,896.80	2,896.80	6.60	6.60	94.09	-175.83	2,457.73	2,464.01	2,450.81	13.20	180.678	
3,100.00	3,099.99	3,096.79	3,096.79	6.81	6.82	4.09	-175.83	2,457.73	2,463.14	2,449.51	13.63	175.069	
3,200.00	3,199.96	3,196.76	3,196.76	7.01	7.04	4.10	-175.83	2,457.73	2,460.53	2,446.48	14.05	169.648	
3,300.00	3,299.86	3,296.66	3,296.66	7.21	7.27	4.11	-175.83	2,457.73	2,456.18	2,441.70	14.48	164.404	
3,400.00	3,399.68	3,396.48	3,396.48	7.42	7.49	4.13	-175.83	2,457.73	2,450.09	2,435.19	14.90	161.697	
3,452.85	3,452.38	3,449.18	3,449.18	7.53	7.61	4.13	-175.83	2,457.73	2,446.17	2,431.04	15.13	159.335	
3,500.00	3,499.38	3,496.18	3,496.18	7.63	7.72	4.14	-175.83	2,457.73	2,442.46	2,427.13	15.33	154.729	
3,600.00	3,599.07	3,587.28	3,587.27	7.84	7.92	4.14	-175.20	2,457.93	2,434.75	2,419.02	15.74	150.382	
3,700.00	3,698.76	3,678.05	3,678.02	8.05	8.13	4.10	-173.19	2,458.56	2,427.41	2,411.27	16.14	146.263	
3,800.00	3,798.45	3,768.80	3,768.71	8.27	8.33	4.03	-169.82	2,459.63	2,420.44	2,403.90	16.55	142.355	
3,900.00	3,898.13	3,859.49	3,859.26	8.49	8.53	3.93	-165.08	2,461.13	2,413.85	2,396.89	16.96	138.539	
4,000.00	3,997.82	3,955.39	3,954.93	8.71	8.75	3.79	-158.87	2,463.09	2,407.58	2,390.20	17.38	134.825	
4,100.00	4,097.51	4,055.00	4,054.30	8.93	8.97	3.64	-152.29	2,465.17	2,401.35	2,383.54	17.81	131.273	
4,200.00	4,197.20	4,154.61	4,153.68	9.16	9.19	3.49	-145.71	2,467.24	2,395.14	2,376.90	18.25	127.872	
4,300.00	4,296.88	4,254.23	4,253.05	9.39	9.42	3.35	-139.14	2,469.32	2,388.95	2,370.27	18.68	124.616	
4,400.00	4,396.57	4,353.84	4,352.43	9.61	9.64	3.20	-132.56	2,471.40	2,382.77	2,363.65	19.12	121.495	
4,500.00	4,496.26	4,453.45	4,451.80	9.84	9.87	3.04	-125.99	2,473.47	2,376.61	2,357.05	19.56	118.503	
4,600.00	4,595.95	4,553.07	4,551.17	10.07	10.10	2.89	-119.41	2,475.55	2,370.47	2,350.46	20.00	115.632	
4,700.00	4,695.64	4,652.68	4,650.55	10.31	10.33	2.74	-112.84	2,477.63	2,364.34	2,343.89	20.45	112.876	
4,800.00	4,795.32	4,752.29	4,749.92	10.54	10.56	2.59	-106.26	2,479.71	2,358.23	2,337.34	20.89	110.229	
4,900.00	4,895.01	4,851.91	4,849.30	10.78	10.79	2.43	-99.69	2,481.78	2,352.13	2,330.80	21.34	107.685	
5,000.00	4,994.70	4,951.52	4,948.67	11.01	11.02	2.28	-93.11	2,483.86	2,346.06	2,324.27	21.79		

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

LEAM Drilling Systems LLC

Anticollision Report

Company: Devon Energy
Project: Lea County, NM (NAD-83)
Reference Site: Fighting Okra 18-19 Fed
Site Error: 0.00 usft
Reference Well: 3H
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Plan #1

Local Co-ordinate Reference: Well 3H
TVD Reference: 3372.2 GE + 25' KB @ 3397.20usft
MD Reference: 3372.2 GE + 25' KB @ 3397.20usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at: 2.00 sigma
Database: EDM 5000.1 Multi User Db
Offset TVD Reference: Offset Datum

Offset Design Fighting Okra 18-19 Fed - 6H - OH - Plan #1													Offset Site Error:	0.00 usft
Survey Program: 0-LEAM MWD+HDGM													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	5,094.39	5,051.13	5,048.05	11.25	11.25	2.12	-86.53	2,485.94	2,340.00	2,317.76	22.24	105.238		
5,200.00	5,194.07	5,150.75	5,147.42	11.49	11.49	1.97	-79.96	2,488.01	2,333.96	2,311.27	22.69	102.884		
5,300.00	5,293.76	5,250.36	5,246.79	11.72	11.72	1.81	-73.38	2,490.09	2,327.93	2,304.79	23.14	100.618		
5,400.00	5,393.45	5,349.97	5,346.17	11.96	11.95	1.65	-66.81	2,492.17	2,321.92	2,298.34	23.59	98.435		
5,500.00	5,493.14	5,449.58	5,445.54	12.20	12.19	1.49	-60.23	2,494.24	2,315.93	2,291.89	24.04	96.331		
5,600.00	5,592.83	5,549.20	5,544.92	12.44	12.42	1.33	-53.66	2,496.32	2,309.96	2,285.47	24.50	94.302		
5,700.00	5,692.51	5,648.81	5,644.29	12.69	12.66	1.17	-47.08	2,498.40	2,304.01	2,279.06	24.95	92.345		
5,800.00	5,792.20	5,748.42	5,743.67	12.93	12.89	1.01	-40.50	2,500.48	2,298.07	2,272.67	25.41	90.456		
5,900.00	5,891.89	5,848.04	5,843.04	13.17	13.13	0.85	-33.93	2,502.55	2,292.16	2,266.30	25.86	88.631		
6,000.00	5,991.58	5,947.65	5,942.41	13.41	13.37	0.69	-27.35	2,504.63	2,286.26	2,259.94	26.32	86.868		
6,100.00	6,091.26	6,047.26	6,041.79	13.66	13.60	0.52	-20.78	2,506.71	2,280.38	2,253.60	26.78	85.164		
6,200.00	6,190.95	6,146.88	6,141.16	13.90	13.84	0.36	-14.20	2,508.78	2,274.52	2,247.28	27.23	83.516		
6,300.00	6,290.64	6,246.49	6,240.54	14.15	14.08	0.19	-7.63	2,510.86	2,268.68	2,240.98	27.69	81.921		
6,400.00	6,390.33	6,346.10	6,339.91	14.39	14.31	0.03	-1.05	2,512.94	2,262.85	2,234.70	28.15	80.378		
6,500.00	6,490.02	6,445.72	6,439.29	14.64	14.55	-0.14	5.52	2,515.02	2,257.05	2,228.44	28.61	78.883		
6,600.00	6,589.70	6,545.33	6,538.66	14.89	14.79	-0.31	12.10	2,517.09	2,251.26	2,222.19	29.07	77.435		
6,700.00	6,689.39	6,644.94	6,638.03	15.13	15.03	-0.48	18.68	2,519.17	2,245.50	2,215.96	29.53	76.031		
6,800.00	6,789.08	6,744.56	6,737.41	15.38	15.27	-0.65	25.25	2,521.25	2,239.75	2,209.76	30.00	74.670		
6,900.00	6,888.77	6,844.17	6,836.78	15.63	15.51	-0.82	31.83	2,523.32	2,234.03	2,203.57	30.46	73.349		
7,000.00	6,988.46	6,943.78	6,936.16	15.87	15.75	-0.99	38.40	2,525.40	2,228.32	2,197.40	30.92	72.068		
7,100.00	7,088.14	7,043.40	7,035.53	16.12	15.99	-1.16	44.98	2,527.48	2,222.64	2,191.25	31.38	70.824		
7,200.00	7,187.83	7,143.01	7,134.91	16.37	16.23	-1.33	51.55	2,529.55	2,216.97	2,185.12	31.85	69.617		
7,300.00	7,287.52	7,242.62	7,234.28	16.62	16.47	-1.51	58.13	2,531.63	2,211.33	2,179.02	32.31	68.443		
7,400.00	7,387.21	7,342.24	7,333.65	16.87	16.71	-1.68	64.71	2,533.71	2,205.70	2,172.93	32.77	67.303		
7,500.00	7,486.89	7,441.85	7,433.03	17.12	16.95	-1.86	71.28	2,535.79	2,200.10	2,166.86	33.24	66.194		
7,600.00	7,586.58	7,541.46	7,532.40	17.37	17.19	-2.04	77.86	2,537.88	2,194.51	2,160.81	33.70	65.116		
7,700.00	7,686.27	7,641.08	7,631.78	17.62	17.43	-2.21	84.43	2,539.94	2,188.95	2,154.79	34.17	64.068		
7,800.00	7,785.96	7,740.69	7,731.15	17.87	17.67	-2.39	91.01	2,542.02	2,183.41	2,148.78	34.63	63.047		
7,900.00	7,885.65	7,840.30	7,830.53	18.12	17.91	-2.57	97.58	2,544.09	2,177.89	2,142.79	35.10	62.054		
8,000.00	7,985.33	7,939.92	7,929.90	18.37	18.15	-2.75	104.16	2,546.17	2,172.39	2,136.83	35.56	61.087		
8,100.00	8,085.02	8,039.53	8,029.28	18.62	18.39	-2.93	110.73	2,548.25	2,166.92	2,130.89	36.03	60.145		
8,200.00	8,184.71	8,139.14	8,128.65	18.87	18.63	-3.12	117.31	2,550.33	2,161.46	2,124.97	36.49	59.227		
8,300.00	8,284.40	8,238.76	8,228.02	19.12	18.88	-3.30	123.89	2,552.40	2,156.03	2,119.07	36.96	58.333		
8,400.00	8,384.08	8,338.37	8,327.40	19.37	19.12	-3.48	130.46	2,554.48	2,150.62	2,113.19	37.43	57.461		
8,500.00	8,483.77	8,437.98	8,426.77	19.62	19.36	-3.67	137.04	2,556.56	2,145.23	2,107.34	37.89	56.610		
8,600.00	8,583.46	8,537.60	8,526.15	19.87	19.60	-3.85	143.61	2,558.63	2,139.87	2,101.50	38.36	55.781		
8,700.00	8,683.15	8,637.21	8,625.52	20.12	19.84	-4.04	150.19	2,560.71	2,134.52	2,095.69	38.83	54.972		
8,800.00	8,782.84	8,736.82	8,724.90	20.37	20.09	-4.23	156.76	2,562.79	2,129.20	2,089.91	39.30	54.183		
8,900.00	8,882.52	8,836.44	8,824.27	20.63	20.33	-4.42	163.34	2,564.86	2,123.91	2,084.14	39.76	53.412		
9,000.00	8,982.21	8,936.05	8,923.64	20.88	20.57	-4.61	169.92	2,566.94	2,118.63	2,078.40	40.23	52.660		
9,100.00	9,081.90	9,035.66	9,023.02	21.13	20.81	-4.80	176.49	2,569.02	2,113.38	2,072.68	40.70	51.925		
9,200.00	9,181.59	9,135.28	9,122.39	21.38	21.06	-4.99	183.07	2,571.10	2,108.15	2,066.99	41.17	51.207		
9,300.00	9,281.28	9,234.89	9,221.77	21.64	21.30	-5.18	189.64	2,573.17	2,102.95	2,061.31	41.64	50.506		
9,400.00	9,380.96	9,334.50	9,321.14	21.89	21.54	-5.37	196.22	2,575.25	2,097.77	2,055.67	42.11	49.821		
9,500.00	9,480.65	9,434.12	9,420.52	22.14	21.78	-5.57	202.79	2,577.33	2,092.62	2,050.04	42.58	49.151		
9,600.00	9,580.34	9,533.73	9,519.89	22.39	22.03	-5.76	209.37	2,579.40	2,087.49	2,044.44	43.04	48.496		
9,700.00	9,680.03	9,633.34	9,619.26	22.65	22.27	-5.96	215.94	2,581.48	2,082.38	2,038.87	43.51	47.856		
9,800.00	9,779.71	9,732.96	9,718.64	22.90	22.51	-6.16	222.52	2,583.56	2,077.30	2,033.32	43.98	47.230		
9,900.00	9,879.40	9,832.57	9,818.01	23.15	22.76	-6.36	229.10	2,585.64	2,072.24	2,027.79	44.45	46.617		
10,000.00	9,979.09	9,932.18	9,917.39	23.41	23.00	-6.55	235.67	2,587.71	2,067.21	2,022.29	44.92	46.018		
10,100.00	10,078.78	10,031.80	10,016.76	23.66	23.24	-6.75	242.25	2,589.79	2,062.20	2,016.81	45.39	45.431		
10,200.00	10,178.47	10,131.41	10,116.14	23.91	23.49	-6.96	248.82	2,591.87	2,057.22	2,011.36	45.86	44.857		

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

LEAM Drilling Systems LLC

Anticollision Report

Company: Devon Energy
Project: Lea County, NM (NAD-83)
Reference Site: Fighting Okra 18-19 Fed
Site Error: 0.00 usft
Reference Well: 3H
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Plan #1

Local Co-ordinate Reference: Well 3H
TVD Reference: 3372.2 GE + 25' KB @ 3397.20usft
MD Reference: 3372.2 GE + 25' KB @ 3397.20usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at: 2.00 sigma
Database: EDM 5000.1 Multi User Db
Offset TVD Reference: Offset Datum

