

Devon Energy

Lea County, NM (NAD-83)

Thistle Unit Sec 22-27 Trac Pad

Thistle Unit 160H

OH

Plan #2

Anticollision Report

20 September, 2017

LEAM Drilling Systems LLC

Anticollision Report

Company:	Devon Energy	Local Co-ordinate Reference:	Well Thistle Unit 160H
Project:	Lea County, NM (NAD-83)	TVD Reference:	3710.3' GE + 23.5' KB @ 3733.80usft
Reference Site:	Thistle Unit Sec 22-27 Trac Pad	MD Reference:	3710.3' GE + 23.5' KB @ 3733.80usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Thistle Unit 160H	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 #2	Offset TVD Reference:	Offset Datum

Reference	Plan #2		
Filter type:	NO GLOBAL FILTER: Using user defined selection & filtering criteria		
Interpolation Method:	Stations	Error Model:	ISCWSA
Depth Range:	Unlimited	Scan Method:	Closest Approach 3D
Results Limited by:	Maximum center-center distance of 9,999.98 usft	Error Surface:	Elliptical Conic
Warning Levels Evaluated at:	2.00 Sigma	Casing Method:	Not applied

Survey Tool Program		Date	9/20/2017		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
0.00	17,058.50	Plan #2 (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						
Thistle Unit						
62H - OH - OH	14,255.38	9,676.62	743.90	632.72	6.691	CC, ES
62H - OH - OH	14,300.00	9,677.80	745.23	633.55	6.673	SF
Thistle Unit (Offsets)						
57H - OH - OH	14,223.22	9,665.26	910.52	812.32	9.272	CC, ES
57H - OH - OH	14,300.00	9,663.25	913.75	814.32	9.189	SF
Thistle Unit Sec 22-27 Trac Pad						
Thistle Unit 110H - OH - Plan #2	3,000.00	3,001.10	89.95	76.74	6.809	CC, ES
Thistle Unit 110H - OH - Plan #2	17,058.50	17,194.44	437.55	213.74	1.955	SF
Thistle Unit 114H - OH - Plan #2	5,501.09	5,498.77	215.72	191.39	8.867	CC
Thistle Unit 114H - OH - Plan #2	5,503.52	5,500.00	215.72	191.38	8.864	ES
Thistle Unit 114H - OH - Plan #2	17,058.50	17,067.78	438.36	215.19	1.964	SF
Thistle Unit 125H - OH - Plan #2	3,000.00	3,000.90	59.96	46.75	4.539	CC, ES
Thistle Unit 125H - OH - Plan #2	3,200.00	3,200.86	62.18	48.08	4.410	SF
Thistle Unit 133H - OH - Plan #2	4,170.09	4,162.15	269.97	251.60	14.691	CC
Thistle Unit 133H - OH - Plan #2	4,200.00	4,190.71	270.05	251.55	14.599	ES
Thistle Unit 133H - OH - Plan #2	17,058.50	17,495.86	771.41	613.90	4.898	SF
Thistle Unit 142H - OH - Plan #2	2,500.00	2,499.70	119.95	108.99	10.944	CC, ES
Thistle Unit 142H - OH - Plan #2	17,058.50	16,973.85	631.94	447.82	3.432	SF
Thistle Unit 86H - OH - Plan #2	3,000.00	3,000.10	29.94	16.73	2.267	CC, ES
Thistle Unit 86H - OH - Plan #2	9,050.60	9,050.87	62.19	22.21	1.556	SF

Thistle Unit - 62H - OH - OH											Offset Site Error: 0.00 usft		
Survey Program: 85-ISCWSA-GYRO-3, 1447-LEAM_MWD, 15750-Project											Offset Well Error: 0.00 usft		
Reference		Offset		Semi Major Axis			Distance					Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre		Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)		Separation Factor
							+N/-S (usft)	+E/-W (usft)					
0.00	0.00	0.00	0.00	0.00	0.00	160.09	-4,443.26	1,609.55	4,725.84				
100.00	100.00	57.72	57.72	0.09	0.05	160.09	-4,443.39	1,609.63	4,726.01	4,725.88	0.13	N/A	
200.00	200.00	162.59	162.59	0.31	0.20	160.09	-4,443.94	1,609.93	4,726.61	4,726.11	0.50	9,398.185	
300.00	300.00	291.26	291.26	0.54	0.42	160.09	-4,444.18	1,609.60	4,726.69	4,725.74	0.95	4,950.174	
400.00	400.00	407.48	407.48	0.76	0.62	160.10	-4,443.95	1,608.91	4,726.30	4,724.92	1.38	3,416.492	
500.00	500.00	515.70	515.69	0.99	0.81	160.10	-4,443.44	1,608.27	4,725.66	4,723.86	1.80	2,630.145	

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

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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 #2	Offset TVD Reference:	Offset Datum

Offset Design Thistle Unit - 62H - OH - OH													Offset Site Error:	0.00 usft
Survey Program: 85-ISCWSA-GYRO-3, 1447-LEAM_MWD, 15750-Project													Offset Well Error:	0.00 usft
Reference	Offset	Semi Major Axis		Distance		Minimum Separation		Warning						
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N-S (usft)	+E-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
600.00	600.00	629.10	629.08	1.21	1.00	160.11	-4,442.63	1,607.63	4,724.79	4,722.57	2.22	2,127.683		
700.00	700.00	728.33	728.31	1.43	1.18	160.11	-4,441.70	1,607.30	4,723.80	4,721.18	2.62	1,804.652		
800.00	800.00	825.94	825.91	1.66	1.35	160.10	-4,440.72	1,607.20	4,722.82	4,719.81	3.01	1,568.049		
900.00	900.00	918.21	918.18	1.88	1.51	160.10	-4,439.93	1,607.13	4,721.99	4,718.59	3.40	1,390.154		
1,000.00	1,000.00	1,019.24	1,019.21	2.11	1.69	160.10	-4,439.04	1,607.28	4,721.21	4,717.41	3.80	1,243.070		
1,100.00	1,100.00	1,122.56	1,122.52	2.33	1.87	160.09	-4,438.01	1,607.66	4,720.40	4,716.19	4.20	1,122.963		
1,200.00	1,200.00	1,228.77	1,228.73	2.56	2.05	160.08	-4,436.80	1,608.09	4,719.46	4,714.85	4.61	1,022.771		
1,300.00	1,300.00	1,328.68	1,328.63	2.78	2.23	160.07	-4,435.56	1,608.51	4,718.44	4,713.43	5.01	941.078		
1,400.00	1,400.00	1,416.00	1,415.94	3.01	2.38	160.06	-4,434.61	1,608.83	4,717.55	4,712.16	5.39	875.125		
1,500.00	1,500.00	1,501.73	1,501.67	3.23	2.42	160.06	-4,434.13	1,608.66	4,716.95	4,711.30	5.66	833.973		
1,600.00	1,600.00	1,636.00	1,635.83	3.46	2.52	160.12	-4,434.74	1,603.76	4,716.13	4,710.16	5.98	789.197		
1,700.00	1,700.00	1,699.00	1,698.65	3.68	2.60	160.18	-4,435.80	1,599.09	4,715.26	4,708.99	6.28	751.060		
1,757.62	1,757.62	1,739.94	1,739.42	3.81	2.66	160.22	-4,436.96	1,595.54	4,715.12	4,708.65	6.47	728.818		
1,800.00	1,800.00	1,763.00	1,762.37	3.91	2.70	160.25	-4,437.76	1,593.49	4,715.22	4,708.62	6.60	714.160		
1,900.00	1,900.00	1,820.19	1,819.26	4.13	2.80	160.32	-4,440.25	1,588.19	4,716.15	4,709.22	6.93	680.255		
2,000.00	2,000.00	1,909.11	1,907.66	4.36	2.99	160.43	-4,444.67	1,579.67	4,717.62	4,710.27	7.35	641.811		
2,100.00	2,100.00	2,007.05	2,005.03	4.58	3.24	160.56	-4,449.62	1,570.40	4,719.23	4,711.41	7.82	603.698		
2,200.00	2,200.00	2,106.91	2,104.32	4.81	3.51	160.69	-4,454.65	1,560.97	4,720.86	4,712.55	8.32	567.678		
2,300.00	2,300.00	2,211.12	2,207.92	5.03	3.82	160.82	-4,459.89	1,551.01	4,722.47	4,713.62	8.85	533.530		
2,400.00	2,400.00	2,316.39	2,312.57	5.26	4.16	160.96	-4,465.08	1,540.90	4,723.99	4,714.58	9.41	502.108		
2,500.00	2,500.00	2,421.05	2,416.66	5.48	4.50	161.09	-4,469.96	1,531.14	4,725.37	4,715.40	9.98	473.668		
2,600.00	2,600.00	2,518.10	2,513.20	5.71	4.83	161.21	-4,474.47	1,522.25	4,726.82	4,716.30	10.53	448.994		
2,700.00	2,700.00	2,620.37	2,614.94	5.93	5.18	161.34	-4,479.11	1,512.97	4,728.21	4,717.11	11.10	425.790		
2,800.00	2,800.00	2,744.35	2,738.29	6.15	5.62	161.49	-4,484.60	1,501.81	4,729.58	4,717.82	11.76	402.014		
2,900.00	2,900.00	2,848.84	2,842.29	6.38	5.99	161.61	-4,488.57	1,492.47	4,730.36	4,718.00	12.36	382.683		
3,000.00	3,000.00	2,958.00	2,950.97	6.60	6.38	161.73	-4,492.55	1,483.06	4,731.11	4,718.13	12.98	364.588		
3,100.00	3,099.99	3,030.07	3,022.76	6.83	6.64	123.85	-4,495.18	1,477.19	4,732.53	4,719.07	13.46	351.693		
3,200.00	3,199.96	3,186.31	3,178.30	7.05	7.21	124.05	-4,500.66	1,463.50	4,734.59	4,720.34	14.25	332.342		
3,300.00	3,299.86	3,290.05	3,281.54	7.27	7.60	124.20	-4,503.92	1,453.91	4,737.19	4,722.34	14.85	319.004		
3,335.31	3,335.12	3,336.00	3,327.28	7.34	7.77	124.27	-4,505.20	1,449.74	4,738.25	4,723.15	15.10	313.837		
3,400.00	3,399.70	3,387.74	3,378.80	7.49	7.96	124.36	-4,506.63	1,445.11	4,740.32	4,724.89	15.43	307.162		
3,500.00	3,499.53	3,476.62	3,467.29	7.71	8.29	124.51	-4,509.33	1,437.26	4,743.87	4,727.88	15.99	296.766		
3,600.00	3,599.36	3,591.54	3,581.66	7.93	8.72	124.71	-4,512.92	1,426.60	4,747.41	4,730.77	16.64	285.324		
3,700.00	3,699.18	3,689.29	3,678.95	8.16	9.09	124.88	-4,515.67	1,417.54	4,750.70	4,733.47	17.23	275.713		
3,800.00	3,799.01	3,769.65	3,758.90	8.38	9.39	125.02	-4,518.21	1,409.87	4,754.28	4,736.52	17.76	267.692		
3,900.00	3,898.84	3,856.01	3,844.78	8.61	9.72	125.18	-4,521.38	1,401.38	4,758.30	4,739.99	18.32	259.803		
4,000.00	3,998.67	3,960.66	3,948.90	8.83	10.12	125.37	-4,525.15	1,391.53	4,762.44	4,743.49	18.94	251.448		
4,100.00	4,098.50	4,037.38	4,025.25	9.06	10.42	125.50	-4,527.83	1,384.51	4,766.62	4,747.16	19.46	244.958		
4,200.00	4,198.33	4,092.00	4,079.55	9.29	10.63	125.60	-4,530.27	1,379.21	4,771.61	4,751.72	19.89	239.869		
4,300.00	4,298.16	4,175.91	4,162.95	9.52	10.96	125.76	-4,534.57	1,370.98	4,777.23	4,756.79	20.44	233.675		
4,400.00	4,397.99	4,298.01	4,284.36	9.75	11.43	125.98	-4,540.65	1,359.56	4,782.87	4,761.73	21.14	226.202		
4,500.00	4,497.81	4,376.00	4,361.97	9.98	11.73	126.11	-4,544.30	1,352.79	4,788.47	4,766.80	21.67	220.989		
4,600.00	4,597.64	4,455.93	4,441.53	10.21	12.03	126.25	-4,548.30	1,346.12	4,794.51	4,772.31	22.20	215.981		
4,700.00	4,697.47	4,531.34	4,516.56	10.44	12.32	126.38	-4,552.49	1,339.88	4,801.12	4,778.41	22.71	211.396		
4,800.00	4,797.30	4,635.11	4,619.79	10.67	12.73	126.55	-4,558.60	1,331.26	4,808.08	4,784.74	23.34	206.019		
4,900.00	4,897.13	4,737.79	4,721.90	10.90	13.12	126.73	-4,564.48	1,322.30	4,814.81	4,790.85	23.96	200.930		
5,000.00	4,996.96	4,807.55	4,791.29	11.13	13.39	126.85	-4,568.60	1,316.39	4,821.85	4,797.39	24.45	197.178		
5,100.00	5,096.79	4,873.55	4,856.96	11.36	13.65	126.96	-4,572.84	1,311.33	4,829.61	4,804.68	24.93	193.739		
5,168.21	5,164.88	4,920.60	4,903.77	11.52	13.83	127.04	-4,576.10	1,307.86	4,835.29	4,810.03	25.26	191.434		
5,200.00	5,196.62	5,107.74	5,089.92	11.59	14.55	127.36	-4,587.17	1,292.40	4,837.86	4,811.79	26.06	185.610		
5,300.00	5,296.52	5,203.00	5,184.78	11.77	14.92	127.54	-4,590.92	1,284.45	4,842.27	4,815.67	26.60	182.017		
5,400.00	5,396.49	5,361.76	5,342.84	11.95	15.53	127.78	-4,596.69	1,270.75	4,845.34	4,817.95	27.39	176.897		

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

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Offset Design Thistle Unit - 62H - OH - OH													Offset Site Error:	0.00 usft
Survey Program: 85-ISCWSA-GYRO-3, 1447-LEAM_MWD, 15750-Project													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Distance		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)						
5,503.52	5,500.00	5,495.90	5,476.00	12.13	16.07	165.94	-4,601.10	1,255.24	4,846.27	4,818.16	28.11	172.432		
5,600.00	5,596.48	5,584.39	5,563.70	12.32	16.43	166.08	-4,604.15	1,243.78	4,846.47	4,817.81	28.66	169.121		
5,700.00	5,696.48	5,676.00	5,654.45	12.54	16.80	166.23	-4,607.39	1,231.77	4,846.78	4,817.53	29.25	165.683		
5,800.00	5,796.48	5,741.68	5,719.52	12.76	17.08	166.33	-4,609.98	1,223.21	4,847.57	4,817.82	29.74	162.981		
5,900.00	5,896.48	5,796.58	5,773.92	12.98	17.30	166.42	-4,612.57	1,216.31	4,849.22	4,819.04	30.19	160.645		
6,000.00	5,996.48	5,866.00	5,842.71	13.20	17.59	166.53	-4,616.63	1,207.88	4,851.97	4,821.29	30.69	158.108		
6,100.00	6,096.48	5,915.28	5,891.56	13.42	17.79	166.60	-4,619.85	1,202.26	4,855.49	4,824.39	31.10	156.130		
6,200.00	6,196.48	5,995.62	5,971.31	13.64	18.11	166.71	-4,625.12	1,194.02	4,859.54	4,827.90	31.64	153.602		
6,300.00	6,296.48	15,750.00	11,082.01	13.87	85.39	96.07	54.01	510.77	4,823.41	4,776.93	46.48	103.777		
6,400.00	6,396.48	15,750.00	11,082.01	14.09	85.39	96.07	54.01	510.77	4,723.83	4,677.15	46.67	101.213		
6,500.00	6,496.48	15,750.00	11,082.01	14.31	85.39	96.07	54.01	510.77	4,624.26	4,577.39	46.87	98.658		
6,600.00	6,596.48	15,750.00	11,082.01	14.53	85.39	96.07	54.01	510.77	4,524.71	4,477.64	47.08	96.113		
6,700.00	6,696.48	15,750.00	11,082.01	14.75	85.39	96.07	54.01	510.77	4,425.19	4,377.90	47.29	93.578		
6,800.00	6,796.48	15,750.00	11,082.01	14.97	85.39	96.07	54.01	510.77	4,325.68	4,278.18	47.51	91.053		
6,900.00	6,896.48	15,750.00	11,082.01	15.20	85.39	96.07	54.01	510.77	4,226.20	4,178.47	47.73	88.540		
7,000.00	6,996.48	15,750.00	11,082.01	15.42	85.39	96.07	54.01	510.77	4,126.75	4,078.78	47.96	86.039		
7,100.00	7,096.48	15,750.00	11,082.01	15.64	85.39	96.07	54.01	510.77	4,027.32	3,979.12	48.20	83.550		
7,200.00	7,196.48	15,750.00	11,082.01	15.86	85.39	96.07	54.01	510.77	3,927.92	3,879.47	48.45	81.074		
7,300.00	7,296.48	15,750.00	11,082.01	16.09	85.39	96.07	54.01	510.77	3,828.55	3,779.85	48.70	78.610		
7,400.00	7,396.48	15,750.00	11,082.01	16.31	85.39	96.07	54.01	510.77	3,729.22	3,680.25	48.97	76.160		
7,500.00	7,496.48	15,750.00	11,082.01	16.53	85.39	96.07	54.01	510.77	3,629.92	3,580.68	49.24	73.724		
7,600.00	7,596.48	15,750.00	11,082.01	16.75	85.39	96.07	54.01	510.77	3,530.66	3,481.14	49.52	71.303		
7,700.00	7,696.48	15,750.00	11,082.01	16.98	85.39	96.07	54.01	510.77	3,431.45	3,381.64	49.81	68.895		
7,800.00	7,796.48	15,750.00	11,082.01	17.20	85.39	96.07	54.01	510.77	3,332.28	3,282.17	50.11	66.503		
7,900.00	7,896.48	15,750.00	11,082.01	17.42	85.39	96.07	54.01	510.77	3,233.16	3,182.74	50.42	64.125		
8,000.00	7,996.48	15,750.00	11,082.01	17.64	85.39	96.07	54.01	510.77	3,134.10	3,083.36	50.74	61.763		
8,100.00	8,096.48	15,750.00	11,082.01	17.87	85.39	96.07	54.01	510.77	3,035.10	2,984.02	51.08	59.417		
8,200.00	8,196.48	15,750.00	11,082.01	18.09	85.39	96.07	54.01	510.77	2,936.17	2,884.73	51.43	57.086		
8,300.00	8,296.48	15,750.00	11,082.01	18.31	85.39	96.07	54.01	510.77	2,837.31	2,785.51	51.80	54.772		
8,400.00	8,396.48	15,750.00	11,082.01	18.54	85.39	96.07	54.01	510.77	2,738.54	2,686.35	52.19	52.474		
8,500.00	8,496.48	15,750.00	11,082.01	18.76	85.39	96.07	54.01	510.77	2,639.86	2,587.26	52.60	50.192		
8,600.00	8,596.48	15,750.00	11,082.01	18.98	85.39	96.07	54.01	510.77	2,541.28	2,488.26	53.02	47.928		
8,700.00	8,696.48	15,750.00	11,082.01	19.21	85.39	96.07	54.01	510.77	2,442.82	2,389.34	53.48	45.680		
8,800.00	8,796.48	15,750.00	11,082.01	19.43	85.39	96.07	54.01	510.77	2,344.48	2,290.53	53.96	43.450		
8,900.00	8,896.48	15,750.00	11,082.01	19.65	85.39	96.07	54.01	510.77	2,246.30	2,191.83	54.47	41.238		
9,000.00	8,996.48	15,750.00	11,082.01	19.88	85.39	96.07	54.01	510.77	2,148.28	2,093.26	55.02	39.044		
9,050.60	9,047.08	15,750.00	11,082.01	19.99	85.39	96.07	54.01	510.77	2,098.75	2,043.44	55.32	37.941		
9,100.00	9,096.42	15,750.00	11,082.01	20.08	85.39	-106.21	54.01	510.77	2,050.46	1,994.85	55.61	36.871		
9,150.00	9,145.98	15,750.00	11,082.01	20.16	85.39	-124.52	54.01	510.77	2,001.91	1,946.00	55.91	35.803		
9,200.00	9,194.79	15,750.00	11,082.01	20.24	85.39	-136.92	54.01	510.77	1,954.10	1,897.88	56.22	34.757		
9,250.00	9,242.48	15,750.00	11,082.01	20.32	85.39	-145.09	54.01	510.77	1,907.46	1,850.92	56.53	33.741		
9,300.00	9,288.68	15,750.00	11,082.01	20.39	85.39	-150.61	54.01	510.77	1,862.44	1,805.59	56.85	32.762		
9,350.00	9,333.04	15,750.00	11,082.01	20.47	85.39	-154.48	54.01	510.77	1,819.52	1,762.35	57.17	31.829		
9,400.00	9,375.22	15,750.00	11,082.01	20.54	85.39	-157.27	54.01	510.77	1,779.19	1,721.70	57.49	30.948		
9,450.00	9,414.91	15,739.96	11,082.26	20.61	85.39	-159.18	44.01	511.61	1,741.92	1,684.04	57.88	30.098		
9,500.00	9,451.80	15,705.44	11,083.10	20.67	85.36	-160.30	9.62	514.50	1,707.71	1,649.55	58.16	29.363		
9,550.00	9,485.60	15,659.59	11,084.18	20.75	84.81	-161.05	-36.07	518.17	1,676.61	1,618.38	58.23	28.792		
9,600.00	9,516.07	15,609.62	11,085.12	20.85	84.04	-161.61	-85.90	521.84	1,648.67	1,590.53	58.14	28.359		
9,650.00	9,542.98	15,557.87	11,085.72	20.97	83.24	-162.01	-137.49	525.91	1,624.08	1,566.05	58.03	27.988		
9,700.00	9,566.10	15,498.57	11,085.94	21.12	82.33	-162.24	-196.60	530.58	1,602.91	1,545.08	57.83	27.719		
9,750.00	9,585.28	15,459.00	11,085.83	21.30	81.73	-162.53	-236.06	533.44	1,585.29	1,527.44	57.85	27.404		
9,800.00	9,600.36	15,412.93	11,085.90	21.50	81.03	-162.69	-282.03	536.53	1,571.76	1,513.98	57.77	27.205		

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 Thistle Unit 160H
Project:	Lea County, NM (NAD-83)	TVD Reference:	3710.3' GE + 23.5' KB @ 3733.80usft
Reference Site:	Thistle Unit Sec 22-27 Trac Pad	MD Reference:	3710.3' GE + 23.5' KB @ 3733.80usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Thistle Unit 160H	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 #2	Offset TVD Reference:	Offset Datum

Offset Design Thistle Unit - 62H - OH - OH													Offset Site Error:	0.00 usft
Survey Program: 85-ISCWSA-GYRO-3, 1447-LEAM_MWD, 15750-Project													Offset Well Error:	0.00 usft
Reference	Offset	Semi Major Axis		Distance		Warning								
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N-S (usft)	+E-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
9,850.00	9,611.23	15,377.78	11,086.38	21.72	80.49	-162.81	-317.11	538.74	1,562.78	1,504.97	57.81	27.032		
9,900.00	9,617.81	15,333.19	11,087.35	21.97	79.82	-162.81	-361.60	541.41	1,558.30	1,500.59	57.70	27.005		
9,928.57	9,619.61	15,304.39	11,087.98	22.12	79.38	-162.76	-390.34	543.17	1,557.62	1,500.03	57.59	27.047		
9,950.00	9,620.04	15,282.78	11,088.44	22.24	79.06	-162.71	-411.91	544.50	1,558.00	1,500.50	57.50	27.097		
9,957.06	9,620.00	15,275.66	11,088.60	22.28	78.95	-162.69	-419.01	544.95	1,558.29	1,500.83	57.47	27.116		
10,000.00	9,619.52	15,229.90	11,089.53	22.53	78.26	-162.62	-464.68	547.79	1,560.29	1,503.04	57.25	27.255		
10,100.00	9,618.39	15,115.91	11,091.44	23.20	76.56	-162.45	-578.46	554.38	1,564.50	1,507.82	56.68	27.605		
10,200.00	9,617.26	15,025.19	11,092.67	23.95	75.22	-162.34	-669.06	558.90	1,568.17	1,511.74	56.43	27.789		
10,300.00	9,616.14	14,924.72	11,094.80	24.80	73.73	-162.21	-769.34	564.53	1,572.75	1,516.63	56.12	28.026		
10,400.00	9,615.01	14,805.33	11,096.18	25.72	71.99	-162.05	-888.56	570.87	1,576.33	1,520.71	55.61	28.344		
10,500.00	9,613.89	14,709.04	11,096.90	26.71	70.59	-161.93	-984.73	575.53	1,579.38	1,523.95	55.43	28.493		
10,600.00	9,612.76	14,603.79	11,097.73	27.76	69.08	-161.81	-1,089.86	580.57	1,582.47	1,527.29	55.17	28.682		
10,700.00	9,611.63	14,492.95	11,097.96	28.86	67.50	-161.67	-1,200.58	585.82	1,584.98	1,530.09	54.89	28.876		
10,800.00	9,610.51	14,390.34	11,097.83	30.02	66.06	-161.56	-1,303.09	590.24	1,587.05	1,532.32	54.73	28.998		
10,900.00	9,609.38	14,285.53	11,097.56	31.21	64.60	-161.43	-1,407.79	595.04	1,589.11	1,534.53	54.58	29.113		
11,000.00	9,608.25	14,173.67	11,096.29	32.45	63.05	-161.28	-1,519.52	600.29	1,590.35	1,535.95	54.40	29.235		
11,100.00	9,607.13	14,066.69	11,094.33	33.72	61.59	-161.10	-1,626.32	606.00	1,591.17	1,536.85	54.32	29.292		
11,200.00	9,606.00	13,962.53	11,091.88	35.02	60.17	-160.92	-1,730.30	611.80	1,591.58	1,537.27	54.31	29.303		
11,300.00	9,604.87	13,869.37	11,089.55	36.35	58.92	-160.73	-1,823.25	617.53	1,592.07	1,537.60	54.46	29.231		
11,400.00	9,603.75	13,773.43	11,087.43	37.70	57.65	-160.53	-1,918.95	623.87	1,592.98	1,538.36	54.62	29.166		
11,500.00	9,602.62	13,665.35	11,085.08	39.08	56.24	-160.32	-2,026.81	630.50	1,593.82	1,539.16	54.66	29.160		
11,600.00	9,601.49	13,561.52	11,082.55	40.47	54.91	-160.13	-2,130.44	636.30	1,594.22	1,539.46	54.75	29.116		
11,700.00	9,600.37	13,458.97	11,079.97	41.88	53.63	-159.96	-2,232.83	641.57	1,594.41	1,539.54	54.87	29.056		
11,800.00	9,599.24	13,360.40	11,077.67	43.31	52.42	-159.82	-2,331.27	646.11	1,594.61	1,539.57	55.04	28.971		
11,900.00	9,598.11	13,266.31	11,075.35	44.75	51.29	-159.66	-2,425.20	650.92	1,594.88	1,539.59	55.29	28.847		
12,000.00	9,596.99	13,189.00	11,074.44	46.21	50.37	-159.54	-2,502.40	654.94	1,596.35	1,540.64	55.70	28.658		
12,100.00	9,595.86	13,094.00	11,074.02	47.68	49.28	-159.43	-2,597.30	659.34	1,598.36	1,542.42	55.95	28.569		
12,200.00	9,594.73	13,000.00	11,074.43	49.16	48.24	-159.36	-2,691.23	662.78	1,600.86	1,544.68	56.19	28.492		
12,300.00	9,593.61	12,906.48	11,076.14	50.64	47.23	-159.35	-2,784.71	664.75	1,604.09	1,547.69	56.40	28.444		
12,400.00	9,592.48	12,794.05	11,077.83	52.14	46.07	-159.36	-2,897.12	666.17	1,606.72	1,550.30	56.42	28.479		
12,500.00	9,591.35	12,701.87	11,078.91	53.65	45.16	-159.35	-2,989.28	667.98	1,609.30	1,552.62	56.68	28.391		
12,600.00	9,590.23	12,609.99	11,080.43	55.16	44.27	-159.34	-3,081.13	670.06	1,612.44	1,555.47	56.97	28.301		
12,700.00	9,589.10	12,500.97	11,082.37	56.68	43.27	-159.34	-3,190.10	671.91	1,615.50	1,558.38	57.12	28.283		
12,800.00	9,587.97	12,407.37	11,083.63	58.21	42.45	-159.34	-3,283.68	673.46	1,618.16	1,560.73	57.43	28.178		
12,900.00	9,586.85	9,630.43	9,587.26	59.74	32.36	-92.60	-4,770.54	858.70	1,545.44	1,479.19	66.25	23.326		
13,000.00	9,585.72	9,634.40	9,591.21	61.28	32.38	-92.91	-4,770.74	858.24	1,458.64	1,390.46	68.18	21.393		
13,100.00	9,584.59	9,638.35	9,595.12	62.82	32.40	-93.21	-4,770.94	857.79	1,373.63	1,303.24	70.38	19.517		
13,200.00	9,583.47	9,642.28	9,599.02	64.37	32.41	-93.51	-4,771.14	857.34	1,290.75	1,217.87	72.88	17.711		
13,300.00	9,582.34	9,646.19	9,602.90	65.92	32.43	-93.81	-4,771.34	856.89	1,210.45	1,134.74	75.71	15.988		
13,400.00	9,581.22	9,649.00	9,605.69	67.48	32.44	-94.03	-4,771.48	856.56	1,133.28	1,054.38	78.90	14.363		
13,500.00	9,580.09	9,653.57	9,610.22	69.04	32.46	-94.38	-4,771.70	856.04	1,059.91	977.45	82.47	12.853		
13,600.00	9,578.96	9,656.99	9,613.62	70.60	32.47	-94.64	-4,771.87	855.65	991.20	904.81	86.40	11.472		
13,700.00	9,577.84	9,660.29	9,616.90	72.17	32.49	-94.90	-4,772.03	855.28	928.19	837.54	90.65	10.239		
13,800.00	9,576.71	9,663.48	9,620.06	73.74	32.50	-95.14	-4,772.18	854.93	872.10	776.98	95.12	9.168		
13,900.00	9,575.58	9,666.54	9,623.10	75.31	32.51	-95.38	-4,772.33	854.59	824.35	724.74	99.61	8.276		
14,000.00	9,574.46	9,669.50	9,626.04	76.89	32.52	-95.61	-4,772.46	854.27	786.47	682.62	103.85	7.573		
14,100.00	9,573.33	9,672.36	9,628.88	78.47	32.53	-95.83	-4,772.59	853.96	759.94	652.44	107.49	7.070		
14,200.00	9,572.20	9,675.13	9,631.63	80.05	32.55	-96.04	-4,772.72	853.66	745.95	635.76	110.19	6.770		
14,255.38	9,571.58	9,676.62	9,633.11	80.92	32.55	-96.15	-4,772.79	853.50	743.90	632.72	111.17	6.691 CC, ES		
14,300.00	9,571.08	9,677.80	9,634.28	81.63	32.56	-96.24	-4,772.84	853.38	745.23	633.55	111.68	6.673 SF		
14,400.00	9,569.95	9,680.39	9,636.85	83.22	32.57	-96.44	-4,772.95	853.10	757.81	645.91	111.90	6.772		
14,500.00	9,568.82	9,682.89	9,639.34	84.80	32.58	-96.64	-4,773.06	852.84	783.05	672.09	110.96	7.057		

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	Local Co-ordinate Reference:	Well Thistle Unit 160H
Project:	Lea County, NM (NAD-83)	TVD Reference:	3710.3' GE + 23.5' KB @ 3733.80usft
Reference Site:	Thistle Unit Sec 22-27 Trac Pad	MD Reference:	3710.3' GE + 23.5' KB @ 3733.80usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Thistle Unit 160H	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 #2	Offset TVD Reference:	Offset Datum

