

Devon Energy

Lea County, NM (NAD-83)

Seawolf 1-12 Fed

102H

OH

Plan #1

Anticollision Report

23 January, 2017

LEAM Drilling Systems LLC

Anticollision Report

Company:	Devon Energy	Local Co-ordinate Reference:	Well 102H
Project:	Lea County, NM (NAD-83)	TVD Reference:	3319' GE + 21' KB @ 3340.00usft
Reference Site:	Seawolf 1-12 Fed	MD Reference:	3319' GE + 21' KB @ 3340.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	102H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.1 Multi User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

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

Survey Tool Program		Date	1/23/2017		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
0.00	23,182.55	Plan #1 (OH)	LEAM MWD+HDGM	MWD+HDGM	

Summary						
Site Name	Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Separation Factor	Warning
Seawolf 1-12 Fed						
81H - OH - Plan #1	2,500.00	2,499.50	59.98	49.02	5.470	CC, ES
81H - OH - Plan #1	23,182.55	22,567.12	1,073.19	785.83	3.735	SF
82H - OH - Plan #1	2,500.00	2,499.60	30.02	19.06	2.738	CC, ES
82H - OH - Plan #1	2,600.00	2,599.59	30.88	19.47	2.708	SF
91H - OH - Plan #1	2,500.00	2,499.60	90.00	79.04	8.208	CC
91H - OH - Plan #1	3,000.00	3,007.07	90.33	77.31	6.937	ES
91H - OH - Plan #1	23,182.55	22,694.85	595.94	332.00	2.258	SF
92H - OH - Plan #1	2,616.94	2,615.54	29.98	18.53	2.617	CC
92H - OH - Plan #1	3,150.00	3,145.85	30.25	16.68	2.228	ES
92H - OH - Plan #1	23,182.55	22,787.99	599.19	320.01	2.146	SF

Offset Design Seawolf 1-12 Fed - 81H - OH - Plan #1													
Survey Program: 0-LEAM MWD+HDGM													
Offset Site Error: 0.00 usft													
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	Warning
0.00	0.00	0.00	0.00	0.00	0.00	-90.47	-0.49	-59.98	59.98				
100.00	100.00	99.50	99.50	0.09	0.09	-90.47	-0.49	-59.98	59.98	59.80	0.18	338.649	
200.00	200.00	199.50	199.50	0.31	0.31	-90.47	-0.49	-59.98	59.98	59.36	0.63	95.822	
300.00	300.00	299.50	299.50	0.54	0.54	-90.47	-0.49	-59.98	59.98	58.91	1.08	55.771	
400.00	400.00	399.50	399.50	0.76	0.76	-90.47	-0.49	-59.98	59.98	58.46	1.53	39.331	
500.00	500.00	499.50	499.50	0.99	0.99	-90.47	-0.49	-59.98	59.98	58.01	1.97	30.377	
600.00	600.00	599.50	599.50	1.21	1.21	-90.47	-0.49	-59.98	59.98	57.56	2.42	24.744	
700.00	700.00	699.50	699.50	1.44	1.44	-90.47	-0.49	-59.98	59.98	57.11	2.87	20.873	
800.00	800.00	799.50	799.50	1.66	1.66	-90.47	-0.49	-59.98	59.98	56.66	3.32	18.050	
900.00	900.00	899.50	899.50	1.89	1.89	-90.47	-0.49	-59.98	59.98	56.21	3.77	15.899	
1,000.00	1,000.00	999.50	999.50	2.11	2.11	-90.47	-0.49	-59.98	59.98	55.76	4.22	14.206	
1,100.00	1,100.00	1,099.50	1,099.50	2.34	2.34	-90.47	-0.49	-59.98	59.98	55.31	4.67	12.839	
1,200.00	1,200.00	1,199.50	1,199.50	2.56	2.56	-90.47	-0.49	-59.98	59.98	54.86	5.12	11.712	
1,300.00	1,300.00	1,299.50	1,299.50	2.79	2.78	-90.47	-0.49	-59.98	59.98	54.41	5.57	10.767	
1,400.00	1,400.00	1,399.50	1,399.50	3.01	3.01	-90.47	-0.49	-59.98	59.98	53.96	6.02	9.963	
1,500.00	1,500.00	1,499.50	1,499.50	3.24	3.23	-90.47	-0.49	-59.98	59.98	53.51	6.47	9.271	
1,600.00	1,600.00	1,599.50	1,599.50	3.46	3.46	-90.47	-0.49	-59.98	59.98	53.06	6.92	8.669	

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

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Project: Lea County, NM (NAD-83)
Reference Site: Seawolf 1-12 Fed
Site Error: 0.00 usft
Reference Well: 102H
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Plan #1

Local Co-ordinate Reference: Well 102H
TVD Reference: 3319' GE + 21' KB @ 3340.00usft
MD Reference: 3319' GE + 21' KB @ 3340.00usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at: 2.00 sigma
Database: EDM 5000.1 Multi User Db
Offset TVD Reference: Offset Datum

Offset Design Seawolf 1-12 Fed - 81H - OH - Plan #1														Offset Site Error: 0.00 usft
Survey Program: 0-LEAM MWD+HDGM														Offset Well Error: 0.00 usft
Reference		Offset		Semi Major Axis		Distance		Warning						
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
1,700.00	1,700.00	1,699.50	1,699.50	3.69	3.68	-90.47	-0.49	-59.98	59.98	52.61	7.37	8.140		
1,800.00	1,800.00	1,799.50	1,799.50	3.91	3.91	-90.47	-0.49	-59.98	59.98	52.16	7.82	7.672		
1,900.00	1,900.00	1,899.50	1,899.50	4.13	4.13	-90.47	-0.49	-59.98	59.98	51.71	8.27	7.255		
2,000.00	2,000.00	1,999.50	1,999.50	4.36	4.36	-90.47	-0.49	-59.98	59.98	51.26	8.72	6.881		
2,100.00	2,100.00	2,099.50	2,099.50	4.58	4.58	-90.47	-0.49	-59.98	59.98	50.81	9.17	6.543		
2,200.00	2,200.00	2,199.50	2,199.50	4.81	4.81	-90.47	-0.49	-59.98	59.98	50.37	9.62	6.237		
2,300.00	2,300.00	2,299.50	2,299.50	5.03	5.03	-90.47	-0.49	-59.98	59.98	49.92	10.07	5.959		
2,400.00	2,400.00	2,399.50	2,399.50	5.26	5.26	-90.47	-0.49	-59.98	59.98	49.47	10.52	5.704		
2,500.00	2,500.00	2,499.50	2,499.50	5.48	5.48	-90.47	-0.49	-59.98	59.98	49.02	10.97	5.470 CC, ES		
2,600.00	2,599.99	2,599.97	2,599.96	5.70	5.71	-167.90	0.29	-59.59	60.45	49.04	11.40	5.301		
2,700.00	2,699.96	2,700.41	2,700.37	5.90	5.93	-166.22	2.64	-58.41	61.86	50.04	11.83	5.231		
2,800.00	2,799.86	2,800.78	2,800.64	6.11	6.15	-163.59	6.57	-56.45	64.33	52.08	12.25	5.251		
2,900.00	2,899.68	2,901.04	2,900.71	6.32	6.38	-160.24	12.06	-53.71	67.99	55.32	12.68	5.363		
3,000.00	2,999.37	3,001.16	3,000.52	6.53	6.60	-156.45	19.10	-50.18	73.00	59.89	13.11	5.567		
3,100.00	3,098.90	3,100.84	3,099.82	6.75	6.83	-153.12	26.87	-46.30	79.66	66.11	13.55	5.879		
3,150.00	3,148.61	3,150.65	3,149.44	6.87	6.94	-151.87	30.75	-44.36	83.65	69.88	13.77	6.074		
3,200.00	3,198.29	3,200.45	3,199.05	6.98	7.06	-150.82	34.63	-42.42	87.86	73.87	13.99	6.279		
3,300.00	3,297.64	3,300.04	3,298.27	7.21	7.29	-148.99	42.39	-38.54	96.37	81.93	14.44	6.674		
3,400.00	3,397.00	3,399.64	3,397.48	7.45	7.52	-147.46	50.15	-34.66	104.96	90.07	14.89	7.049		
3,500.00	3,496.36	3,499.23	3,496.70	7.68	7.75	-146.16	57.90	-30.78	113.62	98.27	15.35	7.403		
3,600.00	3,595.71	3,598.83	3,595.92	7.93	7.99	-145.04	65.66	-26.90	122.32	106.51	15.81	7.738		
3,700.00	3,695.07	3,698.42	3,695.13	8.17	8.23	-144.07	73.42	-23.02	131.07	114.79	16.27	8.054		
3,800.00	3,794.43	3,798.01	3,794.35	8.42	8.46	-143.23	81.18	-19.14	139.84	123.10	16.74	8.353		
3,900.00	3,893.79	3,897.61	3,893.56	8.67	8.70	-142.48	88.94	-15.26	148.65	131.43	17.21	8.636		
4,000.00	3,993.14	3,997.20	3,992.78	8.92	8.94	-141.82	96.70	-11.38	157.47	139.78	17.69	8.904		
4,100.00	4,092.50	4,096.80	4,091.99	9.18	9.19	-141.23	104.46	-7.51	166.31	148.15	18.16	9.157		
4,200.00	4,191.86	4,196.39	4,191.21	9.43	9.43	-140.70	112.22	-3.63	175.17	156.53	18.64	9.396		
4,300.00	4,291.21	4,295.99	4,290.43	9.69	9.67	-140.22	119.98	0.25	184.05	164.92	19.12	9.624		
4,400.00	4,390.57	4,395.58	4,389.64	9.95	9.92	-139.78	127.74	4.13	192.93	173.32	19.61	9.839		
4,500.00	4,489.93	4,495.17	4,488.86	10.22	10.16	-139.38	135.50	8.01	201.83	181.73	20.10	10.044		
4,600.00	4,589.29	4,594.77	4,588.07	10.48	10.41	-139.02	143.25	11.89	210.73	190.15	20.58	10.238		
4,700.00	4,688.64	4,694.37	4,687.29	10.74	10.66	-138.68	151.01	15.77	219.64	198.57	21.07	10.424		
4,800.00	4,788.00	4,794.06	4,786.65	11.01	10.85	-138.50	158.35	19.44	228.54	207.03	21.51	10.625		
4,900.00	4,887.36	4,893.76	4,886.08	11.28	11.04	-138.53	164.91	22.72	237.39	215.45	21.94	10.818		
5,000.00	4,986.71	4,993.46	4,985.57	11.54	11.23	-138.77	170.70	25.61	246.21	223.83	22.38	11.003		
5,100.00	5,086.07	5,093.15	5,085.10	11.81	11.43	-139.19	175.71	28.12	254.99	232.19	22.81	11.181		
5,200.00	5,185.43	5,192.80	5,184.63	12.08	11.61	-139.76	179.95	30.24	263.77	240.54	23.23	11.353		
5,300.00	5,284.79	5,292.40	5,284.16	12.35	11.80	-140.48	183.41	31.97	272.56	248.90	23.66	11.522		
5,400.00	5,384.14	5,391.94	5,383.65	12.62	11.99	-141.34	186.09	33.31	281.38	257.31	24.07	11.689		
5,500.00	5,483.50	5,491.40	5,483.09	12.90	12.17	-142.31	188.00	34.27	290.28	265.80	24.49	11.855		
5,600.00	5,582.86	5,590.77	5,582.45	13.17	12.35	-143.39	189.14	34.84	299.29	274.40	24.90	12.022		
5,700.00	5,682.21	5,690.03	5,681.71	13.44	12.53	-144.56	189.51	35.02	308.45	283.15	25.30	12.192		
5,800.00	5,781.57	5,789.39	5,781.07	13.72	12.74	-145.74	189.51	35.02	317.76	292.02	25.74	12.347		
5,900.00	5,880.93	5,888.75	5,880.43	13.99	12.96	-146.86	189.51	35.02	327.19	301.02	26.17	12.501		
6,000.00	5,980.29	5,988.10	5,979.79	14.27	13.17	-147.91	189.51	35.02	336.75	310.14	26.61	12.655		
6,100.00	6,079.64	6,087.46	6,079.14	14.54	13.39	-148.90	189.51	35.02	346.41	319.36	27.05	12.807		
6,200.00	6,179.00	6,186.82	6,178.50	14.82	13.60	-149.84	189.51	35.02	356.16	328.68	27.49	12.957		
6,300.00	6,278.36	6,286.18	6,277.86	15.10	13.82	-150.73	189.51	35.02	366.01	338.08	27.93	13.106		
6,400.00	6,377.72	6,385.53	6,377.22	15.37	14.03	-151.57	189.51	35.02	375.94	347.58	28.37	13.253		
6,500.00	6,477.07	6,484.89	6,476.57	15.65	14.25	-152.37	189.51	35.02	385.95	357.14	28.81	13.398		
6,600.00	6,576.43	6,584.25	6,575.93	15.93	14.46	-153.13	189.51	35.02	396.03	366.78	29.25	13.540		
6,700.00	6,675.79	6,683.61	6,675.29	16.21	14.68	-153.85	189.51	35.02	406.17	376.48	29.69	13.680		

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Reference Design: Plan #1

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Survey Program: 0-LEAM MWD+HDGM													Offset Well Error: 0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning
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6,800.00	6,775.14	6,782.96	6,774.64	16.49	14.89	-154.53	189.51	35.02	416.37	386.24	30.13	13.818	
6,900.00	6,874.50	6,882.32	6,874.00	16.77	15.11	-155.19	189.51	35.02	426.63	396.06	30.57	13.954	
7,000.00	6,973.86	6,981.68	6,973.36	17.05	15.33	-155.81	189.51	35.02	436.95	405.93	31.02	14.087	
7,100.00	7,073.22	7,081.03	7,072.72	17.33	15.54	-156.40	189.51	35.02	447.31	415.85	31.46	14.218	
7,200.00	7,172.57	7,180.39	7,172.07	17.61	15.76	-156.97	189.51	35.02	457.71	425.81	31.91	14.346	
7,300.00	7,271.93	7,279.75	7,271.43	17.89	15.98	-157.51	189.51	35.02	468.16	435.81	32.35	14.472	
7,400.00	7,371.29	7,379.11	7,370.79	18.17	16.19	-158.03	189.51	35.02	478.65	445.86	32.80	14.595	
7,500.00	7,470.64	7,478.46	7,470.14	18.45	16.41	-158.52	189.51	35.02	489.18	455.94	33.24	14.716	
7,600.00	7,570.00	7,577.82	7,569.50	18.73	16.63	-159.00	189.51	35.02	499.74	466.05	33.69	14.835	
7,700.00	7,669.36	7,677.18	7,668.86	19.01	16.85	-159.45	189.51	35.02	510.33	476.20	34.13	14.951	
7,800.00	7,768.72	7,776.53	7,768.22	19.29	17.06	-159.89	189.51	35.02	520.95	486.37	34.58	15.065	
7,900.00	7,868.07	7,875.89	7,867.57	19.57	17.28	-160.31	189.51	35.02	531.61	496.58	35.03	15.176	
8,000.00	7,967.43	7,975.25	7,966.93	19.86	17.50	-160.71	189.51	35.02	542.29	506.81	35.48	15.286	
8,100.00	8,066.79	8,074.61	8,066.29	20.14	17.72	-161.10	189.51	35.02	552.99	517.07	35.92	15.393	
8,200.00	8,166.14	8,173.96	8,165.64	20.42	17.94	-161.47	189.51	35.02	563.72	527.35	36.37	15.498	
8,300.00	8,265.50	8,273.32	8,265.00	20.70	18.16	-161.83	189.51	35.02	574.47	537.65	36.82	15.601	
8,400.00	8,364.86	8,372.68	8,364.36	20.99	18.38	-162.18	189.51	35.02	585.25	547.97	37.27	15.702	
8,500.00	8,464.22	8,472.03	8,463.72	21.27	18.59	-162.51	189.51	35.02	596.04	558.32	37.72	15.801	
8,600.00	8,563.57	8,571.39	8,563.07	21.55	18.81	-162.83	189.51	35.02	606.85	568.68	38.17	15.898	
8,700.00	8,662.93	8,670.75	8,662.43	21.84	19.03	-163.14	189.51	35.02	617.68	579.06	38.62	15.993	
8,800.00	8,762.29	8,770.11	8,761.79	22.12	19.25	-163.44	189.51	35.02	628.53	589.46	39.07	16.086	
8,900.00	8,861.65	8,869.46	8,861.15	22.40	19.47	-163.73	189.51	35.02	639.39	599.87	39.52	16.177	
9,000.00	8,961.00	8,968.82	8,960.50	22.69	19.69	-164.01	189.51	35.02	650.27	610.30	39.98	16.267	
9,100.00	9,060.36	9,068.18	9,059.86	22.97	19.91	-164.28	189.51	35.02	661.17	620.74	40.43	16.355	
9,200.00	9,159.72	9,167.53	9,159.22	23.25	20.13	-164.54	189.51	35.02	672.08	631.20	40.88	16.441	
9,300.00	9,259.07	9,266.89	9,258.57	23.54	20.35	-164.79	189.51	35.02	683.00	641.67	41.33	16.525	
9,400.00	9,358.43	9,366.25	9,357.93	23.82	20.57	-165.04	189.51	35.02	693.94	652.15	41.78	16.608	
9,500.00	9,457.79	9,465.61	9,457.29	24.11	20.79	-165.28	189.51	35.02	704.88	662.65	42.24	16.689	
9,600.00	9,557.15	9,564.96	9,556.65	24.39	21.01	-165.51	189.51	35.02	715.84	673.15	42.69	16.769	
9,700.00	9,656.50	9,664.32	9,656.00	24.68	21.23	-165.73	189.51	35.02	726.81	683.67	43.14	16.847	
9,800.00	9,755.86	9,763.68	9,755.36	24.96	21.45	-165.95	189.51	35.02	737.79	694.20	43.60	16.924	
9,900.00	9,855.22	9,863.04	9,854.72	25.25	21.67	-166.16	189.51	35.02	748.78	704.73	44.05	16.999	
10,000.00	9,954.57	9,962.39	9,954.07	25.53	21.89	-166.36	189.51	35.02	759.78	715.28	44.50	17.073	
10,100.00	10,053.93	10,061.75	10,053.43	25.81	22.11	-166.56	189.51	35.02	770.79	725.84	44.96	17.145	
10,200.00	10,153.29	10,161.11	10,152.79	26.10	22.33	-166.75	189.51	35.02	781.81	736.40	45.41	17.216	
10,300.00	10,252.65	10,260.46	10,252.15	26.38	22.55	-166.94	189.51	35.02	792.84	746.97	45.87	17.286	
10,400.00	10,352.00	10,359.82	10,351.50	26.67	22.77	-167.12	189.51	35.02	803.87	757.55	46.32	17.355	
10,500.00	10,451.36	10,459.18	10,450.86	26.95	22.99	-167.30	189.51	35.02	814.92	768.14	46.78	17.422	
10,540.00	10,491.10	10,498.92	10,490.60	27.07	23.08	-167.37	189.51	35.02	819.33	772.38	46.96	17.449	
10,600.00	10,550.73	10,558.55	10,550.23	27.22	23.21	-167.48	189.51	35.02	825.81	778.60	47.22	17.490	
10,700.00	10,650.20	10,658.01	10,649.70	27.43	23.43	-167.64	189.51	35.02	835.94	788.31	47.63	17.552	
10,800.00	10,749.74	10,757.56	10,749.24	27.65	23.65	-167.79	189.51	35.02	845.22	797.18	48.04	17.595	
10,900.00	10,849.37	10,857.19	10,848.87	27.85	23.87	-167.92	189.51	35.02	853.66	805.21	48.45	17.621	
11,000.00	10,949.07	10,956.89	10,948.57	28.05	24.09	-168.04	189.51	35.02	861.25	812.39	48.85	17.629	
11,100.00	11,048.83	11,056.65	11,048.33	28.25	24.31	-168.14	189.51	35.02	867.99	818.73	49.26	17.620	
11,200.00	11,148.65	11,156.47	11,148.15	28.44	24.54	-168.22	189.51	35.02	873.88	824.21	49.67	17.594	
11,300.00	11,248.52	11,256.33	11,248.02	28.63	24.76	-168.30	189.51	35.02	878.92	828.84	50.07	17.552	
11,400.00	11,348.42	11,356.24	11,347.92	28.81	24.98	-168.36	189.51	35.02	883.10	832.62	50.48	17.494	
11,500.00	11,448.37	11,456.18	11,447.87	28.99	25.20	-168.41	189.51	35.02	886.44	835.55	50.88	17.421	
11,600.00	11,548.33	11,556.15	11,547.83	29.16	25.42	-168.44	189.51	35.02	888.92	837.63	51.29	17.332	
11,700.00	11,648.32	11,656.14	11,647.82	29.33	25.65	-168.46	189.51	35.02	890.54	838.85	51.69	17.229	
11,800.00	11,748.32	11,756.13	11,747.82	29.49	25.87	-168.47	189.51	35.02	891.31	839.22	52.09	17.111	