Offset Design Fighting Okra 18-19 Fed - 6H - OH - Plan #1													Offset Site Error: 0.00 usft
Survey Program: 0-LEAM MWD+HDGM													Offset Well Error: 0.00 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Distance		Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)					
10,300.00	10,278.15	10,231.02	10,215.51	24.17	23.73	-7.16	255.40	2,593.94	2,052.26	2,005.93	46.33	44.295	
10,400.00	10,377.84	10,330.64	10,314.88	24.42	23.97	-7.36	261.97	2,596.02	2,047.33	2,000.53	46.80	43.745	
10,500.00	10,477.53	10,430.25	10,414.26	24.67	24.22	-7.56	268.55	2,598.10	2,042.43	1,995.16	47.27	43.206	
10,570.31	10,547.62	10,500.29	10,484.13	24.85	24.39	-7.71	273.17	2,599.56	2,039.00	1,991.39	47.60	42.833	
10,600.00	10,577.22	10,529.87	10,513.64	24.92	24.46	-7.77	275.13	2,600.17	2,037.63	1,989.89	47.74	42.685	
10,700.00	10,677.01	10,631.31	10,614.84	25.11	24.71	-7.97	281.81	2,602.29	2,034.15	1,985.98	48.16	42.235	
10,800.00	10,776.89	10,749.21	10,732.55	25.30	24.94	-8.16	288.21	2,604.31	2,031.89	1,983.31	48.58	41.627	
10,900.00	10,876.85	10,867.34	10,850.59	25.48	25.15	-8.28	292.31	2,605.60	2,030.48	1,981.51	48.97	41.468	
11,000.00	10,976.84	10,985.58	10,968.82	25.65	25.35	-8.33	294.09	2,606.16	2,029.90	1,980.56	49.34	41.140	
11,019.68	10,996.51	11,008.85	10,992.09	25.69	25.39	-8.33	294.16	2,606.19	2,029.89	1,980.47	49.42	41.078	
11,023.16	11,000.00	11,012.98	10,996.22	25.70	25.40	81.67	294.17	2,606.19	2,029.89	1,980.46	49.43	41.068	
11,100.00	11,076.84	11,090.40	11,073.64	25.84	25.55	81.67	294.17	2,606.19	2,029.89	1,980.16	49.73	40.821	
11,200.00	11,176.84	11,190.40	11,173.64	26.04	25.76	81.67	294.17	2,606.19	2,029.89	1,979.74	50.14	40.481	
11,300.00	11,276.84	11,290.40	11,273.64	26.23	25.97	81.67	294.17	2,606.19	2,029.89	1,979.32	50.57	40.143	
11,400.00	11,376.84	11,390.40	11,373.64	26.43	26.18	81.67	294.17	2,606.19	2,029.89	1,978.90	50.99	39.811	
11,500.00	11,476.84	11,490.40	11,473.64	26.63	26.40	81.67	294.17	2,606.19	2,029.89	1,978.48	51.41	39.484	
11,600.00	11,576.84	11,590.40	11,573.64	26.83	26.61	81.67	294.17	2,606.19	2,029.89	1,978.06	51.83	39.162	
11,700.00	11,676.84	11,690.40	11,673.64	27.03	26.82	81.67	294.17	2,606.19	2,029.89	1,977.63	52.26	38.845	
11,800.00	11,776.84	11,790.40	11,773.64	27.23	27.04	81.67	294.17	2,606.19	2,029.89	1,977.21	52.68	38.533	
11,900.00	11,876.84	11,890.40	11,873.64	27.43	27.25	81.67	294.17	2,606.19	2,029.89	1,976.78	53.10	38.225	
12,000.00	11,976.84	11,990.40	11,973.64	27.63	27.47	81.67	294.17	2,606.19	2,029.89	1,976.36	53.53	37.922	
12,104.20	12,081.04	12,094.60	12,077.84	27.84	27.69	81.67	294.17	2,606.19	2,029.89	1,975.92	53.97	37.611	
12,150.00	12,126.79	12,140.35	12,123.59	27.93	27.79	-98.36	294.17	2,606.19	2,030.15	1,975.99	54.16	37.483	
12,200.00	12,176.39	12,189.96	12,173.19	28.02	27.90	-98.44	294.17	2,606.19	2,031.06	1,976.70	54.37	37.359	
12,250.00	12,225.27	12,238.83	12,222.07	28.11	28.00	-98.57	294.17	2,606.19	2,032.64	1,978.07	54.57	37.248	
12,300.00	12,273.05	12,333.74	12,316.69	28.20	28.15	-99.01	288.18	2,606.19	2,034.54	1,979.73	54.80	37.124	
12,350.00	12,319.37	12,449.81	12,429.07	28.29	28.25	-99.35	259.96	2,606.19	2,035.66	1,980.72	54.95	37.047	
12,400.00	12,363.87	12,568.96	12,536.10	28.39	28.27	-99.40	208.08	2,606.19	2,035.84	1,980.84	55.00	37.014	
12,450.00	12,406.22	12,686.62	12,629.03	28.48	28.25	-99.16	136.26	2,606.19	2,035.04	1,980.03	55.01	36.993	
12,500.00	12,446.10	12,798.63	12,702.13	28.58	28.21	-98.67	51.63	2,606.19	2,033.37	1,978.33	55.04	36.946	
12,550.00	12,483.20	12,902.26	12,753.93	28.68	28.19	-98.01	-37.97	2,606.19	2,031.02	1,975.90	55.12	36.847	
12,600.00	12,517.24	12,996.41	12,786.32	28.79	28.20	-97.27	-126.26	2,606.19	2,028.23	1,972.95	55.28	36.690	
12,650.00	12,547.96	13,081.26	12,802.78	28.91	28.28	-96.49	-209.42	2,606.19	2,025.21	1,969.70	55.51	36.482	
12,700.00	12,575.12	13,154.86	12,807.00	29.04	28.40	-95.76	-282.85	2,606.19	2,022.17	1,966.37	55.80	36.242	
12,750.00	12,598.53	13,199.03	12,807.00	29.19	28.50	-95.44	-327.01	2,606.19	2,019.58	1,963.50	56.09	36.009	
12,800.00	12,617.99	13,245.07	12,807.00	29.35	28.62	-95.12	-373.05	2,606.19	2,017.64	1,961.22	56.42	35.762	
12,850.00	12,633.37	13,292.63	12,807.00	29.53	28.75	-94.85	-420.61	2,606.19	2,016.23	1,959.46	56.76	35.519	
12,900.00	12,644.55	13,341.35	12,807.00	29.73	28.92	-94.64	-469.33	2,606.19	2,015.28	1,958.12	57.16	35.257	
12,950.00	12,651.44	13,390.85	12,807.00	29.95	29.10	-94.50	-518.84	2,606.19	2,014.73	1,957.15	57.57	34.993	
13,004.20	12,654.00	13,444.97	12,807.00	30.20	29.34	-94.45	-572.96	2,606.19	2,014.52	1,956.45	58.07	34.689	
13,100.00	12,654.00	13,540.77	12,807.00	30.71	29.80	-94.45	-668.76	2,606.19	2,014.52	1,955.48	59.05	34.118	
13,200.00	12,654.00	13,640.77	12,807.00	31.32	30.36	-94.45	-768.76	2,606.19	2,014.52	1,954.31	60.22	33.453	
13,300.00	12,654.00	13,740.77	12,807.00	31.99	30.99	-94.45	-868.76	2,606.19	2,014.52	1,952.98	61.54	32.734	
13,400.00	12,654.00	13,840.77	12,807.00	32.74	31.69	-94.45	-968.76	2,606.19	2,014.52	1,951.52	63.01	31.974	
13,500.00	12,654.00	13,940.77	12,807.00	33.55	32.47	-94.45	-1,068.76	2,606.19	2,014.52	1,949.92	64.60	31.184	
13,600.00	12,654.00	14,040.77	12,807.00	34.41	33.30	-94.45	-1,168.76	2,606.19	2,014.52	1,948.21	66.32	30.376	
13,700.00	12,654.00	14,140.77	12,807.00	35.33	34.19	-94.45	-1,268.76	2,606.19	2,014.52	1,946.38	68.15	29.561	
13,800.00	12,654.00	14,240.77	12,807.00	36.30	35.14	-94.45	-1,368.76	2,606.19	2,014.52	1,944.44	70.08	28.745	
13,900.00	12,654.00	14,340.77	12,807.00	37.32	36.13	-94.45	-1,468.76	2,606.19	2,014.52	1,942.41	72.11	27.936	
14,000.00	12,654.00	14,440.77	12,807.00	38.38	37.17	-94.45	-1,568.76	2,606.19	2,014.52	1,940.29	74.23	27.139	
14,100.00	12,654.00	14,540.77	12,807.00	39.48	38.25	-94.45	-1,668.76	2,606.19	2,014.52	1,938.10	76.43	26.358	
14,200.00	12,654.00	14,640.77	12,807.00	40.61	39.37	-94.45	-1,768.76	2,606.19	2,014.52	1,935.82	78.70	25.597	

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

LEAM Drilling Systems LLC

Anticollision Report

Company: Devon Energy
Project: Lea County, NM (NAD-83)
Reference Site: Fighting Okra 18-19 Fed
Site Error: 0.00 usft
Reference Well: 3H
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Plan #1

Local Co-ordinate Reference: Well 3H
TVD Reference: 3372.2 GE + 25' KB @ 3397.20usft
MD Reference: 3372.2 GE + 25' KB @ 3397.20usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at: 2.00 sigma
Database: EDM 5000.1 Multi User Db
Offset TVD Reference: Offset Datum

Offset Design Fighting Okra 18-19 Fed - 6H - OH - Plan #1														Offset Site Error: 0.00 usft
Survey Program: O-LEAM MWD+HDGM														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		
14,300.00	12,654.00	14,740.77	12,807.00	41.78	40.52	-94.45	-1,868.76	2,606.19	2,014.52	1,933.49	81.04	24.859		
14,400.00	12,654.00	14,840.77	12,807.00	42.98	41.71	-94.45	-1,968.76	2,606.19	2,014.52	1,931.08	83.44	24.143		
14,500.00	12,654.00	14,940.77	12,807.00	44.21	42.92	-94.45	-2,068.76	2,606.19	2,014.52	1,928.63	85.90	23.452		
14,600.00	12,654.00	15,040.77	12,807.00	45.46	44.17	-94.45	-2,168.76	2,606.19	2,014.52	1,926.12	88.41	22.787		
14,700.00	12,654.00	15,140.77	12,807.00	46.74	45.43	-94.45	-2,268.76	2,606.19	2,014.52	1,923.56	90.97	22.146		
14,800.00	12,654.00	15,240.77	12,807.00	48.03	46.72	-94.45	-2,368.76	2,606.19	2,014.52	1,920.96	93.57	21.530		
14,900.00	12,654.00	15,340.77	12,807.00	49.35	48.03	-94.45	-2,468.76	2,606.19	2,014.52	1,918.32	96.21	20.939		
15,000.00	12,654.00	15,440.77	12,807.00	50.69	49.36	-94.45	-2,568.76	2,606.19	2,014.52	1,915.64	98.89	20.372		
15,100.00	12,654.00	15,540.77	12,807.00	52.04	50.71	-94.45	-2,668.76	2,606.19	2,014.52	1,912.93	101.60	19.828		
15,200.00	12,654.00	15,640.77	12,807.00	53.41	52.08	-94.45	-2,768.76	2,606.19	2,014.52	1,910.18	104.34	19.307		
15,300.00	12,654.00	15,740.77	12,807.00	54.79	53.46	-94.45	-2,868.76	2,606.19	2,014.52	1,907.41	107.12	18.807		
15,400.00	12,654.00	15,840.77	12,807.00	56.19	54.85	-94.45	-2,968.76	2,606.19	2,014.52	1,904.61	109.92	18.328		
15,500.00	12,654.00	15,940.77	12,807.00	57.60	56.26	-94.45	-3,068.76	2,606.19	2,014.52	1,901.78	112.74	17.869		
15,600.00	12,654.00	16,040.77	12,807.00	59.02	57.68	-94.45	-3,168.76	2,606.19	2,014.52	1,898.94	115.59	17.429		
15,700.00	12,654.00	16,140.77	12,807.00	60.45	59.11	-94.45	-3,268.76	2,606.19	2,014.52	1,896.07	118.46	17.006		
15,800.00	12,654.00	16,240.77	12,807.00	61.89	60.55	-94.45	-3,368.76	2,606.19	2,014.52	1,893.18	121.35	16.602		
15,900.00	12,654.00	16,340.77	12,807.00	63.34	62.00	-94.45	-3,468.76	2,606.19	2,014.52	1,890.27	124.25	16.213		
16,000.00	12,654.00	16,440.77	12,807.00	64.80	63.45	-94.45	-3,568.76	2,606.19	2,014.52	1,887.35	127.18	15.840		
16,100.00	12,654.00	16,540.77	12,807.00	66.27	64.92	-94.45	-3,668.76	2,606.19	2,014.52	1,884.41	130.12	15.482		
16,200.00	12,654.00	16,640.77	12,807.00	67.74	66.40	-94.45	-3,768.76	2,606.19	2,014.52	1,881.45	133.07	15.139		
16,300.00	12,654.00	16,740.77	12,807.00	69.23	67.88	-94.45	-3,868.76	2,606.19	2,014.52	1,878.48	136.04	14.808		
16,400.00	12,654.00	16,840.77	12,807.00	70.72	69.37	-94.45	-3,968.76	2,606.19	2,014.52	1,875.50	139.02	14.491		
16,500.00	12,654.00	16,940.77	12,807.00	72.21	70.86	-94.45	-4,068.76	2,606.19	2,014.52	1,872.51	142.02	14.185		
16,600.00	12,654.00	17,040.77	12,807.00	73.71	72.36	-94.45	-4,168.76	2,606.19	2,014.52	1,869.50	145.02	13.891		
16,700.00	12,654.00	17,140.77	12,807.00	75.22	73.87	-94.45	-4,268.76	2,606.19	2,014.52	1,866.49	148.04	13.608		
16,800.00	12,654.00	17,240.77	12,807.00	76.73	75.38	-94.45	-4,368.76	2,606.19	2,014.52	1,863.46	151.07	13.335		
16,900.00	12,654.00	17,340.77	12,807.00	78.25	76.90	-94.45	-4,468.76	2,606.19	2,014.52	1,860.42	154.10	13.073		
17,000.00	12,654.00	17,440.77	12,807.00	79.77	78.42	-94.45	-4,568.76	2,606.19	2,014.52	1,857.38	157.15	12.819		
17,100.00	12,654.00	17,540.77	12,807.00	81.30	79.95	-94.45	-4,668.76	2,606.19	2,014.52	1,854.32	160.20	12.575		
17,200.00	12,654.00	17,640.77	12,807.00	82.83	81.48	-94.45	-4,768.76	2,606.19	2,014.52	1,851.26	163.26	12.339		
17,300.00	12,654.00	17,740.77	12,807.00	84.36	83.02	-94.45	-4,868.76	2,606.19	2,014.52	1,848.19	166.33	12.111		
17,400.00	12,654.00	17,840.77	12,807.00	85.90	84.55	-94.45	-4,968.76	2,606.19	2,014.52	1,845.11	169.41	11.891		
17,500.00	12,654.00	17,940.77	12,807.00	87.44	86.10	-94.45	-5,068.76	2,606.19	2,014.52	1,842.03	172.49	11.679		
17,600.00	12,654.00	18,040.77	12,807.00	88.98	87.64	-94.45	-5,168.76	2,606.19	2,014.52	1,838.94	175.58	11.473		
17,700.00	12,654.00	18,140.77	12,807.00	90.53	89.19	-94.45	-5,268.76	2,606.19	2,014.52	1,835.85	178.68	11.275		
17,800.00	12,654.00	18,240.77	12,807.00	92.08	90.74	-94.45	-5,368.76	2,606.19	2,014.52	1,832.74	181.78	11.082		
17,900.00	12,654.00	18,340.77	12,807.00	93.64	92.30	-94.45	-5,468.76	2,606.19	2,014.52	1,829.64	184.89	10.896		
18,000.00	12,654.00	18,440.77	12,807.00	95.19	93.85	-94.45	-5,568.76	2,606.19	2,014.52	1,826.53	188.00	10.716		
18,100.00	12,654.00	18,540.77	12,807.00	96.75	95.41	-94.45	-5,668.76	2,606.19	2,014.52	1,823.41	191.12	10.541		
18,200.00	12,654.00	18,640.77	12,807.00	98.31	96.97	-94.45	-5,768.76	2,606.19	2,014.52	1,820.29	194.24	10.371		
18,300.00	12,654.00	18,740.77	12,807.00	99.88	98.54	-94.45	-5,868.76	2,606.19	2,014.52	1,817.16	197.37	10.207		
18,400.00	12,654.00	18,840.77	12,807.00	101.44	100.11	-94.45	-5,968.76	2,606.19	2,014.52	1,814.03	200.50	10.048		
18,500.00	12,654.00	18,940.77	12,807.00	103.01	101.67	-94.45	-6,068.76	2,606.19	2,014.52	1,810.89	203.63	9.893		
18,600.00	12,654.00	19,040.77	12,807.00	104.58	103.24	-94.45	-6,168.76	2,606.19	2,014.52	1,807.76	206.77	9.743		
18,700.00	12,654.00	19,140.77	12,807.00	106.15	104.82	-94.45	-6,268.76	2,606.19	2,014.52	1,804.61	209.91	9.597		
18,800.00	12,654.00	19,240.77	12,807.00	107.73	106.39	-94.45	-6,368.76	2,606.19	2,014.52	1,801.47	213.06	9.455		
18,900.00	12,654.00	19,340.77	12,807.00	109.30	107.97	-94.45	-6,468.76	2,606.19	2,014.52	1,798.32	216.21	9.318		
19,000.00	12,654.00	19,440.77	12,807.00	110.88	109.55	-94.45	-6,568.76	2,606.19	2,014.52	1,795.16	219.36	9.184		
19,100.00	12,654.00	19,540.77	12,807.00	112.46	111.13	-94.45	-6,668.76	2,606.19	2,014.52	1,792.01	222.52	9.053		
19,200.00	12,654.00	19,640.77	12,807.00	114.04	112.71	-94.45	-6,768.76	2,606.19	2,014.52	1,788.85	225.67	8.927		
19,300.00	12,654.00	19,740.77	12,807.00	115.62	114.29	-94.45	-6,868.76	2,606.19	2,014.52	1,785.69	228.84	8.803		
19,400.00	12,654.00	19,840.77	12,807.00	117.21	115.87	-94.45	-6,968.76	2,606.19	2,014.52	1,782.52	232.00	8.683		

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

LEAM Drilling Systems LLC

Anticollision Report

Company: Devon Energy
Project: Lea County, NM (NAD-83)
Reference Site: Fighting Okra 18-19 Fed
Site Error: 0.00 usft
Reference Well: 3H
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Plan #1

Local Co-ordinate Reference: Well 3H
TVD Reference: 3372.2 GE + 25' KB @ 3397.20usft
MD Reference: 3372.2 GE + 25' KB @ 3397.20usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at 2.00 sigma
Database: EDM 5000.1 Multi User Db
Offset TVD Reference: Offset Datum