Offset Design Thistle Unit - 62H - OH - OH													Offset Site Error:	0.00 usft
Survey Program: 85-ISCWSA-GYRO-3, 1447-LEAM_MWD, 15750-Project													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	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)						
14,600.00	9,567.70	9,685.31	9,641.74	86.39	32.59	-96.82	-4,773.16	852.59	819.78	710.66	109.12	7.512		
14,700.00	9,566.57	9,687.66	9,644.08	87.98	32.59	-97.00	-4,773.26	852.34	866.55	759.86	106.69	8.122		
14,800.00	9,565.44	9,689.93	9,646.34	89.58	32.60	-97.18	-4,773.36	852.11	921.82	817.87	103.95	8.868		
14,900.00	9,564.32	9,692.14	9,648.53	91.17	32.61	-97.35	-4,773.45	851.88	984.17	883.07	101.10	9.734		
15,000.00	9,563.19	9,694.28	9,650.66	92.77	32.62	-97.51	-4,773.54	851.66	1,052.34	954.03	98.31	10.704		
15,100.00	9,562.06	9,696.36	9,652.73	94.36	32.63	-97.67	-4,773.62	851.45	1,125.27	1,029.62	95.65	11.765		
15,200.00	9,560.94	9,698.38	9,654.74	95.96	32.64	-97.83	-4,773.71	851.25	1,202.09	1,108.92	93.17	12.902		
15,300.00	9,559.81	9,700.35	9,656.69	97.56	32.65	-97.98	-4,773.78	851.05	1,282.11	1,191.22	90.89	14.106		
15,400.00	9,558.68	9,702.25	9,658.58	99.17	32.65	-98.13	-4,773.86	850.86	1,364.76	1,275.95	88.81	15.367		
15,500.00	9,557.56	9,704.11	9,660.43	100.77	32.66	-98.27	-4,773.93	850.68	1,449.60	1,362.68	86.93	16.676		
15,600.00	9,556.43	9,705.91	9,662.22	102.37	32.67	-98.41	-4,774.00	850.50	1,536.26	1,451.04	85.22	18.027		
15,700.00	9,555.30	9,707.67	9,663.97	103.98	32.67	-98.54	-4,774.07	850.33	1,624.45	1,540.78	83.68	19.414		
15,800.00	9,554.18	9,709.38	9,665.67	105.58	32.68	-98.67	-4,774.13	850.16	1,713.94	1,631.66	82.28	20.830		
15,900.00	9,553.05	9,711.04	9,667.32	107.19	32.69	-98.80	-4,774.20	850.00	1,804.53	1,723.51	81.02	22.272		
16,000.00	9,551.92	9,712.66	9,668.93	108.80	32.69	-98.93	-4,774.26	849.84	1,896.06	1,816.18	79.88	23.736		
16,100.00	9,550.80	9,714.24	9,670.51	110.41	32.70	-99.05	-4,774.31	849.69	1,988.40	1,909.56	78.85	25.219		
16,200.00	9,549.67	9,715.78	9,672.04	112.02	32.71	-99.16	-4,774.37	849.54	2,081.45	2,003.55	77.91	26.717		
16,300.00	9,548.55	9,717.28	9,673.53	113.63	32.71	-99.28	-4,774.43	849.40	2,175.12	2,098.06	77.06	28.228		
16,400.00	9,547.42	9,718.75	9,674.99	115.24	32.72	-99.39	-4,774.48	849.26	2,269.33	2,193.04	76.28	29.750		
16,500.00	9,546.29	9,720.18	9,676.41	116.85	32.72	-99.50	-4,774.53	849.13	2,364.01	2,288.43	75.57	31.281		
16,600.00	9,545.17	9,721.57	9,677.80	118.46	32.73	-99.61	-4,774.58	849.00	2,459.10	2,384.18	74.93	32.819		
16,700.00	9,544.04	9,722.93	9,679.15	120.08	32.74	-99.71	-4,774.63	848.87	2,554.58	2,480.24	74.34	34.363		
16,800.00	9,542.91	9,744.00	9,700.12	121.69	32.82	-101.32	-4,775.32	846.97	2,650.51	2,576.69	73.82	35.905		
16,900.00	9,541.79	9,744.00	9,700.12	123.31	32.82	-101.32	-4,775.32	846.97	2,746.60	2,673.27	73.33	37.456		
17,000.00	9,540.66	9,744.00	9,700.12	124.92	32.82	-101.32	-4,775.32	846.97	2,842.95	2,770.07	72.88	39.010		
17,058.50	9,540.00	9,744.00	9,700.12	125.87	32.82	-101.32	-4,775.32	846.97	2,899.43	2,826.80	72.63	39.919		

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	Local Co-ordinate Reference:	Well Thistle Unit 160H
Project:	Lea County, NM (NAD-83)	TVD Reference:	3710.3' GE + 23.5' KB @ 3733.80usft
Reference Site:	Thistle Unit Sec 22-27 Trac Pad	MD Reference:	3710.3' GE + 23.5' KB @ 3733.80usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Thistle Unit 160H	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 #2	Offset TVD Reference:	Offset Datum

Offset Design Thistle Unit (Offsets) - 57H - OH - OH													Offset Site Error: 0.00 usft
Survey Program: 172- VES GyroFlex V2, 1519-MWD-ISCWSA, 16135-Project													Offset Well Error: 0.00 usft
Reference	Offset		Semi Major Axis		Distance		Minimum		Separation		Warning		
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore +N/-S (usft)	Centre +E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	
0.00	0.00	0.00	0.00	0.00	0.00	160.15	-4,742.67	1,711.95	5,042.23				
100.00	100.00	67.09	67.09	0.09	0.05	160.15	-4,742.79	1,711.88	5,042.30	5,042.16	0.14	N/A	
200.00	200.00	150.53	150.53	0.31	0.12	160.16	-4,743.27	1,711.60	5,042.73	5,042.30	0.43	N/A	
300.00	300.00	240.30	240.30	0.54	0.20	160.17	-4,744.10	1,711.17	5,043.44	5,042.71	0.73	6,944.254	
400.00	400.00	345.54	345.53	0.76	0.27	160.17	-4,745.13	1,710.75	5,044.22	5,043.19	1.02	4,925.609	
500.00	500.00	448.53	448.51	0.99	0.33	160.18	-4,745.94	1,710.46	5,044.87	5,043.56	1.31	3,862.225	
600.00	600.00	551.93	551.91	1.21	0.38	160.19	-4,746.68	1,710.29	5,045.48	5,043.91	1.57	3,206.630	
700.00	700.00	658.11	658.09	1.43	0.43	160.19	-4,747.30	1,710.11	5,045.97	5,044.12	1.85	2,732.030	
800.00	800.00	758.25	758.22	1.66	0.48	160.19	-4,747.80	1,709.99	5,046.40	5,044.28	2.11	2,386.233	
900.00	900.00	855.64	855.61	1.88	0.53	160.20	-4,748.33	1,709.85	5,046.86	5,044.48	2.38	2,121.029	
1,000.00	1,000.00	958.83	958.80	2.11	0.57	160.20	-4,748.89	1,709.77	5,047.35	5,044.70	2.65	1,907.773	
1,100.00	1,100.00	1,059.15	1,059.12	2.33	0.61	160.20	-4,749.27	1,709.89	5,047.75	5,044.84	2.91	1,733.933	
1,200.00	1,200.00	1,154.01	1,153.98	2.56	0.65	160.20	-4,749.69	1,710.03	5,048.22	5,045.04	3.17	1,590.473	
1,300.00	1,300.00	1,270.32	1,270.29	2.78	0.69	160.20	-4,750.15	1,710.18	5,048.64	5,045.19	3.44	1,465.633	
1,400.00	1,400.00	1,372.83	1,372.80	3.01	0.73	160.20	-4,750.29	1,710.29	5,048.81	5,045.10	3.71	1,361.328	
1,500.00	1,500.00	1,472.10	1,472.07	3.23	0.75	160.20	-4,750.44	1,710.37	5,048.97	5,045.01	3.96	1,274.753	
1,600.00	1,600.00	1,614.00	1,613.97	3.46	0.81	160.20	-4,750.25	1,709.75	5,048.69	5,044.43	4.25	1,186.655	
1,700.00	1,700.00	1,681.42	1,681.38	3.68	0.88	160.21	-4,750.12	1,708.95	5,048.19	5,043.64	4.55	1,110.599	
1,702.16	1,702.16	1,682.59	1,682.56	3.69	0.88	160.21	-4,750.13	1,708.93	5,048.19	5,043.63	4.55	1,109.145	
1,800.00	1,800.00	1,709.00	1,708.96	3.91	0.91	160.22	-4,750.30	1,708.62	5,048.75	5,043.95	4.80	1,052.124	
1,900.00	1,900.00	1,761.52	1,761.47	4.13	0.98	160.23	-4,751.23	1,708.20	5,050.38	5,045.28	5.10	991.234	
2,000.00	2,000.00	1,804.00	1,803.93	4.36	1.04	160.23	-4,752.65	1,708.19	5,053.39	5,048.01	5.38	940.149	
2,100.00	2,100.00	1,836.79	1,836.68	4.58	1.09	160.24	-4,754.14	1,708.26	5,057.61	5,051.96	5.66	894.327	
2,200.00	2,200.00	1,899.00	1,898.77	4.81	1.19	160.25	-4,757.93	1,708.17	5,063.11	5,057.13	5.98	846.623	
2,300.00	2,300.00	1,933.38	1,933.06	5.03	1.26	160.26	-4,760.45	1,707.97	5,069.49	5,063.22	6.27	808.606	
2,400.00	2,400.00	2,677.65	2,673.13	5.26	3.30	161.01	-4,791.01	1,649.03	5,075.31	5,066.79	8.52	595.754	
2,500.00	2,500.00	2,749.00	2,744.14	5.48	3.46	161.07	-4,789.25	1,642.25	5,069.86	5,060.94	8.92	568.158	
2,600.00	2,600.00	2,826.07	2,820.89	5.71	3.65	161.14	-4,787.58	1,635.47	5,064.93	5,055.59	9.34	542.294	
2,700.00	2,700.00	2,924.82	2,919.24	5.93	3.91	161.23	-4,785.66	1,626.74	5,060.23	5,050.40	9.83	514.714	
2,800.00	2,800.00	3,019.12	3,013.06	6.15	4.19	161.32	-4,784.21	1,617.36	5,055.56	5,045.22	10.33	489.313	
2,900.00	2,900.00	3,085.06	3,078.68	6.38	4.38	161.39	-4,783.36	1,611.02	5,051.26	5,040.51	10.74	470.143	
3,000.00	3,000.00	3,172.67	3,165.96	6.60	4.63	161.47	-4,782.59	1,603.41	5,047.63	5,036.41	11.22	450.006	
3,100.00	3,099.99	3,281.87	3,274.65	6.83	4.96	123.66	-4,781.66	1,592.93	5,044.24	5,032.47	11.77	428.625	
3,200.00	3,199.96	3,371.53	3,363.87	7.05	5.24	123.79	-4,781.07	1,584.06	5,041.93	5,029.67	12.26	411.244	
3,300.00	3,299.86	3,455.46	3,447.46	7.27	5.48	123.91	-4,780.44	1,576.62	5,040.87	5,028.15	12.72	396.388	
3,328.94	3,328.76	3,478.75	3,470.68	7.33	5.55	123.95	-4,780.28	1,574.68	5,040.81	5,027.97	12.84	392.470	
3,335.31	3,335.12	3,483.88	3,475.79	7.34	5.56	123.95	-4,780.24	1,574.27	5,040.81	5,027.94	12.87	391.619	
3,400.00	3,399.70	3,561.02	3,552.66	7.49	5.78	124.06	-4,779.72	1,567.91	5,040.86	5,027.63	13.23	381.017	
3,500.00	3,499.53	3,690.38	3,681.49	7.71	6.17	124.25	-4,778.41	1,556.29	5,040.39	5,026.56	13.83	364.574	
3,600.00	3,599.36	3,774.44	3,765.24	7.93	6.41	124.37	-4,777.30	1,549.18	5,039.84	5,025.56	14.28	352.917	
3,700.00	3,699.18	3,856.22	3,846.75	8.16	6.64	124.49	-4,776.42	1,542.55	5,039.64	5,024.91	14.73	342.059	
3,701.40	3,700.58	3,857.36	3,847.89	8.16	6.65	124.49	-4,776.41	1,542.45	5,039.64	5,024.90	14.74	341.913	
3,800.00	3,799.01	3,957.47	3,947.56	8.38	6.96	124.64	-4,775.91	1,533.22	5,039.69	5,024.43	15.27	330.113	
3,818.93	3,817.91	3,976.00	3,965.99	8.42	7.02	124.67	-4,775.87	1,531.27	5,039.69	5,024.32	15.37	327.945	
3,900.00	3,898.84	4,036.54	4,026.19	8.61	7.22	124.78	-4,775.91	1,524.82	5,039.85	5,024.10	15.75	319.944	
4,000.00	3,998.67	4,126.57	4,115.73	8.83	7.52	124.93	-4,776.26	1,515.45	5,040.46	5,024.19	16.27	309.867	
4,100.00	4,098.50	4,213.31	4,202.09	9.06	7.78	125.06	-4,776.36	1,507.31	5,041.17	5,024.42	16.75	300.915	
4,200.00	4,198.33	4,320.85	4,309.27	9.29	8.10	125.22	-4,776.39	1,498.58	5,042.21	5,024.92	17.29	291.698	
4,300.00	4,298.16	4,462.23	4,450.08	9.52	8.53	125.43	-4,775.66	1,485.93	5,042.47	5,024.54	17.93	281.187	
4,302.02	4,300.17	4,463.70	4,451.54	9.52	8.53	125.43	-4,775.65	1,485.79	5,042.47	5,024.53	17.94	281.043	
4,400.00	4,397.99	4,543.00	4,530.49	9.75	8.78	125.55	-4,775.32	1,478.35	5,042.75	5,024.34	18.41	273.913	
4,500.00	4,497.81	4,645.30	4,632.35	9.98	9.10	125.71	-4,775.02	1,468.83	5,043.23	5,024.28	18.95	266.137	

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 Thistle Unit 160H
Project:	Lea County, NM (NAD-83)	TVD Reference:	3710.3' GE + 23.5' KB @ 3733.80usft
Reference Site:	Thistle Unit Sec 22-27 Trac Pad	MD Reference:	3710.3' GE + 23.5' KB @ 3733.80usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Thistle Unit 160H	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 #2	Offset TVD Reference:	Offset Datum

Offset Design Thistle Unit (Offsets) - 57H - OH - OH													Offset Site Error:	0.00 usft
Survey Program: 172- VES GyroFlex V2, 1519-MWD-ISCWSA, 16135-Project													Offset Well Error:	0.00 usft
Reference	Offset	Semi Major Axis		Distance		Warning								
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (")	Offset Wellbore +N/-S (usft)	Centre +E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
4,600.00	4,597.64	4,732.00	4,718.69	10.21	9.37	125.84	-4,774.45	1,460.99	5,043.50	5,024.06	19.44	259.438		
4,700.00	4,697.47	4,794.04	4,780.53	10.44	9.54	125.93	-4,774.14	1,456.11	5,044.36	5,024.52	19.84	254.258		
4,800.00	4,797.30	4,849.24	4,835.62	10.67	9.69	126.00	-4,774.30	1,452.53	5,046.24	5,026.03	20.22	249.626		
4,900.00	4,897.13	4,921.00	4,907.26	10.90	9.87	126.08	-4,774.85	1,448.52	5,048.86	5,028.24	20.62	244.804		
5,000.00	4,996.96	4,976.23	4,962.43	11.13	9.99	126.14	-4,775.50	1,446.07	5,052.20	5,031.22	20.98	240.834		
5,100.00	5,096.79	5,058.48	5,044.64	11.36	10.16	126.21	-4,776.72	1,443.71	5,056.27	5,034.89	21.38	236.482		
5,168.21	5,164.88	5,153.58	5,139.72	11.52	10.34	126.28	-4,777.61	1,441.99	5,058.92	5,037.20	21.72	232.868		
5,200.00	5,196.62	5,196.52	5,182.65	11.59	10.42	126.32	-4,777.82	1,441.19	5,059.96	5,038.09	21.87	231.363		
5,300.00	5,296.52	5,654.02	5,638.95	11.77	11.58	126.76	-4,769.44	1,414.62	5,060.37	5,037.24	23.12	218.841		
5,400.00	5,396.49	5,744.89	5,729.11	11.95	11.90	126.85	-4,765.78	1,403.82	5,054.91	5,031.30	23.60	214.153		
5,503.52	5,500.00	5,826.00	5,809.56	12.13	12.19	164.86	-4,762.69	1,394.02	5,048.37	5,024.31	24.06	209.818		
5,600.00	5,596.48	5,897.58	5,880.59	12.32	12.44	164.94	-4,760.25	1,385.52	5,042.21	5,017.72	24.49	205.873		
5,700.00	5,696.48	5,994.18	5,976.50	12.54	12.78	165.06	-4,757.42	1,374.32	5,036.34	5,011.31	25.03	201.193		
5,800.00	5,796.48	6,085.62	6,067.29	12.76	13.10	165.17	-4,754.66	1,363.79	5,030.44	5,004.88	25.55	196.854		
5,900.00	5,896.48	6,170.89	6,151.99	12.98	13.39	165.26	-4,752.24	1,354.25	5,024.81	4,998.76	26.06	192.844		
6,000.00	5,996.48	6,243.23	6,223.86	13.20	13.64	165.35	-4,750.44	1,346.19	5,019.57	4,993.05	26.52	189.304		
6,100.00	6,096.48	6,487.00	6,465.51	13.42	14.55	165.65	-4,740.92	1,316.06	5,011.81	4,984.28	27.54	182.000		
6,200.00	6,196.48	6,519.25	6,497.45	13.64	14.67	165.70	-4,739.93	1,311.74	5,004.98	4,977.08	27.90	179.410		
6,300.00	6,296.48	6,627.72	6,604.87	13.87	15.10	165.85	-4,736.32	1,297.11	4,998.37	4,969.86	28.51	175.299		
6,400.00	6,396.48	6,725.08	6,701.29	14.09	15.48	165.99	-4,733.15	1,284.03	4,991.90	4,962.81	29.09	171.601		
6,500.00	6,496.48	6,815.18	6,790.60	14.31	15.82	166.11	-4,730.03	1,272.50	4,985.42	4,955.79	29.63	168.249		
6,600.00	6,596.48	6,886.98	6,861.84	14.53	16.08	166.20	-4,727.71	1,263.88	4,979.39	4,949.28	30.11	165.390		
6,700.00	6,696.48	6,960.00	6,934.32	14.75	16.35	166.29	-4,725.85	1,255.23	4,974.03	4,943.44	30.59	162.617		
6,800.00	6,796.48	7,015.55	6,989.47	14.97	16.55	166.36	-4,724.84	1,248.61	4,969.37	4,938.35	31.02	160.215		
6,900.00	6,896.48	7,076.88	7,050.35	15.20	16.78	166.44	-4,724.17	1,241.27	4,965.47	4,934.01	31.47	157.808		
7,000.00	6,996.48	7,148.00	7,120.99	15.42	17.04	166.54	-4,723.99	1,233.01	4,962.43	4,930.48	31.95	155.332		
7,100.00	7,096.48	7,260.77	7,233.11	15.64	17.43	166.67	-4,723.61	1,220.84	4,959.61	4,927.05	32.55	152.361		
7,200.00	7,196.48	7,362.36	7,334.01	15.86	17.79	166.80	-4,723.03	1,209.04	4,956.37	4,923.24	33.13	149.626		
7,300.00	7,296.48	7,442.22	7,413.37	16.09	18.07	166.90	-4,722.71	1,200.17	4,953.42	4,919.80	33.63	147.305		
7,400.00	7,396.48	7,526.00	7,496.71	16.31	18.35	167.00	-4,722.38	1,191.65	4,950.74	4,916.62	34.13	145.075		
7,500.00	7,496.48	7,621.00	7,591.25	16.53	18.66	167.10	-4,722.20	1,182.31	4,948.35	4,913.69	34.66	142.773		
7,600.00	7,596.48	7,676.98	7,646.96	16.75	18.85	167.16	-4,722.43	1,176.84	4,946.53	4,911.46	35.07	141.046		
7,700.00	7,696.48	7,738.48	7,708.18	16.98	19.04	167.23	-4,723.12	1,170.95	4,945.51	4,910.02	35.49	139.335		
7,800.00	7,796.48	7,810.00	7,779.44	17.20	19.26	167.30	-4,724.30	1,165.07	4,945.26	4,909.32	35.94	137.601		
7,802.56	7,799.04	7,810.00	7,779.44	17.20	19.26	167.30	-4,724.30	1,165.07	4,945.26	4,909.32	35.94	137.580		
7,900.00	7,896.48	7,890.27	7,859.48	17.42	19.49	167.37	-4,725.85	1,159.19	4,945.52	4,909.12	36.40	135.878		
8,000.00	7,996.48	8,035.71	8,004.44	17.64	19.91	167.51	-4,728.05	1,147.60	4,945.18	4,908.13	37.06	133.452		
8,100.00	8,096.48	8,117.55	8,086.01	17.87	20.15	167.59	-4,729.21	1,141.02	4,944.83	4,907.31	37.52	131.784		
8,200.00	8,196.48	8,239.89	8,208.00	18.09	20.49	167.69	-4,730.95	1,132.00	4,944.69	4,906.59	38.10	129.780		
8,300.00	8,296.48	8,347.78	8,315.58	18.31	20.79	167.79	-4,731.71	1,123.86	4,943.75	4,905.13	38.63	127.981		
8,400.00	8,396.48	8,446.54	8,414.10	18.54	21.06	167.87	-4,732.48	1,116.97	4,943.05	4,903.92	39.13	126.336		
8,500.00	8,496.48	8,567.61	8,534.84	18.76	21.40	167.97	-4,733.21	1,108.10	4,942.11	4,902.42	39.69	124.517		
8,600.00	8,596.48	8,659.00	8,625.90	18.98	21.68	168.06	-4,733.80	1,100.40	4,940.98	4,900.79	40.19	122.940		
8,700.00	8,696.48	8,753.00	8,719.59	19.21	21.96	168.14	-4,734.48	1,092.83	4,940.03	4,899.34	40.70	121.384		
8,800.00	8,796.48	8,878.91	8,845.06	19.43	22.33	168.27	-4,735.28	1,082.28	4,938.95	4,897.65	41.30	119.597		
8,900.00	8,896.48	8,978.51	8,944.30	19.65	22.62	168.36	-4,735.47	1,073.84	4,937.41	4,895.59	41.82	118.075		
9,000.00	8,996.48	9,063.30	9,028.82	19.88	22.87	168.44	-4,735.95	1,067.10	4,936.34	4,894.04	42.29	116.718		
9,050.60	9,047.08	9,130.00	9,095.26	19.99	23.08	168.51	-4,736.26	1,061.21	4,935.65	4,893.04	42.61	115.835		
9,100.00	9,096.42	9,174.94	9,140.01	20.08	23.22	-11.08	-4,736.45	1,057.03	4,932.86	4,890.01	42.85	115.125		
9,150.00	9,145.98	9,212.33	9,177.24	20.16	23.33	-11.19	-4,736.69	1,053.66	4,925.94	4,882.89	43.05	114.426		
9,200.00	9,194.79	9,255.06	9,219.80	20.24	23.46	-11.38	-4,737.03	1,049.95	4,914.90	4,871.64	43.26	113.607		
9,250.00	9,242.48	9,299.86	9,264.45	20.32	23.60	-11.69	-4,737.37	1,046.26	4,899.78	4,856.30	43.48	112.696		

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 Thistle Unit 160H
Project:	Lea County, NM (NAD-83)	TVD Reference:	3710.3' GE + 23.5' KB @ 3733.80usft
Reference Site:	Thistle Unit Sec 22-27 Trac Pad	MD Reference:	3710.3' GE + 23.5' KB @ 3733.80usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Thistle Unit 160H	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 #2	Offset TVD Reference:	Offset Datum

Offset Design Thistle Unit (Offsets) - 57H - OH - OH													Offset Site Error:	0.00 usft
Survey Program: 172- VES GyroFlex V2, 1519-MWD-ISCWSA, 16135-Project													Offset Well Error:	0.00 usft
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	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	
9,300.00	9,288.68	9,336.68	9,301.16	20.39	23.71	-12.12	-4,737.65	1,043.41	4,880.69	4,837.03	43.66	111.789		
9,350.00	9,333.04	9,367.11	9,331.51	20.47	23.79	-12.68	-4,737.93	1,041.23	4,857.85	4,814.03	43.81	110.874		
9,400.00	9,375.22	9,396.15	9,360.49	20.54	23.87	-13.40	-4,738.25	1,039.32	4,831.43	4,787.47	43.96	109.908		
9,450.00	9,414.91	9,434.71	9,398.98	20.61	23.97	-14.35	-4,738.72	1,036.97	4,801.60	4,757.48	44.12	108.823		
9,500.00	9,451.80	9,489.67	9,453.82	20.67	24.12	-15.59	-4,739.28	1,033.52	4,768.41	4,724.08	44.32	107.580		
9,550.00	9,485.60	9,540.76	9,504.80	20.75	24.25	-17.21	-4,739.65	1,030.13	4,732.07	4,687.57	44.51	106.317		
9,600.00	9,516.07	9,636.91	9,600.70	20.85	24.51	-19.57	-4,739.57	1,023.22	4,692.73	4,647.93	44.81	104.731		
9,650.00	9,542.98	9,678.60	9,642.25	20.97	24.63	-22.56	-4,739.26	1,019.80	4,650.78	4,605.81	44.97	103.431		
9,700.00	9,566.10	9,714.16	9,677.65	21.12	24.74	-26.72	-4,738.96	1,016.49	4,606.71	4,561.61	45.10	102.148		
9,750.00	9,585.28	9,728.00	9,691.42	21.30	24.78	-32.50	-4,738.84	1,015.11	4,560.92	4,515.76	45.16	100.987		
9,800.00	9,600.36	9,728.00	9,691.42	21.50	24.78	-40.86	-4,738.84	1,015.11	4,513.84	4,468.66	45.18	99.902		
9,850.00	9,611.23	9,750.06	9,713.37	21.72	24.85	-54.40	-4,738.67	1,012.91	4,465.72	4,420.46	45.26	98.663		
9,900.00	9,617.81	9,754.00	9,717.29	21.97	24.86	-73.71	-4,738.64	1,012.53	4,417.04	4,371.75	45.28	97.544		
9,950.00	9,620.04	9,755.18	9,718.47	22.24	24.86	-97.20	-4,738.63	1,012.42	4,368.12	4,322.83	45.29	96.447		
9,957.06	9,620.00	9,755.13	9,718.41	22.28	24.86	-100.47	-4,738.63	1,012.42	4,361.22	4,315.93	45.29	96.294		
10,000.00	9,619.52	9,754.62	9,717.90	22.53	24.86	-100.44	-4,738.64	1,012.47	4,319.24	4,273.94	45.29	95.365		
10,100.00	9,618.39	9,753.42	9,716.72	23.20	24.86	-100.36	-4,738.64	1,012.58	4,221.55	4,176.25	45.30	93.192		
10,200.00	9,617.26	9,752.22	9,715.51	23.95	24.85	-100.29	-4,738.65	1,012.70	4,123.98	4,078.66	45.32	91.004		
10,300.00	9,616.14	9,750.99	9,714.30	24.80	24.85	-100.21	-4,738.66	1,012.82	4,026.53	3,981.18	45.34	88.800		
10,400.00	9,615.01	9,749.76	9,713.07	25.72	24.85	-100.13	-4,738.67	1,012.94	3,929.20	3,883.82	45.38	86.580		
10,500.00	9,613.89	9,748.51	9,711.82	26.71	24.84	-100.05	-4,738.68	1,013.06	3,832.01	3,786.58	45.43	84.344		
10,600.00	9,612.76	9,747.24	9,710.57	27.76	24.84	-99.98	-4,738.69	1,013.19	3,734.97	3,689.47	45.50	82.090		
10,700.00	9,611.63	9,745.96	9,709.29	28.86	24.84	-99.90	-4,738.70	1,013.31	3,638.09	3,592.51	45.58	79.819		
10,800.00	9,610.51	9,744.67	9,708.00	30.02	24.83	-99.81	-4,738.71	1,013.44	3,541.38	3,495.70	45.68	77.530		
10,900.00	9,609.38	9,728.00	9,691.42	31.21	24.78	-98.77	-4,738.84	1,015.11	3,444.91	3,399.15	45.75	75.296		
11,000.00	9,608.25	9,728.00	9,691.42	32.45	24.78	-98.77	-4,738.84	1,015.11	3,348.58	3,302.68	45.90	72.960		
11,100.00	9,607.13	9,728.00	9,691.42	33.72	24.78	-98.77	-4,738.84	1,015.11	3,252.47	3,206.41	46.07	70.605		
11,200.00	9,606.00	9,728.00	9,691.42	35.02	24.78	-98.77	-4,738.84	1,015.11	3,156.61	3,110.35	46.26	68.231		
11,300.00	9,604.87	9,728.00	9,691.42	36.35	24.78	-98.77	-4,738.84	1,015.11	3,061.01	3,014.52	46.49	65.838		
11,400.00	9,603.75	9,728.00	9,691.42	37.70	24.78	-98.77	-4,738.84	1,015.11	2,965.71	2,918.95	46.76	63.427		
11,500.00	9,602.62	9,728.00	9,691.42	39.08	24.78	-98.77	-4,738.84	1,015.11	2,870.72	2,823.66	47.06	60.997		
11,600.00	9,601.49	9,728.00	9,691.42	40.47	24.78	-98.77	-4,738.84	1,015.11	2,776.08	2,728.67	47.41	58.551		
11,700.00	9,600.37	9,728.00	9,691.42	41.88	24.78	-98.77	-4,738.84	1,015.11	2,681.84	2,634.02	47.81	56.090		
11,800.00	9,599.24	9,728.00	9,691.42	43.31	24.78	-98.77	-4,738.84	1,015.11	2,588.02	2,539.75	48.27	53.615		
11,900.00	9,598.11	9,728.00	9,691.42	44.75	24.78	-98.77	-4,738.84	1,015.11	2,494.69	2,445.89	48.79	51.130		
12,000.00	9,596.99	9,727.70	9,691.12	46.21	24.78	-98.75	-4,738.85	1,015.14	2,401.89	2,352.51	49.38	48.638		
12,100.00	9,595.86	9,724.70	9,688.13	47.68	24.77	-98.56	-4,738.87	1,015.44	2,309.69	2,259.64	50.05	46.147		
12,200.00	9,594.73	9,721.71	9,685.16	49.16	24.76	-98.38	-4,738.90	1,015.74	2,218.17	2,167.36	50.81	43.657		
12,300.00	9,593.61	9,718.74	9,682.21	50.64	24.75	-98.19	-4,738.92	1,016.04	2,127.40	2,075.73	51.67	41.174		
12,400.00	9,592.48	9,715.80	9,679.28	52.14	24.74	-98.00	-4,738.95	1,016.33	2,037.50	1,984.85	52.64	38.704		
12,500.00	9,591.35	9,712.87	9,676.37	53.65	24.73	-97.82	-4,738.98	1,016.62	1,948.58	1,894.83	53.75	36.256		
12,600.00	9,590.23	9,709.96	9,673.47	55.16	24.72	-97.64	-4,739.00	1,016.90	1,860.78	1,805.79	54.99	33.839		
12,700.00	9,589.10	9,707.07	9,670.59	56.68	24.72	-97.46	-4,739.02	1,017.18	1,774.27	1,717.87	56.39	31.464		
12,800.00	9,587.97	9,704.20	9,667.74	58.21	24.71	-97.28	-4,739.05	1,017.45	1,689.24	1,631.27	57.97	29.141		
12,900.00	9,586.85	9,701.35	9,664.90	59.74	24.70	-97.10	-4,739.07	1,017.72	1,605.94	1,546.20	59.74	26.883		
13,000.00	9,585.72	9,698.51	9,662.08	61.28	24.69	-96.92	-4,739.10	1,017.99	1,524.64	1,462.93	61.72	24.704		
13,100.00	9,584.59	9,695.70	9,659.27	62.82	24.68	-96.74	-4,739.12	1,018.25	1,445.69	1,381.77	63.92	22.617		
13,200.00	9,583.47	9,692.90	9,656.48	64.37	24.67	-96.57	-4,739.14	1,018.51	1,369.48	1,303.12	66.37	20.635		
13,300.00	9,582.34	9,690.12	9,653.72	65.92	24.67	-96.39	-4,739.16	1,018.77	1,296.51	1,227.45	69.06	18.773		
13,400.00	9,581.22	9,687.35	9,650.96	67.48	24.66	-96.22	-4,739.19	1,019.02	1,227.35	1,155.34	72.01	17.045		
13,500.00	9,580.09	9,684.61	9,648.23	69.04	24.65	-96.04	-4,739.21	1,019.26	1,162.68	1,087.50	75.19	15.464		
13,600.00	9,578.96	9,681.88	9,645.51	70.60	24.64	-95.87	-4,739.23	1,019.51	1,103.29	1,024.73	78.57	14.043		

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 Thistle Unit 160H
Project:	Lea County, NM (NAD-83)	TVD Reference:	3710.3' GE + 23.5' KB @ 3733.80usft
Reference Site:	Thistle Unit Sec 22-27 Trac Pad	MD Reference:	3710.3' GE + 23.5' KB @ 3733.80usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Thistle Unit 160H	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 #2	Offset TVD Reference:	Offset Datum

