

Devon Energy

Lea County, NM (NAD-83)

Thistle Unit Sec 22-27 Trac Pad

Thistle Unit 161H

OH

Plan #2

Anticollision Report

20 September, 2017

LEAM Drilling Systems LLC

Anticollision Report

Company:	Devon Energy	Local Co-ordinate Reference:	Well Thistle Unit 161H
Project:	Lea County, NM (NAD-83)	TVD Reference:	3711.5' GE + 23.5' KB @ 3735.00usft
Reference Site:	Thistle Unit Sec 22-27 Trac Pad	MD Reference:	3711.5' GE + 23.5' KB @ 3735.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Thistle Unit 161H	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	9,996.08	Plan #2 (OH)	LEAM MWD+HDGM	MWD+HDGM	
9,996.08	17,086.67	Plan #2 (OH)	MWD+IFR1+MS	MWD + IFR1 + Multi-Station Correction	

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	14,281.10	9,608.44	115.21	45.14	1.644	CC, ES, SF
72H - OH - OH	14,752.23	15,490.00	1,556.38	1,467.39	17.491	CC, ES
72H - OH - OH	14,900.00	15,453.13	1,562.94	1,473.17	17.410	SF
Thistle Unit (Offsets)						
57H - OH - OH	14,252.52	9,607.67	279.57	222.02	4.858	CC, ES, SF
Thistle Unit Sec 22-27 Trac Pad						
Thistle Unit 114H - OH - Plan #2	3,000.00	3,000.00	59.99	46.78	4.542	CC, ES
Thistle Unit 114H - OH - Plan #2	17,086.67	17,067.64	340.75	180.83	2.131	SF
Thistle Unit 115H - OH - Plan #2	9,645.19	9,632.46	508.98	466.90	12.096	CC
Thistle Unit 115H - OH - Plan #2	17,086.67	17,103.33	559.92	383.98	3.182	ES, SF
Thistle Unit 133H - OH - Plan #2	3,000.00	3,000.00	29.99	16.78	2.271	CC, ES
Thistle Unit 133H - OH - Plan #2	9,438.81	9,409.79	61.87	21.16	1.520	SF
Thistle Unit 99H - OH - Plan #2	2,000.00	2,000.00	29.95	21.24	3.437	CC, ES
Thistle Unit 99H - OH - Plan #2	2,100.00	2,099.47	30.82	21.67	3.369	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 +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	
0.00	0.00	0.00	0.00	0.00	0.00	163.94	-4,445.14	1,279.62	4,625.70				
100.00	100.00	57.52	57.52	0.09	0.05	163.94	-4,445.27	1,279.70	4,625.86	4,625.73	0.13	N/A	
200.00	200.00	161.56	161.56	0.31	0.20	163.94	-4,445.81	1,280.00	4,626.45	4,625.95	0.50	9,232.745	
300.00	300.00	287.72	287.72	0.54	0.41	163.94	-4,446.06	1,279.69	4,626.56	4,625.62	0.95	4,879.990	
400.00	400.00	403.86	403.86	0.76	0.61	163.95	-4,445.84	1,279.01	4,626.22	4,624.84	1.38	3,360.722	
500.00	500.00	512.42	512.41	0.99	0.80	163.96	-4,445.34	1,278.36	4,625.61	4,623.82	1.79	2,583.228	
600.00	600.00	626.18	626.17	1.21	1.00	163.96	-4,444.53	1,277.72	4,624.77	4,622.56	2.22	2,087.707	
700.00	700.00	726.57	726.55	1.43	1.18	163.96	-4,443.60	1,277.37	4,623.78	4,621.17	2.61	1,768.598	
800.00	800.00	824.69	824.67	1.66	1.35	163.96	-4,442.61	1,277.27	4,622.79	4,619.78	3.01	1,535.979	
900.00	900.00	916.91	916.89	1.88	1.51	163.96	-4,441.82	1,277.20	4,621.94	4,618.55	3.39	1,361.648	
1,000.00	1,000.00	1,018.98	1,018.95	2.11	1.69	163.95	-4,440.92	1,277.35	4,621.13	4,617.34	3.80	1,216.876	

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

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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									
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (")	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning	
1,100.00	1,100.00	1,122.72	1,122.69	2.33	1.87	163.95	-4,439.89	1,277.73	4,620.28	4,616.07	4.20	1,099.066		
1,200.00	1,200.00	1,228.97	1,228.93	2.56	2.05	163.94	-4,438.67	1,278.16	4,619.29	4,614.68	4.61	1,000.985		
1,300.00	1,300.00	1,328.87	1,328.81	2.78	2.23	163.93	-4,437.44	1,278.58	4,618.22	4,613.21	5.01	921.034		
1,400.00	1,400.00	1,416.00	1,415.94	3.01	2.38	163.92	-4,436.49	1,278.90	4,617.28	4,611.89	5.39	856.535		
1,500.00	1,500.00	1,498.37	1,498.31	3.23	2.42	163.92	-4,436.01	1,278.76	4,616.68	4,611.03	5.65	816.419		
1,600.00	1,600.00	1,615.61	1,615.48	3.46	2.50	163.97	-4,436.44	1,275.04	4,616.16	4,610.21	5.96	775.078		
1,700.00	1,700.00	1,686.22	1,685.91	3.68	2.58	164.03	-4,437.38	1,270.22	4,615.60	4,609.34	6.26	737.167		
1,709.06	1,709.06	1,690.76	1,690.44	3.70	2.59	164.03	-4,437.48	1,269.85	4,615.60	4,609.31	6.29	734.077		
1,800.00	1,800.00	1,745.55	1,745.00	3.91	2.67	164.09	-4,439.02	1,265.12	4,615.92	4,609.34	6.57	702.164		
1,900.00	1,900.00	1,794.00	1,793.21	4.13	2.75	164.15	-4,440.92	1,260.73	4,617.23	4,610.35	6.88	670.908		
2,000.00	2,000.00	1,879.06	1,877.78	4.36	2.93	164.26	-4,445.04	1,252.61	4,619.31	4,612.02	7.28	634.185		
2,100.00	2,100.00	1,974.80	1,972.97	4.58	3.16	164.39	-4,449.87	1,243.50	4,621.61	4,613.87	7.73	597.497		
2,200.00	2,200.00	2,074.21	2,071.81	4.81	3.42	164.52	-4,454.88	1,234.15	4,623.95	4,615.72	8.22	562.279		
2,300.00	2,300.00	2,176.65	2,173.66	5.03	3.72	164.65	-4,460.05	1,224.38	4,626.29	4,617.55	8.74	529.039		
2,400.00	2,400.00	2,280.75	2,277.15	5.26	4.04	164.79	-4,465.22	1,214.39	4,628.57	4,619.27	9.29	498.198		
2,500.00	2,500.00	2,391.63	2,387.40	5.48	4.40	164.93	-4,470.49	1,203.91	4,630.70	4,620.83	9.87	469.013		
2,600.00	2,600.00	2,487.00	2,482.26	5.71	4.72	165.05	-4,474.90	1,195.16	4,632.80	4,622.39	10.42	444.789		
2,700.00	2,700.00	2,591.50	2,586.23	5.93	5.08	165.18	-4,479.69	1,185.65	4,634.90	4,623.90	11.00	421.444		
2,800.00	2,800.00	2,690.75	2,684.96	6.15	5.43	165.30	-4,484.21	1,176.71	4,637.02	4,625.45	11.57	400.856		
2,900.00	2,900.00	2,820.19	2,813.78	6.38	5.89	165.45	-4,489.36	1,165.08	4,638.56	4,626.31	12.25	378.629		
3,000.00	3,000.00	2,926.37	2,919.48	6.60	6.27	165.57	-4,493.33	1,155.81	4,640.00	4,627.15	12.85	360.962		
3,100.00	3,099.99	3,010.39	3,003.15	6.82	6.57	93.14	-4,496.30	1,148.83	4,641.44	4,628.08	13.37	347.163		
3,200.00	3,199.96	3,157.61	3,149.74	7.03	7.10	93.34	-4,501.64	1,136.31	4,643.15	4,629.04	14.11	329.065		
3,300.00	3,299.86	3,247.28	3,238.97	7.23	7.44	93.49	-4,504.49	1,127.90	4,644.21	4,629.56	14.65	317.014		
3,400.00	3,399.68	3,363.00	3,354.16	7.45	7.87	93.70	-4,507.81	1,117.38	4,645.19	4,629.90	15.29	303.829		
3,429.62	3,429.22	3,386.51	3,377.57	7.51	7.95	93.75	-4,508.47	1,115.29	4,645.52	4,630.08	15.44	300.896		
3,500.00	3,499.40	3,445.23	3,436.03	7.66	8.17	93.87	-4,510.23	1,110.14	4,646.47	4,630.66	15.81	293.939		
3,600.00	3,599.12	3,548.54	3,538.86	7.88	8.56	94.08	-4,513.51	1,100.67	4,647.95	4,631.54	16.41	283.238		
3,700.00	3,698.84	3,659.29	3,649.09	8.10	8.97	94.32	-4,516.68	1,090.41	4,649.16	4,632.12	17.05	272.757		
3,800.00	3,798.56	3,742.59	3,731.98	8.32	9.29	94.49	-4,519.18	1,082.55	4,650.54	4,632.96	17.58	264.529		
3,900.00	3,898.28	3,820.99	3,809.95	8.54	9.59	94.67	-4,521.95	1,074.88	4,652.42	4,634.32	18.10	257.026		
4,000.00	3,997.99	3,921.39	3,909.82	8.77	9.97	94.88	-4,525.65	1,065.24	4,654.55	4,635.84	18.71	248.796		
4,100.00	4,097.71	4,016.69	4,004.66	8.99	10.34	95.08	-4,528.92	1,056.51	4,656.61	4,637.31	19.30	241.320		
4,200.00	4,197.43	4,092.00	4,079.55	9.22	10.63	95.25	-4,532.15	1,049.28	4,659.37	4,639.56	19.81	235.195		
4,300.00	4,297.15	4,147.11	4,134.33	9.45	10.84	95.37	-4,534.94	1,043.84	4,662.84	4,642.59	20.25	230.280		
4,400.00	4,396.87	4,258.45	4,245.01	9.68	11.28	95.61	-4,540.68	1,033.26	4,666.70	4,645.79	20.91	223.199		
4,500.00	4,496.59	4,355.50	4,341.57	9.91	11.65	95.82	-4,545.22	1,024.58	4,670.25	4,648.74	21.51	217.126		
4,600.00	4,496.31	4,432.09	4,417.80	10.14	11.94	95.97	-4,548.94	1,018.18	4,674.15	4,652.12	22.03	212.178		
4,700.00	4,496.03	4,506.65	4,491.99	10.38	12.23	96.12	-4,552.96	1,011.98	4,678.64	4,656.10	22.54	207.557		
4,800.00	4,795.75	4,593.65	4,578.54	10.61	12.56	96.30	-4,558.06	1,004.84	4,683.63	4,660.53	23.10	202.721		
4,900.00	4,895.47	4,703.89	4,688.19	10.85	12.99	96.53	-4,564.42	995.33	4,688.53	4,664.77	23.76	197.318		
5,000.00	4,995.19	4,786.06	4,769.91	11.08	13.31	96.70	-4,569.17	988.21	4,693.52	4,669.22	24.31	193.090		
5,100.00	5,094.90	4,849.00	4,832.53	11.32	13.55	96.83	-4,573.10	983.23	4,699.16	4,674.39	24.78	189.672		
5,200.00	5,194.62	4,922.33	4,905.50	11.56	13.84	96.97	-4,578.10	977.81	4,705.49	4,680.21	25.28	186.125		
5,300.00	5,294.34	5,173.99	5,155.88	11.80	14.81	97.48	-4,591.62	956.77	4,709.87	4,683.36	26.50	177.710		
5,400.00	5,394.06	5,301.27	5,282.65	12.03	15.29	97.72	-4,596.52	946.53	4,713.36	4,686.13	27.23	173.124		
5,500.00	5,493.78	5,430.21	5,410.85	12.27	15.80	98.00	-4,600.80	933.44	4,715.97	4,688.00	27.97	168.613		
5,600.00	5,593.50	5,531.20	5,510.98	12.51	16.21	98.25	-4,604.18	920.73	4,718.33	4,689.71	28.61	164.890		
5,700.00	5,693.22	5,625.15	5,604.08	12.76	16.60	98.49	-4,607.47	908.54	4,720.85	4,691.62	29.24	161.469		
5,800.00	5,792.94	5,705.24	5,683.41	13.00	16.93	98.69	-4,610.36	897.99	4,723.57	4,693.77	29.80	158.494		
5,900.00	5,892.66	5,771.00	5,748.58	13.24	17.20	98.85	-4,613.19	889.57	4,727.06	4,696.75	30.31	155.963		
6,000.00	5,992.38	5,817.07	5,794.23	13.48	17.39	98.97	-4,615.55	883.86	4,731.47	4,700.75	30.73	153.973		

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

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Survey Program: 85-ISCWSA-GYRO-3, 1447-LEAM_MWD, 15750-Project													Offset Well Error:	0.00 usft
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6,100.00	6,092.09	5,866.00	5,842.71	13.72	17.59	99.09	-4,618.51	877.95	4,736.97	4,705.81	31.16	152.028		
6,200.00	6,191.81	5,960.00	5,935.94	13.97	17.97	99.31	-4,624.65	867.62	4,743.14	4,711.36	31.77	149.277		
6,300.00	6,291.53	6,036.40	6,011.80	14.21	18.28	99.47	-4,629.74	860.19	4,749.66	4,717.35	32.31	147.010		
6,400.00	6,391.25	15,750.00	11,082.01	14.45	85.39	179.35	52.13	180.84	4,710.44	4,665.31	45.12	104.390		
6,500.00	6,490.97	15,750.00	11,082.01	14.70	85.39	179.35	52.13	180.84	4,610.81	4,565.54	45.27	101.851		
6,600.00	6,590.69	15,750.00	11,082.01	14.94	85.39	179.35	52.13	180.84	4,511.20	4,465.78	45.42	99.320		
6,700.00	6,690.41	15,750.00	11,082.01	15.19	85.39	179.35	52.13	180.84	4,411.61	4,366.04	45.58	96.798		
6,800.00	6,790.13	15,750.00	11,082.01	15.43	85.39	179.35	52.13	180.84	4,312.04	4,266.31	45.73	94.286		
6,900.00	6,889.85	15,750.00	11,082.01	15.68	85.39	179.35	52.13	180.84	4,212.49	4,166.59	45.90	91.784		
7,000.00	6,989.57	15,750.00	11,082.01	15.92	85.39	179.35	52.13	180.84	4,112.96	4,066.90	46.06	89.292		
7,100.00	7,089.28	15,750.00	11,082.01	16.17	85.39	179.35	52.13	180.84	4,013.45	3,967.22	46.23	86.812		
7,200.00	7,189.00	15,750.00	11,082.01	16.41	85.39	179.35	52.13	180.84	3,913.97	3,867.57	46.41	84.342		
7,300.00	7,288.72	15,750.00	11,082.01	16.66	85.39	179.35	52.13	180.84	3,814.52	3,767.93	46.58	81.884		
7,400.00	7,388.44	15,750.00	11,082.01	16.91	85.39	179.35	52.13	180.84	3,715.09	3,668.33	46.77	79.439		
7,500.00	7,488.16	15,750.00	11,082.01	17.15	85.39	179.35	52.13	180.84	3,615.70	3,568.75	46.95	77.005		
7,600.00	7,587.88	15,750.00	11,082.01	17.40	85.39	179.35	52.13	180.84	3,516.34	3,469.20	47.15	74.584		
7,700.00	7,687.60	15,750.00	11,082.01	17.65	85.39	179.35	52.13	180.84	3,417.02	3,369.68	47.34	72.176		
7,800.00	7,787.32	15,750.00	11,082.01	17.90	85.39	179.35	52.13	180.84	3,317.74	3,270.19	47.54	69.781		
7,900.00	7,887.04	15,750.00	11,082.01	18.14	85.39	179.35	52.13	180.84	3,218.50	3,170.75	47.75	67.399		
8,000.00	7,986.76	15,750.00	11,082.01	18.39	85.39	179.35	52.13	180.84	3,119.32	3,071.35	47.97	65.031		
8,100.00	8,086.47	15,750.00	11,082.01	18.64	85.39	179.35	52.13	180.84	3,020.18	2,972.00	48.19	62.676		
8,200.00	8,186.19	15,750.00	11,082.01	18.89	85.39	179.35	52.13	180.84	2,921.11	2,872.69	48.42	60.334		
8,300.00	8,285.91	15,750.00	11,082.01	19.14	85.39	179.35	52.13	180.84	2,822.10	2,773.45	48.65	58.006		
8,332.04	8,317.86	15,750.00	11,082.01	19.22	85.39	179.35	52.13	180.84	2,790.39	2,741.66	48.73	57.263		
8,400.00	8,385.66	15,750.00	11,082.01	19.36	85.39	179.29	52.13	180.84	2,723.11	2,674.21	48.90	55.692		
8,500.00	8,485.51	15,750.00	11,082.01	19.55	85.39	179.19	52.13	180.84	2,623.95	2,574.81	49.14	53.393		
8,600.00	8,585.44	15,750.00	11,082.01	19.74	85.39	179.06	52.13	180.84	2,524.65	2,475.25	49.40	51.110		
8,700.00	8,685.42	15,750.00	11,082.01	19.92	85.39	178.89	52.13	180.84	2,425.19	2,375.54	49.65	48.845		
8,761.66	8,747.08	15,750.00	11,082.01	20.02	85.39	-108.73	52.13	180.84	2,363.80	2,313.99	49.81	47.458		
8,800.00	8,785.42	15,750.00	11,082.01	20.10	85.39	-108.73	52.13	180.84	2,325.62	2,275.71	49.91	46.599		
8,900.00	8,885.42	15,750.00	11,082.01	20.30	85.39	-108.73	52.13	180.84	2,226.05	2,175.88	50.17	44.371		
9,000.00	8,985.42	15,750.00	11,082.01	20.51	85.39	-108.73	52.13	180.84	2,126.52	2,076.08	50.44	42.158		
9,061.66	9,047.08	15,750.00	11,082.01	20.64	85.39	-108.73	52.13	180.84	2,065.18	2,014.56	50.61	40.802		
9,100.00	9,085.39	15,750.00	11,082.01	20.71	85.39	109.19	52.13	180.84	2,027.03	1,976.31	50.72	39.966		
9,150.00	9,135.07	15,750.00	11,082.01	20.79	85.39	140.46	52.13	180.84	1,977.45	1,926.62	50.84	38.899		
9,200.00	9,184.08	15,750.00	11,082.01	20.87	85.39	153.93	52.13	180.84	1,928.45	1,877.52	50.93	37.865		
9,250.00	9,232.05	15,750.00	11,082.01	20.95	85.39	160.60	52.13	180.84	1,880.45	1,829.45	51.00	36.874		
9,300.00	9,278.61	15,750.00	11,082.01	21.02	85.39	164.44	52.13	180.84	1,833.90	1,782.87	51.04	35.932		
9,350.00	9,323.40	15,750.00	11,082.01	21.09	85.39	166.89	52.13	180.84	1,789.30	1,738.25	51.05	35.047		
9,400.00	9,366.10	15,746.55	11,082.10	21.16	85.39	168.54	48.69	181.13	1,747.15	1,696.08	51.07	34.211		
9,450.00	9,406.36	15,716.05	11,082.84	21.23	85.37	169.65	18.31	183.68	1,707.61	1,656.46	51.16	33.380		
9,500.00	9,443.89	15,681.22	11,083.69	21.30	85.14	170.49	-16.39	186.57	1,670.85	1,619.70	51.15	32.666		
9,550.00	9,478.41	15,639.88	11,084.59	21.37	84.50	171.15	-57.60	189.67	1,637.07	1,586.15	50.93	32.145		
9,600.00	9,509.63	15,586.77	11,085.43	21.46	83.68	171.67	-110.55	193.67	1,606.37	1,555.76	50.61	31.741		
9,650.00	9,537.34	15,532.86	11,085.87	21.56	82.86	172.13	-164.29	198.00	1,578.82	1,528.54	50.28	31.400		
9,700.00	9,561.32	15,479.58	11,085.91	21.68	82.04	172.50	-217.42	202.04	1,554.70	1,504.73	49.96	31.116		
9,750.00	9,581.39	15,439.48	11,085.79	21.82	81.43	172.81	-257.42	204.85	1,534.30	1,484.54	49.76	30.835		
9,800.00	9,597.38	15,407.16	11,085.96	21.99	80.94	173.04	-289.67	206.98	1,518.34	1,468.72	49.62	30.598		
9,850.00	9,609.19	15,364.00	11,086.66	22.19	80.28	173.23	-332.74	209.64	1,507.06	1,457.66	49.40	30.506		
9,900.00	9,616.72	15,327.64	11,087.48	22.41	79.74	173.36	-369.03	211.82	1,500.32	1,451.07	49.25	30.465		
9,950.00	9,619.92	15,276.04	11,088.59	22.66	78.96	173.48	-420.52	214.99	1,497.90	1,448.94	48.97	30.590		
9,953.22	9,619.98	15,272.71	11,088.66	22.68	78.91	173.49	-423.84	215.20	1,497.90	1,448.95	48.95	30.601		

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 161H
Project:	Lea County, NM (NAD-83)	TVD Reference:	3711.5' GE + 23.5' KB @ 3735.00usft
Reference Site:	Thistle Unit Sec 22-27 Trac Pad	MD Reference:	3711.5' GE + 23.5' KB @ 3735.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Thistle Unit 161H	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
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Semi Major Axis (usft)	Highside Toolface (°)	Offset Wellbore Centre +N-S (usft)	+E-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
9,968.10	9,620.00	15,257.15	11,088.98	22.76	78.67	173.52		-439.36	216.18	1,498.08	1,449.22	48.87	30.657	
10,000.00	9,619.64	15,223.67	11,089.65	26.75	78.17	173.60		-472.77	218.24	1,498.88	1,449.97	48.90	30.650	
10,100.00	9,618.52	15,116.16	11,091.44	26.83	76.56	173.82		-580.09	224.44	1,501.10	1,453.05	48.06	31.236	
10,200.00	9,617.40	15,024.53	11,092.68	26.91	75.21	173.97		-671.59	229.01	1,503.13	1,455.61	47.52	31.633	
10,300.00	9,616.27	14,922.24	11,094.84	26.99	73.70	174.17		-773.70	234.74	1,505.86	1,458.99	46.87	32.130	
10,400.00	9,615.15	14,806.13	11,096.17	27.07	72.00	174.39		-889.64	240.90	1,507.66	1,461.59	46.07	32.727	
10,500.00	9,614.02	14,712.68	11,096.86	27.16	70.64	174.54		-982.98	245.43	1,509.12	1,463.46	45.66	33.049	
10,600.00	9,612.90	14,604.90	11,097.73	27.24	69.09	174.71		-1,090.63	250.59	1,510.66	1,465.56	45.10	33.497	
10,700.00	9,611.78	14,497.72	11,097.96	27.33	67.57	174.88		-1,197.69	255.68	1,511.63	1,467.03	44.59	33.897	
10,800.00	9,610.65	14,395.81	11,097.84	27.42	66.14	175.02		-1,299.50	260.08	1,512.32	1,468.10	44.21	34.204	
10,900.00	9,609.53	14,289.76	11,097.59	27.51	64.66	175.17		-1,405.44	264.92	1,512.88	1,469.06	43.82	34.525	
11,000.00	9,608.40	14,174.69	11,096.30	27.61	63.07	175.35		-1,520.38	270.31	1,512.55	1,469.20	43.35	34.892	
11,100.00	9,607.28	14,065.22	11,094.30	27.70	61.57	175.53		-1,629.68	276.15	1,511.48	1,468.48	43.00	35.154	
11,200.00	9,606.16	13,958.20	11,091.77	27.80	60.12	175.73		-1,736.50	282.12	1,509.87	1,467.15	42.71	35.348	
11,300.00	9,605.03	13,861.52	11,089.37	27.90	58.82	175.92		-1,832.97	288.11	1,508.11	1,465.52	42.59	35.407	
11,400.00	9,603.91	13,764.59	11,087.24	28.01	57.53	176.14		-1,929.66	294.53	1,506.63	1,464.12	42.50	35.448	
11,500.00	9,602.79	13,663.61	11,085.04	28.12	56.22	176.34		-2,030.42	300.67	1,505.22	1,462.83	42.39	35.507	
11,600.00	9,601.66	13,558.45	11,082.47	28.23	54.87	176.53		-2,135.39	306.54	1,503.59	1,461.33	42.26	35.577	
11,700.00	9,600.54	13,462.10	11,080.04	28.35	53.66	176.69		-2,231.58	311.49	1,501.94	1,459.68	42.26	35.537	
11,800.00	9,599.41	13,363.76	11,077.74	28.48	52.46	176.83		-2,329.79	316.03	1,500.51	1,458.24	42.27	35.501	
11,900.00	9,598.29	13,265.62	11,075.33	28.61	51.28	176.99		-2,427.77	321.03	1,498.94	1,456.65	42.30	35.440	
11,968.06	9,597.53	13,216.77	11,074.59	28.72	50.70	177.08		-2,476.54	323.59	1,498.51	1,455.97	42.53	35.233	
12,000.00	9,597.17	13,189.00	11,074.44	28.77	50.37	177.12		-2,504.28	325.01	1,498.61	1,456.03	42.59	35.189	
12,100.00	9,596.04	13,094.00	11,074.02	28.94	49.28	177.27		-2,599.18	329.41	1,499.11	1,456.41	42.70	35.110	
12,200.00	9,594.92	13,017.10	11,074.20	29.14	48.43	177.36		-2,676.02	332.30	1,500.36	1,457.32	43.03	34.865	
12,300.00	9,593.79	12,930.28	11,075.66	29.38	47.49	177.42		-2,762.80	334.50	1,503.06	1,459.79	43.28	34.732	
12,400.00	9,592.67	12,818.00	11,077.57	29.68	46.32	177.45		-2,875.06	335.89	1,505.89	1,462.64	43.24	34.824	
12,500.00	9,591.55	12,718.83	11,078.69	30.02	45.32	177.49		-2,974.20	337.66	1,508.09	1,464.71	43.38	34.761	
12,600.00	9,590.42	12,628.62	11,080.08	30.41	44.45	177.55		-3,064.38	339.71	1,510.68	1,467.03	43.65	34.611	
12,700.00	9,589.30	12,527.44	11,081.93	30.85	43.50	177.60		-3,165.52	341.60	1,513.59	1,469.78	43.81	34.545	
12,800.00	9,588.18	12,426.26	11,083.84	31.31	42.66	177.66		-3,269.79	343.49	1,516.59	1,472.66	44.00	34.480	
12,900.00	9,587.05	12,325.08	11,085.79	31.81	41.83	177.72		-3,377.14	345.38	1,519.68	1,475.61	44.21	34.415	
13,000.00	9,585.93	12,223.90	11,087.74	32.32	41.00	177.78		-3,487.66	347.27	1,522.77	1,478.61	44.44	34.350	
13,100.00	9,584.80	12,122.72	11,089.69	32.85	40.17	177.84		-3,599.34	349.16	1,525.86	1,481.61	44.69	34.285	
13,200.00	9,583.68	12,021.54	11,091.64	33.39	39.34	177.90		-3,713.07	351.05	1,528.95	1,484.61	44.95	34.220	
13,300.00	9,582.56	11,920.36	11,093.59	33.95	38.51	177.96		-3,828.84	352.94	1,532.04	1,487.61	45.22	34.155	
13,400.00	9,581.43	11,819.18	11,095.54	34.51	37.68	178.02		-3,946.66	354.83	1,535.13	1,490.61	45.50	34.090	
13,500.00	9,580.31	11,717.99	11,097.49	35.09	36.85	178.08		-4,066.53	356.72	1,538.22	1,493.61	45.79	34.025	
13,600.00	9,579.18	11,616.81	11,099.44	35.67	36.02	178.14		-4,188.45	358.61	1,541.31	1,496.61	46.09	33.960	
13,700.00	9,578.06	11,515.62	11,101.39	36.26	35.19	178.20		-4,312.41	360.50	1,544.40	1,499.61	46.40	33.895	
13,800.00	9,576.94	11,414.44	11,103.34	36.86	34.36	178.26		-4,438.42	362.39	1,547.49	1,502.61	46.72	33.830	
13,900.00	9,575.81	11,313.26	11,105.29	37.47	33.53	178.32		-4,566.47	364.28	1,550.58	1,505.61	47.05	33.765	
14,000.00	9,574.69	11,212.08	11,107.24	38.08	32.70	178.38		-4,696.56	366.17	1,553.67	1,508.61	47.39	33.700	
14,100.00	9,573.57	11,110.89	11,109.19	38.70	31.87	178.44		-4,828.69	368.06	1,556.76	1,511.61	47.74	33.635	
14,200.00	9,572.44	11,009.71	11,111.14	39.32	31.04	178.50		-4,962.86	369.95	1,559.85	1,514.61	48.10	33.570	
14,281.10	9,571.53	10,908.44	11,112.87	39.83	30.21	178.56		-5,099.07	371.84	1,562.94	1,517.61	48.47	33.505	
14,300.00	9,571.32	10,807.26	11,114.82	39.95	29.38	178.62		-5,237.32	373.73	1,566.03	1,520.61	48.85	33.440	
14,400.00	9,570.19	10,706.08	11,116.77	40.59	28.55	178.68		-5,377.61	375.62	1,569.12	1,523.61	49.24	33.375	
14,500.00	9,569.07	10,604.90	11,118.72	41.22	27.72	178.74		-5,519.94	377.51	1,572.21	1,526.61	49.64	33.310	
14,600.00	9,567.95	10,503.72	11,120.67	41.87	26.89	178.80		-5,664.31	379.40	1,575.30	1,529.61	50.05	33.245	
14,700.00	9,566.82	10,402.54	11,122.62	42.51	26.06	178.86		-5,810.72	381.29	1,578.39	1,532.61	50.47	33.180	
14,800.00	9,565.70	10,301.36	11,124.57	43.17	25.23	178.92		-5,959.17	383.18	1,581.48	1,535.61	50.90	33.115	