Offset Design Fighting Okra 18-19 Fed - 6H - OH - Plan #1													Offset Site Error:
Survey Program: 0-LEAM MWD+HDGM													Offset Well Error:
Reference		Offset		Semi Major Axis			Distance						Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	
19,500.00	12,654.00	19,940.77	12,807.00	118.79	117.46	-94.45	-7,068.76	2,606.19	2,014.52	1,779.36	235.17	8.566	
19,600.00	12,654.00	20,040.77	12,807.00	120.38	119.05	-94.45	-7,168.76	2,606.19	2,014.52	1,776.19	238.34	8.452	
19,700.00	12,654.00	20,140.77	12,807.00	121.96	120.64	-94.45	-7,268.76	2,606.19	2,014.52	1,773.02	241.51	8.341	
19,800.00	12,654.00	20,240.77	12,807.00	123.55	122.22	-94.45	-7,368.76	2,606.19	2,014.52	1,769.84	244.68	8.233	
19,900.00	12,654.00	20,340.77	12,807.00	125.14	123.82	-94.45	-7,468.76	2,606.19	2,014.52	1,766.67	247.86	8.128	
20,000.00	12,654.00	20,440.77	12,807.00	126.73	125.41	-94.45	-7,568.76	2,606.19	2,014.52	1,763.49	251.04	8.025	
20,100.00	12,654.00	20,540.77	12,807.00	128.33	127.00	-94.45	-7,668.76	2,606.19	2,014.52	1,760.31	254.22	7.924	
20,200.00	12,654.00	20,640.77	12,807.00	129.92	128.59	-94.45	-7,768.76	2,606.19	2,014.52	1,757.12	257.40	7.826	
20,300.00	12,654.00	20,740.77	12,807.00	131.51	130.19	-94.45	-7,868.76	2,606.19	2,014.52	1,753.94	260.59	7.731	
20,400.00	12,654.00	20,840.77	12,807.00	133.11	131.78	-94.45	-7,968.76	2,606.19	2,014.52	1,750.75	263.77	7.637	
20,500.00	12,654.00	20,940.77	12,807.00	134.70	133.38	-94.45	-8,068.76	2,606.19	2,014.52	1,747.56	266.96	7.546	
20,600.00	12,654.00	21,040.77	12,807.00	136.30	134.98	-94.45	-8,168.76	2,606.19	2,014.52	1,744.37	270.15	7.457	
20,700.00	12,654.00	21,140.77	12,807.00	137.90	136.58	-94.45	-8,268.76	2,606.19	2,014.52	1,741.18	273.34	7.370	
20,800.00	12,654.00	21,240.77	12,807.00	139.50	138.18	-94.45	-8,368.76	2,606.19	2,014.52	1,737.99	276.54	7.285	
20,900.00	12,654.00	21,340.77	12,807.00	141.10	139.78	-94.45	-8,468.76	2,606.19	2,014.52	1,734.79	279.73	7.202	
21,000.00	12,654.00	21,440.77	12,807.00	142.70	141.38	-94.45	-8,568.76	2,606.19	2,014.52	1,731.60	282.93	7.120	
21,100.00	12,654.00	21,540.77	12,807.00	144.30	142.98	-94.45	-8,668.76	2,606.19	2,014.52	1,728.40	286.13	7.041	
21,200.00	12,654.00	21,640.77	12,807.00	145.90	144.58	-94.45	-8,768.76	2,606.19	2,014.52	1,725.20	289.32	6.963	
21,300.00	12,654.00	21,740.77	12,807.00	147.50	146.19	-94.45	-8,868.76	2,606.19	2,014.52	1,722.00	292.53	6.887	
21,400.00	12,654.00	21,840.77	12,807.00	149.11	147.79	-94.45	-8,968.76	2,606.19	2,014.52	1,718.80	295.73	6.812	
21,500.00	12,654.00	21,940.77	12,807.00	150.71	149.39	-94.45	-9,068.76	2,606.19	2,014.52	1,715.59	298.93	6.739	
21,600.00	12,654.00	22,040.77	12,807.00	152.31	151.00	-94.45	-9,168.76	2,606.19	2,014.52	1,712.39	302.14	6.668	
21,700.00	12,654.00	22,140.77	12,807.00	153.92	152.60	-94.45	-9,268.76	2,606.19	2,014.52	1,709.18	305.34	6.598	
21,800.00	12,654.00	22,240.77	12,807.00	155.52	154.21	-94.45	-9,368.76	2,606.19	2,014.52	1,705.98	308.55	6.529	
21,900.00	12,654.00	22,340.77	12,807.00	157.13	155.82	-94.45	-9,468.76	2,606.19	2,014.52	1,702.77	311.76	6.462	
22,000.00	12,654.00	22,440.77	12,807.00	158.74	157.43	-94.45	-9,568.76	2,606.19	2,014.52	1,699.56	314.96	6.396	
22,100.00	12,654.00	22,540.77	12,807.00	160.34	159.03	-94.45	-9,668.76	2,606.19	2,014.52	1,696.35	318.17	6.332	
22,200.00	12,654.00	22,640.77	12,807.00	161.95	160.64	-94.45	-9,768.76	2,606.19	2,014.52	1,693.14	321.39	6.268	
22,300.00	12,654.00	22,740.77	12,807.00	163.56	162.25	-94.45	-9,868.76	2,606.19	2,014.52	1,689.93	324.60	6.206	
22,310.23	12,654.00	22,751.00	12,807.00	163.73	162.42	-94.45	-9,878.98	2,606.19	2,014.52	1,689.60	324.93	6.200 CC	
22,329.42	12,654.00	22,751.03	12,807.00	164.03	162.42	-94.45	-9,879.01	2,606.19	2,014.62	1,689.30	325.31	6.193 ES, SF	

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

LEAM Drilling Systems LLC

Anticollision Report

Company: Devon Energy
 Project: Lea County, NM (NAD-83)
 Reference Site: Fighting Okra 18-19 Fed
 Site Error: 0.00 usft
 Reference Well: 3H
 Well Error: 0.00 usft
 Reference Wellbore: OH
 Reference Design: Plan #1

Local Co-ordinate Reference: Well 3H
 TVD Reference: 3372.2 GE + 25' KB @ 3397.20usft
 MD Reference: 3372.2 GE + 25' KB @ 3397.20usft
 North Reference: Grid
 Survey Calculation Method: Minimum Curvature
 Output errors are at: 2.00 sigma
 Database: EDM 5000.1 Multi User Db
 Offset TVD Reference: Offset Datum

Offset Design Fighting Okra 18-19 Fed - 7H - OH - Plan #1													Offset Site Error: 0.00 usft
Survey Program: 0-LEAM MWD+HDGM													Offset Well Error: 0.00 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
0.00	0.00	0.00	0.00	0.00	0.00	-90.48	-0.25	-29.99	30.00				
100.00	100.00	99.50	99.50	0.08	0.08	-90.48	-0.25	-29.99	29.99	29.82	0.17	178.355	
200.00	200.00	199.50	199.50	0.31	0.31	-90.48	-0.25	-29.99	29.99	29.37	0.62	48.609	
300.00	300.00	299.50	299.50	0.53	0.53	-90.48	-0.25	-29.99	29.99	28.92	1.07	28.121	
400.00	400.00	399.50	399.50	0.76	0.76	-90.48	-0.25	-29.99	29.99	28.47	1.52	19.782	
500.00	500.00	499.50	499.50	0.98	0.98	-90.48	-0.25	-29.99	29.99	28.03	1.97	15.258	
600.00	600.00	599.50	599.50	1.21	1.21	-90.48	-0.25	-29.99	29.99	27.58	2.42	12.418	
700.00	700.00	699.50	699.50	1.43	1.43	-90.48	-0.25	-29.99	29.99	27.13	2.86	10.469	
800.00	800.00	799.50	799.50	1.66	1.66	-90.48	-0.25	-29.99	29.99	26.68	3.31	9.049	
900.00	900.00	899.50	899.50	1.88	1.88	-90.48	-0.25	-29.99	29.99	26.23	3.76	7.968	
1,000.00	1,000.00	999.50	999.50	2.11	2.11	-90.48	-0.25	-29.99	29.99	25.78	4.21	7.118	
1,100.00	1,100.00	1,099.50	1,099.50	2.33	2.33	-90.48	-0.25	-29.99	29.99	25.33	4.66	6.432	
1,200.00	1,200.00	1,199.50	1,199.50	2.56	2.56	-90.48	-0.25	-29.99	29.99	24.88	5.11	5.866	
1,300.00	1,300.00	1,299.50	1,299.50	2.78	2.78	-90.48	-0.25	-29.99	29.99	24.43	5.56	5.392	
1,400.00	1,400.00	1,399.50	1,399.50	3.01	3.01	-90.48	-0.25	-29.99	29.99	23.98	6.01	4.989	
1,500.00	1,500.00	1,499.50	1,499.50	3.23	3.23	-90.48	-0.25	-29.99	29.99	23.53	6.46	4.642	
1,600.00	1,600.00	1,599.50	1,599.50	3.46	3.46	-90.48	-0.25	-29.99	29.99	23.08	6.91	4.340	
1,700.00	1,700.00	1,699.50	1,699.50	3.68	3.68	-90.48	-0.25	-29.99	29.99	22.63	7.36	4.075	
1,800.00	1,800.00	1,799.50	1,799.50	3.91	3.90	-90.48	-0.25	-29.99	29.99	22.18	7.81	3.840	
1,900.00	1,900.00	1,899.50	1,899.50	4.13	4.13	-90.48	-0.25	-29.99	29.99	21.73	8.26	3.631	
2,000.00	2,000.00	1,999.50	1,999.50	4.35	4.35	-90.48	-0.25	-29.99	29.99	21.28	8.71	3.444	
2,100.00	2,100.00	2,099.50	2,099.50	4.58	4.58	-90.48	-0.25	-29.99	29.99	20.83	9.16	3.275	
2,200.00	2,200.00	2,199.50	2,199.50	4.80	4.80	-90.48	-0.25	-29.99	29.99	20.38	9.61	3.122	
2,300.00	2,300.00	2,299.50	2,299.50	5.03	5.03	-90.48	-0.25	-29.99	29.99	19.93	10.06	2.982	
2,400.00	2,400.00	2,399.50	2,399.50	5.25	5.25	-90.48	-0.25	-29.99	29.99	19.48	10.51	2.854	
2,500.00	2,500.00	2,499.50	2,499.50	5.48	5.48	-90.48	-0.25	-29.99	29.99	19.03	10.96	2.737	
2,600.00	2,600.00	2,599.50	2,599.50	5.70	5.70	-90.48	-0.25	-29.99	29.99	18.59	11.41	2.629	
2,700.00	2,700.00	2,699.50	2,699.50	5.93	5.93	-90.48	-0.25	-29.99	29.99	18.14	11.86	2.530	
2,800.00	2,800.00	2,799.50	2,799.50	6.15	6.15	-90.48	-0.25	-29.99	29.99	17.69	12.30	2.437	
2,900.00	2,900.00	2,899.50	2,899.50	6.38	6.38	-90.48	-0.25	-29.99	29.99	17.24	12.75	2.351	
3,000.00	3,000.00	2,999.50	2,999.50	6.60	6.60	-90.48	-0.25	-29.99	29.99	16.79	13.20	2.271 CC, ES	
3,100.00	3,099.99	3,099.49	3,099.49	6.81	6.83	179.54	-0.25	-29.99	30.86	17.22	13.64	2.263	
3,200.00	3,199.96	3,199.46	3,199.46	7.01	7.05	179.57	-0.25	-29.99	33.48	19.42	14.06	2.381	
3,300.00	3,299.86	3,299.36	3,299.36	7.21	7.28	179.62	-0.25	-29.99	37.84	23.36	14.48	2.613	
3,400.00	3,399.68	3,399.18	3,399.18	7.42	7.50	179.67	-0.25	-29.99	43.95	29.04	14.91	2.948	
3,452.85	3,452.38	3,451.88	3,451.88	7.53	7.62	179.70	-0.25	-29.99	47.88	32.74	15.13	3.163	
3,500.00	3,499.38	3,498.88	3,498.88	7.63	7.72	179.72	-0.25	-29.99	51.60	36.26	15.34	3.365	
3,600.00	3,599.07	3,598.50	3,598.50	7.84	7.94	179.90	0.10	-29.20	58.71	42.96	15.75	3.727	
3,700.00	3,698.76	3,700.33	3,700.29	8.05	8.15	-178.95	1.18	-26.79	64.24	48.07	16.16	3.974	
3,800.00	3,798.45	3,801.29	3,801.15	8.27	8.37	-177.50	2.98	-22.76	68.19	51.62	16.57	4.115	
3,900.00	3,898.13	3,902.32	3,901.99	8.49	8.58	-175.53	5.50	-17.10	70.64	53.66	16.98	4.161	
4,000.00	3,997.82	4,003.36	4,002.71	8.71	8.80	-172.98	8.75	-9.81	71.64	54.25	17.39	4.121	
4,100.00	4,097.51	4,103.77	4,102.68	8.93	9.02	-169.86	12.59	-1.20	71.53	53.72	17.80	4.017	
4,168.55	4,165.84	4,172.26	4,170.86	9.09	9.17	-167.67	15.26	4.78	71.48	53.38	18.10	3.949	
4,200.00	4,197.20	4,203.69	4,202.14	9.16	9.24	-166.67	16.49	7.53	71.49	53.25	18.24	3.920	
4,300.00	4,296.88	4,303.61	4,301.60	9.39	9.47	-163.48	20.38	16.26	71.67	53.00	18.67	3.838	
4,400.00	4,396.57	4,403.53	4,401.06	9.61	9.69	-160.32	24.28	24.99	72.07	52.96	19.11	3.771	
4,500.00	4,496.26	4,503.45	4,500.52	9.84	9.92	-157.20	28.17	33.72	72.69	53.13	19.56	3.716	
4,600.00	4,595.95	4,603.37	4,599.99	10.07	10.16	-154.14	32.06	42.46	73.52	53.51	20.01	3.674	
4,700.00	4,695.64	4,703.29	4,699.45	10.31	10.39	-151.16	35.96	51.19	74.56	54.09	20.47	3.642	
4,800.00	4,795.32	4,803.21	4,798.91	10.54	10.62	-148.27	39.85	59.92	75.79	54.85	20.93	3.621	
4,900.00	4,895.01	4,903.13	4,898.37	10.78	10.86	-145.48	43.75	68.65	77.21	55.80	21.40	3.608	

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

LEAM Drilling Systems LLC

Anticollision Report

Company: Devon Energy
Project: Lea County, NM (NAD-83)
Reference Site: Fighting Okra 18-19 Fed
Site Error: 0.00 usft
Reference Well: 3H
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Plan #1

Local Co-ordinate Reference: Well 3H
TVD Reference: 3372.2 GE + 25' KB @ 3397.20usft
MD Reference: 3372.2 GE + 25' KB @ 3397.20usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at: 2.00 sigma
Database: EDM 5000.1 Multi User Db
Offset TVD Reference: Offset Datum