Offset Design Thistle Unit (Offsets) - 57H - OH - OH													Offset Site Error: 0.00 usft	
Survey Program: 172- VES GyroFlex V2, 1519-MWD-ISCWSA, 16135-Project													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		
13,700.00	9,577.84	9,679.17	9,642.81	72.17	24.63	-95.70	-4,739.25	1,019.75	1,050.08	967.99	82.09	12.792		
13,800.00	9,576.71	9,676.47	9,640.13	73.74	24.62	-95.53	-4,739.27	1,019.98	1,004.03	918.37	85.66	11.721		
13,900.00	9,575.58	9,673.80	9,637.46	75.31	24.62	-95.36	-4,739.29	1,020.22	966.16	877.01	89.16	10.837		
14,000.00	9,574.46	9,671.14	9,634.81	76.89	24.61	-95.20	-4,739.31	1,020.45	937.47	845.02	92.46	10.140		
14,100.00	9,573.33	9,668.49	9,632.18	78.47	24.60	-95.03	-4,739.33	1,020.67	918.82	823.44	95.38	9.634		
14,200.00	9,572.20	9,665.86	9,629.56	80.05	24.59	-94.87	-4,739.35	1,020.89	910.82	813.08	97.74	9.319		
14,223.22	9,571.94	9,665.26	9,628.95	80.42	24.59	-94.83	-4,739.36	1,020.95	910.52	812.32	98.20	9.272 CC, ES		
14,300.00	9,571.08	9,663.25	9,626.95	81.63	24.58	-94.70	-4,739.37	1,021.11	913.75	814.32	99.44	9.189 SF		
14,400.00	9,569.95	9,660.66	9,624.37	83.22	24.58	-94.54	-4,739.39	1,021.33	927.52	827.12	100.40	9.239		
14,500.00	9,568.82	9,658.08	9,621.80	84.80	24.57	-94.38	-4,739.41	1,021.54	951.64	851.01	100.63	9.457		
14,600.00	9,567.70	9,655.51	9,619.24	86.39	24.56	-94.21	-4,739.43	1,021.75	985.37	885.16	100.21	9.833		
14,700.00	9,566.57	9,652.96	9,616.70	87.98	24.55	-94.05	-4,739.45	1,021.96	1,027.74	928.49	99.26	10.354		
14,800.00	9,565.44	9,650.43	9,614.18	89.58	24.55	-93.89	-4,739.47	1,022.16	1,077.76	979.85	97.91	11.008		
14,900.00	9,564.32	9,647.91	9,611.67	91.17	24.54	-93.74	-4,739.49	1,022.36	1,134.40	1,038.11	96.29	11.781		
15,000.00	9,563.19	9,645.41	9,609.17	92.77	24.53	-93.58	-4,739.51	1,022.56	1,196.72	1,102.20	94.52	12.661		
15,100.00	9,562.06	9,642.92	9,606.69	94.36	24.52	-93.42	-4,739.52	1,022.76	1,263.89	1,171.21	92.68	13.637		
15,200.00	9,560.94	9,640.45	9,604.23	95.96	24.52	-93.27	-4,739.54	1,022.95	1,335.17	1,244.33	90.84	14.698		
15,300.00	9,559.81	9,637.99	9,601.78	97.56	24.51	-93.11	-4,739.56	1,023.14	1,409.94	1,320.90	89.04	15.834		
15,400.00	9,558.68	9,635.55	9,599.34	99.17	24.50	-92.96	-4,739.58	1,023.32	1,487.68	1,400.36	87.32	17.038		
15,500.00	9,557.56	9,634.00	9,597.80	100.77	24.50	-92.86	-4,739.59	1,023.44	1,567.94	1,482.27	85.67	18.302		
15,600.00	9,556.43	9,634.00	9,597.80	102.37	24.50	-92.86	-4,739.59	1,023.44	1,650.35	1,566.24	84.11	19.621		
15,700.00	9,555.30	9,634.00	9,597.80	103.98	24.50	-92.86	-4,739.59	1,023.44	1,734.62	1,651.96	82.65	20.987		
15,800.00	9,554.18	9,634.00	9,597.80	105.58	24.50	-92.86	-4,739.59	1,023.44	1,820.48	1,739.18	81.29	22.394		
15,900.00	9,553.05	12,675.79	11,269.17	107.19	53.68	-159.26	-6,394.02	782.80	1,856.03	1,775.52	80.51	23.052		
16,000.00	9,551.92	12,753.04	11,271.64	108.80	55.18	-159.37	-6,471.20	780.92	1,858.96	1,777.21	81.74	22.741		
16,100.00	9,550.80	12,878.65	11,276.20	110.41	57.77	-159.54	-6,596.71	778.38	1,862.62	1,778.76	83.86	22.212		
16,200.00	9,549.67	12,972.72	11,278.37	112.02	59.75	-159.67	-6,690.71	775.73	1,864.61	1,779.21	85.40	21.833		
16,300.00	9,548.55	13,090.47	11,282.01	113.63	62.27	-159.89	-6,808.30	770.72	1,866.89	1,779.62	87.27	21.392		
16,400.00	9,547.42	13,261.29	11,281.88	115.24	66.55	-160.19	-6,978.89	762.15	1,865.48	1,775.26	90.21	20.678		
16,500.00	9,546.29	13,337.52	11,281.23	116.85	68.33	-160.33	-7,055.00	758.08	1,863.73	1,772.30	91.42	20.386		
16,551.55	9,545.71	13,371.00	11,281.34	117.68	69.09	-160.39	-7,088.44	756.38	1,863.44	1,771.51	91.93	20.271		
16,600.00	9,545.17	13,404.59	11,281.74	118.46	69.77	-160.45	-7,121.99	754.75	1,863.60	1,771.19	92.41	20.167		
16,700.00	9,544.04	13,465.00	11,283.29	120.08	71.00	-160.57	-7,182.32	751.99	1,865.37	1,772.15	93.22	20.011		
16,800.00	9,542.91	13,528.09	11,286.27	121.69	72.28	-160.70	-7,245.27	749.09	1,869.19	1,775.17	94.02	19.881		
16,900.00	9,541.79	13,658.65	11,294.13	123.31	75.17	-161.01	-7,375.42	742.59	1,874.32	1,778.36	95.96	19.532		
17,000.00	9,540.66	13,800.15	11,297.80	124.92	78.66	-161.33	-7,516.64	734.57	1,875.47	1,777.28	98.18	19.102		
17,058.50	9,540.00	13,843.00	11,298.98	125.87	79.65	-161.43	-7,559.39	731.80	1,876.30	1,777.56	98.74	19.002		

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 Thistle Unit 160H
Project:	Lea County, NM (NAD-83)	TVD Reference:	3710.3' GE + 23.5' KB @ 3733.80usft
Reference Site:	Thistle Unit Sec 22-27 Trac Pad	MD Reference:	3710.3' GE + 23.5' KB @ 3733.80usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Thistle Unit 160H	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 #2	Offset TVD Reference:	Offset Datum

Offset Design Thistle Unit Sec 22-27 Trac Pad - Thistle Unit 110H - OH - Plan #2													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		Minimum Separation (usft)	Separation Factor	Warning			
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		Between Centres (usft)	Between Ellipses (usft)						
0.00	0.00	1.10	1.10	0.00	0.00	-90.34	-0.54	-89.95	89.95					
100.00	100.00	101.10	101.10	0.09	0.09	-90.34	-0.54	-89.95	89.95	89.78	0.17	515.722		
200.00	200.00	201.10	201.10	0.31	0.31	-90.34	-0.54	-89.95	89.95	89.33	0.62	144.165		
300.00	300.00	301.10	301.10	0.54	0.54	-90.34	-0.54	-89.95	89.95	88.88	1.07	83.794		
400.00	400.00	401.10	401.10	0.76	0.76	-90.34	-0.54	-89.95	89.95	88.43	1.52	59.062		
500.00	500.00	501.10	501.10	0.99	0.99	-90.34	-0.54	-89.95	89.95	87.98	1.97	45.602		
600.00	600.00	601.10	601.10	1.21	1.21	-90.34	-0.54	-89.95	89.95	87.53	2.42	37.138		
700.00	700.00	701.10	701.10	1.43	1.44	-90.34	-0.54	-89.95	89.95	87.08	2.87	31.324		
800.00	800.00	801.10	801.10	1.66	1.66	-90.34	-0.54	-89.95	89.95	86.63	3.32	27.085		
900.00	900.00	901.10	901.10	1.88	1.89	-90.34	-0.54	-89.95	89.95	86.18	3.77	23.856		
1,000.00	1,000.00	1,001.10	1,001.10	2.11	2.11	-90.34	-0.54	-89.95	89.95	85.73	4.22	21.315		
1,100.00	1,100.00	1,101.10	1,101.10	2.33	2.34	-90.34	-0.54	-89.95	89.95	85.28	4.67	19.263		
1,200.00	1,200.00	1,201.10	1,201.10	2.56	2.56	-90.34	-0.54	-89.95	89.95	84.83	5.12	17.571		
1,300.00	1,300.00	1,301.10	1,301.10	2.78	2.79	-90.34	-0.54	-89.95	89.95	84.38	5.57	16.153		
1,400.00	1,400.00	1,401.10	1,401.10	3.01	3.01	-90.34	-0.54	-89.95	89.95	83.93	6.02	14.946		
1,500.00	1,500.00	1,501.10	1,501.10	3.23	3.24	-90.34	-0.54	-89.95	89.95	83.48	6.47	13.907		
1,600.00	1,600.00	1,601.10	1,601.10	3.46	3.46	-90.34	-0.54	-89.95	89.95	83.03	6.92	13.004		
1,700.00	1,700.00	1,701.10	1,701.10	3.68	3.68	-90.34	-0.54	-89.95	89.95	82.58	7.37	12.210		
1,800.00	1,800.00	1,801.10	1,801.10	3.91	3.91	-90.34	-0.54	-89.95	89.95	82.14	7.82	11.508		
1,900.00	1,900.00	1,901.10	1,901.10	4.13	4.13	-90.34	-0.54	-89.95	89.95	81.69	8.27	10.882		
2,000.00	2,000.00	2,001.10	2,001.10	4.36	4.36	-90.34	-0.54	-89.95	89.95	81.24	8.72	10.321		
2,100.00	2,100.00	2,101.10	2,101.10	4.58	4.58	-90.34	-0.54	-89.95	89.95	80.79	9.17	9.815		
2,200.00	2,200.00	2,201.10	2,201.10	4.81	4.81	-90.34	-0.54	-89.95	89.95	80.34	9.61	9.356		
2,300.00	2,300.00	2,301.10	2,301.10	5.03	5.03	-90.34	-0.54	-89.95	89.95	79.89	10.06	8.938		
2,400.00	2,400.00	2,401.10	2,401.10	5.26	5.26	-90.34	-0.54	-89.95	89.95	79.44	10.51	8.556		
2,500.00	2,500.00	2,501.10	2,501.10	5.48	5.48	-90.34	-0.54	-89.95	89.95	78.99	10.96	8.205		
2,600.00	2,600.00	2,601.10	2,601.10	5.71	5.71	-90.34	-0.54	-89.95	89.95	78.54	11.41	7.882		
2,700.00	2,700.00	2,701.10	2,701.10	5.93	5.93	-90.34	-0.54	-89.95	89.95	78.09	11.86	7.583		
2,800.00	2,800.00	2,801.10	2,801.10	6.15	6.16	-90.34	-0.54	-89.95	89.95	77.64	12.31	7.306		
2,900.00	2,900.00	2,901.10	2,901.10	6.38	6.38	-90.34	-0.54	-89.95	89.95	77.19	12.76	7.049		
3,000.00	3,000.00	3,001.10	3,001.10	6.60	6.61	-90.34	-0.54	-89.95	89.95	76.74	13.21	6.809 CC, ES		
3,100.00	3,099.99	3,101.09	3,101.09	6.83	6.83	-128.73	-0.54	-89.95	90.50	76.84	13.66	6.626		
3,200.00	3,199.96	3,201.06	3,201.06	7.05	7.06	-129.98	-0.54	-89.95	92.16	76.06	14.10	6.536		
3,300.00	3,299.86	3,300.96	3,300.96	7.27	7.28	-131.98	-0.54	-89.95	95.02	80.48	14.54	6.534		
3,335.31	3,335.12	3,336.22	3,336.22	7.34	7.36	-132.83	-0.54	-89.95	96.34	81.64	14.70	6.554		
3,400.00	3,399.70	3,400.80	3,400.80	7.49	7.51	-134.44	-0.54	-89.95	98.95	83.97	14.99	6.603		
3,500.00	3,499.53	3,500.00	3,500.00	7.71	7.73	-136.74	-0.54	-89.95	103.14	87.71	15.43	6.685		
3,600.00	3,599.36	3,599.04	3,599.04	7.93	7.94	-138.57	-0.11	-90.69	108.13	92.27	15.86	6.817		
3,700.00	3,699.18	3,697.38	3,697.34	8.16	8.15	-139.64	1.16	-92.89	114.50	98.21	16.29	7.031		
3,800.00	3,799.01	3,795.58	3,795.45	8.38	8.36	-140.07	3.27	-96.55	122.17	105.46	16.71	7.312		
3,900.00	3,898.84	3,893.57	3,893.26	8.61	8.57	-139.95	6.21	-101.65	131.10	113.98	17.13	7.655		
4,000.00	3,998.67	3,992.32	3,991.73	8.83	8.79	-139.45	9.89	-108.03	141.11	123.56	17.55	8.039		
4,100.00	4,098.50	4,091.80	4,090.92	9.06	9.01	-138.98	13.67	-114.59	151.25	133.26	17.99	8.408		
4,200.00	4,198.33	4,191.27	4,190.11	9.29	9.23	-138.56	17.46	-121.14	161.40	142.97	18.43	8.759		
4,300.00	4,298.16	4,290.75	4,289.30	9.52	9.45	-138.20	21.24	-127.70	171.55	152.69	18.87	9.093		
4,400.00	4,397.99	4,390.23	4,388.49	9.75	9.67	-137.87	25.03	-134.26	181.72	162.41	19.31	9.412		
4,500.00	4,497.81	4,489.70	4,487.68	9.98	9.90	-137.58	28.81	-140.82	191.88	172.14	19.75	9.716		
4,600.00	4,497.64	4,489.18	4,486.87	10.21	10.13	-137.32	32.59	-147.38	202.06	181.86	20.19	10.007		
4,700.00	4,497.47	4,488.66	4,486.05	10.44	10.35	-137.09	36.38	-153.94	212.23	191.59	20.64	10.284		
4,800.00	4,497.30	4,488.14	4,485.24	10.67	10.58	-136.87	40.16	-160.50	222.41	201.33	21.08	10.550		
4,900.00	4,497.13	4,487.61	4,484.43	10.90	10.81	-136.68	43.95	-167.06	232.59	211.06	21.53	10.804		
5,000.00	4,496.96	4,487.09	4,483.62	11.13	11.04	-136.50	47.73	-173.62	242.77	220.80	21.98	11.047		

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	Local Co-ordinate Reference:	Well Thistle Unit 160H
Project:	Lea County, NM (NAD-83)	TVD Reference:	3710.3' GE + 23.5' KB @ 3733.80usft
Reference Site:	Thistle Unit Sec 22-27 Trac Pad	MD Reference:	3710.3' GE + 23.5' KB @ 3733.80usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Thistle Unit 160H	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 #2	Offset TVD Reference:	Offset Datum

Offset Design Thistle Unit Sec 22-27 Trac Pad - Thistle Unit 110H - OH - Plan #2													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	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre	Between Centres	Between Ellipses	Minimum Separation	Separation Factor			
(usft)	(usft)	(usft)	(usft)	(usft)	(usft)	(°)	+N/-S (usft)	+E/-W (usft)	(usft)	(usft)	(usft)			
5,100.00	5,096.79	5,086.57	5,082.81	11.36	11.28	-136.33	51.52	-180.18	252.96	230.53	22.42	11.280		
5,168.21	5,164.88	5,154.42	5,150.47	11.52	11.43	-136.23	54.10	-184.65	259.91	237.18	22.73	11.434		
5,200.00	5,196.62	5,186.05	5,182.00	11.59	11.51	-136.19	55.30	-186.74	263.08	240.22	22.87	11.505		
5,300.00	5,296.52	5,285.62	5,281.28	11.77	11.74	-135.90	59.09	-193.31	272.25	248.99	23.27	11.701		
5,400.00	5,396.49	5,385.26	5,380.63	11.95	11.98	-135.38	62.88	-199.88	280.19	256.52	23.67	11.839		
5,503.52	5,500.00	5,488.47	5,483.54	12.13	12.22	-96.65	66.80	-206.68	287.15	263.07	24.08	11.925		
5,600.00	5,596.48	5,584.67	5,579.46	12.32	12.45	-95.79	70.46	-213.02	293.08	268.59	24.49	11.969		
5,700.00	5,696.48	5,684.38	5,678.88	12.54	12.69	-94.94	74.26	-219.60	299.30	274.36	24.93	12.005		
5,800.00	5,796.48	5,784.08	5,778.30	12.76	12.93	-94.13	78.05	-226.17	305.57	280.20	25.38	12.041		
5,900.00	5,896.48	5,883.79	5,877.72	12.98	13.16	-93.34	81.84	-232.75	311.91	286.09	25.82	12.079		
6,000.00	5,996.48	5,983.50	5,977.14	13.20	13.40	-92.59	85.64	-239.32	318.31	292.04	26.27	12.118		
6,100.00	6,096.48	6,083.21	6,076.56	13.42	13.64	-91.87	89.43	-245.90	324.75	298.04	26.71	12.157		
6,200.00	6,196.48	6,182.92	6,175.98	13.64	13.88	-91.17	93.22	-252.47	331.25	304.09	27.16	12.196		
6,300.00	6,296.48	6,282.63	6,275.40	13.87	14.12	-90.51	97.02	-259.05	337.79	310.18	27.61	12.236		
6,400.00	6,396.48	6,382.34	6,374.82	14.09	14.36	-89.86	100.81	-265.62	344.38	316.32	28.05	12.276		
6,500.00	6,496.48	6,482.05	6,474.24	14.31	14.61	-89.25	104.60	-272.20	351.00	322.51	28.50	12.316		
6,600.00	6,596.48	6,581.76	6,573.67	14.53	14.85	-88.65	108.40	-278.77	357.67	328.73	28.95	12.356		
6,700.00	6,696.48	6,683.10	6,674.71	14.75	15.09	-88.07	112.21	-285.39	364.32	334.92	29.40	12.393		
6,800.00	6,796.48	6,788.90	6,780.31	14.97	15.29	-87.60	115.49	-291.06	369.79	339.95	29.84	12.393		
6,900.00	6,896.48	6,894.92	6,886.23	15.20	15.49	-87.27	117.79	-295.05	373.65	343.38	30.27	12.345		
7,000.00	6,996.48	7,001.07	6,992.34	15.42	15.68	-87.09	119.11	-297.34	375.86	345.18	30.69	12.248		
7,100.00	7,096.48	7,106.31	7,097.58	15.64	15.87	-87.04	119.46	-297.95	376.45	345.35	31.10	12.103		
7,200.00	7,196.48	7,206.31	7,197.58	15.86	16.09	-87.04	119.46	-297.95	376.45	344.91	31.55	11.933		
7,300.00	7,296.48	7,306.31	7,297.58	16.09	16.30	-87.04	119.46	-297.95	376.45	344.47	31.99	11.769		
7,400.00	7,396.48	7,406.31	7,397.58	16.31	16.52	-87.04	119.46	-297.95	376.45	344.02	32.43	11.608		
7,500.00	7,496.48	7,506.31	7,497.58	16.53	16.74	-87.04	119.46	-297.95	376.45	343.58	32.87	11.452		
7,600.00	7,596.48	7,606.31	7,597.58	16.75	16.95	-87.04	119.46	-297.95	376.45	343.14	33.32	11.300		
7,700.00	7,696.48	7,706.31	7,697.58	16.98	17.17	-87.04	119.46	-297.95	376.45	342.70	33.76	11.152		
7,800.00	7,796.48	7,806.31	7,797.58	17.20	17.39	-87.04	119.46	-297.95	376.45	342.25	34.20	11.007		
7,900.00	7,896.48	7,906.31	7,897.58	17.42	17.60	-87.04	119.46	-297.95	376.45	341.81	34.64	10.866		
8,000.00	7,996.48	8,006.31	7,997.58	17.64	17.82	-87.04	119.46	-297.95	376.45	341.37	35.09	10.729		
8,100.00	8,096.48	8,106.31	8,097.58	17.87	18.04	-87.04	119.46	-297.95	376.45	340.92	35.53	10.595		
8,200.00	8,196.48	8,206.31	8,197.58	18.09	18.26	-87.04	119.46	-297.95	376.45	340.48	35.97	10.464		
8,300.00	8,296.48	8,306.31	8,297.58	18.31	18.47	-87.04	119.46	-297.95	376.45	340.04	36.42	10.337		
8,400.00	8,396.48	8,406.31	8,397.58	18.54	18.69	-87.04	119.46	-297.95	376.45	339.59	36.86	10.213		
8,500.00	8,496.48	8,506.31	8,497.58	18.76	18.91	-87.04	119.46	-297.95	376.45	339.15	37.31	10.091		
8,600.00	8,596.48	8,606.31	8,597.58	18.98	19.13	-87.04	119.46	-297.95	376.45	338.70	37.75	9.972		
8,700.00	8,696.48	8,706.31	8,697.58	19.21	19.35	-87.04	119.46	-297.95	376.45	338.26	38.19	9.856		
8,800.00	8,796.48	8,806.31	8,797.58	19.43	19.57	-87.04	119.46	-297.95	376.45	337.81	38.64	9.743		
8,900.00	8,896.48	8,906.31	8,897.58	19.65	19.79	-87.04	119.46	-297.95	376.45	337.37	39.08	9.632		
9,000.00	8,996.48	9,006.31	8,997.58	19.88	20.01	-87.04	119.46	-297.95	376.45	336.93	39.53	9.524		
9,050.60	9,047.08	9,056.91	9,048.18	19.99	20.12	-87.04	119.46	-297.95	376.45	336.70	39.75	9.470		
9,100.00	9,096.42	9,106.25	9,097.52	20.08	20.22	93.69	119.46	-297.95	376.58	336.63	39.96	9.425		
9,150.00	9,145.98	9,155.81	9,147.08	20.16	20.33	94.62	119.46	-297.95	377.06	336.92	40.14	9.394		
9,200.00	9,194.79	9,207.59	9,198.82	20.24	20.43	96.00	117.94	-297.94	377.94	337.63	40.30	9.377		
9,250.00	9,242.48	9,260.90	9,251.74	20.32	20.52	97.36	111.58	-297.89	379.03	338.58	40.44	9.372		
9,300.00	9,288.68	9,315.22	9,304.80	20.39	20.60	98.68	100.08	-297.81	380.28	339.72	40.56	9.375		
9,350.00	9,333.04	9,370.53	9,357.47	20.47	20.68	99.93	83.26	-297.68	381.67	341.01	40.66	9.386		
9,400.00	9,375.22	9,426.85	9,409.18	20.54	20.76	101.11	61.01	-297.52	383.14	342.40	40.74	9.404		
9,450.00	9,414.91	9,484.14	9,459.28	20.61	20.83	102.19	33.27	-297.32	384.65	343.84	40.81	9.426		
9,500.00	9,451.80	9,542.37	9,507.11	20.67	20.91	103.18	0.09	-297.07	386.13	345.28	40.86	9.451		
9,550.00	9,485.60	9,601.49	9,551.96	20.75	20.98	104.06	-38.37	-296.79	387.54	346.64	40.90	9.475		

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 Thistle Unit 160H
Project:	Lea County, NM (NAD-83)	TVD Reference:	3710.3' GE + 23.5' KB @ 3733.80usft
Reference Site:	Thistle Unit Sec 22-27 Trac Pad	MD Reference:	3710.3' GE + 23.5' KB @ 3733.80usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Thistle Unit 160H	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 #2	Offset TVD Reference:	Offset Datum

Offset Design Thistle Unit Sec 22-27 Trac Pad - Thistle Unit 110H - OH - Plan #2													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)		+N/-S (usft)	+E/-W (usft)						
9,600.00	9,516.07	9,661.40	9,593.13	20.85	21.06	104.81	-81.85	-296.47	388.83	347.86	40.97	9.491		
9,650.00	9,542.98	9,722.01	9,629.93	20.97	21.14	105.43	-129.97	-296.12	389.93	348.87	41.06	9.496		
9,700.00	9,566.10	9,783.19	9,661.72	21.12	21.26	105.91	-182.22	-295.73	390.82	349.62	41.21	9.484		
9,750.00	9,585.28	9,844.81	9,687.92	21.30	21.43	106.25	-237.95	-295.32	391.46	350.04	41.42	9.450		
9,800.00	9,600.36	9,906.71	9,708.07	21.50	21.64	106.43	-296.45	-294.90	391.81	350.09	41.73	9.390		
9,850.00	9,611.23	9,968.73	9,721.81	21.72	21.90	106.46	-356.90	-294.45	391.87	349.75	42.13	9.302		
9,900.00	9,617.81	10,030.70	9,728.93	21.97	22.20	106.34	-418.42	-294.00	391.64	349.01	42.63	9.186		
9,947.76	9,620.03	10,084.62	9,730.11	22.23	22.49	106.17	-472.32	-293.60	391.29	348.11	43.18	9.063		
9,950.00	9,620.04	10,086.87	9,730.12	22.24	22.50	106.17	-474.57	-293.59	391.29	348.09	43.20	9.058		
9,957.06	9,620.00	10,093.92	9,730.15	22.28	22.54	106.18	-481.62	-293.54	391.31	348.04	43.27	9.043		
10,000.00	9,619.52	10,136.86	9,730.36	22.53	22.80	106.28	-524.56	-293.22	391.50	347.75	43.76	8.947		
10,100.00	9,618.39	10,236.85	9,730.85	23.20	23.47	106.50	-624.54	-292.49	391.96	346.97	44.99	8.711		
10,200.00	9,617.26	10,336.83	9,731.35	23.95	24.22	106.73	-724.53	-291.75	392.43	346.02	46.41	8.456		
10,300.00	9,616.14	10,436.82	9,731.84	24.80	25.06	106.96	-824.51	-291.02	392.90	344.91	47.99	8.187		
10,400.00	9,615.01	10,536.81	9,732.33	25.72	25.98	107.18	-924.49	-290.28	393.37	343.66	49.71	7.913		
10,500.00	9,613.89	10,636.80	9,732.82	26.71	26.96	107.41	-1,024.47	-289.55	393.86	342.29	51.56	7.638		
10,600.00	9,612.76	10,736.78	9,733.31	27.76	28.01	107.63	-1,124.46	-288.81	394.34	340.81	53.53	7.367		
10,700.00	9,611.63	10,836.77	9,733.80	28.86	29.11	107.85	-1,224.44	-288.08	394.84	339.24	55.60	7.102		
10,800.00	9,610.51	10,936.76	9,734.29	30.02	30.25	108.08	-1,324.42	-287.34	395.34	337.58	57.75	6.845		
10,900.00	9,609.38	11,036.74	9,734.78	31.21	31.45	108.30	-1,424.41	-286.61	395.85	335.86	59.99	6.599		
11,000.00	9,608.25	11,136.73	9,735.27	32.45	32.68	108.52	-1,524.39	-285.88	396.36	334.06	62.30	6.363		
11,100.00	9,607.13	11,236.72	9,735.76	33.72	33.94	108.74	-1,624.37	-285.14	396.88	332.22	64.66	6.138		
11,200.00	9,606.00	11,336.70	9,736.25	35.02	35.24	108.96	-1,724.36	-284.41	397.40	330.32	67.08	5.924		
11,300.00	9,604.87	11,436.69	9,736.74	36.35	36.56	109.18	-1,824.34	-283.67	397.93	328.38	69.55	5.722		
11,400.00	9,603.75	11,536.68	9,737.23	37.70	37.91	109.40	-1,924.32	-282.94	398.47	326.41	72.05	5.530		
11,500.00	9,602.62	11,636.66	9,737.72	39.08	39.28	109.62	-2,024.30	-282.20	399.01	324.41	74.60	5.349		
11,600.00	9,601.49	11,736.65	9,738.21	40.47	40.67	109.84	-2,124.29	-281.47	399.56	322.39	77.17	5.178		
11,700.00	9,600.37	11,836.64	9,738.71	41.88	42.08	110.06	-2,224.27	-280.74	400.11	320.34	79.77	5.016		
11,800.00	9,599.24	11,936.63	9,739.20	43.31	43.50	110.27	-2,324.25	-280.00	400.67	318.27	82.40	4.863		
11,900.00	9,598.11	12,036.61	9,739.69	44.75	44.94	110.49	-2,424.24	-279.27	401.23	316.19	85.05	4.718		
12,000.00	9,596.99	12,136.60	9,740.18	46.21	46.39	110.71	-2,524.22	-278.53	401.80	314.09	87.71	4.581		
12,100.00	9,595.86	12,236.59	9,740.67	47.68	47.86	110.92	-2,624.20	-277.80	402.38	311.99	90.39	4.451		
12,200.00	9,594.73	12,336.57	9,741.16	49.16	49.33	111.14	-2,724.19	-277.06	402.96	309.87	93.09	4.329		
12,300.00	9,593.61	12,436.56	9,741.65	50.64	50.82	111.35	-2,824.17	-276.33	403.55	307.76	95.79	4.213		
12,400.00	9,592.48	12,536.55	9,742.14	52.14	52.31	111.56	-2,924.15	-275.59	404.14	305.63	98.51	4.102		
12,500.00	9,591.35	12,636.53	9,742.63	53.65	53.81	111.78	-3,024.13	-274.86	404.74	303.50	101.24	3.998		
12,600.00	9,590.23	12,736.52	9,743.12	55.16	55.32	111.99	-3,124.12	-274.13	405.35	301.38	103.97	3.899		
12,700.00	9,589.10	12,836.51	9,743.61	56.68	56.84	112.20	-3,224.10	-273.39	405.96	299.25	106.71	3.804		
12,800.00	9,587.97	12,936.49	9,744.10	58.21	58.36	112.41	-3,324.08	-272.66	406.57	297.12	109.45	3.715		
12,900.00	9,586.85	13,036.48	9,744.59	59.74	59.89	112.62	-3,424.07	-271.92	407.19	294.99	112.20	3.629		
13,000.00	9,585.72	13,136.47	9,745.08	61.28	61.43	112.83	-3,524.05	-271.19	407.82	292.87	114.95	3.548		
13,100.00	9,584.59	13,236.46	9,745.57	62.82	62.97	113.04	-3,624.03	-270.45	408.45	290.75	117.70	3.470		
13,200.00	9,583.47	13,336.44	9,746.07	64.37	64.52	113.25	-3,724.02	-269.72	409.09	288.63	120.46	3.396		
13,300.00	9,582.34	13,436.43	9,746.56	65.92	66.07	113.46	-3,824.00	-268.99	409.73	286.52	123.21	3.325		
13,400.00	9,581.22	13,536.42	9,747.05	67.48	67.62	113.66	-3,923.98	-268.25	410.38	284.41	125.97	3.258		
13,500.00	9,580.09	13,636.40	9,747.54	69.04	69.18	113.87	-4,023.96	-267.52	411.03	282.31	128.72	3.193		
13,600.00	9,578.96	13,736.39	9,748.03	70.60	70.74	114.08	-4,123.95	-266.78	411.69	280.22	131.47	3.131		
13,700.00	9,577.84	13,836.38	9,748.52	72.17	72.31	114.28	-4,223.93	-266.05	412.36	278.13	134.23	3.072		
13,800.00	9,576.71	13,936.36	9,749.01	73.74	73.88	114.49	-4,323.91	-265.31	413.02	276.05	136.97	3.015		
13,900.00	9,575.58	14,036.35	9,749.50	75.31	75.45	114.69	-4,423.90	-264.58	413.70	273.98	139.72	2.961		
14,000.00	9,574.46	14,136.34	9,749.99	76.89	77.02	114.89	-4,523.88	-263.84	414.38	271.91	142.46	2.909		
14,100.00	9,573.33	14,236.32	9,750.48	78.47	78.60	115.09	-4,623.86	-263.11	415.06	269.86	145.20	2.858		

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	Local Co-ordinate Reference:	Well Thistle Unit 160H
Project:	Lea County, NM (NAD-83)	TVD Reference:	3710.3' GE + 23.5' KB @ 3733.80usft
Reference Site:	Thistle Unit Sec 22-27 Trac Pad	MD Reference:	3710.3' GE + 23.5' KB @ 3733.80usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Thistle Unit 160H	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 #2	Offset TVD Reference:	Offset Datum