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 161H
Project:	Lea County, NM (NAD-83)	TVD Reference:	3711.5' GE + 23.5' KB @ 3735.00usft
Reference Site:	Thistle Unit Sec 22-27 Trac Pad	MD Reference:	3711.5' GE + 23.5' KB @ 3735.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Thistle Unit 161H	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		
14,900.00	9,564.57	9,632.32	9,589.15	43.82	32.37	-108.34	-4,772.52	528.55	629.07	565.03	64.04	9.823		
15,000.00	9,563.45	9,636.11	9,592.90	44.48	32.39	-110.14	-4,772.71	528.11	727.54	663.45	64.09	11.352		
15,100.00	9,562.33	9,639.88	9,596.64	45.14	32.40	-111.89	-4,772.90	527.68	826.36	762.19	64.16	12.879		
15,200.00	9,561.20	9,643.62	9,600.36	45.81	32.42	-113.61	-4,773.09	527.25	925.41	861.16	64.26	14.402		
15,300.00	9,560.08	9,647.35	9,604.05	46.48	32.43	-115.29	-4,773.27	526.82	1,024.64	960.28	64.36	15.921		
15,400.00	9,558.96	9,649.00	9,605.69	47.15	32.44	-116.02	-4,773.36	526.63	1,123.99	1,059.54	64.45	17.439		
15,500.00	9,557.83	9,649.00	9,605.69	47.82	32.44	-116.02	-4,773.36	526.63	1,223.45	1,158.90	64.54	18.955		
15,600.00	9,556.71	9,649.00	9,605.69	48.50	32.44	-116.02	-4,773.36	526.63	1,322.98	1,258.34	64.64	20.467		
15,700.00	9,555.58	9,649.00	9,605.69	49.18	32.44	-116.02	-4,773.36	526.63	1,422.59	1,357.85	64.74	21.974		
15,800.00	9,554.46	9,661.95	9,618.55	49.86	32.49	-121.53	-4,773.99	525.17	1,522.17	1,457.24	64.93	23.443		
15,900.00	9,553.34	9,664.56	9,621.13	50.55	32.50	-122.59	-4,774.11	524.88	1,621.84	1,556.78	65.05	24.930		
16,000.00	9,552.21	9,667.09	9,623.65	51.24	32.51	-123.59	-4,774.23	524.60	1,721.54	1,656.36	65.18	26.413		
16,100.00	9,551.09	9,669.55	9,626.09	51.92	32.52	-124.55	-4,774.35	524.33	1,821.27	1,755.97	65.30	27.889		
16,200.00	9,549.96	9,671.94	9,628.46	52.62	32.53	-125.46	-4,774.45	524.08	1,921.02	1,855.59	65.43	29.359		
16,300.00	9,548.84	9,674.26	9,630.76	53.31	32.54	-126.34	-4,774.56	523.83	2,020.80	1,955.24	65.56	30.824		
16,400.00	9,547.72	9,676.51	9,633.00	54.01	32.55	-127.17	-4,774.66	523.58	2,120.59	2,054.90	65.69	32.283		
16,500.00	9,546.59	9,678.71	9,635.18	54.70	32.56	-127.97	-4,774.76	523.35	2,220.40	2,154.58	65.82	33.736		
16,600.00	9,545.47	9,680.84	9,637.30	55.40	32.57	-128.73	-4,774.85	523.12	2,320.22	2,254.27	65.95	35.183		
16,700.00	9,544.35	9,682.92	9,639.37	56.10	32.58	-129.46	-4,774.94	522.91	2,420.05	2,353.98	66.08	36.624		
16,800.00	9,543.22	9,684.94	9,641.38	56.81	32.58	-130.16	-4,775.03	522.69	2,519.90	2,453.69	66.21	38.059		
16,900.00	9,542.10	9,686.91	9,643.34	57.51	32.59	-130.83	-4,775.11	522.49	2,619.75	2,553.41	66.34	39.488		
17,000.00	9,540.97	9,688.83	9,645.24	58.22	32.60	-131.47	-4,775.19	522.29	2,719.61	2,653.14	66.47	40.912		
17,086.67	9,540.00	9,690.46	9,646.86	58.83	32.61	-132.00	-4,775.26	522.12	2,806.17	2,739.58	66.59	42.141		

LEAM Drilling Systems LLC

Anticollision Report

Company:	Devon Energy	Local Co-ordinate Reference:	Well Thistle Unit 161H
Project:	Lea County, NM (NAD-83)	TVD Reference:	3711.5' GE + 23.5' KB @ 3735.00usft
Reference Site:	Thistle Unit Sec 22-27 Trac Pad	MD Reference:	3711.5' GE + 23.5' KB @ 3735.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Thistle Unit 161H	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													Offset Site Error:	0.00 usft
Thistle Unit - 72H - OH - OH													Offset Well Error:	0.00 usft
Survey Program: 62- VES GyroFlex V2, 10428-LEAM MWD+HDGM, 15490-Project														
Reference		Offset		Semi Major Axis		Distance								
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning	
0.00	0.00	0.00	0.00	0.00	0.00	174.43	-9,893.29	964.37	9,940.27					
100.00	100.00	97.44	97.44	0.09	0.09	174.43	-9,893.06	963.98	9,939.99	9,939.82	0.17	N/A		
200.00	200.00	187.93	187.93	0.31	0.20	174.44	-9,892.78	963.29	9,939.61	9,939.11	0.50	N/A		
300.00	300.00	269.30	269.29	0.54	0.26	174.44	-9,892.68	962.64	9,939.41	9,938.62	0.78	N/A		
400.00	400.00	346.52	346.51	0.76	0.31	174.45	-9,892.67	961.98	9,939.34	9,938.28	1.05	9,443.732		
404.78	404.78	361.69	361.68	0.77	0.32	174.45	-9,892.68	961.85	9,939.32	9,938.26	1.07	9,289.742		
500.00	500.00	441.29	441.28	0.99	0.36	174.45	-9,892.89	961.19	9,939.49	9,938.16	1.32	7,526.597		
600.00	600.00	512.68	512.66	1.21	0.39	174.45	-9,893.23	960.71	9,939.86	9,938.29	1.57	6,314.181		
700.00	700.00	598.98	598.97	1.43	0.43	174.46	-9,893.71	960.29	9,940.38	9,938.55	1.83	5,427.052		
800.00	800.00	743.03	743.01	1.66	0.49	174.46	-9,894.36	959.72	9,940.81	9,938.70	2.11	4,722.392		
900.00	900.00	838.89	838.87	1.88	0.53	174.46	-9,894.53	959.45	9,940.96	9,938.60	2.36	4,210.645		
1,000.00	1,000.00	915.14	915.12	2.11	0.56	174.46	-9,894.74	959.35	9,941.23	9,938.62	2.61	3,808.214		
1,100.00	1,100.00	995.12	995.10	2.33	0.59	174.46	-9,895.13	959.40	9,941.72	9,938.86	2.86	3,474.293		
1,200.00	1,200.00	1,100.80	1,100.77	2.56	0.61	174.46	-9,895.75	959.81	9,942.35	9,939.23	3.12	3,186.618		
1,300.00	1,300.00	1,193.70	1,193.67	2.78	0.63	174.46	-9,896.25	960.42	9,942.95	9,939.58	3.37	2,947.318		
1,400.00	1,400.00	1,307.51	1,307.48	3.01	0.65	174.45	-9,896.83	961.13	9,943.51	9,939.88	3.63	2,737.153		
1,500.00	1,500.00	1,398.74	1,398.70	3.23	0.68	174.45	-9,897.28	961.58	9,944.05	9,940.17	3.89	2,559.205		
1,600.00	1,600.00	1,483.76	1,483.72	3.46	0.70	174.45	-9,897.80	962.12	9,944.72	9,940.58	4.14	2,404.205		
1,700.00	1,700.00	1,612.05	1,612.01	3.68	0.73	174.44	-9,898.50	962.94	9,945.33	9,940.94	4.40	2,260.995		
1,800.00	1,800.00	1,728.50	1,728.46	3.91	0.76	174.44	-9,898.83	963.46	9,945.65	9,941.00	4.66	2,135.987		
1,900.00	1,900.00	1,814.27	1,814.23	4.13	0.78	174.44	-9,899.09	963.77	9,945.99	9,941.08	4.91	2,027.306		
2,000.00	2,000.00	1,899.09	1,899.04	4.36	0.80	174.44	-9,899.52	964.06	9,946.52	9,941.36	5.16	1,928.838		
2,100.00	2,100.00	2,039.42	2,039.37	4.58	0.84	174.44	-9,900.16	964.46	9,947.04	9,941.62	5.42	1,834.034		
2,200.00	2,200.00	2,136.44	2,136.39	4.81	0.87	174.44	-9,900.30	964.62	9,947.20	9,941.52	5.68	1,752.475		
2,300.00	2,300.00	2,261.46	2,261.41	5.03	0.90	174.43	-9,900.38	964.80	9,947.28	9,941.35	5.93	1,678.621		
2,400.00	2,400.00	2,367.04	2,366.99	5.26	0.90	174.43	-9,900.33	964.81	9,947.23	9,941.07	6.16	1,615.522		
2,500.00	2,500.00	2,494.99	2,494.94	5.48	0.91	174.44	-9,900.06	964.60	9,947.01	9,940.62	6.39	1,557.472		
2,600.00	2,600.00	2,598.96	2,598.91	5.71	0.91	174.44	-9,899.64	964.24	9,946.58	9,939.96	6.62	1,503.216		
2,700.00	2,700.00	15,490.00	10,980.34	5.93	101.62	169.56	-5,255.44	967.93	9,890.88	9,849.67	41.21	240.017		
2,800.00	2,800.00	15,490.00	10,980.34	6.15	101.62	169.56	-5,255.44	967.93	9,806.88	9,765.61	41.27	237.599		
2,900.00	2,900.00	15,490.00	10,980.34	6.38	101.62	169.56	-5,255.44	967.93	9,723.18	9,681.84	41.35	235.160		
3,000.00	3,000.00	15,490.00	10,980.34	6.60	101.62	169.56	-5,255.44	967.93	9,639.80	9,598.37	41.43	232.702		
3,100.00	3,099.99	15,490.00	10,980.34	6.82	101.62	98.52	-5,255.44	967.93	9,556.79	9,515.29	41.50	230.274		
3,200.00	3,199.96	15,490.00	10,980.34	7.03	101.62	99.96	-5,255.44	967.93	9,474.26	9,432.69	41.57	227.891		
3,300.00	3,299.86	15,490.00	10,980.34	7.23	101.62	101.37	-5,255.44	967.93	9,392.25	9,350.60	41.65	225.525		
3,400.00	3,399.68	15,490.00	10,980.34	7.45	101.62	102.75	-5,255.44	967.93	9,310.78	9,269.07	41.72	223.177		
3,429.62	3,429.22	15,490.00	10,980.34	7.51	101.62	103.15	-5,255.44	967.93	9,286.77	9,245.03	41.74	222.489		
3,500.00	3,499.40	15,490.00	10,980.34	7.66	101.62	103.15	-5,255.44	967.93	9,229.85	9,188.06	41.79	220.839		
3,600.00	3,599.12	15,490.00	10,980.34	7.88	101.62	103.15	-5,255.44	967.93	9,149.31	9,107.43	41.88	218.487		
3,700.00	3,698.84	15,490.00	10,980.34	8.10	101.62	103.15	-5,255.44	967.93	9,069.15	9,027.19	41.96	216.131		
3,800.00	3,798.56	15,490.00	10,980.34	8.32	101.62	103.15	-5,255.44	967.93	8,989.39	8,947.34	42.05	213.773		
3,900.00	3,898.28	15,490.00	10,980.34	8.54	101.62	103.15	-5,255.44	967.93	8,910.04	8,867.89	42.14	211.416		
4,000.00	3,997.99	15,490.00	10,980.34	8.77	101.62	103.15	-5,255.44	967.93	8,831.10	8,788.86	42.24	209.063		
4,100.00	4,097.71	15,490.00	10,980.34	8.99	101.62	103.15	-5,255.44	967.93	8,752.60	8,710.26	42.34	206.715		
4,200.00	4,197.43	15,490.00	10,980.34	9.22	101.62	103.15	-5,255.44	967.93	8,674.54	8,632.10	42.44	204.375		
4,300.00	4,297.15	15,490.00	10,980.34	9.45	101.62	103.15	-5,255.44	967.93	8,596.94	8,554.39	42.55	202.044		
4,400.00	4,396.87	15,490.00	10,980.34	9.68	101.62	103.15	-5,255.44	967.93	8,519.80	8,477.14	42.66	199.725		
4,500.00	4,496.59	15,490.00	10,980.34	9.91	101.62	103.15	-5,255.44	967.93	8,443.14	8,400.37	42.77	197.419		
4,600.00	4,496.31	15,490.00	10,980.34	10.14	101.62	103.15	-5,255.44	967.93	8,366.97	8,324.09	42.88	195.128		
4,700.00	4,496.03	15,490.00	10,980.34	10.38	101.62	103.15	-5,255.44	967.93	8,291.31	8,248.32	42.99	192.854		
4,800.00	4,495.75	15,490.00	10,980.34	10.61	101.62	103.15	-5,255.44	967.93	8,216.17	8,173.07	43.11	190.597		
4,900.00	4,495.47	15,490.00	10,980.34	10.85	101.62	103.15	-5,255.44	967.93	8,141.57	8,098.35	43.22	188.360		

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

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Reference Site:	Thistle Unit Sec 22-27 Trac Pad	MD Reference:	3711.5' GE + 23.5' KB @ 3735.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Thistle Unit 161H	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 - 72H - OH - OH													Offset Site Error:	0.00 usft
Survey Program: 62- VES GyroFlex V2, 10428-LEAM MWD+HDGM, 15490-Project													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	4,995.19	15,490.00	10,980.34	11.08	101.62	103.15	-5,255.44	967.93	8,067.52	8,024.17	43.34	186.144		
5,100.00	5,094.90	15,490.00	10,980.34	11.32	101.62	103.15	-5,255.44	967.93	7,994.03	7,950.57	43.46	183.950		
5,200.00	5,194.62	15,490.00	10,980.34	11.56	101.62	103.15	-5,255.44	967.93	7,921.12	7,877.54	43.58	181.778		
5,300.00	5,294.34	15,490.00	10,980.34	11.80	101.62	103.15	-5,255.44	967.93	7,848.80	7,805.11	43.69	179.632		
5,400.00	5,394.06	15,490.00	10,980.34	12.03	101.62	103.15	-5,255.44	967.93	7,777.11	7,733.29	43.81	177.510		
5,500.00	5,493.78	15,490.00	10,980.34	12.27	101.62	103.15	-5,255.44	967.93	7,706.04	7,662.11	43.93	175.416		
5,600.00	5,593.50	15,490.00	10,980.34	12.51	101.62	103.15	-5,255.44	967.93	7,635.62	7,591.57	44.05	173.349		
5,700.00	5,693.22	15,490.00	10,980.34	12.76	101.62	103.15	-5,255.44	967.93	7,565.86	7,521.70	44.16	171.311		
5,800.00	5,792.94	15,490.00	10,980.34	13.00	101.62	103.15	-5,255.44	967.93	7,496.80	7,452.51	44.28	169.302		
5,900.00	5,892.66	15,490.00	10,980.34	13.24	101.62	103.15	-5,255.44	967.93	7,428.43	7,384.04	44.40	167.324		
6,000.00	5,992.38	15,490.00	10,980.34	13.48	101.62	103.15	-5,255.44	967.93	7,360.79	7,316.28	44.51	165.378		
6,100.00	6,092.09	15,490.00	10,980.34	13.72	101.62	103.15	-5,255.44	967.93	7,293.89	7,249.27	44.62	163.464		
6,200.00	6,191.81	15,490.00	10,980.34	13.97	101.62	103.15	-5,255.44	967.93	7,227.76	7,183.03	44.73	161.584		
6,300.00	6,291.53	15,490.00	10,980.34	14.21	101.62	103.15	-5,255.44	967.93	7,162.41	7,117.57	44.84	159.738		
6,400.00	6,391.25	15,490.00	10,980.34	14.45	101.62	103.15	-5,255.44	967.93	7,097.87	7,052.93	44.94	157.927		
6,500.00	6,490.97	15,490.00	10,980.34	14.70	101.62	103.15	-5,255.44	967.93	7,034.16	6,989.12	45.05	156.152		
6,600.00	6,590.69	15,490.00	10,980.34	14.94	101.62	103.15	-5,255.44	967.93	6,971.30	6,926.16	45.15	154.414		
6,700.00	6,690.41	15,490.00	10,980.34	15.19	101.62	103.15	-5,255.44	967.93	6,909.32	6,864.08	45.24	152.714		
6,800.00	6,790.13	15,490.00	10,980.34	15.43	101.62	103.15	-5,255.44	967.93	6,848.24	6,802.90	45.34	151.053		
6,900.00	6,889.85	15,490.00	10,980.34	15.68	101.62	103.15	-5,255.44	967.93	6,788.08	6,742.65	45.43	149.432		
7,000.00	6,989.57	15,490.00	10,980.34	15.92	101.62	103.15	-5,255.44	967.93	6,728.87	6,683.36	45.51	147.850		
7,100.00	7,089.28	15,490.00	10,980.34	16.17	101.62	103.15	-5,255.44	967.93	6,670.63	6,625.04	45.59	146.310		
7,200.00	7,189.00	15,490.00	10,980.34	16.41	101.62	103.15	-5,255.44	967.93	6,613.39	6,567.72	45.67	144.812		
7,300.00	7,288.72	15,490.00	10,980.34	16.66	101.62	103.15	-5,255.44	967.93	6,557.18	6,511.44	45.74	143.357		
7,400.00	7,388.44	15,490.00	10,980.34	16.91	101.62	103.15	-5,255.44	967.93	6,502.02	6,456.21	45.81	141.945		
7,500.00	7,488.16	15,490.00	10,980.34	17.15	101.62	103.15	-5,255.44	967.93	6,447.94	6,402.07	45.87	140.578		
7,600.00	7,587.88	15,490.00	10,980.34	17.40	101.62	103.15	-5,255.44	967.93	6,394.96	6,349.04	45.92	139.257		
7,700.00	7,687.60	15,490.00	10,980.34	17.65	101.62	103.15	-5,255.44	967.93	6,343.12	6,297.15	45.97	137.981		
7,800.00	7,787.32	15,490.00	10,980.34	17.90	101.62	103.15	-5,255.44	967.93	6,292.44	6,246.43	46.01	136.753		
7,900.00	7,887.04	15,490.00	10,980.34	18.14	101.62	103.15	-5,255.44	967.93	6,242.95	6,196.90	46.05	135.572		
8,000.00	7,986.76	15,490.00	10,980.34	18.39	101.62	103.15	-5,255.44	967.93	6,194.68	6,148.60	46.08	134.440		
8,100.00	8,086.47	15,490.00	10,980.34	18.64	101.62	103.15	-5,255.44	967.93	6,147.66	6,101.56	46.10	133.356		
8,200.00	8,186.19	15,490.00	10,980.34	18.89	101.62	103.15	-5,255.44	967.93	6,101.91	6,055.80	46.11	132.323		
8,300.00	8,285.91	15,490.00	10,980.34	19.14	101.62	103.15	-5,255.44	967.93	6,057.48	6,011.36	46.12	131.341		
8,332.04	8,317.86	15,490.00	10,980.34	19.22	101.62	103.15	-5,255.44	967.93	6,043.52	5,997.40	46.12	131.037		
8,400.00	8,385.66	15,490.00	10,980.34	19.36	101.62	102.83	-5,255.44	967.93	6,014.29	5,968.18	46.10	130.450		
8,500.00	8,485.51	15,490.00	10,980.34	19.55	101.62	102.38	-5,255.44	967.93	5,972.13	5,926.07	46.06	129.672		
8,600.00	8,585.44	15,490.00	10,980.34	19.74	101.62	101.94	-5,255.44	967.93	5,931.01	5,885.01	46.01	128.916		
8,700.00	8,685.42	15,490.00	10,980.34	19.92	101.62	101.51	-5,255.44	967.93	5,890.98	5,845.02	45.96	128.182		
8,761.66	8,747.08	15,490.00	10,980.34	20.02	101.62	173.77	-5,255.44	967.93	5,866.84	5,820.91	45.93	127.738		
8,800.00	8,785.42	15,490.00	10,980.34	20.10	101.62	173.77	-5,255.44	967.93	5,852.07	5,806.16	45.92	127.451		
8,900.00	8,885.42	15,490.00	10,980.34	20.30	101.62	173.77	-5,255.44	967.93	5,814.57	5,768.68	45.89	126.693		
9,000.00	8,985.42	15,490.00	10,980.34	20.51	101.62	173.77	-5,255.44	967.93	5,778.56	5,732.69	45.87	125.984		
9,061.66	9,047.08	15,490.00	10,980.34	20.64	101.62	173.77	-5,255.44	967.93	5,757.10	5,711.26	45.85	125.571		
9,100.00	9,085.39	15,490.00	10,980.34	20.71	101.62	-5.97	-5,255.44	967.93	5,742.87	5,697.04	45.83	125.304		
9,150.00	9,135.07	15,490.00	10,980.34	20.79	101.62	-6.23	-5,255.44	967.93	5,721.12	5,675.31	45.81	124.891		
9,200.00	9,184.08	15,490.00	10,980.34	20.87	101.62	-6.55	-5,255.44	967.93	5,695.88	5,650.09	45.79	124.390		
9,250.00	9,232.05	15,490.00	10,980.34	20.95	101.62	-6.96	-5,255.44	967.93	5,667.31	5,621.53	45.78	123.806		
9,300.00	9,278.61	15,490.00	10,980.34	21.02	101.62	-7.48	-5,255.44	967.93	5,635.56	5,589.80	45.76	123.144		
9,350.00	9,323.40	15,490.00	10,980.34	21.09	101.62	-8.13	-5,255.44	967.93	5,600.84	5,555.08	45.76	122.405		
9,400.00	9,366.10	15,490.00	10,980.34	21.16	101.62	-8.98	-5,255.44	967.93	5,563.34	5,517.59	45.75	121.595		
9,450.00	9,406.36	15,490.00	10,980.34	21.23	101.62	-10.09	-5,255.44	967.93	5,523.31	5,477.55	45.75	120.716		

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 161H
Project:	Lea County, NM (NAD-83)	TVD Reference:	3711.5' GE + 23.5' KB @ 3735.00usft
Reference Site:	Thistle Unit Sec 22-27 Trac Pad	MD Reference:	3711.5' GE + 23.5' KB @ 3735.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Thistle Unit 161H	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 - 72H - OH - OH													Offset Site Error:	0.00 usft
Survey Program: 62- VES GyroFlex V2, 10428-LEAM MWD+HDGM, 15490-Project													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	
9,500.00	9,443.89	15,490.00	10,980.34	21.30	101.62	-11.58	-5,255.44	967.93	5,480.99	5,435.23	45.76	119.774		
9,550.00	9,478.41	15,490.00	10,980.34	21.37	101.62	-13.68	-5,255.44	967.93	5,436.66	5,390.89	45.77	118.773		
9,600.00	9,509.63	15,490.00	10,980.34	21.46	101.62	-16.79	-5,255.44	967.93	5,390.61	5,344.82	45.79	117.720		
9,650.00	9,537.34	15,490.00	10,980.34	21.56	101.62	-21.79	-5,255.44	967.93	5,343.15	5,297.33	45.82	116.619		
9,700.00	9,561.32	15,490.00	10,980.34	21.68	101.62	-30.78	-5,255.44	967.93	5,294.61	5,248.76	45.85	115.478		
9,750.00	9,581.39	15,490.00	10,980.34	21.82	101.62	-49.61	-5,255.44	967.93	5,245.33	5,199.44	45.89	114.302		
9,800.00	9,597.38	15,490.00	10,980.34	21.99	101.62	-88.60	-5,255.44	967.93	5,195.68	5,149.74	45.94	113.098		
9,850.00	9,609.19	15,490.00	10,980.34	22.19	101.62	-128.45	-5,255.44	967.93	5,146.01	5,100.02	46.00	111.873		
9,900.00	9,616.72	15,490.00	10,980.34	22.41	101.62	-147.97	-5,255.44	967.93	5,096.73	5,050.66	46.07	110.633		
9,950.00	9,619.92	15,490.00	10,980.34	22.66	101.62	-157.24	-5,255.44	967.93	5,048.22	5,002.07	46.15	109.384		
9,968.10	9,620.00	15,490.00	10,980.34	22.76	101.62	-159.40	-5,255.44	967.93	5,030.93	4,984.74	46.18	108.935		
10,000.00	9,619.64	15,490.00	10,980.34	26.75	101.62	-159.40	-5,255.44	967.93	5,000.60	4,951.02	49.58	100.859		
10,100.00	9,618.52	15,490.00	10,980.34	26.83	101.62	-159.40	-5,255.44	967.93	4,905.66	4,855.83	49.83	98.443		
10,200.00	9,617.40	15,490.00	10,980.34	26.91	101.62	-159.40	-5,255.44	967.93	4,810.94	4,760.84	50.09	96.037		
10,300.00	9,616.27	15,490.00	10,980.34	26.99	101.62	-159.40	-5,255.44	967.93	4,716.42	4,666.06	50.37	93.643		
10,400.00	9,615.15	15,490.00	10,980.34	27.07	101.62	-159.40	-5,255.44	967.93	4,622.14	4,571.49	50.65	91.259		
10,500.00	9,614.02	15,490.00	10,980.34	27.16	101.62	-159.40	-5,255.44	967.93	4,528.11	4,477.17	50.94	88.888		
10,600.00	9,612.90	15,490.00	10,980.34	27.24	101.62	-159.40	-5,255.44	967.93	4,434.33	4,383.09	51.25	86.528		
10,700.00	9,611.78	15,490.00	10,980.34	27.33	101.62	-159.40	-5,255.44	967.93	4,340.84	4,289.27	51.57	84.182		
10,800.00	9,610.65	15,490.00	10,980.34	27.42	101.62	-159.40	-5,255.44	967.93	4,247.64	4,195.74	51.90	81.848		
10,900.00	9,609.53	15,490.00	10,980.34	27.51	101.62	-159.40	-5,255.44	967.93	4,154.75	4,102.51	52.24	79.529		
11,000.00	9,608.40	15,490.00	10,980.34	27.61	101.62	-159.40	-5,255.44	967.93	4,062.21	4,009.61	52.60	77.224		
11,100.00	9,607.28	15,490.00	10,980.34	27.70	101.62	-159.40	-5,255.44	967.93	3,970.02	3,917.04	52.98	74.935		
11,200.00	9,606.16	15,490.00	10,980.34	27.80	101.62	-159.40	-5,255.44	967.93	3,878.23	3,824.85	53.37	72.661		
11,300.00	9,605.03	15,490.00	10,980.34	27.90	101.62	-159.40	-5,255.44	967.93	3,786.85	3,733.06	53.79	70.404		
11,400.00	9,603.91	15,490.00	10,980.34	28.01	101.62	-159.40	-5,255.44	967.93	3,695.91	3,641.69	54.22	68.164		
11,500.00	9,602.79	15,490.00	10,980.34	28.12	101.62	-159.40	-5,255.44	967.93	3,605.45	3,550.78	54.68	65.943		
11,600.00	9,601.66	15,490.00	10,980.34	28.23	101.62	-159.40	-5,255.44	967.93	3,515.52	3,460.36	55.15	63.740		
11,700.00	9,600.54	15,490.00	10,980.34	28.35	101.62	-159.40	-5,255.44	967.93	3,426.14	3,370.48	55.66	61.558		
11,800.00	9,599.41	15,490.00	10,980.34	28.48	101.62	-159.40	-5,255.44	967.93	3,337.36	3,281.17	56.19	59.397		
11,900.00	9,598.29	15,490.00	10,980.34	28.61	101.62	-159.40	-5,255.44	967.93	3,249.23	3,192.49	56.75	57.259		
12,000.00	9,597.17	15,490.00	10,980.34	28.77	101.62	-159.40	-5,255.44	967.93	3,161.81	3,104.48	57.34	55.144		
12,100.00	9,596.04	15,490.00	10,980.34	28.94	101.62	-159.40	-5,255.44	967.93	3,075.16	3,017.20	57.96	53.054		
12,200.00	9,594.92	15,490.00	10,980.34	29.14	101.62	-159.40	-5,255.44	967.93	2,989.34	2,930.72	58.62	50.991		
12,300.00	9,593.79	15,490.00	10,980.34	29.38	101.62	-159.40	-5,255.44	967.93	2,904.43	2,845.11	59.33	48.957		
12,400.00	9,592.67	15,490.00	10,980.34	29.68	101.62	-159.40	-5,255.44	967.93	2,820.51	2,760.44	60.07	46.953		
12,500.00	9,591.55	15,490.00	10,980.34	30.02	101.62	-159.40	-5,255.44	967.93	2,737.67	2,676.81	60.86	44.981		
12,600.00	9,590.42	15,490.00	10,980.34	30.41	101.62	-159.40	-5,255.44	967.93	2,656.01	2,594.31	61.70	43.044		
12,700.00	9,589.30	15,490.00	10,980.34	30.85	101.62	-159.40	-5,255.44	967.93	2,575.65	2,513.05	62.60	41.145		
12,800.00	9,588.18	15,490.00	10,980.34	31.31	101.62	-159.40	-5,255.44	967.93	2,496.70	2,433.15	63.55	39.286		
12,900.00	9,587.05	15,490.00	10,980.34	31.81	101.62	-159.40	-5,255.44	967.93	2,419.31	2,354.74	64.57	37.470		
13,000.00	9,585.93	15,490.00	10,980.34	32.32	101.62	-159.40	-5,255.44	967.93	2,343.63	2,277.99	65.65	35.701		
13,100.00	9,584.80	15,490.00	10,980.34	32.85	101.62	-159.40	-5,255.44	967.93	2,269.84	2,203.04	66.79	33.983		
13,200.00	9,583.68	15,490.00	10,980.34	33.39	101.62	-159.40	-5,255.44	967.93	2,198.12	2,130.11	68.01	32.320		
13,300.00	9,582.56	15,490.00	10,980.34	33.95	101.62	-159.40	-5,255.44	967.93	2,128.68	2,059.38	69.30	30.716		
13,400.00	9,581.43	15,490.00	10,980.34	34.51	101.62	-159.40	-5,255.44	967.93	2,061.75	1,991.09	70.66	29.177		
13,500.00	9,580.31	15,490.00	10,980.34	35.09	101.62	-159.40	-5,255.44	967.93	1,997.59	1,925.50	72.09	27.708		
13,600.00	9,579.18	15,490.00	10,980.34	35.67	101.62	-159.40	-5,255.44	967.93	1,936.48	1,862.89	73.59	26.314		
13,700.00	9,578.06	15,490.00	10,980.34	36.26	101.62	-159.40	-5,255.44	967.93	1,878.69	1,803.55	75.14	25.002		
13,800.00	9,576.94	15,490.00	10,980.34	36.86	101.62	-159.40	-5,255.44	967.93	1,824.57	1,747.83	76.74	23.777		
13,900.00	9,575.81	15,490.00	10,980.34	37.47	101.62	-159.40	-5,255.44	967.93	1,774.43	1,696.07	78.36	22.646		
14,000.00	9,574.69	15,490.00	10,980.34	38.08	101.62	-159.40	-5,255.44	967.93	1,728.63	1,648.65	79.98	21.614		