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

LEAM Drilling Systems LLC

Anticollision Report

Company: Devon Energy
Project: Lea County, NM (NAD-83)
Reference Site: Seawolf 1-12 Fed
Site Error: 0.00 usft
Reference Well: 102H
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Plan #1

Local Co-ordinate Reference: Well 102H
TVD Reference: 3319' GE + 21' KB @ 3340.00usft
MD Reference: 3319' GE + 21' KB @ 3340.00usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at 2.00 sigma
Database: EDM 5000.1 Multi User Db
Offset TVD Reference: Offset Datum

Offset Design Seawolf 1-12 Fed - 81H - OH - Plan #1												Offset Site Error:	0.00 usft
Survey Program: O-LEAM MWD+HDGM												Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	
11,840.00	11,788.32	11,796.13	11,787.82	29.55	25.96	-90.48	189.51	35.02	891.38	839.13	52.25	17.060	
11,900.00	11,848.32	11,856.13	11,847.82	29.66	26.09	-90.48	189.51	35.02	891.38	838.88	52.50	16.978	
12,000.00	11,948.32	11,956.13	11,947.82	29.85	26.31	-90.48	189.51	35.02	891.38	838.45	52.93	16.841	
12,004.28	11,952.60	11,960.42	11,952.10	29.85	26.32	-90.48	189.51	35.02	891.38	838.43	52.95	16.835	
12,100.00	12,048.32	12,055.75	12,047.42	30.03	26.53	-90.52	188.83	35.02	891.38	838.04	53.34	16.710	
12,200.00	12,148.32	12,152.48	12,143.18	30.22	26.67	-91.34	176.01	35.02	891.61	837.93	53.67	16.612	
12,300.00	12,248.32	12,242.55	12,229.25	30.41	26.79	-93.03	149.76	35.02	892.79	838.85	53.94	16.553	
12,400.00	12,348.32	12,322.78	12,301.61	30.59	26.88	-95.23	115.27	35.01	896.28	842.14	54.14	16.555	
12,500.00	12,448.32	12,392.09	12,359.73	30.78	26.96	-97.62	77.59	35.01	903.61	849.34	54.27	16.651	
12,600.00	12,548.32	12,450.00	12,404.52	30.97	27.02	-99.93	40.91	35.01	916.18	861.90	54.28	16.877	
12,633.73	12,582.05	12,468.63	12,418.10	31.04	27.04	-100.72	28.18	35.01	921.80	867.52	54.27	16.985	
12,650.00	12,598.31	12,476.91	12,424.02	31.06	27.04	78.63	22.37	35.01	924.72	870.47	54.25	17.044	
12,700.00	12,648.17	12,500.00	12,440.04	31.14	27.07	76.74	5.75	35.01	934.20	880.03	54.17	17.246	
12,750.00	12,697.52	12,527.77	12,458.40	31.22	27.09	74.68	-15.08	35.00	944.23	890.14	54.09	17.457	
12,800.00	12,745.99	12,550.00	12,472.36	31.28	27.11	72.86	-32.38	35.00	954.62	900.66	53.96	17.693	
12,850.00	12,793.22	12,578.51	12,489.26	31.34	27.14	70.89	-55.34	35.00	965.16	911.31	53.85	17.923	
12,900.00	12,838.83	12,600.00	12,501.23	31.40	27.16	69.22	-73.18	35.00	975.70	922.02	53.68	18.175	
12,950.00	12,882.50	12,629.17	12,516.39	31.45	27.21	67.43	-98.09	35.00	986.03	932.46	53.57	18.407	
13,000.00	12,923.87	12,650.00	12,526.44	31.50	27.24	65.97	-116.34	35.00	996.06	942.67	53.39	18.655	
13,050.00	12,962.65	12,679.77	12,539.63	31.54	27.30	64.42	-143.03	34.99	1,005.58	952.29	53.29	18.871	
13,100.00	12,998.53	12,700.00	12,547.79	31.59	27.34	63.20	-161.54	34.99	1,014.54	961.41	53.12	19.098	
13,150.00	13,031.24	12,730.32	12,558.79	31.63	27.41	61.94	-189.79	34.99	1,022.73	969.69	53.05	19.280	
13,200.00	13,060.53	12,750.00	12,565.12	31.68	27.45	60.98	-208.42	34.99	1,030.17	977.25	52.91	19.469	
13,250.00	13,086.18	12,780.84	12,573.75	31.74	27.53	60.02	-238.03	34.99	1,036.65	983.76	52.88	19.602	
13,300.00	13,107.99	12,800.00	12,578.30	31.80	27.59	59.33	-256.64	34.98	1,042.22	989.42	52.80	19.737	
13,350.00	13,125.80	12,831.34	12,584.40	31.88	27.68	58.68	-287.38	34.98	1,046.69	993.86	52.84	19.810	
13,400.00	13,139.47	12,850.00	12,587.22	31.97	27.74	58.27	-305.82	34.98	1,050.16	997.34	52.82	19.880	
13,450.00	13,148.90	12,881.83	12,590.66	32.07	27.84	57.94	-337.46	34.98	1,052.44	999.51	52.93	19.885	
13,500.00	13,154.01	12,900.00	12,591.83	32.20	27.90	57.79	-355.59	34.98	1,053.66	1,000.67	53.00	19.882	
13,533.73	13,155.00	12,929.95	12,592.50	32.30	28.01	57.77	-385.53	34.97	1,053.79	1,000.64	53.15	19.827	
13,543.06	13,155.00	12,929.95	12,592.50	32.33	28.01	57.77	-385.53	34.97	1,053.75	1,000.59	53.16	19.823	
13,600.00	13,155.00	12,984.63	12,592.31	32.51	28.23	57.76	-440.21	34.97	1,053.86	1,000.39	53.47	19.708	
13,700.00	13,155.00	13,084.63	12,591.94	32.91	28.69	57.74	-540.21	34.96	1,054.06	999.90	54.16	19.463	
13,800.00	13,155.00	13,184.63	12,591.58	33.38	29.24	57.73	-640.21	34.95	1,054.26	999.28	54.98	19.175	
13,900.00	13,155.00	13,284.63	12,591.22	33.93	29.86	57.71	-740.21	34.94	1,054.45	998.52	55.94	18.850	
14,000.00	13,155.00	13,384.63	12,590.85	34.55	30.56	57.69	-840.20	34.94	1,054.65	997.63	57.02	18.495	
14,100.00	13,155.00	13,484.63	12,590.49	35.24	31.33	57.68	-940.20	34.93	1,054.85	996.62	58.23	18.115	
14,200.00	13,155.00	13,584.63	12,590.13	35.99	32.16	57.66	-1,040.20	34.92	1,055.05	995.50	59.55	17.717	
14,300.00	13,155.00	13,684.63	12,589.77	36.80	33.06	57.64	-1,140.20	34.91	1,055.25	994.27	60.98	17.306	
14,400.00	13,155.00	13,784.63	12,589.40	37.66	34.00	57.63	-1,240.20	34.90	1,055.45	992.94	62.50	16.887	
14,500.00	13,155.00	13,884.62	12,589.04	38.58	35.00	57.61	-1,340.20	34.90	1,055.64	991.53	64.12	16.465	
14,600.00	13,155.00	13,984.62	12,588.68	39.54	36.05	57.59	-1,440.20	34.89	1,055.84	990.03	65.82	16.042	
14,700.00	13,155.00	14,084.62	12,588.31	40.54	37.14	57.58	-1,540.19	34.88	1,056.04	988.45	67.59	15.623	
14,800.00	13,155.00	14,184.62	12,587.95	41.59	38.26	57.56	-1,640.19	34.87	1,056.24	986.80	69.44	15.210	
14,900.00	13,155.00	14,284.62	12,587.59	42.67	39.42	57.55	-1,740.19	34.86	1,056.44	985.08	71.36	14.804	
15,000.00	13,155.00	14,384.62	12,587.22	43.79	40.62	57.53	-1,840.19	34.86	1,056.64	983.30	73.34	14.408	
15,100.00	13,155.00	14,484.62	12,586.86	44.94	41.84	57.51	-1,940.19	34.85	1,056.84	981.47	75.37	14.022	
15,200.00	13,155.00	14,584.62	12,586.50	46.11	43.10	57.50	-2,040.19	34.84	1,057.03	979.58	77.45	13.647	
15,300.00	13,155.00	14,684.62	12,586.14	47.32	44.37	57.48	-2,140.19	34.83	1,057.23	977.65	79.59	13.284	
15,400.00	13,155.00	14,784.62	12,585.77	48.55	45.67	57.46	-2,240.19	34.82	1,057.43	975.67	81.76	12.933	
15,500.00	13,155.00	14,884.62	12,585.41	49.80	46.99	57.45	-2,340.18	34.81	1,057.63	973.65	83.98	12.594	
15,600.00	13,155.00	14,984.62	12,585.05	51.08	48.33	57.43	-2,440.18	34.81	1,057.83	971.60	86.23	12.268	

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

LEAM Drilling Systems LLC

Anticollision Report

Company: Devon Energy
 Project: Lea County, NM (NAD-83)
 Reference Site: Seawolf 1-12 Fed
 Site Error: 0.00 usft
 Reference Well: 102H
 Well Error: 0.00 usft
 Reference Wellbore: OH
 Reference Design: Plan #1

Local Co-ordinate Reference: Well 102H
 TVD Reference: 3319' GE + 21' KB @ 3340.00usft
 MD Reference: 3319' GE + 21' KB @ 3340.00usft
 North Reference: Grid
 Survey Calculation Method: Minimum Curvature
 Output errors are at: 2.00 sigma
 Database: EDM 5000.1 Multi User Db
 Offset TVD Reference: Offset Datum

Offset Design Seawolf 1-12 Fed - 81H - OH - Plan #1													Offset Site Error: 0.00 usft
Survey Program: 0-LEAM MWD+HDGM													Offset Well Error: 0.00 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Distance		Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)					
15,700.00	13,155.00	15,084.62	12,584.68	52.37	49.69	57.41	-2,540.18	34.80	1,058.03	969.51	88.52	11.953	
15,800.00	13,155.00	15,184.62	12,584.32	53.68	51.06	57.40	-2,640.18	34.79	1,058.23	967.39	90.84	11.650	
15,900.00	13,155.00	15,284.62	12,583.96	55.01	52.45	57.38	-2,740.18	34.78	1,058.43	965.25	93.18	11.359	
16,000.00	13,155.00	15,384.61	12,583.60	56.36	53.85	57.36	-2,840.18	34.77	1,058.63	963.07	95.56	11.078	
16,100.00	13,155.00	15,484.61	12,583.23	57.72	55.27	57.35	-2,940.18	34.77	1,058.83	960.87	97.96	10.809	
16,200.00	13,155.00	15,584.61	12,582.87	59.10	56.69	57.33	-3,040.18	34.76	1,059.03	958.65	100.38	10.550	
16,300.00	13,155.00	15,684.61	12,582.51	60.48	58.13	57.32	-3,140.17	34.75	1,059.23	956.41	102.82	10.302	
16,400.00	13,155.00	15,784.61	12,582.14	61.88	59.58	57.30	-3,240.17	34.74	1,059.43	954.14	105.29	10.062	
16,500.00	13,155.00	15,884.61	12,581.78	63.30	61.04	57.28	-3,340.17	34.73	1,059.63	951.86	107.77	9.833	
16,600.00	13,155.00	15,984.61	12,581.42	64.72	62.50	57.27	-3,440.17	34.73	1,059.83	949.56	110.27	9.612	
16,700.00	13,155.00	16,084.61	12,581.06	66.15	63.98	57.25	-3,540.17	34.72	1,060.03	947.25	112.78	9.399	
16,800.00	13,155.00	16,184.61	12,580.69	67.59	65.46	57.23	-3,640.17	34.71	1,060.23	944.92	115.31	9.195	
16,900.00	13,155.00	16,284.61	12,580.33	69.04	66.95	57.22	-3,740.17	34.70	1,060.43	942.58	117.85	8.998	
17,000.00	13,155.00	16,384.61	12,579.97	70.50	68.44	57.20	-3,840.16	34.69	1,060.63	940.22	120.41	8.809	
17,100.00	13,155.00	16,484.61	12,579.60	71.96	69.94	57.18	-3,940.16	34.68	1,060.83	937.85	122.98	8.626	
17,200.00	13,155.00	16,584.61	12,579.24	73.43	71.45	57.17	-4,040.16	34.68	1,061.03	935.48	125.55	8.451	
17,300.00	13,155.00	16,684.61	12,578.88	74.91	72.96	57.15	-4,140.16	34.67	1,061.23	933.09	128.14	8.282	
17,400.00	13,155.00	16,784.61	12,578.51	76.40	74.48	57.14	-4,240.16	34.66	1,061.43	930.69	130.74	8.118	
17,500.00	13,155.00	16,884.60	12,578.15	77.89	76.00	57.12	-4,340.16	34.65	1,061.63	928.28	133.35	7.961	
17,600.00	13,155.00	16,984.60	12,577.79	79.38	77.53	57.10	-4,440.16	34.64	1,061.83	925.87	135.97	7.809	
17,700.00	13,155.00	17,084.60	12,577.43	80.89	79.06	57.09	-4,540.16	34.64	1,062.04	923.44	138.59	7.663	
17,800.00	13,155.00	17,184.60	12,577.06	82.39	80.60	57.07	-4,640.15	34.63	1,062.24	921.01	141.23	7.522	
17,900.00	13,155.00	17,284.60	12,576.70	83.90	82.14	57.05	-4,740.15	34.62	1,062.44	918.57	143.87	7.385	
18,000.00	13,155.00	17,384.60	12,576.34	85.42	83.68	57.04	-4,840.15	34.61	1,062.64	916.13	146.51	7.253	
18,100.00	13,155.00	17,484.60	12,575.97	86.94	85.23	57.02	-4,940.15	34.60	1,062.84	913.68	149.16	7.125	
18,200.00	13,155.00	17,584.60	12,575.61	88.47	86.78	57.01	-5,040.15	34.60	1,063.04	911.22	151.82	7.002	
18,300.00	13,155.00	17,684.60	12,575.25	89.99	88.33	56.99	-5,140.15	34.59	1,063.24	908.76	154.49	6.882	
18,400.00	13,155.00	17,784.60	12,574.89	91.53	89.89	56.97	-5,240.15	34.58	1,063.45	906.29	157.16	6.767	
18,500.00	13,155.00	17,884.60	12,574.52	93.06	91.44	56.96	-5,340.14	34.57	1,063.65	903.82	159.83	6.655	
18,600.00	13,155.00	17,984.60	12,574.16	94.60	93.00	56.94	-5,440.14	34.56	1,063.85	901.34	162.51	6.546	
18,700.00	13,155.00	18,084.60	12,573.80	96.14	94.57	56.92	-5,540.14	34.55	1,064.05	898.86	165.19	6.441	
18,800.00	13,155.00	18,184.60	12,573.43	97.69	96.13	56.91	-5,640.14	34.55	1,064.25	896.38	167.88	6.339	
18,900.00	13,155.00	18,284.60	12,573.07	99.24	97.70	56.89	-5,740.14	34.54	1,064.46	893.89	170.57	6.241	
19,000.00	13,155.00	18,384.59	12,572.71	100.79	99.27	56.88	-5,840.14	34.53	1,064.66	891.39	173.26	6.145	
19,100.00	13,155.00	18,484.59	12,572.34	102.34	100.84	56.86	-5,940.14	34.52	1,064.86	888.90	175.96	6.052	
19,200.00	13,155.00	18,584.59	12,571.98	103.90	102.42	56.84	-6,040.14	34.51	1,065.06	886.40	178.66	5.961	
19,300.00	13,155.00	18,684.59	12,571.62	105.45	103.99	56.83	-6,140.13	34.51	1,065.27	883.90	181.37	5.873	
19,400.00	13,155.00	18,784.59	12,571.26	107.01	105.57	56.81	-6,240.13	34.50	1,065.47	881.39	184.08	5.788	
19,500.00	13,155.00	18,884.59	12,570.89	108.58	107.15	56.79	-6,340.13	34.49	1,065.67	878.88	186.79	5.705	
19,600.00	13,155.00	18,984.59	12,570.53	110.14	108.73	56.78	-6,440.13	34.48	1,065.87	876.37	189.50	5.625	
19,700.00	13,155.00	19,084.59	12,570.17	111.71	110.32	56.76	-6,540.13	34.47	1,066.08	873.86	192.21	5.546	
19,800.00	13,155.00	19,184.59	12,569.80	113.28	111.90	56.75	-6,640.13	34.47	1,066.28	871.35	194.93	5.470	
19,900.00	13,155.00	19,284.59	12,569.44	114.85	113.48	56.73	-6,740.13	34.46	1,066.48	868.83	197.65	5.396	
20,000.00	13,155.00	19,384.59	12,569.08	116.42	115.07	56.71	-6,840.13	34.45	1,066.68	866.31	200.37	5.323	
20,100.00	13,155.00	19,484.59	12,568.72	117.99	116.66	56.70	-6,940.12	34.44	1,066.89	863.79	203.10	5.253	
20,200.00	13,155.00	19,584.59	12,568.35	119.57	118.25	56.68	-7,040.12	34.43	1,067.09	861.27	205.82	5.184	
20,300.00	13,155.00	19,684.59	12,567.99	121.14	119.84	56.67	-7,140.12	34.42	1,067.29	858.74	208.55	5.118	
20,400.00	13,155.00	19,784.59	12,567.63	122.72	121.43	56.65	-7,240.12	34.42	1,067.50	856.22	211.28	5.053	
20,500.00	13,155.00	19,884.59	12,567.26	124.30	123.02	56.63	-7,340.12	34.41	1,067.70	853.69	214.01	4.989	
20,600.00	13,155.00	19,984.58	12,566.90	125.88	124.62	56.62	-7,440.12	34.40	1,067.91	851.16	216.74	4.927	
20,700.00	13,155.00	20,084.58	12,566.54	127.47	126.21	56.60	-7,540.12	34.39	1,068.11	848.63	219.48	4.867	
20,800.00	13,155.00	20,184.58	12,566.18	129.05	127.81	56.58	-7,640.11	34.38	1,068.31	846.10	222.21	4.808	