Offset Design Thistle Unit Sec 22-27 Trac Pad - Thistle Unit 110H - OH - Plan #2													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		
14,200.00	9,572.20	14,336.31	9,750.97	80.05	80.18	115.30	-4,723.85	-262.38	415.75	267.81	147.94	2.810		
14,300.00	9,571.08	14,436.30	9,751.46	81.63	81.76	115.50	-4,823.83	-261.64	416.45	265.77	150.67	2.764		
14,400.00	9,569.95	14,536.29	9,751.95	83.22	83.34	115.70	-4,923.81	-260.91	417.15	263.75	153.40	2.719		
14,500.00	9,568.82	14,636.27	9,752.44	84.80	84.93	115.90	-5,023.80	-260.17	417.85	261.73	156.13	2.676		
14,600.00	9,567.70	14,736.26	9,752.93	86.39	86.52	116.10	-5,123.78	-259.44	418.57	259.72	158.85	2.635		
14,700.00	9,566.57	14,836.25	9,753.43	87.98	88.11	116.29	-5,223.76	-258.70	419.28	257.72	161.56	2.595		
14,800.00	9,565.44	14,936.23	9,753.92	89.58	89.70	116.49	-5,323.74	-257.97	420.00	255.73	164.27	2.557		
14,900.00	9,564.32	15,036.22	9,754.41	91.17	91.29	116.69	-5,423.73	-257.23	420.73	253.75	166.98	2.520		
15,000.00	9,563.19	15,136.21	9,754.90	92.77	92.89	116.89	-5,523.71	-256.50	421.46	251.78	169.68	2.484		
15,100.00	9,562.06	15,236.19	9,755.39	94.36	94.48	117.08	-5,623.69	-255.77	422.19	249.82	172.37	2.449		
15,200.00	9,560.94	15,336.18	9,755.88	95.96	96.08	117.28	-5,723.68	-255.03	422.93	247.88	175.06	2.416		
15,300.00	9,559.81	15,436.17	9,756.37	97.56	97.68	117.47	-5,823.66	-254.30	423.68	245.94	177.74	2.384		
15,400.00	9,558.68	15,536.15	9,756.86	99.17	99.28	117.66	-5,923.64	-253.56	424.43	244.01	180.41	2.353		
15,500.00	9,557.56	15,636.14	9,757.35	100.77	100.88	117.86	-6,023.63	-252.83	425.18	242.10	183.08	2.322		
15,600.00	9,556.43	15,736.13	9,757.84	102.37	102.49	118.05	-6,123.61	-252.09	425.94	240.20	185.75	2.293		
15,700.00	9,555.30	15,836.12	9,758.33	103.98	104.09	118.24	-6,223.59	-251.36	426.71	238.30	188.40	2.265		
15,800.00	9,554.18	15,936.10	9,758.82	105.58	105.70	118.43	-6,323.57	-250.63	427.48	236.42	191.05	2.237		
15,900.00	9,553.05	16,036.09	9,759.31	107.19	107.30	118.62	-6,423.56	-249.89	428.25	234.55	193.70	2.211		
16,000.00	9,551.92	16,136.08	9,759.80	108.80	108.91	118.81	-6,523.54	-249.16	429.03	232.69	196.33	2.185		
16,100.00	9,550.80	16,236.06	9,760.29	110.41	110.52	119.00	-6,623.52	-248.42	429.81	230.85	198.96	2.160		
16,200.00	9,549.67	16,336.05	9,760.79	112.02	112.13	119.19	-6,723.51	-247.69	430.60	229.01	201.59	2.136		
16,300.00	9,548.55	16,436.04	9,761.28	113.63	113.74	119.38	-6,823.49	-246.95	431.39	227.19	204.20	2.113		
16,400.00	9,547.42	16,536.02	9,761.77	115.24	115.35	119.56	-6,923.47	-246.22	432.19	225.38	206.81	2.090		
16,500.00	9,546.29	16,636.01	9,762.26	116.85	116.96	119.75	-7,023.46	-245.48	432.99	223.58	209.41	2.068		
16,600.00	9,545.17	16,736.00	9,762.75	118.46	118.57	119.93	-7,123.44	-244.75	433.80	221.79	212.01	2.046		
16,700.00	9,544.04	16,835.98	9,763.24	120.08	120.18	120.12	-7,223.42	-244.02	434.61	220.01	214.60	2.025		
16,800.00	9,542.91	16,935.97	9,763.73	121.69	121.80	120.30	-7,323.40	-243.28	435.42	218.24	217.18	2.005		
16,900.00	9,541.79	17,035.96	9,764.22	123.31	123.41	120.49	-7,423.39	-242.55	436.24	216.49	219.75	1.985		
17,000.00	9,540.66	17,135.95	9,764.71	124.92	125.02	120.67	-7,523.37	-241.81	437.07	214.75	222.32	1.966		
17,058.50	9,540.00	17,194.44	9,765.00	125.87	125.97	120.77	-7,581.86	-241.38	437.55	213.74	223.82	1.955 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	Local Co-ordinate Reference:	Well Thistle Unit 160H
Project:	Lea County, NM (NAD-83)	TVD Reference:	3710.3' GE + 23.5' KB @ 3733.80usft
Reference Site:	Thistle Unit Sec 22-27 Trac Pad	MD Reference:	3710.3' GE + 23.5' KB @ 3733.80usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Thistle Unit 160H	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 #2	Offset TVD Reference:	Offset Datum

Offset Design Thistle Unit Sec 22-27 Trac Pad - Thistle Unit 114H - OH - Plan #2													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)		+N/-S (usft)	+E/-W (usft)						
0.00	0.00	1.20	1.20	0.00	0.00	89.67	1.55	269.94	269.94					
100.00	100.00	101.20	101.20	0.09	0.09	89.67	1.55	269.94	269.94	269.77	0.17	1,545.689		
200.00	200.00	201.20	201.20	0.31	0.31	89.67	1.55	269.94	269.94	269.32	0.62	432.482		
300.00	300.00	301.20	301.20	0.54	0.54	89.67	1.55	269.94	269.94	268.87	1.07	251.413		
400.00	400.00	401.20	401.20	0.76	0.76	89.67	1.55	269.94	269.94	268.42	1.52	177.217		
500.00	500.00	501.20	501.20	0.99	0.99	89.67	1.55	269.94	269.94	267.97	1.97	136.835		
600.00	600.00	601.20	601.20	1.21	1.21	89.67	1.55	269.94	269.94	267.52	2.42	111.441		
700.00	700.00	701.20	701.20	1.43	1.44	89.67	1.55	269.94	269.94	267.07	2.87	93.997		
800.00	800.00	801.20	801.20	1.66	1.66	89.67	1.55	269.94	269.94	266.62	3.32	81.275		
900.00	900.00	901.20	901.20	1.88	1.89	89.67	1.55	269.94	269.94	266.17	3.77	71.586		
1,000.00	1,000.00	1,001.20	1,001.20	2.11	2.11	89.67	1.55	269.94	269.94	265.72	4.22	63.961		
1,100.00	1,100.00	1,101.20	1,101.20	2.33	2.34	89.67	1.55	269.94	269.94	265.27	4.67	57.804		
1,200.00	1,200.00	1,201.20	1,201.20	2.56	2.56	89.67	1.55	269.94	269.94	264.82	5.12	52.729		
1,300.00	1,300.00	1,301.20	1,301.20	2.78	2.79	89.67	1.55	269.94	269.94	264.38	5.57	48.472		
1,400.00	1,400.00	1,401.20	1,401.20	3.01	3.01	89.67	1.55	269.94	269.94	263.93	6.02	44.852		
1,500.00	1,500.00	1,501.20	1,501.20	3.23	3.24	89.67	1.55	269.94	269.94	263.48	6.47	41.735		
1,600.00	1,600.00	1,601.20	1,601.20	3.46	3.46	89.67	1.55	269.94	269.94	263.03	6.92	39.023		
1,700.00	1,700.00	1,701.20	1,701.20	3.68	3.68	89.67	1.55	269.94	269.94	262.58	7.37	36.642		
1,800.00	1,800.00	1,801.20	1,801.20	3.91	3.91	89.67	1.55	269.94	269.94	262.13	7.82	34.534		
1,900.00	1,900.00	1,901.20	1,901.20	4.13	4.13	89.67	1.55	269.94	269.94	261.68	8.27	32.656		
2,000.00	2,000.00	2,001.20	2,001.20	4.36	4.36	89.67	1.55	269.94	269.94	261.23	8.72	30.972		
2,100.00	2,100.00	2,101.20	2,101.20	4.58	4.58	89.67	1.55	269.94	269.94	260.78	9.17	29.453		
2,200.00	2,200.00	2,201.20	2,201.20	4.81	4.81	89.67	1.55	269.94	269.94	260.33	9.61	28.076		
2,300.00	2,300.00	2,301.20	2,301.20	5.03	5.03	89.67	1.55	269.94	269.94	259.88	10.06	26.822		
2,400.00	2,400.00	2,401.20	2,401.20	5.26	5.26	89.67	1.55	269.94	269.94	259.43	10.51	25.675		
2,500.00	2,500.00	2,501.20	2,501.20	5.48	5.48	89.67	1.55	269.94	269.94	258.98	10.96	24.622		
2,600.00	2,600.00	2,601.20	2,601.20	5.71	5.71	89.67	1.55	269.94	269.94	258.53	11.41	23.652		
2,700.00	2,700.00	2,701.20	2,701.20	5.93	5.93	89.67	1.55	269.94	269.94	258.08	11.86	22.756		
2,800.00	2,800.00	2,801.20	2,801.20	6.15	6.16	89.67	1.55	269.94	269.94	257.63	12.31	21.925		
2,900.00	2,900.00	2,901.20	2,901.20	6.38	6.38	89.67	1.55	269.94	269.94	257.18	12.76	21.153		
3,000.00	3,000.00	3,001.20	3,001.20	6.60	6.61	89.67	1.55	269.94	269.94	256.73	13.21	20.433		
3,100.00	3,099.99	3,101.19	3,101.19	6.83	6.83	51.87	1.55	269.94	269.40	255.75	13.66	19.726		
3,200.00	3,199.96	3,201.16	3,201.16	7.05	7.06	52.32	1.55	269.94	267.80	253.70	14.10	18.993		
3,300.00	3,299.86	3,301.06	3,301.06	7.27	7.28	53.09	1.55	269.94	265.15	250.61	14.54	18.232		
3,335.31	3,335.12	3,336.32	3,336.32	7.34	7.36	53.44	1.55	269.94	263.98	249.28	14.70	17.959		
3,400.00	3,399.70	3,400.90	3,400.90	7.49	7.51	54.10	1.55	269.94	261.74	246.75	14.99	17.466		
3,500.00	3,499.53	3,500.73	3,500.73	7.71	7.73	55.15	1.55	269.94	258.35	242.92	15.43	16.743		
3,600.00	3,599.36	3,600.56	3,600.56	7.93	7.95	56.23	1.55	269.94	255.05	239.17	15.88	16.066		
3,700.00	3,699.18	3,700.38	3,700.38	8.16	8.18	57.33	1.55	269.94	251.84	235.52	16.32	15.430		
3,800.00	3,799.01	3,800.21	3,800.21	8.38	8.40	58.46	1.55	269.94	248.73	231.96	16.77	14.833		
3,900.00	3,898.84	3,900.04	3,900.04	8.61	8.63	59.63	1.55	269.94	245.72	228.50	17.22	14.272		
4,000.00	3,998.67	3,999.87	3,999.87	8.83	8.85	60.81	1.55	269.94	242.81	225.14	17.67	13.744		
4,100.00	4,098.50	4,099.70	4,099.70	9.06	9.08	62.03	1.55	269.94	240.01	221.89	18.12	13.248		
4,200.00	4,198.33	4,199.53	4,199.53	9.29	9.30	63.28	1.55	269.94	237.32	218.75	18.57	12.782		
4,300.00	4,298.16	4,299.36	4,299.36	9.52	9.52	64.55	1.55	269.94	234.74	215.72	19.02	12.343		
4,400.00	4,397.99	4,399.19	4,399.19	9.75	9.75	65.85	1.55	269.94	232.28	212.81	19.47	11.929		
4,500.00	4,497.81	4,499.01	4,499.01	9.98	9.97	67.18	1.55	269.94	229.95	210.02	19.93	11.541		
4,600.00	4,597.64	4,598.84	4,598.84	10.21	10.20	68.53	1.55	269.94	227.74	207.36	20.38	11.175		
4,700.00	4,697.47	4,698.67	4,698.67	10.44	10.42	69.91	1.55	269.94	225.66	204.83	20.83	10.831		
4,800.00	4,797.30	4,798.50	4,798.50	10.67	10.65	71.32	1.55	269.94	223.72	202.43	21.29	10.508		
4,900.00	4,897.13	4,898.33	4,898.33	10.90	10.87	72.75	1.55	269.94	221.91	200.16	21.75	10.204		
5,000.00	4,996.96	4,998.16	4,998.16	11.13	11.10	74.20	1.55	269.94	220.24	198.04	22.20	9.919		

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 Thistle Unit 160H
Project:	Lea County, NM (NAD-83)	TVD Reference:	3710.3' GE + 23.5' KB @ 3733.80usft
Reference Site:	Thistle Unit Sec 22-27 Trac Pad	MD Reference:	3710.3' GE + 23.5' KB @ 3733.80usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Thistle Unit 160H	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 #2	Offset TVD Reference:	Offset Datum

Offset Design Thistle Unit Sec 22-27 Trac Pad - Thistle Unit 114H - OH - Plan #2													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)		+N/-S (usft)	+E/-W (usft)						
5,100.00	5,096.79	5,097.99	5,097.99	11.36	11.32	75.67	1.55	269.94	218.72	196.06	22.66	9.651		
5,168.21	5,164.88	5,166.08	5,166.08	11.52	11.47	76.69	1.55	269.94	217.77	194.79	22.97	9.478		
5,200.00	5,196.62	5,197.82	5,197.82	11.59	11.54	77.14	1.55	269.94	217.37	194.25	23.11	9.405		
5,300.00	5,296.52	5,297.72	5,297.72	11.77	11.77	78.27	1.55	269.94	216.42	192.90	23.52	9.202		
5,400.00	5,396.49	5,397.69	5,397.69	11.95	11.99	78.96	1.55	269.94	215.89	191.97	23.92	9.024		
5,501.09	5,497.57	5,498.77	5,498.77	12.12	12.22	79.20	1.55	269.94	215.72	191.39	24.33	8.867 CC		
5,503.52	5,500.00	5,500.00	5,500.00	12.13	12.22	117.15	1.55	269.94	215.72	191.38	24.34	8.864 ES		
5,600.00	5,596.48	5,594.50	5,594.50	12.32	12.42	117.06	1.55	270.72	216.43	191.71	24.72	8.754		
5,700.00	5,696.48	5,691.20	5,691.17	12.54	12.61	116.77	1.55	273.13	218.66	193.53	25.13	8.702		
5,800.00	5,796.48	5,787.79	5,787.67	12.76	12.81	116.30	1.55	277.17	222.40	196.87	25.52	8.713		
5,900.00	5,896.48	5,885.28	5,884.99	12.98	13.00	115.67	1.55	282.81	227.59	201.67	25.93	8.779		
6,000.00	5,996.48	5,985.09	5,984.61	13.20	13.21	115.02	1.55	288.98	233.18	206.84	26.34	8.852		
6,100.00	6,096.48	6,084.89	6,084.23	13.42	13.41	114.39	1.55	295.15	238.80	212.04	26.76	8.923		
6,200.00	6,196.48	6,184.70	6,183.84	13.64	13.62	113.79	1.55	301.32	244.45	217.27	27.18	8.992		
6,300.00	6,296.48	6,284.51	6,283.46	13.87	13.82	113.22	1.55	307.49	250.12	222.52	27.61	9.060		
6,400.00	6,396.48	6,384.32	6,383.08	14.09	14.03	112.67	1.55	313.66	255.82	227.79	28.03	9.127		
6,500.00	6,496.48	6,484.13	6,482.70	14.31	14.24	112.15	1.55	319.83	261.53	233.08	28.45	9.192		
6,600.00	6,596.48	6,583.94	6,582.32	14.53	14.45	111.65	1.55	326.01	267.27	238.40	28.88	9.256		
6,700.00	6,696.48	6,683.75	6,681.93	14.75	14.66	111.17	1.55	332.18	273.03	243.73	29.30	9.318		
6,800.00	6,796.48	6,783.55	6,781.55	14.97	14.87	110.71	1.55	338.35	278.81	249.08	29.73	9.379		
6,900.00	6,896.48	6,883.36	6,881.17	15.20	15.09	110.27	1.55	344.52	284.60	254.45	30.16	9.438		
7,000.00	6,996.48	6,983.17	6,980.79	15.42	15.30	109.85	1.55	350.69	290.41	259.83	30.58	9.496		
7,100.00	7,096.48	7,082.98	7,080.40	15.64	15.52	109.45	1.55	356.86	296.23	265.22	31.01	9.552		
7,200.00	7,196.48	7,182.79	7,180.02	15.86	15.73	109.05	1.55	363.03	302.07	270.63	31.44	9.608		
7,300.00	7,296.48	7,282.60	7,279.64	16.09	15.95	108.68	1.55	369.20	307.92	276.05	31.87	9.662		
7,400.00	7,396.48	7,382.41	7,379.26	16.31	16.17	108.32	1.55	375.38	313.79	281.49	32.30	9.715		
7,500.00	7,496.48	7,482.22	7,478.87	16.53	16.39	107.97	1.55	381.55	319.67	286.93	32.73	9.766		
7,600.00	7,596.48	7,582.02	7,578.49	16.75	16.61	107.63	1.55	387.72	325.55	292.39	33.16	9.817		
7,700.00	7,696.48	7,681.83	7,678.11	16.98	16.83	107.31	1.55	393.89	331.45	297.86	33.60	9.866		
7,800.00	7,796.48	7,781.64	7,777.73	17.20	17.05	107.00	1.55	400.06	337.36	303.33	34.03	9.914		
7,900.00	7,896.48	7,881.45	7,877.35	17.42	17.27	106.70	1.55	406.23	343.28	308.82	34.46	9.961		
8,000.00	7,996.48	7,981.26	7,976.96	17.64	17.49	106.40	1.55	412.40	349.21	314.31	34.90	10.007		
8,100.00	8,096.48	8,081.07	8,076.58	17.87	17.71	106.12	1.55	418.57	355.15	319.82	35.33	10.052		
8,200.00	8,196.48	8,180.88	8,176.20	18.09	17.94	105.85	1.55	424.75	361.09	325.33	35.76	10.096		
8,300.00	8,296.48	8,280.68	8,275.82	18.31	18.16	105.59	1.55	430.92	367.04	330.84	36.20	10.139		
8,400.00	8,396.48	8,380.49	8,375.43	18.54	18.38	105.33	1.55	437.09	373.00	336.37	36.64	10.182		
8,500.00	8,496.48	8,480.30	8,475.05	18.76	18.61	105.08	1.55	443.26	378.97	341.90	37.07	10.223		
8,600.00	8,596.48	8,585.11	8,579.69	18.98	18.83	104.85	1.55	449.42	384.48	346.95	37.53	10.245		
8,700.00	8,696.48	8,692.00	8,686.50	19.21	19.04	104.70	1.55	455.40	388.26	350.28	37.97	10.224		
8,800.00	8,796.48	8,799.02	8,793.49	19.43	19.25	104.61	1.55	455.59	390.23	351.83	38.41	10.160		
8,900.00	8,896.48	8,903.21	8,897.68	19.65	19.45	104.60	1.55	455.94	390.55	351.72	38.83	10.057		
9,000.00	8,996.48	9,003.21	8,997.68	19.88	19.67	104.60	1.55	455.94	390.55	351.28	39.28	9.944		
9,050.60	9,047.08	9,053.81	9,048.28	19.99	19.78	104.60	1.55	455.94	390.55	351.05	39.50	9.887		
9,100.00	9,096.42	9,103.15	9,097.62	20.08	19.89	-75.33	1.55	455.94	390.01	350.30	39.70	9.823		
9,150.00	9,145.98	9,152.71	9,147.18	20.16	19.99	-76.40	1.55	455.94	388.41	348.53	39.89	9.738		
9,200.00	9,194.79	9,196.61	9,191.06	20.24	20.08	-77.83	0.54	455.95	386.23	346.19	40.04	9.645		
9,250.00	9,242.48	9,239.69	9,233.92	20.32	20.16	-79.33	-3.63	455.98	384.15	343.97	40.18	9.561		
9,300.00	9,288.68	9,283.36	9,276.94	20.39	20.24	-80.92	-11.13	456.03	382.24	341.93	40.31	9.483		
9,350.00	9,333.04	9,327.70	9,319.90	20.47	20.33	-82.58	-22.08	456.11	380.57	340.12	40.44	9.410		
9,400.00	9,375.22	9,372.78	9,362.56	20.54	20.41	-84.32	-36.58	456.22	379.18	338.59	40.59	9.342		
9,450.00	9,414.91	9,418.66	9,404.69	20.61	20.50	-86.11	-54.73	456.35	378.13	337.38	40.75	9.280		
9,500.00	9,451.80	9,465.42	9,445.98	20.67	20.59	-87.96	-76.63	456.51	377.46	336.53	40.93	9.222		

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	Local Co-ordinate Reference:	Well Thistle Unit 160H
Project:	Lea County, NM (NAD-83)	TVD Reference:	3710.3' GE + 23.5' KB @ 3733.80usft
Reference Site:	Thistle Unit Sec 22-27 Trac Pad	MD Reference:	3710.3' GE + 23.5' KB @ 3733.80usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Thistle Unit 160H	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 #2	Offset TVD Reference:	Offset Datum

Offset Design Thistle Unit Sec 22-27 Trac Pad - Thistle Unit 114H - OH - Plan #2												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		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)					
9,550.00	9,485.60	9,513.14	9,486.14	20.75	20.68	-89.83	-102.39	456.70	377.20	336.07	41.13	9.171	
9,554.66	9,488.59	9,517.63	9,489.81	20.76	20.69	-90.00	-104.98	456.72	377.20	336.05	41.15	9.167	
9,600.00	9,516.07	9,561.90	9,524.82	20.85	20.79	-91.72	-132.05	456.92	377.38	336.04	41.35	9.128	
9,650.00	9,542.98	9,611.77	9,561.62	20.97	20.90	-93.62	-165.69	457.17	378.01	336.43	41.58	9.092	
9,700.00	9,566.10	9,662.86	9,596.14	21.12	21.03	-95.51	-203.33	457.44	379.07	337.25	41.82	9.065	
9,750.00	9,585.28	9,715.23	9,627.90	21.30	21.18	-97.37	-244.94	457.75	380.55	338.49	42.06	9.048	
9,800.00	9,600.36	9,768.95	9,656.40	21.50	21.36	-99.18	-290.46	458.08	382.41	340.10	42.31	9.038	
9,850.00	9,611.23	9,824.10	9,681.09	21.72	21.58	-100.94	-339.75	458.44	384.59	342.03	42.56	9.036	
9,900.00	9,617.81	9,880.73	9,701.39	21.97	21.84	-102.62	-392.58	458.83	387.03	344.21	42.82	9.038	
9,950.00	9,620.04	9,938.86	9,716.70	22.24	22.13	-104.21	-448.64	459.24	389.64	346.54	43.11	9.039	
9,957.06	9,620.00	9,947.19	9,718.43	22.28	22.18	-104.42	-456.78	459.30	390.02	346.87	43.15	9.039	
10,000.00	9,619.52	9,998.81	9,726.46	22.53	22.47	-105.64	-507.76	459.67	391.91	348.44	43.47	9.016	
10,100.00	9,618.39	10,110.20	9,730.25	23.20	23.19	-106.35	-619.01	460.49	393.08	348.44	44.64	8.806	
10,200.00	9,617.26	10,210.19	9,730.75	23.95	23.92	-106.58	-719.00	461.22	393.54	347.51	46.03	8.549	
10,300.00	9,616.14	10,310.18	9,731.25	24.80	24.75	-106.80	-818.98	461.95	394.00	346.41	47.59	8.279	
10,400.00	9,615.01	10,410.16	9,731.75	25.72	25.65	-107.03	-918.96	462.68	394.47	345.18	49.30	8.002	
10,500.00	9,613.89	10,510.15	9,732.25	26.71	26.62	-107.26	-1,018.94	463.42	394.95	343.81	51.13	7.724	
10,600.00	9,612.76	10,610.14	9,732.75	27.76	27.66	-107.48	-1,118.93	464.15	395.43	342.34	53.09	7.449	
10,700.00	9,611.63	10,710.12	9,733.25	28.86	28.75	-107.70	-1,218.91	464.88	395.92	340.78	55.14	7.180	
10,800.00	9,610.51	10,810.11	9,733.75	30.02	29.89	-107.93	-1,318.89	465.61	396.41	339.12	57.29	6.920	
10,900.00	9,609.38	10,910.10	9,734.25	31.21	31.08	-108.15	-1,418.88	466.34	396.91	337.40	59.52	6.669	
11,000.00	9,608.25	11,010.08	9,734.75	32.45	32.31	-108.38	-1,518.86	467.08	397.42	335.60	61.81	6.429	
11,100.00	9,607.13	11,110.07	9,735.25	33.72	33.57	-108.60	-1,618.84	467.81	397.93	333.76	64.17	6.201	
11,200.00	9,606.00	11,210.06	9,735.74	35.02	34.86	-108.82	-1,718.82	468.54	398.45	331.86	66.58	5.984	
11,300.00	9,604.87	11,310.04	9,736.24	36.35	36.18	-109.04	-1,818.81	469.27	398.97	329.93	69.04	5.778	
11,400.00	9,603.75	11,410.03	9,736.74	37.70	37.53	-109.26	-1,918.79	470.01	399.50	327.95	71.55	5.584	
11,500.00	9,602.62	11,510.02	9,737.24	39.08	38.89	-109.48	-2,018.77	470.74	400.04	325.95	74.09	5.400	
11,600.00	9,601.49	11,610.00	9,737.74	40.47	40.28	-109.70	-2,118.76	471.47	400.58	323.92	76.66	5.226	
11,700.00	9,600.37	11,709.99	9,738.24	41.88	41.69	-109.92	-2,218.74	472.20	401.13	321.87	79.25	5.061	
11,800.00	9,599.24	11,809.98	9,738.74	43.31	43.11	-110.14	-2,318.72	472.94	401.68	319.80	81.88	4.906	
11,900.00	9,598.11	11,909.96	9,739.24	44.75	44.55	-110.35	-2,418.70	473.67	402.24	317.72	84.52	4.759	
12,000.00	9,596.99	12,009.95	9,739.74	46.21	46.00	-110.57	-2,518.69	474.40	402.80	315.62	87.18	4.620	
12,100.00	9,595.86	12,109.94	9,740.24	47.68	47.47	-110.79	-2,618.67	475.13	403.37	313.51	89.86	4.489	
12,200.00	9,594.73	12,209.92	9,740.74	49.16	48.94	-111.00	-2,718.65	475.87	403.95	311.39	92.56	4.364	
12,300.00	9,593.61	12,309.91	9,741.24	50.64	50.43	-111.22	-2,818.64	476.60	404.53	309.27	95.26	4.247	
12,400.00	9,592.48	12,409.90	9,741.74	52.14	51.92	-111.43	-2,918.62	477.33	405.12	307.14	97.98	4.135	
12,500.00	9,591.35	12,509.89	9,742.23	53.65	53.42	-111.65	-3,018.60	478.06	405.71	305.01	100.70	4.029	
12,600.00	9,590.23	12,609.87	9,742.73	55.16	54.93	-111.86	-3,118.58	478.79	406.31	302.88	103.43	3.928	
12,700.00	9,589.10	12,709.86	9,743.23	56.68	56.45	-112.07	-3,218.57	479.53	406.92	300.75	106.17	3.833	
12,800.00	9,587.97	12,809.85	9,743.73	58.21	57.97	-112.29	-3,318.55	480.26	407.53	298.62	108.91	3.742	
12,900.00	9,586.85	12,909.83	9,744.23	59.74	59.51	-112.50	-3,418.53	480.99	408.14	296.49	111.66	3.655	
13,000.00	9,585.72	13,009.82	9,744.73	61.28	61.04	-112.71	-3,518.52	481.72	408.77	294.36	114.40	3.573	
13,100.00	9,584.59	13,109.81	9,745.23	62.82	62.58	-112.92	-3,618.50	482.46	409.39	292.24	117.16	3.494	
13,200.00	9,583.47	13,209.79	9,745.73	64.37	64.13	-113.13	-3,718.48	483.19	410.03	290.12	119.91	3.420	
13,300.00	9,582.34	13,309.78	9,746.23	65.92	65.68	-113.34	-3,818.46	483.92	410.66	288.00	122.66	3.348	
13,400.00	9,581.22	13,409.77	9,746.73	67.48	67.23	-113.54	-3,918.45	484.65	411.31	285.89	125.41	3.280	
13,500.00	9,580.09	13,509.75	9,747.23	69.04	68.79	-113.75	-4,018.43	485.39	411.96	283.79	128.17	3.214	
13,600.00	9,578.96	13,609.74	9,747.73	70.60	70.35	-113.96	-4,118.41	486.12	412.61	281.69	130.92	3.152	
13,700.00	9,577.84	13,709.73	9,748.22	72.17	71.92	-114.16	-4,218.40	486.85	413.27	279.60	133.67	3.092	
13,800.00	9,576.71	13,809.71	9,748.72	73.74	73.49	-114.37	-4,318.38	487.58	413.93	277.52	136.41	3.034	
13,900.00	9,575.58	13,909.70	9,749.22	75.31	75.06	-114.57	-4,418.36	488.32	414.60	275.45	139.16	2.979	
14,000.00	9,574.46	14,009.69	9,749.72	76.89	76.63	-114.78	-4,518.34	489.05	415.28	273.38	141.90	2.927	

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	Local Co-ordinate Reference:	Well Thistle Unit 160H
Project:	Lea County, NM (NAD-83)	TVD Reference:	3710.3' GE + 23.5' KB @ 3733.80usft
Reference Site:	Thistle Unit Sec 22-27 Trac Pad	MD Reference:	3710.3' GE + 23.5' KB @ 3733.80usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Thistle Unit 160H	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 #2	Offset TVD Reference:	Offset Datum

Offset Design Thistle Unit Sec 22-27 Trac Pad - Thistle Unit 114H - OH - Plan #2												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		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)					
14,100.00	9,573.33	14,109.67	9,750.22	78.47	78.21	-114.98	-4,618.33	489.78	415.96	271.32	144.64	2.876	
14,200.00	9,572.20	14,209.66	9,750.72	80.05	79.79	-115.19	-4,718.31	490.51	416.65	269.27	147.37	2.827	
14,300.00	9,571.08	14,309.65	9,751.22	81.63	81.37	-115.39	-4,818.29	491.24	417.34	267.24	150.10	2.780	
14,400.00	9,569.95	14,409.63	9,751.72	83.22	82.96	-115.59	-4,918.28	491.98	418.03	265.20	152.83	2.735	
14,500.00	9,568.82	14,509.62	9,752.22	84.80	84.54	-115.79	-5,018.26	492.71	418.74	263.18	155.55	2.692	
14,600.00	9,567.70	14,609.61	9,752.72	86.39	86.13	-115.99	-5,118.24	493.44	419.44	261.17	158.27	2.650	
14,700.00	9,566.57	14,709.59	9,753.22	87.98	87.72	-116.19	-5,218.22	494.17	420.15	259.17	160.98	2.610	
14,800.00	9,565.44	14,809.58	9,753.72	89.58	89.32	-116.39	-5,318.21	494.91	420.87	257.18	163.69	2.571	
14,900.00	9,564.32	14,909.57	9,754.22	91.17	90.91	-116.59	-5,418.19	495.64	421.59	255.20	166.39	2.534	
15,000.00	9,563.19	15,009.55	9,754.71	92.77	92.50	-116.78	-5,518.17	496.37	422.32	253.23	169.09	2.498	
15,100.00	9,562.06	15,109.54	9,755.21	94.36	94.10	-116.98	-5,618.16	497.10	423.05	251.27	171.78	2.463	
15,200.00	9,560.94	15,209.53	9,755.71	95.96	95.70	-117.18	-5,718.14	497.84	423.79	249.32	174.47	2.429	
15,300.00	9,559.81	15,309.52	9,756.21	97.56	97.30	-117.37	-5,818.12	498.57	424.53	247.39	177.14	2.397	
15,400.00	9,558.68	15,409.50	9,756.71	99.17	98.90	-117.57	-5,918.10	499.30	425.28	245.46	179.82	2.365	
15,500.00	9,557.56	15,509.49	9,757.21	100.77	100.50	-117.76	-6,018.09	500.03	426.03	243.54	182.49	2.335	
15,600.00	9,556.43	15,609.48	9,757.71	102.37	102.10	-117.95	-6,118.07	500.77	426.79	241.64	185.15	2.305	
15,700.00	9,555.30	15,709.46	9,758.21	103.98	103.71	-118.15	-6,218.05	501.50	427.55	239.75	187.80	2.277	
15,800.00	9,554.18	15,809.45	9,758.71	105.58	105.31	-118.34	-6,318.04	502.23	428.31	237.87	190.45	2.249	
15,900.00	9,553.05	15,909.44	9,759.21	107.19	106.92	-118.53	-6,418.02	502.96	429.08	236.00	193.09	2.222	
16,000.00	9,551.92	16,009.42	9,759.71	108.80	108.53	-118.72	-6,518.00	503.69	429.86	234.14	195.72	2.196	
16,100.00	9,550.80	16,109.41	9,760.21	110.41	110.14	-118.91	-6,617.98	504.43	430.64	232.29	198.35	2.171	
16,200.00	9,549.67	16,209.40	9,760.71	112.02	111.74	-119.10	-6,717.97	505.16	431.43	230.46	200.97	2.147	
16,300.00	9,548.55	16,309.38	9,761.20	113.63	113.35	-119.29	-6,817.95	505.89	432.22	228.63	203.58	2.123	
16,400.00	9,547.42	16,409.37	9,761.70	115.24	114.97	-119.48	-6,917.93	506.62	433.01	226.82	206.19	2.100	
16,500.00	9,546.29	16,509.36	9,762.20	116.85	116.58	-119.66	-7,017.92	507.36	433.81	225.02	208.79	2.078	
16,600.00	9,545.17	16,609.34	9,762.70	118.46	118.19	-119.85	-7,117.90	508.09	434.61	223.23	211.38	2.056	
16,700.00	9,544.04	16,709.33	9,763.20	120.08	119.80	-120.04	-7,217.88	508.82	435.42	221.46	213.96	2.035	
16,800.00	9,542.91	16,809.32	9,763.70	121.69	121.42	-120.22	-7,317.86	509.55	436.23	219.69	216.54	2.015	
16,900.00	9,541.79	16,909.30	9,764.20	123.31	123.03	-120.40	-7,417.85	510.29	437.05	217.94	219.11	1.995	
17,000.00	9,540.66	17,009.29	9,764.70	124.92	124.65	-120.59	-7,517.83	511.02	437.87	216.20	221.67	1.975	
17,058.50	9,540.00	17,067.78	9,764.99	125.87	125.59	-120.70	-7,576.32	511.45	438.36	215.19	223.17	1.964 SF	