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 161H
Project:	Lea County, NM (NAD-83)	TVD Reference:	3711.5' GE + 23.5' KB @ 3735.00usft
Reference Site:	Thistle Unit Sec 22-27 Trac Pad	MD Reference:	3711.5' GE + 23.5' KB @ 3735.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Thistle Unit 161H	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 - 72H - OH - OH													Offset Site Error:	0.00 usft
Survey Program: 62- VES GyroFlex V2, 10428-LEAM MWD+HDGM, 15490-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)	Offset Wellbore Centre +E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
14,100.00	9,573.57	15,490.00	10,980.34	38.70	101.62	-159.40	-5,255.44	967.93	1,687.52	1,605.94	81.58	20.686		
14,200.00	9,572.44	15,490.00	10,980.34	39.32	101.62	-159.40	-5,255.44	967.93	1,651.44	1,568.32	83.12	19.868		
14,300.00	9,571.32	15,490.00	10,980.34	39.95	101.62	-159.40	-5,255.44	967.93	1,620.75	1,536.18	84.57	19.165		
14,400.00	9,570.19	15,490.00	10,980.34	40.59	101.62	-159.40	-5,255.44	967.93	1,595.73	1,509.85	85.89	18.579		
14,500.00	9,569.07	15,490.00	10,980.34	41.22	101.62	-159.40	-5,255.44	967.93	1,576.68	1,489.64	87.04	18.114		
14,600.00	9,567.95	15,490.00	10,980.34	41.87	101.62	-159.40	-5,255.44	967.93	1,563.80	1,475.81	87.99	17.773		
14,700.00	9,566.82	15,490.00	10,980.34	42.51	101.62	-159.40	-5,255.44	967.93	1,557.25	1,468.55	88.71	17.555		
14,752.23	9,566.24	15,490.00	10,980.34	42.85	101.62	-159.40	-5,255.44	967.93	1,556.38	1,467.39	88.98	17.491 CC, ES		
14,800.00	9,565.70	15,490.00	10,980.34	43.17	101.62	-159.40	-5,255.44	967.93	1,557.11	1,467.94	89.17	17.462		
14,900.00	9,564.57	15,453.13	10,982.27	43.82	101.62	-159.39	-5,292.23	969.40	1,562.94	1,473.17	89.77	17.410 SF		
15,000.00	9,563.45	15,336.96	10,987.39	44.48	99.44	-159.33	-5,408.16	974.63	1,569.43	1,479.82	89.61	17.513		
15,100.00	9,562.33	15,240.05	10,991.16	45.14	97.51	-159.26	-5,504.90	979.11	1,575.50	1,485.98	89.51	17.601		
15,200.00	9,561.20	15,147.41	10,995.15	45.81	95.62	-159.20	-5,597.35	983.53	1,582.01	1,492.58	89.43	17.690		
15,300.00	9,560.08	15,048.33	10,999.89	46.48	93.40	-159.15	-5,696.23	987.77	1,588.79	1,499.56	89.23	17.806		
15,400.00	9,558.96	14,942.53	11,004.84	47.15	90.96	-159.12	-5,801.82	991.99	1,595.37	1,506.43	88.94	17.937		
15,500.00	9,557.83	14,813.40	11,009.80	47.82	88.04	-159.07	-5,930.77	996.61	1,601.08	1,512.62	88.46	18.099		
15,600.00	9,556.71	14,709.38	11,012.79	48.50	85.72	-159.07	-6,034.72	999.18	1,605.43	1,517.24	88.18	18.205		
15,700.00	9,555.58	14,608.75	11,015.85	49.18	83.63	-159.09	-6,135.28	1,000.86	1,609.66	1,521.70	87.96	18.300		
15,800.00	9,554.46	14,518.11	11,018.81	49.86	81.98	-159.10	-6,225.87	1,002.62	1,614.18	1,526.29	87.89	18.365		
15,900.00	9,553.34	14,423.15	11,022.30	50.55	79.99	-159.12	-6,320.73	1,004.60	1,619.15	1,531.42	87.73	18.456		
16,000.00	9,552.21	14,317.24	11,026.14	51.24	77.55	-159.13	-6,426.55	1,007.03	1,624.15	1,536.73	87.42	18.578		
16,100.00	9,551.09	14,203.80	11,029.40	51.92	75.14	-159.14	-6,539.93	1,009.15	1,628.26	1,541.17	87.09	18.695		
16,200.00	9,549.96	14,110.63	11,031.83	52.62	73.19	-159.14	-6,633.03	1,011.37	1,632.34	1,545.36	86.98	18.767		
16,300.00	9,548.84	14,017.35	11,034.28	53.31	71.17	-159.08	-6,726.22	1,014.92	1,636.93	1,550.05	86.88	18.841		
16,400.00	9,547.72	13,920.32	11,036.85	54.01	69.17	-159.02	-6,823.12	1,018.98	1,641.69	1,554.91	86.79	18.917		
16,500.00	9,546.59	13,826.09	11,039.67	54.70	67.25	-158.96	-6,917.23	1,023.02	1,646.81	1,560.09	86.72	18.990		
16,600.00	9,545.47	13,726.27	11,042.39	55.40	65.06	-158.86	-7,016.86	1,028.42	1,652.09	1,565.49	86.59	19.079		
16,700.00	9,544.35	13,624.70	11,045.05	56.10	62.82	-158.75	-7,118.24	1,033.95	1,657.28	1,570.82	86.45	19.169		
16,800.00	9,543.22	13,525.25	11,047.72	56.81	60.75	-158.66	-7,217.53	1,039.04	1,662.42	1,576.06	86.36	19.250		
16,900.00	9,542.10	13,428.93	11,050.77	57.51	58.73	-158.60	-7,313.71	1,043.10	1,667.69	1,581.42	86.27	19.332		
17,000.00	9,540.97	13,291.00	11,054.28	58.22	55.74	-158.52	-7,451.47	1,048.78	1,672.49	1,586.69	85.81	19.492		
17,086.67	9,540.00	13,209.06	11,054.96	58.83	53.98	-158.43	-7,533.33	1,052.54	1,675.29	1,589.53	85.76	19.535		

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 161H
Project:	Lea County, NM (NAD-83)	TVD Reference:	3711.5' GE + 23.5' KB @ 3735.00usft
Reference Site:	Thistle Unit Sec 22-27 Trac Pad	MD Reference:	3711.5' GE + 23.5' KB @ 3735.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Thistle Unit 161H	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		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	0.00	0.00	0.00	0.00	163.76	-4,744.55	1,382.02	4,941.78					
100.00	100.00	65.53	65.53	0.09	0.05	163.76	-4,744.66	1,381.95	4,941.84	4,941.71	0.14	N/A		
200.00	200.00	148.27	148.27	0.31	0.12	163.77	-4,745.13	1,381.68	4,942.29	4,941.87	0.42	N/A		
300.00	300.00	237.84	237.84	0.54	0.19	163.77	-4,745.96	1,381.25	4,943.05	4,942.32	0.72	6,821.523		
400.00	400.00	342.86	342.85	0.76	0.27	163.78	-4,746.98	1,380.83	4,943.87	4,942.85	1.02	4,831.363		
500.00	500.00	446.66	446.65	0.99	0.33	163.79	-4,747.81	1,380.53	4,944.56	4,943.25	1.31	3,784.170		
600.00	600.00	550.01	549.99	1.21	0.38	163.79	-4,748.55	1,380.36	4,945.20	4,943.62	1.57	3,140.466		
700.00	700.00	656.36	656.34	1.43	0.43	163.80	-4,749.17	1,380.18	4,945.71	4,943.86	1.85	2,674.739		
800.00	800.00	756.67	756.65	1.66	0.48	163.80	-4,749.67	1,380.06	4,946.15	4,944.04	2.12	2,335.621		
900.00	900.00	854.01	853.99	1.88	0.53	163.80	-4,750.20	1,379.93	4,946.64	4,944.25	2.38	2,075.727		
1,000.00	1,000.00	957.68	957.66	2.11	0.57	163.80	-4,750.76	1,379.84	4,947.14	4,944.49	2.65	1,866.705		
1,100.00	1,100.00	1,058.42	1,058.39	2.33	0.61	163.80	-4,751.15	1,379.96	4,947.54	4,944.62	2.92	1,696.522		
1,200.00	1,200.00	1,153.31	1,153.28	2.56	0.65	163.80	-4,751.57	1,380.10	4,948.01	4,944.83	3.18	1,556.199		
1,300.00	1,300.00	1,269.30	1,269.27	2.78	0.69	163.80	-4,752.03	1,380.25	4,948.43	4,944.98	3.45	1,434.175		
1,400.00	1,400.00	1,371.96	1,371.93	3.01	0.73	163.80	-4,752.17	1,380.36	4,948.60	4,944.88	3.71	1,332.242		
1,500.00	1,500.00	1,470.94	1,470.91	3.23	0.75	163.80	-4,752.31	1,380.44	4,948.75	4,944.79	3.97	1,247.648		
1,600.00	1,600.00	1,614.00	1,613.97	3.46	0.81	163.81	-4,752.13	1,379.82	4,948.52	4,944.26	4.26	1,161.556		
1,698.63	1,698.63	1,677.87	1,677.83	3.68	0.88	163.82	-4,751.99	1,379.06	4,948.05	4,943.51	4.54	1,088.970		
1,700.00	1,700.00	1,678.61	1,678.58	3.68	0.88	163.82	-4,751.99	1,379.05	4,948.05	4,943.50	4.55	1,088.066		
1,800.00	1,800.00	1,709.00	1,708.96	3.91	0.91	163.82	-4,752.18	1,378.69	4,948.63	4,943.83	4.80	1,030.220		
1,900.00	1,900.00	1,760.64	1,760.59	4.13	0.98	163.83	-4,753.09	1,378.28	4,950.31	4,945.21	5.10	970.981		
2,000.00	2,000.00	1,804.00	1,803.93	4.36	1.04	163.83	-4,754.53	1,378.26	4,953.37	4,947.99	5.38	920.870		
2,100.00	2,100.00	1,836.37	1,836.26	4.58	1.09	163.84	-4,756.00	1,378.33	4,957.66	4,952.00	5.66	876.289		
2,200.00	2,200.00	1,899.00	1,898.77	4.81	1.19	163.85	-4,759.81	1,378.24	4,963.27	4,957.28	5.98	829.660		
2,300.00	2,300.00	1,930.60	1,930.29	5.03	1.25	163.86	-4,762.12	1,378.06	4,969.77	4,963.50	6.26	793.312		
2,400.00	2,400.00	1,999.89	1,999.35	5.26	1.39	163.89	-4,767.69	1,377.16	4,977.12	4,970.49	6.62	751.458		
2,500.00	2,500.00	2,723.47	2,718.72	5.48	3.40	164.66	-4,791.72	1,314.71	4,974.58	4,965.73	8.85	562.103		
2,600.00	2,600.00	2,801.81	2,796.73	5.71	3.59	164.73	-4,789.98	1,307.60	4,970.01	4,960.74	9.27	535.938		
2,700.00	2,700.00	2,892.46	2,887.03	5.93	3.82	164.81	-4,788.11	1,299.86	4,965.77	4,956.03	9.74	509.822		
2,800.00	2,800.00	2,987.27	2,981.37	6.15	4.09	164.91	-4,786.56	1,290.61	4,961.63	4,951.39	10.24	484.579		
2,900.00	2,900.00	3,065.10	3,058.81	6.38	4.32	164.99	-4,785.46	1,282.93	4,957.70	4,947.01	10.69	463.699		
3,000.00	3,000.00	3,131.25	3,124.69	6.60	4.51	165.06	-4,784.81	1,277.08	4,954.45	4,943.34	11.10	446.159		
3,100.00	3,099.99	3,250.78	3,243.72	6.82	4.86	92.70	-4,783.78	1,266.08	4,951.26	4,939.59	11.67	424.141		
3,200.00	3,199.96	3,341.56	3,334.04	7.03	5.15	92.86	-4,783.16	1,257.01	4,948.16	4,936.00	12.16	406.760		
3,300.00	3,299.86	3,431.13	3,423.23	7.23	5.41	93.02	-4,782.50	1,248.77	4,945.34	4,932.71	12.64	391.352		
3,400.00	3,399.68	3,519.18	3,510.97	7.45	5.66	93.19	-4,781.90	1,241.49	4,942.93	4,929.84	13.09	377.593		
3,429.62	3,429.22	3,559.61	3,551.26	7.51	5.78	93.27	-4,781.61	1,238.10	4,942.22	4,928.95	13.27	372.449		
3,500.00	3,499.40	3,650.65	3,641.93	7.66	6.05	93.44	-4,780.78	1,229.91	4,940.33	4,926.64	13.69	360.979		
3,600.00	3,599.12	3,749.40	3,740.29	7.88	6.34	93.61	-4,779.51	1,221.29	4,937.40	4,923.22	14.19	348.058		
3,700.00	3,698.84	3,831.57	3,822.19	8.10	6.57	93.76	-4,778.51	1,214.67	4,934.76	4,920.12	14.64	337.153		
3,800.00	3,798.56	3,918.88	3,909.17	8.32	6.84	93.92	-4,777.92	1,207.09	4,932.51	4,917.40	15.12	326.274		
3,900.00	3,898.28	4,007.58	3,997.40	8.54	7.12	94.09	-4,777.74	1,197.97	4,930.41	4,914.78	15.63	315.488		
4,000.00	3,997.99	4,085.00	4,074.37	8.77	7.38	94.26	-4,777.99	1,189.76	4,928.79	4,912.68	16.11	305.945		
4,100.00	4,097.71	4,186.62	4,175.50	8.99	7.70	94.46	-4,778.21	1,179.76	4,927.31	4,910.66	16.65	295.905		
4,200.00	4,197.43	4,271.90	4,260.48	9.22	7.95	94.61	-4,778.31	1,172.58	4,926.10	4,908.97	17.13	287.610		
4,300.00	4,297.15	4,419.51	4,407.56	9.45	8.39	94.88	-4,777.82	1,160.14	4,924.51	4,906.72	17.79	276.827		
4,400.00	4,396.87	4,507.82	4,495.46	9.68	8.67	95.05	-4,777.31	1,151.65	4,922.49	4,904.20	18.29	269.091		
4,500.00	4,496.59	4,601.77	4,589.01	9.91	8.96	95.23	-4,777.05	1,143.01	4,920.89	4,902.07	18.82	261.540		
4,600.00	4,596.31	4,720.90	4,707.63	10.14	9.33	95.46	-4,776.43	1,132.03	4,919.11	4,899.70	19.41	253.436		
4,700.00	4,696.03	4,778.60	4,765.14	10.38	9.50	95.56	-4,776.05	1,127.31	4,917.51	4,897.70	19.81	248.263		
4,800.00	4,795.75	4,827.00	4,813.42	10.61	9.63	95.64	-4,776.08	1,123.97	4,916.91	4,896.73	20.18	243.692		
4,820.66	4,816.35	4,845.53	4,831.92	10.66	9.68	95.67	-4,776.16	1,122.83	4,916.89	4,896.62	20.27	242.548		

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 161H
Project:	Lea County, NM (NAD-83)	TVD Reference:	3711.5' GE + 23.5' KB @ 3735.00usft
Reference Site:	Thistle Unit Sec 22-27 Trac Pad	MD Reference:	3711.5' GE + 23.5' KB @ 3735.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Thistle Unit 161H	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		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		
4,900.00	4,895.47	4,901.08	4,887.38	10.85	9.82	95.75	-4,776.55	1,119.64	4,917.09	4,896.49	20.60	238.717		
5,000.00	4,995.19	4,965.52	4,951.73	11.08	9.97	95.84	-4,777.23	1,116.55	4,917.93	4,896.95	20.98	234.367		
5,100.00	5,094.90	5,043.02	5,029.19	11.32	10.13	95.94	-4,778.39	1,114.14	4,919.51	4,898.13	21.39	230.026		
5,200.00	5,194.62	5,185.56	5,171.69	11.56	10.40	96.10	-4,779.66	1,111.47	4,920.81	4,898.91	21.90	224.694		
5,300.00	5,294.34	5,527.18	5,512.89	11.80	11.16	96.54	-4,776.11	1,097.76	4,921.30	4,898.43	22.87	215.166		
5,400.00	5,394.06	5,695.35	5,679.96	12.03	11.72	96.88	-4,769.62	1,079.84	4,916.11	4,892.47	23.64	207.971		
5,500.00	5,493.78	5,784.75	5,768.65	12.27	12.04	97.07	-4,766.13	1,069.07	4,910.88	4,886.69	24.18	203.056		
5,600.00	5,593.50	5,861.32	5,844.61	12.51	12.31	97.24	-4,763.31	1,059.86	4,905.95	4,881.26	24.69	198.686		
5,700.00	5,693.22	5,930.25	5,913.03	12.76	12.56	97.39	-4,761.18	1,051.80	4,901.70	4,876.53	25.17	194.722		
5,800.00	5,792.94	6,036.64	6,018.66	13.00	12.93	97.61	-4,758.01	1,039.44	4,897.65	4,871.88	25.77	190.029		
5,900.00	5,892.66	6,123.48	6,104.90	13.24	13.23	97.80	-4,755.43	1,029.64	4,893.74	4,867.43	26.31	186.012		
6,000.00	5,992.38	6,204.00	6,184.88	13.48	13.51	97.97	-4,753.26	1,020.57	4,890.17	4,863.34	26.83	182.299		
6,100.00	6,092.09	6,436.91	6,415.92	13.72	14.35	98.47	-4,744.74	992.98	4,885.78	4,857.94	27.83	175.534		
6,200.00	6,191.81	6,487.00	6,465.51	13.97	14.55	98.59	-4,742.80	986.13	4,880.56	4,852.28	28.28	172.556		
6,300.00	6,291.53	6,557.76	6,535.59	14.21	14.82	98.76	-4,740.56	976.63	4,876.27	4,847.47	28.80	169.301		
6,400.00	6,391.25	6,651.22	6,628.14	14.45	15.19	98.98	-4,737.43	964.00	4,871.98	4,842.58	29.40	165.698		
6,500.00	6,490.97	6,757.37	6,733.29	14.70	15.60	99.23	-4,733.92	949.89	4,867.87	4,837.83	30.04	162.034		
6,600.00	6,590.69	6,839.30	6,814.53	14.94	15.91	99.41	-4,731.10	939.62	4,863.81	4,833.23	30.58	159.027		
6,700.00	6,690.41	6,908.10	6,882.81	15.19	16.16	99.56	-4,728.99	931.45	4,860.30	4,829.22	31.08	156.370		
6,800.00	6,790.13	6,960.00	6,934.32	15.43	16.35	99.68	-4,727.73	925.30	4,857.55	4,826.03	31.52	154.102		
6,900.00	6,889.85	7,034.33	7,008.11	15.68	16.62	99.84	-4,726.47	916.43	4,855.54	4,823.50	32.04	151.526		
7,000.00	6,989.57	7,094.47	7,067.82	15.92	16.84	99.98	-4,725.95	909.26	4,854.37	4,821.85	32.52	149.293		
7,100.00	7,089.28	7,163.81	7,136.70	16.17	17.10	100.13	-4,725.89	901.30	4,854.04	4,821.03	33.02	147.023		
7,200.00	7,189.00	7,294.44	7,266.57	16.41	17.55	100.41	-4,725.27	887.19	4,853.50	4,819.78	33.71	143.960		
7,300.00	7,288.72	7,384.65	7,356.14	16.66	17.87	100.61	-4,724.81	876.52	4,852.90	4,818.62	34.28	141.562		
7,400.00	7,388.44	7,474.05	7,445.03	16.91	18.18	100.80	-4,724.47	866.93	4,852.62	4,817.78	34.84	139.290		
7,485.51	7,473.71	7,551.41	7,522.00	17.12	18.43	100.96	-4,724.16	859.22	4,852.51	4,817.20	35.31	137.434		
7,500.00	7,488.16	7,562.95	7,533.48	17.15	18.47	100.98	-4,724.13	858.08	4,852.51	4,817.13	35.38	137.145		
7,600.00	7,587.88	7,621.00	7,591.25	17.40	18.66	101.10	-4,724.08	852.38	4,852.86	4,817.03	35.82	135.467		
7,700.00	7,687.60	7,716.00	7,685.80	17.65	18.98	101.29	-4,724.70	843.13	4,853.90	4,817.51	36.39	133.380		
7,800.00	7,787.32	7,763.96	7,733.55	17.90	19.12	101.38	-4,725.39	838.79	4,855.67	4,818.88	36.79	131.992		
7,900.00	7,887.04	7,840.52	7,809.87	18.14	19.35	101.52	-4,726.76	832.90	4,858.13	4,820.87	37.27	130.359		
8,000.00	7,986.76	7,968.31	7,937.28	18.39	19.71	101.74	-4,729.11	823.29	4,860.78	4,822.88	37.90	128.266		
8,100.00	8,086.47	8,067.29	8,035.91	18.64	20.00	101.92	-4,730.35	815.08	4,862.76	4,824.32	38.44	126.499		
8,200.00	8,186.19	8,155.67	8,124.01	18.89	20.26	102.08	-4,731.67	808.21	4,865.08	4,826.13	38.95	124.904		
8,300.00	8,285.91	8,300.68	8,268.62	19.14	20.66	102.33	-4,733.26	797.44	4,867.10	4,827.48	39.62	122.854		
8,332.04	8,317.86	8,326.96	8,294.82	19.22	20.74	102.38	-4,733.43	795.46	4,867.61	4,827.84	39.77	122.392		
8,400.00	8,385.66	8,385.70	8,353.40	19.36	20.90	102.49	-4,733.91	791.21	4,868.74	4,828.65	40.09	121.459		
8,500.00	8,485.51	8,497.37	8,464.82	19.55	21.20	102.66	-4,734.67	783.66	4,870.03	4,829.44	40.59	119.995		
8,600.00	8,585.44	8,600.26	8,567.37	19.74	21.50	102.81	-4,735.30	775.40	4,870.78	4,829.72	41.07	118.606		
8,700.00	8,685.42	8,694.70	8,661.47	19.92	21.78	102.93	-4,735.92	767.54	4,871.21	4,829.68	41.53	117.293		
8,761.66	8,747.08	8,753.00	8,719.59	20.02	21.96	175.50	-4,736.36	762.90	4,871.36	4,829.55	41.81	116.502		
8,800.00	8,785.42	8,795.40	8,761.86	20.10	22.08	175.54	-4,736.68	759.51	4,871.41	4,829.39	42.01	115.949		
8,900.00	8,885.42	8,924.13	8,890.11	20.30	22.46	175.67	-4,737.28	748.47	4,871.23	4,828.62	42.61	114.333		
9,000.00	8,985.42	9,003.97	8,969.68	20.51	22.70	175.75	-4,737.45	741.86	4,870.84	4,827.79	43.05	113.145		
9,017.40	9,002.82	9,016.35	8,982.02	20.55	22.73	175.76	-4,737.52	740.88	4,870.83	4,827.71	43.12	112.954		
9,061.66	9,047.08	9,059.19	9,024.72	20.64	22.86	175.80	-4,737.80	737.51	4,870.87	4,827.52	43.34	112.379		
9,100.00	9,085.39	9,112.44	9,077.77	20.71	23.02	-3.73	-4,738.07	732.91	4,869.54	4,825.96	43.58	111.740		
9,150.00	9,135.07	9,158.82	9,123.95	20.79	23.17	-3.72	-4,738.25	728.59	4,863.89	4,820.08	43.81	111.026		
9,200.00	9,184.08	9,197.01	9,161.98	20.87	23.28	-3.75	-4,738.46	725.10	4,854.05	4,810.04	44.01	110.291		
9,250.00	9,232.05	9,237.16	9,201.97	20.95	23.41	-3.81	-4,738.77	721.55	4,840.08	4,795.86	44.22	109.464		
9,300.00	9,278.61	9,283.97	9,248.61	21.02	23.55	-3.91	-4,739.13	717.61	4,822.02	4,777.59	44.44	108.517		