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

LEAM Drilling Systems LLC

Anticollision Report

Company: Devon Energy
 Project: Lea County, NM (NAD-83)
 Reference Site: Seawolf 1-12 Fed
 Site Error: 0.00 usft
 Reference Well: 102H
 Well Error: 0.00 usft
 Reference Wellbore: OH
 Reference Design: Plan #1

Local Co-ordinate Reference: Well 102H
 TVD Reference: 3319' GE + 21' KB @ 3340.00usft
 MD Reference: 3319' GE + 21' KB @ 3340.00usft
 North Reference: Grid
 Survey Calculation Method: Minimum Curvature
 Output errors are at: 2.00 sigma
 Database: EDM 5000.1 Multi User Db
 Offset TVD Reference: Offset Datum

Offset Design Seawolf 1-12 Fed - 81H - OH - Plan #1													Offset Site Error: 0.00 usft
Survey Program: 0-LEAM MWD+HDGM													Offset Well Error: 0.00 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
20,900.00	13,155.00	20,284.58	12,565.81	130.64	129.41	56.57	-7,740.11	34.38	1,068.52	843.57	224.95	4.750	
21,000.00	13,155.00	20,384.58	12,565.45	132.22	131.00	56.55	-7,840.11	34.37	1,068.72	841.04	227.68	4.694	
21,100.00	13,155.00	20,484.58	12,565.09	133.81	132.60	56.54	-7,940.11	34.36	1,068.92	838.50	230.42	4.639	
21,200.00	13,155.00	20,584.58	12,564.72	135.40	134.20	56.52	-8,040.11	34.35	1,069.13	835.97	233.16	4.585	
21,300.00	13,155.00	20,684.58	12,564.36	136.99	135.80	56.50	-8,140.11	34.34	1,069.33	833.43	235.90	4.533	
21,400.00	13,155.00	20,784.58	12,564.00	138.58	137.40	56.49	-8,240.11	34.34	1,069.54	830.89	238.64	4.482	
21,500.00	13,155.00	20,884.58	12,563.63	140.17	139.01	56.47	-8,340.11	34.33	1,069.74	828.36	241.38	4.432	
21,600.00	13,155.00	20,984.58	12,563.27	141.76	140.61	56.46	-8,440.10	34.32	1,069.95	825.82	244.13	4.383	
21,700.00	13,155.00	21,084.58	12,562.91	143.36	142.21	56.44	-8,540.10	34.31	1,070.15	823.28	246.87	4.335	
21,800.00	13,155.00	21,184.58	12,562.55	144.95	143.82	56.42	-8,640.10	34.30	1,070.35	820.74	249.62	4.288	
21,900.00	13,155.00	21,284.58	12,562.18	146.55	145.42	56.41	-8,740.10	34.29	1,070.56	818.20	252.36	4.242	
22,000.00	13,155.00	21,384.58	12,561.82	148.14	147.03	56.39	-8,840.10	34.29	1,070.76	815.66	255.10	4.197	
22,100.00	13,155.00	21,484.57	12,561.46	149.74	148.63	56.38	-8,940.10	34.28	1,070.97	813.12	257.85	4.153	
22,200.00	13,155.00	21,584.57	12,561.09	151.34	150.24	56.36	-9,040.10	34.27	1,071.17	810.58	260.60	4.110	
22,300.00	13,155.00	21,684.57	12,560.73	152.94	151.85	56.34	-9,140.09	34.26	1,071.38	808.03	263.34	4.068	
22,400.00	13,155.00	21,784.57	12,560.37	154.54	153.46	56.33	-9,240.09	34.25	1,071.58	805.49	266.09	4.027	
22,500.00	13,155.00	21,884.57	12,560.01	156.14	155.06	56.31	-9,340.09	34.25	1,071.79	802.95	268.84	3.987	
22,600.00	13,155.00	21,984.57	12,559.64	157.74	156.67	56.30	-9,440.09	34.24	1,071.99	800.41	271.59	3.947	
22,700.00	13,155.00	22,084.57	12,559.28	159.34	158.28	56.28	-9,540.09	34.23	1,072.20	797.86	274.33	3.908	
22,800.00	13,155.00	22,184.57	12,558.92	160.94	159.89	56.26	-9,640.09	34.22	1,072.40	795.32	277.08	3.870	
22,900.00	13,155.00	22,284.57	12,558.55	162.54	161.50	56.25	-9,740.09	34.21	1,072.61	792.78	279.83	3.833	
23,000.00	13,155.00	22,384.57	12,558.19	164.15	163.11	56.23	-9,840.09	34.21	1,072.82	790.24	282.58	3.796	
23,100.00	13,155.00	22,484.57	12,557.83	165.75	164.72	56.22	-9,940.08	34.20	1,073.02	787.69	285.33	3.761	
23,182.55	13,155.00	22,567.12	12,557.53	167.07	165.81	56.20	-10,022.63	34.19	1,073.19	785.83	287.37	3.735 SF	

LEAM Drilling Systems LLC

Anticollision Report

Company: Devon Energy
 Project: Lea County, NM (NAD-83)
 Reference Site: Seawolf 1-12 Fed
 Site Error: 0.00 usft
 Reference Well: 102H
 Well Error: 0.00 usft
 Reference Wellbore: OH
 Reference Design: Plan #1

Local Co-ordinate Reference: Well 102H
 TVD Reference: 3319' GE + 21' KB @ 3340.00usft
 MD Reference: 3319' GE + 21' KB @ 3340.00usft
 North Reference: Grid
 Survey Calculation Method: Minimum Curvature
 Output errors are at: 2.00 sigma
 Database: EDM 5000.1 Multi User Db
 Offset TVD Reference: Offset Datum

Offset Design Seawolf 1-12 Fed - 82H - OH - Plan #1													Offset Site Error:	0.00 usft
Survey Program: 0-LEAM MWD+HDGM													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance							
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +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	-90.48	-0.25	-30.02	30.02					
100.00	100.00	99.60	99.60	0.09	0.09	-90.48	-0.25	-30.02	30.02	29.84	0.18	169.409		
200.00	200.00	199.60	199.60	0.31	0.31	-90.48	-0.25	-30.02	30.02	29.39	0.63	47.942		
300.00	300.00	299.60	299.60	0.54	0.54	-90.48	-0.25	-30.02	30.02	28.95	1.08	27.908		
400.00	400.00	399.60	399.60	0.76	0.76	-90.48	-0.25	-30.02	30.02	28.50	1.53	19.683		
500.00	500.00	499.60	499.60	0.99	0.99	-90.48	-0.25	-30.02	30.02	28.05	1.97	15.202		
600.00	600.00	599.60	599.60	1.21	1.21	-90.48	-0.25	-30.02	30.02	27.60	2.42	12.383		
700.00	700.00	699.60	699.60	1.44	1.44	-90.48	-0.25	-30.02	30.02	27.15	2.87	10.446		
800.00	800.00	799.60	799.60	1.66	1.66	-90.48	-0.25	-30.02	30.02	26.70	3.32	9.033		
900.00	900.00	899.60	899.60	1.89	1.89	-90.48	-0.25	-30.02	30.02	26.25	3.77	7.957		
1,000.00	1,000.00	999.60	999.60	2.11	2.11	-90.48	-0.25	-30.02	30.02	25.80	4.22	7.110		
1,100.00	1,100.00	1,099.60	1,099.60	2.34	2.34	-90.48	-0.25	-30.02	30.02	25.35	4.67	6.426		
1,200.00	1,200.00	1,199.60	1,199.60	2.56	2.56	-90.48	-0.25	-30.02	30.02	24.90	5.12	5.862		
1,300.00	1,300.00	1,299.60	1,299.60	2.79	2.79	-90.48	-0.25	-30.02	30.02	24.45	5.57	5.389		
1,400.00	1,400.00	1,399.60	1,399.60	3.01	3.01	-90.48	-0.25	-30.02	30.02	24.00	6.02	4.986		
1,500.00	1,500.00	1,499.60	1,499.60	3.24	3.23	-90.48	-0.25	-30.02	30.02	23.55	6.47	4.640		
1,600.00	1,600.00	1,599.60	1,599.60	3.46	3.46	-90.48	-0.25	-30.02	30.02	23.10	6.92	4.339		
1,700.00	1,700.00	1,699.60	1,699.60	3.69	3.68	-90.48	-0.25	-30.02	30.02	22.65	7.37	4.074		
1,800.00	1,800.00	1,799.60	1,799.60	3.91	3.91	-90.48	-0.25	-30.02	30.02	22.20	7.82	3.840		
1,900.00	1,900.00	1,899.60	1,899.60	4.13	4.13	-90.48	-0.25	-30.02	30.02	21.75	8.27	3.631		
2,000.00	2,000.00	1,999.60	1,999.60	4.36	4.36	-90.48	-0.25	-30.02	30.02	21.30	8.72	3.444		
2,100.00	2,100.00	2,099.60	2,099.60	4.58	4.58	-90.48	-0.25	-30.02	30.02	20.85	9.17	3.275		
2,200.00	2,200.00	2,199.60	2,199.60	4.81	4.81	-90.48	-0.25	-30.02	30.02	20.40	9.62	3.122		
2,300.00	2,300.00	2,299.60	2,299.60	5.03	5.03	-90.48	-0.25	-30.02	30.02	19.95	10.07	2.982		
2,400.00	2,400.00	2,399.60	2,399.60	5.26	5.26	-90.48	-0.25	-30.02	30.02	19.51	10.52	2.855		
2,500.00	2,500.00	2,499.60	2,499.60	5.48	5.48	-90.48	-0.25	-30.02	30.02	19.06	10.97	2.738 CC, ES		
2,600.00	2,599.99	2,599.59	2,599.59	5.70	5.71	-168.80	-0.25	-30.02	30.88	19.47	11.40	2.708 SF		
2,700.00	2,699.96	2,699.56	2,699.56	5.90	5.93	-169.67	-0.25	-30.02	33.45	21.62	11.83	2.827		
2,800.00	2,799.86	2,799.46	2,799.46	6.11	6.16	-170.85	-0.25	-30.02	37.75	25.49	12.26	3.079		
2,900.00	2,899.68	2,900.03	2,900.02	6.32	6.37	-172.20	-0.25	-29.15	42.92	30.24	12.68	3.386		
3,000.00	2,999.37	3,000.68	3,000.64	6.53	6.57	-173.71	-0.25	-26.51	48.10	35.02	13.08	3.678		
3,100.00	3,098.90	3,101.42	3,101.28	6.75	6.77	-175.31	-0.25	-22.09	53.30	39.82	13.48	3.955		
3,150.00	3,148.61	3,151.82	3,151.60	6.87	6.87	-176.15	-0.25	-19.22	55.91	42.23	13.68	4.088		
3,200.00	3,198.29	3,202.26	3,201.93	6.98	6.98	-176.99	-0.25	-15.91	58.32	44.44	13.88	4.202		
3,300.00	3,297.64	3,303.22	3,302.58	7.21	7.19	-178.70	-0.25	-7.94	61.87	47.59	14.28	4.333		
3,400.00	3,397.00	3,404.27	3,403.15	7.45	7.41	179.44	-0.25	1.82	63.75	49.07	14.68	4.342		
3,500.00	3,496.36	3,505.28	3,503.50	7.68	7.63	177.30	-0.25	13.33	63.98	48.89	15.09	4.240		
3,600.00	3,595.71	3,605.25	3,602.72	7.93	7.86	174.99	-0.25	25.51	63.55	48.02	15.52	4.094		
3,700.00	3,695.07	3,705.21	3,701.94	8.17	8.09	172.65	-0.25	37.70	63.21	47.25	15.96	3.960		
3,800.00	3,794.43	3,805.18	3,801.16	8.42	8.33	170.30	-0.25	49.88	62.99	46.58	16.41	3.839		
3,900.00	3,893.79	3,905.15	3,900.39	8.67	8.57	167.93	-0.25	62.06	62.87	46.01	16.86	3.729		
3,959.93	3,953.33	3,965.05	3,959.85	8.82	8.71	166.51	-0.25	69.36	62.85	45.71	17.14	3.668		
4,000.00	3,993.14	4,005.11	3,999.61	8.92	8.81	165.55	-0.25	74.25	62.86	45.54	17.32	3.629		
4,100.00	4,092.50	4,105.08	4,098.83	9.18	9.06	163.18	-0.25	86.43	62.96	45.17	17.79	3.539		
4,200.00	4,191.86	4,205.04	4,198.05	9.43	9.31	160.82	-0.25	98.61	63.16	44.90	18.26	3.458		
4,300.00	4,291.21	4,305.01	4,297.27	9.69	9.56	158.48	-0.25	110.79	63.47	44.72	18.75	3.386		
4,400.00	4,390.57	4,404.98	4,396.49	9.95	9.82	156.17	-0.25	122.98	63.89	44.65	19.24	3.321		
4,500.00	4,489.93	4,504.94	4,495.71	10.22	10.08	153.89	-0.25	135.16	64.41	44.67	19.74	3.263		
4,600.00	4,589.29	4,604.91	4,594.93	10.48	10.34	151.65	-0.25	147.34	65.02	44.78	20.25	3.211		
4,700.00	4,688.64	4,704.87	4,694.15	10.74	10.60	149.45	-0.25	159.52	65.74	44.98	20.76	3.166		
4,800.00	4,788.00	4,804.84	4,793.37	11.01	10.86	147.31	-0.25	171.71	66.55	45.26	21.29	3.126		
4,900.00	4,887.36	4,904.81	4,892.59	11.28	11.13	145.22	-0.25	183.89	67.45	45.64	21.82	3.092		

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

LEAM Drilling Systems LLC

Anticollision Report

Company: Devon Energy
 Project: Lea County, NM (NAD-83)
 Reference Site: Seawolf 1-12 Fed
 Site Error: 0.00 usft
 Reference Well: 102H
 Well Error: 0.00 usft
 Reference Wellbore: OH
 Reference Design: Plan #1

Local Co-ordinate Reference: Well 102H
 TVD Reference: 3319' GE + 21' KB @ 3340.00usft
 MD Reference: 3319' GE + 21' KB @ 3340.00usft
 North Reference: Grid
 Survey Calculation Method: Minimum Curvature
 Output errors are at 2.00 sigma
 Database: EDM 5000.1 Multi User Db
 Offset TVD Reference: Offset Datum