LEAM Drilling Systems LLC

Anticollision Report

Company:	Devon Energy	Local Co-ordinate Reference:	Well Thistle Unit 160H
Project:	Lea County, NM (NAD-83)	TVD Reference:	3710.3' GE + 23.5' KB @ 3733.80usft
Reference Site:	Thistle Unit Sec 22-27 Trac Pad	MD Reference:	3710.3' GE + 23.5' KB @ 3733.80usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Thistle Unit 160H	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 #2	Offset TVD Reference:	Offset Datum

Offset Design Thistle Unit Sec 22-27 Trac Pad - Thistle Unit 125H - OH - Plan #2													Offset Site Error:	0.00 usft
Survey Program: 0-LEAM MWD+HDGM													Offset Well Error:	0.00 usft
Reference	Offset	Semi Major Axis		Distance		Minimum		Separation		Warning				
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (")	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
0.00	0.00	0.90	0.90	0.00	0.00	-90.32	-0.34	-59.96	59.96					
100.00	100.00	100.90	100.90	0.09	0.09	-90.32	-0.34	-59.96	59.96	59.79	0.17	344.664		
200.00	200.00	200.90	200.90	0.31	0.31	-90.32	-0.34	-59.96	59.96	59.34	0.62	96.168		
300.00	300.00	300.90	300.90	0.54	0.54	-90.32	-0.34	-59.96	59.96	58.89	1.07	55.880		
400.00	400.00	400.90	400.90	0.76	0.76	-90.32	-0.34	-59.96	59.96	58.44	1.52	39.382		
500.00	500.00	500.90	500.90	0.99	0.99	-90.32	-0.34	-59.96	59.96	57.99	1.97	30.405		
600.00	600.00	600.90	600.90	1.21	1.21	-90.32	-0.34	-59.96	59.96	57.54	2.42	24.761		
700.00	700.00	700.90	700.90	1.43	1.44	-90.32	-0.34	-59.96	59.96	57.09	2.87	20.884		
800.00	800.00	800.90	800.90	1.66	1.66	-90.32	-0.34	-59.96	59.96	56.64	3.32	18.057		
900.00	900.00	900.90	900.90	1.88	1.89	-90.32	-0.34	-59.96	59.96	56.19	3.77	15.904		
1,000.00	1,000.00	1,000.90	1,000.90	2.11	2.11	-90.32	-0.34	-59.96	59.96	55.74	4.22	14.210		
1,100.00	1,100.00	1,100.90	1,100.90	2.33	2.34	-90.32	-0.34	-59.96	59.96	55.29	4.67	12.842		
1,200.00	1,200.00	1,200.90	1,200.90	2.56	2.56	-90.32	-0.34	-59.96	59.96	54.84	5.12	11.714		
1,300.00	1,300.00	1,300.90	1,300.90	2.78	2.79	-90.32	-0.34	-59.96	59.96	54.39	5.57	10.768		
1,400.00	1,400.00	1,400.90	1,400.90	3.01	3.01	-90.32	-0.34	-59.96	59.96	53.94	6.02	9.964		
1,500.00	1,500.00	1,500.90	1,500.90	3.23	3.23	-90.32	-0.34	-59.96	59.96	53.49	6.47	9.271		
1,600.00	1,600.00	1,600.90	1,600.90	3.46	3.46	-90.32	-0.34	-59.96	59.96	53.04	6.92	8.669		
1,700.00	1,700.00	1,700.90	1,700.90	3.68	3.68	-90.32	-0.34	-59.96	59.96	52.59	7.37	8.140		
1,800.00	1,800.00	1,800.90	1,800.90	3.91	3.91	-90.32	-0.34	-59.96	59.96	52.14	7.82	7.672		
1,900.00	1,900.00	1,900.90	1,900.90	4.13	4.13	-90.32	-0.34	-59.96	59.96	51.70	8.27	7.254		
2,000.00	2,000.00	2,000.90	2,000.90	4.36	4.36	-90.32	-0.34	-59.96	59.96	51.25	8.72	6.880		
2,100.00	2,100.00	2,100.90	2,100.90	4.58	4.58	-90.32	-0.34	-59.96	59.96	50.80	9.16	6.543		
2,200.00	2,200.00	2,200.90	2,200.90	4.81	4.81	-90.32	-0.34	-59.96	59.96	50.35	9.61	6.237		
2,300.00	2,300.00	2,300.90	2,300.90	5.03	5.03	-90.32	-0.34	-59.96	59.96	49.90	10.06	5.958		
2,400.00	2,400.00	2,400.90	2,400.90	5.26	5.26	-90.32	-0.34	-59.96	59.96	49.45	10.51	5.703		
2,500.00	2,500.00	2,500.90	2,500.90	5.48	5.48	-90.32	-0.34	-59.96	59.96	49.00	10.96	5.470		
2,600.00	2,600.00	2,600.90	2,600.90	5.71	5.71	-90.32	-0.34	-59.96	59.96	48.55	11.41	5.254		
2,700.00	2,700.00	2,700.90	2,700.90	5.93	5.93	-90.32	-0.34	-59.96	59.96	48.10	11.86	5.055		
2,800.00	2,800.00	2,800.90	2,800.90	6.15	6.16	-90.32	-0.34	-59.96	59.96	47.65	12.31	4.870		
2,900.00	2,900.00	2,900.90	2,900.90	6.38	6.38	-90.32	-0.34	-59.96	59.96	47.20	12.76	4.699		
3,000.00	3,000.00	3,000.90	3,000.90	6.60	6.61	-90.32	-0.34	-59.96	59.96	46.75	13.21	4.539 CC, ES		
3,100.00	3,099.99	3,100.89	3,100.89	6.83	6.83	-128.92	-0.34	-59.96	60.51	46.85	13.66	4.431		
3,200.00	3,199.96	3,200.86	3,200.86	7.05	7.06	-130.79	-0.34	-59.96	62.18	48.08	14.10	4.410 SF		
3,300.00	3,299.86	3,300.76	3,300.76	7.27	7.28	-133.67	-0.34	-59.96	65.12	50.58	14.54	4.478		
3,335.31	3,335.12	3,336.02	3,336.02	7.34	7.36	-134.88	-0.34	-59.96	66.48	51.79	14.70	4.523		
3,400.00	3,399.70	3,400.60	3,400.60	7.49	7.50	-137.10	-0.34	-59.96	69.21	54.22	14.99	4.618		
3,500.00	3,499.53	3,500.43	3,500.43	7.71	7.73	-140.20	-0.34	-59.96	73.60	58.18	15.43	4.770		
3,600.00	3,599.36	3,600.26	3,600.26	7.93	7.95	-142.94	-0.34	-59.96	78.19	62.32	15.87	4.926		
3,700.00	3,699.18	3,700.08	3,700.08	8.16	8.18	-145.38	-0.34	-59.96	82.94	66.62	16.32	5.082		
3,800.00	3,799.01	3,799.91	3,799.91	8.38	8.40	-147.54	-0.34	-59.96	87.81	71.05	16.76	5.238		
3,900.00	3,898.84	3,899.74	3,899.74	8.61	8.63	-149.48	-0.34	-59.96	92.80	75.60	17.21	5.393		
4,000.00	3,998.67	3,999.57	3,999.57	8.83	8.85	-151.22	-0.34	-59.96	97.89	80.23	17.66	5.544		
4,100.00	4,098.50	4,099.01	4,099.01	9.06	9.07	-152.31	0.34	-60.48	103.24	85.15	18.10	5.705		
4,200.00	4,198.33	4,198.44	4,198.44	9.29	9.29	-152.41	2.40	-62.04	109.00	90.46	18.54	5.880		
4,300.00	4,298.16	4,297.80	4,297.67	9.52	9.51	-151.66	5.83	-64.64	115.14	96.17	18.98	6.068		
4,400.00	4,397.99	4,397.04	4,396.72	9.75	9.73	-150.20	10.62	-68.27	121.74	102.32	19.42	6.270		
4,500.00	4,497.81	4,496.09	4,495.47	9.98	9.95	-148.16	16.76	-72.93	128.90	109.04	19.86	6.492		
4,600.00	4,597.64	4,595.57	4,594.56	10.21	10.17	-145.90	23.78	-78.25	136.55	116.25	20.30	6.727		
4,700.00	4,697.47	4,695.14	4,693.73	10.44	10.40	-143.87	30.82	-83.59	144.40	123.66	20.75	6.961		
4,800.00	4,797.30	4,794.71	4,792.91	10.67	10.62	-142.06	37.86	-88.93	152.41	131.22	21.19	7.191		
4,900.00	4,897.13	4,894.27	4,892.09	10.90	10.85	-140.42	44.90	-94.27	160.56	138.92	21.64	7.418		
5,000.00	4,996.96	4,993.84	4,991.26	11.13	11.08	-138.95	51.94	-99.61	168.83	146.73	22.10	7.641		

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	Local Co-ordinate Reference:	Well Thistle Unit 160H
Project:	Lea County, NM (NAD-83)	TVD Reference:	3710.3' GE + 23.5' KB @ 3733.80usft
Reference Site:	Thistle Unit Sec 22-27 Trac Pad	MD Reference:	3710.3' GE + 23.5' KB @ 3733.80usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Thistle Unit 160H	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 #2	Offset TVD Reference:	Offset Datum

Offset Design Thistle Unit Sec 22-27 Trac Pad - Thistle Unit 125H - OH - Plan #2													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)		+N-S (usft)	+E-W (usft)						
5,100.00	5,096.79	5,093.41	5,090.44	11.36	11.31	-137.61	58.98	-104.95	177.19	154.64	22.55	7.858		
5,168.21	5,164.88	5,161.33	5,158.08	11.52	11.47	-136.77	63.78	-108.59	182.95	160.09	22.86	8.003		
5,200.00	5,196.62	5,192.98	5,189.61	11.59	11.55	-136.40	66.02	-110.28	185.58	162.59	23.00	8.070		
5,300.00	5,296.52	5,292.59	5,288.83	11.77	11.78	-135.04	73.06	-115.62	193.10	169.70	23.40	8.251		
5,400.00	5,396.49	5,392.22	5,388.07	11.95	12.02	-133.43	80.11	-120.97	199.53	175.72	23.81	8.381		
5,503.52	5,500.00	5,495.35	5,490.79	12.13	12.26	-93.53	87.40	-126.49	205.13	180.91	24.23	8.467		
5,600.00	5,596.48	5,591.45	5,586.51	12.32	12.49	-91.59	94.19	-131.65	210.01	185.37	24.64	8.524		
5,700.00	5,696.48	5,691.05	5,685.72	12.54	12.73	-89.67	101.23	-136.99	215.31	190.22	25.09	8.582		
5,800.00	5,796.48	5,793.00	5,787.33	12.76	12.92	-87.97	107.80	-141.97	220.34	194.82	25.51	8.637		
5,900.00	5,896.48	5,895.35	5,889.48	12.98	13.11	-86.69	112.95	-145.87	224.39	198.46	25.93	8.653		
6,000.00	5,996.48	5,997.90	5,991.92	13.20	13.30	-85.80	116.65	-148.68	227.35	201.01	26.35	8.630		
6,100.00	6,096.48	6,100.58	6,094.56	13.42	13.48	-85.27	118.89	-150.37	229.17	202.41	26.76	8.565		
6,200.00	6,196.48	6,203.33	6,197.31	13.64	13.66	-85.09	119.66	-150.96	229.80	202.64	27.16	8.460		
6,300.00	6,296.48	6,303.40	6,297.38	13.87	13.86	-85.09	119.66	-150.96	229.80	202.22	27.58	8.331		
6,400.00	6,396.48	6,403.40	6,397.38	14.09	14.08	-85.09	119.66	-150.96	229.80	201.78	28.03	8.199		
6,500.00	6,496.48	6,503.40	6,497.38	14.31	14.30	-85.09	119.66	-150.96	229.80	201.33	28.47	8.072		
6,600.00	6,596.48	6,603.40	6,597.38	14.53	14.52	-85.09	119.66	-150.96	229.80	200.89	28.91	7.948		
6,700.00	6,696.48	6,703.40	6,697.38	14.75	14.75	-85.09	119.66	-150.96	229.80	200.44	29.36	7.827		
6,800.00	6,796.48	6,803.40	6,797.38	14.97	14.97	-85.09	119.66	-150.96	229.80	200.00	29.80	7.711		
6,900.00	6,896.48	6,903.40	6,897.38	15.20	15.19	-85.09	119.66	-150.96	229.80	199.56	30.25	7.597		
7,000.00	6,996.48	7,003.40	6,997.38	15.42	15.41	-85.09	119.66	-150.96	229.80	199.11	30.69	7.487		
7,100.00	7,096.48	7,103.40	7,097.38	15.64	15.63	-85.09	119.66	-150.96	229.80	198.67	31.14	7.380		
7,200.00	7,196.48	7,203.40	7,197.38	15.86	15.85	-85.09	119.66	-150.96	229.80	198.22	31.58	7.276		
7,300.00	7,296.48	7,303.40	7,297.38	16.09	16.08	-85.09	119.66	-150.96	229.80	197.78	32.03	7.175		
7,400.00	7,396.48	7,403.40	7,397.38	16.31	16.30	-85.09	119.66	-150.96	229.80	197.33	32.47	7.077		
7,500.00	7,496.48	7,503.40	7,497.38	16.53	16.52	-85.09	119.66	-150.96	229.80	196.88	32.92	6.981		
7,600.00	7,596.48	7,603.40	7,597.38	16.75	16.74	-85.09	119.66	-150.96	229.80	196.44	33.36	6.888		
7,700.00	7,696.48	7,703.40	7,697.38	16.98	16.96	-85.09	119.66	-150.96	229.80	195.99	33.81	6.797		
7,800.00	7,796.48	7,803.40	7,797.38	17.20	17.19	-85.09	119.66	-150.96	229.80	195.55	34.25	6.709		
7,900.00	7,896.48	7,903.40	7,897.38	17.42	17.41	-85.09	119.66	-150.96	229.80	195.10	34.70	6.623		
8,000.00	7,996.48	8,003.40	7,997.38	17.64	17.63	-85.09	119.66	-150.96	229.80	194.66	35.15	6.539		
8,100.00	8,096.48	8,103.40	8,097.38	17.87	17.85	-85.09	119.66	-150.96	229.80	194.21	35.59	6.457		
8,200.00	8,196.48	8,203.40	8,197.38	18.09	18.07	-85.09	119.66	-150.96	229.80	193.76	36.04	6.377		
8,300.00	8,296.48	8,303.40	8,297.38	18.31	18.30	-85.09	119.66	-150.96	229.80	193.32	36.48	6.299		
8,400.00	8,396.48	8,403.40	8,397.38	18.54	18.52	-85.09	119.66	-150.96	229.80	192.87	36.93	6.223		
8,500.00	8,496.48	8,503.40	8,497.38	18.76	18.74	-85.09	119.66	-150.96	229.80	192.43	37.38	6.148		
8,600.00	8,596.48	8,603.40	8,597.38	18.98	18.96	-85.09	119.66	-150.96	229.80	191.98	37.82	6.076		
8,700.00	8,696.48	8,703.40	8,697.38	19.21	19.19	-85.09	119.66	-150.96	229.80	191.53	38.27	6.005		
8,800.00	8,796.48	8,803.40	8,797.38	19.43	19.41	-85.09	119.66	-150.96	229.80	191.09	38.72	5.936		
8,900.00	8,896.48	8,903.40	8,897.38	19.65	19.63	-85.09	119.66	-150.96	229.80	190.64	39.16	5.868		
9,000.00	8,996.48	9,003.40	8,997.38	19.88	19.86	-85.09	119.66	-150.96	229.80	190.19	39.61	5.802		
9,050.60	9,047.08	9,054.00	9,047.98	19.99	19.97	-85.09	119.66	-150.96	229.80	189.97	39.83	5.769		
9,100.00	9,096.42	9,103.34	9,097.32	20.08	20.08	95.84	119.66	-150.96	230.01	189.97	40.04	5.745		
9,150.00	9,145.98	9,152.91	9,146.88	20.16	20.19	97.35	119.66	-150.96	230.76	190.54	40.22	5.737		
9,200.00	9,194.79	9,201.72	9,195.69	20.24	20.30	99.75	119.66	-150.96	232.40	192.00	40.40	5.752		
9,250.00	9,242.48	9,249.40	9,243.38	20.32	20.40	102.89	119.66	-150.96	235.49	194.92	40.57	5.804		
9,300.00	9,288.68	9,295.60	9,289.58	20.39	20.51	106.51	119.66	-150.96	240.72	199.98	40.74	5.909		
9,350.00	9,333.04	9,339.96	9,333.94	20.47	20.61	110.33	119.66	-150.96	248.84	207.94	40.90	6.085		
9,400.00	9,375.22	9,382.15	9,376.12	20.54	20.70	114.06	119.66	-150.96	260.54	219.49	41.05	6.346		
9,450.00	9,414.91	9,421.83	9,415.81	20.61	20.79	117.45	119.66	-150.96	276.37	235.16	41.21	6.707		
9,500.00	9,451.80	9,458.72	9,452.70	20.67	20.87	120.28	119.66	-150.96	296.61	255.25	41.36	7.171		
9,550.00	9,485.60	9,492.53	9,486.50	20.75	20.95	122.39	119.66	-150.96	321.29	279.79	41.51	7.741		

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 Thistle Unit 160H
Project:	Lea County, NM (NAD-83)	TVD Reference:	3710.3' GE + 23.5' KB @ 3733.80usft
Reference Site:	Thistle Unit Sec 22-27 Trac Pad	MD Reference:	3710.3' GE + 23.5' KB @ 3733.80usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Thistle Unit 160H	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 #2	Offset TVD Reference:	Offset Datum

Offset Design Thistle Unit Sec 22-27 Trac Pad - Thistle Unit 125H - OH - Plan #2													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)		+N-S (usft)	+E-W (usft)						
9,600.00	9,516.07	9,523.00	9,516.97	20.85	21.01	123.65	119.66	-150.96	350.25	308.60	41.64	8.411		
9,650.00	9,542.98	9,573.90	9,567.83	20.97	21.11	127.22	117.91	-150.95	382.48	340.76	41.72	9.167		
9,700.00	9,566.10	9,641.38	9,634.64	21.12	21.21	131.94	108.69	-150.88	415.89	374.37	41.52	10.017		
9,750.00	9,585.28	9,727.24	9,717.29	21.30	21.34	137.30	85.73	-150.71	449.36	408.60	40.77	11.022		
9,800.00	9,600.36	9,844.26	9,822.58	21.50	21.50	143.35	35.13	-150.34	481.23	442.30	38.94	12.360		
9,850.00	9,611.23	10,014.31	9,952.33	21.72	21.70	149.44	-73.82	-149.54	508.46	473.31	35.15	14.466		
9,900.00	9,617.81	10,259.35	10,071.05	21.97	22.32	153.69	-286.03	-147.98	525.39	495.43	29.96	17.537		
9,950.00	9,620.04	10,446.82	10,096.13	22.24	23.18	154.29	-471.02	-146.62	527.42	498.29	29.13	18.104		
9,957.06	9,620.00	10,453.87	10,096.18	22.28	23.21	154.29	-478.08	-146.57	527.50	498.32	29.17	18.081		
10,000.00	9,619.52	10,496.81	10,096.45	22.53	23.45	154.32	-521.01	-146.26	528.18	498.75	29.43	17.946		
10,100.00	9,618.39	10,596.79	10,097.08	23.20	24.09	154.41	-620.99	-145.52	529.76	499.65	30.12	17.591		
10,200.00	9,617.26	10,696.78	10,097.71	23.95	24.82	154.49	-720.97	-144.79	531.35	500.45	30.90	17.194		
10,300.00	9,616.14	10,796.76	10,098.34	24.80	25.63	154.57	-820.95	-144.05	532.94	501.15	31.78	16.767		
10,400.00	9,615.01	10,896.75	10,098.97	25.72	26.52	154.65	-920.93	-143.32	534.53	501.77	32.75	16.321		
10,500.00	9,613.89	10,996.73	10,099.60	26.71	27.48	154.73	-1,020.91	-142.58	536.12	502.32	33.80	15.863		
10,600.00	9,612.76	11,096.72	10,100.23	27.76	28.50	154.81	-1,120.89	-141.85	537.71	502.79	34.91	15.401		
10,700.00	9,611.63	11,196.70	10,100.86	28.86	29.58	154.89	-1,220.87	-141.12	539.30	503.21	36.09	14.942		
10,800.00	9,610.51	11,296.69	10,101.49	30.02	30.70	154.97	-1,320.85	-140.38	540.89	503.56	37.33	14.491		
10,900.00	9,609.38	11,396.67	10,102.12	31.21	31.87	155.05	-1,420.83	-139.65	542.48	503.87	38.61	14.050		
11,000.00	9,608.25	11,496.66	10,102.76	32.45	33.08	155.12	-1,520.81	-138.91	544.08	504.14	39.94	13.622		
11,100.00	9,607.13	11,596.64	10,103.39	33.72	34.33	155.20	-1,620.79	-138.18	545.67	504.36	41.31	13.209		
11,200.00	9,606.00	11,696.62	10,104.02	35.02	35.61	155.28	-1,720.77	-137.45	547.27	504.55	42.72	12.811		
11,300.00	9,604.87	11,796.61	10,104.65	36.35	36.91	155.36	-1,820.75	-136.71	548.87	504.71	44.16	12.430		
11,400.00	9,603.75	11,896.59	10,105.28	37.70	38.24	155.43	-1,920.73	-135.98	550.47	504.85	45.62	12.066		
11,500.00	9,602.62	11,996.58	10,105.91	39.08	39.60	155.51	-2,020.71	-135.24	552.07	504.96	47.11	11.718		
11,600.00	9,601.49	12,096.56	10,106.54	40.47	40.98	155.58	-2,120.69	-134.51	553.67	505.04	48.62	11.387		
11,700.00	9,600.37	12,196.55	10,107.17	41.88	42.37	155.66	-2,220.67	-133.77	555.27	505.11	50.16	11.071		
11,800.00	9,599.24	12,296.53	10,107.80	43.31	43.78	155.73	-2,320.65	-133.04	556.87	505.17	51.71	10.770		
11,900.00	9,598.11	12,396.52	10,108.43	44.75	45.21	155.81	-2,420.63	-132.31	558.48	505.20	53.27	10.483		
12,000.00	9,596.99	12,496.50	10,109.06	46.21	46.65	155.88	-2,520.61	-131.57	560.08	505.23	54.85	10.211		
12,100.00	9,595.86	12,596.49	10,109.70	47.68	48.10	155.95	-2,620.59	-130.84	561.69	505.24	56.45	9.951		
12,200.00	9,594.73	12,696.47	10,110.33	49.16	49.57	156.02	-2,720.57	-130.10	563.29	505.24	58.05	9.704		
12,300.00	9,593.61	12,796.45	10,110.96	50.64	51.04	156.10	-2,820.55	-129.37	564.90	505.24	59.66	9.468		
12,400.00	9,592.48	12,896.44	10,111.59	52.14	52.53	156.17	-2,920.53	-128.64	566.51	505.22	61.29	9.244		
12,500.00	9,591.35	12,996.42	10,112.22	53.65	54.02	156.24	-3,020.51	-127.90	568.12	505.20	62.92	9.030		
12,600.00	9,590.23	13,096.41	10,112.85	55.16	55.52	156.31	-3,120.49	-127.17	569.73	505.17	64.55	8.826		
12,700.00	9,589.10	13,196.39	10,113.48	56.68	57.03	156.38	-3,220.47	-126.43	571.34	505.14	66.20	8.631		
12,800.00	9,587.97	13,296.38	10,114.11	58.21	58.55	156.45	-3,320.45	-125.70	572.95	505.10	67.85	8.445		
12,900.00	9,586.85	13,396.36	10,114.74	59.74	60.07	156.52	-3,420.43	-124.96	574.56	505.06	69.50	8.267		
13,000.00	9,585.72	13,496.35	10,115.37	61.28	61.60	156.59	-3,520.41	-124.23	576.17	505.02	71.16	8.097		
13,100.00	9,584.59	13,596.33	10,116.00	62.82	63.13	156.66	-3,620.39	-123.50	577.79	504.97	72.82	7.935		
13,200.00	9,583.47	13,696.32	10,116.64	64.37	64.67	156.73	-3,720.37	-122.76	579.40	504.92	74.48	7.779		
13,300.00	9,582.34	13,796.30	10,117.27	65.92	66.22	156.80	-3,820.35	-122.03	581.02	504.87	76.15	7.630		
13,400.00	9,581.22	13,896.28	10,117.90	67.48	67.77	156.87	-3,920.33	-121.29	582.63	504.81	77.82	7.487		
13,500.00	9,580.09	13,996.27	10,118.53	69.04	69.32	156.93	-4,020.31	-120.56	584.25	504.76	79.49	7.350		
13,600.00	9,578.96	14,096.25	10,119.16	70.60	70.88	157.00	-4,120.29	-119.83	585.87	504.70	81.17	7.218		
13,700.00	9,577.84	14,196.24	10,119.79	72.17	72.44	157.07	-4,220.27	-119.09	587.49	504.64	82.84	7.092		
13,800.00	9,576.71	14,296.22	10,120.42	73.74	74.00	157.13	-4,320.25	-118.36	589.11	504.59	84.52	6.970		
13,900.00	9,575.58	14,396.21	10,121.05	75.31	75.57	157.20	-4,420.23	-117.62	590.73	504.53	86.20	6.853		
14,000.00	9,574.46	14,496.19	10,121.68	76.89	77.14	157.26	-4,520.21	-116.89	592.35	504.47	87.88	6.741		
14,100.00	9,573.33	14,596.18	10,122.31	78.47	78.71	157.33	-4,620.19	-116.16	593.97	504.42	89.56	6.632		
14,200.00	9,572.20	14,696.16	10,122.94	80.05	80.29	157.40	-4,720.17	-115.42	595.59	504.36	91.23	6.528		

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 Thistle Unit 160H
Project:	Lea County, NM (NAD-83)	TVD Reference:	3710.3' GE + 23.5' KB @ 3733.80usft
Reference Site:	Thistle Unit Sec 22-27 Trac Pad	MD Reference:	3710.3' GE + 23.5' KB @ 3733.80usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Thistle Unit 160H	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 #2	Offset TVD Reference:	Offset Datum

Offset Design													Thistle Unit Sec 22-27 Trac Pad - Thistle Unit 125H - OH - Plan #2		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)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning			
14,300.00	9,571.08	14,796.15	10,123.58	81.63	81.86	157.46	-4,820.15	-114.69	597.22	504.30	92.91	6.428				
14,400.00	9,569.95	14,896.13	10,124.21	83.22	83.44	157.52	-4,920.13	-113.95	598.84	504.25	94.59	6.331				
14,500.00	9,568.82	14,996.11	10,124.84	84.80	85.03	157.59	-5,020.11	-113.22	600.47	504.20	96.27	6.237				
14,600.00	9,567.70	15,096.10	10,125.47	86.39	86.61	157.65	-5,120.09	-112.48	602.09	504.14	97.95	6.147				
14,700.00	9,566.57	15,196.08	10,126.10	87.98	88.20	157.71	-5,220.07	-111.75	603.72	504.09	99.63	6.060				
14,800.00	9,565.44	15,296.07	10,126.73	89.58	89.79	157.78	-5,320.05	-111.02	605.35	504.04	101.31	5.975				
14,900.00	9,564.32	15,396.05	10,127.36	91.17	91.38	157.84	-5,420.03	-110.28	606.98	503.99	102.99	5.894				
15,000.00	9,563.19	15,496.04	10,127.99	92.77	92.97	157.90	-5,520.01	-109.55	608.60	503.94	104.66	5.815				
15,100.00	9,562.06	15,596.02	10,128.62	94.36	94.56	157.96	-5,619.99	-108.81	610.23	503.89	106.34	5.739				
15,200.00	9,560.94	15,696.01	10,129.25	95.96	96.16	158.03	-5,719.97	-108.08	611.86	503.85	108.01	5.665				
15,300.00	9,559.81	15,795.99	10,129.88	97.56	97.75	158.09	-5,819.95	-107.35	613.50	503.81	109.69	5.593				
15,400.00	9,558.68	15,895.98	10,130.52	99.17	99.35	158.15	-5,919.93	-106.61	615.13	503.76	111.36	5.524				
15,500.00	9,557.56	15,995.96	10,131.15	100.77	100.95	158.21	-6,019.91	-105.88	616.76	503.72	113.04	5.456				
15,600.00	9,556.43	16,095.94	10,131.78	102.37	102.55	158.27	-6,119.89	-105.14	618.39	503.69	114.71	5.391				
15,700.00	9,555.30	16,195.93	10,132.41	103.98	104.15	158.33	-6,219.87	-104.41	620.03	503.65	116.38	5.328				
15,800.00	9,554.18	16,295.91	10,133.04	105.58	105.75	158.39	-6,319.85	-103.67	621.66	503.61	118.05	5.266				
15,900.00	9,553.05	16,395.90	10,133.67	107.19	107.36	158.45	-6,419.83	-102.94	623.29	503.58	119.71	5.207				
16,000.00	9,551.92	16,495.88	10,134.30	108.80	108.96	158.51	-6,519.81	-102.21	624.93	503.55	121.38	5.149				
16,100.00	9,550.80	16,595.87	10,134.93	110.41	110.57	158.57	-6,619.79	-101.47	626.57	503.52	123.05	5.092				
16,200.00	9,549.67	16,695.85	10,135.56	112.02	112.18	158.62	-6,719.77	-100.74	628.20	503.49	124.71	5.037				
16,300.00	9,548.55	16,795.84	10,136.19	113.63	113.78	158.68	-6,819.75	-100.00	629.84	503.47	126.37	4.984				
16,400.00	9,547.42	16,895.82	10,136.82	115.24	115.39	158.74	-6,919.73	-99.27	631.48	503.45	128.03	4.932				
16,500.00	9,546.29	16,995.81	10,137.46	116.85	117.00	158.80	-7,019.71	-98.54	633.12	503.42	129.69	4.882				
16,600.00	9,545.17	17,095.79	10,138.09	118.46	118.61	158.86	-7,119.69	-97.80	634.76	503.40	131.35	4.832				
16,700.00	9,544.04	17,195.77	10,138.72	120.08	120.22	158.91	-7,219.67	-97.07	636.40	503.39	133.01	4.785				
16,800.00	9,542.91	17,295.76	10,139.35	121.69	121.83	158.97	-7,319.65	-96.33	638.04	503.37	134.67	4.738				
16,900.00	9,541.79	17,395.74	10,139.98	123.31	123.45	159.02	-7,419.63	-95.60	639.68	503.36	136.32	4.692				
17,000.00	9,540.66	17,495.73	10,140.61	124.92	125.06	159.08	-7,519.60	-94.86	641.32	503.35	137.97	4.648				
17,058.50	9,540.00	17,554.22	10,140.98	125.87	126.00	159.11	-7,578.09	-94.43	642.28	503.34	138.94	4.623				

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 Thistle Unit 160H
Project:	Lea County, NM (NAD-83)	TVD Reference:	3710.3' GE + 23.5' KB @ 3733.80usft
Reference Site:	Thistle Unit Sec 22-27 Trac Pad	MD Reference:	3710.3' GE + 23.5' KB @ 3733.80usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Thistle Unit 160H	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 #2	Offset TVD Reference:	Offset Datum