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 161H
Project:	Lea County, NM (NAD-83)	TVD Reference:	3711.5' GE + 23.5' KB @ 3735.00usft
Reference Site:	Thistle Unit Sec 22-27 Trac Pad	MD Reference:	3711.5' GE + 23.5' KB @ 3735.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Thistle Unit 161H	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							
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	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
9,350.00	9,323.40	9,319.00	9,283.53	21.09	23.66	-4.06	-4,739.40	714.82	4,799.99	4,755.37	44.61	107.591	
9,400.00	9,366.10	9,358.39	9,322.81	21.16	23.77	-4.25	-4,739.73	711.91	4,774.19	4,729.40	44.79	106.592	
9,450.00	9,406.36	9,388.64	9,352.99	21.23	23.85	-4.52	-4,740.04	709.87	4,744.86	4,699.93	44.93	105.598	
9,500.00	9,443.89	9,419.54	9,383.83	21.30	23.93	-4.87	-4,740.42	707.96	4,712.21	4,667.14	45.07	104.548	
9,550.00	9,478.41	9,468.05	9,432.25	21.37	24.06	-5.33	-4,740.96	704.97	4,676.36	4,631.11	45.25	103.344	
9,600.00	9,509.63	9,511.76	9,475.86	21.46	24.17	-5.94	-4,741.34	702.14	4,637.53	4,592.13	45.41	102.129	
9,650.00	9,537.34	9,561.85	9,525.84	21.56	24.30	-6.80	-4,741.61	698.74	4,596.05	4,550.47	45.58	100.839	
9,700.00	9,561.32	9,627.57	9,591.38	21.68	24.48	-8.06	-4,741.51	693.99	4,552.11	4,506.33	45.78	99.429	
9,750.00	9,581.39	9,655.20	9,618.93	21.82	24.56	-9.95	-4,741.31	691.85	4,506.17	4,460.29	45.88	98.210	
9,800.00	9,597.38	9,674.23	9,637.89	21.99	24.62	-13.05	-4,741.17	690.25	4,458.70	4,412.75	45.95	97.027	
9,850.00	9,609.19	9,688.09	9,651.69	22.19	24.66	-19.02	-4,741.06	689.02	4,410.06	4,364.06	46.00	95.870	
9,900.00	9,616.72	9,696.70	9,660.27	22.41	24.69	-33.95	-4,740.99	688.23	4,360.64	4,314.61	46.03	94.742	
9,950.00	9,619.92	9,700.03	9,663.58	22.66	24.70	-85.13	-4,740.96	687.92	4,310.81	4,264.78	46.03	93.650	
9,968.10	9,620.00	9,699.93	9,663.48	22.76	24.69	-112.51	-4,740.96	687.93	4,292.75	4,246.72	46.03	93.264	
10,000.00	9,619.64	9,699.15	9,662.71	26.75	24.69	-112.36	-4,740.97	688.00	4,260.92	4,210.00	50.93	83.664	
10,100.00	9,618.52	9,696.70	9,660.27	26.83	24.69	-111.91	-4,740.99	688.23	4,161.17	4,110.17	51.00	81.599	
10,200.00	9,617.40	9,694.28	9,657.86	26.91	24.68	-111.45	-4,741.01	688.45	4,061.42	4,010.36	51.06	79.538	
10,300.00	9,616.27	9,691.86	9,655.45	26.99	24.67	-110.99	-4,741.03	688.68	3,961.68	3,910.55	51.13	77.481	
10,400.00	9,615.15	9,689.46	9,653.06	27.07	24.66	-110.54	-4,741.05	688.90	3,861.96	3,810.76	51.20	75.429	
10,500.00	9,614.02	9,687.07	9,650.68	27.16	24.66	-110.08	-4,741.07	689.11	3,762.25	3,710.98	51.27	73.382	
10,600.00	9,612.90	9,684.69	9,648.31	27.24	24.65	-109.63	-4,741.09	689.33	3,662.56	3,611.22	51.34	71.340	
10,700.00	9,611.78	9,682.33	9,645.96	27.33	24.64	-109.18	-4,741.11	689.54	3,562.88	3,511.47	51.41	69.303	
10,800.00	9,610.65	9,679.98	9,643.62	27.42	24.63	-108.72	-4,741.13	689.75	3,463.22	3,411.74	51.48	67.271	
10,900.00	9,609.53	9,677.64	9,641.29	27.51	24.63	-108.27	-4,741.14	689.95	3,363.57	3,312.02	51.55	65.244	
11,000.00	9,608.40	9,675.32	9,638.98	27.61	24.62	-107.82	-4,741.16	690.15	3,263.95	3,212.33	51.63	63.223	
11,100.00	9,607.28	9,673.01	9,636.67	27.70	24.61	-107.37	-4,741.18	690.35	3,164.35	3,112.65	51.70	61.208	
11,200.00	9,606.16	9,670.71	9,634.38	27.80	24.61	-106.92	-4,741.20	690.55	3,064.78	3,013.00	51.77	59.198	
11,300.00	9,605.03	9,668.42	9,632.10	27.90	24.60	-106.47	-4,741.22	690.75	2,965.23	2,913.38	51.84	57.194	
11,400.00	9,603.91	9,666.15	9,629.84	28.01	24.59	-106.02	-4,741.23	690.94	2,865.71	2,813.79	51.92	55.196	
11,500.00	9,602.79	9,663.88	9,627.58	28.12	24.59	-105.58	-4,741.25	691.13	2,766.22	2,714.23	51.99	53.204	
11,600.00	9,601.66	9,661.63	9,625.34	28.23	24.58	-105.13	-4,741.27	691.32	2,666.77	2,614.71	52.07	51.219	
11,700.00	9,600.54	9,659.39	9,623.11	28.35	24.57	-104.69	-4,741.28	691.50	2,567.37	2,515.23	52.14	49.240	
11,800.00	9,599.41	9,657.17	9,620.89	28.48	24.57	-104.25	-4,741.30	691.69	2,468.00	2,415.79	52.21	47.267	
11,900.00	9,598.29	9,654.95	9,618.68	28.61	24.56	-103.80	-4,741.32	691.87	2,368.69	2,316.41	52.29	45.301	
12,000.00	9,597.17	9,652.75	9,616.48	28.77	24.55	-103.36	-4,741.33	692.05	2,269.44	2,217.08	52.36	43.343	
12,100.00	9,596.04	9,650.56	9,614.30	28.94	24.55	-102.93	-4,741.35	692.22	2,170.26	2,117.82	52.43	41.391	
12,200.00	9,594.92	9,648.38	9,612.13	29.14	24.54	-102.49	-4,741.36	692.40	2,071.15	2,018.65	52.51	39.446	
12,300.00	9,593.79	9,646.21	9,609.96	29.38	24.53	-102.05	-4,741.38	692.57	1,972.13	1,919.55	52.58	37.509	
12,400.00	9,592.67	9,644.05	9,607.81	29.68	24.53	-101.62	-4,741.40	692.74	1,873.21	1,820.57	52.65	35.580	
12,500.00	9,591.55	9,641.90	9,605.67	30.02	24.52	-101.18	-4,741.41	692.91	1,774.41	1,721.70	52.72	33.659	
12,600.00	9,590.42	9,639.77	9,603.55	30.41	24.51	-100.75	-4,741.43	693.07	1,675.76	1,622.97	52.78	31.747	
12,700.00	9,589.30	9,637.64	9,601.43	30.85	24.51	-100.32	-4,741.44	693.23	1,577.26	1,524.41	52.85	29.844	
12,800.00	9,588.18	9,635.53	9,599.32	31.31	24.50	-99.89	-4,741.46	693.39	1,478.97	1,426.06	52.92	27.950	
12,900.00	9,587.05	9,633.36	9,597.16	31.81	24.50	-99.45	-4,741.47	693.56	1,380.92	1,327.94	52.98	26.066	
13,000.00	9,585.93	9,631.06	9,594.87	32.32	24.49	-98.99	-4,741.49	693.73	1,283.17	1,230.13	53.04	24.193	
13,100.00	9,584.80	9,628.84	9,592.65	32.85	24.48	-98.53	-4,741.50	693.90	1,185.79	1,132.69	53.10	22.332	
13,200.00	9,583.68	9,626.70	9,590.51	33.39	24.48	-98.10	-4,741.51	694.06	1,088.88	1,035.72	53.16	20.485	
13,300.00	9,582.56	9,624.62	9,588.44	33.95	24.47	-97.67	-4,741.52	694.21	992.58	939.36	53.21	18.653	
13,400.00	9,581.43	9,622.60	9,586.43	34.51	24.47	-97.26	-4,741.54	694.36	897.08	843.81	53.27	16.840	
13,500.00	9,580.31	9,620.65	9,584.48	35.09	24.46	-96.86	-4,741.55	694.51	802.68	749.35	53.33	15.051	
13,600.00	9,579.18	9,618.75	9,582.59	35.67	24.46	-96.47	-4,741.56	694.65	709.81	656.40	53.41	13.291	
13,700.00	9,578.06	9,616.91	9,580.76	36.26	24.45	-96.10	-4,741.56	694.79	619.16	565.65	53.51	11.571	

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 161H
Project:	Lea County, NM (NAD-83)	TVD Reference:	3711.5' GE + 23.5' KB @ 3735.00usft
Reference Site:	Thistle Unit Sec 22-27 Trac Pad	MD Reference:	3711.5' GE + 23.5' KB @ 3735.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Thistle Unit 161H	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		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	Warning
13,800.00	9,576.94	9,615.13	9,578.98	36.86	24.45	-95.73	-4,741.57	694.92	531.87	478.20	53.67	9.910	
13,900.00	9,575.81	9,613.40	9,577.25	37.47	24.44	-95.38	-4,741.58	695.05	449.89	395.94	53.95	8.340	
14,000.00	9,574.69	9,611.71	9,575.57	38.08	24.44	-95.03	-4,741.59	695.17	376.71	322.28	54.43	6.921	
14,100.00	9,573.57	9,610.08	9,573.94	38.70	24.43	-94.70	-4,741.59	695.29	318.46	263.18	55.28	5.761	
14,200.00	9,572.44	9,608.49	9,572.35	39.32	24.43	-94.37	-4,741.60	695.41	284.46	227.80	56.66	5.021	
14,252.52	9,571.85	9,607.67	9,571.54	39.65	24.43	-94.20	-4,741.60	695.47	279.57	222.02	57.55	4.858	CC, ES, SF
14,300.00	9,571.32	9,606.94	9,570.81	39.95	24.42	-94.05	-4,741.60	695.52	283.57	225.24	58.34	4.861	
14,400.00	9,570.19	9,605.44	9,569.31	40.59	24.42	-93.74	-4,741.61	695.63	316.08	256.63	59.44	5.317	
14,500.00	9,569.07	9,603.97	9,567.85	41.22	24.42	-93.44	-4,741.61	695.74	373.35	313.72	59.63	6.261	
14,600.00	9,567.95	9,602.55	9,566.43	41.87	24.41	-93.15	-4,741.62	695.84	445.95	386.58	59.37	7.511	
14,700.00	9,566.82	9,601.16	9,565.04	42.51	24.41	-92.87	-4,741.62	695.94	527.59	468.56	59.03	8.938	
14,800.00	9,565.70	9,599.80	9,563.69	43.17	24.41	-92.59	-4,741.62	696.04	614.68	555.95	58.73	10.466	
14,900.00	9,564.57	9,598.48	9,562.38	43.82	24.40	-92.32	-4,741.63	696.14	705.20	646.70	58.50	12.054	
15,000.00	9,563.45	9,597.20	9,561.09	44.48	24.40	-92.06	-4,741.63	696.23	797.98	739.64	58.34	13.679	
15,100.00	9,562.33	9,595.94	9,559.84	45.14	24.40	-91.80	-4,741.63	696.32	892.32	834.10	58.22	15.326	
15,200.00	9,561.20	9,594.72	9,558.62	45.81	24.39	-91.55	-4,741.63	696.41	987.77	929.62	58.15	16.986	
15,300.00	9,560.08	9,593.52	9,557.43	46.48	24.39	-91.31	-4,741.64	696.50	1,084.04	1,025.93	58.12	18.653	
15,400.00	9,558.96	9,592.36	9,556.27	47.15	24.39	-91.07	-4,741.64	696.58	1,180.93	1,122.83	58.10	20.324	
15,500.00	9,557.83	9,591.22	9,555.13	47.82	24.38	-90.84	-4,741.64	696.66	1,278.30	1,220.19	58.11	21.997	
15,600.00	9,556.71	9,590.11	9,554.02	48.50	24.38	-90.61	-4,741.64	696.74	1,376.05	1,317.91	58.14	23.669	
15,700.00	9,555.58	9,589.02	9,552.94	49.18	24.38	-90.39	-4,741.64	696.82	1,474.09	1,415.92	58.18	25.338	
15,800.00	9,554.46	9,587.96	9,551.88	49.86	24.37	-90.17	-4,741.64	696.90	1,572.39	1,514.16	58.23	27.005	
15,900.00	9,553.34	9,586.92	9,550.84	50.55	24.37	-89.96	-4,741.64	696.97	1,670.88	1,612.59	58.28	28.668	
16,000.00	9,552.21	12,711.00	11,270.19	51.24	54.38	-179.24	-6,431.08	451.96	1,739.95	1,678.38	61.57	28.260	
16,100.00	9,551.09	12,796.13	11,273.37	51.92	56.01	-179.33	-6,516.13	450.10	1,744.79	1,681.84	62.95	27.716	
16,200.00	9,549.96	12,930.97	11,277.22	52.62	58.88	-179.46	-6,650.88	447.20	1,748.59	1,684.05	64.54	27.095	
16,300.00	9,548.84	13,011.43	11,279.71	53.31	60.57	-179.58	-6,731.24	444.18	1,752.73	1,686.83	65.90	26.596	
16,400.00	9,547.72	13,185.85	11,282.68	54.01	64.63	-179.88	-6,905.44	436.23	1,755.83	1,688.17	67.66	25.949	
16,495.51	9,546.64	13,277.00	11,281.67	54.67	66.95	179.94	-6,996.45	431.36	1,755.86	1,686.83	69.03	25.438	
16,500.00	9,546.59	13,290.42	11,281.50	54.70	67.25	179.91	-7,009.85	430.64	1,755.82	1,686.69	69.13	25.399	
16,600.00	9,545.47	13,371.00	11,281.34	55.40	69.09	179.76	-7,090.32	426.45	1,756.69	1,686.19	70.50	24.918	
16,700.00	9,544.35	13,428.91	11,282.24	56.10	70.26	179.65	-7,148.16	423.68	1,759.24	1,687.45	71.79	24.505	
16,800.00	9,543.22	13,491.27	11,284.33	56.81	71.53	179.55	-7,210.42	420.89	1,763.79	1,690.68	73.11	24.124	
16,900.00	9,542.10	13,560.00	11,288.39	57.51	72.93	179.43	-7,278.95	417.59	1,770.72	1,696.25	74.47	23.778	
17,000.00	9,540.97	13,735.51	11,296.55	58.22	77.14	179.10	-7,454.01	408.53	1,776.98	1,700.74	76.23	23.309	
17,086.67	9,540.00	13,810.74	11,298.06	58.83	78.90	178.93	-7,529.09	403.97	1,779.83	1,702.35	77.48	22.972	

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 161H
Project:	Lea County, NM (NAD-83)	TVD Reference:	3711.5' GE + 23.5' KB @ 3735.00usft
Reference Site:	Thistle Unit Sec 22-27 Trac Pad	MD Reference:	3711.5' GE + 23.5' KB @ 3735.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Thistle Unit 161H	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	0.00	0.00	0.00	0.00	-90.32	-0.33	-59.99	59.99	59.82	0.17	348.893		
100.00	100.00	100.00	100.00	0.09	0.09	-90.32	-0.33	-59.99	59.99	59.37	0.62	96.529		
200.00	200.00	200.00	200.00	0.31	0.31	-90.32	-0.33	-59.99	59.99	58.92	1.07	56.013		
300.00	300.00	300.00	300.00	0.54	0.54	-90.32	-0.33	-59.99	59.99	58.47	1.52	39.454		
400.00	400.00	400.00	400.00	0.76	0.76	-90.32	-0.33	-59.99	59.99	58.02	1.97	30.451		
500.00	500.00	500.00	500.00	0.99	0.99	-90.32	-0.33	-59.99	59.99	57.57	2.42	24.794		
600.00	600.00	600.00	600.00	1.21	1.21	-90.32	-0.33	-59.99	59.99	57.12	2.87	20.909		
700.00	700.00	700.00	700.00	1.43	1.43	-90.32	-0.33	-59.99	59.99	56.67	3.32	18.077		
800.00	800.00	800.00	800.00	1.66	1.66	-90.32	-0.33	-59.99	59.99	56.22	3.77	15.920		
900.00	900.00	900.00	900.00	1.88	1.88	-90.32	-0.33	-59.99	59.99	55.77	4.22	14.223		
1,000.00	1,000.00	1,000.00	1,000.00	2.11	2.11	-90.32	-0.33	-59.99	59.99	55.32	4.67	12.854		
1,100.00	1,100.00	1,100.00	1,100.00	2.33	2.33	-90.32	-0.33	-59.99	59.99	54.87	5.12	11.724		
1,200.00	1,200.00	1,200.00	1,200.00	2.56	2.56	-90.32	-0.33	-59.99	59.99	54.42	5.57	10.777		
1,300.00	1,300.00	1,300.00	1,300.00	2.78	2.78	-90.32	-0.33	-59.99	59.99	53.98	6.02	9.972		
1,400.00	1,400.00	1,400.00	1,400.00	3.01	3.01	-90.32	-0.33	-59.99	59.99	53.53	6.47	9.279		
1,500.00	1,500.00	1,500.00	1,500.00	3.23	3.23	-90.32	-0.33	-59.99	59.99	53.08	6.91	8.676		
1,600.00	1,600.00	1,600.00	1,600.00	3.46	3.46	-90.32	-0.33	-59.99	59.99	52.63	7.36	8.146		
1,700.00	1,700.00	1,700.00	1,700.00	3.68	3.68	-90.32	-0.33	-59.99	59.99	52.18	7.81	7.677		
1,800.00	1,800.00	1,800.00	1,800.00	3.91	3.91	-90.32	-0.33	-59.99	59.99	51.73	8.26	7.260		
1,900.00	1,900.00	1,900.00	1,900.00	4.13	4.13	-90.32	-0.33	-59.99	59.99	51.28	8.71	6.885		
2,000.00	2,000.00	2,000.00	2,000.00	4.36	4.36	-90.32	-0.33	-59.99	59.99	50.83	9.16	6.547		
2,100.00	2,100.00	2,100.00	2,100.00	4.58	4.58	-90.32	-0.33	-59.99	59.99	50.38	9.61	6.241		
2,200.00	2,200.00	2,200.00	2,200.00	4.81	4.81	-90.32	-0.33	-59.99	59.99	49.93	10.06	5.962		
2,300.00	2,300.00	2,300.00	2,300.00	5.03	5.03	-90.32	-0.33	-59.99	59.99	49.48	10.51	5.707		
2,400.00	2,400.00	2,400.00	2,400.00	5.26	5.26	-90.32	-0.33	-59.99	59.99	49.03	10.96	5.473		
2,500.00	2,500.00	2,500.00	2,500.00	5.48	5.48	-90.32	-0.33	-59.99	59.99	48.58	11.41	5.258		
2,600.00	2,600.00	2,600.00	2,600.00	5.71	5.71	-90.32	-0.33	-59.99	59.99	48.13	11.86	5.058		
2,700.00	2,700.00	2,700.00	2,700.00	5.93	5.93	-90.32	-0.33	-59.99	59.99	47.68	12.31	4.874		
2,800.00	2,800.00	2,800.00	2,800.00	6.15	6.15	-90.32	-0.33	-59.99	59.99	47.23	12.76	4.702		
2,900.00	2,900.00	2,900.00	2,900.00	6.38	6.38	-90.32	-0.33	-59.99	59.99	46.78	13.21	4.542 CC, ES		
3,000.00	3,000.00	3,000.00	3,000.00	6.60	6.60	-90.32	-0.33	-59.99	59.99	46.33	13.65	4.457		
3,100.00	3,099.99	3,099.99	3,099.99	6.82	6.83	-163.07	-0.33	-59.99	60.83	49.26	14.08	4.499		
3,200.00	3,199.96	3,199.96	3,199.96	7.03	7.05	-163.76	-0.33	-59.99	63.33	53.02	14.51	4.655		
3,300.00	3,299.86	3,299.86	3,299.86	7.23	7.28	-164.78	-0.33	-59.99	67.53	58.50	14.94	4.915		
3,400.00	3,399.68	3,399.68	3,399.68	7.45	7.50	-166.02	-0.33	-59.99	73.44	60.45	15.07	5.012		
3,429.62	3,429.22	3,429.22	3,429.22	7.51	7.57	-166.40	-0.33	-59.99	75.52	65.28	15.37	5.246		
3,500.00	3,499.40	3,499.40	3,499.40	7.66	7.73	-167.28	-0.33	-59.99	80.66	72.17	15.81	5.566		
3,600.00	3,599.12	3,599.12	3,599.12	7.88	7.95	-168.36	-0.33	-59.99	87.98	79.09	16.24	5.870		
3,700.00	3,698.84	3,698.84	3,698.84	8.10	8.17	-169.27	-0.33	-59.99	95.33	86.02	16.68	6.158		
3,800.00	3,798.56	3,798.56	3,798.56	8.32	8.40	-170.04	-0.33	-59.99	102.70	92.97	17.11	6.433		
3,900.00	3,898.28	3,898.28	3,898.28	8.54	8.62	-170.72	-0.33	-59.99	110.09	99.94	17.55	6.694		
4,000.00	3,997.99	3,997.99	3,997.99	8.77	8.85	-171.31	-0.33	-59.99	117.49	106.91	17.99	6.943		
4,100.00	4,097.71	4,097.71	4,097.71	8.99	9.07	-171.83	-0.33	-59.99	124.90	113.89	18.43	7.180		
4,200.00	4,197.43	4,197.43	4,197.43	9.22	9.30	-172.29	-0.33	-59.99	132.32	120.88	18.87	7.406		
4,300.00	4,297.15	4,297.15	4,297.15	9.45	9.52	-172.70	-0.33	-59.99	139.75	127.87	19.31	7.622		
4,400.00	4,396.87	4,396.87	4,396.87	9.68	9.74	-173.07	-0.33	-59.99	147.18	134.87	19.75	7.828		
4,500.00	4,496.59	4,496.59	4,496.59	9.91	9.97	-173.41	-0.33	-59.99	154.62	141.87	20.19	8.026		
4,600.00	4,596.31	4,596.31	4,596.31	10.14	10.19	-173.71	-0.33	-59.99	162.06	148.88	20.64	8.215		
4,700.00	4,696.03	4,696.03	4,696.03	10.38	10.42	-173.99	-0.33	-59.99	169.51	155.89	21.08	8.396		
4,800.00	4,795.75	4,795.75	4,795.75	10.61	10.64	-174.24	-0.33	-59.99	176.96	162.90	21.52	8.569		
4,900.00	4,895.47	4,895.47	4,895.47	10.85	10.86	-174.47	-0.33	-59.99	184.42	169.91	21.97	8.735		
5,000.00	4,995.19	4,995.19	4,995.19	11.08	11.09	-174.69	-0.33	-59.99	191.88					

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 161H
Project:	Lea County, NM (NAD-83)	TVD Reference:	3711.5' GE + 23.5' KB @ 3735.00usft
Reference Site:	Thistle Unit Sec 22-27 Trac Pad	MD Reference:	3711.5' GE + 23.5' KB @ 3735.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Thistle Unit 161H	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		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	5,094.90	5,094.90	5,094.90	11.32	11.31	-174.89	-0.33	-59.99	199.34	176.93	22.41	8.895		
5,200.00	5,194.62	5,194.62	5,194.62	11.56	11.54	-175.07	-0.33	-59.99	206.80	183.95	22.85	9.048		
5,300.00	5,294.34	5,294.34	5,294.34	11.80	11.76	-175.25	-0.33	-59.99	214.27	190.97	23.30	9.196		
5,400.00	5,394.06	5,394.06	5,394.06	12.03	11.99	-175.41	-0.33	-59.99	221.73	197.99	23.75	9.338		
5,500.00	5,493.78	5,493.78	5,493.78	12.27	12.21	-175.56	-0.33	-59.99	229.20	205.01	24.19	9.474		
5,600.00	5,593.50	5,597.41	5,597.40	12.51	12.43	-175.75	-0.33	-59.16	235.90	211.26	24.63	9.576		
5,700.00	5,693.22	5,701.49	5,701.45	12.76	12.63	-176.03	-0.33	-56.45	240.84	215.78	25.06	9.611		
5,800.00	5,792.94	5,805.72	5,805.57	13.00	12.84	-176.41	-0.33	-51.84	244.02	218.54	25.47	9.579		
5,900.00	5,892.66	5,907.70	5,907.38	13.24	13.05	-176.87	-0.33	-45.74	245.69	219.80	25.89	9.489		
6,000.00	5,992.38	6,007.67	6,007.15	13.48	13.25	-177.32	-0.33	-39.56	247.19	220.88	26.32	9.393		
6,100.00	6,092.09	6,107.64	6,106.93	13.72	13.46	-177.76	-0.33	-33.37	248.71	221.97	26.74	9.301		
6,200.00	6,191.81	6,207.61	6,206.71	13.97	13.66	-178.20	-0.33	-27.19	250.24	223.07	27.17	9.211		
6,300.00	6,291.53	6,307.58	6,306.49	14.21	13.87	-178.63	-0.33	-21.01	251.78	224.19	27.59	9.124		
6,400.00	6,391.25	6,407.55	6,406.27	14.45	14.08	-179.06	-0.33	-14.83	253.34	225.32	28.02	9.040		
6,500.00	6,490.97	6,507.52	6,506.05	14.70	14.29	-179.49	-0.33	-8.65	254.91	226.46	28.45	8.959		
6,600.00	6,590.69	6,607.49	6,605.83	14.94	14.50	-179.90	-0.33	-2.47	256.50	227.62	28.88	8.880		
6,700.00	6,690.41	6,707.46	6,705.61	15.19	14.71	-179.68	-0.33	3.71	258.10	228.78	29.32	8.804		
6,800.00	6,790.13	6,807.43	6,805.38	15.43	14.92	-179.27	-0.33	9.89	259.71	229.96	29.75	8.730		
6,900.00	6,889.85	6,907.40	6,905.16	15.68	15.14	-178.87	-0.33	16.08	261.34	231.16	30.18	8.658		
7,000.00	6,989.57	7,007.37	7,004.94	15.92	15.35	-178.47	-0.33	22.26	262.98	232.36	30.62	8.588		
7,100.00	7,089.28	7,107.34	7,104.72	16.17	15.57	-178.08	-0.33	28.44	264.63	233.57	31.06	8.521		
7,200.00	7,189.00	7,207.31	7,204.50	16.41	15.79	-177.69	-0.33	34.62	266.29	234.80	31.49	8.455		
7,300.00	7,288.72	7,307.28	7,304.28	16.66	16.00	-177.31	-0.33	40.80	267.97	236.04	31.93	8.392		
7,400.00	7,388.44	7,407.25	7,404.06	16.91	16.22	-176.93	-0.33	46.98	269.66	237.28	32.37	8.330		
7,500.00	7,488.16	7,507.22	7,503.84	17.15	16.44	-176.56	-0.33	53.16	271.36	238.54	32.81	8.270		
7,600.00	7,587.88	7,607.19	7,603.61	17.40	16.66	-176.19	-0.33	59.34	273.07	239.81	33.25	8.212		
7,700.00	7,687.60	7,707.16	7,703.39	17.65	16.88	-175.83	-0.33	65.53	274.79	241.09	33.70	8.155		
7,800.00	7,787.32	7,807.13	7,803.17	17.90	17.10	-175.47	-0.33	71.71	276.52	242.38	34.14	8.100		
7,900.00	7,887.04	7,907.10	7,902.95	18.14	17.32	-175.11	-0.33	77.89	278.26	243.68	34.58	8.046		
8,000.00	7,986.76	8,007.07	8,002.73	18.39	17.55	-174.76	-0.33	84.07	280.02	244.99	35.03	7.994		
8,100.00	8,086.47	8,107.04	8,102.51	18.64	17.77	-174.41	-0.33	90.25	281.78	246.31	35.47	7.944		
8,200.00	8,186.19	8,207.01	8,202.29	18.89	17.99	-174.07	-0.33	96.43	283.56	247.64	35.92	7.894		
8,300.00	8,285.91	8,306.98	8,302.07	19.14	18.22	-173.73	-0.33	102.61	285.34	248.98	36.37	7.847		
8,332.04	8,317.86	8,339.02	8,334.04	19.22	18.29	-173.63	-0.33	104.59	285.92	249.41	36.51	7.831		
8,400.00	8,385.66	8,406.96	8,401.85	19.36	18.44	-173.39	-0.33	108.79	286.74	249.94	36.80	7.792		
8,500.00	8,485.51	8,506.94	8,501.64	19.55	18.67	-173.01	-0.33	114.98	286.50	249.30	37.20	7.702		
8,600.00	8,585.44	8,602.63	8,597.19	19.74	18.87	-172.67	-0.33	120.11	285.28	247.69	37.59	7.590		
8,700.00	8,685.42	8,700.00	8,694.49	19.92	19.06	-172.41	-0.33	123.70	283.86	245.90	37.96	7.478		
8,761.66	8,747.08	8,757.31	8,751.78	20.02	19.17	-115.18	-0.33	125.04	282.87	244.69	38.18	7.409		
8,800.00	8,785.42	8,794.00	8,788.48	20.10	19.24	-115.23	-0.33	125.60	282.34	244.02	38.32	7.367		
8,900.00	8,885.42	8,890.95	8,885.42	20.30	19.42	-115.26	-0.33	126.01	281.96	243.24	38.72	7.283		
9,000.00	8,985.42	8,990.95	8,985.42	20.51	19.64	-115.26	-0.33	126.01	281.96	242.81	39.15	7.202		
9,061.66	9,047.08	9,052.61	9,047.08	20.64	19.78	-115.26	-0.33	126.01	281.96	242.54	39.42	7.153		
9,100.00	9,085.39	9,090.92	9,085.39	20.71	19.86	-65.44	-0.33	126.01	281.42	241.84	39.58	7.111		
9,150.00	9,135.07	9,140.60	9,135.07	20.79	19.97	-66.67	-0.33	126.01	279.17	239.40	39.77	7.020		
9,200.00	9,184.08	9,185.52	9,179.98	20.87	20.06	-68.59	-0.79	126.01	275.59	235.67	39.92	6.904		
9,250.00	9,232.05	9,227.34	9,221.67	20.95	20.14	-70.64	-3.99	126.04	271.91	231.88	40.03	6.792		
9,300.00	9,278.61	9,269.70	9,263.55	21.02	20.22	-72.87	-10.31	126.08	268.38	228.24	40.14	6.687		
9,350.00	9,323.40	9,312.68	9,305.44	21.09	20.30	-75.26	-19.88	126.15	265.09	224.84	40.25	6.586		
9,400.00	9,366.10	9,356.35	9,347.15	21.16	20.38	-77.80	-32.78	126.25	262.16	221.78	40.39	6.491		
9,450.00	9,406.36	9,400.00	9,387.73	21.23	20.46	-80.44	-48.82	126.37	259.69	219.15	40.54	6.406		
9,500.00	9,443.89	9,446.01	9,429.06	21.30	20.55	-83.29	-69.02	126.51	257.77	217.03	40.74	6.327		