Offset Design Fighting Okra 18-19 Fed - 7H - OH - Plan #1													Offset Site Error:	0.00 usft
Survey Program: 0-LEAM MWD+HDGM													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		
5,000.00	4,994.70	5,003.05	4,997.83	11.01	11.10	-142.79	47.64	77.38	78.80	56.93	21.87	3.603		
5,100.00	5,094.39	5,102.97	5,097.30	11.25	11.34	-140.22	51.54	86.11	80.56	58.21	22.35	3.604		
5,200.00	5,194.07	5,202.89	5,196.76	11.49	11.58	-137.76	55.43	94.84	82.48	59.65	22.83	3.612		
5,300.00	5,293.76	5,302.81	5,296.22	11.72	11.82	-135.42	59.33	103.58	84.54	61.22	23.32	3.626		
5,400.00	5,393.45	5,402.73	5,395.68	11.96	12.07	-133.19	63.22	112.31	86.74	62.93	23.81	3.643		
5,500.00	5,493.14	5,502.65	5,495.14	12.20	12.31	-131.07	67.12	121.04	89.06	64.76	24.30	3.665		
5,600.00	5,592.83	5,602.57	5,594.61	12.44	12.56	-129.07	71.01	129.77	91.49	66.70	24.79	3.690		
5,700.00	5,692.51	5,702.49	5,694.07	12.69	12.80	-127.17	74.91	138.50	94.03	68.75	25.29	3.719		
5,800.00	5,792.20	5,802.41	5,793.53	12.93	13.05	-125.37	78.80	147.23	96.67	70.89	25.79	3.749		
5,900.00	5,891.89	5,902.33	5,892.99	13.17	13.30	-123.67	82.70	155.96	99.40	73.12	26.29	3.782		
6,000.00	5,991.58	6,002.25	5,992.45	13.41	13.55	-122.06	86.59	164.70	102.22	75.43	26.79	3.816		
6,100.00	6,091.26	6,102.18	6,091.92	13.66	13.80	-120.54	90.49	173.43	105.11	77.82	27.29	3.852		
6,200.00	6,190.95	6,202.10	6,191.38	13.90	14.05	-119.10	94.38	182.16	108.07	80.27	27.79	3.888		
6,300.00	6,290.64	6,302.02	6,290.84	14.15	14.30	-117.74	98.28	190.89	111.09	82.79	28.30	3.926		
6,400.00	6,390.33	6,401.94	6,390.30	14.39	14.56	-116.45	102.17	199.62	114.17	85.37	28.80	3.964		
6,500.00	6,490.02	6,501.86	6,489.76	14.64	14.81	-115.23	106.06	208.35	117.31	88.00	29.31	4.003		
6,600.00	6,589.70	6,601.78	6,589.22	14.89	15.06	-114.08	109.96	217.08	120.50	90.68	29.81	4.042		
6,700.00	6,689.39	6,701.70	6,688.69	15.13	15.32	-112.98	113.85	225.82	123.73	93.41	30.32	4.081		
6,800.00	6,789.08	6,801.62	6,788.15	15.38	15.57	-111.94	117.75	234.55	127.01	96.18	30.83	4.120		
6,900.00	6,888.77	6,901.54	6,887.61	15.63	15.83	-110.95	121.64	243.28	130.33	98.99	31.34	4.159		
7,000.00	6,988.46	7,001.46	6,987.07	15.87	16.08	-110.01	125.54	252.01	133.68	101.84	31.85	4.198		
7,100.00	7,088.14	7,101.38	7,086.53	16.12	16.34	-109.12	129.43	260.74	137.07	104.72	32.35	4.237		
7,200.00	7,187.83	7,201.30	7,186.00	16.37	16.60	-108.27	133.33	269.47	140.49	107.63	32.86	4.275		
7,300.00	7,287.52	7,301.22	7,285.46	16.62	16.85	-107.47	137.22	278.20	143.94	110.57	33.37	4.313		
7,400.00	7,387.21	7,401.14	7,384.92	16.87	17.11	-106.69	141.12	286.94	147.42	113.54	33.88	4.351		
7,500.00	7,486.89	7,501.06	7,484.38	17.12	17.37	-105.96	145.01	295.67	150.92	116.53	34.39	4.388		
7,600.00	7,586.58	7,600.98	7,583.84	17.37	17.63	-105.26	148.91	304.40	154.44	119.54	34.90	4.425		
7,700.00	7,686.27	7,700.90	7,683.31	17.62	17.89	-104.59	152.80	313.13	157.99	122.58	35.41	4.462		
7,800.00	7,785.96	7,800.82	7,782.77	17.87	18.15	-103.95	156.70	321.86	161.56	125.64	35.92	4.498		
7,900.00	7,885.65	7,900.74	7,882.23	18.12	18.41	-103.34	160.59	330.59	165.15	128.72	36.43	4.533		
8,000.00	7,985.33	8,000.66	7,981.69	18.37	18.67	-102.75	164.49	339.32	168.75	131.81	36.94	4.568		
8,100.00	8,085.02	8,100.58	8,081.15	18.62	18.93	-102.19	168.38	348.06	172.38	134.92	37.45	4.603		
8,200.00	8,184.71	8,200.50	8,180.62	18.87	19.19	-101.65	172.28	356.79	176.01	138.05	37.96	4.636		
8,300.00	8,284.40	8,300.42	8,280.08	19.12	19.45	-101.13	176.17	365.52	179.67	141.19	38.47	4.670		
8,400.00	8,384.08	8,400.34	8,379.54	19.37	19.71	-100.63	180.06	374.25	183.34	144.35	38.99	4.703		
8,500.00	8,483.77	8,500.26	8,479.00	19.62	19.97	-100.16	183.96	382.98	187.02	147.52	39.50	4.735		
8,600.00	8,583.46	8,600.18	8,578.46	19.87	20.23	-99.70	187.85	391.71	190.71	150.70	40.01	4.767		
8,700.00	8,683.15	8,700.10	8,677.93	20.12	20.49	-99.26	191.75	400.44	194.41	153.89	40.52	4.798		
8,800.00	8,782.84	8,800.03	8,777.39	20.37	20.76	-98.83	195.64	409.18	198.13	157.10	41.03	4.829		
8,900.00	8,882.52	8,899.95	8,876.85	20.63	21.02	-98.43	199.54	417.91	201.86	160.31	41.54	4.859		
9,000.00	8,982.21	8,999.87	8,976.31	20.88	21.28	-98.03	203.43	426.64	205.59	163.54	42.05	4.889		
9,100.00	9,081.90	9,099.79	9,075.77	21.13	21.54	-97.65	207.33	435.37	209.34	166.77	42.57	4.918		
9,200.00	9,181.59	9,199.71	9,175.23	21.38	21.81	-97.28	211.22	444.10	213.09	170.01	43.08	4.947		
9,300.00	9,281.28	9,299.63	9,274.70	21.64	22.07	-96.93	215.12	452.83	216.85	173.26	43.59	4.975		
9,400.00	9,380.96	9,399.55	9,374.16	21.89	22.33	-96.59	219.01	461.56	220.63	176.52	44.10	5.002		
9,500.00	9,480.65	9,499.47	9,473.62	22.14	22.60	-96.26	222.91	470.30	224.40	179.79	44.62	5.030		
9,600.00	9,580.34	9,599.39	9,573.08	22.39	22.86	-95.94	226.80	479.03	228.19	183.06	45.13	5.056		
9,700.00	9,680.03	9,699.31	9,672.54	22.65	23.12	-95.63	230.70	487.76	231.98	186.34	45.64	5.083		
9,800.00	9,779.71	9,799.23	9,772.01	22.90	23.39	-95.33	234.59	496.49	235.78	189.63	46.15	5.109		
9,900.00	9,879.40	9,899.15	9,871.47	23.15	23.65	-95.04	238.49	505.22	239.59	192.92	46.67	5.134		
10,000.00	9,979.09	9,999.07	9,970.93	23.41	23.92	-94.76	242.38	513.95	243.40	196.22	47.18	5.159		
10,100.00	10,078.78	10,098.99	10,070.39	23.66	24.18	-94.49	246.28	522.68	247.21	199.52	47.69	5.184		

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LEAM Drilling Systems LLC

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Offset Design: Fighting Okra 18-19 Fed - 7H - OH - Plan #1												Offset Site Error: 0.00 usft	
Survey Program: 0-LEAM MWD+HDGM												Offset Well Error: 0.00 usft	
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Distance					Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		Offset Wellbore Centre N-S (usft)	Offset Wellbore Centre E-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)		Separation Factor
10,200.00	10,178.47	10,198.91	10,169.85	23.91	24.44	-94.23	250.17	531.42	251.04	202.83	48.20	5.208	
10,300.00	10,278.15	10,298.83	10,269.32	24.17	24.71	-93.97	254.06	540.15	254.86	208.15	48.72	5.231	
10,400.00	10,377.84	10,398.75	10,368.78	24.42	24.97	-93.72	257.96	548.88	258.70	209.46	49.23	5.255	
10,500.00	10,477.53	10,498.67	10,468.24	24.67	25.24	-93.48	261.85	557.61	262.53	212.79	49.74	5.278	
10,570.31	10,547.62	10,568.93	10,538.18	24.85	25.43	-93.32	264.59	563.75	265.23	215.13	50.11	5.293	
10,600.00	10,577.22	10,598.59	10,567.70	24.92	25.50	-93.24	265.75	566.34	266.37	216.12	50.25	5.301	
10,700.00	10,677.01	10,698.76	10,667.41	25.11	25.77	-92.76	269.64	575.07	270.14	219.44	50.70	5.328	
10,800.00	10,776.89	10,800.43	10,768.72	25.30	25.97	-92.14	273.13	582.89	273.44	222.36	51.08	5.353	
10,900.00	10,876.85	10,902.19	10,870.26	25.48	26.17	-91.50	275.88	589.06	276.05	224.60	51.45	5.365	
11,000.00	10,976.84	11,004.04	10,971.98	25.65	26.36	-90.84	277.90	593.58	277.97	226.16	51.80	5.366	
11,023.16	11,000.00	11,027.64	10,995.56	25.70	26.40	-0.69	278.26	594.40	278.31	226.43	51.88	5.364	
11,100.00	11,076.84	11,105.97	11,073.86	25.84	26.54	-0.26	279.18	596.46	279.20	227.04	52.16	5.353	
11,200.00	11,176.84	11,207.98	11,175.86	26.04	26.71	-0.01	279.73	597.68	279.73	227.21	52.52	5.326	
11,300.00	11,276.84	11,308.46	11,276.34	26.23	26.90	0.01	279.75	597.73	279.75	226.85	52.90	5.288	
11,400.00	11,376.84	11,408.46	11,376.34	26.43	27.10	0.01	279.75	597.73	279.75	226.45	53.30	5.248	
11,500.00	11,476.84	11,508.46	11,476.34	26.63	27.30	0.01	279.75	597.73	279.75	226.05	53.70	5.209	
11,600.00	11,576.84	11,608.46	11,576.34	26.83	27.50	0.01	279.75	597.73	279.75	225.65	54.10	5.171	
11,700.00	11,676.84	11,708.46	11,676.34	27.03	27.70	0.01	279.75	597.73	279.75	225.24	54.51	5.132	
11,800.00	11,776.84	11,808.46	11,776.34	27.23	27.90	0.01	279.75	597.73	279.75	224.84	54.91	5.095	
11,900.00	11,876.84	11,908.46	11,876.34	27.43	28.10	0.01	279.75	597.73	279.75	224.44	55.31	5.057	
12,000.00	11,976.84	12,008.46	11,976.34	27.63	28.30	0.01	279.75	597.73	279.75	224.03	55.72	5.021	
12,104.20	12,081.04	12,112.66	12,080.54	27.84	28.51	0.01	279.75	597.73	279.75	223.61	56.14	4.983	
12,150.00	12,126.79	12,158.41	12,126.29	27.93	28.61	180.00	279.75	597.73	281.58	225.26	56.32	4.999	
12,200.00	12,176.39	12,208.01	12,175.89	28.02	28.71	180.00	279.75	597.73	287.74	231.23	56.51	5.092	
12,250.00	12,225.27	12,256.89	12,224.77	28.11	28.81	180.00	279.75	597.73	298.20	241.50	56.70	5.259	
12,300.00	12,273.05	12,304.67	12,272.55	28.20	28.90	180.00	279.75	597.73	312.88	255.99	56.89	5.500	
12,350.00	12,319.37	12,361.74	12,329.62	28.29	29.01	180.00	279.45	597.73	331.54	274.49	57.05	5.811	
12,400.00	12,363.87	12,477.83	12,444.47	28.39	29.18	180.00	264.00	597.73	348.25	291.82	56.43	6.172	
12,450.00	12,406.22	12,605.67	12,564.47	28.48	29.31	180.00	220.66	597.73	358.89	304.47	54.43	6.594	
12,500.00	12,446.10	12,740.56	12,677.33	28.58	29.40	180.00	147.37	597.73	362.48	311.28	51.20	7.080	
12,550.00	12,483.20	12,875.30	12,769.91	28.68	29.46	180.00	49.89	597.73	358.62	311.14	47.48	7.553	
12,600.00	12,517.24	13,002.77	12,834.31	28.79	29.53	180.00	-59.81	597.73	347.73	303.42	44.31	7.848	
12,650.00	12,547.96	13,118.38	12,870.46	28.91	29.65	180.00	-169.41	597.73	330.82	288.38	42.44	7.795	
12,700.00	12,575.12	13,220.65	12,883.56	29.04	29.84	180.00	-270.70	597.73	309.17	267.15	42.02	7.357	
12,750.00	12,598.53	13,276.96	12,884.00	29.19	29.99	180.00	-327.01	597.73	285.97	243.76	42.21	6.774	
12,800.00	12,617.99	13,323.00	12,884.00	29.35	30.13	180.00	-373.05	597.73	266.51	224.15	42.36	6.292	
12,850.00	12,633.37	13,370.56	12,884.00	29.53	30.29	180.00	-420.61	597.73	251.13	208.62	42.50	5.908	
12,900.00	12,644.55	13,419.28	12,884.00	29.73	30.49	180.00	-469.33	597.73	239.95	197.30	42.65	5.626	
12,950.00	12,651.44	13,468.79	12,884.00	29.95	30.70	180.00	-518.84	597.73	233.06	190.26	42.81	5.445	
13,004.20	12,654.00	13,522.91	12,884.00	30.20	30.97	180.00	-572.96	597.73	230.50	187.52	42.98	5.363	
13,100.00	12,654.00	13,618.71	12,884.00	30.71	31.49	180.00	-668.76	597.73	230.50	187.19	43.31	5.323	
13,200.00	12,654.00	13,718.71	12,884.00	31.32	32.11	180.00	-768.76	597.73	230.50	186.81	43.69	5.275	
13,300.00	12,654.00	13,818.71	12,884.00	31.99	32.80	180.00	-868.76	597.73	230.50	186.37	44.13	5.223	
13,400.00	12,654.00	13,918.71	12,884.00	32.74	33.56	180.00	-968.76	597.73	230.50	185.89	44.61	5.167	
13,500.00	12,654.00	14,018.71	12,884.00	33.55	34.38	180.00	-1,068.76	597.73	230.50	185.37	45.13	5.108	
13,600.00	12,654.00	14,118.71	12,884.00	34.41	35.26	180.00	-1,168.76	597.73	230.50	184.81	45.69	5.045	
13,700.00	12,654.00	14,218.71	12,884.00	35.33	36.19	180.00	-1,268.76	597.73	230.50	184.21	46.29	4.979	
13,800.00	12,654.00	14,318.71	12,884.00	36.30	37.17	180.00	-1,368.76	597.73	230.50	183.57	46.93	4.911	
13,900.00	12,654.00	14,418.71	12,884.00	37.32	38.20	180.00	-1,468.76	597.73	230.50	182.89	47.61	4.841	
14,000.00	12,654.00	14,518.71	12,884.00	38.38	39.27	180.00	-1,568.76	597.73	230.50	182.18	48.32	4.770	
14,100.00	12,654.00	14,618.71	12,884.00	39.48	40.37	180.00	-1,668.76	597.73	230.50	181.43	49.07	4.697	
14,200.00	12,654.00	14,718.71	12,884.00	40.61	41.51	180.00	-1,768.76	597.73	230.50	180.65	49.85	4.624	

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

LEAM Drilling Systems LLC

Anticollision Report

Company: Devon Energy
Project: Lea County, NM (NAD-83)
Reference Site: Fighting Okra 18-19 Fed
Site Error: 0.00 usft
Reference Well: 3H
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Plan #1

Local Co-ordinate Reference: Well 3H
TVD Reference: 3372.2 GE + 25' KB @ 3397.20usft
MD Reference: 3372.2 GE + 25' KB @ 3397.20usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at 2.00 sigma
Database: EDM 5000.1 Multi User Db
Offset TVD Reference: Offset Datum