Offset Design Thistle Unit Sec 22-27 Trac Pad - Thistle Unit 133H - OH - Plan #2													Offset Site Error:	0.00 usft
Survey Program: 0-LEAM MWD+HDGM, 10500-MWD+IFR1+MS													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis		Distance							Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
0.00	0.00	1.20	1.20	0.00	0.00	89.67	1.72	299.94	299.94					
100.00	100.00	101.20	101.20	0.09	0.09	89.67	1.72	299.94	299.94	299.77	0.17	1,717.470		
200.00	200.00	201.20	201.20	0.31	0.31	89.67	1.72	299.94	299.94	299.32	0.62	480.546		
300.00	300.00	301.20	301.20	0.54	0.54	89.67	1.72	299.94	299.94	298.87	1.07	279.354		
400.00	400.00	401.20	401.20	0.76	0.76	89.67	1.72	299.94	299.94	298.42	1.52	196.913		
500.00	500.00	501.20	501.20	0.99	0.99	89.67	1.72	299.94	299.94	297.97	1.97	152.042		
600.00	600.00	601.20	601.20	1.21	1.21	89.67	1.72	299.94	299.94	297.52	2.42	123.826		
700.00	700.00	701.20	701.20	1.43	1.44	89.67	1.72	299.94	299.94	297.07	2.87	104.444		
800.00	800.00	801.20	801.20	1.66	1.66	89.67	1.72	299.94	299.94	296.62	3.32	90.308		
900.00	900.00	901.20	901.20	1.88	1.89	89.67	1.72	299.94	299.94	296.17	3.77	79.542		
1,000.00	1,000.00	1,001.20	1,001.20	2.11	2.11	89.67	1.72	299.94	299.94	295.72	4.22	71.070		
1,100.00	1,100.00	1,101.20	1,101.20	2.33	2.34	89.67	1.72	299.94	299.94	295.27	4.67	64.229		
1,200.00	1,200.00	1,201.20	1,201.20	2.56	2.56	89.67	1.72	299.94	299.94	294.83	5.12	58.589		
1,300.00	1,300.00	1,301.20	1,301.20	2.78	2.79	89.67	1.72	299.94	299.94	294.38	5.57	53.859		
1,400.00	1,400.00	1,401.20	1,401.20	3.01	3.01	89.67	1.72	299.94	299.94	293.93	6.02	49.837		
1,500.00	1,500.00	1,501.20	1,501.20	3.23	3.24	89.67	1.72	299.94	299.94	293.48	6.47	46.373		
1,600.00	1,600.00	1,601.20	1,601.20	3.46	3.46	89.67	1.72	299.94	299.94	293.03	6.92	43.360		
1,700.00	1,700.00	1,701.20	1,701.20	3.68	3.68	89.67	1.72	299.94	299.94	292.58	7.37	40.714		
1,800.00	1,800.00	1,801.20	1,801.20	3.91	3.91	89.67	1.72	299.94	299.94	292.13	7.82	38.372		
1,900.00	1,900.00	1,901.20	1,901.20	4.13	4.13	89.67	1.72	299.94	299.94	291.68	8.27	36.286		
2,000.00	2,000.00	2,001.20	2,001.20	4.36	4.36	89.67	1.72	299.94	299.94	291.23	8.72	34.414		
2,100.00	2,100.00	2,101.20	2,101.20	4.58	4.58	89.67	1.72	299.94	299.94	290.78	9.17	32.726		
2,200.00	2,200.00	2,201.20	2,201.20	4.81	4.81	89.67	1.72	299.94	299.94	290.33	9.61	31.196		
2,300.00	2,300.00	2,301.20	2,301.20	5.03	5.03	89.67	1.72	299.94	299.94	289.88	10.06	29.803		
2,400.00	2,400.00	2,401.20	2,401.20	5.26	5.26	89.67	1.72	299.94	299.94	289.43	10.51	28.528		
2,500.00	2,500.00	2,501.20	2,501.20	5.48	5.48	89.67	1.72	299.94	299.94	288.98	10.96	27.359		
2,600.00	2,600.00	2,601.20	2,601.20	5.71	5.71	89.67	1.72	299.94	299.94	288.53	11.41	26.281		
2,700.00	2,700.00	2,701.20	2,701.20	5.93	5.93	89.67	1.72	299.94	299.94	288.08	11.86	25.285		
2,800.00	2,800.00	2,801.20	2,801.20	6.15	6.16	89.67	1.72	299.94	299.94	287.63	12.31	24.362		
2,900.00	2,900.00	2,901.20	2,901.20	6.38	6.38	89.67	1.72	299.94	299.94	287.18	12.76	23.504		
3,000.00	3,000.00	3,001.20	3,001.20	6.60	6.61	89.67	1.72	299.94	299.94	286.73	13.21	22.704		
3,100.00	3,099.99	3,101.19	3,101.19	6.83	6.83	51.85	1.72	299.94	299.41	285.75	13.66	21.923		
3,200.00	3,199.96	3,201.16	3,201.16	7.05	7.06	52.26	1.72	299.94	297.80	283.70	14.10	21.120		
3,300.00	3,299.86	3,301.06	3,301.06	7.27	7.28	52.95	1.72	299.94	295.14	280.60	14.54	20.295		
3,335.31	3,335.12	3,336.32	3,336.32	7.34	7.36	53.27	1.72	299.94	293.97	279.27	14.70	19.999		
3,400.00	3,399.70	3,400.90	3,400.90	7.49	7.51	53.86	1.72	299.94	291.72	276.73	14.99	19.466		
3,500.00	3,499.53	3,500.73	3,500.73	7.71	7.73	54.80	1.72	299.94	288.30	272.87	15.43	18.685		
3,600.00	3,599.36	3,600.56	3,600.56	7.93	7.95	55.76	1.72	299.94	284.97	269.09	15.88	17.951		
3,700.00	3,699.18	3,700.38	3,700.38	8.16	8.18	56.74	1.72	299.94	281.72	265.39	16.32	17.261		
3,800.00	3,799.01	3,800.21	3,800.21	8.38	8.40	57.74	1.72	299.94	278.55	261.78	16.77	16.611		
3,900.00	3,898.84	3,900.04	3,900.04	8.61	8.63	58.77	1.72	299.94	275.47	258.25	17.22	16.000		
4,000.00	3,998.67	3,999.87	3,999.87	8.83	8.85	59.82	1.72	299.94	272.48	254.81	17.67	15.424		
4,100.00	4,098.50	4,095.26	4,095.26	9.06	9.05	60.82	1.72	300.73	270.40	252.31	18.09	14.948		
4,170.09	4,168.47	4,162.15	4,162.13	9.22	9.19	61.50	1.72	302.23	269.97	251.60	18.38	14.691 CC		
4,200.00	4,198.33	4,190.71	4,190.67	9.29	9.24	61.78	1.72	303.11	270.05	251.55	18.50	14.599 ES		
4,300.00	4,298.16	4,286.16	4,286.04	9.52	9.43	62.68	1.72	307.08	271.42	252.52	18.90	14.359		
4,400.00	4,397.99	4,381.57	4,381.29	9.75	9.63	63.50	1.72	312.64	274.50	255.19	19.30	14.220		
4,500.00	4,497.81	4,480.00	4,479.47	9.98	9.83	64.27	1.72	319.63	278.87	259.15	19.72	14.139		
4,600.00	4,597.64	4,579.83	4,579.04	10.21	10.04	65.03	1.72	326.79	283.37	263.22	20.15	14.061		
4,700.00	4,697.47	4,679.66	4,678.61	10.44	10.25	65.76	1.72	333.95	287.93	267.34	20.58	13.987		
4,800.00	4,797.30	4,779.49	4,778.19	10.67	10.46	66.47	1.72	341.11	292.52	271.50	21.02	13.917		
4,900.00	4,897.13	4,879.32	4,877.76	10.90	10.67	67.16	1.72	348.28	297.16	275.71	21.45	13.851		

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 Thistle Unit 160H
Project:	Lea County, NM (NAD-83)	TVD Reference:	3710.3' GE + 23.5' KB @ 3733.80usft
Reference Site:	Thistle Unit Sec 22-27 Trac Pad	MD Reference:	3710.3' GE + 23.5' KB @ 3733.80usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Thistle Unit 160H	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 #2	Offset TVD Reference:	Offset Datum

Offset Design Thistle Unit Sec 22-27 Trac Pad - Thistle Unit 133H - OH - Plan #2													Offset Site Error: 0.00 usft	
Survey Program: 0-LEAM MWD+HDGM, 10500-MWD+HFR1+MS													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	
5,000.00	4,996.96	4,979.15	4,977.33	11.13	10.88	67.82	1.72	355.44	301.85	279.96	21.89	13.789		
5,100.00	5,096.79	5,078.98	5,076.90	11.36	11.10	68.47	1.72	362.60	306.57	284.24	22.33	13.729		
5,168.21	5,164.88	5,147.07	5,144.82	11.52	11.25	68.90	1.72	367.49	309.81	287.18	22.63	13.690		
5,200.00	5,196.62	5,178.81	5,176.48	11.59	11.32	69.09	1.72	369.77	311.36	288.60	22.76	13.679		
5,300.00	5,296.52	5,278.65	5,276.06	11.77	11.54	69.51	1.72	376.93	316.65	293.50	23.15	13.677		
5,400.00	5,396.49	5,378.47	5,375.62	11.95	11.76	69.63	1.72	384.09	322.56	299.02	23.54	13.702		
5,503.52	5,500.00	5,481.76	5,478.65	12.13	11.99	107.41	1.72	391.50	329.32	305.38	23.94	13.756		
5,600.00	5,596.48	5,577.99	5,574.63	12.32	12.20	107.05	1.72	398.41	335.93	311.60	24.33	13.806		
5,700.00	5,696.48	5,677.73	5,674.12	12.54	12.43	106.70	1.72	405.56	342.80	318.04	24.76	13.843		
5,800.00	5,796.48	5,777.48	5,773.60	12.76	12.65	106.36	1.72	412.72	349.68	324.49	25.19	13.879		
5,900.00	5,896.48	5,877.22	5,873.09	12.98	12.88	106.04	1.72	419.88	356.57	330.94	25.63	13.914		
6,000.00	5,996.48	5,976.96	5,972.57	13.20	13.10	105.73	1.72	427.03	363.47	337.41	26.06	13.947		
6,100.00	6,096.48	6,076.70	6,072.06	13.42	13.33	105.43	1.72	434.19	370.39	343.89	26.49	13.980		
6,200.00	6,196.48	6,176.44	6,171.54	13.64	13.56	105.14	1.72	441.35	377.31	350.38	26.93	14.011		
6,300.00	6,296.48	6,276.19	6,271.03	13.87	13.79	104.86	1.72	448.50	384.24	356.88	27.36	14.041		
6,400.00	6,396.48	6,375.93	6,370.51	14.09	14.02	104.59	1.72	455.66	391.18	363.38	27.80	14.071		
6,500.00	6,496.48	6,475.67	6,470.00	14.31	14.25	104.33	1.72	462.82	398.13	369.89	28.24	14.100		
6,600.00	6,596.48	6,575.41	6,569.48	14.53	14.48	104.08	1.72	469.97	405.09	376.41	28.67	14.127		
6,700.00	6,696.48	6,675.16	6,668.97	14.75	14.71	103.83	1.72	477.13	412.05	382.94	29.11	14.154		
6,800.00	6,796.48	6,774.90	6,768.45	14.97	14.95	103.60	1.72	484.29	419.02	389.47	29.55	14.180		
6,900.00	6,896.48	6,874.64	6,867.94	15.20	15.18	103.37	1.72	491.44	426.00	396.01	29.99	14.205		
7,000.00	6,996.48	6,974.38	6,967.42	15.42	15.41	103.15	1.72	498.60	432.99	402.56	30.43	14.230		
7,100.00	7,096.48	7,074.12	7,066.91	15.64	15.65	102.94	1.72	505.75	439.98	409.11	30.87	14.254		
7,200.00	7,196.48	7,173.87	7,166.39	15.86	15.88	102.73	1.72	512.91	446.97	415.67	31.31	14.277		
7,300.00	7,296.48	7,273.61	7,265.88	16.09	16.12	102.53	1.72	520.07	453.98	422.23	31.75	14.300		
7,400.00	7,396.48	7,373.35	7,365.36	16.31	16.36	102.34	1.72	527.22	460.98	428.80	32.19	14.321		
7,500.00	7,496.48	7,473.09	7,464.85	16.53	16.59	102.15	1.72	534.38	468.00	435.37	32.63	14.343		
7,600.00	7,596.48	7,572.84	7,564.33	16.75	16.83	101.97	1.72	541.54	475.01	441.94	33.07	14.364		
7,700.00	7,696.48	7,672.58	7,663.82	16.98	17.07	101.79	1.72	548.69	482.04	448.52	33.51	14.384		
7,800.00	7,796.48	7,772.32	7,763.31	17.20	17.30	101.62	1.72	555.85	489.06	455.11	33.95	14.403		
7,900.00	7,896.48	7,872.06	7,862.79	17.42	17.54	101.46	1.72	563.01	496.09	461.70	34.40	14.422		
8,000.00	7,996.48	7,971.81	7,962.28	17.64	17.78	101.29	1.72	570.16	503.13	468.29	34.84	14.441		
8,100.00	8,096.48	8,071.55	8,061.76	17.87	18.02	101.14	1.72	577.32	510.17	474.88	35.28	14.459		
8,200.00	8,196.48	8,171.29	8,161.25	18.09	18.26	100.98	1.72	584.48	517.21	481.48	35.73	14.477		
8,300.00	8,296.48	8,271.03	8,260.73	18.31	18.50	100.83	1.72	591.63	524.25	488.08	36.17	14.494		
8,400.00	8,396.48	8,370.77	8,360.22	18.54	18.74	100.69	1.72	598.79	531.30	494.69	36.61	14.511		
8,500.00	8,496.48	8,470.52	8,459.70	18.76	18.98	100.55	1.72	605.95	538.36	501.30	37.06	14.527		
8,600.00	8,596.48	8,570.26	8,559.19	18.98	19.22	100.41	1.72	613.10	545.41	507.91	37.50	14.543		
8,700.00	8,696.48	8,670.00	8,658.67	19.21	19.46	100.27	1.72	620.26	552.47	514.52	37.95	14.559		
8,800.00	8,796.48	8,769.74	8,758.16	19.43	19.70	100.14	1.72	627.42	559.53	521.14	38.39	14.574		
8,900.00	8,896.48	8,869.49	8,857.64	19.65	19.94	100.01	1.72	634.57	566.60	527.76	38.84	14.589		
9,000.00	8,996.48	8,979.22	8,967.15	19.88	20.17	99.89	1.72	641.55	572.87	533.57	39.30	14.577		
9,050.60	9,047.08	9,035.29	9,023.16	19.99	20.28	99.85	1.72	644.31	575.32	535.80	39.53	14.555		
9,100.00	9,096.42	9,090.02	9,077.84	20.08	20.38	-79.85	1.72	646.47	576.87	537.14	39.73	14.520		
9,150.00	9,145.98	9,145.03	9,132.82	20.16	20.48	-80.53	1.72	648.12	577.25	537.34	39.91	14.463		
9,200.00	9,194.79	9,199.23	9,187.01	20.24	20.59	-81.76	1.72	649.23	576.59	536.50	40.08	14.385		
9,250.00	9,242.48	9,252.19	9,239.98	20.32	20.68	-83.48	1.72	649.82	575.14	534.90	40.24	14.292		
9,300.00	9,288.68	9,302.10	9,289.88	20.39	20.78	-85.55	1.72	649.94	573.30	532.91	40.39	14.193		
9,350.00	9,333.04	9,346.46	9,334.24	20.47	20.87	-87.74	1.72	649.94	571.79	531.24	40.55	14.100		
9,398.62	9,374.09	9,387.51	9,375.29	20.54	20.95	-90.00	1.72	649.94	571.20	530.49	40.71	14.032		
9,400.00	9,375.22	9,388.64	9,376.42	20.54	20.96	-90.06	1.72	649.94	571.20	530.49	40.71	14.030		
9,450.00	9,414.91	9,428.33	9,416.11	20.61	21.04	-92.40	1.72	649.94	572.05	531.17	40.88	13.993		

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 Thistle Unit 160H
Project:	Lea County, NM (NAD-83)	TVD Reference:	3710.3' GE + 23.5' KB @ 3733.80usft
Reference Site:	Thistle Unit Sec 22-27 Trac Pad	MD Reference:	3710.3' GE + 23.5' KB @ 3733.80usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Thistle Unit 160H	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 #2	Offset TVD Reference:	Offset Datum

Offset Design Thistle Unit Sec 22-27 Trac Pad - Thistle Unit 133H - OH - Plan #2													Offset Site Error:	0.00 usft
Survey Program: 0-LEAM MWD+HDGM, 10500-MWD+IFR1+MS													Offset Well Error:	0.00 usft
Reference	Offset	Semi Major Axis		Distance		Minimum Separation		Separation Factor		Warning				
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
9,500.00	9,451.80	9,465.22	9,453.00	20.67	21.12	-94.60	1.72	649.94	574.88	533.82	41.06	14.001		
9,550.00	9,485.60	9,499.02	9,486.80	20.75	21.19	-96.54	1.72	649.94	580.19	538.93	41.26	14.063		
9,600.00	9,516.07	9,529.49	9,517.27	20.85	21.25	-98.09	1.72	649.94	588.43	546.96	41.47	14.191		
9,650.00	9,542.98	9,556.39	9,544.18	20.97	21.31	-99.14	1.72	649.94	599.94	558.25	41.69	14.390		
9,700.00	9,566.10	9,579.52	9,567.30	21.12	21.36	-99.59	1.72	649.94	614.94	573.02	41.93	14.667		
9,750.00	9,585.28	9,607.29	9,595.07	21.30	21.41	-100.12	1.44	649.94	633.43	591.26	42.17	15.022		
9,800.00	9,600.36	9,644.91	9,632.61	21.50	21.48	-101.18	-0.98	649.96	654.93	612.54	42.39	15.451		
9,850.00	9,611.23	9,688.28	9,675.57	21.72	21.56	-102.38	-6.81	650.00	679.12	636.57	42.55	15.962		
9,900.00	9,617.81	9,742.51	9,728.48	21.97	21.66	-104.18	-18.64	650.09	705.63	663.05	42.57	16.574		
9,950.00	9,620.04	9,821.19	9,802.69	22.24	21.81	-107.66	-44.56	650.28	733.91	691.61	42.30	17.351		
9,957.06	9,620.00	9,836.07	9,816.30	22.28	21.84	-108.43	-50.60	650.32	737.98	695.77	42.21	17.483		
10,000.00	9,619.52	9,983.55	9,940.95	22.53	22.15	-118.94	-128.64	650.89	761.92	721.01	40.91	18.623		
10,100.00	9,618.39	10,543.05	10,149.40	23.20	25.61	-132.85	-624.96	654.53	779.10	741.48	37.62	20.710		
10,200.00	9,617.26	10,643.05	10,148.12	23.95	28.70	-132.84	-724.95	655.26	778.98	740.63	38.35	20.313		
10,300.00	9,616.14	10,743.05	10,146.83	24.80	28.79	-132.83	-824.94	655.99	778.87	739.82	39.05	19.945		
10,400.00	9,615.01	10,843.05	10,145.55	25.72	28.87	-132.83	-924.93	656.72	778.76	738.92	39.84	19.546		
10,500.00	9,613.89	10,943.05	10,144.26	26.71	28.96	-132.82	-1,024.92	657.46	778.65	737.93	40.72	19.121		
10,600.00	9,612.76	11,043.05	10,142.97	27.76	29.05	-132.81	-1,124.90	658.19	778.54	736.86	41.68	18.678		
10,700.00	9,611.63	11,143.05	10,141.69	28.86	29.14	-132.80	-1,224.89	658.92	778.43	735.71	42.72	18.223		
10,800.00	9,610.51	11,243.05	10,140.40	30.02	29.24	-132.79	-1,324.88	659.65	778.32	734.50	43.82	17.762		
10,900.00	9,609.38	11,343.05	10,139.12	31.21	29.33	-132.78	-1,424.87	660.38	778.20	733.22	44.98	17.300		
11,000.00	9,608.25	11,443.05	10,137.83	32.45	29.43	-132.78	-1,524.86	661.12	778.09	731.89	46.21	16.839		
11,100.00	9,607.13	11,543.05	10,136.55	33.72	29.53	-132.77	-1,624.85	661.85	777.98	730.50	47.49	16.383		
11,200.00	9,606.00	11,643.05	10,135.26	35.02	29.64	-132.76	-1,724.84	662.58	777.87	729.06	48.81	15.935		
11,300.00	9,604.87	11,743.05	10,133.97	36.35	29.74	-132.75	-1,824.83	663.31	777.76	727.57	50.19	15.496		
11,400.00	9,603.75	11,843.05	10,132.69	37.70	29.85	-132.74	-1,924.82	664.04	777.65	726.04	51.61	15.069		
11,500.00	9,602.62	11,943.05	10,131.40	39.08	29.96	-132.73	-2,024.81	664.78	777.54	724.47	53.07	14.653		
11,600.00	9,601.49	12,043.05	10,130.12	40.47	30.07	-132.72	-2,124.79	665.51	777.43	722.87	54.56	14.249		
11,700.00	9,600.37	12,143.05	10,128.83	41.88	30.19	-132.72	-2,224.78	666.24	777.32	721.23	56.09	13.859		
11,800.00	9,599.24	12,243.05	10,127.54	43.31	30.31	-132.71	-2,324.77	666.97	777.20	719.55	57.65	13.482		
11,900.00	9,598.11	12,343.05	10,126.26	44.75	30.44	-132.70	-2,424.76	667.70	777.09	717.85	59.24	13.118		
12,000.00	9,596.99	12,443.05	10,124.97	46.21	30.57	-132.69	-2,524.75	668.44	776.98	716.12	60.86	12.767		
12,100.00	9,595.86	12,543.05	10,123.69	47.68	30.72	-132.68	-2,624.74	669.17	776.87	714.37	62.50	12.430		
12,200.00	9,594.73	12,643.05	10,122.40	49.16	30.87	-132.67	-2,724.73	669.90	776.76	712.59	64.17	12.105		
12,300.00	9,593.61	12,743.05	10,121.12	50.64	31.05	-132.67	-2,824.72	670.63	776.65	710.79	65.86	11.793		
12,400.00	9,592.48	12,843.05	10,119.83	52.14	31.24	-132.66	-2,924.71	671.36	776.54	708.97	67.57	11.493		
12,500.00	9,591.35	12,943.05	10,118.54	53.65	31.46	-132.65	-3,024.69	672.09	776.43	707.13	69.30	11.204		
12,600.00	9,590.23	13,043.05	10,117.26	55.16	31.72	-132.64	-3,124.68	672.83	776.32	705.27	71.05	10.927		
12,700.00	9,589.10	13,143.05	10,115.97	56.68	32.02	-132.63	-3,224.67	673.56	776.20	703.39	72.81	10.661		
12,800.00	9,587.97	13,243.05	10,114.69	58.21	32.36	-132.62	-3,324.66	674.29	776.09	701.50	74.59	10.405		
12,900.00	9,586.85	13,343.05	10,113.40	59.74	32.74	-132.62	-3,424.65	675.02	775.98	699.60	76.39	10.159		
13,000.00	9,585.72	13,443.05	10,112.11	61.28	33.16	-132.61	-3,524.64	675.75	775.87	697.68	78.19	9.922		
13,100.00	9,584.59	13,543.05	10,110.83	62.82	33.62	-132.60	-3,624.63	676.49	775.76	695.74	80.02	9.695		
13,200.00	9,583.47	13,643.05	10,109.54	64.37	34.10	-132.59	-3,724.62	677.22	775.65	693.80	81.85	9.476		
13,300.00	9,582.34	13,743.05	10,108.26	65.92	34.59	-132.58	-3,824.61	677.95	775.54	691.84	83.70	9.266		
13,400.00	9,581.22	13,843.05	10,106.97	67.48	35.11	-132.57	-3,924.59	678.68	775.43	689.88	85.55	9.064		
13,500.00	9,580.09	13,943.05	10,105.68	69.04	35.64	-132.56	-4,024.58	679.41	775.32	687.90	87.42	8.869		
13,600.00	9,578.96	14,043.05	10,104.40	70.60	36.18	-132.56	-4,124.57	680.15	775.21	685.91	89.29	8.681		
13,700.00	9,577.84	14,143.05	10,103.11	72.17	36.74	-132.55	-4,224.56	680.88	775.10	683.92	91.18	8.501		
13,800.00	9,576.71	14,243.05	10,101.83	73.74	37.30	-132.54	-4,324.55	681.61	774.99	681.91	93.07	8.327		
13,900.00	9,575.58	14,343.05	10,100.54	75.31	37.88	-132.53	-4,424.54	682.34	774.87	679.90	94.97	8.159		
14,000.00	9,574.46	14,443.05	10,099.26	76.89	38.46	-132.52	-4,524.53	683.07	774.76	677.88	96.88	7.997		

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 Thistle Unit 160H
Project:	Lea County, NM (NAD-83)	TVD Reference:	3710.3' GE + 23.5' KB @ 3733.80usft
Reference Site:	Thistle Unit Sec 22-27 Trac Pad	MD Reference:	3710.3' GE + 23.5' KB @ 3733.80usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Thistle Unit 160H	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 #2	Offset TVD Reference:	Offset Datum

Offset Design Thistle Unit Sec 22-27 Trac Pad - Thistle Unit 133H - OH - Plan #2													Offset Site Error:	0.00 usft
Survey Program: 0-LEAM MWD+HDGM, 10500-MWD+IFR1+MS													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)		+N/-S (usft)	+E/-W (usft)						
14,100.00	9,573.33	14,543.05	10,097.97	78.47	39.05	-132.51	-4,624.52	683.81	774.65	675.85	98.80	7.841		
14,200.00	9,572.20	14,643.05	10,096.68	80.05	39.64	-132.51	-4,724.51	684.54	774.54	673.82	100.72	7.690		
14,300.00	9,571.08	14,743.05	10,095.40	81.63	40.25	-132.50	-4,824.50	685.27	774.43	671.78	102.65	7.544		
14,400.00	9,569.95	14,843.05	10,094.11	83.22	40.85	-132.49	-4,924.48	686.00	774.32	669.73	104.59	7.404		
14,500.00	9,568.82	14,943.05	10,092.83	84.80	41.47	-132.48	-5,024.47	686.73	774.21	667.68	106.53	7.268		
14,600.00	9,567.70	15,043.05	10,091.54	86.39	42.09	-132.47	-5,124.46	687.47	774.10	665.62	108.48	7.136		
14,700.00	9,566.57	15,143.05	10,090.25	87.98	42.71	-132.46	-5,224.45	688.20	773.99	663.56	110.43	7.009		
14,800.00	9,565.44	15,243.05	10,088.97	89.58	43.34	-132.45	-5,324.44	688.93	773.88	661.49	112.38	6.886		
14,900.00	9,564.32	15,343.05	10,087.68	91.17	43.98	-132.45	-5,424.43	689.66	773.77	659.42	114.35	6.767		
15,000.00	9,563.19	15,443.05	10,086.40	92.77	44.62	-132.44	-5,524.42	690.39	773.66	657.35	116.31	6.652		
15,100.00	9,562.06	15,543.05	10,085.11	94.36	45.26	-132.43	-5,624.41	691.13	773.55	655.26	118.28	6.540		
15,200.00	9,560.94	15,643.05	10,083.83	95.96	45.91	-132.42	-5,724.40	691.86	773.44	653.18	120.26	6.432		
15,300.00	9,559.81	15,743.05	10,082.54	97.56	46.56	-132.41	-5,824.38	692.59	773.33	651.09	122.24	6.327		
15,400.00	9,558.68	15,843.05	10,081.25	99.17	47.21	-132.40	-5,924.37	693.32	773.22	649.00	124.22	6.225		
15,500.00	9,557.56	15,943.05	10,079.97	100.77	47.87	-132.39	-6,024.36	694.05	773.11	646.90	126.20	6.126		
15,600.00	9,556.43	16,043.05	10,078.68	102.37	48.53	-132.39	-6,124.35	694.79	772.99	644.80	128.19	6.030		
15,700.00	9,555.30	16,143.05	10,077.40	103.98	49.20	-132.38	-6,224.34	695.52	772.88	642.70	130.19	5.937		
15,800.00	9,554.18	16,243.05	10,076.11	105.58	49.86	-132.37	-6,324.33	696.25	772.77	640.59	132.18	5.846		
15,900.00	9,553.05	16,343.04	10,074.82	107.19	50.53	-132.36	-6,424.32	696.98	772.66	638.48	134.18	5.758		
16,000.00	9,551.92	16,443.04	10,073.54	108.80	51.21	-132.35	-6,524.31	697.71	772.55	636.37	136.18	5.673		
16,100.00	9,550.80	16,543.04	10,072.25	110.41	51.88	-132.34	-6,624.30	698.45	772.44	634.26	138.19	5.590		
16,200.00	9,549.67	16,643.04	10,070.97	112.02	52.56	-132.33	-6,724.28	699.18	772.33	632.14	140.19	5.509		
16,300.00	9,548.55	16,743.04	10,069.68	113.63	53.24	-132.33	-6,824.27	699.91	772.22	630.02	142.20	5.430		
16,400.00	9,547.42	16,843.04	10,068.39	115.24	53.92	-132.32	-6,924.26	700.64	772.11	627.90	144.22	5.354		
16,500.00	9,546.29	16,943.04	10,067.11	116.85	54.61	-132.31	-7,024.25	701.37	772.00	625.77	146.23	5.279		
16,600.00	9,545.17	17,043.04	10,065.82	118.46	55.29	-132.30	-7,124.24	702.11	771.89	623.64	148.25	5.207		
16,700.00	9,544.04	17,143.04	10,064.54	120.08	55.98	-132.29	-7,224.23	702.84	771.78	621.51	150.27	5.136		
16,800.00	9,542.91	17,243.04	10,063.25	121.69	56.67	-132.28	-7,324.22	703.57	771.67	619.38	152.29	5.067		
16,900.00	9,541.79	17,343.04	10,061.97	123.31	57.37	-132.28	-7,424.21	704.30	771.56	617.25	154.31	5.000		
17,000.00	9,540.66	17,443.04	10,060.68	124.92	58.06	-132.27	-7,524.20	705.03	771.45	615.11	156.34	4.935		
17,053.40	9,540.06	17,495.86	10,060.00	125.78	58.43	-132.26	-7,577.01	705.42	771.39	613.97	157.42	4.900		
17,058.50	9,540.00	17,495.86	10,060.00	125.87	58.43	-132.26	-7,577.01	705.42	771.41	613.90	157.50	4.898 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	Local Co-ordinate Reference:	Well Thistle Unit 160H
Project:	Lea County, NM (NAD-83)	TVD Reference:	3710.3' GE + 23.5' KB @ 3733.80usft
Reference Site:	Thistle Unit Sec 22-27 Trac Pad	MD Reference:	3710.3' GE + 23.5' KB @ 3733.80usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Thistle Unit 160H	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 #2	Offset TVD Reference:	Offset Datum