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 161H
Project:	Lea County, NM (NAD-83)	TVD Reference:	3711.5' GE + 23.5' KB @ 3735.00usft
Reference Site:	Thistle Unit Sec 22-27 Trac Pad	MD Reference:	3711.5' GE + 23.5' KB @ 3735.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Thistle Unit 161H	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		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)						
9,550.00	9,478.41	9,492.18	9,468.77	21.37	20.64	86.19	-92.54	126.69	256.48	215.52	40.96	6.262		
9,600.00	9,509.63	9,539.35	9,507.24	21.46	20.74	89.16	-119.80	126.89	255.90	214.71	41.19	6.213		
9,614.01	9,517.77	9,552.76	9,517.76	21.48	20.77	90.00	-128.12	126.95	255.87	214.61	41.25	6.202		
9,650.00	9,537.34	9,587.61	9,544.16	21.56	20.84	92.17	-150.87	127.11	256.06	214.64	41.42	6.182		
9,700.00	9,561.32	9,637.06	9,579.13	21.68	20.96	95.18	-185.82	127.37	257.01	215.37	41.64	6.172		
9,750.00	9,581.39	9,687.81	9,611.75	21.82	21.10	98.17	-224.67	127.65	258.71	216.88	41.83	6.185		
9,800.00	9,597.38	9,739.94	9,641.54	21.99	21.26	101.09	-267.42	127.97	261.14	219.16	41.98	6.221		
9,850.00	9,609.19	9,793.55	9,668.00	22.19	21.46	103.93	-314.03	128.31	264.23	222.13	42.09	6.277		
9,900.00	9,616.72	9,848.74	9,690.56	22.41	21.69	106.65	-364.36	128.68	267.87	225.68	42.19	6.349		
9,950.00	9,619.92	9,905.57	9,708.63	22.66	21.96	109.22	-418.22	129.07	271.96	229.66	42.30	6.430		
9,968.10	9,620.00	9,926.56	9,713.94	22.76	22.07	110.11	-438.53	129.22	273.51	231.17	42.34	6.459		
10,000.00	9,619.64	9,964.32	9,721.60	26.75	22.27	111.69	-475.49	129.49	276.00	233.45	42.55	6.487		
10,100.00	9,618.52	10,081.90	9,730.11	26.83	22.99	113.56	-592.59	130.35	279.15	236.23	42.92	6.504		
10,200.00	9,617.40	10,181.88	9,730.61	26.91	23.71	113.87	-692.57	131.08	279.80	236.22	43.58	6.420		
10,300.00	9,616.27	10,281.87	9,731.11	26.99	24.51	114.17	-792.55	131.81	280.46	236.12	44.34	6.325		
10,400.00	9,615.15	10,381.86	9,731.61	27.07	25.39	114.47	-892.54	132.55	281.13	235.92	45.21	6.219		
10,500.00	9,614.02	10,481.84	9,732.11	27.16	26.34	114.77	-992.52	133.28	281.81	235.65	46.16	6.105		
10,600.00	9,612.90	10,581.83	9,732.61	27.24	27.36	115.07	-1,092.50	134.01	282.49	235.29	47.20	5.986		
10,700.00	9,611.78	10,681.82	9,733.11	27.33	28.44	115.37	-1,192.48	134.74	283.18	234.88	48.31	5.862		
10,800.00	9,610.65	10,781.80	9,733.61	27.42	29.57	115.66	-1,292.47	135.47	283.88	234.40	49.48	5.737		
10,900.00	9,609.53	10,881.79	9,734.11	27.51	30.74	115.96	-1,392.45	136.21	284.59	233.86	50.73	5.610		
11,000.00	9,608.40	10,981.78	9,734.60	27.61	31.96	116.25	-1,492.43	136.94	285.30	233.28	52.02	5.484		
11,100.00	9,607.28	11,081.76	9,735.10	27.70	33.21	116.54	-1,592.42	137.67	286.03	232.65	53.37	5.359		
11,200.00	9,606.16	11,181.75	9,735.60	27.80	34.49	116.83	-1,692.40	138.40	286.76	231.98	54.77	5.235		
11,300.00	9,605.03	11,281.74	9,736.10	27.90	35.80	117.12	-1,792.38	139.14	287.49	231.28	56.21	5.114		
11,400.00	9,603.91	11,381.72	9,736.60	28.01	37.14	117.41	-1,892.36	139.87	288.24	230.54	57.69	4.996		
11,500.00	9,602.79	11,481.71	9,737.10	28.12	38.51	117.69	-1,992.35	140.60	288.99	229.78	59.21	4.881		
11,600.00	9,601.66	11,581.70	9,737.60	28.23	39.89	117.98	-2,092.33	141.33	289.75	228.99	60.76	4.769		
11,700.00	9,600.54	11,681.68	9,738.10	28.35	41.29	118.26	-2,192.31	142.07	290.51	228.17	62.34	4.660		
11,800.00	9,599.41	11,781.67	9,738.60	28.48	42.71	118.54	-2,292.30	142.80	291.29	227.34	63.95	4.555		
11,900.00	9,598.29	11,881.66	9,739.10	28.61	44.14	118.82	-2,392.28	143.53	292.06	226.48	65.58	4.453		
12,000.00	9,597.17	11,981.64	9,739.60	28.77	45.59	119.10	-2,492.26	144.26	292.85	225.61	67.24	4.355		
12,100.00	9,596.04	12,081.63	9,740.10	28.94	47.05	119.38	-2,592.25	145.00	293.64	224.73	68.92	4.261		
12,200.00	9,594.92	12,181.62	9,740.60	29.14	48.52	119.65	-2,692.23	145.73	294.44	223.83	70.61	4.170		
12,300.00	9,593.79	12,281.61	9,741.09	29.38	50.00	119.92	-2,792.21	146.46	295.25	222.92	72.33	4.082		
12,400.00	9,592.67	12,381.59	9,741.59	29.68	51.50	120.20	-2,892.19	147.19	296.07	222.01	74.06	3.998		
12,500.00	9,591.55	12,481.58	9,742.09	30.02	53.00	120.47	-2,992.18	147.92	296.89	221.08	75.81	3.916		
12,600.00	9,590.42	12,581.57	9,742.59	30.41	54.50	120.74	-3,092.16	148.66	297.71	220.15	77.56	3.838		
12,700.00	9,589.30	12,681.55	9,743.09	30.85	56.02	121.00	-3,192.14	149.39	298.55	219.21	79.34	3.763		
12,800.00	9,588.18	12,781.54	9,743.59	31.31	57.54	121.27	-3,292.13	150.12	299.39	218.27	81.12	3.691		
12,900.00	9,587.05	12,881.53	9,744.09	31.81	59.07	121.53	-3,392.11	150.85	300.23	217.32	82.91	3.621		
13,000.00	9,585.93	12,981.51	9,744.59	32.32	60.61	121.80	-3,492.09	151.59	301.08	216.37	84.71	3.554		
13,100.00	9,584.80	13,081.50	9,745.09	32.85	62.15	122.06	-3,592.07	152.32	301.94	215.42	86.52	3.490		
13,200.00	9,583.68	13,181.49	9,745.59	33.39	63.69	122.32	-3,692.06	153.05	302.81	214.47	88.34	3.428		
13,300.00	9,582.56	13,281.47	9,746.09	33.95	65.24	122.58	-3,792.04	153.78	303.68	213.52	90.16	3.368		
13,400.00	9,581.43	13,381.46	9,746.59	34.51	66.79	122.84	-3,892.02	154.52	304.56	212.57	91.99	3.311		
13,500.00	9,580.31	13,481.45	9,747.09	35.09	68.35	123.09	-3,992.01	155.25	305.44	211.62	93.82	3.256		
13,600.00	9,579.18	13,581.43	9,747.58	35.67	69.91	123.35	-4,091.99	155.98	306.33	210.67	95.66	3.202		
13,700.00	9,578.06	13,681.42	9,748.08	36.26	71.48	123.60	-4,191.97	156.71	307.23	209.73	97.50	3.151		
13,800.00	9,576.94	13,781.41	9,748.58	36.86	73.04	123.85	-4,291.95	157.45	308.13	208.78	99.35	3.102		
13,900.00	9,575.81	13,881.39	9,749.08	37.47	74.62	124.10	-4,391.94	158.18	309.04	207.84	101.20	3.054		
14,000.00	9,574.69	13,981.38	9,749.58	38.08	76.19	124.35	-4,491.92	158.91	309.95	206.90	103.05	3.008		

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 161H
Project:	Lea County, NM (NAD-83)	TVD Reference:	3711.5' GE + 23.5' KB @ 3735.00usft
Reference Site:	Thistle Unit Sec 22-27 Trac Pad	MD Reference:	3711.5' GE + 23.5' KB @ 3735.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Thistle Unit 161H	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		Distance							Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
14,100.00	9,573.57	14,081.37	9,750.08	38.70	77.77	124.59	-4,591.90	159.64	310.87	205.97	104.90	2.964		
14,200.00	9,572.44	14,181.36	9,750.58	39.32	79.34	124.84	-4,691.89	160.38	311.79	205.04	106.75	2.921		
14,300.00	9,571.32	14,281.34	9,751.08	39.95	80.93	125.08	-4,791.87	161.11	312.73	204.12	108.61	2.879		
14,400.00	9,570.19	14,381.33	9,751.58	40.59	82.51	125.33	-4,891.85	161.84	313.66	203.20	110.47	2.839		
14,500.00	9,569.07	14,481.32	9,752.08	41.22	84.10	125.57	-4,991.83	162.57	314.60	202.28	112.32	2.801		
14,600.00	9,567.95	14,581.30	9,752.58	41.87	85.68	125.81	-5,091.82	163.30	315.55	201.37	114.18	2.764		
14,700.00	9,566.82	14,681.29	9,753.08	42.51	87.27	126.05	-5,191.80	164.04	316.50	200.47	116.04	2.728		
14,800.00	9,565.70	14,781.28	9,753.58	43.17	88.86	126.28	-5,291.78	164.77	317.46	199.57	117.90	2.693		
14,900.00	9,564.57	14,881.26	9,754.07	43.82	90.46	126.52	-5,391.77	165.50	318.43	198.67	119.75	2.659		
15,000.00	9,563.45	14,981.25	9,754.57	44.48	92.05	126.75	-5,491.75	166.23	319.40	197.79	121.61	2.626		
15,100.00	9,562.33	15,081.24	9,755.07	45.14	93.65	126.98	-5,591.73	166.97	320.37	196.91	123.46	2.595		
15,200.00	9,561.20	15,181.22	9,755.57	45.81	95.25	127.22	-5,691.71	167.70	321.35	196.03	125.32	2.564		
15,300.00	9,560.08	15,281.21	9,756.07	46.48	96.85	127.44	-5,791.70	168.43	322.33	195.16	127.17	2.535		
15,400.00	9,558.96	15,381.20	9,756.57	47.15	98.45	127.67	-5,891.68	169.16	323.32	194.30	129.02	2.506		
15,500.00	9,557.83	15,481.18	9,757.07	47.82	100.05	127.90	-5,991.66	169.90	324.32	193.45	130.87	2.478		
15,600.00	9,556.71	15,581.17	9,757.57	48.50	101.65	128.13	-6,091.65	170.63	325.32	192.60	132.72	2.451		
15,700.00	9,555.58	15,681.16	9,758.07	49.18	103.25	128.35	-6,191.63	171.36	326.32	191.76	134.57	2.425		
15,800.00	9,554.46	15,781.14	9,758.57	49.86	104.86	128.57	-6,291.61	172.09	327.33	190.92	136.41	2.400		
15,900.00	9,553.34	15,881.13	9,759.07	50.55	106.47	128.79	-6,391.60	172.83	328.35	190.10	138.25	2.375		
16,000.00	9,552.21	15,981.12	9,759.57	51.24	108.07	129.01	-6,491.58	173.56	329.37	189.28	140.09	2.351		
16,100.00	9,551.09	16,081.10	9,760.07	51.92	109.68	129.23	-6,591.56	174.29	330.39	188.46	141.93	2.328		
16,200.00	9,549.96	16,181.09	9,760.56	52.62	111.29	129.45	-6,691.54	175.02	331.42	187.66	143.77	2.305		
16,300.00	9,548.84	16,281.08	9,761.06	53.31	112.90	129.67	-6,791.53	175.75	332.46	186.86	145.60	2.283		
16,400.00	9,547.72	16,381.07	9,761.56	54.01	114.51	129.88	-6,891.51	176.49	333.50	186.07	147.43	2.262		
16,500.00	9,546.59	16,481.05	9,762.06	54.70	116.12	130.09	-6,991.49	177.22	334.54	185.28	149.26	2.241		
16,600.00	9,545.47	16,581.04	9,762.56	55.40	117.73	130.31	-7,091.48	177.95	335.59	184.51	151.08	2.221		
16,700.00	9,544.35	16,681.03	9,763.06	56.10	119.35	130.52	-7,191.46	178.68	336.64	183.74	152.90	2.202		
16,800.00	9,543.22	16,781.01	9,763.56	56.81	120.96	130.72	-7,291.44	179.42	337.70	182.98	154.72	2.183		
16,900.00	9,542.10	16,881.00	9,764.06	57.51	122.57	130.93	-7,391.42	180.15	338.76	182.22	156.54	2.164		
17,000.00	9,540.97	16,980.99	9,764.56	58.22	124.19	131.14	-7,491.41	180.88	339.83	181.47	158.35	2.146		
17,086.67	9,540.00	17,067.64	9,764.99	58.83	125.59	131.32	-7,578.06	181.52	340.75	180.83	159.92	2.131 SF		

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

LEAM Drilling Systems LLC

Anticollision Report

Company:	Devon Energy	Local Co-ordinate Reference:	Well Thistle Unit 161H
Project:	Lea County, NM (NAD-83)	TVD Reference:	3711.5' GE + 23.5' KB @ 3735.00usft
Reference Site:	Thistle Unit Sec 22-27 Trac Pad	MD Reference:	3711.5' GE + 23.5' KB @ 3735.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Thistle Unit 161H	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 115H - 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						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		
0.00	0.00	1.70	1.70	0.00	0.00	89.68	9.64	1,709.79	1,709.82					
100.00	100.00	101.70	101.70	0.09	0.09	89.68	9.64	1,709.79	1,709.82	1,709.64	0.18	9,727.734		
200.00	200.00	201.70	201.70	0.31	0.31	89.68	9.64	1,709.79	1,709.82	1,709.19	0.63	2,734.398		
300.00	300.00	301.70	301.70	0.54	0.54	89.68	9.64	1,709.79	1,709.82	1,708.74	1.07	1,590.777		
400.00	400.00	401.70	401.70	0.76	0.76	89.68	9.64	1,709.79	1,709.82	1,708.29	1.52	1,121.660		
500.00	500.00	501.70	501.70	0.99	0.99	89.68	9.64	1,709.79	1,709.82	1,707.84	1.97	866.215		
600.00	600.00	601.70	601.70	1.21	1.21	89.68	9.64	1,709.79	1,709.82	1,707.39	2.42	705.537		
700.00	700.00	701.70	701.70	1.43	1.44	89.68	9.64	1,709.79	1,709.82	1,706.94	2.87	595.141		
800.00	800.00	801.70	801.70	1.66	1.66	89.68	9.64	1,709.79	1,709.82	1,706.49	3.32	514.619		
900.00	900.00	901.70	901.70	1.88	1.89	89.68	9.64	1,709.79	1,709.82	1,706.05	3.77	453.289		
1,000.00	1,000.00	1,001.70	1,001.70	2.11	2.11	89.68	9.64	1,709.79	1,709.82	1,705.60	4.22	405.021		
1,100.00	1,100.00	1,101.70	1,101.70	2.33	2.34	89.68	9.64	1,709.79	1,709.82	1,705.15	4.67	366.043		
1,200.00	1,200.00	1,201.70	1,201.70	2.56	2.56	89.68	9.64	1,709.79	1,709.82	1,704.70	5.12	333.908		
1,300.00	1,300.00	1,301.70	1,301.70	2.78	2.79	89.68	9.64	1,709.79	1,709.82	1,704.25	5.57	306.961		
1,400.00	1,400.00	1,401.70	1,401.70	3.01	3.01	89.68	9.64	1,709.79	1,709.82	1,703.80	6.02	284.038		
1,500.00	1,500.00	1,501.70	1,501.70	3.23	3.24	89.68	9.64	1,709.79	1,709.82	1,703.35	6.47	264.301		
1,600.00	1,600.00	1,601.70	1,601.70	3.46	3.46	89.68	9.64	1,709.79	1,709.82	1,702.90	6.92	247.128		
1,700.00	1,700.00	1,701.70	1,701.70	3.68	3.69	89.68	9.64	1,709.79	1,709.82	1,702.45	7.37	232.051		
1,800.00	1,800.00	1,801.70	1,801.70	3.91	3.91	89.68	9.64	1,709.79	1,709.82	1,702.00	7.82	218.708		
1,900.00	1,900.00	1,901.70	1,901.70	4.13	4.14	89.68	9.64	1,709.79	1,709.82	1,701.55	8.27	206.816		
2,000.00	2,000.00	2,001.70	2,001.70	4.36	4.36	89.68	9.64	1,709.79	1,709.82	1,701.10	8.72	196.150		
2,100.00	2,100.00	2,101.70	2,101.70	4.58	4.59	89.68	9.64	1,709.79	1,709.82	1,700.65	9.17	186.531		
2,200.00	2,200.00	2,201.70	2,201.70	4.81	4.81	89.68	9.64	1,709.79	1,709.82	1,700.20	9.62	177.811		
2,300.00	2,300.00	2,323.69	2,323.68	5.03	5.07	89.68	9.64	1,709.32	1,709.48	1,699.38	10.10	169.249		
2,400.00	2,400.00	2,466.12	2,466.07	5.26	5.35	89.68	9.64	1,705.71	1,706.96	1,696.35	10.60	161.003		
2,500.00	2,500.00	2,608.29	2,608.06	5.48	5.65	89.67	9.64	1,698.59	1,701.94	1,690.84	11.10	153.314		
2,600.00	2,600.00	2,750.02	2,749.39	5.71	5.95	89.67	9.64	1,687.99	1,694.46	1,682.86	11.60	146.115		
2,700.00	2,700.00	2,891.14	2,889.80	5.93	6.26	89.67	9.64	1,673.96	1,684.52	1,672.43	12.09	139.360		
2,800.00	2,800.00	3,031.48	3,029.06	6.15	6.58	89.67	9.64	1,656.58	1,672.14	1,659.56	12.57	132.991		
2,900.00	2,900.00	3,137.64	3,134.18	6.38	6.84	89.66	9.64	1,641.75	1,658.15	1,645.14	13.02	127.403		
3,000.00	3,000.00	3,236.65	3,232.21	6.60	7.09	89.66	9.64	1,627.86	1,644.13	1,630.68	13.45	122.238		
3,100.00	3,099.99	3,335.54	3,330.13	6.82	7.34	17.19	9.64	1,614.00	1,629.29	1,615.41	13.88	117.404		
3,200.00	3,199.96	3,434.17	3,427.78	7.03	7.59	17.27	9.64	1,600.17	1,612.79	1,598.50	14.30	112.802		
3,300.00	3,299.86	3,532.50	3,525.14	7.23	7.85	17.37	9.64	1,586.38	1,594.66	1,579.94	14.72	108.340		
3,400.00	3,399.68	3,630.51	3,622.18	7.45	8.12	17.49	9.64	1,572.64	1,574.90	1,559.75	15.14	104.009		
3,429.62	3,429.22	3,659.48	3,650.86	7.51	8.20	17.53	9.64	1,568.58	1,568.73	1,553.46	15.27	102.745		
3,500.00	3,499.40	3,728.26	3,718.96	7.66	8.38	17.59	9.64	1,558.94	1,553.91	1,538.34	15.57	99.828		
3,600.00	3,599.12	3,825.99	3,815.73	7.88	8.65	17.68	9.64	1,545.24	1,532.85	1,516.86	15.99	95.861		
3,700.00	3,698.84	3,923.73	3,912.50	8.10	8.93	17.76	9.64	1,531.53	1,511.79	1,495.37	16.42	92.085		
3,800.00	3,798.56	4,021.46	4,009.27	8.32	9.20	17.85	9.64	1,517.83	1,490.74	1,473.89	16.85	88.489		
3,900.00	3,898.28	4,119.19	4,106.03	8.54	9.48	17.94	9.64	1,504.13	1,469.69	1,452.41	17.28	85.061		
4,000.00	3,997.99	4,216.92	4,202.80	8.77	9.76	18.04	9.64	1,490.42	1,448.65	1,430.93	17.71	81.792		
4,100.00	4,097.71	4,314.65	4,299.57	8.99	10.04	18.14	9.64	1,476.72	1,427.60	1,409.46	18.15	78.671		
4,200.00	4,197.43	4,412.39	4,396.33	9.22	10.32	18.24	9.64	1,463.02	1,406.57	1,387.98	18.58	75.690		
4,300.00	4,297.15	4,510.12	4,493.10	9.45	10.61	18.34	9.64	1,449.32	1,385.53	1,366.51	19.02	72.839		
4,400.00	4,396.87	4,607.85	4,589.87	9.68	10.90	18.45	9.64	1,435.61	1,364.51	1,345.04	19.46	70.112		
4,500.00	4,496.59	4,705.58	4,686.63	9.91	11.19	18.56	9.64	1,421.91	1,343.48	1,323.58	19.90	67.501		
4,600.00	4,496.31	4,803.32	4,783.40	10.14	11.48	18.67	9.64	1,408.21	1,322.46	1,302.12	20.35	64.999		
4,700.00	4,496.03	4,901.05	4,880.17	10.38	11.77	18.78	9.64	1,394.51	1,301.45	1,280.66	20.79	62.600		
4,800.00	4,795.75	4,998.78	4,976.93	10.61	12.06	18.91	9.64	1,380.80	1,280.44	1,259.21	21.24	60.298		
4,900.00	4,895.47	5,096.51	5,073.70	10.85	12.35	19.03	9.64	1,367.10	1,259.44	1,237.76	21.68	58.087		
5,000.00	4,995.19	5,194.24	5,170.47	11.08	12.65	19.16	9.64	1,353.40	1,238.44	1,216.31	22.13	55.964		

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

LEAM Drilling Systems LLC

Anticollision Report

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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 115H - 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 (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
5,100.00	5,094.90	5,291.98	5,267.23	11.32	12.94	19.29	9.64	1,339.70	1,217.45	1,194.87	22.58	53.922		
5,200.00	5,194.62	5,389.71	5,364.00	11.56	13.24	19.43	9.64	1,325.99	1,196.47	1,173.44	23.03	51.958		
5,300.00	5,294.34	5,487.44	5,460.77	11.80	13.54	19.57	9.64	1,312.29	1,175.49	1,152.01	23.48	50.067		
5,400.00	5,394.06	5,585.17	5,557.54	12.03	13.83	19.72	9.64	1,298.59	1,154.52	1,130.59	23.93	48.246		
5,500.00	5,493.78	5,682.91	5,654.30	12.27	14.13	19.87	9.64	1,284.89	1,133.56	1,109.18	24.38	46.491		
5,600.00	5,593.50	5,780.64	5,751.07	12.51	14.43	20.03	9.64	1,271.18	1,112.60	1,087.77	24.84	44.799		
5,700.00	5,693.22	5,878.37	5,847.84	12.76	14.73	20.20	9.64	1,257.48	1,091.66	1,066.37	25.29	43.166		
5,800.00	5,792.94	5,976.10	5,944.60	13.00	15.03	20.37	9.64	1,243.78	1,070.72	1,044.98	25.75	41.589		
5,900.00	5,892.66	6,073.83	6,041.37	13.24	15.33	20.55	9.64	1,230.08	1,049.79	1,023.59	26.20	40.066		
6,000.00	5,992.38	6,171.57	6,138.14	13.48	15.63	20.74	9.64	1,216.37	1,028.88	1,002.22	26.66	38.595		
6,100.00	6,092.09	6,269.30	6,234.90	13.72	15.94	20.93	9.64	1,202.67	1,007.97	980.85	27.12	37.172		
6,200.00	6,191.81	6,367.03	6,331.67	13.97	16.24	21.13	9.64	1,188.97	987.08	959.50	27.57	35.796		
6,300.00	6,291.53	6,464.76	6,428.44	14.21	16.54	21.34	9.64	1,175.27	966.19	938.16	28.03	34.465		
6,400.00	6,391.25	6,562.50	6,525.20	14.45	16.85	21.56	9.64	1,161.56	945.32	916.83	28.49	33.175		
6,500.00	6,490.97	6,660.23	6,621.97	14.70	17.15	21.79	9.64	1,147.86	924.47	895.51	28.96	31.926		
6,600.00	6,590.69	6,757.96	6,718.74	14.94	17.45	22.03	9.64	1,134.16	903.63	874.21	29.42	30.716		
6,700.00	6,690.41	6,855.69	6,815.51	15.19	17.76	22.28	9.64	1,120.46	882.80	852.92	29.88	29.543		
6,800.00	6,790.13	6,953.42	6,912.27	15.43	18.06	22.55	9.64	1,106.75	862.00	831.65	30.35	28.405		
6,900.00	6,889.85	7,051.16	7,009.04	15.68	18.37	22.82	9.64	1,093.05	841.21	810.39	30.81	27.302		
7,000.00	6,989.57	7,148.89	7,105.81	15.92	18.67	23.11	9.64	1,079.35	820.44	789.16	31.28	26.230		
7,100.00	7,089.28	7,246.62	7,202.57	16.17	18.98	23.42	9.64	1,065.65	799.69	767.94	31.75	25.190		
7,200.00	7,189.00	7,344.35	7,299.34	16.41	19.29	23.74	9.64	1,051.94	778.96	746.75	32.22	24.180		
7,300.00	7,288.72	7,442.09	7,396.11	16.66	19.59	24.08	9.64	1,038.24	758.26	725.58	32.69	23.199		
7,400.00	7,388.44	7,539.82	7,492.87	16.91	19.90	24.44	9.64	1,024.54	737.59	704.43	33.16	22.245		
7,500.00	7,488.16	7,637.55	7,589.64	17.15	20.21	24.82	9.64	1,010.84	716.95	683.31	33.63	21.318		
7,600.00	7,587.88	7,735.28	7,686.41	17.40	20.51	25.22	9.64	997.13	696.33	662.23	34.11	20.416		
7,700.00	7,687.60	7,833.01	7,783.17	17.65	20.82	25.65	9.64	983.43	675.76	641.17	34.58	19.540		
7,800.00	7,787.32	7,930.75	7,879.94	17.90	21.13	26.10	9.64	969.73	655.22	620.15	35.06	18.687		
7,900.00	7,887.04	8,028.48	7,976.71	18.14	21.43	26.58	9.64	956.03	634.72	599.18	35.55	17.857		
8,000.00	7,986.76	8,122.76	8,070.07	18.39	21.71	27.08	9.64	942.90	614.37	578.34	36.03	17.053		
8,100.00	8,086.47	8,211.52	8,158.11	18.64	21.92	27.55	9.64	931.64	595.27	558.77	36.49	16.312		
8,200.00	8,186.19	8,300.00	8,246.04	18.89	22.11	28.03	9.64	921.77	577.72	540.76	36.95	15.633		
8,300.00	8,285.91	8,390.62	8,336.24	19.14	22.30	28.52	9.64	913.07	561.73	524.32	37.41	15.017		
8,332.04	8,317.86	8,419.49	8,365.00	19.22	22.36	28.68	9.64	910.60	556.94	519.39	37.55	14.832		
8,400.00	8,385.66	8,480.92	8,426.25	19.36	22.49	28.94	9.64	905.83	547.66	509.82	37.84	14.475		
8,500.00	8,485.51	8,571.80	8,516.94	19.55	22.66	29.27	9.64	899.96	536.60	498.38	38.22	14.038		
8,600.00	8,585.44	8,663.13	8,608.16	19.74	22.83	29.51	9.64	895.53	528.63	490.03	38.60	13.696		
8,700.00	8,685.42	8,754.77	8,699.75	19.92	22.98	29.65	9.64	892.53	523.74	484.79	38.95	13.446		
8,761.66	8,747.08	8,811.36	8,756.33	20.02	23.08	102.20	9.64	891.42	522.27	483.10	39.17	13.335		
8,800.00	8,785.42	8,846.56	8,791.53	20.10	23.13	102.21	9.64	891.00	521.83	482.52	39.30	13.277		
8,872.35	8,857.77	8,914.51	8,859.47	20.25	23.24	102.21	9.64	890.79	521.60	482.02	39.58	13.180		
8,900.00	8,885.42	8,942.16	8,887.12	20.30	23.29	102.21	9.64	890.79	521.60	481.91	39.69	13.142		
9,000.00	8,985.42	9,042.16	8,987.12	20.51	23.47	102.21	9.64	890.79	521.60	481.50	40.10	13.007		
9,061.66	9,047.08	9,103.82	9,048.78	20.64	23.58	102.21	9.64	890.79	521.60	481.24	40.36	12.925		
9,100.00	9,085.39	9,142.13	9,087.09	20.71	23.65	-77.53	9.64	890.79	521.32	480.82	40.50	12.872		
9,150.00	9,135.07	9,191.81	9,136.77	20.79	23.73	-78.23	9.64	890.79	520.15	479.50	40.66	12.794		
9,200.00	9,184.08	9,234.25	9,179.19	20.87	23.80	-79.16	8.37	890.80	518.50	477.74	40.76	12.721		
9,250.00	9,232.05	9,276.47	9,221.17	20.95	23.87	-80.15	4.01	890.83	516.85	476.00	40.85	12.651		
9,300.00	9,278.61	9,319.17	9,263.19	21.02	23.94	-81.22	-3.53	890.89	515.26	474.31	40.95	12.584		
9,350.00	9,323.40	9,362.43	9,305.06	21.09	24.01	-82.35	-14.34	890.97	513.76	472.71	41.05	12.517		
9,400.00	9,366.10	9,406.29	9,346.57	21.16	24.08	-83.54	-28.49	891.07	512.39	471.24	41.16	12.449		
9,450.00	9,406.36	9,450.00	9,386.73	21.23	24.16	-84.76	-45.71	891.20	511.21	469.93	41.28	12.383		