Offset Design Fighting Okra 18-19 Fed - 7H - OH - Plan #1													Offset Site Error: 0.00 usft
Survey Program: 0-LEAM MWD+HDGM													Offset Well Error: 0.00 usft
Reference		Offset		Semi Major Axis			Distance						
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
14,300.00	12,654.00	14,818.71	12,884.00	41.78	42.68	180.00	-1,868.76	597.73	230.50	179.84	50.66	4.550	
14,400.00	12,654.00	14,918.71	12,884.00	42.98	43.88	180.00	-1,968.76	597.73	230.50	179.01	51.49	4.476	
14,500.00	12,654.00	15,018.71	12,884.00	44.21	45.11	180.00	-2,068.76	597.73	230.50	178.14	52.36	4.402	
14,600.00	12,654.00	15,118.71	12,884.00	45.46	46.36	180.00	-2,168.76	597.73	230.50	177.25	53.25	4.329	
14,700.00	12,654.00	15,218.71	12,884.00	46.74	47.64	180.00	-2,268.76	597.73	230.50	176.33	54.17	4.255	
14,800.00	12,654.00	15,318.71	12,884.00	48.03	48.94	180.00	-2,368.76	597.73	230.50	175.39	55.11	4.183	
14,900.00	12,654.00	15,418.71	12,884.00	49.35	50.25	180.00	-2,468.76	597.73	230.50	174.43	56.07	4.111	
15,000.00	12,654.00	15,518.71	12,884.00	50.69	51.59	180.00	-2,568.76	597.73	230.50	173.44	57.06	4.040	
15,100.00	12,654.00	15,618.71	12,884.00	52.04	52.94	180.00	-2,668.76	597.73	230.50	172.44	58.06	3.970	
15,200.00	12,654.00	15,718.71	12,884.00	53.41	54.31	180.00	-2,768.76	597.73	230.50	171.42	59.08	3.901	
15,300.00	12,654.00	15,818.71	12,884.00	54.79	55.69	180.00	-2,868.76	597.73	230.50	170.37	60.13	3.834	
15,400.00	12,654.00	15,918.71	12,884.00	56.19	57.08	180.00	-2,968.76	597.73	230.50	169.31	61.19	3.767	
15,500.00	12,654.00	16,018.71	12,884.00	57.60	58.49	180.00	-3,068.76	597.73	230.50	168.24	62.26	3.702	
15,600.00	12,654.00	16,118.71	12,884.00	59.02	59.91	180.00	-3,168.76	597.73	230.50	167.14	63.36	3.638	
15,700.00	12,654.00	16,218.71	12,884.00	60.45	61.34	180.00	-3,268.76	597.73	230.50	166.04	64.46	3.576	
15,800.00	12,654.00	16,318.71	12,884.00	61.89	62.78	180.00	-3,368.76	597.73	230.50	164.91	65.59	3.514	
15,900.00	12,654.00	16,418.71	12,884.00	63.34	64.23	180.00	-3,468.76	597.73	230.50	163.78	66.72	3.455	
16,000.00	12,654.00	16,518.71	12,884.00	64.80	65.69	180.00	-3,568.76	597.73	230.50	162.63	67.87	3.396	
16,100.00	12,654.00	16,618.71	12,884.00	66.27	67.15	180.00	-3,668.76	597.73	230.50	161.47	69.03	3.339	
16,200.00	12,654.00	16,718.71	12,884.00	67.74	68.63	180.00	-3,768.76	597.73	230.50	160.30	70.20	3.283	
16,300.00	12,654.00	16,818.71	12,884.00	69.23	70.11	180.00	-3,868.76	597.73	230.50	159.12	71.38	3.229	
16,400.00	12,654.00	16,918.71	12,884.00	70.72	71.59	180.00	-3,968.76	597.73	230.50	157.92	72.58	3.176	
16,500.00	12,654.00	17,018.71	12,884.00	72.21	73.09	180.00	-4,068.76	597.73	230.50	156.72	73.78	3.124	
16,600.00	12,654.00	17,118.71	12,884.00	73.71	74.59	180.00	-4,168.76	597.73	230.50	155.51	74.99	3.074	
16,700.00	12,654.00	17,218.71	12,884.00	75.22	76.09	180.00	-4,268.76	597.73	230.50	154.29	76.21	3.024	
16,800.00	12,654.00	17,318.71	12,884.00	76.73	77.60	180.00	-4,368.76	597.73	230.50	153.06	77.44	2.976	
16,900.00	12,654.00	17,418.71	12,884.00	78.25	79.12	180.00	-4,468.76	597.73	230.50	151.82	78.68	2.930	
17,000.00	12,654.00	17,518.71	12,884.00	79.77	80.64	180.00	-4,568.76	597.73	230.50	150.58	79.92	2.884	
17,100.00	12,654.00	17,618.71	12,884.00	81.30	82.16	180.00	-4,668.76	597.73	230.50	149.32	81.18	2.839	
17,200.00	12,654.00	17,718.71	12,884.00	82.83	83.69	180.00	-4,768.76	597.73	230.50	148.06	82.44	2.796	
17,300.00	12,654.00	17,818.71	12,884.00	84.36	85.22	180.00	-4,868.76	597.73	230.50	146.80	83.70	2.754	
17,400.00	12,654.00	17,918.71	12,884.00	85.90	86.76	180.00	-4,968.76	597.73	230.50	145.52	84.98	2.713	
17,500.00	12,654.00	18,018.71	12,884.00	87.44	88.30	180.00	-5,068.76	597.73	230.50	144.24	86.26	2.672	
17,600.00	12,654.00	18,118.71	12,884.00	88.98	89.84	180.00	-5,168.76	597.73	230.50	142.96	87.54	2.633	
17,700.00	12,654.00	18,218.71	12,884.00	90.53	91.39	180.00	-5,268.76	597.73	230.50	141.67	88.83	2.595	
17,800.00	12,654.00	18,318.71	12,884.00	92.08	92.94	180.00	-5,368.76	597.73	230.50	140.37	90.13	2.557	
17,900.00	12,654.00	18,418.71	12,884.00	93.64	94.49	180.00	-5,468.76	597.73	230.50	139.07	91.43	2.521	
18,000.00	12,654.00	18,518.71	12,884.00	95.19	96.04	180.00	-5,568.76	597.73	230.50	137.76	92.74	2.486	
18,100.00	12,654.00	18,618.71	12,884.00	96.75	97.60	180.00	-5,668.76	597.73	230.50	136.45	94.05	2.451	
18,200.00	12,654.00	18,718.71	12,884.00	98.31	99.16	180.00	-5,768.76	597.73	230.50	135.14	95.36	2.417	
18,300.00	12,654.00	18,818.71	12,884.00	99.88	100.72	180.00	-5,868.76	597.73	230.50	133.82	96.68	2.384	
18,400.00	12,654.00	18,918.71	12,884.00	101.44	102.29	180.00	-5,968.76	597.73	230.50	132.49	98.01	2.352	
18,500.00	12,654.00	19,018.71	12,884.00	103.01	103.85	180.00	-6,068.76	597.73	230.50	131.17	99.33	2.320	
18,600.00	12,654.00	19,118.71	12,884.00	104.58	105.42	180.00	-6,168.76	597.73	230.50	129.83	100.67	2.290	
18,700.00	12,654.00	19,218.71	12,884.00	106.15	106.99	180.00	-6,268.76	597.73	230.50	128.50	102.00	2.260	
18,800.00	12,654.00	19,318.71	12,884.00	107.73	108.56	180.00	-6,368.76	597.73	230.50	127.16	103.34	2.230	
18,900.00	12,654.00	19,418.71	12,884.00	109.30	110.14	180.00	-6,468.76	597.73	230.50	125.82	104.68	2.202	
19,000.00	12,654.00	19,518.71	12,884.00	110.88	111.71	180.00	-6,568.76	597.73	230.50	124.47	106.03	2.174	
19,100.00	12,654.00	19,618.71	12,884.00	112.46	113.29	180.00	-6,668.76	597.73	230.50	123.12	107.38	2.147	
19,200.00	12,654.00	19,718.71	12,884.00	114.04	114.87	180.00	-6,768.76	597.73	230.50	121.77	108.73	2.120	
19,300.00	12,654.00	19,818.71	12,884.00	115.62	116.45	180.00	-6,868.76	597.73	230.50	120.41	110.09	2.094	
19,400.00	12,654.00	19,918.71	12,884.00	117.21	118.03	180.00	-6,968.76	597.73	230.50	119.06	111.45	2.068	

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

LEAM Drilling Systems LLC

Anticollision Report

Company: Devon Energy
Project: Lea County, NM (NAD-83)
Reference Site: Fighting Okra 18-19 Fed
Site Error: 0.00 usft
Reference Well: 3H
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Plan #1

Local Co-ordinate Reference: Well 3H
TVD Reference: 3372.2 GE + 25' KB @ 3397.20usft
MD Reference: 3372.2 GE + 25' KB @ 3397.20usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at 2.00 sigma
Database: EDM 5000.1 Multi User Db
Offset TVD Reference: Offset Datum

Offset Design Fighting Okra 18-19 Fed - 7H - OH - Plan #1													Offset Site Error:	0.00.usft
Survey Program: 0-LEAM MWD+HDGM													Offset Well Error:	0.00.usft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N-S (usft)	+E-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
19,500.00	12,654.00	20,018.71	12,884.00	118.79	119.62	180.00	-7,068.76	597.73	230.50	117.69	112.81	2.043		
19,600.00	12,654.00	20,118.71	12,884.00	120.38	121.20	180.00	-7,168.76	597.73	230.50	116.33	114.17	2.019		
19,700.00	12,654.00	20,218.71	12,884.00	121.96	122.79	180.00	-7,268.76	597.73	230.50	114.97	115.53	1.995		
19,800.00	12,654.00	20,318.71	12,884.00	123.55	124.38	180.00	-7,368.76	597.73	230.50	113.60	116.90	1.972		
19,900.00	12,654.00	20,418.71	12,884.00	125.14	125.96	180.00	-7,468.76	597.73	230.50	112.23	118.27	1.949		
20,000.00	12,654.00	20,518.71	12,884.00	126.73	127.55	180.00	-7,568.76	597.73	230.50	110.85	119.65	1.927		
20,100.00	12,654.00	20,618.71	12,884.00	128.33	129.14	180.00	-7,668.76	597.73	230.50	109.48	121.02	1.905		
20,200.00	12,654.00	20,718.71	12,884.00	129.92	130.74	180.00	-7,768.76	597.73	230.50	108.10	122.40	1.883		
20,300.00	12,654.00	20,818.71	12,884.00	131.51	132.33	180.00	-7,868.76	597.73	230.50	106.72	123.78	1.862		
20,400.00	12,654.00	20,918.71	12,884.00	133.11	133.92	180.00	-7,968.76	597.73	230.50	105.34	125.16	1.842		
20,500.00	12,654.00	21,018.71	12,884.00	134.70	135.52	180.00	-8,068.76	597.73	230.50	103.96	126.54	1.822		
20,600.00	12,654.00	21,118.71	12,884.00	136.30	137.11	180.00	-8,168.76	597.73	230.50	102.57	127.93	1.802		
20,700.00	12,654.00	21,218.71	12,884.00	137.90	138.71	180.00	-8,268.76	597.73	230.50	101.18	129.32	1.782		
20,800.00	12,654.00	21,318.71	12,884.00	139.50	140.31	180.00	-8,368.76	597.73	230.50	99.80	130.70	1.764		
20,900.00	12,654.00	21,418.71	12,884.00	141.10	141.91	180.00	-8,468.76	597.73	230.50	98.41	132.09	1.745		
21,000.00	12,654.00	21,518.71	12,884.00	142.70	143.51	180.00	-8,568.76	597.73	230.50	97.01	133.49	1.727		
21,100.00	12,654.00	21,618.71	12,884.00	144.30	145.11	180.00	-8,668.76	597.73	230.50	95.62	134.88	1.709		
21,200.00	12,654.00	21,718.71	12,884.00	145.90	146.71	180.00	-8,768.76	597.73	230.50	94.22	136.28	1.691		
21,300.00	12,654.00	21,818.71	12,884.00	147.50	148.31	180.00	-8,868.76	597.73	230.50	92.83	137.67	1.674		
21,400.00	12,654.00	21,918.71	12,884.00	149.11	149.91	180.00	-8,968.76	597.73	230.50	91.43	139.07	1.657		
21,500.00	12,654.00	22,018.71	12,884.00	150.71	151.51	180.00	-9,068.76	597.73	230.50	90.03	140.47	1.641		
21,600.00	12,654.00	22,118.71	12,884.00	152.31	153.12	180.00	-9,168.76	597.73	230.50	88.63	141.87	1.625		
21,700.00	12,654.00	22,218.71	12,884.00	153.92	154.72	180.00	-9,268.76	597.73	230.50	87.23	143.27	1.609		
21,800.00	12,654.00	22,318.71	12,884.00	155.52	156.33	180.00	-9,368.76	597.73	230.50	85.82	144.68	1.593		
21,900.00	12,654.00	22,418.71	12,884.00	157.13	157.93	180.00	-9,468.76	597.73	230.50	84.42	146.08	1.578		
22,000.00	12,654.00	22,518.71	12,884.00	158.74	159.54	180.00	-9,568.76	597.73	230.50	83.01	147.49	1.563		
22,100.00	12,654.00	22,618.71	12,884.00	160.34	161.15	180.00	-9,668.76	597.73	230.50	81.61	148.89	1.548		
22,200.00	12,654.00	22,718.71	12,884.00	161.95	162.75	180.00	-9,768.76	597.73	230.50	80.20	150.30	1.534		
22,300.00	12,654.00	22,818.71	12,884.00	163.56	164.36	180.00	-9,868.76	597.73	230.50	78.79	151.71	1.519		
22,329.42	12,654.00	22,848.13	12,884.00	164.03	164.83	180.00	-9,898.18	597.73	230.50	78.37	152.13	1.515 SF		

LEAM Drilling Systems LLC

Anticollision Report

Company: Devon Energy
Project: Lea County, NM (NAD-83)
Reference Site: Fighting Okra 18-19 Fed
Site Error: 0.00 usft
Reference Well: 3H
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Plan #1

Local Co-ordinate Reference: Well 3H
TVD Reference: 3372.2 GE + 25' KB @ 3397.20usft
MD Reference: 3372.2 GE + 25' KB @ 3397.20usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at: 2.00 sigma
Database: EDM 5000.1 Multi User Db
Offset TVD Reference: Offset Datum