Offset Design Thistle Unit Sec 22-27 Trac Pad - Thistle Unit 142H - OH - Plan #2													Offset Site Error:	0.00 usft
Survey Program: 0-LEAM MWD+HDGM, 9973-MWD+IFR1+MS													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)						
0.00	0.00	0.00	0.00	0.00	0.00	-90.31	-0.65	-119.95	119.95					
100.00	100.00	99.70	99.70	0.09	0.09	-90.31	-0.65	-119.95	119.95	119.78	0.17	698.660		
200.00	200.00	199.70	199.70	0.31	0.31	-90.31	-0.65	-119.95	119.95	119.33	0.62	193.220		
300.00	300.00	299.70	299.70	0.54	0.53	-90.31	-0.65	-119.95	119.95	118.88	1.07	112.069		
400.00	400.00	399.70	399.70	0.76	0.76	-90.31	-0.65	-119.95	119.95	118.43	1.52	78.922		
500.00	500.00	499.70	499.70	0.99	0.98	-90.31	-0.65	-119.95	119.95	117.98	1.97	60.908		
600.00	600.00	599.70	599.70	1.21	1.21	-90.31	-0.65	-119.95	119.95	117.53	2.42	49.589		
700.00	700.00	699.70	699.70	1.43	1.43	-90.31	-0.65	-119.95	119.95	117.08	2.87	41.817		
800.00	800.00	799.70	799.70	1.66	1.66	-90.31	-0.65	-119.95	119.95	116.63	3.32	36.152		
900.00	900.00	899.70	899.70	1.88	1.88	-90.31	-0.65	-119.95	119.95	116.18	3.77	31.838		
1,000.00	1,000.00	999.70	999.70	2.11	2.11	-90.31	-0.65	-119.95	119.95	115.73	4.22	28.444		
1,100.00	1,100.00	1,099.70	1,099.70	2.33	2.33	-90.31	-0.65	-119.95	119.95	115.29	4.67	25.704		
1,200.00	1,200.00	1,199.70	1,199.70	2.56	2.56	-90.31	-0.65	-119.95	119.95	114.84	5.12	23.446		
1,300.00	1,300.00	1,299.70	1,299.70	2.78	2.78	-90.31	-0.65	-119.95	119.95	114.39	5.57	21.552		
1,400.00	1,400.00	1,399.70	1,399.70	3.01	3.01	-90.31	-0.65	-119.95	119.95	113.94	6.02	19.941		
1,500.00	1,500.00	1,499.70	1,499.70	3.23	3.23	-90.31	-0.65	-119.95	119.95	113.49	6.46	18.555		
1,600.00	1,600.00	1,599.70	1,599.70	3.46	3.46	-90.31	-0.65	-119.95	119.95	113.04	6.91	17.348		
1,700.00	1,700.00	1,699.70	1,699.70	3.68	3.68	-90.31	-0.65	-119.95	119.95	112.59	7.36	16.289		
1,800.00	1,800.00	1,799.70	1,799.70	3.91	3.91	-90.31	-0.65	-119.95	119.95	112.14	7.81	15.352		
1,900.00	1,900.00	1,899.70	1,899.70	4.13	4.13	-90.31	-0.65	-119.95	119.95	111.69	8.26	14.517		
2,000.00	2,000.00	1,999.70	1,999.70	4.36	4.36	-90.31	-0.65	-119.95	119.95	111.24	8.71	13.768		
2,100.00	2,100.00	2,099.70	2,099.70	4.58	4.58	-90.31	-0.65	-119.95	119.95	110.79	9.16	13.092		
2,200.00	2,200.00	2,199.70	2,199.70	4.81	4.81	-90.31	-0.65	-119.95	119.95	110.34	9.61	12.480		
2,300.00	2,300.00	2,299.70	2,299.70	5.03	5.03	-90.31	-0.65	-119.95	119.95	109.89	10.06	11.922		
2,400.00	2,400.00	2,399.70	2,399.70	5.26	5.25	-90.31	-0.65	-119.95	119.95	109.44	10.51	11.413		
2,500.00	2,500.00	2,499.70	2,499.70	5.48	5.48	-90.31	-0.65	-119.95	119.95	108.99	10.96	10.944 CC, ES		
2,600.00	2,600.00	2,597.65	2,597.64	5.71	5.69	-90.31	-0.65	-120.78	120.80	109.41	11.39	10.606		
2,700.00	2,700.00	2,695.53	2,695.49	5.93	5.88	-90.30	-0.65	-123.29	123.36	111.56	11.80	10.451		
2,800.00	2,800.00	2,793.30	2,793.17	6.15	6.08	-90.29	-0.65	-127.46	127.62	115.41	12.21	10.448		
2,900.00	2,900.00	2,890.90	2,890.59	6.38	6.28	-90.28	-0.65	-133.28	133.59	120.97	12.62	10.582		
3,000.00	3,000.00	2,990.01	2,989.44	6.60	6.49	-90.27	-0.65	-140.44	140.81	127.77	13.05	10.794		
3,100.00	3,099.99	3,089.70	3,088.87	6.83	6.70	-128.41	-0.65	-147.70	148.63	135.16	13.47	11.034		
3,200.00	3,199.96	3,189.28	3,188.19	7.05	6.91	-129.06	-0.65	-154.95	157.55	143.66	13.89	11.340		
3,300.00	3,299.86	3,268.72	3,267.37	7.27	7.13	-130.09	-0.65	-162.19	167.61	153.29	14.32	11.706		
3,335.31	3,335.12	3,323.80	3,322.35	7.34	7.21	-130.53	-0.65	-164.75	171.44	156.97	14.47	11.849		
3,400.00	3,399.70	3,388.03	3,386.41	7.49	7.35	-131.38	-0.65	-169.43	178.62	163.88	14.74	12.115		
3,500.00	3,499.53	3,487.34	3,485.45	7.71	7.57	-132.57	-0.65	-176.66	189.79	174.62	15.17	12.510		
3,600.00	3,599.36	3,586.64	3,584.49	7.93	7.79	-133.62	-0.65	-183.89	201.03	185.43	15.60	12.887		
3,700.00	3,699.18	3,685.94	3,683.53	8.16	8.02	-134.57	-0.65	-191.12	212.34	196.30	16.03	13.245		
3,800.00	3,799.01	3,785.24	3,782.57	8.38	8.24	-135.41	-0.65	-198.36	223.69	207.23	16.46	13.587		
3,900.00	3,898.84	3,884.54	3,881.60	8.61	8.47	-136.18	-0.65	-205.59	235.09	218.19	16.90	13.912		
4,000.00	3,998.67	3,983.84	3,980.64	8.83	8.70	-136.88	-0.65	-212.82	246.52	229.19	17.33	14.222		
4,100.00	4,098.50	4,083.15	4,079.68	9.06	8.93	-137.51	-0.65	-220.05	257.99	240.22	17.77	14.518		
4,200.00	4,198.33	4,182.45	4,178.72	9.29	9.16	-138.09	-0.65	-227.29	269.49	251.28	18.21	14.800		
4,300.00	4,298.16	4,281.75	4,277.76	9.52	9.40	-138.62	-0.65	-234.52	281.01	262.36	18.65	15.069		
4,400.00	4,397.99	4,381.05	4,376.79	9.75	9.63	-139.11	-0.65	-241.75	292.55	273.46	19.09	15.326		
4,500.00	4,497.81	4,480.35	4,475.83	9.98	9.86	-139.56	-0.65	-248.98	304.11	284.58	19.53	15.572		
4,600.00	4,497.64	4,479.65	4,474.87	10.21	10.10	-139.98	-0.65	-256.22	315.69	295.72	19.97	15.807		
4,700.00	4,497.47	4,478.96	4,473.91	10.44	10.33	-140.37	-0.65	-263.45	327.29	306.87	20.42	16.032		
4,800.00	4,497.30	4,478.26	4,472.95	10.67	10.57	-140.74	-0.65	-270.68	338.90	318.04	20.86	16.247		
4,900.00	4,497.13	4,477.56	4,471.98	10.90	10.81	-141.08	-0.65	-277.91	350.52	329.22	21.30	16.453		
5,000.00	4,996.96	4,976.86	4,971.02	11.13	11.05	-141.39	-0.65	-285.15	362.15	340.40	21.75	16.651		

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	Local Co-ordinate Reference:	Well Thistle Unit 160H
Project:	Lea County, NM (NAD-83)	TVD Reference:	3710.3' GE + 23.5' KB @ 3733.80usft
Reference Site:	Thistle Unit Sec 22-27 Trac Pad	MD Reference:	3710.3' GE + 23.5' KB @ 3733.80usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Thistle Unit 160H	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 #2	Offset TVD Reference:	Offset Datum

Offset Design Thistle Unit Sec 22-27 Trac Pad - Thistle Unit 142H - OH - Plan #2													Offset Site Error:	0.00 usft
Survey Program: O-LEAM MWD+HDGM, 9973-MWD+IFR1+MS													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)						
5,100.00	5,096.79	5,076.16	5,070.06	11.36	11.29	-141.69	-0.65	-292.38	373.80	351.60	22.20	16.841		
5,168.21	5,164.88	5,143.90	5,137.61	11.52	11.45	-141.88	-0.65	-297.31	381.74	359.24	22.50	16.966		
5,200.00	5,196.62	5,175.47	5,169.11	11.59	11.53	-141.98	-0.65	-299.61	385.38	362.75	22.63	17.026		
5,300.00	5,296.52	5,274.91	5,268.28	11.77	11.77	-142.19	-0.65	-306.85	395.92	372.89	23.03	17.190		
5,400.00	5,396.49	5,374.49	5,367.59	11.95	12.01	-142.22	-0.65	-314.11	405.09	381.66	23.43	17.289		
5,503.52	5,500.00	5,477.69	5,470.52	12.13	12.26	-104.14	-0.65	-321.62	413.14	389.29	23.84	17.328		
5,600.00	5,596.48	5,573.91	5,566.48	12.32	12.49	-103.90	-0.65	-328.63	419.95	395.71	24.25	17.320		
5,700.00	5,696.48	5,673.64	5,665.95	12.54	12.73	-103.67	-0.65	-335.90	427.03	402.34	24.69	17.294		
5,800.00	5,796.48	5,773.38	5,765.42	12.76	12.98	-103.44	-0.65	-343.16	434.11	408.97	25.14	17.270		
5,900.00	5,896.48	5,873.11	5,864.89	12.98	13.22	-103.22	-0.65	-350.42	441.20	415.62	25.58	17.246		
6,000.00	5,996.48	5,972.85	5,964.36	13.20	13.47	-103.01	-0.65	-357.69	448.29	422.27	26.03	17.224		
6,100.00	6,096.48	6,072.58	6,063.83	13.42	13.71	-102.80	-0.65	-364.95	455.39	428.92	26.47	17.202		
6,200.00	6,196.48	6,172.31	6,163.30	13.64	13.95	-102.60	-0.65	-372.22	462.50	435.58	26.92	17.181		
6,300.00	6,296.48	6,272.05	6,262.77	13.87	14.20	-102.41	-0.65	-379.48	469.61	442.25	27.37	17.161		
6,400.00	6,396.48	6,371.78	6,362.24	14.09	14.44	-102.22	-0.65	-386.74	476.73	448.92	27.81	17.141		
6,500.00	6,496.48	6,471.52	6,461.71	14.31	14.69	-102.04	-0.65	-394.01	483.85	455.59	28.26	17.122		
6,600.00	6,596.48	6,571.25	6,561.18	14.53	14.94	-101.86	-0.65	-401.27	490.98	462.27	28.71	17.104		
6,700.00	6,696.48	6,670.99	6,660.65	14.75	15.18	-101.69	-0.65	-408.54	498.11	468.95	29.15	17.086		
6,800.00	6,796.48	6,770.72	6,760.12	14.97	15.43	-101.52	-0.65	-415.80	505.24	475.64	29.60	17.069		
6,900.00	6,896.48	6,870.46	6,859.59	15.20	15.68	-101.36	-0.65	-423.07	512.38	482.33	30.05	17.052		
7,000.00	6,996.48	6,970.19	6,959.06	15.42	15.92	-101.20	-0.65	-430.33	519.53	489.03	30.50	17.036		
7,100.00	7,096.48	7,069.92	7,058.53	15.64	16.17	-101.05	-0.65	-437.59	526.67	495.73	30.94	17.020		
7,200.00	7,196.48	7,169.66	7,158.00	15.86	16.42	-100.90	-0.65	-444.86	533.82	502.43	31.39	17.005		
7,300.00	7,296.48	7,269.39	7,257.47	16.09	16.66	-100.75	-0.65	-452.12	540.98	509.14	31.84	16.990		
7,400.00	7,396.48	7,369.13	7,356.94	16.31	16.91	-100.61	-0.65	-459.39	548.14	515.85	32.29	16.976		
7,500.00	7,496.48	7,468.86	7,456.40	16.53	17.16	-100.47	-0.65	-466.65	555.30	522.56	32.74	16.962		
7,600.00	7,596.48	7,568.60	7,555.87	16.75	17.41	-100.34	-0.65	-473.91	562.46	529.28	33.19	16.948		
7,700.00	7,696.48	7,668.33	7,655.34	16.98	17.65	-100.20	-0.65	-481.18	569.63	535.99	33.64	16.935		
7,800.00	7,796.48	7,768.07	7,754.81	17.20	17.90	-100.08	-0.65	-488.44	576.80	542.72	34.09	16.922		
7,900.00	7,896.48	7,867.80	7,854.28	17.42	18.15	-99.95	-0.65	-495.71	583.97	549.44	34.53	16.910		
8,000.00	7,996.48	7,967.53	7,953.75	17.64	18.40	-99.83	-0.65	-502.97	591.15	556.17	34.98	16.898		
8,100.00	8,096.48	8,067.27	8,053.22	17.87	18.65	-99.71	-0.65	-510.23	598.33	562.89	35.43	16.886		
8,200.00	8,196.48	8,167.00	8,152.69	18.09	18.90	-99.59	-0.65	-517.50	605.51	569.63	35.88	16.874		
8,300.00	8,296.48	8,266.74	8,252.16	18.31	19.15	-99.48	-0.65	-524.76	612.69	576.36	36.33	16.863		
8,400.00	8,396.48	8,366.47	8,351.63	18.54	19.39	-99.37	-0.65	-532.03	619.88	583.09	36.78	16.852		
8,500.00	8,496.48	8,468.80	8,453.69	18.76	19.64	-99.26	-0.65	-539.43	627.02	589.78	37.24	16.837		
8,600.00	8,596.48	8,568.78	8,555.47	18.98	19.86	-99.16	-0.65	-546.03	632.84	595.13	37.70	16.786		
8,700.00	8,696.48	8,669.98	8,677.58	19.21	20.07	-99.10	-0.65	-550.44	636.72	598.58	38.14	16.693		
8,800.00	8,796.48	8,805.30	8,789.88	19.43	20.27	-99.07	-0.65	-552.66	638.68	600.10	38.57	16.557		
8,900.00	8,896.48	8,911.60	8,896.18	19.65	20.47	-99.06	-0.65	-552.95	638.93	599.93	39.00	16.383		
9,000.00	8,996.48	9,011.60	8,996.18	19.88	20.67	-99.06	-0.65	-552.95	638.93	599.50	39.43	16.204		
9,050.60	9,047.08	9,062.20	9,046.78	19.99	20.77	-99.06	-0.65	-552.95	638.93	599.28	39.65	16.114		
9,100.00	9,096.42	9,104.56	9,089.10	20.08	20.85	81.39	-2.19	-552.94	638.88	599.05	39.83	16.040		
9,150.00	9,145.98	9,150.00	9,134.24	20.16	20.93	81.48	-7.32	-552.90	638.74	598.75	39.99	15.972		
9,200.00	9,194.79	9,190.35	9,173.87	20.24	21.01	81.62	-14.86	-552.85	638.51	598.38	40.13	15.911		
9,250.00	9,242.48	9,233.38	9,215.44	20.32	21.09	81.81	-25.95	-552.76	638.19	597.93	40.27	15.850		
9,300.00	9,288.68	9,276.55	9,256.19	20.39	21.17	82.07	-40.17	-552.66	637.80	597.40	40.40	15.788		
9,350.00	9,333.04	9,319.89	9,295.90	20.47	21.25	82.37	-57.50	-552.53	637.34	596.81	40.53	15.724		
9,400.00	9,375.22	9,363.43	9,334.37	20.54	21.34	82.73	-77.88	-552.38	636.83	596.16	40.67	15.657		
9,450.00	9,414.91	9,407.22	9,371.37	20.61	21.43	83.14	-101.26	-552.21	636.28	595.45	40.83	15.583		
9,500.00	9,451.80	9,450.00	9,405.71	20.67	21.52	83.58	-126.77	-552.02	635.70	594.69	41.00	15.503		
9,550.00	9,485.60	9,495.66	9,440.14	20.75	21.62	84.09	-156.74	-551.80	635.10	593.88	41.22	15.409		

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 Thistle Unit 160H
Project:	Lea County, NM (NAD-83)	TVD Reference:	3710.3' GE + 23.5' KB @ 3733.80usft
Reference Site:	Thistle Unit Sec 22-27 Trac Pad	MD Reference:	3710.3' GE + 23.5' KB @ 3733.80usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Thistle Unit 160H	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 #2	Offset TVD Reference:	Offset Datum

Offset Design Thistle Unit Sec 22-27 Trac Pad - Thistle Unit 142H - OH - Plan #2													Offset Site Error:	0.00 usft
Survey Program: 0-LEAM MWD+HDGM, 9973-MWD+IFR1+MS													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis		Distance		Minimum Separation		Warning				
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
9,600.00	9,516.07	9,540.39	9,471.45	20.85	21.73	84.63	-188.66	-551.57	634.51	593.05	41.46	15.306		
9,650.00	9,542.98	9,585.51	9,500.42	20.97	21.85	85.21	-223.24	-551.32	633.93	592.20	41.74	15.189		
9,700.00	9,566.10	9,631.07	9,526.82	21.12	21.98	85.83	-260.35	-551.04	633.39	591.33	42.06	15.059		
9,750.00	9,585.28	9,677.09	9,550.41	21.30	22.13	86.47	-299.86	-550.75	632.91	590.48	42.43	14.917		
9,800.00	9,600.36	9,723.63	9,570.96	21.50	22.31	87.15	-341.60	-550.45	632.48	589.64	42.84	14.763		
9,850.00	9,611.23	9,770.72	9,588.23	21.72	22.51	87.85	-385.39	-550.13	632.14	588.83	43.31	14.597		
9,900.00	9,617.81	9,818.41	9,602.01	21.97	22.73	88.57	-431.03	-549.79	631.89	588.08	43.81	14.423		
9,950.00	9,620.04	9,866.72	9,612.04	22.24	22.98	89.30	-478.27	-549.45	631.73	587.38	44.36	14.243		
9,957.06	9,620.00	9,873.60	9,613.15	22.28	23.02	89.41	-485.06	-549.40	631.72	587.28	44.44	14.217		
10,000.00	9,619.52	9,915.91	9,618.14	22.53	23.26	89.90	-527.06	-549.09	631.69	586.74	44.94	14.055		
10,010.61	9,619.40	9,926.47	9,618.90	22.60	23.33	89.98	-537.60	-549.01	631.69	586.61	45.08	14.013		
10,100.00	9,618.39	10,015.88	9,619.52	23.20	27.09	90.13	-626.98	-548.35	631.69	585.64	46.05	13.717		
10,200.00	9,617.26	10,115.88	9,618.52	23.95	27.17	90.14	-726.97	-547.62	631.69	584.86	46.83	13.488		
10,300.00	9,616.14	10,215.88	9,617.52	24.80	27.24	90.15	-826.96	-546.89	631.70	583.97	47.73	13.236		
10,400.00	9,615.01	10,315.88	9,616.53	25.72	27.32	90.16	-926.95	-546.15	631.70	582.98	48.72	12.965		
10,500.00	9,613.89	10,415.88	9,615.53	26.71	27.41	90.18	-1,026.95	-545.42	631.70	581.89	49.81	12.682		
10,600.00	9,612.76	10,515.88	9,614.53	27.76	27.49	90.19	-1,126.94	-544.69	631.70	580.72	50.99	12.389		
10,700.00	9,611.63	10,615.88	9,613.53	28.86	27.58	90.20	-1,226.93	-543.95	631.71	579.46	52.24	12.091		
10,800.00	9,610.51	10,715.88	9,612.53	30.02	27.67	90.21	-1,326.92	-543.22	631.71	578.14	53.57	11.792		
10,900.00	9,609.38	10,815.88	9,611.53	31.21	27.76	90.22	-1,426.92	-542.48	631.71	576.75	54.97	11.493		
11,000.00	9,608.25	10,915.88	9,610.53	32.45	27.86	90.23	-1,526.91	-541.75	631.72	575.29	56.42	11.196		
11,100.00	9,607.13	11,015.88	9,609.53	33.72	27.96	90.25	-1,626.90	-541.02	631.72	573.78	57.94	10.904		
11,200.00	9,606.00	11,115.88	9,608.53	35.02	28.06	90.26	-1,726.89	-540.28	631.72	572.22	59.50	10.617		
11,300.00	9,604.87	11,215.88	9,607.53	36.35	28.17	90.27	-1,826.88	-539.55	631.72	570.61	61.11	10.337		
11,400.00	9,603.75	11,315.88	9,606.53	37.70	28.28	90.28	-1,926.88	-538.82	631.73	568.96	62.77	10.064		
11,500.00	9,602.62	11,415.88	9,605.53	39.08	28.39	90.29	-2,026.87	-538.08	631.73	567.26	64.47	9.799		
11,600.00	9,601.49	11,515.88	9,604.54	40.47	28.52	90.30	-2,126.86	-537.35	631.73	565.53	66.21	9.542		
11,700.00	9,600.37	11,615.88	9,603.54	41.88	28.65	90.31	-2,226.85	-536.61	631.74	563.76	67.98	9.293		
11,800.00	9,599.24	11,715.88	9,602.54	43.31	28.79	90.33	-2,326.85	-535.88	631.74	561.95	69.79	9.053		
11,900.00	9,598.11	11,815.88	9,601.54	44.75	28.94	90.34	-2,426.84	-535.15	631.74	560.12	71.62	8.820		
12,000.00	9,596.99	11,915.88	9,600.54	46.21	29.11	90.35	-2,526.83	-534.41	631.75	558.26	73.49	8.597		
12,100.00	9,595.86	12,015.88	9,599.54	47.68	29.30	90.36	-2,626.82	-533.68	631.75	556.37	75.38	8.381		
12,200.00	9,594.73	12,115.88	9,598.54	49.16	29.52	90.37	-2,726.81	-532.95	631.75	554.45	77.30	8.173		
12,300.00	9,593.61	12,215.88	9,597.54	50.64	29.76	90.38	-2,826.81	-532.21	631.76	552.51	79.24	7.973		
12,400.00	9,592.48	12,315.88	9,596.54	52.14	30.04	90.40	-2,926.80	-531.48	631.76	550.55	81.20	7.780		
12,500.00	9,591.35	12,415.88	9,595.54	53.65	30.36	90.41	-3,026.79	-530.74	631.76	548.57	83.19	7.594		
12,600.00	9,590.23	12,515.88	9,594.54	55.16	30.71	90.42	-3,126.78	-530.01	631.76	546.57	85.19	7.416		
12,700.00	9,589.10	12,615.88	9,593.54	56.68	31.11	90.43	-3,226.78	-529.28	631.77	544.55	87.21	7.244		
12,800.00	9,587.97	12,715.88	9,592.55	58.21	31.53	90.44	-3,326.77	-528.54	631.77	542.52	89.25	7.078		
12,900.00	9,586.85	12,815.88	9,591.55	59.74	31.98	90.45	-3,426.76	-527.81	631.77	540.47	91.31	6.919		
13,000.00	9,585.72	12,915.88	9,590.55	61.28	32.46	90.46	-3,526.75	-527.08	631.78	538.40	93.38	6.766		
13,100.00	9,584.59	13,015.88	9,589.55	62.82	32.95	90.48	-3,626.75	-526.34	631.78	536.32	95.46	6.618		
13,200.00	9,583.47	13,115.88	9,588.55	64.37	33.46	90.49	-3,726.74	-525.61	631.79	534.22	97.56	6.476		
13,300.00	9,582.34	13,215.88	9,587.55	65.92	33.99	90.50	-3,826.73	-524.87	631.79	532.12	99.67	6.339		
13,400.00	9,581.22	13,315.88	9,586.55	67.48	34.53	90.51	-3,926.72	-524.14	631.79	530.00	101.80	6.206		
13,500.00	9,580.09	13,415.88	9,585.55	69.04	35.08	90.52	-4,026.71	-523.41	631.80	527.87	103.93	6.079		
13,600.00	9,578.96	13,515.88	9,584.55	70.60	35.65	90.53	-4,126.71	-522.67	631.80	525.72	106.08	5.956		
13,700.00	9,577.84	13,615.88	9,583.55	72.17	36.22	90.55	-4,226.70	-521.94	631.80	523.57	108.23	5.838		
13,800.00	9,576.71	13,715.88	9,582.55	73.74	36.80	90.56	-4,326.69	-521.21	631.81	521.41	110.40	5.723		
13,900.00	9,575.58	13,815.88	9,581.55	75.31	37.39	90.57	-4,426.68	-520.47	631.81	519.24	112.57	5.613		
14,000.00	9,574.46	13,915.88	9,580.55	76.89	37.99	90.58	-4,526.68	-519.74	631.81	517.06	114.75	5.506		
14,100.00	9,573.33	14,015.88	9,579.56	78.47	38.59	90.59	-4,626.67	-519.00	631.82	514.87	116.94	5.403		

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	Local Co-ordinate Reference:	Well Thistle Unit 160H
Project:	Lea County, NM (NAD-83)	TVD Reference:	3710.3' GE + 23.5' KB @ 3733.80usft
Reference Site:	Thistle Unit Sec 22-27 Trac Pad	MD Reference:	3710.3' GE + 23.5' KB @ 3733.80usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Thistle Unit 160H	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 #2	Offset TVD Reference:	Offset Datum

Offset Design Thistle Unit Sec 22-27 Trac Pad - Thistle Unit 142H - OH - Plan #2													Offset Site Error:	0.00 usft
Survey Program: 0-LEAM MWD+HDGM, 9973-MWD+IFR1+MS													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)						
14,200.00	9,572.20	14,115.88	9,578.56	80.05	39.20	90.60	-4,726.66	-518.27	631.82	512.68	119.14	5.303		
14,300.00	9,571.08	14,215.88	9,577.56	81.63	39.81	90.61	-4,826.65	-517.54	631.82	510.48	121.35	5.207		
14,400.00	9,569.95	14,315.88	9,576.56	83.22	40.44	90.63	-4,926.64	-516.80	631.83	508.27	123.56	5.113		
14,500.00	9,568.82	14,415.88	9,575.56	84.80	41.06	90.64	-5,026.64	-516.07	631.83	506.05	125.78	5.023		
14,600.00	9,567.70	14,515.88	9,574.56	86.39	41.69	90.65	-5,126.63	-515.34	631.84	503.83	128.01	4.936		
14,700.00	9,566.57	14,615.88	9,573.56	87.98	42.33	90.66	-5,226.62	-514.60	631.84	501.60	130.24	4.851		
14,800.00	9,565.44	14,715.88	9,572.56	89.58	42.97	90.67	-5,326.61	-513.87	631.84	499.36	132.48	4.769		
14,900.00	9,564.32	14,815.88	9,571.56	91.17	43.62	90.68	-5,426.61	-513.13	631.85	497.12	134.72	4.690		
15,000.00	9,563.19	14,915.88	9,570.56	92.77	44.27	90.70	-5,526.60	-512.40	631.85	494.88	136.97	4.613		
15,100.00	9,562.06	15,015.88	9,569.56	94.36	44.92	90.71	-5,626.59	-511.67	631.86	492.63	139.23	4.538		
15,200.00	9,560.94	15,115.88	9,568.56	95.96	45.58	90.72	-5,726.58	-510.93	631.86	490.37	141.48	4.466		
15,300.00	9,559.81	15,215.88	9,567.57	97.56	46.24	90.73	-5,826.57	-510.20	631.86	488.12	143.75	4.396		
15,400.00	9,558.68	15,315.87	9,566.57	99.17	46.90	90.74	-5,926.57	-509.47	631.87	485.85	146.02	4.327		
15,500.00	9,557.56	15,415.87	9,565.57	100.77	47.57	90.75	-6,026.56	-508.73	631.87	483.58	148.29	4.261		
15,600.00	9,556.43	15,515.87	9,564.57	102.37	48.24	90.77	-6,126.55	-508.00	631.88	481.31	150.56	4.197		
15,700.00	9,555.30	15,615.87	9,563.57	103.98	48.91	90.78	-6,226.54	-507.26	631.88	479.04	152.84	4.134		
15,800.00	9,554.18	15,715.87	9,562.57	105.58	49.59	90.79	-6,326.54	-506.53	631.88	476.76	155.13	4.073		
15,900.00	9,553.05	15,815.87	9,561.57	107.19	50.27	90.80	-6,426.53	-505.80	631.89	474.48	157.41	4.014		
16,000.00	9,551.92	15,915.87	9,560.57	108.80	50.95	90.81	-6,526.52	-505.06	631.89	472.19	159.70	3.957		
16,100.00	9,550.80	16,015.87	9,559.57	110.41	51.63	90.82	-6,626.51	-504.33	631.90	469.90	162.00	3.901		
16,200.00	9,549.67	16,115.87	9,558.57	112.02	52.32	90.83	-6,726.50	-503.60	631.90	467.61	164.29	3.846		
16,300.00	9,548.55	16,215.87	9,557.57	113.63	53.00	90.85	-6,826.50	-502.86	631.90	465.31	166.59	3.793		
16,400.00	9,547.42	16,315.87	9,556.57	115.24	53.69	90.86	-6,926.49	-502.13	631.91	463.02	168.89	3.741		
16,500.00	9,546.29	16,415.87	9,555.58	116.85	54.39	90.87	-7,026.48	-501.39	631.91	460.71	171.20	3.691		
16,600.00	9,545.17	16,515.87	9,554.58	118.46	55.08	90.88	-7,126.47	-500.66	631.92	458.41	173.51	3.642		
16,700.00	9,544.04	16,615.87	9,553.58	120.08	55.78	90.89	-7,226.47	-499.93	631.92	456.11	175.82	3.594		
16,800.00	9,542.91	16,715.87	9,552.58	121.69	56.47	90.90	-7,326.46	-499.19	631.93	453.80	178.13	3.548		
16,900.00	9,541.79	16,815.87	9,551.58	123.31	57.17	90.92	-7,426.45	-498.46	631.93	451.49	180.44	3.502		
17,000.00	9,540.66	16,915.87	9,550.58	124.92	57.87	90.93	-7,526.44	-497.73	631.94	449.17	182.76	3.458		
17,004.68	9,540.61	16,920.55	9,550.53	125.00	57.91	90.93	-7,531.12	-497.69	631.94	449.07	182.87	3.456		
17,058.50	9,540.00	16,973.85	9,550.00	125.87	58.28	90.93	-7,584.41	-497.30	631.94	447.82	184.11	3.432 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	Local Co-ordinate Reference:	Well Thistle Unit 160H
Project:	Lea County, NM (NAD-83)	TVD Reference:	3710.3' GE + 23.5' KB @ 3733.80usft
Reference Site:	Thistle Unit Sec 22-27 Trac Pad	MD Reference:	3710.3' GE + 23.5' KB @ 3733.80usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Thistle Unit 160H	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 #2	Offset TVD Reference:	Offset Datum

Offset Design Thistle Unit Sec 22-27 Trac Pad - Thistle Unit 86H - OH - Plan #2												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		Minimum Separation (usft)	Separation Factor	Warning		
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		Between Centres (usft)	Between Ellipses (usft)					
0.00	0.00	0.10	0.10	0.00	0.00	-90.31	-0.16	-29.94	29.94				
100.00	100.00	100.10	100.10	0.09	0.09	-90.31	-0.16	-29.94	29.94	29.77	0.17	173.899	
200.00	200.00	200.10	200.10	0.31	0.31	-90.31	-0.16	-29.94	29.94	29.32	0.62	48.159	
300.00	300.00	300.10	300.10	0.54	0.54	-90.31	-0.16	-29.94	29.94	28.87	1.07	27.949	
400.00	400.00	400.10	400.10	0.76	0.76	-90.31	-0.16	-29.94	29.94	28.42	1.52	19.688	
500.00	500.00	500.10	500.10	0.99	0.99	-90.31	-0.16	-29.94	29.94	27.97	1.97	15.196	
600.00	600.00	600.10	600.10	1.21	1.21	-90.31	-0.16	-29.94	29.94	27.52	2.42	12.373	
700.00	700.00	700.10	700.10	1.43	1.43	-90.31	-0.16	-29.94	29.94	27.07	2.87	10.435	
800.00	800.00	800.10	800.10	1.66	1.66	-90.31	-0.16	-29.94	29.94	26.62	3.32	9.021	
900.00	900.00	900.10	900.10	1.88	1.88	-90.31	-0.16	-29.94	29.94	26.17	3.77	7.945	
1,000.00	1,000.00	1,000.10	1,000.10	2.11	2.11	-90.31	-0.16	-29.94	29.94	25.72	4.22	7.098	
1,100.00	1,100.00	1,100.10	1,100.10	2.33	2.33	-90.31	-0.16	-29.94	29.94	25.27	4.67	6.415	
1,200.00	1,200.00	1,200.10	1,200.10	2.56	2.56	-90.31	-0.16	-29.94	29.94	24.82	5.12	5.851	
1,300.00	1,300.00	1,300.10	1,300.10	2.78	2.78	-90.31	-0.16	-29.94	29.94	24.37	5.57	5.379	
1,400.00	1,400.00	1,400.10	1,400.10	3.01	3.01	-90.31	-0.16	-29.94	29.94	23.92	6.02	4.977	
1,500.00	1,500.00	1,500.10	1,500.10	3.23	3.23	-90.31	-0.16	-29.94	29.94	23.47	6.47	4.631	
1,600.00	1,600.00	1,600.10	1,600.10	3.46	3.46	-90.31	-0.16	-29.94	29.94	23.03	6.92	4.330	
1,700.00	1,700.00	1,700.10	1,700.10	3.68	3.68	-90.31	-0.16	-29.94	29.94	22.58	7.36	4.065	
1,800.00	1,800.00	1,800.10	1,800.10	3.91	3.91	-90.31	-0.16	-29.94	29.94	22.13	7.81	3.832	
1,900.00	1,900.00	1,900.10	1,900.10	4.13	4.13	-90.31	-0.16	-29.94	29.94	21.68	8.26	3.623	
2,000.00	2,000.00	2,000.10	2,000.10	4.36	4.36	-90.31	-0.16	-29.94	29.94	21.23	8.71	3.436	
2,100.00	2,100.00	2,100.10	2,100.10	4.58	4.58	-90.31	-0.16	-29.94	29.94	20.78	9.16	3.268	
2,200.00	2,200.00	2,200.10	2,200.10	4.81	4.81	-90.31	-0.16	-29.94	29.94	20.33	9.61	3.115	
2,300.00	2,300.00	2,300.10	2,300.10	5.03	5.03	-90.31	-0.16	-29.94	29.94	19.88	10.06	2.976	
2,400.00	2,400.00	2,400.10	2,400.10	5.26	5.26	-90.31	-0.16	-29.94	29.94	19.43	10.51	2.848	
2,500.00	2,500.00	2,500.10	2,500.10	5.48	5.48	-90.31	-0.16	-29.94	29.94	18.98	10.96	2.732	
2,600.00	2,600.00	2,600.10	2,600.10	5.71	5.71	-90.31	-0.16	-29.94	29.94	18.53	11.41	2.624	
2,700.00	2,700.00	2,700.10	2,700.10	5.93	5.93	-90.31	-0.16	-29.94	29.94	18.08	11.86	2.524	
2,800.00	2,800.00	2,800.10	2,800.10	6.15	6.15	-90.31	-0.16	-29.94	29.94	17.63	12.31	2.432	
2,900.00	2,900.00	2,900.10	2,900.10	6.38	6.38	-90.31	-0.16	-29.94	29.94	17.18	12.76	2.347	
3,000.00	3,000.00	3,000.10	3,000.10	6.60	6.60	-90.31	-0.16	-29.94	29.94	16.73	13.21	2.267 CC, ES	
3,100.00	3,099.99	3,100.09	3,100.09	6.83	6.83	-129.54	-0.16	-29.94	30.49	16.83	13.65	2.233	
3,200.00	3,199.96	3,200.06	3,200.06	7.05	7.05	-133.12	-0.16	-29.94	32.22	18.12	14.10	2.285	
3,300.00	3,299.86	3,299.96	3,299.96	7.27	7.28	-138.27	-0.16	-29.94	35.34	20.80	14.54	2.431	
3,335.31	3,335.12	3,335.22	3,335.22	7.34	7.36	-140.28	-0.16	-29.94	36.83	22.13	14.70	2.506	
3,400.00	3,399.70	3,399.80	3,399.80	7.49	7.50	-143.76	-0.16	-29.94	39.81	24.83	14.98	2.657	
3,500.00	3,499.53	3,499.63	3,499.63	7.71	7.73	-148.20	-0.16	-29.94	44.67	29.24	15.43	2.895	
3,600.00	3,599.36	3,600.07	3,600.07	7.93	7.95	-151.06	0.65	-29.61	49.12	33.24	15.87	3.095	
3,700.00	3,699.18	3,700.65	3,700.61	8.16	8.18	-152.15	3.09	-28.61	52.38	36.07	16.31	3.211	
3,800.00	3,799.01	3,801.31	3,801.17	8.38	8.40	-151.84	7.17	-26.95	54.38	37.63	16.75	3.247	
3,900.00	3,898.84	3,901.59	3,901.28	8.61	8.63	-150.50	12.60	-24.73	55.34	38.15	17.19	3.219	
4,000.00	3,998.67	4,001.58	4,001.09	8.83	8.85	-149.10	18.15	-22.46	56.22	38.59	17.64	3.188	
4,100.00	4,098.50	4,101.57	4,100.89	9.06	9.07	-147.73	23.71	-20.19	57.14	39.06	18.08	3.160	
4,200.00	4,198.33	4,201.55	4,200.70	9.29	9.30	-146.41	29.26	-17.93	58.08	39.55	18.53	3.135	
4,300.00	4,298.16	4,301.54	4,300.51	9.52	9.52	-145.13	34.82	-15.66	59.06	40.08	18.98	3.112	
4,400.00	4,397.99	4,401.53	4,400.31	9.75	9.75	-143.90	40.38	-13.39	60.06	40.63	19.43	3.091	
4,500.00	4,497.81	4,501.51	4,500.12	9.98	9.98	-142.70	45.93	-11.12	61.09	41.21	19.88	3.073	
4,600.00	4,597.64	4,601.50	4,599.93	10.21	10.20	-141.55	51.49	-8.85	62.15	41.82	20.33	3.057	
4,700.00	4,697.47	4,701.49	4,699.73	10.44	10.43	-140.44	57.04	-6.58	63.23	42.44	20.79	3.042	
4,800.00	4,797.30	4,801.47	4,799.54	10.67	10.66	-139.36	62.60	-4.31	64.34	43.09	21.24	3.029	
4,900.00	4,897.13	4,901.46	4,899.35	10.90	10.89	-138.32	68.15	-2.05	65.46	43.76	21.70	3.017	
5,000.00	4,996.96	5,001.45	4,999.15	11.13	11.12	-137.31	73.71	0.22	66.61	44.45	22.15	3.006	