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 161H
Project:	Lea County, NM (NAD-83)	TVD Reference:	3711.5' GE + 23.5' KB @ 3735.00usft
Reference Site:	Thistle Unit Sec 22-27 Trac Pad	MD Reference:	3711.5' GE + 23.5' KB @ 3735.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Thistle Unit 161H	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 115H - 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		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		
9,500.00	9,443.89	9,496.11	9,427.55	21.30	24.23	-86.06	-67.13	891.36	510.25	468.80	41.45	12.311		
9,550.00	9,478.41	9,542.20	9,466.49	21.37	24.31	-87.39	-91.76	891.54	509.54	467.90	41.63	12.238		
9,600.00	9,509.63	9,589.18	9,504.02	21.46	24.40	-88.74	-119.99	891.75	509.11	467.25	41.85	12.164		
9,645.19	9,534.84	9,632.46	9,536.44	21.55	24.48	-89.99	-148.65	891.96	508.98	466.90	42.08	12.096 CC		
9,650.00	9,537.34	9,637.12	9,539.80	21.56	24.49	-90.12	-151.88	891.99	508.98	466.88	42.10	12.089		
9,700.00	9,561.32	9,686.10	9,573.48	21.68	24.59	-91.51	-187.43	892.25	509.17	466.79	42.38	12.014		
9,750.00	9,581.39	9,736.21	9,604.65	21.82	24.70	-92.90	-226.63	892.54	509.68	466.99	42.69	11.938		
9,800.00	9,597.38	9,787.52	9,632.91	21.99	24.83	-94.28	-269.44	892.86	510.51	467.48	43.04	11.862		
9,850.00	9,609.19	9,840.11	9,657.77	22.19	24.98	-95.65	-315.76	893.20	511.64	468.23	43.41	11.786		
9,900.00	9,616.72	9,894.05	9,678.75	22.41	25.15	-96.99	-365.43	893.57	513.04	469.22	43.82	11.708		
9,950.00	9,619.92	9,949.40	9,695.33	22.66	25.36	-98.28	-418.22	893.96	514.67	470.41	44.27	11.627		
9,968.10	9,620.00	9,969.79	9,700.15	22.76	25.44	-98.74	-438.03	894.11	515.31	470.87	44.44	11.595		
10,000.00	9,619.64	10,006.41	9,707.00	26.75	25.60	-99.54	-473.99	894.37	516.34	471.61	44.73	11.544		
10,100.00	9,618.52	10,119.85	9,714.12	26.83	26.17	-100.45	-587.07	895.21	517.60	472.20	45.40	11.401		
10,200.00	9,617.40	10,219.84	9,714.58	26.91	26.78	-100.62	-687.05	895.95	517.90	471.75	46.15	11.221		
10,300.00	9,616.27	10,319.83	9,715.04	26.99	27.48	-100.79	-787.04	896.69	518.20	471.18	47.02	11.022		
10,400.00	9,615.15	10,419.82	9,715.49	27.07	28.26	-100.97	-887.02	897.43	518.51	470.53	47.98	10.806		
10,500.00	9,614.02	10,519.80	9,715.95	27.16	29.12	-101.14	-987.00	898.17	518.82	469.78	49.04	10.580		
10,600.00	9,612.90	10,619.79	9,716.41	27.24	30.05	-101.31	-1,086.99	898.92	519.13	468.95	50.18	10.345		
10,700.00	9,611.78	10,719.78	9,716.86	27.33	31.03	-101.48	-1,186.97	899.66	519.45	468.05	51.41	10.104		
10,800.00	9,610.65	10,819.77	9,717.32	27.42	32.07	-101.65	-1,286.96	900.40	519.78	467.07	52.70	9.862		
10,900.00	9,609.53	10,919.75	9,717.78	27.51	33.17	-101.82	-1,386.94	901.14	520.11	466.04	54.07	9.620		
11,000.00	9,608.40	11,019.74	9,718.23	27.61	34.30	-101.99	-1,486.92	901.88	520.44	464.95	55.49	9.379		
11,100.00	9,607.28	11,119.73	9,718.69	27.70	35.48	-102.16	-1,586.91	902.62	520.78	463.81	56.97	9.141		
11,200.00	9,606.16	11,219.72	9,719.15	27.80	36.69	-102.33	-1,686.89	903.36	521.12	462.62	58.50	8.908		
11,300.00	9,605.03	11,319.70	9,719.61	27.90	37.93	-102.50	-1,786.87	904.10	521.47	461.39	60.08	8.679		
11,400.00	9,603.91	11,419.69	9,720.06	28.01	39.21	-102.67	-1,886.86	904.84	521.82	460.12	61.70	8.457		
11,500.00	9,602.79	11,519.68	9,720.52	28.12	40.51	-102.84	-1,986.84	905.58	522.18	458.81	63.37	8.240		
11,600.00	9,601.66	11,619.67	9,720.98	28.23	41.83	-103.01	-2,086.83	906.32	522.54	457.47	65.07	8.031		
11,700.00	9,600.54	11,719.65	9,721.43	28.35	43.18	-103.17	-2,186.81	907.06	522.91	456.10	66.80	7.828		
11,800.00	9,599.41	11,819.64	9,721.89	28.48	44.54	-103.34	-2,286.79	907.80	523.28	454.71	68.57	7.631		
11,900.00	9,598.29	11,919.63	9,722.35	28.61	45.93	-103.51	-2,386.78	908.55	523.65	453.29	70.37	7.442		
12,000.00	9,597.17	12,019.62	9,722.80	28.77	47.33	-103.68	-2,486.76	909.29	524.03	451.84	72.19	7.259		
12,100.00	9,596.04	12,119.60	9,723.26	28.94	48.74	-103.85	-2,586.74	910.03	524.41	450.38	74.04	7.083		
12,200.00	9,594.92	12,219.59	9,723.72	29.14	50.17	-104.01	-2,686.73	910.77	524.80	448.89	75.91	6.914		
12,300.00	9,593.79	12,319.58	9,724.17	29.38	51.61	-104.18	-2,786.71	911.51	525.19	447.39	77.80	6.750		
12,400.00	9,592.67	12,419.57	9,724.63	29.68	53.06	-104.35	-2,886.70	912.25	525.59	445.88	79.72	6.593		
12,500.00	9,591.55	12,519.55	9,725.09	30.02	54.53	-104.51	-2,986.68	912.99	525.99	444.34	81.65	6.442		
12,600.00	9,590.42	12,619.54	9,725.55	30.41	56.00	-104.68	-3,086.66	913.73	526.40	442.80	83.60	6.297		
12,700.00	9,589.30	12,719.53	9,726.00	30.85	57.48	-104.85	-3,186.65	914.47	526.81	441.25	85.56	6.157		
12,800.00	9,588.18	12,819.52	9,726.46	31.31	58.97	-105.01	-3,286.63	915.21	527.22	439.68	87.54	6.022		
12,900.00	9,587.05	12,919.50	9,726.92	31.81	60.47	-105.18	-3,386.61	915.95	527.64	438.10	89.54	5.893		
13,000.00	9,585.93	13,019.49	9,727.37	32.32	61.98	-105.34	-3,486.60	916.69	528.07	436.52	91.55	5.768		
13,100.00	9,584.80	13,119.48	9,727.83	32.85	63.49	-105.51	-3,586.58	917.44	528.49	434.93	93.57	5.648		
13,200.00	9,583.68	13,219.47	9,728.29	33.39	65.00	-105.67	-3,686.56	918.18	528.93	433.33	95.60	5.533		
13,300.00	9,582.56	13,319.45	9,728.74	33.95	66.53	-105.84	-3,786.55	918.92	529.36	431.73	97.64	5.422		
13,400.00	9,581.43	13,419.44	9,729.20	34.51	68.06	-106.00	-3,886.53	919.66	529.81	430.12	99.69	5.315		
13,500.00	9,580.31	13,519.43	9,729.66	35.09	69.59	-106.17	-3,986.52	920.40	530.25	428.51	101.75	5.212		
13,600.00	9,579.18	13,619.42	9,730.11	35.67	71.13	-106.33	-4,086.50	921.14	530.70	426.89	103.81	5.112		
13,700.00	9,578.06	13,719.40	9,730.57	36.26	72.67	-106.49	-4,186.48	921.88	531.15	425.27	105.89	5.016		
13,800.00	9,576.94	13,819.39	9,731.03	36.86	74.22	-106.66	-4,286.47	922.62	531.61	423.64	107.97	4.924		
13,900.00	9,575.81	13,919.38	9,731.48	37.47	75.77	-106.82	-4,386.45	923.36	532.08	422.02	110.06	4.834		

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 161H
Project:	Lea County, NM (NAD-83)	TVD Reference:	3711.5' GE + 23.5' KB @ 3735.00usft
Reference Site:	Thistle Unit Sec 22-27 Trac Pad	MD Reference:	3711.5' GE + 23.5' KB @ 3735.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Thistle Unit 161H	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 115H - 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)	Offset Wellbore Centre +E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	
14,000.00	9,574.69	14,019.37	9,731.94	38.08	77.33	-106.98	-4,486.43	924.10	532.54	420.39	112.15	4.748	
14,100.00	9,573.57	14,119.35	9,732.40	38.70	78.88	-107.14	-4,586.42	924.84	533.01	418.76	114.25	4.665	
14,200.00	9,572.44	14,219.34	9,732.86	39.32	80.44	-107.31	-4,686.40	925.58	533.49	417.13	116.36	4.585	
14,300.00	9,571.32	14,319.33	9,733.31	39.95	82.01	-107.47	-4,786.39	926.32	533.97	415.50	118.47	4.507	
14,400.00	9,570.19	14,419.32	9,733.77	40.59	83.58	-107.63	-4,886.37	927.07	534.45	413.87	120.58	4.432	
14,500.00	9,569.07	14,517.94	9,734.42	41.22	84.99	-107.81	-4,984.99	927.80	535.01	412.48	122.52	4.367	
14,600.00	9,567.95	14,617.53	9,735.93	41.87	86.37	-108.08	-5,084.56	928.53	535.82	411.41	124.41	4.307	
14,700.00	9,566.82	14,717.50	9,737.46	42.51	87.94	-108.34	-5,184.51	929.27	536.66	410.16	126.49	4.243	
14,800.00	9,565.70	14,817.46	9,738.98	43.17	89.52	-108.61	-5,284.46	930.01	537.50	408.92	128.58	4.180	
14,900.00	9,564.57	14,917.43	9,740.51	43.82	91.09	-108.88	-5,384.42	930.74	538.36	407.70	130.66	4.120	
15,000.00	9,563.45	15,017.39	9,742.04	44.48	92.68	-109.15	-5,484.37	931.48	539.23	406.48	132.75	4.062	
15,100.00	9,562.33	15,117.36	9,743.57	45.14	94.26	-109.41	-5,584.32	932.22	540.11	405.28	134.83	4.006	
15,200.00	9,561.20	15,217.32	9,745.09	45.81	95.84	-109.68	-5,684.27	932.96	541.00	404.09	136.92	3.951	
15,300.00	9,560.08	15,317.28	9,746.62	46.48	97.43	-109.94	-5,784.22	933.70	541.90	402.91	139.00	3.899	
15,400.00	9,558.96	15,417.25	9,748.15	47.15	99.02	-110.20	-5,884.17	934.43	542.82	401.74	141.08	3.848	
15,500.00	9,557.83	15,517.21	9,749.68	47.82	100.61	-110.46	-5,984.12	935.17	543.75	400.58	143.16	3.798	
15,600.00	9,556.71	15,617.18	9,751.20	48.50	102.20	-110.73	-6,084.07	935.91	544.68	399.44	145.24	3.750	
15,700.00	9,555.58	15,717.14	9,752.73	49.18	103.79	-110.99	-6,184.02	936.65	545.63	398.31	147.32	3.704	
15,800.00	9,554.46	15,817.11	9,754.26	49.86	105.38	-111.24	-6,283.97	937.38	546.59	397.19	149.40	3.659	
15,900.00	9,553.34	15,917.07	9,755.79	50.55	106.98	-111.50	-6,383.92	938.12	547.56	396.09	151.48	3.615	
16,000.00	9,552.21	16,017.04	9,757.31	51.24	108.57	-111.76	-6,483.87	938.86	548.55	394.99	153.55	3.572	
16,100.00	9,551.09	16,117.00	9,758.84	51.92	110.17	-112.02	-6,583.82	939.60	549.54	393.91	155.63	3.531	
16,200.00	9,549.96	16,216.97	9,760.37	52.62	111.77	-112.27	-6,683.77	940.34	550.55	392.85	157.70	3.491	
16,300.00	9,548.84	16,316.93	9,761.90	53.31	113.37	-112.53	-6,783.72	941.07	551.56	391.80	159.76	3.452	
16,400.00	9,547.72	16,416.90	9,763.42	54.01	114.97	-112.78	-6,883.67	941.81	552.59	390.76	161.83	3.415	
16,500.00	9,546.59	16,516.86	9,764.95	54.70	116.57	-113.03	-6,983.62	942.55	553.62	389.73	163.89	3.378	
16,600.00	9,545.47	16,616.83	9,766.48	55.40	118.18	-113.29	-7,083.57	943.29	554.67	388.72	165.95	3.342	
16,700.00	9,544.35	16,716.79	9,768.01	56.10	119.78	-113.54	-7,183.52	944.03	555.73	387.72	168.01	3.308	
16,800.00	9,543.22	16,816.76	9,769.53	56.81	121.39	-113.79	-7,283.47	944.76	556.80	386.73	170.07	3.274	
16,900.00	9,542.10	16,916.72	9,771.06	57.51	122.99	-114.04	-7,383.42	945.50	557.88	385.76	172.12	3.241	
17,000.00	9,540.97	17,016.69	9,772.59	58.22	124.60	-114.28	-7,483.37	946.24	558.97	384.80	174.17	3.209	
17,086.67	9,540.00	17,103.33	9,773.91	58.83	125.99	-114.50	-7,570.00	946.88	559.92	383.98	175.94	3.182 ES, SF	

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

LEAM Drilling Systems LLC

Anticollision Report

Company:	Devon Energy	Local Co-ordinate Reference:	Well Thistle Unit 161H
Project:	Lea County, NM (NAD-83)	TVD Reference:	3711.5' GE + 23.5' KB @ 3735.00usft
Reference Site:	Thistle Unit Sec 22-27 Trac Pad	MD Reference:	3711.5' GE + 23.5' KB @ 3735.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Thistle Unit 161H	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		Warning			
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	
0.00	0.00	0.00	0.00	0.00	0.00	-90.31	-0.16	-29.99	29.99				
100.00	100.00	100.00	100.00	0.09	0.09	-90.31	-0.16	-29.99	29.99	29.82	0.17	174.417	
200.00	200.00	200.00	200.00	0.31	0.31	-90.31	-0.16	-29.99	29.99	29.37	0.62	48.257	
300.00	300.00	300.00	300.00	0.54	0.54	-90.31	-0.16	-29.99	29.99	28.92	1.07	28.002	
400.00	400.00	400.00	400.00	0.76	0.76	-90.31	-0.16	-29.99	29.99	28.47	1.52	19.724	
500.00	500.00	500.00	500.00	0.99	0.99	-90.31	-0.16	-29.99	29.99	28.02	1.97	15.223	
600.00	600.00	600.00	600.00	1.21	1.21	-90.31	-0.16	-29.99	29.99	27.57	2.42	12.395	
700.00	700.00	700.00	700.00	1.43	1.43	-90.31	-0.16	-29.99	29.99	27.12	2.87	10.453	
800.00	800.00	800.00	800.00	1.66	1.66	-90.31	-0.16	-29.99	29.99	26.67	3.32	9.037	
900.00	900.00	900.00	900.00	1.88	1.88	-90.31	-0.16	-29.99	29.99	26.22	3.77	7.959	
1,000.00	1,000.00	1,000.00	1,000.00	2.11	2.11	-90.31	-0.16	-29.99	29.99	25.77	4.22	7.111	
1,100.00	1,100.00	1,100.00	1,100.00	2.33	2.33	-90.31	-0.16	-29.99	29.99	25.32	4.67	6.426	
1,200.00	1,200.00	1,200.00	1,200.00	2.56	2.56	-90.31	-0.16	-29.99	29.99	24.87	5.12	5.861	
1,300.00	1,300.00	1,300.00	1,300.00	2.78	2.78	-90.31	-0.16	-29.99	29.99	24.42	5.57	5.388	
1,400.00	1,400.00	1,400.00	1,400.00	3.01	3.01	-90.31	-0.16	-29.99	29.99	23.97	6.02	4.985	
1,500.00	1,500.00	1,500.00	1,500.00	3.23	3.23	-90.31	-0.16	-29.99	29.99	23.53	6.47	4.639	
1,600.00	1,600.00	1,600.00	1,600.00	3.46	3.46	-90.31	-0.16	-29.99	29.99	23.08	6.91	4.337	
1,700.00	1,700.00	1,700.00	1,700.00	3.68	3.68	-90.31	-0.16	-29.99	29.99	22.63	7.36	4.072	
1,800.00	1,800.00	1,800.00	1,800.00	3.91	3.91	-90.31	-0.16	-29.99	29.99	22.18	7.81	3.838	
1,900.00	1,900.00	1,900.00	1,900.00	4.13	4.13	-90.31	-0.16	-29.99	29.99	21.73	8.26	3.629	
2,000.00	2,000.00	2,000.00	2,000.00	4.36	4.36	-90.31	-0.16	-29.99	29.99	21.28	8.71	3.442	
2,100.00	2,100.00	2,100.00	2,100.00	4.58	4.58	-90.31	-0.16	-29.99	29.99	20.83	9.16	3.273	
2,200.00	2,200.00	2,200.00	2,200.00	4.81	4.81	-90.31	-0.16	-29.99	29.99	20.38	9.61	3.120	
2,300.00	2,300.00	2,300.00	2,300.00	5.03	5.03	-90.31	-0.16	-29.99	29.99	19.93	10.06	2.981	
2,400.00	2,400.00	2,400.00	2,400.00	5.26	5.26	-90.31	-0.16	-29.99	29.99	19.48	10.51	2.853	
2,500.00	2,500.00	2,500.00	2,500.00	5.48	5.48	-90.31	-0.16	-29.99	29.99	19.03	10.96	2.736	
2,600.00	2,600.00	2,600.00	2,600.00	5.71	5.71	-90.31	-0.16	-29.99	29.99	18.58	11.41	2.628	
2,700.00	2,700.00	2,700.00	2,700.00	5.93	5.93	-90.31	-0.16	-29.99	29.99	18.13	11.86	2.529	
2,800.00	2,800.00	2,800.00	2,800.00	6.15	6.15	-90.31	-0.16	-29.99	29.99	17.68	12.31	2.436	
2,900.00	2,900.00	2,900.00	2,900.00	6.38	6.38	-90.31	-0.16	-29.99	29.99	17.23	12.76	2.351	
3,000.00	3,000.00	3,000.00	3,000.00	6.60	6.60	-90.31	-0.16	-29.99	29.99	16.78	13.21	2.271	CC, ES
3,100.00	3,099.99	3,099.99	3,099.99	6.82	6.83	-163.30	-0.16	-29.99	30.83	17.18	13.65	2.259	
3,200.00	3,199.96	3,199.96	3,199.96	7.03	7.05	-164.59	-0.16	-29.99	33.34	19.26	14.08	2.368	
3,300.00	3,299.86	3,299.86	3,299.86	7.23	7.28	-166.34	-0.16	-29.99	37.56	23.06	14.51	2.589	
3,400.00	3,399.68	3,399.68	3,399.68	7.45	7.50	-168.23	-0.16	-29.99	43.52	28.58	14.94	2.913	
3,429.62	3,429.22	3,429.22	3,429.22	7.51	7.57	-168.77	-0.16	-29.99	45.62	30.55	15.07	3.027	
3,500.00	3,499.40	3,499.40	3,499.40	7.66	7.73	-169.93	-0.16	-29.99	50.80	35.43	15.37	3.304	
3,600.00	3,599.12	3,599.12	3,599.12	7.88	7.95	-171.22	-0.16	-29.99	58.19	42.39	15.81	3.681	
3,700.00	3,698.84	3,698.84	3,698.84	8.10	8.17	-172.22	-0.16	-29.99	65.61	49.37	16.24	4.039	
3,800.00	3,798.56	3,798.56	3,798.56	8.32	8.40	-173.02	-0.16	-29.99	73.04	56.36	16.68	4.379	
3,900.00	3,898.28	3,898.28	3,898.28	8.54	8.62	-173.66	-0.16	-29.99	80.48	63.36	17.11	4.702	
4,000.00	3,997.99	3,997.99	3,997.99	8.77	8.85	-174.20	-0.16	-29.99	87.93	70.38	17.55	5.010	
4,100.00	4,097.71	4,099.32	4,099.32	8.99	9.06	-174.77	-0.16	-29.13	94.56	76.58	17.98	5.259	
4,200.00	4,197.43	4,200.87	4,200.83	9.22	9.26	-175.50	-0.16	-26.47	99.47	81.08	18.39	5.409	
4,300.00	4,297.15	4,302.55	4,302.41	9.45	9.47	-176.39	-0.16	-22.00	102.68	83.88	18.80	5.463	
4,400.00	4,396.87	4,404.30	4,403.97	9.68	9.67	-177.48	-0.16	-15.73	104.19	84.99	19.20	5.427	
4,500.00	4,496.59	4,504.40	4,503.81	9.91	9.88	-178.68	-0.16	-8.55	104.77	85.15	19.62	5.340	
4,600.00	4,596.31	4,604.38	4,603.53	10.14	10.09	-179.86	-0.16	-1.38	105.39	85.35	20.04	5.259	
4,700.00	4,696.03	4,704.35	4,703.25	10.38	10.30	-178.98	-0.16	5.79	106.05	85.59	20.47	5.182	
4,800.00	4,795.75	4,804.33	4,802.96	10.61	10.51	-177.83	-0.16	12.97	106.76	85.87	20.89	5.110	
4,900.00	4,895.47	4,904.30	4,902.68	10.85	10.72	-176.69	-0.16	20.14	107.51	86.19	21.32	5.042	
5,000.00	4,995.19	5,004.28	5,002.40	11.08	10.94	-175.57	-0.16	27.31	108.30	86.55	21.75	4.979	