Offset Design Seawolf 1-12 Fed - 82H - OH - Plan #1													Offset Site Error: 0.00 usft
Survey Program: 0-LEAM MWD+HDGM													Offset Well Error: 0.00 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Distance		Minimum Separation (usft)	Separation Factor	Warning		
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)					
5,000.00	4,986.71	5,004.77	4,991.82	11.54	11.40	143.19	-0.25	196.07	68.44	46.09	22.36	3.061	
5,100.00	5,086.07	5,104.74	5,091.04	11.81	11.67	141.21	-0.25	208.26	69.52	46.62	22.90	3.036	
5,200.00	5,185.43	5,204.70	5,190.26	12.08	11.94	139.30	-0.25	220.44	70.67	47.22	23.45	3.014	
5,300.00	5,284.79	5,304.67	5,289.48	12.35	12.21	137.46	-0.25	232.62	71.90	47.90	24.00	2.995	
5,400.00	5,384.14	5,404.64	5,388.70	12.62	12.48	135.67	-0.25	244.80	73.20	48.64	24.56	2.980	
5,500.00	5,483.50	5,504.60	5,487.92	12.90	12.76	133.96	-0.25	256.99	74.57	49.45	25.12	2.968	
5,600.00	5,582.86	5,604.57	5,587.14	13.17	13.03	132.30	-0.25	269.17	76.00	50.31	25.69	2.959	
5,700.00	5,682.21	5,704.53	5,686.36	13.44	13.31	130.71	-0.25	281.35	77.50	51.24	26.26	2.951	
5,800.00	5,781.57	5,804.50	5,785.58	13.72	13.59	129.18	-0.25	293.54	79.05	52.22	26.83	2.946	
5,900.00	5,880.93	5,904.47	5,884.80	13.99	13.86	127.70	-0.25	305.72	80.66	53.26	27.40	2.943	
6,000.00	5,980.29	6,004.43	5,984.02	14.27	14.14	126.29	-0.25	317.90	82.32	54.34	27.98	2.942	
6,100.00	6,079.64	6,104.40	6,083.25	14.54	14.42	124.93	-0.25	330.08	84.02	55.47	28.55	2.943	
6,200.00	6,179.00	6,204.36	6,182.47	14.82	14.70	123.63	-0.25	342.27	85.77	56.64	29.13	2.944	
6,300.00	6,278.36	6,304.33	6,281.69	15.10	14.99	122.38	-0.25	354.45	87.57	57.86	29.71	2.947	
6,400.00	6,377.72	6,404.30	6,380.91	15.37	15.27	121.18	-0.25	366.63	89.40	59.11	30.29	2.951	
6,500.00	6,477.07	6,504.26	6,480.13	15.65	15.55	120.03	-0.25	378.81	91.27	60.40	30.87	2.957	
6,600.00	6,576.43	6,604.23	6,579.35	15.93	15.83	118.93	-0.25	391.00	93.18	61.73	31.45	2.963	
6,700.00	6,675.79	6,704.19	6,678.57	16.21	16.12	117.87	-0.25	403.18	95.12	63.09	32.03	2.969	
6,800.00	6,775.14	6,804.16	6,777.79	16.49	16.40	116.86	-0.25	415.36	97.09	64.48	32.62	2.977	
6,900.00	6,874.50	6,904.13	6,877.01	16.77	16.69	115.88	-0.25	427.55	99.09	65.89	33.20	2.985	
7,000.00	6,973.86	7,004.09	6,976.23	17.05	16.97	114.94	-0.25	439.73	101.12	67.34	33.78	2.994	
7,100.00	7,073.22	7,104.06	7,075.45	17.33	17.26	114.04	-0.25	451.91	103.17	68.81	34.36	3.003	
7,200.00	7,172.57	7,204.03	7,174.68	17.61	17.54	113.18	-0.25	464.09	105.25	70.31	34.94	3.012	
7,300.00	7,271.93	7,303.99	7,273.90	17.89	17.83	112.35	-0.25	476.28	107.35	71.83	35.52	3.022	
7,400.00	7,371.29	7,403.96	7,373.12	18.17	18.12	111.55	-0.25	488.46	109.48	73.37	36.11	3.032	
7,500.00	7,470.64	7,503.92	7,472.34	18.45	18.40	110.78	-0.25	500.64	111.62	74.93	36.69	3.043	
7,600.00	7,570.00	7,603.89	7,571.56	18.73	18.69	110.04	-0.25	512.83	113.78	76.52	37.27	3.053	
7,700.00	7,669.36	7,703.86	7,670.78	19.01	18.98	109.33	-0.25	525.01	115.96	78.12	37.85	3.064	
7,800.00	7,768.72	7,803.82	7,770.00	19.29	19.27	108.65	-0.25	537.19	118.16	79.73	38.43	3.075	
7,900.00	7,868.07	7,903.79	7,869.22	19.57	19.56	107.99	-0.25	549.37	120.38	81.37	39.01	3.086	
8,000.00	7,967.43	8,003.75	7,968.44	19.86	19.85	107.35	-0.25	561.56	122.61	83.02	39.59	3.097	
8,100.00	8,066.79	8,103.72	8,067.66	20.14	20.14	106.74	-0.25	573.74	124.85	84.68	40.17	3.108	
8,200.00	8,166.14	8,203.69	8,166.88	20.42	20.43	106.15	-0.25	585.92	127.11	86.36	40.75	3.119	
8,300.00	8,265.50	8,303.65	8,266.11	20.70	20.72	105.58	-0.25	598.11	129.38	88.05	41.33	3.131	
8,400.00	8,364.86	8,403.62	8,365.33	20.99	21.01	105.03	-0.25	610.29	131.67	89.76	41.91	3.142	
8,500.00	8,464.22	8,503.58	8,464.55	21.27	21.30	104.49	-0.25	622.47	133.96	91.48	42.49	3.153	
8,600.00	8,563.57	8,603.55	8,563.77	21.55	21.59	103.98	-0.25	634.65	136.27	93.20	43.06	3.164	
8,700.00	8,662.93	8,703.52	8,662.99	21.84	21.88	103.48	-0.25	646.84	138.58	94.94	43.64	3.175	
8,800.00	8,762.29	8,803.48	8,762.21	22.12	22.17	103.00	-0.25	659.02	140.91	96.69	44.22	3.187	
8,900.00	8,861.65	8,903.45	8,861.43	22.40	22.46	102.54	-0.25	671.20	143.25	98.45	44.80	3.198	
9,000.00	8,961.00	9,003.41	8,960.65	22.69	22.75	102.09	-0.25	683.38	145.60	100.22	45.38	3.209	
9,100.00	9,060.36	9,103.38	9,059.87	22.97	23.04	101.65	-0.25	695.57	147.95	102.00	45.95	3.220	
9,200.00	9,159.72	9,203.35	9,159.09	23.25	23.33	101.23	-0.25	707.75	150.31	103.78	46.53	3.230	
9,300.00	9,259.07	9,303.31	9,258.32	23.54	23.63	100.82	-0.25	719.93	152.68	105.58	47.11	3.241	
9,400.00	9,358.43	9,403.28	9,357.54	23.82	23.92	100.42	-0.25	732.12	155.06	107.38	47.69	3.252	
9,500.00	9,457.79	9,503.24	9,456.76	24.11	24.21	100.04	-0.25	744.30	157.45	109.19	48.26	3.262	
9,600.00	9,557.15	9,603.21	9,555.98	24.39	24.50	99.67	-0.25	756.48	159.84	111.00	48.84	3.273	
9,700.00	9,656.50	9,703.18	9,655.20	24.68	24.80	99.30	-0.25	768.66	162.24	112.83	49.41	3.283	
9,800.00	9,755.86	9,803.14	9,754.42	24.96	25.09	98.95	-0.25	780.85	164.65	114.65	49.99	3.294	
9,900.00	9,855.22	9,903.11	9,853.64	25.25	25.38	98.61	-0.25	793.03	167.06	116.49	50.57	3.304	
10,000.00	9,954.57	10,003.07	9,952.86	25.53	25.68	98.28	-0.25	805.21	169.47	118.33	51.14	3.314	
10,100.00	10,053.93	10,103.04	10,052.08	25.81	25.97	97.96	-0.25	817.40	171.90	120.18	51.72	3.324	

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

LEAM Drilling Systems LLC

Anticollision Report

Company: Devon Energy
Project: Lea County, NM (NAD-83)
Reference Site: Seawolf 1-12 Fed
Site Error: 0.00 usft
Reference Well: 102H
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Plan #1

Local Co-ordinate Reference: Well 102H
TVD Reference: 3319' GE + 21' KB @ 3340.00usft
MD Reference: 3319' GE + 21' KB @ 3340.00usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at: 2.00 sigma
Database: EDM 5000.1 Multi User Db
Offset TVD Reference: Offset Datum

Offset Design Seawolf 1-12 Fed - 82H - OH - Plan #1													Offset Site Error: 0.00 usft
Survey Program: 0-LEAM MWD+HDM													Offset Well Error: 0.00 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Distance		Minimum Separation (usft)	Separation Factor	Warning		
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		Between Centres (usft)	Between Ellipses (usft)					
10,200.00	10,153.29	10,203.01	10,151.30	26.10	26.26	97.65	-0.25	829.58	174.32	122.03	52.29	3.334	
10,300.00	10,252.65	10,302.97	10,250.52	26.38	26.56	97.34	-0.25	841.76	176.76	123.89	52.87	3.343	
10,400.00	10,352.00	10,402.96	10,349.77	26.67	26.84	97.05	-0.25	853.93	179.19	125.76	53.44	3.353	
10,500.00	10,451.36	10,503.07	10,449.20	26.95	27.07	96.95	-0.25	865.54	181.58	127.64	53.95	3.366	
10,540.00	10,491.10	10,543.11	10,489.00	27.07	27.15	96.98	-0.25	869.94	182.52	128.37	54.15	3.371	
10,600.00	10,550.73	10,603.18	10,548.73	27.22	27.29	97.08	-0.25	876.28	183.88	129.45	54.43	3.378	
10,700.00	10,650.20	10,703.29	10,648.36	27.43	27.50	97.23	-0.25	886.16	186.00	131.14	54.87	3.390	
10,800.00	10,749.74	10,803.40	10,748.06	27.65	27.71	97.38	-0.25	895.16	187.95	132.66	55.29	3.399	
10,900.00	10,849.37	10,903.52	10,847.84	27.85	27.92	97.53	-0.25	903.29	189.71	134.01	55.70	3.406	
11,000.00	10,949.07	11,003.63	10,947.69	28.05	28.12	97.68	-0.25	910.54	191.29	135.19	56.10	3.410	
11,100.00	11,048.83	11,103.74	11,047.60	28.25	28.31	97.82	-0.25	916.93	192.69	136.20	56.50	3.411	
11,200.00	11,148.65	11,203.85	11,147.56	28.44	28.50	97.97	-0.25	922.44	193.92	137.04	56.88	3.409	
11,300.00	11,248.52	11,303.96	11,247.56	28.63	28.69	98.12	-0.25	927.08	194.96	137.70	57.25	3.405	
11,400.00	11,348.42	11,404.07	11,347.60	28.81	28.87	98.26	-0.25	930.84	195.81	138.20	57.62	3.399	
11,500.00	11,448.37	11,504.18	11,447.66	28.99	29.05	98.41	-0.25	933.73	196.49	138.52	57.97	3.390	
11,600.00	11,548.33	11,604.28	11,547.75	29.16	29.22	98.55	-0.25	935.75	196.99	138.68	58.31	3.378	
11,700.00	11,648.32	11,704.38	11,647.84	29.33	29.38	98.70	-0.25	936.89	197.30	138.66	58.65	3.364	
11,800.00	11,748.32	11,804.46	11,747.92	29.49	29.55	98.84	-0.25	937.17	197.44	138.46	58.98	3.348	
11,840.00	11,788.32	11,844.46	11,787.92	29.55	29.62	176.86	-0.25	937.17	197.45	138.34	59.11	3.340	
11,900.00	11,848.32	11,904.46	11,847.92	29.66	29.73	176.86	-0.25	937.17	197.45	138.12	59.33	3.328	
12,000.00	11,948.32	12,004.46	11,947.92	29.85	29.92	176.86	-0.25	937.17	197.45	137.75	59.70	3.307	
12,004.76	11,953.07	12,009.21	11,952.67	29.85	29.93	176.86	-0.25	937.17	197.45	137.74	59.72	3.307	
12,100.00	12,048.32	12,100.00	12,043.46	30.03	30.09	176.87	-0.50	937.17	197.75	137.70	60.05	3.293	
12,200.00	12,148.32	12,172.67	12,115.77	30.22	30.21	176.97	-7.22	937.17	206.93	147.04	59.89	3.455	
12,300.00	12,248.32	12,250.00	12,191.11	30.41	30.35	177.20	-24.36	937.17	228.70	169.20	59.50	3.844	
12,400.00	12,348.32	12,309.63	12,247.24	30.59	30.45	177.44	-44.42	937.18	261.71	203.53	58.17	4.499	
12,500.00	12,448.32	12,369.98	12,301.61	30.78	30.55	177.69	-70.54	937.18	305.04	248.13	56.91	5.360	
12,600.00	12,548.32	12,424.11	12,347.81	30.97	30.64	177.91	-98.73	937.18	357.15	301.56	55.59	6.424	
12,633.73	12,582.05	12,450.00	12,368.91	31.04	30.69	178.01	-113.72	937.18	376.64	321.04	55.61	6.773	
12,650.00	12,598.31	12,450.00	12,368.91	31.06	30.69	-1.96	-113.72	937.18	385.88	330.88	55.00	7.017	
12,700.00	12,648.17	12,473.45	12,387.43	31.14	30.73	-1.78	-128.11	937.18	413.59	359.32	54.26	7.622	
12,750.00	12,697.52	12,500.00	12,407.65	31.22	30.78	-1.62	-145.30	937.18	439.43	385.78	53.65	8.191	
12,800.00	12,745.99	12,522.54	12,424.19	31.28	30.82	-1.51	-160.61	937.19	463.34	410.50	52.83	8.770	
12,850.00	12,793.22	12,550.00	12,443.50	31.34	30.88	-1.40	-180.13	937.19	485.29	433.08	52.22	9.294	
12,900.00	12,838.83	12,571.71	12,458.09	31.40	30.92	-1.33	-196.21	937.19	505.20	453.86	51.34	9.839	
12,950.00	12,882.50	12,600.00	12,476.17	31.45	30.98	-1.26	-217.96	937.19	523.11	472.37	50.74	10.309	
13,000.00	12,923.87	12,620.93	12,488.85	31.50	31.03	-1.21	-234.62	937.19	538.87	489.03	49.85	10.810	
13,050.00	12,962.65	12,650.00	12,505.42	31.54	31.09	-1.16	-258.49	937.19	552.59	503.31	49.28	11.214	
13,100.00	12,998.53	12,670.20	12,516.22	31.59	31.14	-1.13	-275.56	937.20	564.09	515.69	48.40	11.655	
13,150.00	13,031.24	12,700.00	12,531.03	31.63	31.22	-1.10	-301.42	937.20	573.51	525.63	47.88	11.979	
13,200.00	13,060.53	12,719.49	12,539.98	31.68	31.27	-1.08	-318.73	937.20	580.65	533.60	47.05	12.340	
13,250.00	13,086.18	12,750.00	12,552.80	31.74	31.35	-1.06	-346.41	937.20	585.71	539.10	46.61	12.567	
13,300.00	13,107.99	12,768.79	12,559.96	31.80	31.41	-1.06	-363.79	937.20	588.44	542.56	45.88	12.826	
13,350.00	13,125.80	12,800.00	12,570.56	31.88	31.51	-1.06	-393.13	937.21	589.10	543.57	45.53	12.939	
13,400.00	13,139.47	12,818.10	12,575.98	31.97	31.56	-1.06	-410.41	937.21	587.39	542.45	44.94	13.071	
13,450.00	13,148.90	12,850.00	12,584.19	32.07	31.68	-1.07	-441.22	937.21	583.65	538.94	44.71	13.055	
13,500.00	13,154.01	12,867.41	12,587.94	32.20	31.74	-1.09	-458.22	937.21	577.52	533.23	44.29	13.038	
13,533.73	13,155.00	12,884.03	12,591.04	32.30	31.80	-1.10	-474.56	937.21	572.21	528.06	44.15	12.960	
13,600.00	13,155.00	12,916.99	12,595.78	32.51	31.93	-1.11	-507.17	937.22	562.68	518.69	43.99	12.790	
13,700.00	13,155.00	12,967.50	12,599.38	32.91	32.15	-1.12	-557.52	937.22	555.54	511.44	44.10	12.597	
13,732.40	13,155.00	12,984.70	12,599.60	33.05	32.23	-1.12	-574.72	937.22	555.11	510.89	44.23	12.552	
13,800.00	13,155.00	13,050.83	12,599.42	33.38	32.55	-1.12	-640.85	937.23	555.29	510.83	44.46	12.489	

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

LEAM Drilling Systems LLC

Anticollision Report

Company: Devon Energy
Project: Lea County, NM (NAD-83)
Reference Site: Seawolf 1-12 Fed
Site Error: 0.00 usft
Reference Well: 102H
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Plan #1

Local Co-ordinate Reference: Well 102H
TVD Reference: 3319' GE + 21' KB @ 3340.00usft
MD Reference: 3319' GE + 21' KB @ 3340.00usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at: 2.00 sigma
Database: EDM 5000.1 Multi User Db
Offset TVD Reference: Offset Datum