Offset Design: Fighting Okra 18-19 Fed - 8H - OH - Plan #1													Offset Site Error: 0.00 usft
Survey Program: 0-LEAM MWD+HDGM													Offset Well Error: 0.00 usft
Reference		Offset		Semi Major Axis		Distance							
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
0.00	0.00	0.00	0.00	0.00	0.00	92.45	-37.63	880.15	880.98				
100.00	100.00	93.00	93.00	0.08	0.08	92.45	-37.63	880.15	880.95	880.79	0.16	5,415.436	
200.00	200.00	193.00	193.00	0.31	0.29	92.45	-37.63	880.15	880.95	880.35	0.60	1,462.472	
300.00	300.00	293.00	293.00	0.53	0.52	92.45	-37.63	880.15	880.95	879.90	1.05	837.484	
400.00	400.00	393.00	393.00	0.76	0.74	92.45	-37.63	880.15	880.95	879.45	1.50	586.740	
500.00	500.00	493.00	493.00	0.98	0.97	92.45	-37.63	880.15	880.95	879.00	1.95	451.547	
600.00	600.00	593.00	593.00	1.21	1.19	92.45	-37.63	880.15	880.95	878.55	2.40	366.988	
700.00	700.00	693.00	693.00	1.43	1.42	92.45	-37.63	880.15	880.95	878.10	2.85	309.103	
800.00	800.00	793.00	793.00	1.66	1.64	92.45	-37.63	880.15	880.95	877.65	3.30	266.991	
900.00	900.00	893.00	893.00	1.88	1.87	92.45	-37.63	880.15	880.95	877.20	3.75	234.978	
1,000.00	1,000.00	993.00	993.00	2.11	2.09	92.45	-37.63	880.15	880.95	876.76	4.20	209.819	
1,100.00	1,100.00	1,093.00	1,093.00	2.33	2.32	92.45	-37.63	880.15	880.95	876.31	4.65	189.527	
1,200.00	1,200.00	1,193.00	1,193.00	2.56	2.54	92.45	-37.63	880.15	880.95	875.86	5.10	172.814	
1,300.00	1,300.00	1,293.00	1,293.00	2.78	2.77	92.45	-37.63	880.15	880.95	875.41	5.55	158.810	
1,400.00	1,400.00	1,393.00	1,393.00	3.01	2.99	92.45	-37.63	880.15	880.95	874.96	6.00	146.905	
1,500.00	1,500.00	1,493.00	1,493.00	3.23	3.22	92.45	-37.63	880.15	880.95	874.51	6.45	136.661	
1,600.00	1,600.00	1,593.00	1,593.00	3.46	3.44	92.45	-37.63	880.15	880.95	874.06	6.90	127.752	
1,700.00	1,700.00	1,693.00	1,693.00	3.68	3.66	92.45	-37.63	880.15	880.95	873.61	7.35	119.934	
1,800.00	1,800.00	1,793.00	1,793.00	3.91	3.89	92.45	-37.63	880.15	880.95	873.16	7.79	113.017	
1,900.00	1,900.00	1,893.00	1,893.00	4.13	4.11	92.45	-37.63	880.15	880.95	872.71	8.24	106.855	
2,000.00	2,000.00	1,993.00	1,993.00	4.35	4.34	92.45	-37.63	880.15	880.95	872.26	8.69	101.330	
2,100.00	2,100.00	2,093.00	2,093.00	4.58	4.56	92.45	-37.63	880.15	880.95	871.81	9.14	96.348	
2,200.00	2,200.00	2,193.00	2,193.00	4.80	4.79	92.45	-37.63	880.15	880.95	871.36	9.59	91.833	
2,300.00	2,300.00	2,293.00	2,293.00	5.03	5.01	92.45	-37.63	880.15	880.95	870.91	10.04	87.722	
2,400.00	2,400.00	2,393.00	2,393.00	5.25	5.24	92.45	-37.63	880.15	880.95	870.46	10.49	83.964	
2,500.00	2,500.00	2,493.00	2,493.00	5.48	5.46	92.45	-37.63	880.15	880.95	870.01	10.94	80.514	
2,600.00	2,600.00	2,593.00	2,593.00	5.70	5.69	92.45	-37.63	880.15	880.95	869.56	11.39	77.337	
2,700.00	2,700.00	2,693.00	2,693.00	5.93	5.91	92.45	-37.63	880.15	880.95	869.11	11.84	74.401	
2,800.00	2,800.00	2,793.00	2,793.00	6.15	6.14	92.45	-37.63	880.15	880.95	868.66	12.29	71.679	
2,900.00	2,900.00	2,893.00	2,893.00	6.38	6.36	92.45	-37.63	880.15	880.95	868.21	12.74	69.150	
3,000.00	3,000.00	2,993.00	2,993.00	6.60	6.59	92.45	-37.63	880.15	880.95	867.76	13.19	66.793	
3,100.00	3,099.99	3,081.07	3,081.07	6.81	6.78	2.44	-37.49	880.71	880.71	867.12	13.59	64.818	
3,200.00	3,199.96	3,168.25	3,168.23	7.01	6.96	2.41	-37.01	882.54	880.18	866.22	13.95	63.050	
3,300.00	3,299.86	3,255.43	3,255.35	7.21	7.14	2.36	-36.21	885.66	879.36	865.03	14.33	61.365	
3,400.00	3,399.68	3,342.61	3,342.41	7.42	7.32	2.29	-35.07	890.07	878.25	863.55	14.70	59.748	
3,452.85	3,452.38	3,388.69	3,388.39	7.53	7.42	2.24	-34.34	892.91	877.55	862.66	14.89	58.919	
3,500.00	3,499.38	3,429.80	3,429.40	7.63	7.50	2.20	-33.61	895.75	877.05	861.98	15.07	58.206	
3,548.58	3,547.81	3,472.15	3,471.62	7.73	7.59	2.14	-32.77	898.98	876.88	861.63	15.25	57.510 CC, ES	
3,600.00	3,599.07	3,516.99	3,516.29	7.84	7.69	2.08	-31.81	902.72	877.07	861.64	15.44	56.819	
3,700.00	3,698.76	3,600.00	3,598.90	8.05	7.87	1.94	-29.79	910.54	878.57	862.78	15.79	55.647	
3,800.00	3,798.45	3,691.21	3,689.54	8.27	8.08	1.77	-27.23	920.47	881.51	865.34	16.17	54.514	
3,900.00	3,898.13	3,778.17	3,775.78	8.49	8.28	1.58	-24.45	931.24	885.93	869.40	16.54	53.575	
4,000.00	3,997.82	3,868.76	3,865.44	8.71	8.49	1.37	-21.23	943.73	891.76	874.84	16.92	52.711	
4,100.00	4,097.51	3,968.49	3,964.11	8.93	8.74	1.12	-17.59	957.84	897.97	880.63	17.34	51.778	
4,200.00	4,197.20	4,068.23	4,062.77	9.16	8.98	0.89	-13.95	971.94	904.19	886.42	17.77	50.881	
4,300.00	4,296.88	4,167.96	4,161.44	9.39	9.24	0.65	-10.32	986.04	910.43	892.23	18.20	50.021	
4,400.00	4,396.57	4,267.70	4,260.11	9.61	9.49	0.42	-6.68	1,000.15	916.69	898.06	18.63	49.194	
4,500.00	4,496.26	4,367.43	4,358.77	9.84	9.76	0.19	-3.04	1,014.25	922.96	903.89	19.07	48.400	
4,600.00	4,595.95	4,467.17	4,457.44	10.07	10.02	-0.04	0.60	1,028.35	929.24	909.74	19.51	47.637	
4,700.00	4,695.64	4,566.90	4,556.11	10.31	10.29	-0.26	4.24	1,042.45	935.54	915.60	19.95	46.903	
4,800.00	4,795.32	4,666.64	4,654.77	10.54	10.56	-0.48	7.87	1,056.56	941.86	921.47	20.39	46.198	
4,900.00	4,895.01	4,766.38	4,753.44	10.78	10.84	-0.70	11.51	1,070.66	948.18	927.35	20.83	45.519	

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

LEAM Drilling Systems LLC

Anticollision Report

Company: Devon Energy
Project: Lea County, NM (NAD-83)
Reference Site: Fighting Okra 18-19 Fed
Site Error: 0.00 usft
Reference Well: 3H
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Plan #1

Local Co-ordinate Reference: Well 3H
TVD Reference: 3372.2 GE + 25' KB @ 3397.20usft
MD Reference: 3372.2 GE + 25' KB @ 3397.20usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at 2.00 sigma
Database: EDM 5000.1 Multi User Db
Offset TVD Reference: Offset Datum

Offset Design Fighting Okra 18-19 Fed - 8H - OH - Plan #1													Offset Site Error:
Survey Program: 0-LEAM MWD+HDGM													Offset Well Error:
Reference		Offset		Soml Major Axis			Distance						
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Hightside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
5,000.00	4,994.70	4,866.11	4,852.11	11.01	11.11	-0.91	15.15	1,084.76	954.52	933.25	21.27	44.866	
5,100.00	5,094.39	4,965.85	4,950.77	11.25	11.39	-1.12	18.79	1,098.87	960.88	939.16	21.72	44.237	
5,200.00	5,194.07	5,065.58	5,049.44	11.49	11.67	-1.33	22.42	1,112.97	967.24	945.07	22.17	43.632	
5,300.00	5,293.76	5,165.32	5,148.10	11.72	11.96	-1.54	26.06	1,127.07	973.62	951.00	22.62	43.048	
5,400.00	5,393.45	5,265.05	5,246.77	11.96	12.25	-1.74	29.70	1,141.17	980.01	956.94	23.07	42.485	
5,500.00	5,493.14	5,364.79	5,345.44	12.20	12.53	-1.94	33.34	1,155.28	986.41	962.90	23.52	41.942	
5,600.00	5,592.83	5,464.53	5,444.10	12.44	12.82	-2.14	36.97	1,169.38	992.83	968.86	23.97	41.419	
5,700.00	5,692.51	5,564.26	5,542.77	12.69	13.12	-2.33	40.61	1,183.48	999.26	974.83	24.42	40.913	
5,800.00	5,792.20	5,664.00	5,641.44	12.93	13.41	-2.53	44.25	1,197.59	1,005.69	980.82	24.88	40.425	
5,900.00	5,891.89	5,763.73	5,740.10	13.17	13.70	-2.72	47.89	1,211.69	1,012.14	986.81	25.33	39.953	
6,000.00	5,991.58	5,863.47	5,838.77	13.41	14.00	-2.91	51.53	1,225.79	1,018.60	992.82	25.79	39.497	
6,100.00	6,091.26	5,963.20	5,937.44	13.66	14.30	-3.09	55.16	1,239.90	1,025.08	998.83	26.25	39.057	
6,200.00	6,190.95	6,062.94	6,036.10	13.90	14.60	-3.27	58.80	1,254.00	1,031.56	1,004.85	26.70	38.630	
6,300.00	6,290.64	6,162.67	6,134.77	14.15	14.89	-3.46	62.44	1,268.10	1,038.05	1,010.89	27.16	38.217	
6,400.00	6,390.33	6,262.41	6,233.44	14.39	15.20	-3.63	66.08	1,282.20	1,044.55	1,016.93	27.62	37.818	
6,500.00	6,490.02	6,362.15	6,332.10	14.64	15.50	-3.81	69.71	1,296.31	1,051.06	1,022.98	28.08	37.430	
6,600.00	6,589.70	6,461.88	6,430.77	14.89	15.80	-3.99	73.35	1,310.41	1,057.59	1,029.05	28.54	37.055	
6,700.00	6,689.39	6,561.62	6,529.43	15.13	16.10	-4.16	76.99	1,324.51	1,064.12	1,035.12	29.00	36.691	
6,800.00	6,789.08	6,661.35	6,628.10	15.38	16.41	-4.33	80.63	1,338.62	1,070.66	1,041.20	29.46	36.339	
6,900.00	6,888.77	6,761.09	6,726.77	15.63	16.71	-4.50	84.27	1,352.72	1,077.21	1,047.28	29.93	35.996	
7,000.00	6,988.46	6,860.82	6,825.43	15.87	17.02	-4.66	87.90	1,366.82	1,083.77	1,053.38	30.39	35.664	
7,100.00	7,088.14	6,960.56	6,924.10	16.12	17.32	-4.83	91.54	1,380.93	1,090.34	1,059.49	30.85	35.342	
7,200.00	7,187.83	7,060.29	7,022.77	16.37	17.63	-4.99	95.18	1,395.03	1,096.92	1,065.60	31.31	35.029	
7,300.00	7,287.52	7,160.03	7,121.43	16.62	17.94	-5.15	98.82	1,409.13	1,103.50	1,071.72	31.78	34.724	
7,400.00	7,387.21	7,259.77	7,220.10	16.87	18.25	-5.31	102.45	1,423.23	1,110.10	1,077.85	32.24	34.429	
7,500.00	7,486.89	7,359.50	7,318.77	17.12	18.56	-5.46	106.09	1,437.34	1,116.70	1,083.99	32.71	34.141	
7,600.00	7,586.58	7,459.24	7,417.43	17.37	18.87	-5.62	109.73	1,451.44	1,123.31	1,090.14	33.17	33.861	
7,700.00	7,686.27	7,558.97	7,516.10	17.62	19.18	-5.77	113.37	1,465.54	1,129.93	1,096.29	33.64	33.589	
7,800.00	7,785.96	7,658.71	7,614.77	17.87	19.49	-5.92	117.01	1,479.65	1,136.56	1,102.45	34.11	33.324	
7,900.00	7,885.65	7,758.44	7,713.43	18.12	19.80	-6.07	120.64	1,493.75	1,143.19	1,108.62	34.57	33.066	
8,000.00	7,985.33	7,858.18	7,812.10	18.37	20.11	-6.22	124.28	1,507.85	1,149.84	1,114.80	35.04	32.815	
8,100.00	8,085.02	7,957.92	7,910.76	18.62	20.42	-6.36	127.92	1,521.96	1,156.49	1,120.98	35.51	32.571	
8,200.00	8,184.71	8,057.65	8,009.43	18.87	20.73	-6.51	131.56	1,536.06	1,163.14	1,127.17	35.97	32.332	
8,300.00	8,284.40	8,157.39	8,108.10	19.12	21.05	-6.65	135.19	1,550.16	1,169.81	1,133.37	36.44	32.100	
8,400.00	8,384.08	8,257.12	8,206.76	19.37	21.36	-6.79	138.83	1,564.26	1,176.48	1,139.57	36.91	31.873	
8,500.00	8,483.77	8,356.86	8,305.43	19.62	21.67	-6.93	142.47	1,578.37	1,183.16	1,145.78	37.38	31.652	
8,600.00	8,583.46	8,456.59	8,404.10	19.87	21.99	-7.07	146.11	1,592.47	1,189.84	1,152.00	37.85	31.437	
8,700.00	8,683.15	8,556.33	8,502.76	20.12	22.30	-7.21	149.75	1,606.57	1,196.54	1,158.22	38.32	31.226	
8,800.00	8,782.84	8,656.06	8,601.43	20.37	22.61	-7.34	153.38	1,620.68	1,203.24	1,164.45	38.79	31.021	
8,900.00	8,882.52	8,755.80	8,700.10	20.63	22.93	-7.47	157.02	1,634.78	1,209.94	1,170.68	39.26	30.820	
9,000.00	8,982.21	8,855.54	8,798.76	20.88	23.24	-7.61	160.66	1,648.88	1,216.65	1,176.93	39.73	30.625	
9,100.00	9,081.90	8,955.27	8,897.43	21.13	23.56	-7.74	164.30	1,662.99	1,223.37	1,183.17	40.20	30.433	
9,200.00	9,181.59	9,055.01	8,996.10	21.38	23.87	-7.86	167.93	1,677.09	1,230.10	1,189.43	40.67	30.246	
9,300.00	9,281.28	9,154.74	9,094.76	21.64	24.19	-7.99	171.57	1,691.19	1,236.83	1,195.69	41.14	30.064	
9,400.00	9,380.96	9,254.48	9,193.43	21.89	24.51	-8.12	175.21	1,705.29	1,243.57	1,201.95	41.61	29.885	
9,500.00	9,480.65	9,354.21	9,292.09	22.14	24.82	-8.24	178.85	1,719.40	1,250.31	1,208.23	42.08	29.710	
9,600.00	9,580.34	9,453.95	9,390.76	22.39	25.14	-8.37	182.49	1,733.50	1,257.06	1,214.50	42.55	29.540	
9,700.00	9,680.03	9,553.68	9,489.43	22.65	25.46	-8.49	186.12	1,747.60	1,263.81	1,220.79	43.03	29.373	
9,800.00	9,779.71	9,653.42	9,588.09	22.90	25.77	-8.61	189.76	1,761.71	1,270.57	1,227.07	43.50	29.209	
9,900.00	9,879.40	9,753.16	9,686.76	23.15	26.09	-8.73	193.40	1,775.81	1,277.34	1,233.37	43.97	29.049	
10,000.00	9,979.09	9,852.89	9,785.43	23.41	26.41	-8.85	197.04	1,789.91	1,284.11	1,239.67	44.44	28.892	
10,100.00	10,078.78	9,952.63	9,884.09	23.66	26.72	-8.96	200.67	1,804.02	1,290.89	1,245.97	44.92	28.739	

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

LEAM Drilling Systems LLC

Anticollision Report

Company: Devon Energy
Project: Lea County, NM (NAD-83)
Reference Site: Fighting Okra 18-19 Fed
Site Error: 0.00 usft
Reference Well: 3H
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Plan #1

Local Co-ordinate Reference: Well 3H
TVD Reference: 3372.2 GE + 25' KB @ 3397.20usft
MD Reference: 3372.2 GE + 25' KB @ 3397.20usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at 2.00 sigma
Database: EDM 5000.1 Multi User Db
Offset TVD Reference: Offset Datum