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 161H
Project:	Lea County, NM (NAD-83)	TVD Reference:	3711.5' GE + 23.5' KB @ 3735.00usft
Reference Site:	Thistle Unit Sec 22-27 Trac Pad	MD Reference:	3711.5' GE + 23.5' KB @ 3735.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Thistle Unit 161H	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		
5,100.00	5,094.90	5,104.25	5,102.11	11.32	11.16	174.47	-0.16	34.49	109.13	86.95	22.19	4.919		
5,200.00	5,194.62	5,204.23	5,201.83	11.56	11.37	173.39	-0.16	41.66	110.01	87.38	22.62	4.863		
5,300.00	5,294.34	5,304.20	5,301.55	11.80	11.59	172.32	-0.16	48.83	110.92	87.86	23.06	4.810		
5,400.00	5,394.06	5,404.18	5,401.26	12.03	11.81	171.27	-0.16	56.01	111.87	88.37	23.50	4.760		
5,500.00	5,493.78	5,504.15	5,500.98	12.27	12.04	170.24	-0.16	63.18	112.85	88.91	23.94	4.714		
5,600.00	5,593.50	5,604.13	5,600.70	12.51	12.26	169.23	-0.16	70.35	113.87	89.49	24.39	4.670		
5,700.00	5,693.22	5,704.10	5,700.42	12.76	12.49	168.23	-0.16	77.53	114.93	90.10	24.83	4.628		
5,800.00	5,792.94	5,804.08	5,800.13	13.00	12.71	167.25	-0.16	84.70	116.02	90.74	25.28	4.590		
5,900.00	5,892.66	5,904.05	5,899.85	13.24	12.94	166.30	-0.16	91.87	117.14	91.42	25.73	4.553		
6,000.00	5,992.38	6,004.02	5,999.57	13.48	13.17	165.36	-0.16	99.04	118.30	92.12	26.18	4.519		
6,100.00	6,092.09	6,104.00	6,099.28	13.72	13.39	164.43	-0.16	106.22	119.49	92.85	26.63	4.486		
6,200.00	6,191.81	6,203.97	6,199.00	13.97	13.62	163.53	-0.16	113.39	120.70	93.62	27.09	4.456		
6,300.00	6,291.53	6,303.95	6,298.72	14.21	13.85	162.65	-0.16	120.56	121.95	94.41	27.54	4.427		
6,400.00	6,391.25	6,403.92	6,398.43	14.45	14.08	161.78	-0.16	127.74	123.23	95.22	28.00	4.400		
6,500.00	6,490.97	6,503.90	6,498.15	14.70	14.32	160.93	-0.16	134.91	124.53	96.07	28.46	4.375		
6,600.00	6,590.69	6,603.87	6,597.87	14.94	14.55	160.10	-0.16	142.08	125.86	96.93	28.93	4.351		
6,700.00	6,690.41	6,703.85	6,697.59	15.19	14.78	159.29	-0.16	149.26	127.21	97.83	29.39	4.329		
6,800.00	6,790.13	6,803.82	6,797.30	15.43	15.01	158.49	-0.16	156.43	128.60	98.74	29.85	4.308		
6,900.00	6,889.85	6,903.80	6,897.02	15.68	15.25	157.71	-0.16	163.60	130.00	99.68	30.32	4.288		
7,000.00	6,989.57	7,003.77	6,996.74	15.92	15.48	156.95	-0.16	170.78	131.43	100.64	30.79	4.269		
7,100.00	7,089.28	7,103.75	7,096.45	16.17	15.72	156.20	-0.16	177.95	132.88	101.62	31.26	4.251		
7,200.00	7,189.00	7,203.72	7,196.17	16.41	15.95	155.47	-0.16	185.12	134.35	102.63	31.73	4.235		
7,300.00	7,288.72	7,303.70	7,295.89	16.66	16.19	154.76	-0.16	192.30	135.85	103.65	32.20	4.219		
7,400.00	7,388.44	7,403.67	7,395.60	16.91	16.43	154.06	-0.16	199.47	137.36	104.69	32.67	4.205		
7,500.00	7,488.16	7,503.64	7,495.32	17.15	16.66	153.38	-0.16	206.64	138.90	105.75	33.14	4.191		
7,600.00	7,587.88	7,603.62	7,595.04	17.40	16.90	152.71	-0.16	213.82	140.45	106.83	33.62	4.178		
7,700.00	7,687.60	7,703.59	7,694.76	17.65	17.14	152.06	-0.16	220.99	142.03	107.93	34.10	4.166		
7,800.00	7,787.32	7,803.57	7,794.47	17.90	17.38	151.42	-0.16	228.16	143.62	109.04	34.57	4.154		
7,900.00	7,887.04	7,903.54	7,894.19	18.14	17.62	150.80	-0.16	235.34	145.23	110.18	35.05	4.143		
8,000.00	7,986.76	8,003.52	7,993.91	18.39	17.86	150.18	-0.16	242.51	146.85	111.32	35.53	4.133		
8,100.00	8,086.47	8,103.49	8,093.62	18.64	18.10	149.59	-0.16	249.68	148.49	112.48	36.01	4.124		
8,200.00	8,186.19	8,203.47	8,193.34	18.89	18.34	149.00	-0.16	256.86	150.15	113.66	36.49	4.115		
8,300.00	8,285.91	8,303.44	8,293.06	19.14	18.58	148.43	-0.16	264.03	151.82	114.85	36.97	4.106		
8,332.04	8,317.86	8,335.48	8,325.01	19.22	18.65	148.25	-0.16	266.33	152.36	115.23	37.13	4.104		
8,400.00	8,385.66	8,403.42	8,392.78	19.36	18.82	147.80	-0.16	271.20	153.17	115.73	37.44	4.091		
8,500.00	8,485.51	8,503.38	8,492.48	19.55	19.06	146.83	-0.16	278.37	153.15	115.27	37.88	4.043		
8,600.00	8,585.44	8,603.31	8,592.15	19.74	19.30	145.49	-0.16	285.54	151.73	113.40	38.33	3.959		
8,700.00	8,685.42	8,703.16	8,691.75	19.92	19.54	143.73	-0.16	292.71	148.98	110.19	38.79	3.841		
8,761.66	8,747.08	8,764.69	8,753.11	20.02	19.69	-145.08	-0.16	297.12	146.66	107.59	39.07	3.753		
8,800.00	8,785.42	8,802.93	8,791.26	20.10	19.78	-145.97	-0.16	299.87	145.10	105.84	39.26	3.696		
8,900.00	8,885.42	8,902.35	8,890.43	20.30	20.02	-148.36	-0.16	306.95	141.23	101.47	39.76	3.552		
9,000.00	8,985.42	9,000.95	8,988.86	20.51	20.21	-150.41	-0.16	312.76	138.23	98.01	40.22	3.437		
9,061.66	9,047.08	9,061.84	9,049.68	20.64	20.33	-151.40	-0.16	315.50	136.88	96.39	40.49	3.381		
9,100.00	9,085.39	9,100.00	9,087.82	20.71	20.40	28.85	-0.16	316.88	135.09	94.45	40.64	3.324		
9,150.00	9,135.07	9,148.81	9,136.61	20.79	20.49	29.74	-0.16	318.29	129.59	88.78	40.81	3.176		
9,200.00	9,184.08	9,197.29	9,185.07	20.87	20.58	32.09	-0.16	319.27	120.61	79.66	40.95	2.945		
9,250.00	9,232.05	9,244.74	9,232.52	20.95	20.67	36.41	-0.16	319.84	108.52	67.47	41.05	2.644		
9,300.00	9,278.61	9,290.82	9,278.61	21.02	20.75	43.67	-0.16	320.01	94.06	52.99	41.07	2.290		
9,350.00	9,323.40	9,335.62	9,323.40	21.09	20.85	55.43	-0.16	320.01	78.72	37.72	41.00	1.920		
9,400.00	9,366.10	9,378.32	9,366.10	21.16	20.93	73.06	-0.16	320.01	65.90	25.11	40.79	1.616		
9,438.81	9,397.58	9,409.79	9,397.58	21.21	21.00	90.00	-0.16	320.01	61.87	21.16	40.71	1.520 SF		
9,450.00	9,406.36	9,418.58	9,406.36	21.23	21.02	94.99	-0.16	320.01	62.26	21.51	40.75	1.528		

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 161H
Project:	Lea County, NM (NAD-83)	TVD Reference:	3711.5' GE + 23.5' KB @ 3735.00usft
Reference Site:	Thistle Unit Sec 22-27 Trac Pad	MD Reference:	3711.5' GE + 23.5' KB @ 3735.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Thistle Unit 161H	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							Warning			
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (")	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor				
9,500.00	9,443.89	9,456.11	9,443.89	21.30	21.10	114.97	-0.16	320.01	73.64	32.43	41.22	1.787				
9,550.00	9,478.41	9,490.62	9,478.41	21.37	21.17	129.00	-0.16	320.01	98.08	56.33	41.74	2.349				
9,600.00	9,509.63	9,521.85	9,509.63	21.46	21.24	137.68	-0.16	320.01	130.70	88.61	42.09	3.105				
9,650.00	9,537.34	9,549.56	9,537.34	21.56	21.29	142.66	-0.16	320.01	168.50	126.18	42.32	3.982				
9,700.00	9,561.32	9,573.54	9,561.32	21.68	21.34	145.03	-0.16	320.01	209.91	167.44	42.48	4.942				
9,750.00	9,581.39	9,596.84	9,584.62	21.82	21.39	146.07	-0.21	320.01	253.99	211.40	42.59	5.963				
9,800.00	9,597.38	9,630.87	9,618.62	21.99	21.45	148.70	-1.67	320.02	299.45	256.82	42.63	7.024				
9,850.00	9,609.19	9,668.54	9,656.07	22.19	21.52	150.91	-5.63	320.05	345.65	303.13	42.52	8.129				
9,900.00	9,616.72	9,712.65	9,699.48	22.41	21.61	153.29	-13.38	320.11	392.33	350.12	42.21	9.295				
9,950.00	9,619.92	9,769.88	9,754.69	22.66	21.72	156.63	-28.38	320.22	439.16	397.64	41.53	10.575				
9,968.10	9,620.00	9,796.80	9,780.07	22.76	21.77	158.28	-37.32	320.28	456.05	414.94	41.11	11.094				
10,000.00	9,619.64	9,865.38	9,842.60	26.75	21.90	164.17	-65.39	320.49	485.09	439.04	46.05	10.533				
10,100.00	9,618.52	10,514.76	10,149.77	26.83	24.55	173.36	-598.55	324.39	534.88	509.87	25.01	21.385				
10,200.00	9,617.40	10,614.76	10,148.48	26.91	28.68	173.35	-698.54	325.12	534.72	509.53	25.20	21.223				
10,300.00	9,616.27	10,714.76	10,147.20	26.99	28.76	173.35	-798.53	325.85	534.56	509.18	25.39	21.058				
10,400.00	9,615.15	10,814.76	10,145.91	27.07	28.85	173.35	-898.52	326.59	534.40	508.73	25.67	20.818				
10,500.00	9,614.02	10,914.76	10,144.62	27.16	28.94	173.35	-998.51	327.32	534.24	508.19	26.05	20.512				
10,600.00	9,612.90	11,014.76	10,143.34	27.24	29.03	173.35	-1,098.50	328.05	534.08	507.57	26.51	20.147				
10,700.00	9,611.78	11,114.76	10,142.05	27.33	29.12	173.34	-1,198.49	328.78	533.92	506.86	27.05	19.735				
10,800.00	9,610.65	11,214.76	10,140.77	27.42	29.21	173.34	-1,298.48	329.51	533.76	506.08	27.68	19.284				
10,900.00	9,609.53	11,314.76	10,139.48	27.51	29.31	173.34	-1,398.47	330.25	533.60	505.22	28.38	18.804				
11,000.00	9,608.40	11,414.76	10,138.20	27.61	29.40	173.34	-1,498.45	330.98	533.44	504.30	29.14	18.306				
11,100.00	9,607.28	11,514.76	10,136.91	27.70	29.50	173.34	-1,598.44	331.71	533.28	503.31	29.97	17.795				
11,200.00	9,606.16	11,614.76	10,135.62	27.80	29.61	173.33	-1,698.43	332.44	533.11	502.26	30.85	17.280				
11,300.00	9,605.03	11,714.76	10,134.34	27.90	29.71	173.33	-1,798.42	333.17	532.95	501.16	31.79	16.765				
11,400.00	9,603.91	11,814.76	10,133.05	28.01	29.82	173.33	-1,898.41	333.91	532.79	500.02	32.78	16.256				
11,500.00	9,602.79	11,914.76	10,131.77	28.12	29.93	173.33	-1,998.40	334.64	532.63	498.83	33.80	15.756				
11,600.00	9,601.66	12,014.76	10,130.48	28.23	30.04	173.33	-2,098.39	335.37	532.47	497.60	34.87	15.268				
11,700.00	9,600.54	12,114.76	10,129.19	28.35	30.16	173.32	-2,198.38	336.10	532.31	496.33	35.98	14.794				
11,800.00	9,599.41	12,214.76	10,127.91	28.48	30.28	173.32	-2,298.37	336.83	532.15	495.03	37.12	14.336				
11,900.00	9,598.29	12,314.76	10,126.62	28.61	30.40	173.32	-2,398.36	337.57	531.99	493.70	38.29	13.894				
12,000.00	9,597.17	12,414.76	10,125.34	28.77	30.54	173.32	-2,498.34	338.30	531.83	492.34	39.49	13.468				
12,100.00	9,596.04	12,514.76	10,124.05	28.94	30.68	173.31	-2,598.33	339.03	531.67	490.96	40.71	13.060				
12,200.00	9,594.92	12,614.76	10,122.76	29.14	30.83	173.31	-2,698.32	339.76	531.51	489.55	41.96	12.668				
12,300.00	9,593.79	12,714.76	10,121.48	29.38	31.00	173.31	-2,798.31	340.49	531.35	488.12	43.22	12.293				
12,400.00	9,592.67	12,814.76	10,120.19	29.68	31.18	173.31	-2,898.30	341.23	531.18	486.68	44.51	11.934				
12,500.00	9,591.55	12,914.76	10,118.91	30.02	31.40	173.31	-2,998.29	341.96	531.02	485.21	45.81	11.591				
12,600.00	9,590.42	13,014.76	10,117.62	30.41	31.64	173.30	-3,098.28	342.69	530.86	483.73	47.13	11.263				
12,700.00	9,589.30	13,114.76	10,116.34	30.85	31.93	173.30	-3,198.27	343.42	530.70	482.24	48.47	10.950				
12,800.00	9,588.18	13,214.76	10,115.05	31.31	32.26	173.30	-3,298.26	344.15	530.54	480.73	49.82	10.650				
12,900.00	9,587.05	13,314.76	10,113.76	31.81	32.63	173.30	-3,398.24	344.89	530.38	479.20	51.18	10.364				
13,000.00	9,585.93	13,414.76	10,112.48	32.32	33.04	173.30	-3,498.23	345.62	530.22	477.67	52.55	10.090				
13,100.00	9,584.80	13,514.76	10,111.19	32.85	33.49	173.29	-3,598.22	346.35	530.06	476.13	53.93	9.828				
13,200.00	9,583.68	13,614.76	10,109.91	33.39	33.96	173.29	-3,698.21	347.08	529.90	474.57	55.33	9.578				
13,300.00	9,582.56	13,714.76	10,108.62	33.95	34.45	173.29	-3,798.20	347.81	529.74	473.01	56.73	9.338				
13,400.00	9,581.43	13,814.76	10,107.33	34.51	34.96	173.29	-3,898.19	348.55	529.58	471.44	58.14	9.109				
13,500.00	9,580.31	13,914.76	10,106.05	35.09	35.49	173.28	-3,998.18	349.28	529.42	469.86	59.56	8.889				
13,600.00	9,579.18	14,014.76	10,104.76	35.67	36.03	173.28	-4,098.17	350.01	529.26	468.27	60.98	8.678				
13,700.00	9,578.06	14,114.76	10,103.48	36.26	36.58	173.28	-4,198.16	350.74	529.09	466.68	62.42	8.477				
13,800.00	9,576.94	14,214.76	10,102.19	36.86	37.14	173.28	-4,298.14	351.47	528.93	465.08	63.86	8.283				
13,900.00	9,575.81	14,314.76	10,100.91	37.47	37.71	173.28	-4,398.13	352.21	528.77	463.47	65.30	8.097				
14,000.00	9,574.69	14,414.76	10,099.62	38.08	38.29	173.27	-4,498.12	352.94	528.61	461.86	66.75	7.919				

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 161H
Project:	Lea County, NM (NAD-83)	TVD Reference:	3711.5' GE + 23.5' KB @ 3735.00usft
Reference Site:	Thistle Unit Sec 22-27 Trac Pad	MD Reference:	3711.5' GE + 23.5' KB @ 3735.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Thistle Unit 161H	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					
14,100.00	9,573.57	14,514.76	10,098.33	38.70	38.88	173.27	-4,598.11	353.67	528.45	460.24	68.21	7.747					
14,200.00	9,572.44	14,614.76	10,097.05	39.32	39.47	173.27	-4,698.10	354.40	528.29	458.62	69.67	7.583					
14,300.00	9,571.32	14,714.76	10,095.76	39.95	40.07	173.27	-4,798.09	355.13	528.13	456.99	71.14	7.424					
14,400.00	9,570.19	14,814.76	10,094.48	40.59	40.68	173.26	-4,898.08	355.87	527.97	455.36	72.61	7.271					
14,500.00	9,569.07	14,914.76	10,093.19	41.22	41.29	173.26	-4,998.07	356.60	527.81	453.73	74.08	7.125					
14,600.00	9,567.95	15,014.76	10,091.90	41.87	41.91	173.26	-5,098.06	357.33	527.65	452.09	75.56	6.983					
14,700.00	9,566.82	15,114.76	10,090.62	42.51	42.54	173.26	-5,198.04	358.06	527.49	450.44	77.04	6.847					
14,800.00	9,565.70	15,214.76	10,089.33	43.17	43.17	173.26	-5,298.03	358.79	527.33	448.80	78.53	6.715					
14,900.00	9,564.57	15,314.76	10,088.05	43.82	43.80	173.25	-5,398.02	359.52	527.16	447.15	80.02	6.588					
15,000.00	9,563.45	15,414.76	10,086.76	44.48	44.44	173.25	-5,498.01	360.26	527.00	445.50	81.51	6.466					
15,100.00	9,562.33	15,514.76	10,085.47	45.14	45.08	173.25	-5,598.00	360.99	526.84	443.84	83.00	6.347					
15,200.00	9,561.20	15,614.76	10,084.19	45.81	45.73	173.25	-5,697.99	361.72	526.68	442.18	84.50	6.233					
15,300.00	9,560.08	15,714.76	10,082.90	46.48	46.37	173.25	-5,797.98	362.45	526.52	440.52	86.00	6.122					
15,400.00	9,558.96	15,814.76	10,081.62	47.15	47.03	173.24	-5,897.97	363.18	526.36	438.86	87.50	6.016					
15,500.00	9,557.83	15,914.76	10,080.33	47.82	47.69	173.24	-5,997.96	363.92	526.20	437.20	89.00	5.912					
15,600.00	9,556.71	16,014.76	10,079.05	48.50	48.35	173.24	-6,097.95	364.65	526.04	435.53	90.51	5.812					
15,700.00	9,555.58	16,114.76	10,077.76	49.18	49.01	173.24	-6,197.93	365.38	525.88	433.86	92.02	5.715					
15,800.00	9,554.46	16,214.76	10,076.47	49.86	49.67	173.23	-6,297.92	366.11	525.72	432.19	93.53	5.621					
15,900.00	9,553.34	16,314.76	10,075.19	50.55	50.34	173.23	-6,397.91	366.84	525.56	430.51	95.04	5.530					
16,000.00	9,552.21	16,414.76	10,073.90	51.24	51.02	173.23	-6,497.90	367.58	525.40	428.84	96.56	5.441					
16,100.00	9,551.09	16,514.76	10,072.62	51.92	51.69	173.23	-6,597.89	368.31	525.24	427.16	98.07	5.356					
16,200.00	9,549.96	16,614.76	10,071.33	52.62	52.37	173.23	-6,697.88	369.04	525.07	425.48	99.59	5.272					
16,300.00	9,548.84	16,714.76	10,070.04	53.31	53.05	173.22	-6,797.87	369.77	524.91	423.80	101.11	5.191					
16,400.00	9,547.72	16,814.76	10,068.76	54.01	53.73	173.22	-6,897.86	370.50	524.75	422.12	102.63	5.113					
16,500.00	9,546.59	16,914.76	10,067.47	54.70	54.41	173.22	-6,997.85	371.24	524.59	420.44	104.15	5.037					
16,600.00	9,545.47	17,014.75	10,066.19	55.40	55.10	173.22	-7,097.83	371.97	524.43	418.75	105.68	4.963					
16,700.00	9,544.35	17,114.75	10,064.90	56.10	55.79	173.21	-7,197.82	372.70	524.27	417.07	107.20	4.890					
16,800.00	9,543.22	17,214.75	10,063.61	56.81	56.48	173.21	-7,297.81	373.43	524.11	415.38	108.73	4.820					
16,900.00	9,542.10	17,314.75	10,062.33	57.51	57.17	173.21	-7,397.80	374.16	523.95	413.69	110.26	4.752					
17,000.00	9,540.97	17,414.75	10,061.04	58.22	57.87	173.21	-7,497.79	374.90	523.79	412.00	111.79	4.686					
17,079.98	9,540.08	17,494.74	10,060.01	58.78	58.42	173.21	-7,577.76	375.48	523.66	410.65	113.01	4.634					
17,086.67	9,540.00	17,495.86	10,060.00	58.83	58.43	173.21	-7,578.89	375.49	523.68	410.56	113.11	4.630					

LEAM Drilling Systems LLC

Anticollision Report

Company:	Devon Energy	Local Co-ordinate Reference:	Well Thistle Unit 161H
Project:	Lea County, NM (NAD-83)	TVD Reference:	3711.5' GE + 23.5' KB @ 3735.00usft
Reference Site:	Thistle Unit Sec 22-27 Trac Pad	MD Reference:	3711.5' GE + 23.5' KB @ 3735.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Thistle Unit 161H	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 99H - 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	0.00	0.00	0.00	0.00	89.67	0.17	29.95	29.95					
100.00	100.00	100.00	100.00	0.09	0.09	89.67	0.17	29.95	29.95	29.78	0.17	174.185		
200.00	200.00	200.00	200.00	0.31	0.31	89.67	0.17	29.95	29.95	29.33	0.62	48.192		
300.00	300.00	300.00	300.00	0.54	0.54	89.67	0.17	29.95	29.95	28.88	1.07	27.965		
400.00	400.00	400.00	400.00	0.76	0.76	89.67	0.17	29.95	29.95	28.43	1.52	19.697		
500.00	500.00	500.00	500.00	0.99	0.99	89.67	0.17	29.95	29.95	27.98	1.97	15.203		
600.00	600.00	600.00	600.00	1.21	1.21	89.67	0.17	29.95	29.95	27.53	2.42	12.378		
700.00	700.00	700.00	700.00	1.43	1.43	89.67	0.17	29.95	29.95	27.08	2.87	10.439		
800.00	800.00	800.00	800.00	1.66	1.66	89.67	0.17	29.95	29.95	26.63	3.32	9.025		
900.00	900.00	900.00	900.00	1.88	1.88	89.67	0.17	29.95	29.95	26.18	3.77	7.948		
1,000.00	1,000.00	1,000.00	1,000.00	2.11	2.11	89.67	0.17	29.95	29.95	25.73	4.22	7.101		
1,100.00	1,100.00	1,100.00	1,100.00	2.33	2.33	89.67	0.17	29.95	29.95	25.28	4.67	6.417		
1,200.00	1,200.00	1,200.00	1,200.00	2.56	2.56	89.67	0.17	29.95	29.95	24.83	5.12	5.853		
1,300.00	1,300.00	1,300.00	1,300.00	2.78	2.78	89.67	0.17	29.95	29.95	24.38	5.57	5.381		
1,400.00	1,400.00	1,400.00	1,400.00	3.01	3.01	89.67	0.17	29.95	29.95	23.93	6.02	4.979		
1,500.00	1,500.00	1,500.00	1,500.00	3.23	3.23	89.67	0.17	29.95	29.95	23.49	6.47	4.632		
1,600.00	1,600.00	1,600.00	1,600.00	3.46	3.46	89.67	0.17	29.95	29.95	23.04	6.91	4.331		
1,700.00	1,700.00	1,700.00	1,700.00	3.68	3.68	89.67	0.17	29.95	29.95	22.59	7.36	4.067		
1,800.00	1,800.00	1,800.00	1,800.00	3.91	3.91	89.67	0.17	29.95	29.95	22.14	7.81	3.833		
1,900.00	1,900.00	1,900.00	1,900.00	4.13	4.13	89.67	0.17	29.95	29.95	21.69	8.26	3.624		
2,000.00	2,000.00	2,000.00	2,000.00	4.36	4.36	89.67	0.17	29.95	29.95	21.24	8.71	3.437 CC, ES		
2,100.00	2,100.00	2,099.47	2,099.47	4.58	4.57	89.55	0.24	30.81	30.82	21.67	9.15	3.369 SF		
2,200.00	2,200.00	2,198.88	2,198.84	4.81	4.77	89.22	0.45	33.39	33.41	23.84	9.57	3.492		
2,300.00	2,300.00	2,298.18	2,298.04	5.03	4.97	88.78	0.81	37.68	37.74	27.75	9.99	3.779		
2,400.00	2,400.00	2,397.29	2,396.97	5.26	5.18	88.30	1.30	43.67	43.80	33.39	10.41	4.209		
2,500.00	2,500.00	2,496.16	2,495.54	5.48	5.39	87.85	1.93	51.35	51.58	40.75	10.82	4.766		
2,600.00	2,600.00	2,594.89	2,593.82	5.71	5.61	87.46	2.70	60.69	61.06	49.82	11.24	5.432		
2,700.00	2,700.00	2,694.37	2,692.80	5.93	5.83	87.15	3.52	70.73	71.18	59.51	11.67	6.098		
2,800.00	2,800.00	2,793.86	2,791.77	6.15	6.06	86.92	4.35	80.77	81.30	69.20	12.11	6.716		
2,900.00	2,900.00	2,893.34	2,890.74	6.38	6.30	86.74	5.17	90.81	91.43	78.88	12.54	7.289		
3,000.00	3,000.00	2,992.83	2,989.72	6.60	6.53	86.60	6.00	100.85	101.55	88.57	12.98	7.823		
3,100.00	3,099.99	3,092.40	3,088.77	6.82	6.77	14.05	6.82	110.90	110.83	97.42	13.41	8.265		
3,200.00	3,199.96	3,192.11	3,187.97	7.03	7.01	14.23	7.65	120.96	118.43	104.60	13.83	8.563		
3,300.00	3,299.86	3,291.93	3,287.28	7.23	7.26	14.59	8.48	131.04	124.34	110.09	14.25	8.723		
3,400.00	3,399.68	3,391.83	3,386.67	7.45	7.51	15.12	9.31	141.12	128.57	113.89	14.68	8.758		
3,429.62	3,429.22	3,421.43	3,416.11	7.51	7.58	15.31	9.55	144.11	129.51	114.70	14.81	8.746		
3,500.00	3,499.40	3,491.77	3,486.10	7.66	7.76	15.78	10.14	151.21	131.55	116.44	15.11	8.707		
3,600.00	3,599.12	3,591.72	3,585.53	7.88	8.01	16.42	10.97	161.30	134.48	118.94	15.54	8.653		
3,700.00	3,698.84	3,691.67	3,684.96	8.10	8.26	17.03	11.79	171.39	137.42	121.44	15.98	8.602		
3,800.00	3,798.56	3,791.61	3,784.39	8.32	8.52	17.62	12.62	181.47	140.37	123.96	16.41	8.554		
3,900.00	3,898.28	3,891.56	3,883.83	8.54	8.77	18.19	13.45	191.56	143.34	126.49	16.85	8.508		
4,000.00	3,997.99	3,991.50	3,983.26	8.77	9.03	18.73	14.28	201.65	146.32	129.03	17.29	8.464		
4,100.00	4,097.71	4,091.45	4,082.69	8.99	9.29	19.25	15.11	211.74	149.32	131.59	17.73	8.422		
4,200.00	4,197.43	4,191.40	4,182.12	9.22	9.55	19.74	15.94	221.83	152.32	134.15	18.17	8.382		
4,300.00	4,297.15	4,291.34	4,281.55	9.45	9.81	20.22	16.77	231.91	155.34	136.73	18.62	8.344		
4,400.00	4,396.87	4,391.29	4,380.99	9.68	10.07	20.68	17.60	242.00	158.37	139.31	19.06	8.308		
4,500.00	4,496.59	4,491.24	4,480.42	9.91	10.33	21.13	18.43	252.09	161.41	141.90	19.51	8.273		
4,600.00	4,496.31	4,491.18	4,479.85	10.14	10.60	21.56	19.26	262.18	164.46	144.50	19.96	8.240		
4,700.00	4,496.03	4,491.13	4,479.28	10.38	10.86	21.97	20.09	272.27	167.51	147.10	20.41	8.208		
4,800.00	4,495.75	4,491.07	4,478.72	10.61	11.12	22.36	20.92	282.35	170.58	149.72	20.86	8.178		
4,900.00	4,495.47	4,491.02	4,478.15	10.85	11.39	22.75	21.74	292.44	173.65	152.34	21.31	8.149		
5,000.00	4,495.19	4,490.97	4,477.58	11.08	11.66	23.12	22.57	302.53	176.73	154.97	21.76	8.121		