Offset Design Seawolf 1-12 Fed - 82H - OH - Plan #1													Offset Site Error: 0.00 usft
Survey Program: 0-LEAM MWD+HDGM													Offset Well Error: 0.00 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Distance		Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)					
13,900.00	13,155.00	13,150.83	12,599.16	33.93	33.10	-1.12	-740.85	937.24	555.56	510.71	44.84	12.389	
14,000.00	13,155.00	13,250.82	12,598.89	34.55	33.72	-1.12	-840.85	937.24	555.82	510.55	45.27	12.278	
14,100.00	13,155.00	13,350.82	12,598.63	35.24	34.41	-1.13	-940.85	937.25	556.09	510.34	45.74	12.157	
14,200.00	13,155.00	13,450.82	12,598.36	35.99	35.16	-1.13	-1,040.85	937.26	556.35	510.10	46.25	12.029	
14,300.00	13,155.00	13,550.82	12,598.10	36.80	35.97	-1.13	-1,140.85	937.27	556.61	509.81	46.80	11.892	
14,400.00	13,155.00	13,650.82	12,597.83	37.66	36.83	-1.13	-1,240.85	937.28	556.88	509.48	47.40	11.749	
14,500.00	13,155.00	13,750.82	12,597.57	38.58	37.75	-1.13	-1,340.85	937.29	557.14	509.12	48.03	11.601	
14,600.00	13,155.00	13,850.82	12,597.31	39.54	38.71	-1.13	-1,440.85	937.29	557.41	508.72	48.69	11.448	
14,700.00	13,155.00	13,950.82	12,597.04	40.54	39.72	-1.13	-1,540.85	937.30	557.67	508.28	49.39	11.291	
14,800.00	13,155.00	14,050.82	12,596.78	41.59	40.77	-1.13	-1,640.85	937.31	557.94	507.81	50.12	11.131	
14,900.00	13,155.00	14,150.82	12,596.51	42.67	41.86	-1.13	-1,740.85	937.32	558.20	507.31	50.89	10.969	
15,000.00	13,155.00	14,250.82	12,596.25	43.79	42.98	-1.13	-1,840.84	937.33	558.47	506.78	51.69	10.805	
15,100.00	13,155.00	14,350.82	12,595.98	44.94	44.13	-1.13	-1,940.84	937.34	558.73	506.22	52.51	10.640	
15,200.00	13,155.00	14,450.82	12,595.72	46.11	45.31	-1.13	-2,040.84	937.35	559.00	505.63	53.36	10.475	
15,300.00	13,155.00	14,550.82	12,595.45	47.32	46.52	-1.13	-2,140.84	937.35	559.26	505.02	54.24	10.310	
15,400.00	13,155.00	14,650.82	12,595.19	48.55	47.76	-1.13	-2,240.84	937.36	559.53	504.38	55.15	10.146	
15,500.00	13,155.00	14,750.82	12,594.92	49.80	49.02	-1.14	-2,340.84	937.37	559.79	503.72	56.07	9.983	
15,600.00	13,155.00	14,850.82	12,594.66	51.08	50.30	-1.14	-2,440.84	937.38	560.06	503.03	57.03	9.821	
15,700.00	13,155.00	14,950.82	12,594.40	52.37	51.60	-1.14	-2,540.84	937.39	560.32	502.32	58.00	9.661	
15,800.00	13,155.00	15,050.82	12,594.13	53.68	52.91	-1.14	-2,640.84	937.40	560.58	501.59	58.99	9.503	
15,900.00	13,155.00	15,150.82	12,593.87	55.01	54.25	-1.14	-2,740.84	937.40	560.85	500.85	60.00	9.347	
16,000.00	13,155.00	15,250.82	12,593.60	56.36	55.60	-1.14	-2,840.84	937.41	561.11	500.08	61.03	9.193	
16,100.00	13,155.00	15,350.82	12,593.34	57.72	56.97	-1.14	-2,940.84	937.42	561.38	499.30	62.08	9.042	
16,200.00	13,155.00	15,450.82	12,593.07	59.10	58.35	-1.14	-3,040.84	937.43	561.64	498.49	63.15	8.894	
16,300.00	13,155.00	15,550.82	12,592.81	60.48	59.74	-1.14	-3,140.84	937.44	561.91	497.68	64.23	8.748	
16,400.00	13,155.00	15,650.82	12,592.54	61.88	61.15	-1.14	-3,240.83	937.45	562.17	496.85	65.33	8.606	
16,500.00	13,155.00	15,750.82	12,592.28	63.30	62.56	-1.14	-3,340.83	937.46	562.44	496.00	66.44	8.466	
16,600.00	13,155.00	15,850.82	12,592.02	64.72	63.99	-1.14	-3,440.83	937.46	562.70	495.14	67.56	8.329	
16,700.00	13,155.00	15,950.82	12,591.75	66.15	65.42	-1.14	-3,540.83	937.47	562.97	494.27	68.70	8.195	
16,800.00	13,155.00	16,050.82	12,591.49	67.59	66.87	-1.14	-3,640.83	937.48	563.23	493.38	69.85	8.064	
16,900.00	13,155.00	16,150.81	12,591.22	69.04	68.32	-1.14	-3,740.83	937.49	563.50	492.49	71.01	7.935	
17,000.00	13,155.00	16,250.81	12,590.96	70.50	69.78	-1.15	-3,840.83	937.50	563.76	491.58	72.18	7.810	
17,100.00	13,155.00	16,350.81	12,590.69	71.96	71.25	-1.15	-3,940.83	937.51	564.02	490.66	73.37	7.688	
17,200.00	13,155.00	16,450.81	12,590.43	73.43	72.73	-1.15	-4,040.83	937.51	564.29	489.73	74.56	7.568	
17,300.00	13,155.00	16,550.81	12,590.16	74.91	74.21	-1.15	-4,140.83	937.52	564.55	488.79	75.76	7.452	
17,400.00	13,155.00	16,650.81	12,589.90	76.40	75.70	-1.15	-4,240.83	937.53	564.82	487.84	76.98	7.338	
17,500.00	13,155.00	16,750.81	12,589.63	77.89	77.20	-1.15	-4,340.83	937.54	565.08	486.89	78.20	7.226	
17,600.00	13,155.00	16,850.81	12,589.37	79.38	78.70	-1.15	-4,440.83	937.55	565.35	485.92	79.43	7.118	
17,700.00	13,155.00	16,950.81	12,589.11	80.89	80.20	-1.15	-4,540.83	937.56	565.61	484.95	80.66	7.012	
17,800.00	13,155.00	17,050.81	12,588.84	82.39	81.71	-1.15	-4,640.82	937.56	565.88	483.97	81.91	6.909	
17,900.00	13,155.00	17,150.81	12,588.58	83.90	83.23	-1.15	-4,740.82	937.57	566.14	482.98	83.16	6.808	
18,000.00	13,155.00	17,250.81	12,588.31	85.42	84.75	-1.15	-4,840.82	937.58	566.41	481.99	84.42	6.709	
18,100.00	13,155.00	17,350.81	12,588.05	86.94	86.27	-1.15	-4,940.82	937.59	566.67	480.98	85.69	6.613	
18,200.00	13,155.00	17,450.81	12,587.78	88.47	87.80	-1.15	-5,040.82	937.60	566.94	479.98	86.96	6.520	
18,300.00	13,155.00	17,550.81	12,587.52	89.99	89.33	-1.15	-5,140.82	937.61	567.20	478.96	88.24	6.428	
18,400.00	13,155.00	17,650.81	12,587.25	91.53	90.86	-1.15	-5,240.82	937.62	567.47	477.94	89.52	6.339	
18,500.00	13,155.00	17,750.81	12,586.99	93.06	92.40	-1.16	-5,340.82	937.62	567.73	476.92	90.81	6.252	
18,600.00	13,155.00	17,850.81	12,586.73	94.60	93.94	-1.16	-5,440.82	937.63	567.99	475.89	92.11	6.167	
18,700.00	13,155.00	17,950.81	12,586.46	96.14	95.49	-1.16	-5,540.82	937.64	568.26	474.85	93.41	6.084	
18,800.00	13,155.00	18,050.81	12,586.20	97.69	97.04	-1.16	-5,640.82	937.65	568.52	473.81	94.71	6.003	
18,900.00	13,155.00	18,150.81	12,585.93	99.24	98.59	-1.16	-5,740.82	937.66	568.79	472.77	96.02	5.923	
19,000.00	13,155.00	18,250.81	12,585.67	100.79	100.14	-1.16	-5,840.82	937.67	569.05	471.72	97.34	5.846	

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

LEAM Drilling Systems LLC

Anticollision Report

Company: Devon Energy
 Project: Lea County, NM (NAD-83)
 Reference Site: Seawolf 1-12 Fed
 Site Error: 0.00 usft
 Reference Well: 102H
 Well Error: 0.00 usft
 Reference Wellbore: OH
 Reference Design: Plan #1

Local Co-ordinate Reference: Well 102H
 TVD Reference: 3319' GE + 21' KB @ 3340.00usft
 MD Reference: 3319' GE + 21' KB @ 3340.00usft
 North Reference: Grid
 Survey Calculation Method: Minimum Curvature
 Output errors are at: 2.00 sigma
 Database: EDM 5000.1 Multi User Db
 Offset TVD Reference: Offset Datum

Offset Design Seawolf 1-12 Fed - 82H - OH - Plan #1												Offset Site Error:	0.00 usft
Survey Program: 0-LEAM MWD+HDGM												Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis		Highside Toothface (")	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)					
19,100.00	13,155.00	18,350.81	12,585.40	102.34	101.70	-1.16	-5,940.82	937.67	569.32	470.66	98.66	5.771	
19,200.00	13,155.00	18,450.81	12,585.14	103.90	103.25	-1.16	-6,040.82	937.68	569.58	469.60	99.98	5.697	
19,300.00	13,155.00	18,550.81	12,584.87	105.45	104.81	-1.16	-6,140.81	937.69	569.85	468.54	101.31	5.625	
19,400.00	13,155.00	18,650.81	12,584.61	107.01	106.38	-1.16	-6,240.81	937.70	570.11	467.47	102.64	5.555	
19,500.00	13,155.00	18,750.81	12,584.34	108.58	107.94	-1.16	-6,340.81	937.71	570.38	466.41	103.97	5.486	
19,600.00	13,155.00	18,850.81	12,584.08	110.14	109.51	-1.16	-6,440.81	937.72	570.64	465.33	105.31	5.419	
19,700.00	13,155.00	18,950.81	12,583.82	111.71	111.08	-1.16	-6,540.81	937.73	570.91	464.25	106.65	5.353	
19,800.00	13,155.00	19,050.80	12,583.55	113.28	112.65	-1.16	-6,640.81	937.73	571.17	463.17	108.00	5.289	
19,900.00	13,155.00	19,150.80	12,583.29	114.85	114.22	-1.16	-6,740.81	937.74	571.44	462.09	109.34	5.226	
20,000.00	13,155.00	19,250.80	12,583.02	116.42	115.79	-1.16	-6,840.81	937.75	571.70	461.00	110.69	5.165	
20,100.00	13,155.00	19,350.80	12,582.76	117.99	117.37	-1.17	-6,940.81	937.76	571.96	459.92	112.05	5.105	
20,200.00	13,155.00	19,450.80	12,582.49	119.57	118.95	-1.17	-7,040.81	937.77	572.23	458.82	113.41	5.046	
20,300.00	13,155.00	19,550.80	12,582.23	121.14	120.53	-1.17	-7,140.81	937.78	572.49	457.73	114.77	4.988	
20,400.00	13,155.00	19,650.80	12,581.96	122.72	122.11	-1.17	-7,240.81	937.78	572.76	456.63	116.13	4.932	
20,500.00	13,155.00	19,750.80	12,581.70	124.30	123.69	-1.17	-7,340.81	937.79	573.02	455.53	117.49	4.877	
20,600.00	13,155.00	19,850.80	12,581.44	125.88	125.27	-1.17	-7,440.81	937.80	573.29	454.43	118.86	4.823	
20,700.00	13,155.00	19,950.80	12,581.17	127.47	126.86	-1.17	-7,540.80	937.81	573.55	453.32	120.23	4.770	
20,800.00	13,155.00	20,050.80	12,580.91	129.05	128.44	-1.17	-7,640.80	937.82	573.82	452.22	121.60	4.719	
20,900.00	13,155.00	20,150.80	12,580.64	130.64	130.03	-1.17	-7,740.80	937.83	574.08	451.11	122.98	4.668	
21,000.00	13,155.00	20,250.80	12,580.38	132.22	131.62	-1.17	-7,840.80	937.84	574.35	449.99	124.35	4.619	
21,100.00	13,155.00	20,350.80	12,580.11	133.81	133.20	-1.17	-7,940.80	937.84	574.61	448.88	125.73	4.570	
21,200.00	13,155.00	20,450.80	12,579.85	135.40	134.79	-1.17	-8,040.80	937.85	574.88	447.76	127.11	4.523	
21,300.00	13,155.00	20,550.80	12,579.58	136.99	136.39	-1.17	-8,140.80	937.86	575.14	446.65	128.49	4.476	
21,400.00	13,155.00	20,650.80	12,579.32	138.58	137.98	-1.17	-8,240.80	937.87	575.40	445.53	129.88	4.430	
21,500.00	13,155.00	20,750.80	12,579.05	140.17	139.57	-1.17	-8,340.80	937.88	575.67	444.41	131.26	4.386	
21,600.00	13,155.00	20,850.80	12,578.79	141.76	141.17	-1.18	-8,440.80	937.89	575.93	443.28	132.65	4.342	
21,700.00	13,155.00	20,950.80	12,578.53	143.36	142.76	-1.18	-8,540.80	937.89	576.20	442.16	134.04	4.299	
21,800.00	13,155.00	21,050.80	12,578.26	144.95	144.36	-1.18	-8,640.80	937.90	576.46	441.03	135.43	4.256	
21,900.00	13,155.00	21,150.80	12,578.00	146.55	145.95	-1.18	-8,740.80	937.91	576.73	439.90	136.83	4.215	
22,000.00	13,155.00	21,250.80	12,577.73	148.14	147.55	-1.18	-8,840.80	937.92	576.99	438.77	138.22	4.174	
22,100.00	13,155.00	21,350.80	12,577.47	149.74	149.15	-1.18	-8,940.79	937.93	577.26	437.64	139.62	4.135	
22,200.00	13,155.00	21,450.80	12,577.20	151.34	150.75	-1.18	-9,040.79	937.94	577.52	436.51	141.01	4.096	
22,300.00	13,155.00	21,550.80	12,576.94	152.94	152.35	-1.18	-9,140.79	937.95	577.79	435.37	142.41	4.057	
22,400.00	13,155.00	21,650.80	12,576.67	154.54	153.95	-1.18	-9,240.79	937.95	578.05	434.24	143.81	4.019	
22,500.00	13,155.00	21,750.80	12,576.41	156.14	155.55	-1.18	-9,340.79	937.96	578.32	433.10	145.21	3.983	
22,600.00	13,155.00	21,850.79	12,576.14	157.74	157.15	-1.18	-9,440.79	937.97	578.58	431.96	146.62	3.946	
22,700.00	13,155.00	21,950.79	12,575.88	159.34	158.75	-1.18	-9,540.79	937.98	578.85	430.82	148.02	3.911	
22,800.00	13,155.00	22,050.79	12,575.62	160.94	160.36	-1.18	-9,640.79	937.99	579.11	429.68	149.43	3.876	
22,900.00	13,155.00	22,150.79	12,575.35	162.54	161.96	-1.18	-9,740.79	938.00	579.37	428.54	150.83	3.841	
23,000.00	13,155.00	22,250.79	12,575.09	164.15	163.57	-1.18	-9,840.79	938.00	579.64	427.40	152.24	3.807	
23,100.00	13,155.00	22,350.79	12,574.82	165.75	165.17	-1.18	-9,940.79	938.01	579.90	426.25	153.65	3.774	
23,182.55	13,155.00	22,433.34	12,574.60	167.07	166.50	-1.19	-10,023.34	938.02	580.12	425.31	154.81	3.747	

LEAM Drilling Systems LLC

Anticollision Report

Company: Devon Energy
 Project: Lea County, NM (NAD-83)
 Reference Site: Seawolf 1-12 Fed
 Site Error: 0.00 usft
 Reference Well: 102H
 Well Error: 0.00 usft
 Reference Wellbore: OH
 Reference Design: Plan #1

Local Co-ordinate Reference: Well 102H
 TVD Reference: 3319' GE + 21' KB @ 3340.00usft
 MD Reference: 3319' GE + 21' KB @ 3340.00usft
 North Reference: Grid
 Survey Calculation Method: Minimum Curvature
 Output errors are at: 2.00 sigma
 Database: EDM 5000.1 Multi User Db
 Offset TVD Reference: Offset Datum