Offset Design Fighting Okra 18-19 Fed - 8H - OH - Plan #1												Offset Site Error:	0.00 usft
Survey Program: O-LEAM MWD+HDGM												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	
10,200.00	10,178.47	10,052.36	9,982.76	23.91	27.04	-9.08	204.31	1,818.12	1,297.67	1,252.28	45.39	28.589	
10,300.00	10,278.15	10,152.10	10,081.43	24.17	27.36	-9.19	207.95	1,832.22	1,304.46	1,258.59	45.86	28.442	
10,400.00	10,377.84	10,251.83	10,180.09	24.42	27.68	-9.31	211.59	1,846.32	1,311.25	1,264.91	46.34	28.298	
10,500.00	10,477.53	10,351.57	10,278.76	24.67	28.00	-9.42	215.23	1,860.43	1,318.04	1,271.23	46.81	28.156	
10,570.31	10,547.62	10,421.70	10,348.13	24.85	28.22	-9.50	217.78	1,870.34	1,322.83	1,275.68	47.14	28.059	
10,600.00	10,577.22	10,451.30	10,377.42	24.92	28.31	-9.53	218.86	1,874.53	1,324.92	1,277.64	47.28	28.024	
10,700.00	10,677.01	10,554.81	10,479.82	25.11	28.64	-9.65	222.63	1,889.14	1,333.08	1,285.36	47.72	27.936	
10,800.00	10,776.89	10,654.64	10,580.51	25.30	28.96	-9.77	226.91	1,905.73	1,341.56	1,293.34	48.22	27.823	
10,900.00	10,876.85	10,754.77	10,678.87	25.48	29.25	-9.86	230.47	1,919.51	1,349.50	1,300.82	48.68	27.721	
11,000.00	10,976.84	10,854.21	10,787.80	25.65	29.52	-9.93	233.29	1,930.47	1,356.90	1,307.77	49.12	27.622	
11,023.16	11,000.00	10,975.45	10,897.97	25.70	29.58	80.06	233.84	1,932.61	1,358.53	1,309.31	49.23	27.598	
11,100.00	11,076.84	11,075.94	10,998.27	25.84	29.77	80.04	235.38	1,938.58	1,363.24	1,313.67	49.56	27.506	
11,200.00	11,176.84	11,206.99	11,129.20	26.04	30.00	80.03	236.73	1,943.81	1,367.35	1,317.36	49.99	27.353	
11,300.00	11,276.84	11,338.22	11,260.41	26.23	30.21	80.02	237.34	1,946.15	1,369.18	1,318.78	50.40	27.167	
11,400.00	11,376.84	11,447.65	11,369.84	26.43	30.39	80.02	237.37	1,946.28	1,369.28	1,318.48	50.80	26.953	
11,500.00	11,476.84	11,547.65	11,469.84	26.63	30.57	80.02	237.37	1,946.28	1,369.28	1,318.07	51.21	26.737	
11,600.00	11,576.84	11,647.65	11,569.84	26.83	30.75	80.02	237.37	1,946.28	1,369.28	1,317.66	51.62	26.524	
11,700.00	11,676.84	11,747.65	11,669.84	27.03	30.92	80.02	237.37	1,946.28	1,369.28	1,317.25	52.03	26.315	
11,800.00	11,776.84	11,847.65	11,769.84	27.23	31.10	80.02	237.37	1,946.28	1,369.28	1,316.83	52.45	26.108	
11,900.00	11,876.84	11,947.65	11,869.84	27.43	31.28	80.02	237.37	1,946.28	1,369.28	1,316.42	52.86	25.904	
12,000.00	11,976.84	12,047.65	11,969.84	27.63	31.46	80.02	237.37	1,946.28	1,369.28	1,316.01	53.27	25.703	
12,104.20	12,081.04	12,151.85	12,074.04	27.84	31.65	80.02	237.37	1,946.28	1,369.28	1,315.58	53.70	25.497	
12,150.00	12,126.79	12,197.60	12,119.79	27.93	31.73	-100.03	237.37	1,946.28	1,369.60	1,315.71	53.89	25.415	
12,200.00	12,176.39	12,247.21	12,169.39	28.02	31.82	-100.17	237.37	1,946.28	1,370.69	1,316.60	54.09	25.341	
12,250.00	12,225.27	12,296.08	12,218.27	28.11	31.91	-100.40	237.37	1,946.28	1,372.60	1,318.31	54.29	25.281	
12,300.00	12,273.05	12,343.86	12,266.05	28.20	32.00	-100.70	237.37	1,946.28	1,375.41	1,320.91	54.50	25.236	
12,350.00	12,319.37	12,390.18	12,312.37	28.29	32.08	-101.04	237.37	1,946.28	1,379.23	1,324.51	54.72	25.206	
12,400.00	12,363.87	12,477.05	12,399.00	28.39	32.21	-102.04	232.04	1,946.28	1,383.63	1,328.70	54.94	25.186	
12,450.00	12,406.22	12,583.34	12,502.35	28.48	32.33	-103.07	207.92	1,946.28	1,387.37	1,332.27	55.10	25.180	
12,500.00	12,446.10	12,699.17	12,607.79	28.58	32.42	-103.85	160.45	1,946.28	1,390.03	1,334.85	55.18	25.191	
12,550.00	12,483.20	12,821.50	12,706.38	28.68	32.49	-104.23	88.43	1,946.28	1,391.30	1,336.10	55.20	25.204	
12,600.00	12,517.24	12,945.51	12,788.46	28.79	32.54	-104.14	-4.22	1,946.28	1,391.00	1,335.79	55.22	25.191	
12,650.00	12,547.96	13,065.88	12,847.28	28.91	32.61	-103.59	-108.98	1,946.28	1,389.18	1,333.87	55.31	25.118	
12,700.00	12,575.12	13,178.36	12,881.38	29.04	32.72	-102.70	-215.98	1,946.28	1,386.07	1,330.56	55.51	24.969	
12,750.00	12,598.53	13,280.70	12,893.71	29.19	32.89	-101.61	-317.43	1,946.28	1,382.03	1,326.19	55.83	24.752	
12,800.00	12,617.99	13,336.32	12,894.00	29.35	33.01	-101.13	-373.05	1,946.28	1,377.93	1,321.68	56.24	24.500	
12,850.00	12,633.37	13,383.88	12,894.00	29.53	33.14	-100.83	-420.61	1,946.28	1,374.85	1,318.19	56.66	24.267	
12,900.00	12,644.55	13,432.60	12,894.00	29.73	33.29	-100.59	-469.33	1,946.28	1,372.72	1,315.62	57.10	24.043	
12,950.00	12,651.44	13,482.10	12,894.00	29.95	33.45	-100.44	-518.84	1,946.28	1,371.45	1,313.90	57.55	23.832	
13,004.20	12,654.00	13,536.22	12,894.00	30.20	33.66	-100.38	-572.96	1,946.28	1,370.98	1,312.93	58.06	23.615	
13,100.00	12,654.00	13,632.02	12,894.00	30.71	34.09	-100.38	-668.76	1,946.28	1,370.98	1,311.95	59.04	23.223	
13,200.00	12,654.00	13,732.02	12,894.00	31.32	34.60	-100.38	-768.76	1,946.28	1,370.98	1,310.77	60.21	22.770	
13,300.00	12,654.00	13,832.02	12,894.00	31.99	35.19	-100.38	-868.76	1,946.28	1,370.98	1,309.45	61.53	22.280	
13,400.00	12,654.00	13,932.02	12,894.00	32.74	35.85	-100.38	-968.76	1,946.28	1,370.98	1,307.99	62.99	21.764	
13,500.00	12,654.00	14,032.02	12,894.00	33.55	36.58	-100.38	-1,068.76	1,946.28	1,370.98	1,306.40	64.58	21.229	
13,600.00	12,654.00	14,132.02	12,894.00	34.41	37.36	-100.38	-1,168.76	1,946.28	1,370.98	1,304.70	66.29	20.682	
13,700.00	12,654.00	14,232.02	12,894.00	35.33	38.20	-100.38	-1,268.76	1,946.28	1,370.98	1,302.88	68.10	20.131	
13,800.00	12,654.00	14,332.02	12,894.00	36.30	39.10	-100.38	-1,368.76	1,946.28	1,370.98	1,300.96	70.02	19.579	
13,900.00	12,654.00	14,432.02	12,894.00	37.32	40.04	-100.38	-1,468.76	1,946.28	1,370.98	1,298.95	72.04	19.032	
14,000.00	12,654.00	14,532.02	12,894.00	38.38	41.03	-100.38	-1,568.76	1,946.28	1,370.98	1,296.85	74.13	18.494	
14,100.00	12,654.00	14,632.02	12,894.00	39.48	42.06	-100.38	-1,668.76	1,946.28	1,370.98	1,294.67	76.31	17.966	
14,200.00	12,654.00	14,732.02	12,894.00	40.61	43.12	-100.38	-1,768.76	1,946.28	1,370.98	1,292.43	78.56	17.452	

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

LEAM Drilling Systems LLC

Anticollision Report

Company: Devon Energy
Project: Lea County, NM (NAD-83)
Reference Site: Fighting Okra 18-19 Fed
Site Error: 0.00 usft
Reference Well: 3H
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Plan #1

Local Co-ordinate Reference: Well 3H
TVD Reference: 3372.2 GE + 25' KB @ 3397.20usft
MD Reference: 3372.2 GE + 25' KB @ 3397.20usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at: 2.00 sigma
Database: EDM 5000.1 Multi User Db
Offset TVD Reference: Offset Datum

Offset Design Fighting Okra 18-19 Fed - 8H - OH - Plan #1														Offset Site Error: 0.00 usft
Survey Program: 0-LEAM MWD+HDGM														Offset Well Error: 0.00 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Distance		Between Centros (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)						
14,300.00	12,654.00	14,832.02	12,894.00	41.78	44.22	-100.38	-1,868.76	1,946.28	1,370.98	1,290.11	80.87	16.952		
14,400.00	12,654.00	14,932.02	12,894.00	42.98	45.36	-100.38	-1,968.76	1,946.28	1,370.98	1,287.74	83.25	16.469		
14,500.00	12,654.00	15,032.02	12,894.00	44.21	46.52	-100.38	-2,068.76	1,946.28	1,370.98	1,285.30	85.68	16.001		
14,600.00	12,654.00	15,132.02	12,894.00	45.46	47.71	-100.38	-2,168.76	1,946.28	1,370.98	1,282.82	88.16	15.551		
14,700.00	12,654.00	15,232.02	12,894.00	46.74	48.93	-100.38	-2,268.76	1,946.28	1,370.98	1,280.29	90.69	15.117		
14,800.00	12,654.00	15,332.02	12,894.00	48.03	50.17	-100.38	-2,368.76	1,946.28	1,370.98	1,277.72	93.26	14.700		
14,900.00	12,654.00	15,432.02	12,894.00	49.35	51.44	-100.38	-2,468.76	1,946.28	1,370.98	1,275.11	95.87	14.300		
15,000.00	12,654.00	15,532.02	12,894.00	50.69	52.72	-100.38	-2,568.76	1,946.28	1,370.98	1,272.46	98.52	13.916		
15,100.00	12,654.00	15,632.02	12,894.00	52.04	54.03	-100.38	-2,668.76	1,946.28	1,370.98	1,269.78	101.20	13.547		
15,200.00	12,654.00	15,732.02	12,894.00	53.41	55.35	-100.38	-2,768.76	1,946.28	1,370.98	1,267.07	103.92	13.193		
15,300.00	12,654.00	15,832.02	12,894.00	54.79	56.68	-100.38	-2,868.76	1,946.28	1,370.98	1,264.33	106.66	12.854		
15,400.00	12,654.00	15,932.02	12,894.00	56.19	58.04	-100.38	-2,968.76	1,946.28	1,370.98	1,261.56	109.42	12.529		
15,500.00	12,654.00	16,032.02	12,894.00	57.60	59.40	-100.38	-3,068.76	1,946.28	1,370.98	1,258.77	112.22	12.217		
15,600.00	12,654.00	16,132.02	12,894.00	59.02	60.78	-100.38	-3,168.76	1,946.28	1,370.98	1,255.95	115.03	11.918		
15,700.00	12,654.00	16,232.02	12,894.00	60.45	62.18	-100.38	-3,268.76	1,946.28	1,370.98	1,253.12	117.87	11.632		
15,800.00	12,654.00	16,332.02	12,894.00	61.89	63.58	-100.38	-3,368.76	1,946.28	1,370.98	1,250.26	120.72	11.357		
15,900.00	12,654.00	16,432.02	12,894.00	63.34	65.00	-100.38	-3,468.76	1,946.28	1,370.98	1,247.39	123.59	11.093		
16,000.00	12,654.00	16,532.02	12,894.00	64.80	66.42	-100.38	-3,568.76	1,946.28	1,370.98	1,244.50	126.49	10.839		
16,100.00	12,654.00	16,632.02	12,894.00	66.27	67.86	-100.38	-3,668.76	1,946.28	1,370.98	1,241.59	129.39	10.596		
16,200.00	12,654.00	16,732.02	12,894.00	67.74	69.30	-100.38	-3,768.76	1,946.28	1,370.98	1,238.67	132.31	10.362		
16,300.00	12,654.00	16,832.02	12,894.00	69.23	70.75	-100.38	-3,868.76	1,946.28	1,370.98	1,235.74	135.25	10.137		
16,400.00	12,654.00	16,932.02	12,894.00	70.72	72.21	-100.38	-3,968.76	1,946.28	1,370.98	1,232.79	138.20	9.921		
16,500.00	12,654.00	17,032.02	12,894.00	72.21	73.68	-100.38	-4,068.76	1,946.28	1,370.98	1,229.83	141.16	9.713		
16,600.00	12,654.00	17,132.02	12,894.00	73.71	75.15	-100.38	-4,168.76	1,946.28	1,370.98	1,226.86	144.13	9.512		
16,700.00	12,654.00	17,232.02	12,894.00	75.22	76.63	-100.38	-4,268.76	1,946.28	1,370.98	1,223.87	147.11	9.319		
16,800.00	12,654.00	17,332.02	12,894.00	76.73	78.12	-100.38	-4,368.76	1,946.28	1,370.98	1,220.88	150.10	9.134		
16,900.00	12,654.00	17,432.02	12,894.00	78.25	79.61	-100.38	-4,468.76	1,946.28	1,370.98	1,217.88	153.10	8.955		
17,000.00	12,654.00	17,532.02	12,894.00	79.77	81.11	-100.38	-4,568.76	1,946.28	1,370.98	1,214.87	156.11	8.782		
17,100.00	12,654.00	17,632.02	12,894.00	81.30	82.61	-100.38	-4,668.76	1,946.28	1,370.98	1,211.85	159.13	8.615		
17,200.00	12,654.00	17,732.02	12,894.00	82.83	84.12	-100.38	-4,768.76	1,946.28	1,370.98	1,208.82	162.16	8.454		
17,300.00	12,654.00	17,832.02	12,894.00	84.36	85.63	-100.38	-4,868.76	1,946.28	1,370.98	1,205.79	165.20	8.299		
17,400.00	12,654.00	17,932.02	12,894.00	85.90	87.15	-100.38	-4,968.76	1,946.28	1,370.98	1,202.75	168.24	8.149		
17,500.00	12,654.00	18,032.02	12,894.00	87.44	88.67	-100.38	-5,068.76	1,946.28	1,370.98	1,199.70	171.29	8.004		
17,600.00	12,654.00	18,132.02	12,894.00	88.98	90.19	-100.38	-5,168.76	1,946.28	1,370.98	1,196.64	174.34	7.864		
17,700.00	12,654.00	18,232.02	12,894.00	90.53	91.72	-100.38	-5,268.76	1,946.28	1,370.98	1,193.58	177.40	7.728		
17,800.00	12,654.00	18,332.02	12,894.00	92.08	93.25	-100.38	-5,368.76	1,946.28	1,370.98	1,190.52	180.47	7.597		
17,900.00	12,654.00	18,432.02	12,894.00	93.64	94.79	-100.38	-5,468.76	1,946.28	1,370.98	1,187.44	183.54	7.470		
18,000.00	12,654.00	18,532.02	12,894.00	95.19	96.33	-100.38	-5,568.76	1,946.28	1,370.98	1,184.37	186.62	7.347		
18,100.00	12,654.00	18,632.02	12,894.00	96.75	97.87	-100.38	-5,668.76	1,946.28	1,370.98	1,181.28	189.70	7.227		
18,200.00	12,654.00	18,732.02	12,894.00	98.31	99.41	-100.38	-5,768.76	1,946.28	1,370.98	1,178.20	192.79	7.111		
18,300.00	12,654.00	18,832.02	12,894.00	99.88	100.96	-100.38	-5,868.76	1,946.28	1,370.98	1,175.11	195.88	6.999		
18,400.00	12,654.00	18,932.02	12,894.00	101.44	102.51	-100.38	-5,968.76	1,946.28	1,370.98	1,172.01	198.97	6.890		
18,500.00	12,654.00	19,032.02	12,894.00	103.01	104.07	-100.38	-6,068.76	1,946.28	1,370.98	1,168.91	202.07	6.785		
18,600.00	12,654.00	19,132.02	12,894.00	104.58	105.62	-100.38	-6,168.76	1,946.28	1,370.98	1,165.81	205.18	6.682		
18,700.00	12,654.00	19,232.02	12,894.00	106.15	107.18	-100.38	-6,268.76	1,946.28	1,370.98	1,162.70	208.28	6.582		
18,800.00	12,654.00	19,332.02	12,894.00	107.73	108.74	-100.38	-6,368.76	1,946.28	1,370.98	1,159.59	211.39	6.485		
18,900.00	12,654.00	19,432.02	12,894.00	109.30	110.30	-100.38	-6,468.76	1,946.28	1,370.98	1,156.47	214.51	6.391		
19,000.00	12,654.00	19,532.02	12,894.00	110.88	111.86	-100.38	-6,568.76	1,946.28	1,370.98	1,153.36	217.63	6.300		
19,100.00	12,654.00	19,632.02	12,894.00	112.46	113.43	-100.38	-6,668.76	1,946.28	1,370.98	1,150.24	220.75	6.211		
19,200.00	12,654.00	19,732.02	12,894.00	114.04	115.00	-100.38	-6,768.76	1,946.28	1,370.98	1,147.11	223.87	6.124		
19,300.00	12,654.00	19,832.02	12,894.00	115.62	116.57	-100.38	-6,868.76	1,946.28	1,370.98	1,143.99	227.00	6.040		
19,400.00	12,654.00	19,932.02	12,894.00	117.21	118.14	-100.38	-6,968.76	1,946.28	1,370.98	1,140.86	230.13	5.958		