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 161H
Project:	Lea County, NM (NAD-83)	TVD Reference:	3711.5' GE + 23.5' KB @ 3735.00usft
Reference Site:	Thistle Unit Sec 22-27 Trac Pad	MD Reference:	3711.5' GE + 23.5' KB @ 3735.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Thistle Unit 161H	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 99H - OH - Plan #2													Offset Site Error:	0.00 usft
Survey Program: 0-LEAM MWD+HDGM													Offset Well Error:	0.00 usft
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Semi Major Axis (usft)	Highside Toolface (°)	Offset Wellbore Centre +N-S (usft)	Offset Wellbore Centre +E-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
5,100.00	5,094.90	5,090.91	5,077.01	11.32	11.92	23.47	23.40	312.62	179.82	157.60	22.22	8.094		
5,200.00	5,194.62	5,190.86	5,176.45	11.56	12.19	23.82	24.23	322.71	182.91	160.24	22.67	8.068		
5,300.00	5,294.34	5,290.80	5,275.88	11.80	12.46	24.15	25.06	332.79	186.01	162.88	23.13	8.043		
5,400.00	5,394.06	5,390.75	5,375.31	12.03	12.72	24.47	25.89	342.88	189.12	165.53	23.58	8.019		
5,500.00	5,493.78	5,490.70	5,474.74	12.27	12.99	24.79	26.72	352.97	192.23	168.19	24.04	7.995		
5,600.00	5,593.50	5,590.64	5,574.17	12.51	13.26	25.09	27.55	363.06	195.35	170.84	24.50	7.973		
5,700.00	5,693.22	5,690.59	5,673.61	12.76	13.53	25.38	28.38	373.14	198.47	173.51	24.96	7.951		
5,800.00	5,792.94	5,790.54	5,773.04	13.00	13.80	25.66	29.21	383.23	201.60	176.18	25.42	7.931		
5,900.00	5,892.66	5,890.48	5,872.47	13.24	14.07	25.94	30.04	393.32	204.73	178.85	25.88	7.911		
6,000.00	5,992.38	5,990.43	5,971.90	13.48	14.34	26.21	30.87	403.41	207.87	181.52	26.34	7.891		
6,100.00	6,092.09	6,090.37	6,071.34	13.72	14.61	26.47	31.69	413.50	211.01	184.20	26.80	7.872		
6,200.00	6,191.81	6,190.32	6,170.77	13.97	14.88	26.72	32.52	423.58	214.15	186.89	27.27	7.854		
6,300.00	6,291.53	6,290.27	6,270.20	14.21	15.15	26.96	33.35	433.67	217.30	189.57	27.73	7.836		
6,400.00	6,391.25	6,390.21	6,369.63	14.45	15.42	27.20	34.18	443.76	220.46	192.26	28.19	7.819		
6,500.00	6,490.97	6,490.16	6,469.07	14.70	15.69	27.43	35.01	453.85	223.61	194.95	28.66	7.803		
6,600.00	6,590.69	6,590.11	6,568.50	14.94	15.96	27.65	35.84	463.94	226.77	197.65	29.12	7.787		
6,700.00	6,690.41	6,690.05	6,667.93	15.19	16.23	27.87	36.67	474.02	229.94	200.35	29.59	7.771		
6,800.00	6,790.13	6,790.00	6,767.36	15.43	16.50	28.08	37.50	484.11	233.10	203.05	30.06	7.756		
6,900.00	6,889.85	6,889.94	6,866.79	15.68	16.78	28.29	38.33	494.20	236.27	205.75	30.52	7.741		
7,000.00	6,989.57	6,989.89	6,966.23	15.92	17.05	28.49	39.16	504.29	239.45	208.46	30.99	7.727		
7,100.00	7,089.28	7,089.84	7,065.66	16.17	17.32	28.68	39.99	514.37	242.62	211.17	31.46	7.713		
7,200.00	7,189.00	7,189.78	7,165.09	16.41	17.59	28.87	40.81	524.46	245.80	213.88	31.92	7.700		
7,300.00	7,288.72	7,289.73	7,264.52	16.66	17.86	29.06	41.64	534.55	248.98	216.59	32.39	7.686		
7,400.00	7,388.44	7,389.67	7,363.96	16.91	18.14	29.24	42.47	544.64	252.17	219.31	32.86	7.674		
7,500.00	7,488.16	7,489.62	7,463.39	17.15	18.41	29.41	43.30	554.73	255.35	222.02	33.33	7.661		
7,600.00	7,587.88	7,589.57	7,562.82	17.40	18.68	29.59	44.13	564.81	258.54	224.74	33.80	7.649		
7,700.00	7,687.60	7,689.51	7,662.25	17.65	18.96	29.75	44.96	574.90	261.73	227.46	34.27	7.637		
7,800.00	7,787.32	7,789.46	7,761.69	17.90	19.23	29.92	45.79	584.99	264.93	230.19	34.74	7.626		
7,900.00	7,887.04	7,889.41	7,861.12	18.14	19.50	30.08	46.62	595.08	268.12	232.91	35.21	7.615		
8,000.00	7,986.76	7,989.35	7,960.55	18.39	19.78	30.23	47.45	605.17	271.32	235.64	35.68	7.604		
8,100.00	8,086.47	8,089.30	8,059.98	18.64	20.05	30.38	48.28	615.25	274.52	238.37	36.15	7.593		
8,200.00	8,186.19	8,189.24	8,159.41	18.89	20.32	30.53	49.11	625.34	277.72	241.10	36.62	7.583		
8,300.00	8,285.91	8,289.19	8,258.85	19.14	20.60	30.68	49.94	635.43	280.92	243.83	37.10	7.573		
8,332.04	8,317.86	8,321.21	8,290.71	19.22	20.68	30.72	50.20	638.66	281.95	244.70	37.25	7.570		
8,400.00	8,385.66	8,389.13	8,358.27	19.36	20.87	30.79	50.76	645.52	284.47	246.92	37.55	7.575		
8,500.00	8,485.51	8,489.00	8,457.63	19.55	21.14	30.75	51.59	655.60	289.45	251.47	37.97	7.623		
8,600.00	8,585.44	8,588.78	8,556.90	19.74	21.42	30.54	52.42	665.67	295.92	257.54	38.39	7.709		
8,700.00	8,685.42	8,688.44	8,656.04	19.92	21.69	30.18	53.25	675.73	303.90	265.11	38.79	7.835		
8,761.66	8,747.08	8,749.81	8,717.10	20.02	21.86	102.41	53.76	681.92	309.58	270.55	39.04	7.931		
8,800.00	8,785.42	8,787.96	8,755.05	20.10	21.96	102.21	54.07	685.77	313.30	274.10	39.20	7.993		
8,900.00	8,885.42	8,887.44	8,854.02	20.30	22.24	101.68	54.90	695.81	323.00	283.38	39.63	8.151		
9,000.00	8,985.42	8,986.93	8,953.00	20.51	22.51	101.19	55.72	705.85	332.74	292.68	40.06	8.306		
9,061.66	9,047.08	9,048.27	9,014.03	20.64	22.68	100.90	56.23	712.05	338.75	298.42	40.33	8.400		
9,100.00	9,085.39	9,086.38	9,051.93	20.71	22.78	-78.72	56.55	715.89	342.24	301.77	40.48	8.455		
9,150.00	9,135.07	9,135.76	9,101.06	20.79	22.92	-79.44	56.96	720.88	346.12	305.48	40.64	8.516		
9,200.00	9,184.08	9,184.44	9,149.50	20.87	23.05	-80.86	57.36	725.79	349.44	308.65	40.79	8.567		
9,250.00	9,232.05	9,232.06	9,196.87	20.95	23.18	-82.87	57.76	730.60	352.55	311.63	40.92	8.616		
9,300.00	9,278.61	9,281.28	9,245.85	21.02	23.30	-85.56	58.15	735.35	355.74	314.68	41.06	8.664		
9,350.00	9,323.40	9,328.70	9,293.09	21.09	23.40	-88.63	58.49	739.54	359.43	318.22	41.21	8.722		
9,400.00	9,366.10	9,373.95	9,338.20	21.16	23.49	-91.90	58.79	743.17	364.30	322.91	41.39	8.801		
9,450.00	9,406.36	9,416.69	9,380.82	21.23	23.58	-95.18	59.05	746.28	371.10	329.47	41.63	8.914		
9,500.00	9,443.89	9,456.56	9,420.61	21.30	23.65	-98.25	59.26	748.89	380.54	338.60	41.94	9.074		

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 161H
Project:	Lea County, NM (NAD-83)	TVD Reference:	3711.5' GE + 23.5' KB @ 3735.00usft
Reference Site:	Thistle Unit Sec 22-27 Trac Pad	MD Reference:	3711.5' GE + 23.5' KB @ 3735.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Thistle Unit 161H	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 99H - 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	9,478.41	9,493.27	9,457.25	21.37	23.72	-100.92	59.44	751.05	393.21	350.90	42.31	9.293		
9,600.00	9,509.63	9,526.51	9,490.45	21.46	23.78	-103.01	59.58	752.80	409.57	366.83	42.74	9.582		
9,650.00	9,537.34	9,556.03	9,519.93	21.56	23.84	-104.38	59.70	754.20	429.86	386.65	43.21	9.948		
9,700.00	9,561.32	9,581.59	9,545.46	21.68	23.88	-104.87	59.79	755.28	454.12	410.43	43.69	10.394		
9,750.00	9,581.39	9,602.98	9,566.84	21.82	23.92	-104.36	59.85	756.10	482.18	438.02	44.16	10.919		
9,800.00	9,597.38	9,620.03	9,583.88	21.99	23.95	-102.71	59.90	756.70	513.72	469.12	44.59	11.520		
9,850.00	9,609.19	9,632.59	9,596.44	22.19	23.97	-99.79	59.94	757.11	548.30	503.31	44.98	12.189		
9,900.00	9,616.72	9,640.57	9,604.41	22.41	23.99	-95.46	59.96	757.36	585.42	540.09	45.33	12.916		
9,950.00	9,619.92	9,643.90	9,607.73	22.66	23.99	-89.69	59.96	757.46	624.53	578.91	45.62	13.691		
9,968.10	9,620.00	9,643.94	9,607.78	22.76	23.99	-87.25	59.97	757.46	639.07	593.36	45.71	13.981		
10,000.00	9,619.64	9,643.48	9,607.32	26.75	23.99	-87.18	59.96	757.44	665.11	615.89	49.22	13.513		
10,100.00	9,618.52	9,642.03	9,605.87	26.83	23.99	-86.96	59.96	757.40	749.69	700.02	49.67	15.093		
10,200.00	9,617.40	9,640.57	9,604.41	26.91	23.99	-86.74	59.96	757.36	837.68	787.66	50.01	16.749		
10,300.00	9,616.27	9,639.11	9,602.95	26.99	23.99	-86.52	59.95	757.31	928.09	877.81	50.29	18.457		
10,400.00	9,615.15	9,637.65	9,601.49	27.07	23.98	-86.30	59.95	757.27	1,020.30	969.79	50.51	20.201		
10,500.00	9,614.02	11,499.23	10,645.24	27.16	30.44	-159.85	-998.71	767.64	1,098.50	1,068.82	29.69	37.001		
10,600.00	9,612.90	11,599.23	10,644.25	27.24	31.36	-159.85	-1,098.71	768.36	1,098.63	1,068.26	30.37	36.176		
10,700.00	9,611.78	11,699.23	10,643.25	27.33	32.33	-159.85	-1,198.70	769.09	1,098.75	1,067.62	31.13	35.301		
10,800.00	9,610.65	11,799.23	10,642.26	27.42	33.36	-159.86	-1,298.69	769.82	1,098.87	1,066.92	31.95	34.393		
10,900.00	9,609.53	11,899.23	10,641.27	27.51	34.43	-159.86	-1,398.68	770.54	1,098.99	1,066.15	32.84	33.464		
11,000.00	9,608.40	11,999.23	10,640.28	27.61	35.55	-159.86	-1,498.67	771.27	1,099.11	1,065.32	33.79	32.528		
11,100.00	9,607.28	12,099.23	10,639.29	27.70	36.70	-159.87	-1,598.67	771.99	1,099.23	1,064.44	34.79	31.593		
11,200.00	9,606.16	12,199.23	10,638.29	27.80	37.89	-159.87	-1,698.66	772.72	1,099.36	1,063.51	35.85	30.667		
11,300.00	9,605.03	12,299.23	10,637.30	27.90	39.12	-159.87	-1,798.65	773.45	1,099.48	1,062.53	36.95	29.758		
11,400.00	9,603.91	12,399.23	10,636.31	28.01	40.37	-159.87	-1,898.64	774.17	1,099.60	1,061.51	38.09	28.869		
11,500.00	9,602.79	12,499.23	10,635.32	28.12	41.65	-159.88	-1,998.64	774.90	1,099.72	1,060.45	39.27	28.005		
11,600.00	9,601.66	12,599.23	10,634.33	28.23	42.95	-159.88	-2,098.63	775.63	1,099.84	1,059.36	40.48	27.168		
11,700.00	9,600.54	12,699.23	10,633.34	28.35	44.28	-159.88	-2,198.62	776.35	1,099.96	1,058.24	41.73	26.360		
11,800.00	9,599.41	12,799.23	10,632.34	28.48	45.62	-159.88	-2,298.61	777.08	1,100.09	1,057.08	43.00	25.582		
11,900.00	9,598.29	12,899.23	10,631.35	28.61	46.99	-159.89	-2,398.61	777.80	1,100.21	1,055.90	44.30	24.833		
12,000.00	9,597.17	12,999.23	10,630.36	28.77	48.37	-159.89	-2,498.60	778.53	1,100.33	1,054.70	45.63	24.114		
12,100.00	9,596.04	13,099.23	10,629.37	28.94	49.77	-159.89	-2,598.59	779.26	1,100.45	1,053.47	46.98	23.425		
12,200.00	9,594.92	13,199.23	10,628.38	29.14	51.18	-159.90	-2,698.58	779.98	1,100.57	1,052.23	48.34	22.765		
12,300.00	9,593.79	13,299.23	10,627.39	29.38	52.61	-159.90	-2,798.58	780.71	1,100.69	1,050.96	49.73	22.133		
12,400.00	9,592.67	13,399.23	10,626.39	29.68	54.04	-159.90	-2,898.57	781.43	1,100.82	1,049.68	51.13	21.528		
12,500.00	9,591.55	13,499.23	10,625.40	30.02	55.49	-159.90	-2,998.56	782.16	1,100.94	1,048.39	52.55	20.949		
12,600.00	9,590.42	13,599.23	10,624.41	30.41	56.95	-159.91	-3,098.55	782.89	1,101.06	1,047.07	53.99	20.395		
12,700.00	9,589.30	13,699.23	10,623.42	30.85	58.42	-159.91	-3,198.55	783.61	1,101.18	1,045.75	55.43	19.865		
12,800.00	9,588.18	13,799.23	10,622.43	31.31	59.90	-159.91	-3,298.54	784.34	1,101.30	1,044.41	56.89	19.358		
12,900.00	9,587.05	13,899.23	10,621.44	31.81	61.38	-159.91	-3,398.53	785.06	1,101.42	1,043.06	58.36	18.873		
13,000.00	9,585.93	13,999.23	10,620.44	32.32	62.87	-159.92	-3,498.52	785.79	1,101.55	1,041.71	59.84	18.408		
13,100.00	9,584.80	14,099.23	10,619.45	32.85	64.37	-159.92	-3,598.51	786.52	1,101.67	1,040.34	61.33	17.963		
13,200.00	9,583.68	14,199.23	10,618.46	33.39	65.88	-159.92	-3,698.51	787.24	1,101.79	1,038.96	62.83	17.536		
13,300.00	9,582.56	14,299.23	10,617.47	33.95	67.39	-159.92	-3,798.50	787.97	1,101.91	1,037.57	64.34	17.127		
13,400.00	9,581.43	14,399.23	10,616.48	34.51	68.91	-159.93	-3,898.49	788.69	1,102.03	1,036.18	65.85	16.735		
13,500.00	9,580.31	14,499.23	10,615.49	35.09	70.43	-159.93	-3,998.48	789.42	1,102.15	1,034.78	67.38	16.358		
13,600.00	9,579.18	14,599.23	10,614.49	35.67	71.96	-159.93	-4,098.48	790.15	1,102.28	1,033.37	68.91	15.997		
13,700.00	9,578.06	14,699.23	10,613.50	36.26	73.50	-159.94	-4,198.47	790.87	1,102.40	1,031.96	70.44	15.650		
13,800.00	9,576.94	14,799.23	10,612.51	36.86	75.04	-159.94	-4,298.46	791.60	1,102.52	1,030.54	71.98	15.317		
13,900.00	9,575.81	14,899.23	10,611.52	37.47	76.58	-159.94	-4,398.45	792.32	1,102.64	1,029.11	73.53	14.996		
14,000.00	9,574.69	14,999.23	10,610.53	38.08	78.12	-159.94	-4,498.45	793.05	1,102.76	1,027.68	75.08	14.688		
14,100.00	9,573.57	15,099.23	10,609.54	38.70	79.67	-159.95	-4,598.44	793.78	1,102.89	1,026.25	76.64	14.391		

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 161H
Project:	Lea County, NM (NAD-83)	TVD Reference:	3711.5' GE + 23.5' KB @ 3735.00usft
Reference Site:	Thistle Unit Sec 22-27 Trac Pad	MD Reference:	3711.5' GE + 23.5' KB @ 3735.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Thistle Unit 161H	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 99H - 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)						
14,200.00	9,572.44	15,199.23	10,608.54	39.32	81.23	-159.95	-4,698.43	794.50	1,103.01	1,024.81	78.20	14.105		
14,300.00	9,571.32	15,299.23	10,607.55	39.95	82.78	-159.95	-4,798.42	795.23	1,103.13	1,023.36	79.77	13.830		
14,400.00	9,570.19	15,399.23	10,606.56	40.59	84.34	-159.95	-4,898.42	795.95	1,103.25	1,021.91	81.34	13.564		
14,500.00	9,569.07	15,499.23	10,605.57	41.22	85.91	-159.96	-4,998.41	796.68	1,103.37	1,020.46	82.91	13.308		
14,600.00	9,567.95	15,599.23	10,604.58	41.87	87.47	-159.96	-5,098.40	797.41	1,103.49	1,019.01	84.49	13.061		
14,700.00	9,566.82	15,699.23	10,603.59	42.51	89.04	-159.96	-5,198.39	798.13	1,103.62	1,017.55	86.07	12.823		
14,800.00	9,565.70	15,799.23	10,602.59	43.17	90.61	-159.97	-5,298.38	798.86	1,103.74	1,016.09	87.65	12.592		
14,900.00	9,564.57	15,899.23	10,601.60	43.82	92.18	-159.97	-5,398.38	799.58	1,103.86	1,014.62	89.24	12.370		
15,000.00	9,563.45	15,999.23	10,600.61	44.48	93.76	-159.97	-5,498.37	800.31	1,103.98	1,013.15	90.83	12.155		
15,100.00	9,562.33	16,099.23	10,599.62	45.14	95.34	-159.97	-5,598.36	801.04	1,104.10	1,011.68	92.42	11.946		
15,200.00	9,561.20	16,199.23	10,598.63	45.81	96.92	-159.98	-5,698.35	801.76	1,104.22	1,010.21	94.02	11.745		
15,300.00	9,560.08	16,299.23	10,597.63	46.48	98.50	-159.98	-5,798.35	802.49	1,104.35	1,008.73	95.61	11.550		
15,400.00	9,558.96	16,399.23	10,596.64	47.15	100.08	-159.98	-5,898.34	803.22	1,104.47	1,007.25	97.21	11.361		
15,500.00	9,557.83	16,499.23	10,595.65	47.82	101.67	-159.98	-5,998.33	803.94	1,104.59	1,005.77	98.82	11.178		
15,600.00	9,556.71	16,599.23	10,594.66	48.50	103.25	-159.99	-6,098.32	804.67	1,104.71	1,004.29	100.42	11.001		
15,700.00	9,555.58	16,699.23	10,593.67	49.18	104.84	-159.99	-6,198.32	805.39	1,104.83	1,002.81	102.03	10.829		
15,800.00	9,554.46	16,799.23	10,592.68	49.86	106.43	-159.99	-6,298.31	806.12	1,104.95	1,001.32	103.63	10.662		
15,900.00	9,553.34	16,899.23	10,591.68	50.55	108.02	-160.00	-6,398.30	806.85	1,105.08	999.83	105.24	10.500		
16,000.00	9,552.21	16,999.23	10,590.69	51.24	109.61	-160.00	-6,498.29	807.57	1,105.20	998.34	106.85	10.343		
16,100.00	9,551.09	17,099.23	10,589.70	51.92	111.21	-160.00	-6,598.29	808.30	1,105.32	996.85	108.47	10.190		
16,200.00	9,549.96	17,199.23	10,588.71	52.62	112.80	-160.00	-6,698.28	809.02	1,105.44	995.36	110.08	10.042		
16,300.00	9,548.84	17,299.23	10,587.72	53.31	114.40	-160.01	-6,798.27	809.75	1,105.56	993.87	111.70	9.898		
16,400.00	9,547.72	17,399.23	10,586.73	54.01	116.00	-160.01	-6,898.26	810.48	1,105.69	992.37	113.32	9.758		
16,500.00	9,546.59	17,499.23	10,585.73	54.70	117.60	-160.01	-6,998.25	811.20	1,105.81	990.87	114.93	9.621		
16,600.00	9,545.47	17,599.23	10,584.74	55.40	119.20	-160.01	-7,098.25	811.93	1,105.93	989.37	116.55	9.488		
16,700.00	9,544.35	17,699.23	10,583.75	56.10	120.80	-160.02	-7,198.24	812.65	1,106.05	987.87	118.18	9.359		
16,800.00	9,543.22	17,799.23	10,582.76	56.81	122.40	-160.02	-7,298.23	813.38	1,106.17	986.37	119.80	9.234		
16,900.00	9,542.10	17,899.23	10,581.77	57.51	124.00	-160.02	-7,398.22	814.11	1,106.29	984.87	121.42	9.111		
17,000.00	9,540.97	17,999.23	10,580.78	58.22	125.61	-160.02	-7,498.22	814.83	1,106.42	983.37	123.05	8.992		
17,000.09	9,540.97	17,999.32	10,580.78	58.22	125.61	-160.02	-7,498.31	814.83	1,106.42	983.37	123.05	8.992		
17,086.67	9,540.00	18,077.45	10,580.00	58.83	126.59	-160.03	-7,576.43	815.40	1,106.55	982.37	124.19	8.910		

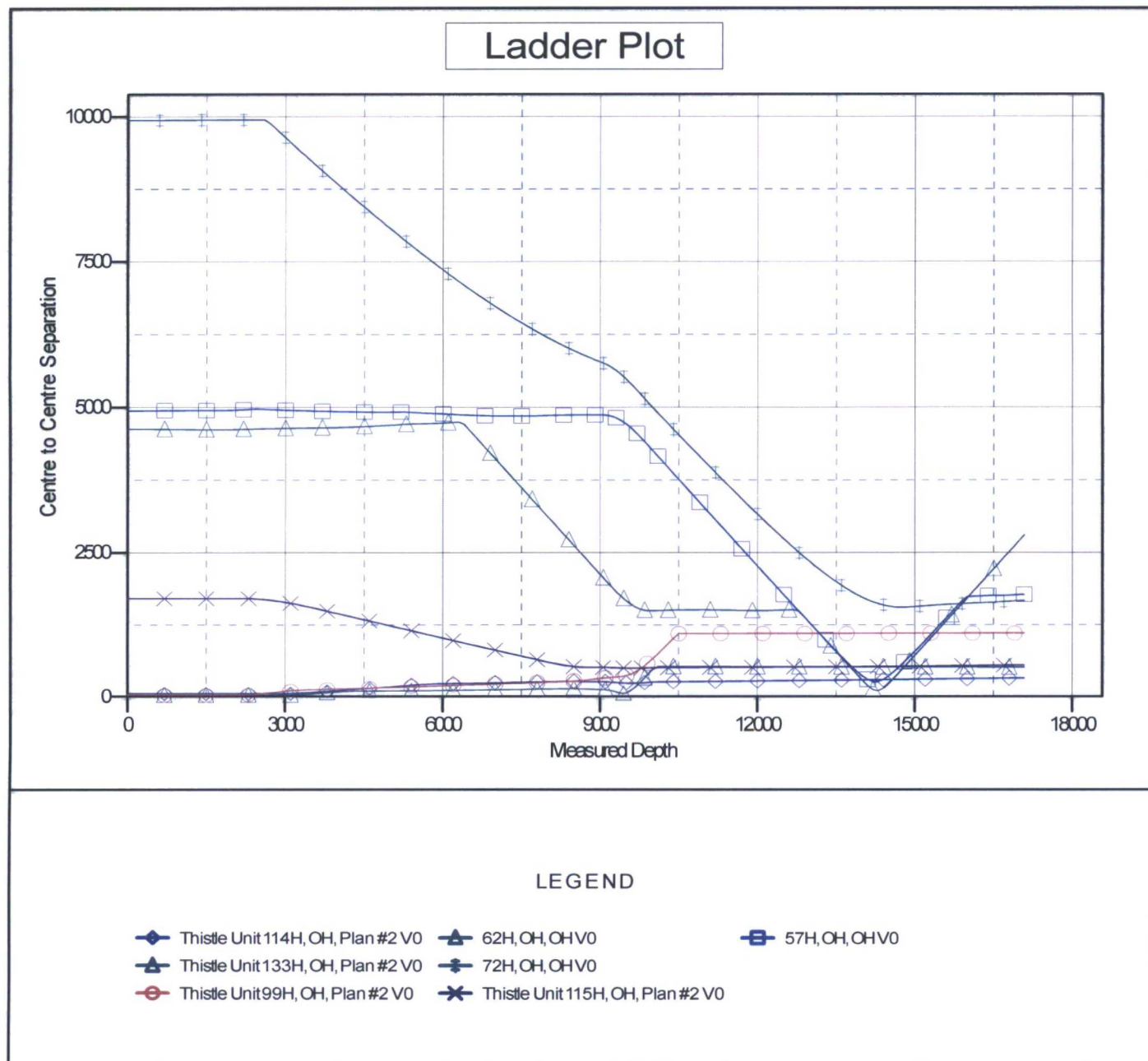
LEAM Drilling Systems LLC

Anticollision Report

Company:	Devon Energy	Local Co-ordinate Reference:	Well Thistle Unit 161H
Project:	Lea County, NM (NAD-83)	TVD Reference:	3711.5' GE + 23.5' KB @ 3735.00usft
Reference Site:	Thistle Unit Sec 22-27 Trac Pad	MD Reference:	3711.5' GE + 23.5' KB @ 3735.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Thistle Unit 161H	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 3711.5' GE + 23.5' KB @ 3735.00usft
Offset Depths are relative to Offset Datum
Central Meridian is 104° 19' 60.0000 W

Coordinates are relative to: Thistle Unit 161H
Coordinate System is US State Plane 1983, New Mexico Eastern Zone
Grid Convergence at Surface is: 0.41°



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 161H
Project:	Lea County, NM (NAD-83)	TVD Reference:	3711.5' GE + 23.5' KB @ 3735.00usft
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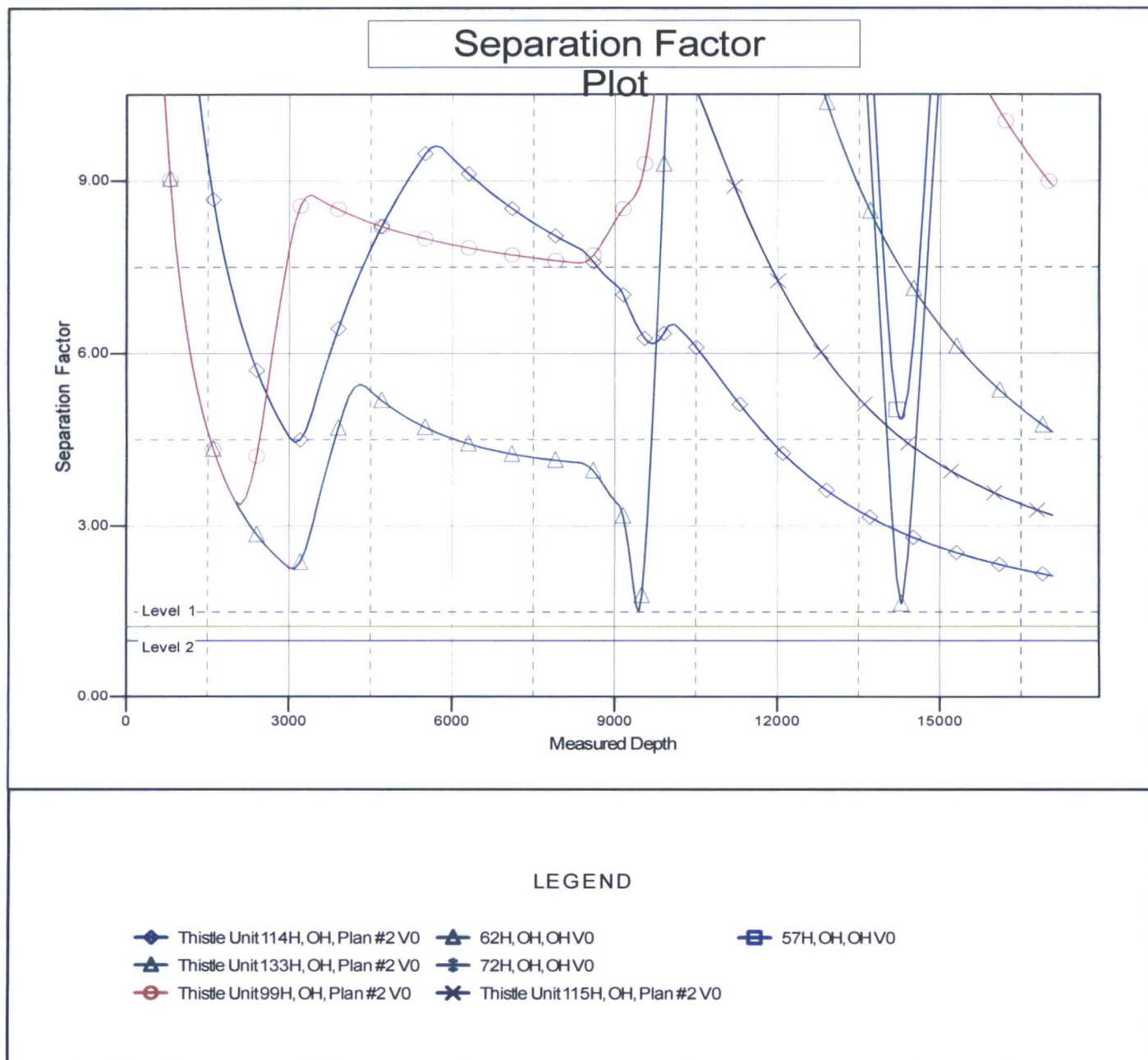
Offset Depths are relative to Offset Datum

Central Meridian is 104° 19' 60.0000 W

Coordinates are relative to: Thistle Unit 161H

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

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