Offset Design Seawolf 1-12 Fed - 91H - OH - Plan #1													Offset Site Error: 0.00 usft
Survey Program: 0-LEAM MWD+HDGM													Offset Well Error: 0.00 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Distance		Minimum Separation (usft)	Separation Factor	Warning		
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		Between Centres (usft)	Between Ellipses (usft)					
0.00	0.00	0.00	0.00	0.00	0.00	-90.43	-0.67	-90.00	90.00				
100.00	100.00	99.60	99.60	0.09	0.09	-90.43	-0.67	-90.00	90.00	89.83	0.18	507.885	
200.00	200.00	199.60	199.60	0.31	0.31	-90.43	-0.67	-90.00	90.00	89.38	0.63	143.728	
300.00	300.00	299.60	299.60	0.54	0.54	-90.43	-0.67	-90.00	90.00	88.93	1.08	83.666	
400.00	400.00	399.60	399.60	0.76	0.76	-90.43	-0.67	-90.00	90.00	88.48	1.53	59.008	
500.00	500.00	499.60	499.60	0.99	0.99	-90.43	-0.67	-90.00	90.00	88.03	1.97	45.576	
600.00	600.00	599.60	599.60	1.21	1.21	-90.43	-0.67	-90.00	90.00	87.58	2.42	37.125	
700.00	700.00	699.60	699.60	1.44	1.44	-90.43	-0.67	-90.00	90.00	87.13	2.87	31.318	
800.00	800.00	799.60	799.60	1.66	1.66	-90.43	-0.67	-90.00	90.00	86.68	3.32	27.082	
900.00	900.00	899.60	899.60	1.89	1.89	-90.43	-0.67	-90.00	90.00	86.23	3.77	23.855	
1,000.00	1,000.00	999.60	999.60	2.11	2.11	-90.43	-0.67	-90.00	90.00	85.78	4.22	21.315	
1,100.00	1,100.00	1,099.60	1,099.60	2.34	2.34	-90.43	-0.67	-90.00	90.00	85.33	4.67	19.264	
1,200.00	1,200.00	1,199.60	1,199.60	2.56	2.56	-90.43	-0.67	-90.00	90.00	84.88	5.12	17.573	
1,300.00	1,300.00	1,299.60	1,299.60	2.79	2.79	-90.43	-0.67	-90.00	90.00	84.43	5.57	16.155	
1,400.00	1,400.00	1,399.60	1,399.60	3.01	3.01	-90.43	-0.67	-90.00	90.00	83.98	6.02	14.949	
1,500.00	1,500.00	1,499.60	1,499.60	3.24	3.23	-90.43	-0.67	-90.00	90.00	83.53	6.47	13.910	
1,600.00	1,600.00	1,599.60	1,599.60	3.46	3.46	-90.43	-0.67	-90.00	90.00	83.08	6.92	13.007	
1,700.00	1,700.00	1,699.60	1,699.60	3.69	3.68	-90.43	-0.67	-90.00	90.00	82.63	7.37	12.213	
1,800.00	1,800.00	1,799.60	1,799.60	3.91	3.91	-90.43	-0.67	-90.00	90.00	82.18	7.82	11.511	
1,900.00	1,900.00	1,899.60	1,899.60	4.13	4.13	-90.43	-0.67	-90.00	90.00	81.73	8.27	10.885	
2,000.00	2,000.00	1,999.60	1,999.60	4.36	4.36	-90.43	-0.67	-90.00	90.00	81.28	8.72	10.324	
2,100.00	2,100.00	2,099.60	2,099.60	4.58	4.58	-90.43	-0.67	-90.00	90.00	80.84	9.17	9.818	
2,200.00	2,200.00	2,199.60	2,199.60	4.81	4.81	-90.43	-0.67	-90.00	90.00	80.39	9.62	9.359	
2,300.00	2,300.00	2,299.60	2,299.60	5.03	5.03	-90.43	-0.67	-90.00	90.00	79.94	10.07	8.941	
2,400.00	2,400.00	2,399.60	2,399.60	5.26	5.26	-90.43	-0.67	-90.00	90.00	79.49	10.52	8.559	
2,500.00	2,500.00	2,499.60	2,499.60	5.48	5.48	-90.43	-0.67	-90.00	90.00	79.04	10.97	8.208 CC	
2,600.00	2,599.99	2,601.11	2,601.11	5.70	5.70	-168.37	-0.39	-89.15	90.02	78.62	11.40	7.900	
2,700.00	2,699.96	2,702.63	2,702.59	5.90	5.91	-168.19	0.44	-86.59	90.06	78.26	11.80	7.631	
2,800.00	2,799.86	2,804.15	2,804.01	6.11	6.12	-167.89	1.82	-82.32	90.12	77.91	12.21	7.381	
2,900.00	2,899.68	2,905.67	2,905.33	6.32	6.34	-167.48	3.77	-76.35	90.21	77.59	12.62	7.151	
3,000.00	2,999.37	3,007.07	3,006.41	6.53	6.56	-166.95	6.26	-68.68	90.33	77.31	13.02	6.937 ES	
3,100.00	3,098.90	3,107.06	3,106.02	6.75	6.78	-166.52	8.95	-60.39	91.43	77.99	13.44	6.802	
3,150.00	3,148.61	3,157.05	3,155.81	6.87	6.89	-166.40	10.30	-56.25	92.62	78.97	13.65	6.783	
3,200.00	3,198.29	3,207.03	3,205.60	6.98	7.00	-166.32	11.64	-52.10	94.03	80.16	13.87	6.780	
3,300.00	3,297.64	3,306.99	3,305.18	7.21	7.23	-166.17	14.34	-43.82	96.83	82.54	14.29	6.774	
3,400.00	3,397.00	3,406.95	3,404.76	7.45	7.46	-166.03	17.03	-35.53	99.64	84.91	14.73	6.766	
3,500.00	3,496.36	3,506.91	3,504.34	7.68	7.69	-165.90	19.72	-27.25	102.44	87.28	15.16	6.758	
3,600.00	3,595.71	3,606.87	3,603.92	7.93	7.92	-165.77	22.41	-18.96	105.25	89.66	15.59	6.749	
3,700.00	3,695.07	3,706.83	3,703.50	8.17	8.16	-165.65	25.10	-10.68	108.06	92.03	16.03	6.740	
3,800.00	3,794.43	3,806.79	3,803.08	8.42	8.39	-165.53	27.80	-2.39	110.87	94.39	16.47	6.730	
3,900.00	3,893.79	3,906.75	3,902.66	8.67	8.63	-165.42	30.49	5.90	113.67	96.76	16.92	6.720	
4,000.00	3,993.14	4,006.71	4,002.24	8.92	8.87	-165.32	33.18	14.18	116.48	99.12	17.36	6.710	
4,100.00	4,092.50	4,106.67	4,101.82	9.18	9.11	-165.22	35.87	22.47	119.29	101.49	17.81	6.699	
4,200.00	4,191.86	4,206.63	4,201.40	9.43	9.36	-165.13	38.57	30.75	122.10	103.85	18.25	6.689	
4,300.00	4,291.21	4,306.59	4,300.98	9.69	9.60	-165.04	41.26	39.04	124.91	106.21	18.70	6.679	
4,400.00	4,390.57	4,406.55	4,400.56	9.95	9.84	-164.95	43.95	47.32	127.72	108.57	19.15	6.668	
4,500.00	4,489.93	4,506.51	4,500.14	10.22	10.09	-164.87	46.64	55.61	130.53	110.93	19.61	6.658	
4,600.00	4,589.29	4,606.47	4,599.72	10.48	10.33	-164.79	49.33	63.90	133.34	113.28	20.06	6.647	
4,700.00	4,688.64	4,706.43	4,699.30	10.74	10.58	-164.71	52.03	72.18	136.15	115.64	20.51	6.637	
4,800.00	4,788.00	4,806.39	4,798.88	11.01	10.83	-164.64	54.72	80.47	138.97	118.00	20.97	6.627	
4,900.00	4,887.36	4,906.35	4,898.46	11.28	11.08	-164.57	57.41	88.75	141.78	120.35	21.43	6.617	
5,000.00	4,986.71	5,006.31	4,998.04	11.54	11.33	-164.50	60.10	97.04	144.59	122.70	21.88	6.607	

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

LEAM Drilling Systems LLC

Anticollision Report

Company: Devon Energy
Project: Lea County, NM (NAD-83)
Reference Site: Seawolf 1-12 Fed
Site Error: 0.00 usft
Reference Well: 102H
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Plan #1

Local Co-ordinate Reference: Well 102H
TVD Reference: 3319' GE + 21' KB @ 3340.00usft
MD Reference: 3319' GE + 21' KB @ 3340.00usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at: 2.00 sigma
Database: EDM 5000.1 Multi User Db
Offset TVD Reference: Offset Datum

Offset Design Seawolf 1-12 Fed - 91H - OH - Plan #1													Offset Site Error:	0.00 usft
Survey Program: 0-LEAM MWD+HDGM													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance							
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning	
5,100.00	5,086.07	5,106.27	5,097.62	11.81	11.58	-164.44	62.79	105.32	147.40	125.06	22.34	6.597		
5,200.00	5,185.43	5,206.23	5,197.20	12.08	11.83	-164.38	65.49	113.61	150.21	127.41	22.80	6.588		
5,300.00	5,284.79	5,306.19	5,296.78	12.35	12.08	-164.32	68.18	121.90	153.02	129.76	23.26	6.578		
5,400.00	5,384.14	5,406.15	5,396.36	12.62	12.33	-164.26	70.87	130.18	155.84	132.11	23.72	6.569		
5,500.00	5,483.50	5,506.11	5,495.94	12.90	12.58	-164.20	73.56	138.47	158.65	134.46	24.18	6.560		
5,600.00	5,582.86	5,606.07	5,595.52	13.17	12.83	-164.15	76.26	146.75	161.46	136.81	24.65	6.551		
5,700.00	5,682.21	5,706.03	5,695.10	13.44	13.09	-164.10	78.95	155.04	164.27	139.16	25.11	6.542		
5,800.00	5,781.57	5,805.99	5,794.68	13.72	13.34	-164.05	81.64	163.32	167.09	141.51	25.57	6.534		
5,900.00	5,880.93	5,905.95	5,894.26	13.99	13.60	-164.00	84.33	171.61	169.90	143.86	26.04	6.525		
6,000.00	5,980.29	6,005.91	5,993.84	14.27	13.85	-163.95	87.02	179.90	172.71	146.21	26.50	6.517		
6,100.00	6,079.64	6,105.87	6,093.42	14.54	14.10	-163.91	89.72	188.18	175.53	148.56	26.97	6.509		
6,200.00	6,179.00	6,205.84	6,193.00	14.82	14.36	-163.86	92.41	196.47	178.34	150.91	27.43	6.501		
6,300.00	6,278.36	6,305.80	6,292.58	15.10	14.61	-163.82	95.10	204.75	181.15	153.25	27.90	6.493		
6,400.00	6,377.72	6,405.76	6,392.16	15.37	14.87	-163.78	97.79	213.04	183.97	155.60	28.36	6.486		
6,500.00	6,477.07	6,505.72	6,491.74	15.65	15.13	-163.74	100.49	221.32	186.78	157.95	28.83	6.478		
6,600.00	6,576.43	6,605.68	6,591.32	15.93	15.38	-163.70	103.18	229.61	189.59	160.29	29.30	6.471		
6,700.00	6,675.79	6,705.64	6,690.90	16.21	15.64	-163.66	105.87	237.90	192.41	162.64	29.77	6.464		
6,800.00	6,775.14	6,805.60	6,790.48	16.49	15.89	-163.63	108.56	246.18	195.22	164.99	30.23	6.457		
6,900.00	6,874.50	6,905.56	6,890.06	16.77	16.15	-163.59	111.25	254.47	198.03	167.33	30.70	6.450		
7,000.00	6,973.86	7,005.52	6,989.64	17.05	16.41	-163.56	113.95	262.75	200.85	169.68	31.17	6.443		
7,100.00	7,073.22	7,105.48	7,089.22	17.33	16.66	-163.52	116.64	271.04	203.66	172.02	31.64	6.437		
7,200.00	7,172.57	7,205.44	7,188.80	17.61	16.92	-163.49	119.33	279.32	206.48	174.37	32.11	6.430		
7,300.00	7,271.93	7,305.40	7,288.38	17.89	17.18	-163.46	122.02	287.61	209.29	176.71	32.58	6.424		
7,400.00	7,371.29	7,405.36	7,387.96	18.17	17.44	-163.43	124.72	295.90	212.11	179.05	33.05	6.418		
7,500.00	7,470.64	7,505.32	7,487.54	18.45	17.70	-163.40	127.41	304.18	214.92	181.40	33.52	6.411		
7,600.00	7,570.00	7,605.28	7,587.12	18.73	17.95	-163.37	130.10	312.47	217.73	183.74	33.99	6.405		
7,700.00	7,669.36	7,705.24	7,686.70	19.01	18.21	-163.34	132.79	320.75	220.55	186.09	34.46	6.400		
7,800.00	7,768.72	7,805.20	7,786.28	19.29	18.47	-163.31	135.48	329.04	223.36	188.43	34.93	6.394		
7,900.00	7,868.07	7,905.16	7,885.86	19.57	18.73	-163.29	138.18	337.32	226.18	190.77	35.41	6.388		
8,000.00	7,967.43	8,005.12	7,985.44	19.86	18.99	-163.26	140.87	345.61	228.99	193.11	35.88	6.383		
8,100.00	8,066.79	8,105.08	8,085.02	20.14	19.25	-163.23	143.56	353.90	231.81	195.46	36.35	6.377		
8,200.00	8,166.14	8,205.04	8,184.60	20.42	19.51	-163.21	146.25	362.18	234.62	197.80	36.82	6.372		
8,300.00	8,265.50	8,305.00	8,284.18	20.70	19.76	-163.18	148.94	370.47	237.44	200.14	37.29	6.367		
8,400.00	8,364.86	8,404.96	8,383.76	20.99	20.02	-163.16	151.64	378.75	240.25	202.49	37.77	6.362		
8,500.00	8,464.22	8,504.92	8,483.34	21.27	20.28	-163.14	154.33	387.04	243.07	204.83	38.24	6.357		
8,600.00	8,563.57	8,604.88	8,582.92	21.55	20.54	-163.11	157.02	395.32	245.88	207.17	38.71	6.352		
8,700.00	8,662.93	8,704.84	8,682.50	21.84	20.80	-163.09	159.71	403.61	248.69	209.51	39.18	6.347		
8,800.00	8,762.29	8,804.80	8,782.08	22.12	21.06	-163.07	162.41	411.90	251.51	211.85	39.66	6.342		
8,900.00	8,861.65	8,904.76	8,881.66	22.40	21.32	-163.05	165.10	420.18	254.32	214.19	40.13	6.337		
9,000.00	8,961.00	9,004.72	8,981.24	22.69	21.58	-163.03	167.79	428.47	257.14	216.54	40.60	6.333		
9,100.00	9,060.36	9,104.68	9,080.82	22.97	21.84	-163.01	170.48	436.75	259.95	218.88	41.08	6.328		
9,200.00	9,159.72	9,204.55	9,180.30	23.25	22.10	-162.99	173.17	445.03	262.77	221.22	41.55	6.324		
9,300.00	9,259.07	9,302.42	9,277.84	23.54	22.32	-163.00	175.67	452.71	266.02	224.02	42.00	6.334		
9,400.00	9,358.43	9,400.00	9,375.15	23.82	22.52	-163.09	177.90	459.58	270.05	227.63	42.42	6.366		
9,500.00	9,457.79	9,497.97	9,472.91	24.11	22.71	-163.24	179.88	465.68	274.86	232.03	42.84	6.417		
9,600.00	9,557.15	9,595.62	9,570.41	24.39	22.89	-163.46	181.60	470.97	280.47	237.22	43.25	6.485		
9,700.00	9,656.50	9,693.17	9,667.84	24.68	23.07	-163.73	183.06	475.47	286.86	243.21	43.65	6.572		
9,800.00	9,755.86	9,790.61	9,765.20	24.96	23.25	-164.04	184.26	479.17	294.05	250.00	44.05	6.675		
9,900.00	9,855.22	9,887.92	9,862.47	25.25	23.43	-164.40	185.21	482.08	302.04	257.59	44.45	6.796		
10,000.00	9,954.57	9,985.09	9,959.61	25.53	23.60	-164.80	185.90	484.21	310.83	265.99	44.84	6.932		
10,100.00	10,053.93	10,082.11	10,056.61	25.81	23.77	-165.22	186.34	485.55	320.42	275.19	45.22	7.085		
10,200.00	10,153.29	10,178.95	10,153.46	26.10	23.94	-165.67	186.52	486.11	330.81	285.21	45.61	7.253		

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

LEAM Drilling Systems LLC

Anticollision Report

Company: Devon Energy
 Project: Lea County, NM (NAD-83)
 Reference Site: Seawolf 1-12 Fed
 Site Error: 0.00 usft
 Reference Well: 102H
 Well Error: 0.00 usft
 Reference Wellbore: OH
 Reference Design: Plan #1

Local Co-ordinate Reference: Well 102H
 TVD Reference: 3319' GE + 21' KB @ 3340.00usft
 MD Reference: 3319' GE + 21' KB @ 3340.00usft
 North Reference: Grid
 Survey Calculation Method: Minimum Curvature
 Output errors are at: 2.00 sigma
 Database: EDM 5000.1 Multi User Db
 Offset TVD Reference: Offset Datum