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	Local Co-ordinate Reference:	Well Thistle Unit 160H
Project:	Lea County, NM (NAD-83)	TVD Reference:	3710.3' GE + 23.5' KB @ 3733.80usft
Reference Site:	Thistle Unit Sec 22-27 Trac Pad	MD Reference:	3710.3' GE + 23.5' KB @ 3733.80usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Thistle Unit 160H	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 #2	Offset TVD Reference:	Offset Datum

Offset Design Thistle Unit Sec 22-27 Trac Pad - Thistle Unit 86H - OH - Plan #2													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		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)						
5,100.00	5,096.79	5,101.43	5,098.96	11.36	11.35	-136.34	79.26	2.49	67.77	45.16	22.61	2.997		
5,168.21	5,164.88	5,169.63	5,167.04	11.52	11.51	-135.70	83.05	4.04	68.58	45.65	22.93	2.991		
5,200.00	5,196.62	5,201.42	5,198.77	11.59	11.58	-135.35	84.82	4.76	68.90	45.83	23.06	2.987		
5,300.00	5,296.52	5,301.40	5,298.56	11.77	11.81	-133.61	90.37	7.03	69.11	45.63	23.48	2.944		
5,400.00	5,396.49	5,401.33	5,398.32	11.95	12.04	-130.77	95.93	9.30	68.23	44.34	23.89	2.856		
5,503.52	5,500.00	5,504.72	5,501.52	12.13	12.28	-88.56	101.67	11.64	66.39	42.07	24.33	2.729		
5,600.00	5,596.48	5,601.02	5,597.65	12.32	12.51	-83.75	107.02	13.83	64.57	39.81	24.76	2.608		
5,700.00	5,696.48	5,700.76	5,697.21	12.54	12.73	-78.66	112.43	16.03	63.20	37.99	25.22	2.507		
5,800.00	5,796.48	5,800.49	5,796.85	12.76	12.91	-74.69	116.50	17.70	62.52	36.89	25.63	2.440		
5,900.00	5,896.48	5,900.35	5,896.67	12.98	13.08	-72.25	118.98	18.71	62.26	36.23	26.03	2.392		
6,000.00	5,996.48	6,000.27	5,996.58	13.20	13.25	-71.40	119.84	19.06	62.19	35.77	26.42	2.353		
6,034.51	6,030.99	6,034.78	6,031.09	13.28	13.32	-71.40	119.84	19.06	62.19	35.62	26.57	2.341		
6,100.00	6,096.48	6,100.27	6,096.58	13.42	13.45	-71.40	119.84	19.06	62.19	35.35	26.84	2.317		
6,200.00	6,196.48	6,200.27	6,196.58	13.64	13.67	-71.40	119.84	19.06	62.19	34.90	27.28	2.279		
6,300.00	6,296.48	6,300.27	6,296.58	13.87	13.89	-71.40	119.84	19.06	62.19	34.46	27.73	2.243		
6,400.00	6,396.48	6,400.27	6,396.58	14.09	14.12	-71.40	119.84	19.06	62.19	34.02	28.17	2.208		
6,500.00	6,496.48	6,500.27	6,496.58	14.31	14.34	-71.40	119.84	19.06	62.19	33.57	28.62	2.173		
6,600.00	6,596.48	6,600.27	6,596.58	14.53	14.56	-71.40	119.84	19.06	62.19	33.13	29.06	2.140		
6,700.00	6,696.48	6,700.27	6,696.58	14.75	14.78	-71.40	119.84	19.06	62.19	32.69	29.50	2.108		
6,800.00	6,796.48	6,800.27	6,796.58	14.97	15.00	-71.40	119.84	19.06	62.19	32.24	29.95	2.077		
6,900.00	6,896.48	6,900.27	6,896.58	15.20	15.23	-71.40	119.84	19.06	62.19	31.80	30.39	2.046		
7,000.00	6,996.48	7,000.27	6,996.58	15.42	15.45	-71.40	119.84	19.06	62.19	31.35	30.84	2.017		
7,100.00	7,096.48	7,100.27	7,096.58	15.64	15.67	-71.40	119.84	19.06	62.19	30.91	31.28	1.988		
7,200.00	7,196.48	7,200.27	7,196.58	15.86	15.89	-71.40	119.84	19.06	62.19	30.46	31.73	1.960		
7,300.00	7,296.48	7,300.27	7,296.58	16.09	16.12	-71.40	119.84	19.06	62.19	30.02	32.17	1.933		
7,400.00	7,396.48	7,400.27	7,396.58	16.31	16.34	-71.40	119.84	19.06	62.19	29.57	32.62	1.907		
7,500.00	7,496.48	7,500.27	7,496.58	16.53	16.56	-71.40	119.84	19.06	62.19	29.13	33.06	1.881		
7,600.00	7,596.48	7,600.27	7,596.58	16.75	16.78	-71.40	119.84	19.06	62.19	28.68	33.51	1.856		
7,700.00	7,696.48	7,700.27	7,696.58	16.98	17.01	-71.40	119.84	19.06	62.19	28.24	33.95	1.832		
7,800.00	7,796.48	7,800.27	7,796.58	17.20	17.23	-71.40	119.84	19.06	62.19	27.79	34.40	1.808		
7,900.00	7,896.48	7,900.27	7,896.58	17.42	17.45	-71.40	119.84	19.06	62.19	27.35	34.84	1.785		
8,000.00	7,996.48	8,000.27	7,996.58	17.64	17.68	-71.40	119.84	19.06	62.19	26.90	35.29	1.762		
8,100.00	8,096.48	8,100.27	8,096.58	17.87	17.90	-71.40	119.84	19.06	62.19	26.46	35.73	1.740		
8,200.00	8,196.48	8,200.27	8,196.58	18.09	18.12	-71.40	119.84	19.06	62.19	26.01	36.18	1.719		
8,300.00	8,296.48	8,300.27	8,296.58	18.31	18.35	-71.40	119.84	19.06	62.19	25.56	36.63	1.698		
8,400.00	8,396.48	8,400.27	8,396.58	18.54	18.57	-71.40	119.84	19.06	62.19	25.12	37.07	1.678		
8,500.00	8,496.48	8,500.27	8,496.58	18.76	18.79	-71.40	119.84	19.06	62.19	24.67	37.52	1.658		
8,600.00	8,596.48	8,600.27	8,596.58	18.98	19.02	-71.40	119.84	19.06	62.19	24.22	37.96	1.638		
8,700.00	8,696.48	8,700.27	8,696.58	19.21	19.24	-71.40	119.84	19.06	62.19	23.78	38.41	1.619		
8,800.00	8,796.48	8,800.27	8,796.58	19.43	19.46	-71.40	119.84	19.06	62.19	23.33	38.86	1.600		
8,900.00	8,896.48	8,900.27	8,896.58	19.65	19.68	-71.40	119.84	19.06	62.19	22.89	39.30	1.582		
9,000.00	8,996.48	9,000.27	8,996.58	19.88	19.91	-71.40	119.84	19.06	62.19	22.44	39.75	1.565		
9,050.60	9,047.08	9,050.87	9,047.18	19.99	20.02	-71.40	119.84	19.06	62.19	22.21	39.98	1.556 SF		
9,100.00	9,096.42	9,100.20	9,096.52	20.08	20.13	110.79	119.84	19.06	62.92	22.73	40.18	1.566		
9,150.00	9,145.98	9,149.77	9,146.08	20.16	20.24	115.82	119.84	19.06	65.50	25.12	40.38	1.622		
9,200.00	9,194.79	9,198.58	9,194.89	20.24	20.35	123.08	119.84	19.06	70.91	30.34	40.57	1.748		
9,250.00	9,242.48	9,246.27	9,242.58	20.32	20.46	131.13	119.84	19.06	80.25	39.49	40.76	1.969		
9,300.00	9,288.68	9,292.46	9,288.78	20.39	20.56	138.66	119.84	19.06	94.28	53.34	40.93	2.303		
9,350.00	9,333.04	9,336.83	9,333.14	20.47	20.66	144.96	119.84	19.06	113.20	72.10	41.10	2.754		
9,400.00	9,375.22	9,379.01	9,375.32	20.54	20.75	149.86	119.84	19.06	136.82	95.56	41.27	3.316		
9,450.00	9,414.91	9,418.70	9,415.01	20.61	20.84	153.52	119.84	19.06	164.78	123.36	41.42	3.979		
9,500.00	9,451.80	9,455.58	9,451.90	20.67	20.93	156.13	119.84	19.06	196.66	155.10	41.56	4.732		

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Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Thistle Unit 160H	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 #2	Offset TVD Reference:	Offset Datum

Offset Design Thistle Unit Sec 22-27 Trac Pad - Thistle Unit 86H - OH - Plan #2													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		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)						
9,550.00	9,485.60	9,489.39	9,485.70	20.75	21.00	157.86	119.84	19.06	232.05	190.36	41.69	5.566		
9,600.00	9,516.07	9,519.86	9,516.17	20.85	21.07	158.82	119.84	19.06	270.57	228.76	41.80	6.472		
9,650.00	9,542.98	9,546.76	9,543.08	20.97	21.13	159.03	119.84	19.06	311.82	269.92	41.91	7.441		
9,700.00	9,566.10	9,569.89	9,566.20	21.12	21.18	158.40	119.84	19.06	355.44	313.44	42.00	8.464		
9,750.00	9,585.28	9,589.06	9,585.38	21.30	21.22	156.63	119.84	19.06	401.04	358.97	42.07	9.533		
9,800.00	9,600.36	9,604.15	9,600.46	21.50	21.26	153.01	119.84	19.06	448.23	406.10	42.13	10.640		
9,850.00	9,611.23	9,615.02	9,611.33	21.72	21.28	145.69	119.84	19.06	496.64	454.47	42.17	11.777		
9,900.00	9,617.81	9,621.59	9,617.91	21.97	21.30	129.15	119.84	19.06	545.87	503.68	42.20	12.937		
9,950.00	9,620.04	9,623.82	9,620.14	22.24	21.30	90.61	119.84	19.06	595.54	553.33	42.21	14.110		
9,957.06	9,620.00	9,623.79	9,620.10	22.28	21.30	83.44	119.84	19.06	602.56	560.35	42.21	14.276		
10,000.00	9,619.52	9,623.30	9,619.62	22.53	21.30	82.98	119.84	19.06	645.31	603.10	42.21	15.288		
10,100.00	9,618.39	9,622.18	9,618.49	23.20	21.30	81.90	119.84	19.06	744.94	702.73	42.22	17.645		
10,200.00	9,617.26	9,621.05	9,617.36	23.95	21.30	80.83	119.84	19.06	844.66	802.44	42.23	20.003		
10,300.00	9,616.14	9,619.92	9,616.24	24.80	21.29	79.76	119.84	19.06	944.44	902.20	42.24	22.360		
10,400.00	9,615.01	11,398.30	10,600.98	25.72	27.53	176.59	-920.66	26.69	987.63	959.76	27.87	35.441		
10,500.00	9,613.89	11,498.29	10,601.19	26.71	28.45	176.59	-1,020.65	27.43	988.96	960.34	28.62	34.557		
10,600.00	9,612.76	11,598.28	10,601.40	27.76	29.44	176.59	-1,120.63	28.16	990.30	960.87	29.42	33.656		
10,700.00	9,611.63	11,698.27	10,601.61	28.86	30.48	176.60	-1,220.62	28.89	991.63	961.35	30.28	32.747		
10,800.00	9,610.51	11,798.26	10,601.83	30.02	31.57	176.60	-1,320.61	29.63	992.97	961.78	31.18	31.842		
10,900.00	9,609.38	11,898.25	10,602.04	31.21	32.71	176.61	-1,420.60	30.36	994.30	962.17	32.13	30.946		
11,000.00	9,608.25	11,998.24	10,602.25	32.45	33.89	176.61	-1,520.59	31.09	995.64	962.52	33.11	30.066		
11,100.00	9,607.13	12,098.23	10,602.46	33.72	35.11	176.62	-1,620.57	31.83	996.97	962.84	34.13	29.207		
11,200.00	9,606.00	12,198.22	10,602.67	35.02	36.36	176.62	-1,720.56	32.56	998.31	963.12	35.19	28.372		
11,300.00	9,604.87	12,298.22	10,602.88	36.35	37.64	176.63	-1,820.55	33.29	999.64	963.37	36.27	27.563		
11,400.00	9,603.75	12,398.21	10,603.09	37.70	38.95	176.63	-1,920.54	34.03	1,000.98	963.60	37.38	26.782		
11,500.00	9,602.62	12,498.20	10,603.30	39.08	40.28	176.63	-2,020.53	34.76	1,002.31	963.80	38.51	26.028		
11,600.00	9,601.49	12,598.19	10,603.51	40.47	41.63	176.64	-2,120.52	35.50	1,003.64	963.98	39.66	25.304		
11,700.00	9,600.37	12,698.18	10,603.72	41.88	43.00	176.64	-2,220.50	36.23	1,004.98	964.14	40.84	24.608		
11,800.00	9,599.24	12,798.17	10,603.93	43.31	44.39	176.65	-2,320.49	36.96	1,006.31	964.28	42.03	23.941		
11,900.00	9,598.11	12,898.16	10,604.14	44.75	45.80	176.65	-2,420.48	37.70	1,007.65	964.40	43.25	23.301		
12,000.00	9,596.99	12,998.15	10,604.35	46.21	47.22	176.66	-2,520.47	38.43	1,008.98	964.51	44.47	22.687		
12,100.00	9,595.86	13,098.14	10,604.56	47.68	48.66	176.66	-2,620.46	39.16	1,010.32	964.60	45.72	22.100		
12,200.00	9,594.73	13,198.13	10,604.77	49.16	50.11	176.66	-2,720.44	39.90	1,011.65	964.68	46.97	21.538		
12,300.00	9,593.61	13,298.13	10,604.98	50.64	51.57	176.67	-2,820.43	40.63	1,012.99	964.75	48.24	20.999		
12,400.00	9,592.48	13,398.12	10,605.19	52.14	53.04	176.67	-2,920.42	41.36	1,014.32	964.81	49.52	20.484		
12,500.00	9,591.35	13,498.11	10,605.40	53.65	54.52	176.68	-3,020.41	42.10	1,015.66	964.85	50.81	19.990		
12,600.00	9,590.23	13,598.10	10,605.61	55.16	56.01	176.68	-3,120.40	42.83	1,016.99	964.89	52.11	19.517		
12,700.00	9,589.10	13,698.09	10,605.82	56.68	57.50	176.69	-3,220.39	43.56	1,018.33	964.91	53.42	19.064		
12,800.00	9,587.97	13,798.08	10,606.03	58.21	59.01	176.69	-3,320.37	44.30	1,019.66	964.93	54.73	18.629		
12,900.00	9,586.85	13,898.07	10,606.24	59.74	60.52	176.69	-3,420.36	45.03	1,021.00	964.94	56.06	18.213		
13,000.00	9,585.72	13,998.06	10,606.45	61.28	62.04	176.70	-3,520.35	45.76	1,022.33	964.94	57.39	17.813		
13,100.00	9,584.59	14,098.05	10,606.67	62.82	63.56	176.70	-3,620.34	46.50	1,023.67	964.94	58.73	17.430		
13,200.00	9,583.47	14,198.05	10,606.88	64.37	65.09	176.71	-3,720.33	47.23	1,025.00	964.93	60.08	17.062		
13,300.00	9,582.34	14,298.04	10,607.09	65.92	66.63	176.71	-3,820.31	47.96	1,026.34	964.91	61.43	16.708		
13,400.00	9,581.22	14,398.03	10,607.30	67.48	68.17	176.71	-3,920.30	48.70	1,027.67	964.89	62.78	16.368		
13,500.00	9,580.09	14,498.02	10,607.51	69.04	69.71	176.72	-4,020.29	49.43	1,029.01	964.86	64.15	16.041		
13,600.00	9,578.96	14,598.01	10,607.72	70.60	71.26	176.72	-4,120.28	50.17	1,030.34	964.83	65.51	15.727		
13,700.00	9,577.84	14,698.00	10,607.93	72.17	72.81	176.73	-4,220.27	50.90	1,031.68	964.79	66.89	15.425		
13,800.00	9,576.71	14,797.99	10,608.14	73.74	74.37	176.73	-4,320.26	51.63	1,033.01	964.75	68.26	15.133		
13,900.00	9,575.58	14,897.98	10,608.35	75.31	75.93	176.73	-4,420.24	52.37	1,034.35	964.71	69.64	14.853		
14,000.00	9,574.46	14,997.97	10,608.56	76.89	77.49	176.74	-4,520.23	53.10	1,035.68	964.66	71.02	14.582		
14,100.00	9,573.33	15,097.96	10,608.77	78.47	79.05	176.74	-4,620.22	53.83	1,037.02	964.61	72.41	14.321		

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14,200.00	9,572.20	15,197.96	10,608.98	80.05	80.62	176.75	-4,720.21	54.57	1,038.35	964.55	73.80	14.070		
14,300.00	9,571.08	15,297.95	10,609.19	81.63	82.20	176.75	-4,820.20	55.30	1,039.69	964.49	75.20	13.826		
14,400.00	9,569.95	15,397.94	10,609.40	83.22	83.77	176.76	-4,920.18	56.03	1,041.02	964.43	76.59	13.592		
14,500.00	9,568.82	15,497.93	10,609.61	84.80	85.35	176.76	-5,020.17	56.77	1,042.36	964.37	77.99	13.365		
14,600.00	9,567.70	15,597.92	10,609.82	86.39	86.92	176.76	-5,120.16	57.50	1,043.69	964.30	79.39	13.146		
14,700.00	9,566.57	15,697.91	10,610.03	87.98	88.51	176.77	-5,220.15	58.23	1,045.03	964.23	80.80	12.934		
14,800.00	9,565.44	15,797.90	10,610.24	89.58	90.09	176.77	-5,320.14	58.97	1,046.36	964.16	82.21	12.729		
14,900.00	9,564.32	15,897.89	10,610.45	91.17	91.67	176.78	-5,420.12	59.70	1,047.70	964.08	83.61	12.530		
15,000.00	9,563.19	15,997.88	10,610.66	92.77	93.26	176.78	-5,520.11	60.43	1,049.03	964.01	85.03	12.338		
15,100.00	9,562.06	16,097.88	10,610.87	94.36	94.85	176.78	-5,620.10	61.17	1,050.37	963.93	86.44	12.151		
15,200.00	9,560.94	16,197.87	10,611.08	95.96	96.44	176.79	-5,720.09	61.90	1,051.70	963.85	87.86	11.971		
15,300.00	9,559.81	16,297.86	10,611.30	97.56	98.03	176.79	-5,820.08	62.64	1,053.04	963.76	89.27	11.796		
15,400.00	9,558.68	16,397.85	10,611.51	99.17	99.63	176.79	-5,920.07	63.37	1,054.37	963.68	90.69	11.626		
15,500.00	9,557.56	16,497.84	10,611.72	100.77	101.22	176.80	-6,020.05	64.10	1,055.71	963.59	92.11	11.461		
15,600.00	9,556.43	16,597.83	10,611.93	102.37	102.82	176.80	-6,120.04	64.84	1,057.04	963.51	93.54	11.301		
15,700.00	9,555.30	16,697.82	10,612.14	103.98	104.41	176.81	-6,220.03	65.57	1,058.38	963.42	94.96	11.145		
15,800.00	9,554.18	16,797.81	10,612.35	105.58	106.01	176.81	-6,320.02	66.30	1,059.71	963.33	96.39	10.994		
15,900.00	9,553.05	16,897.80	10,612.56	107.19	107.61	176.81	-6,420.01	67.04	1,061.05	963.24	97.81	10.848		
16,000.00	9,551.92	16,997.80	10,612.77	108.80	109.21	176.82	-6,519.99	67.77	1,062.38	963.14	99.24	10.705		
16,100.00	9,550.80	17,097.79	10,612.98	110.41	110.82	176.82	-6,619.98	68.50	1,063.72	963.05	100.67	10.566		
16,200.00	9,549.67	17,197.78	10,613.19	112.02	112.42	176.83	-6,719.97	69.24	1,065.05	962.95	102.10	10.431		
16,300.00	9,548.55	17,297.77	10,613.40	113.63	114.02	176.83	-6,819.96	69.97	1,066.39	962.85	103.53	10.300		
16,400.00	9,547.42	17,397.76	10,613.61	115.24	115.63	176.83	-6,919.95	70.70	1,067.72	962.76	104.97	10.172		
16,500.00	9,546.29	17,497.75	10,613.82	116.85	117.24	176.84	-7,019.94	71.44	1,069.06	962.66	106.40	10.047		
16,600.00	9,545.17	17,597.74	10,614.03	118.46	118.84	176.84	-7,119.92	72.17	1,070.39	962.56	107.84	9.926		
16,700.00	9,544.04	17,697.73	10,614.24	120.08	120.45	176.84	-7,219.91	72.90	1,071.73	962.46	109.27	9.808		
16,800.00	9,542.91	17,797.72	10,614.45	121.69	122.06	176.85	-7,319.90	73.64	1,073.06	962.35	110.71	9.693		
16,900.00	9,541.79	17,897.71	10,614.66	123.31	123.67	176.85	-7,419.89	74.37	1,074.40	962.25	112.15	9.580		
17,000.00	9,540.66	17,997.71	10,614.87	124.92	125.28	176.86	-7,519.88	75.10	1,075.73	962.15	113.59	9.471		
17,058.50	9,540.00	18,056.20	10,615.00	125.87	126.22	176.86	-7,578.37	75.53	1,076.52	962.09	114.43	9.408		

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

LEAM Drilling Systems LLC

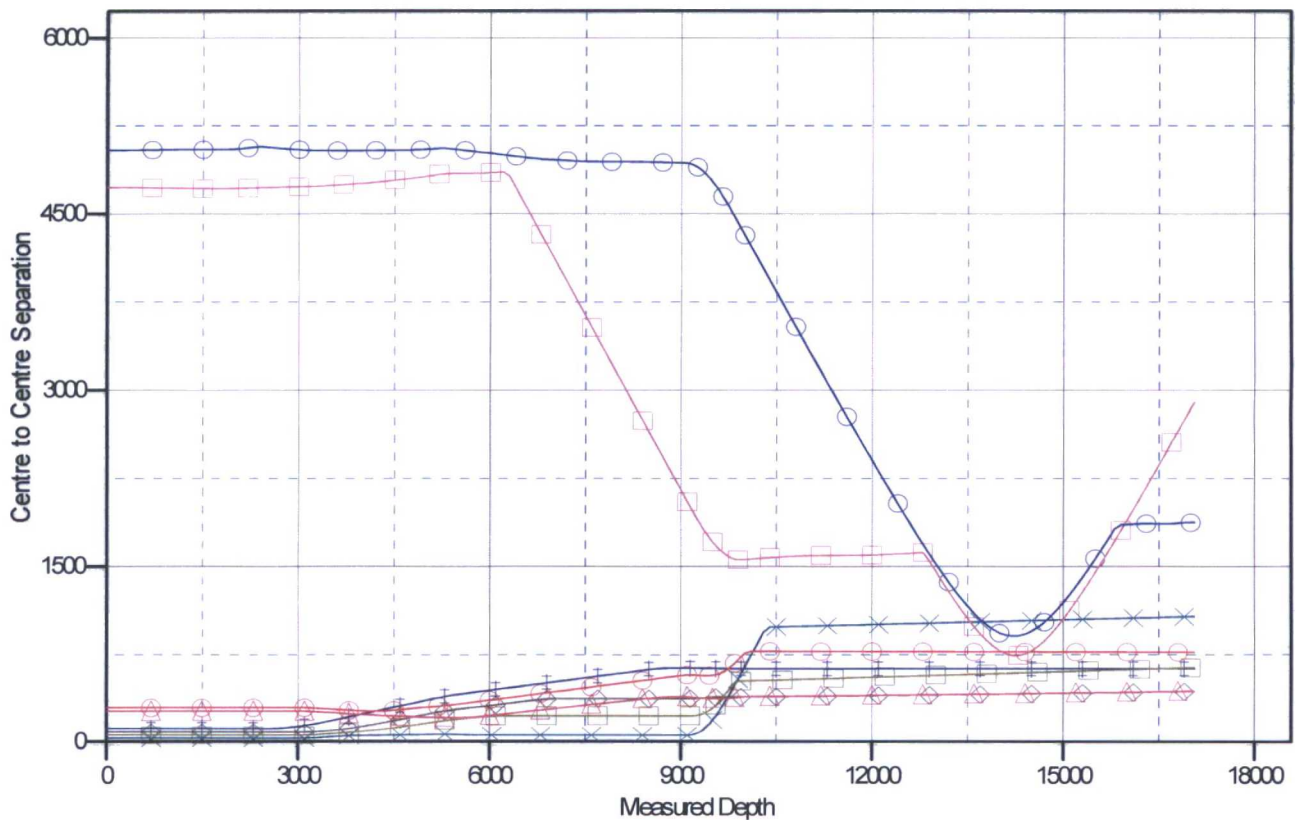
Anticollision Report

Company:	Devon Energy	Local Co-ordinate Reference:	Well Thistle Unit 160H
Project:	Lea County, NM (NAD-83)	TVD Reference:	3710.3' GE + 23.5' KB @ 3733.80usft
Reference Site:	Thistle Unit Sec 22-27 Trac Pad	MD Reference:	3710.3' GE + 23.5' KB @ 3733.80usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Thistle Unit 160H	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 #2	Offset TVD Reference:	Offset Datum

Reference Depths are relative to 3710.3' GE + 23.5' KB @ 3733.80usft
 Offset Depths are relative to Offset Datum
 Central Meridian is 104° 19' 60.0000 W

Coordinates are relative to: Thistle Unit 160H
 Coordinate System is US State Plane 1983, New Mexico Eastern Zone
 Grid Convergence at Surface is: 0.41°

Ladder Plot



LEGEND

- Thistle Unit 142H, OH, Plan #2 V0
- Thistle Unit 125H, OH, Plan #2 V0
- Thistle Unit 133H, OH, Plan #2 V0
- Thistle Unit 110H, OH, Plan #2 V0
- Thistle Unit 114H, OH, Plan #2 V0
- 57H, OH, OH V0
- Thistle Unit 86H, OH, Plan #2 V0
- 62H, OH, OH V0

LEAM Drilling Systems LLC

Anticollision Report

Company:	Devon Energy	Local Co-ordinate Reference:	Well Thistle Unit 160H
Project:	Lea County, NM (NAD-83)	TVD Reference:	3710.3' GE + 23.5' KB @ 3733.80usft
Reference Site:	Thistle Unit Sec 22-27 Trac Pad	MD Reference:	3710.3' GE + 23.5' KB @ 3733.80usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Thistle Unit 160H	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 #2	Offset TVD Reference:	Offset Datum

Reference Depths are relative to 3710.3' GE + 23.5' KB @ 3733.80usft

Offset Depths are relative to Offset Datum

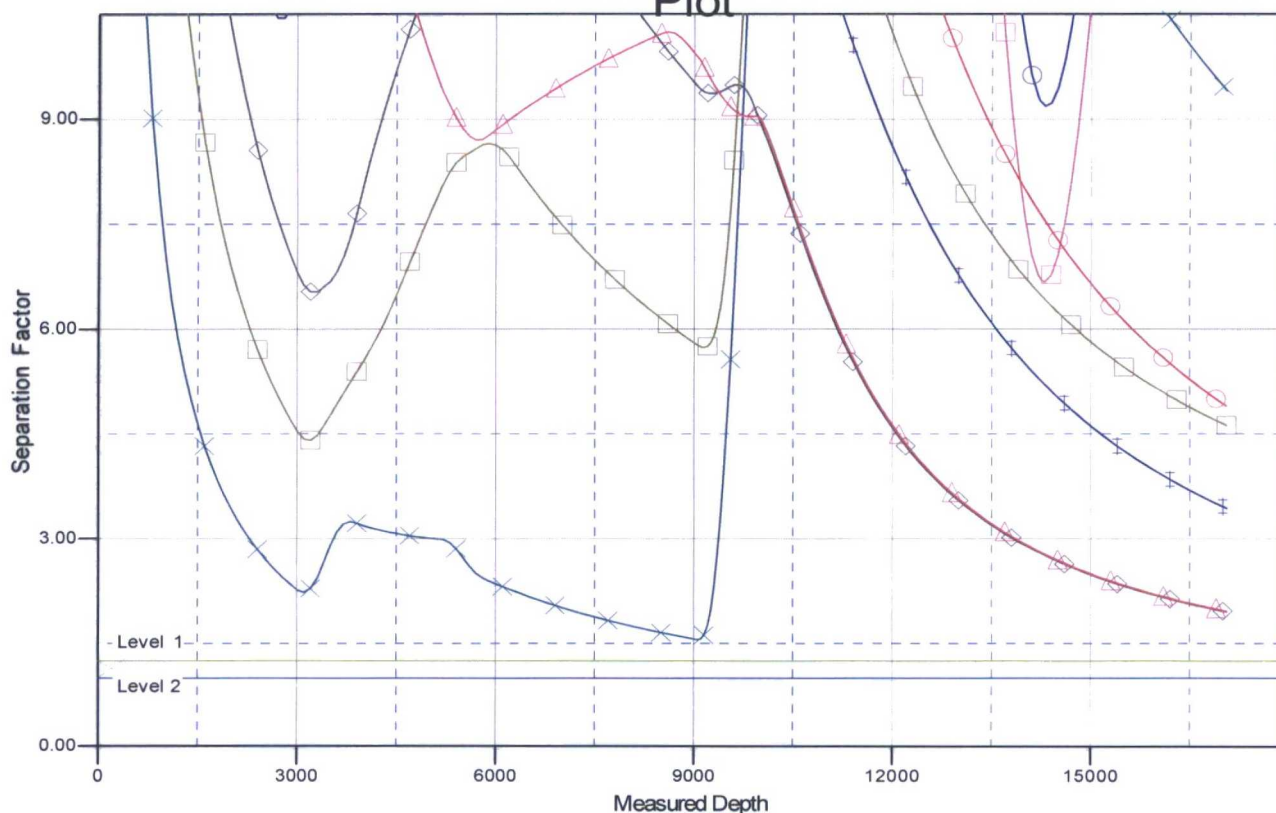
Central Meridian is 104° 19' 60.0000 W

Coordinates are relative to: Thistle Unit 160H

Coordinate System is US State Plane 1983, New Mexico Eastern Zone

Grid Convergence at Surface is: 0.41°

Separation Factor Plot



LEGEND

- Thistle Unit 142H, OH, Plan #2 V0
- Thistle Unit 125H, OH, Plan #2 V0
- Thistle Unit 133H, OH, Plan #2 V0
- Thistle Unit 110H, OH, Plan #2 V0
- Thistle Unit 114H, OH, Plan #2 V0
- 57H, OH, OH V0
- Thistle Unit 86H, OH, Plan #2 V0
- 62H, OH, OH V0