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

LEAM Drilling Systems LLC

Anticollision Report

Company: Devon Energy
Project: Lea County, NM (NAD-83)
Reference Site: Fighting Okra 18-19 Fed
Site Error: 0.00 usft
Reference Well: 3H
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Plan #1

Local Co-ordinate Reference: Well 3H
TVD Reference: 3372.2 GE + 25' KB @ 3397.20usft
MD Reference: 3372.2 GE + 25' KB @ 3397.20usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at 2.00 sigma
Database: EDM 5000.1 Multi User Db
Offset TVD Reference: Offset Datum

Offset Design Fighting Okra 18-19 Fed - 8H - OH - Plan #1													Offset Site Error:	0.00 usft
Survey Program: 0-LEAM MWD+HDGM													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
19,500.00	12,654.00	20,032.02	12,894.00	118.79	119.71	-100.38	-7,068.76	1,946.28	1,370.98	1,137.73	233.26	5.878		
19,600.00	12,654.00	20,132.02	12,894.00	120.38	121.29	-100.38	-7,168.76	1,946.28	1,370.98	1,134.59	236.39	5.800		
19,700.00	12,654.00	20,232.02	12,894.00	121.96	122.87	-100.38	-7,268.76	1,946.28	1,370.98	1,131.45	239.53	5.724		
19,800.00	12,654.00	20,332.02	12,894.00	123.55	124.44	-100.38	-7,368.76	1,946.28	1,370.98	1,128.31	242.67	5.650		
19,900.00	12,654.00	20,432.02	12,894.00	125.14	126.02	-100.38	-7,468.76	1,946.28	1,370.98	1,125.17	245.81	5.577		
20,000.00	12,654.00	20,532.02	12,894.00	126.73	127.60	-100.38	-7,568.76	1,946.28	1,370.98	1,122.03	248.95	5.507		
20,100.00	12,654.00	20,632.02	12,894.00	128.33	129.19	-100.38	-7,668.76	1,946.28	1,370.98	1,118.88	252.10	5.438		
20,200.00	12,654.00	20,732.02	12,894.00	129.92	130.77	-100.38	-7,768.76	1,946.28	1,370.98	1,115.74	255.25	5.371		
20,300.00	12,654.00	20,832.02	12,894.00	131.51	132.35	-100.38	-7,868.76	1,946.28	1,370.98	1,112.59	258.40	5.306		
20,400.00	12,654.00	20,932.02	12,894.00	133.11	133.94	-100.38	-7,968.76	1,946.28	1,370.98	1,109.44	261.55	5.242		
20,500.00	12,654.00	21,032.02	12,894.00	134.70	135.53	-100.38	-8,068.76	1,946.28	1,370.98	1,106.28	264.70	5.179		
20,600.00	12,654.00	21,132.02	12,894.00	136.30	137.11	-100.38	-8,168.76	1,946.28	1,370.98	1,103.13	267.86	5.118		
20,700.00	12,654.00	21,232.02	12,894.00	137.90	138.70	-100.38	-8,268.76	1,946.28	1,370.98	1,099.97	271.01	5.059		
20,800.00	12,654.00	21,332.02	12,894.00	139.50	140.29	-100.38	-8,368.76	1,946.28	1,370.98	1,096.81	274.17	5.000		
20,900.00	12,654.00	21,432.02	12,894.00	141.10	141.89	-100.38	-8,468.76	1,946.28	1,370.98	1,093.65	277.33	4.943		
21,000.00	12,654.00	21,532.02	12,894.00	142.70	143.48	-100.38	-8,568.76	1,946.28	1,370.98	1,090.49	280.49	4.888		
21,100.00	12,654.00	21,632.02	12,894.00	144.30	145.07	-100.38	-8,668.76	1,946.28	1,370.98	1,087.33	283.65	4.833		
21,200.00	12,654.00	21,732.02	12,894.00	145.90	146.66	-100.38	-8,768.76	1,946.28	1,370.98	1,084.17	286.82	4.780		
21,300.00	12,654.00	21,832.02	12,894.00	147.50	148.26	-100.38	-8,868.76	1,946.28	1,370.98	1,081.00	289.98	4.728		
21,400.00	12,654.00	21,932.02	12,894.00	149.11	149.86	-100.38	-8,968.76	1,946.28	1,370.98	1,077.83	293.15	4.677		
21,500.00	12,654.00	22,032.02	12,894.00	150.71	151.45	-100.38	-9,068.76	1,946.28	1,370.98	1,074.66	296.32	4.627		
21,600.00	12,654.00	22,132.02	12,894.00	152.31	153.05	-100.38	-9,168.76	1,946.28	1,370.98	1,071.50	299.49	4.578		
21,700.00	12,654.00	22,232.02	12,894.00	153.92	154.65	-100.38	-9,268.76	1,946.28	1,370.98	1,068.32	302.66	4.530		
21,800.00	12,654.00	22,332.02	12,894.00	155.52	156.25	-100.38	-9,368.76	1,946.28	1,370.98	1,065.15	305.83	4.483		
21,900.00	12,654.00	22,432.02	12,894.00	157.13	157.85	-100.38	-9,468.76	1,946.28	1,370.98	1,061.98	309.00	4.437		
22,000.00	12,654.00	22,532.02	12,894.00	158.74	159.45	-100.38	-9,568.76	1,946.28	1,370.98	1,058.81	312.18	4.392		
22,100.00	12,654.00	22,632.02	12,894.00	160.34	161.05	-100.38	-9,668.76	1,946.28	1,370.98	1,055.63	315.35	4.347		
22,200.00	12,654.00	22,732.02	12,894.00	161.95	162.65	-100.38	-9,768.76	1,946.28	1,370.98	1,052.46	318.53	4.304		
22,300.00	12,654.00	22,832.02	12,894.00	163.56	164.25	-100.38	-9,868.76	1,946.28	1,370.98	1,049.28	321.70	4.262		
22,316.18	12,654.00	22,848.20	12,894.00	163.82	164.51	-100.38	-9,884.93	1,946.28	1,370.98	1,048.76	322.22	4.255		
22,329.42	12,654.00	22,848.63	12,894.00	164.03	164.52	-100.38	-9,885.36	1,946.28	1,371.04	1,048.42	322.63	4.250 SF		

LEAM Drilling Systems LLC

Anticollision Report

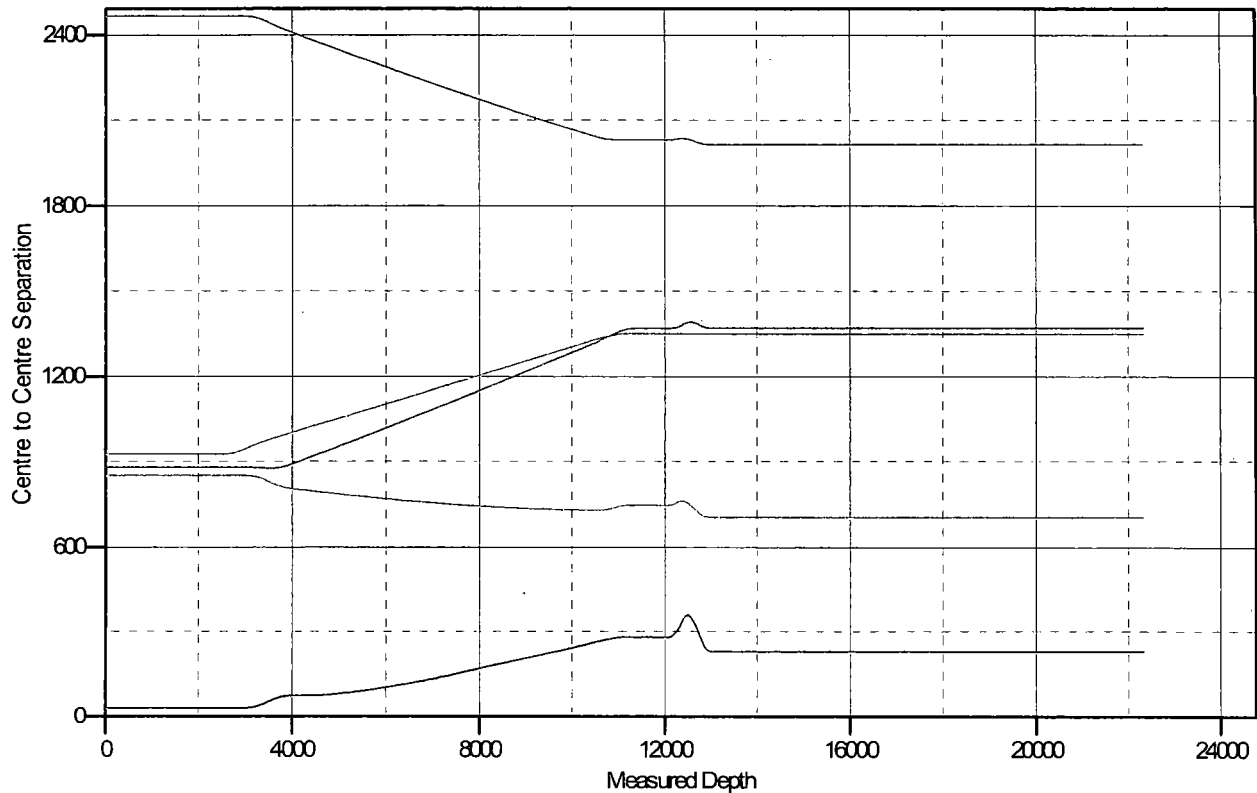
Company: Devon Energy
Project: Lea County, NM (NAD-83)
Reference Site: Fighting Okra 18-19 Fed
Site Error: 0.00 usft
Reference Well: 3H
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Plan #1

Local Co-ordinate Reference: Well 3H
TVD Reference: 3372.2 GE + 25' KB @ 3397.20usft
MD Reference: 3372.2 GE + 25' KB @ 3397.20usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at 2.00 sigma
Database: EDM 5000.1 Multi User Db
Offset TVD Reference: Offset Datum

Reference Depths are relative to 3372.2 GE + 25' KB @ 3397.20usft
 Offset Depths are relative to Offset Datum
 Central Meridian is 104° 20' 0.000 W

Coordinates are relative to: 3H
 Coordinate System is US State Plane 1983, New Mexico Eastern Zone
 Grid Convergence at Surface is: 0.44°

Ladder Plot



LEGEND

8H, OH, Plan #1 V0 6H, OH, Plan #1 V0 5H, OH, Plan #1 V0
 7H, OH, Plan #1 V0 4H, OH, Plan #1 V0

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

LEAM Drilling Systems LLC

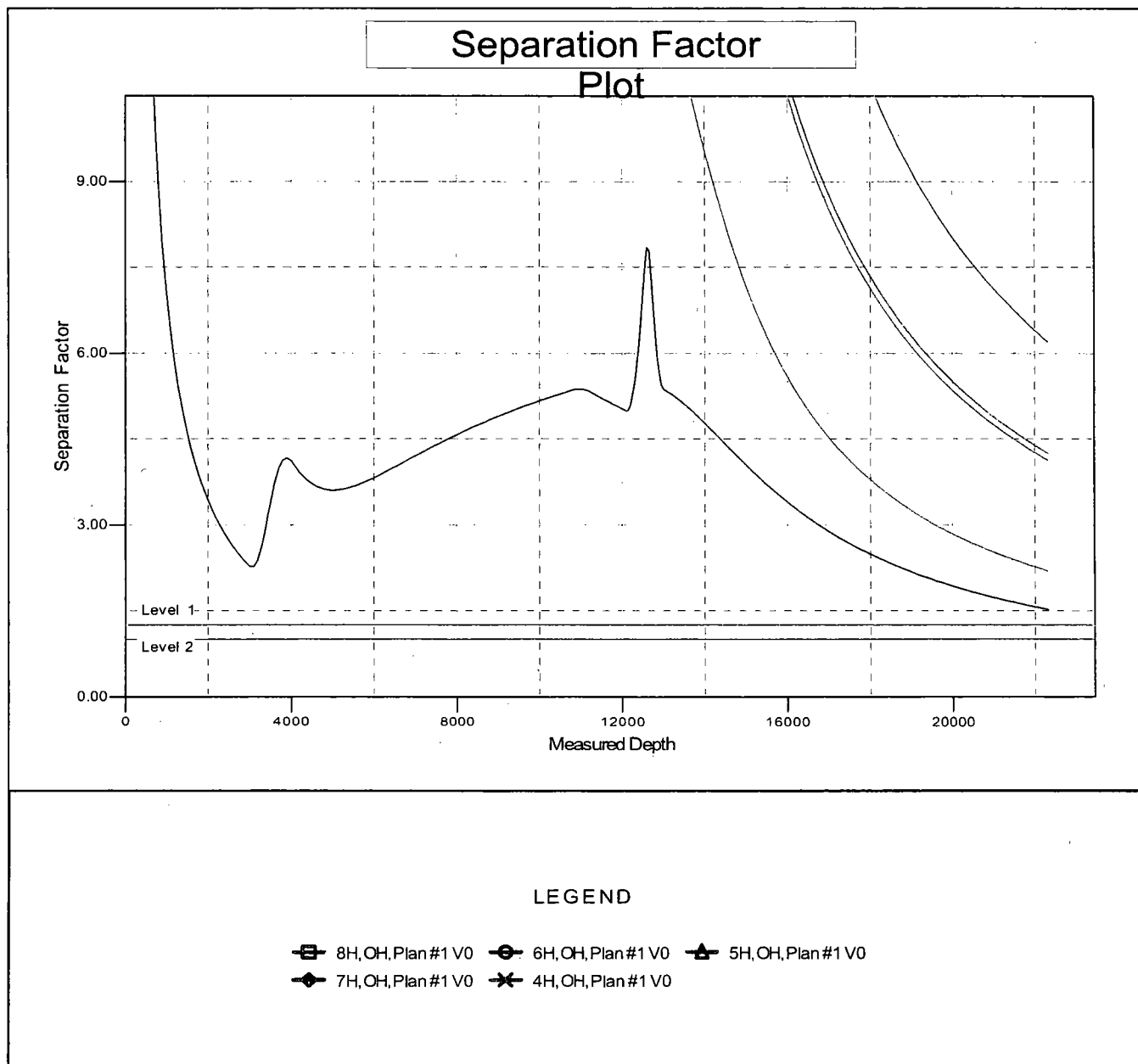
Anticollision Report

Company: Devon Energy
 Project: Lea County, NM (NAD-83)
 Reference Site: Fighting Okra 18-19 Fed
 Site Error: 0.00 usft
 Reference Well: 3H
 Well Error: 0.00 usft
 Reference Wellbore: OH
 Reference Design: Plan #1

Local Co-ordinate Reference: Well 3H
 TVD Reference: 3372.2 GE + 25' KB @ 3397.20usft
 MD Reference: 3372.2 GE + 25' KB @ 3397.20usft
 North Reference: Grid
 Survey Calculation Method: Minimum Curvature
 Output errors are at: 2.00 sigma
 Database: EDM 5000.1 Multi User Db
 Offset TVD Reference: Offset Datum

Reference Depths are relative to 3372.2 GE + 25' KB @ 3397.20usft
 Offset Depths are relative to Offset Datum
 Central Meridian is 104° 20' 0.000 W

Coordinates are relative to: 3H
 Coordinate System is US State Plane 1983, New Mexico Eastern Zone
 Grid Convergence at Surface is: 0.44°



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