Offset Design Seawolf 1-12 Fed - 91H - OH - Plan #1														Offset Site Error: 0.00 usft
Survey Program: 0-LEAM MWD+HDGM														Offset Well Error: 0.00 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Distance		Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)						
10,300.00	10,252.65	10,277.74	10,252.25	26.38	24.12	-166.14	186.52	486.13	341.78	295.76	46.02	7.427		
10,400.00	10,352.00	10,377.10	10,351.60	26.67	24.31	-166.58	186.52	486.13	352.78	306.34	46.45	7.596		
10,500.00	10,451.36	10,476.46	10,450.96	26.95	24.51	-166.99	186.52	486.13	363.81	316.93	46.88	7.761		
10,540.00	10,491.10	10,516.20	10,490.70	27.07	24.59	-167.15	186.52	486.13	368.22	321.17	47.05	7.826		
10,600.00	10,550.73	10,575.83	10,550.33	27.22	24.71	-167.39	186.52	486.13	374.70	327.40	47.30	7.922		
10,700.00	10,650.20	10,675.29	10,649.80	27.43	24.91	-167.73	186.52	486.13	384.82	337.14	47.69	8.069		
10,800.00	10,749.74	10,774.84	10,749.34	27.65	25.11	-168.04	186.52	486.13	394.11	346.03	48.08	8.197		
10,900.00	10,849.37	10,874.47	10,848.97	27.85	25.31	-168.30	186.52	486.13	402.56	354.09	48.47	8.305		
11,000.00	10,949.07	10,974.16	10,948.67	28.05	25.51	-168.53	186.52	486.13	410.16	361.30	48.87	8.394		
11,100.00	11,048.83	11,073.93	11,048.43	28.25	25.71	-168.72	186.52	486.13	416.91	367.66	49.26	8.464		
11,200.00	11,148.65	11,173.74	11,148.25	28.44	25.91	-168.89	186.52	486.13	422.82	373.17	49.65	8.516		
11,300.00	11,248.52	11,273.61	11,248.12	28.63	26.12	-169.02	186.52	486.13	427.87	377.83	50.04	8.550		
11,400.00	11,348.42	11,373.52	11,348.02	28.81	26.32	-169.14	186.52	486.13	432.07	381.63	50.44	8.567		
11,500.00	11,448.37	11,473.46	11,447.97	28.99	26.52	-169.22	186.52	486.13	435.41	384.58	50.83	8.566		
11,600.00	11,548.33	11,573.43	11,547.93	29.16	26.73	-169.29	186.52	486.13	437.90	386.68	51.22	8.549		
11,700.00	11,648.32	11,673.42	11,647.92	29.33	26.93	-169.33	186.52	486.13	439.52	387.91	51.61	8.516		
11,800.00	11,748.32	11,773.41	11,747.92	29.49	27.13	-169.35	186.52	486.13	440.30	388.29	52.00	8.467		
11,840.00	11,788.32	11,813.41	11,787.92	29.55	27.22	-91.35	186.52	486.13	440.36	388.21	52.16	8.443		
11,900.00	11,848.32	11,873.41	11,847.92	29.66	27.34	-91.35	186.52	486.13	440.36	387.96	52.40	8.403		
12,000.00	11,948.32	11,973.41	11,947.92	29.85	27.54	-91.35	186.52	486.13	440.36	387.54	52.82	8.337		
12,100.00	12,048.32	12,073.41	12,047.92	30.03	27.75	-91.35	186.52	486.13	440.36	387.12	53.24	8.271		
12,108.86	12,057.17	12,082.27	12,056.77	30.05	27.77	-91.35	186.52	486.13	440.36	387.09	53.28	8.265		
12,200.00	12,148.32	12,173.06	12,147.56	30.22	27.95	-91.39	186.21	486.13	440.37	386.72	53.65	8.208		
12,300.00	12,248.32	12,269.70	12,243.42	30.41	28.11	-92.86	174.91	486.13	440.81	386.85	53.97	8.168		
12,400.00	12,348.32	12,360.15	12,330.24	30.59	28.23	-96.10	149.89	486.13	443.10	388.91	54.19	8.177		
12,500.00	12,448.32	12,441.07	12,403.73	30.78	28.33	-100.39	116.17	486.13	449.76	395.46	54.30	8.282		
12,600.00	12,548.32	12,511.21	12,463.05	30.97	28.40	-105.01	78.82	486.12	463.64	409.39	54.25	8.547		
12,633.73	12,582.05	12,532.46	12,480.07	31.04	28.42	-106.55	66.10	486.12	470.36	416.19	54.17	8.682		
12,650.00	12,598.31	12,542.41	12,487.87	31.06	28.43	72.38	59.93	486.12	473.94	419.82	54.13	8.756		
12,700.00	12,648.17	12,572.68	12,510.95	31.14	28.46	69.17	40.34	486.12	485.66	431.72	53.94	9.004		
12,750.00	12,697.52	12,600.00	12,530.85	31.22	28.49	66.25	21.63	486.12	498.19	444.54	53.65	9.286		
12,800.00	12,745.99	12,632.16	12,553.11	31.28	28.52	63.21	-1.57	486.12	511.20	457.79	53.41	9.572		
12,850.00	12,793.22	12,661.46	12,572.23	31.34	28.55	60.51	-23.78	486.12	524.40	471.31	53.09	9.878		
12,900.00	12,838.83	12,690.53	12,590.05	31.40	28.58	58.03	-46.73	486.12	537.54	484.80	52.74	10.193		
12,950.00	12,882.50	12,719.39	12,606.57	31.45	28.61	55.76	-70.39	486.12	550.39	498.02	52.37	10.510		
13,000.00	12,923.87	12,750.00	12,622.76	31.50	28.65	53.65	-96.37	486.12	562.75	510.72	52.03	10.816		
13,050.00	12,962.65	12,776.61	12,635.69	31.54	28.68	51.88	-119.62	486.12	574.44	522.82	51.62	11.129		
13,100.00	12,998.53	12,800.00	12,646.16	31.59	28.72	50.39	-140.54	486.12	585.35	534.19	51.17	11.440		
13,150.00	13,031.24	12,833.30	12,659.57	31.63	28.77	48.86	-171.01	486.12	595.26	544.35	50.91	11.691		
13,200.00	13,060.53	12,861.50	12,669.53	31.68	28.82	47.65	-197.39	486.12	604.16	553.56	50.60	11.939		
13,250.00	13,086.18	12,900.00	12,681.00	31.74	28.90	46.48	-234.14	486.12	612.08	561.60	50.48	12.126		
13,300.00	13,107.99	12,917.68	12,685.44	31.80	28.93	45.79	-251.25	486.12	618.48	568.39	50.09	12.346		
13,350.00	13,125.80	12,950.00	12,692.17	31.88	29.01	45.10	-282.86	486.12	623.80	573.84	49.96	12.486		
13,400.00	13,139.47	12,973.65	12,695.97	31.97	29.08	44.65	-306.20	486.12	627.75	577.96	49.79	12.609		
13,450.00	13,148.90	13,000.00	12,699.06	32.07	29.15	44.34	-332.36	486.12	630.38	580.68	49.70	12.683		
13,500.00	13,154.01	13,029.52	12,701.08	32.20	29.24	44.19	-361.81	486.12	631.63	581.92	49.71	12.706		
13,533.73	13,155.00	13,051.12	12,701.60	32.30	29.32	44.18	-383.40	486.12	631.71	581.96	49.76	12.696		
13,600.00	13,155.00	13,112.43	12,701.93	32.51	29.55	44.20	-444.71	486.12	631.44	581.43	50.01	12.627		
13,700.00	13,155.00	13,212.43	12,702.46	32.91	29.99	44.23	-544.71	486.12	631.06	580.54	50.52	12.491		
13,800.00	13,155.00	13,312.43	12,702.99	33.38	30.52	44.27	-644.71	486.12	630.68	579.52	51.15	12.329		
13,900.00	13,155.00	13,412.43	12,703.51	33.93	31.13	44.30	-744.71	486.12	630.30	578.39	51.90	12.144		
14,000.00	13,155.00	13,512.43	12,704.04	34.55	31.81	44.33	-844.70	486.12	629.92	577.16	52.76	11.939		

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

LEAM Drilling Systems LLC

Anticollision Report

Company: Devon Energy
Project: Lea County, NM (NAD-83)
Reference Site: Seawolf 1-12 Fed
Site Error: 0.00 usft
Reference Well: 102H
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Plan #1

Local Co-ordinate Reference: Well 102H
TVD Reference: 3319' GE + 21' KB @ 3340.00usft
MD Reference: 3319' GE + 21' KB @ 3340.00usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at: 2.00 sigma
Database: EDM 5000.1 Multi User Db
Offset TVD Reference: Offset Datum

Offset Design Seawolf 1-12 Fed - 91H - OH - Plan #1													Offset Site Error: 0.00 usft
Survey Program: 0-LEAM MWD+HDM													Offset Well Error: 0.00 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Distance		Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)					
14,100.00	13,155.00	13,612.43	12,704.57	35.24	32.56	44.37	-944.70	486.12	629.54	575.81	53.73	11.718	
14,200.00	13,155.00	13,712.42	12,705.10	35.99	33.38	44.40	-1,044.70	486.12	629.16	574.37	54.79	11.483	
14,300.00	13,155.00	13,812.42	12,705.63	36.80	34.25	44.43	-1,144.70	486.12	628.78	572.83	55.95	11.238	
14,400.00	13,155.00	13,912.42	12,706.16	37.66	35.18	44.47	-1,244.69	486.12	628.40	571.20	57.20	10.986	
14,500.00	13,155.00	14,012.42	12,706.69	38.58	36.15	44.50	-1,344.69	486.12	628.02	569.49	58.53	10.730	
14,600.00	13,155.00	14,112.42	12,707.22	39.54	37.18	44.54	-1,444.69	486.12	627.64	567.70	59.94	10.471	
14,700.00	13,155.00	14,212.42	12,707.74	40.54	38.24	44.57	-1,544.68	486.12	627.26	565.83	61.42	10.212	
14,800.00	13,155.00	14,312.42	12,708.27	41.59	39.35	44.60	-1,644.68	486.12	626.88	563.90	62.98	9.954	
14,900.00	13,155.00	14,412.41	12,708.80	42.67	40.49	44.64	-1,744.68	486.12	626.50	561.91	64.59	9.699	
15,000.00	13,155.00	14,512.41	12,709.33	43.79	41.66	44.67	-1,844.68	486.12	626.12	559.86	66.27	9.449	
15,100.00	13,155.00	14,612.41	12,709.86	44.94	42.87	44.70	-1,944.67	486.12	625.74	557.75	68.00	9.203	
15,200.00	13,155.00	14,712.41	12,710.39	46.11	44.10	44.74	-2,044.67	486.12	625.37	555.59	69.78	8.962	
15,300.00	13,155.00	14,812.41	12,710.92	47.32	45.35	44.77	-2,144.67	486.12	624.99	553.38	71.61	8.728	
15,400.00	13,155.00	14,912.41	12,711.45	48.55	46.63	44.81	-2,244.66	486.12	624.61	551.13	73.48	8.501	
15,500.00	13,155.00	15,012.41	12,711.97	49.80	47.94	44.84	-2,344.66	486.12	624.23	548.84	75.39	8.280	
15,600.00	13,155.00	15,112.40	12,712.50	51.08	49.26	44.87	-2,444.66	486.12	623.86	546.51	77.34	8.066	
15,700.00	13,155.00	15,212.40	12,713.03	52.37	50.60	44.91	-2,544.66	486.12	623.48	544.15	79.33	7.859	
15,800.00	13,155.00	15,312.40	12,713.56	53.68	51.95	44.94	-2,644.65	486.12	623.10	541.75	81.35	7.659	
15,900.00	13,155.00	15,412.40	12,714.09	55.01	53.33	44.98	-2,744.65	486.12	622.73	539.32	83.40	7.466	
16,000.00	13,155.00	15,512.40	12,714.62	56.36	54.71	45.01	-2,844.65	486.12	622.35	536.87	85.49	7.280	
16,100.00	13,155.00	15,612.40	12,715.15	57.72	56.11	45.04	-2,944.64	486.12	621.98	534.38	87.59	7.101	
16,200.00	13,155.00	15,712.40	12,715.68	59.10	57.52	45.08	-3,044.64	486.12	621.60	531.87	89.73	6.928	
16,300.00	13,155.00	15,812.39	12,716.20	60.48	58.95	45.11	-3,144.64	486.12	621.22	529.34	91.89	6.761	
16,400.00	13,155.00	15,912.39	12,716.73	61.88	60.38	45.15	-3,244.64	486.12	620.85	526.78	94.06	6.600	
16,500.00	13,155.00	16,012.39	12,717.26	63.30	61.83	45.18	-3,344.63	486.12	620.47	524.21	96.27	6.445	
16,600.00	13,155.00	16,112.39	12,717.79	64.72	63.28	45.22	-3,444.63	486.12	620.10	521.61	98.49	6.296	
16,700.00	13,155.00	16,212.39	12,718.32	66.15	64.74	45.25	-3,544.63	486.12	619.72	519.00	100.72	6.153	
16,800.00	13,155.00	16,312.39	12,718.85	67.59	66.21	45.29	-3,644.63	486.12	619.35	516.37	102.98	6.014	
16,900.00	13,155.00	16,412.39	12,719.38	69.04	67.69	45.32	-3,744.62	486.12	618.98	513.72	105.25	5.881	
17,000.00	13,155.00	16,512.39	12,719.91	70.50	69.18	45.35	-3,844.62	486.12	618.60	511.06	107.54	5.752	
17,100.00	13,155.00	16,612.38	12,720.43	71.96	70.67	45.39	-3,944.62	486.12	618.23	508.38	109.85	5.628	
17,200.00	13,155.00	16,712.38	12,720.96	73.43	72.16	45.42	-4,044.61	486.11	617.85	505.69	112.16	5.509	
17,300.00	13,155.00	16,812.38	12,721.49	74.91	73.67	45.46	-4,144.61	486.11	617.48	502.99	114.49	5.393	
17,400.00	13,155.00	16,912.38	12,722.02	76.40	75.18	45.49	-4,244.61	486.11	617.11	500.27	116.84	5.282	
17,500.00	13,155.00	17,012.38	12,722.55	77.89	76.69	45.53	-4,344.61	486.11	616.73	497.54	119.19	5.174	
17,600.00	13,155.00	17,112.38	12,723.08	79.38	78.21	45.56	-4,444.60	486.11	616.36	494.80	121.56	5.070	
17,700.00	13,155.00	17,212.38	12,723.61	80.89	79.73	45.60	-4,544.60	486.11	615.99	492.05	123.94	4.970	
17,800.00	13,155.00	17,312.37	12,724.14	82.39	81.26	45.63	-4,644.60	486.11	615.62	489.29	126.33	4.873	
17,900.00	13,155.00	17,412.37	12,724.67	83.90	82.79	45.67	-4,744.59	486.11	615.25	486.52	128.72	4.780	
18,000.00	13,155.00	17,512.37	12,725.19	85.42	84.33	45.70	-4,844.59	486.11	614.87	483.74	131.13	4.689	
18,100.00	13,155.00	17,612.37	12,725.72	86.94	85.87	45.74	-4,944.59	486.11	614.50	480.95	133.55	4.601	
18,200.00	13,155.00	17,712.37	12,726.25	88.47	87.41	45.77	-5,044.59	486.11	614.13	478.16	135.98	4.516	
18,300.00	13,155.00	17,812.37	12,726.78	89.99	88.95	45.81	-5,144.58	486.11	613.76	475.35	138.41	4.434	
18,400.00	13,155.00	17,912.37	12,727.31	91.53	90.50	45.84	-5,244.58	486.11	613.39	472.54	140.85	4.355	
18,500.00	13,155.00	18,012.36	12,727.84	93.06	92.06	45.88	-5,344.58	486.11	613.02	469.71	143.30	4.278	
18,600.00	13,155.00	18,112.36	12,728.37	94.60	93.61	45.91	-5,444.58	486.11	612.65	466.89	145.76	4.203	
18,700.00	13,155.00	18,212.36	12,728.90	96.14	95.17	45.95	-5,544.57	486.11	612.28	464.05	148.23	4.131	
18,800.00	13,155.00	18,312.36	12,729.42	97.69	96.73	45.99	-5,644.57	486.11	611.91	461.21	150.70	4.060	
18,900.00	13,155.00	18,412.36	12,729.95	99.24	98.29	46.02	-5,744.57	486.11	611.54	458.36	153.18	3.992	
19,000.00	13,155.00	18,512.36	12,730.48	100.79	99.85	46.06	-5,844.56	486.11	611.17	455.50	155.67	3.926	
19,100.00	13,155.00	18,612.36	12,731.01	102.34	101.42	46.09	-5,944.56	486.11	610.80	452.64	158.16	3.862	
19,200.00	13,155.00	18,712.35	12,731.54	103.90	102.99	46.13	-6,044.56	486.11	610.43	449.77	160.66	3.800	

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

LEAM Drilling Systems LLC

Anticollision Report

Company: Devon Energy
 Project: Lea County, NM (NAD-83)
 Reference Site: Seawolf 1-12 Fed
 Site Error: 0.00 usft
 Reference Well: 102H
 Well Error: 0.00 usft
 Reference Wellbore: OH
 Reference Design: Plan #1

Local Co-ordinate Reference: Well 102H
 TVD Reference: 3319' GE + 21' KB @ 3340.00usft
 MD Reference: 3319' GE + 21' KB @ 3340.00usft
 North Reference: Grid
 Survey Calculation Method: Minimum Curvature
 Output errors are at: 2.00 sigma
 Database: EDM 5000.1 Multi User Db
 Offset TVD Reference: Offset Datum

Offset Design Seawolf 1-12 Fed - 91H - OH - Plan #1														Offset Site Error:	0.00 usft
Survey Program: 0-LEAM MWD+HDGM														Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Distance		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)							
19,300.00	13,155.00	18,812.35	12,732.07	105.45	104.56	46.16	-6,144.56	486.11	610.06	446.90	163.16	3.739			
19,400.00	13,155.00	18,912.35	12,732.60	107.01	106.13	46.20	-6,244.55	486.11	609.70	444.02	165.67	3.680			
19,500.00	13,155.00	19,012.35	12,733.13	108.58	107.71	46.23	-6,344.55	486.11	609.33	441.14	168.19	3.623			
19,600.00	13,155.00	19,112.35	12,733.65	110.14	109.28	46.27	-6,444.55	486.11	608.96	438.25	170.71	3.567			
19,700.00	13,155.00	19,212.35	12,734.18	111.71	110.86	46.31	-6,544.54	486.11	608.59	435.35	173.24	3.513			
19,800.00	13,155.00	19,312.35	12,734.71	113.28	112.44	46.34	-6,644.54	486.11	608.22	432.45	175.77	3.460			
19,900.00	13,155.00	19,412.34	12,735.24	114.85	114.02	46.38	-6,744.54	486.11	607.86	429.55	178.31	3.409			
20,000.00	13,155.00	19,512.34	12,735.77	116.42	115.61	46.41	-6,844.54	486.11	607.49	426.64	180.85	3.359			
20,100.00	13,155.00	19,612.34	12,736.30	117.99	117.19	46.45	-6,944.53	486.11	607.12	423.72	183.40	3.310			
20,200.00	13,155.00	19,712.34	12,736.83	119.57	118.78	46.49	-7,044.53	486.11	606.76	420.80	185.95	3.263			
20,300.00	13,155.00	19,812.34	12,737.36	121.14	120.36	46.52	-7,144.53	486.11	606.39	417.88	188.51	3.217			
20,400.00	13,155.00	19,912.34	12,737.88	122.72	121.95	46.56	-7,244.52	486.11	606.02	414.95	191.07	3.172			
20,500.00	13,155.00	20,012.34	12,738.41	124.30	123.54	46.59	-7,344.52	486.11	605.66	412.02	193.64	3.128			
20,600.00	13,155.00	20,112.33	12,738.94	125.88	125.13	46.63	-7,444.52	486.11	605.29	409.08	196.21	3.085			
20,700.00	13,155.00	20,212.33	12,739.47	127.47	126.72	46.67	-7,544.52	486.11	604.93	406.14	198.79	3.043			
20,800.00	13,155.00	20,312.33	12,740.00	129.05	128.31	46.70	-7,644.51	486.11	604.56	403.20	201.36	3.002			
20,900.00	13,155.00	20,412.33	12,740.53	130.64	129.91	46.74	-7,744.51	486.11	604.20	400.25	203.95	2.963			
21,000.00	13,155.00	20,512.33	12,741.06	132.22	131.50	46.77	-7,844.51	486.11	603.83	397.30	206.54	2.924			
21,100.00	13,155.00	20,612.33	12,741.59	133.81	133.10	46.81	-7,944.51	486.11	603.47	394.34	209.13	2.886			
21,200.00	13,155.00	20,712.33	12,742.11	135.40	134.69	46.85	-8,044.50	486.10	603.10	391.38	211.72	2.849			
21,300.00	13,155.00	20,812.33	12,742.64	136.99	136.29	46.88	-8,144.50	486.10	602.74	388.42	214.32	2.812			
21,400.00	13,155.00	20,912.32	12,743.17	138.58	137.89	46.92	-8,244.50	486.10	602.38	385.45	216.93	2.777			
21,500.00	13,155.00	21,012.32	12,743.70	140.17	139.49	46.96	-8,344.49	486.10	602.01	382.48	219.53	2.742			
21,600.00	13,155.00	21,112.32	12,744.23	141.76	141.09	46.99	-8,444.49	486.10	601.65	379.50	222.15	2.708			
21,700.00	13,155.00	21,212.32	12,744.76	143.36	142.69	47.03	-8,544.49	486.10	601.29	376.53	224.76	2.675			
21,800.00	13,155.00	21,312.32	12,745.29	144.95	144.29	47.07	-8,644.49	486.10	600.92	373.55	227.38	2.643			
21,900.00	13,155.00	21,412.32	12,745.82	146.55	145.89	47.10	-8,744.48	486.10	600.56	370.56	230.00	2.611			
22,000.00	13,155.00	21,512.32	12,746.34	148.14	147.50	47.14	-8,844.48	486.10	600.20	367.57	232.63	2.580			
22,100.00	13,155.00	21,612.31	12,746.87	149.74	149.10	47.18	-8,944.48	486.10	599.84	364.58	235.26	2.550			
22,200.00	13,155.00	21,712.31	12,747.40	151.34	150.70	47.21	-9,044.47	486.10	599.48	361.59	237.89	2.520			
22,300.00	13,155.00	21,812.31	12,747.93	152.94	152.31	47.25	-9,144.47	486.10	599.12	358.59	240.52	2.491			
22,400.00	13,155.00	21,912.31	12,748.46	154.54	153.91	47.29	-9,244.47	486.10	598.75	355.59	243.16	2.462			
22,500.00	13,155.00	22,012.31	12,748.99	156.14	155.52	47.32	-9,344.47	486.10	598.39	352.59	245.81	2.434			
22,600.00	13,155.00	22,112.31	12,749.52	157.74	157.13	47.36	-9,444.46	486.10	598.03	349.58	248.45	2.407			
22,700.00	13,155.00	22,212.31	12,750.05	159.34	158.73	47.40	-9,544.46	486.10	597.67	346.57	251.10	2.380			
22,800.00	13,155.00	22,312.30	12,750.57	160.94	160.34	47.44	-9,644.46	486.10	597.31	343.56	253.76	2.354			
22,900.00	13,155.00	22,412.30	12,751.10	162.54	161.95	47.47	-9,744.45	486.10	596.95	340.54	256.41	2.328			
23,000.00	13,155.00	22,512.30	12,751.63	164.15	163.56	47.51	-9,844.45	486.10	596.59	337.52	259.07	2.303			
23,100.00	13,155.00	22,612.30	12,752.16	165.75	165.17	47.55	-9,944.45	486.10	596.23	334.50	261.73	2.278			
23,182.55	13,155.00	22,694.85	12,752.60	167.07	166.50	47.58	-10,026.99	486.10	595.94	332.00	263.93	2.258 SF			

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

LEAM Drilling Systems LLC

Anticollision Report

Company: Devon Energy
 Project: Lea County, NM (NAD-83)
 Reference Site: Seawolf 1-12 Fed
 Site Error: 0.00 usft
 Reference Well: 102H
 Well Error: 0.00 usft
 Reference Wellbore: OH
 Reference Design: Plan #1

Local Co-ordinate Reference: Well 102H
 TVD Reference: 3319' GE + 21' KB @ 3340.00usft
 MD Reference: 3319' GE + 21' KB @ 3340.00usft
 North Reference: Grid
 Survey Calculation Method: Minimum Curvature
 Output errors are at: 2.00 sigma
 Database: EDM 5000.1 Multi User Db
 Offset TVD Reference: Offset Datum

Offset Design Seawolf 1-12 Fed - 92H - OH - Plan #1													Offset Site Error: 0.00 usft
Survey Program: 0-LEAM MWD+HDGM													Offset Well Error: 0.00 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N-S (usft)	+E-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
0.00	0.00	0.00	0.00	0.00	0.00	89.62	0.20	29.99	30.00				
100.00	100.00	99.20	99.20	0.09	0.09	89.62	0.20	29.99	29.99	29.81	0.18	169.578	
200.00	200.00	199.20	199.20	0.31	0.31	89.62	0.20	29.99	29.99	29.37	0.63	47.962	
300.00	300.00	299.20	299.20	0.54	0.54	89.62	0.20	29.99	29.99	28.92	1.07	27.903	
400.00	400.00	399.20	399.20	0.76	0.76	89.62	0.20	29.99	29.99	28.47	1.52	19.674	
500.00	500.00	499.20	499.20	0.99	0.99	89.62	0.20	29.99	29.99	28.02	1.97	15.194	
600.00	600.00	599.20	599.20	1.21	1.21	89.62	0.20	29.99	29.99	27.57	2.42	12.375	
700.00	700.00	699.20	699.20	1.44	1.44	89.62	0.20	29.99	29.99	27.12	2.87	10.439	
800.00	800.00	799.20	799.20	1.66	1.66	89.62	0.20	29.99	29.99	26.67	3.32	9.027	
900.00	900.00	899.20	899.20	1.89	1.89	89.62	0.20	29.99	29.99	26.22	3.77	7.951	
1,000.00	1,000.00	999.20	999.20	2.11	2.11	89.62	0.20	29.99	29.99	25.77	4.22	7.104	
1,100.00	1,100.00	1,099.20	1,099.20	2.34	2.33	89.62	0.20	29.99	29.99	25.32	4.67	6.420	
1,200.00	1,200.00	1,199.20	1,199.20	2.56	2.56	89.62	0.20	29.99	29.99	24.87	5.12	5.857	
1,300.00	1,300.00	1,299.20	1,299.20	2.79	2.78	89.62	0.20	29.99	29.99	24.42	5.57	5.384	
1,400.00	1,400.00	1,399.20	1,399.20	3.01	3.01	89.62	0.20	29.99	29.99	23.97	6.02	4.982	
1,500.00	1,500.00	1,499.20	1,499.20	3.24	3.23	89.62	0.20	29.99	29.99	23.52	6.47	4.636	
1,600.00	1,600.00	1,599.20	1,599.20	3.46	3.46	89.62	0.20	29.99	29.99	23.07	6.92	4.335	
1,700.00	1,700.00	1,699.20	1,699.20	3.69	3.68	89.62	0.20	29.99	29.99	22.62	7.37	4.070	
1,800.00	1,800.00	1,799.20	1,799.20	3.91	3.91	89.62	0.20	29.99	29.99	22.17	7.82	3.836	
1,900.00	1,900.00	1,899.20	1,899.20	4.13	4.13	89.62	0.20	29.99	29.99	21.72	8.27	3.628	
2,000.00	2,000.00	1,999.20	1,999.20	4.36	4.36	89.62	0.20	29.99	29.99	21.27	8.72	3.441	
2,100.00	2,100.00	2,099.20	2,099.20	4.58	4.58	89.62	0.20	29.99	29.99	20.82	9.17	3.272	
2,200.00	2,200.00	2,199.20	2,199.20	4.81	4.81	89.62	0.20	29.99	29.99	20.37	9.62	3.119	
2,300.00	2,300.00	2,299.20	2,299.20	5.03	5.03	89.62	0.20	29.99	29.99	19.93	10.07	2.980	
2,400.00	2,400.00	2,399.20	2,399.20	5.26	5.26	89.62	0.20	29.99	29.99	19.48	10.52	2.852	
2,500.00	2,500.00	2,499.20	2,499.20	5.48	5.48	89.62	0.20	29.99	29.99	19.03	10.96	2.735	
2,600.00	2,599.99	2,598.69	2,598.68	5.70	5.69	11.74	0.32	30.83	29.98	18.60	11.39	2.633	
2,616.94	2,616.93	2,615.54	2,615.53	5.73	5.73	11.78	0.36	31.14	29.98	18.53	11.46	2.617 CC	
2,700.00	2,699.96	2,698.17	2,698.13	5.90	5.89	12.09	0.68	33.38	29.99	18.20	11.79	2.544	
2,800.00	2,799.86	2,797.66	2,797.52	6.11	6.10	12.67	1.28	37.64	30.01	17.82	12.18	2.463	
2,900.00	2,899.68	2,897.14	2,896.82	6.32	6.31	13.47	2.11	43.61	30.04	17.46	12.58	2.388	
3,000.00	2,999.37	2,996.63	2,996.00	6.53	6.52	14.51	3.19	51.29	30.10	17.12	12.98	2.319	
3,100.00	3,098.90	3,096.11	3,095.03	6.75	6.74	15.76	4.51	60.67	30.19	16.82	13.38	2.257	
3,150.00	3,148.61	3,145.85	3,144.48	6.87	6.85	16.47	5.26	66.00	30.25	16.68	13.58	2.228 ES	
3,200.00	3,198.29	3,195.59	3,193.88	6.98	6.96	17.11	6.07	71.75	30.53	16.75	13.77	2.216	
3,300.00	3,297.64	3,295.05	3,292.50	7.21	7.19	17.79	7.86	84.53	32.36	18.18	14.17	2.283	
3,400.00	3,397.00	3,394.41	3,390.78	7.45	7.43	17.71	9.90	98.98	35.87	21.30	14.57	2.462	
3,500.00	3,496.36	3,493.63	3,488.65	7.68	7.69	17.07	12.16	115.10	41.07	26.10	14.97	2.744	
3,600.00	3,595.71	3,593.39	3,586.90	7.93	7.95	16.32	14.57	132.25	47.22	31.82	15.40	3.066	
3,700.00	3,695.07	3,693.20	3,685.20	8.17	8.22	15.74	16.98	149.41	53.39	37.54	15.84	3.370	
3,800.00	3,794.43	3,793.01	3,783.49	8.42	8.50	15.28	19.40	166.57	59.55	43.27	16.28	3.657	
3,900.00	3,893.79	3,892.82	3,881.78	8.67	8.79	14.90	21.81	183.74	65.72	48.99	16.73	3.928	
4,000.00	3,993.14	3,992.63	3,980.07	8.92	9.08	14.59	24.22	200.90	71.89	54.71	17.18	4.185	
4,100.00	4,092.50	4,092.44	4,078.37	9.18	9.37	14.33	26.63	218.06	78.07	60.43	17.63	4.428	
4,200.00	4,191.86	4,192.24	4,176.66	9.43	9.67	14.11	29.04	235.23	84.24	66.16	18.08	4.658	
4,300.00	4,291.21	4,292.05	4,274.95	9.69	9.98	13.92	31.46	252.39	90.42	71.87	18.54	4.877	
4,400.00	4,390.57	4,391.86	4,373.24	9.95	10.28	13.75	33.87	269.55	96.59	77.59	19.00	5.084	
4,500.00	4,489.93	4,491.67	4,471.53	10.22	10.59	13.60	36.28	286.71	102.77	83.31	19.46	5.281	
4,600.00	4,589.29	4,591.48	4,569.83	10.48	10.91	13.47	38.69	303.88	108.95	89.03	19.92	5.469	
4,700.00	4,688.64	4,691.29	4,668.12	10.74	11.23	13.36	41.10	321.04	115.13	94.74	20.38	5.648	
4,800.00	4,788.00	4,791.10	4,766.41	11.01	11.54	13.25	43.52	338.20	121.30	100.45	20.85	5.818	
4,900.00	4,887.36	4,890.90	4,864.70	11.28	11.87	13.16	45.93	355.37	127.48	106.17	21.32	5.981	

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

LEAM Drilling Systems LLC

Anticollision Report

Company: Devon Energy
Project: Lea County, NM (NAD-83)
Reference Site: Seawolf 1-12 Fed
Site Error: 0.00 usft
Reference Well: 102H
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Plan #1

Local Co-ordinate Reference: Well 102H
TVD Reference: 3319' GE + 21' KB @ 3340.00usft
MD Reference: 3319' GE + 21' KB @ 3340.00usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at: 2.00 sigma
Database: EDM 5000.1 Multi User Db
Offset TVD Reference: Offset Datum

Offset Design Seawolf 1-12 Fed - 92H - OH - Plan #1													Offset Site Error:	0.00 usft
Survey Program: 0-LEAM MWD+HDGM													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Distance		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)				Between Centres (usft)	Between Ellipses (usft)	
5,000.00	4,986.71	4,990.71	4,963.00	11.54	12.19	13.07	48.34	372.53	133.66	111.88	21.78	6.136		
5,100.00	5,086.07	5,090.52	5,061.29	11.81	12.52	12.99	50.75	389.69	139.84	117.59	22.25	6.284		
5,200.00	5,185.43	5,190.33	5,159.58	12.08	12.84	12.92	53.16	406.85	146.02	123.30	22.72	6.426		
5,300.00	5,284.79	5,290.14	5,257.87	12.35	13.17	12.85	55.58	424.02	152.20	129.01	23.20	6.562		
5,400.00	5,384.14	5,389.95	5,356.17	12.62	13.51	12.79	57.99	441.18	158.38	134.72	23.67	6.692		
5,500.00	5,483.50	5,489.76	5,454.46	12.90	13.84	12.74	60.40	458.34	164.56	140.42	24.14	6.817		
5,600.00	5,582.86	5,589.57	5,552.75	13.17	14.17	12.69	62.81	475.51	170.75	146.13	24.62	6.936		
5,700.00	5,682.21	5,689.37	5,651.04	13.44	14.51	12.64	65.23	492.67	176.93	151.84	25.09	7.051		
5,800.00	5,781.57	5,789.18	5,749.34	13.72	14.85	12.59	67.64	509.83	183.11	157.54	25.57	7.162		
5,900.00	5,880.93	5,888.99	5,847.63	13.99	15.18	12.55	70.05	526.99	189.29	163.24	26.04	7.268		
6,000.00	5,980.29	5,988.80	5,945.92	14.27	15.52	12.51	72.46	544.16	195.47	168.95	26.52	7.370		
6,100.00	6,079.64	6,088.61	6,044.21	14.54	15.86	12.47	74.87	561.32	201.65	174.65	27.00	7.468		
6,200.00	6,179.00	6,188.42	6,142.51	14.82	16.20	12.44	77.29	578.48	207.83	180.35	27.48	7.563		
6,300.00	6,278.36	6,288.23	6,240.80	15.10	16.54	12.40	79.70	595.65	214.01	186.06	27.96	7.655		
6,400.00	6,377.72	6,388.03	6,339.09	15.37	16.89	12.37	82.11	612.81	220.20	191.76	28.44	7.743		
6,500.00	6,477.07	6,487.84	6,437.38	15.65	17.23	12.34	84.52	629.97	226.38	197.46	28.92	7.828		
6,600.00	6,576.43	6,587.65	6,535.67	15.93	17.57	12.32	86.93	647.14	232.56	203.16	29.40	7.910		
6,700.00	6,675.79	6,687.46	6,633.97	16.21	17.92	12.29	89.35	664.30	238.74	208.86	29.88	7.989		
6,800.00	6,775.14	6,787.27	6,732.26	16.49	18.26	12.27	91.76	681.46	244.92	214.56	30.37	8.066		
6,900.00	6,874.50	6,887.08	6,830.55	16.77	18.61	12.24	94.17	698.62	251.10	220.26	30.85	8.140		
7,000.00	6,973.86	6,986.89	6,928.84	17.05	18.96	12.22	96.58	715.79	257.29	225.95	31.33	8.212		
7,100.00	7,073.22	7,086.70	7,027.14	17.33	19.30	12.20	98.99	732.95	263.47	231.65	31.81	8.281		
7,200.00	7,172.57	7,186.50	7,125.43	17.61	19.65	12.18	101.41	750.11	269.65	237.35	32.30	8.349		
7,300.00	7,271.93	7,286.31	7,223.72	17.89	20.00	12.16	103.82	767.28	275.83	243.05	32.78	8.414		
7,400.00	7,371.29	7,386.12	7,322.01	18.17	20.35	12.14	106.23	784.44	282.01	248.75	33.27	8.477		
7,500.00	7,470.64	7,485.93	7,420.31	18.45	20.70	12.12	108.64	801.60	288.20	254.44	33.75	8.538		
7,600.00	7,570.00	7,585.74	7,518.60	18.73	21.05	12.10	111.06	818.76	294.38	260.14	34.24	8.598		
7,700.00	7,669.36	7,685.55	7,616.89	19.01	21.40	12.09	113.47	835.93	300.56	265.84	34.72	8.656		
7,800.00	7,768.72	7,785.36	7,715.18	19.29	21.75	12.07	115.88	853.09	306.74	271.53	35.21	8.712		
7,900.00	7,868.07	7,885.17	7,813.48	19.57	22.10	12.06	118.29	870.25	312.92	277.23	35.70	8.766		
8,000.00	7,967.43	7,984.97	7,911.77	19.86	22.45	12.04	120.70	887.42	319.11	282.92	36.18	8.819		
8,100.00	8,066.79	8,084.78	8,010.06	20.14	22.80	12.03	123.12	904.58	325.29	288.62	36.67	8.870		
8,200.00	8,166.14	8,184.59	8,108.35	20.42	23.15	12.01	125.53	921.74	331.47	294.31	37.16	8.921		
8,300.00	8,265.50	8,284.40	8,206.65	20.70	23.50	12.00	127.94	938.91	337.65	300.01	37.65	8.969		
8,400.00	8,364.86	8,384.21	8,304.94	20.99	23.86	11.99	130.35	956.07	343.83	305.70	38.13	9.017		
8,500.00	8,464.22	8,484.02	8,403.23	21.27	24.21	11.97	132.76	973.23	350.02	311.40	38.62	9.063		
8,600.00	8,563.57	8,583.83	8,501.52	21.55	24.56	11.96	135.18	990.39	356.20	317.09	39.11	9.108		
8,700.00	8,662.93	8,683.63	8,599.81	21.84	24.91	11.95	137.59	1,007.56	362.38	322.78	39.60	9.152		
8,800.00	8,762.29	8,783.44	8,698.11	22.12	25.27	11.94	140.00	1,024.72	368.56	328.48	40.09	9.194		
8,900.00	8,861.65	8,883.25	8,796.40	22.40	25.62	11.93	142.41	1,041.88	374.75	334.17	40.58	9.236		
9,000.00	8,961.00	8,983.06	8,894.69	22.69	25.97	11.92	144.82	1,059.05	380.93	339.86	41.06	9.276		
9,100.00	9,060.36	9,082.87	8,992.98	22.97	26.33	11.91	147.24	1,076.21	387.11	345.56	41.55	9.316		
9,200.00	9,159.72	9,182.68	9,091.28	23.25	26.68	11.90	149.65	1,093.37	393.29	351.25	42.04	9.354		
9,300.00	9,259.07	9,282.49	9,189.57	23.54	27.04	11.89	152.06	1,110.53	399.48	356.94	42.53	9.392		
9,400.00	9,358.43	9,382.30	9,287.86	23.82	27.39	11.88	154.47	1,127.70	405.66	362.63	43.02	9.429		
9,500.00	9,457.79	9,482.10	9,386.15	24.11	27.75	11.87	156.88	1,144.86	411.84	368.33	43.51	9.465		
9,600.00	9,557.15	9,581.91	9,484.45	24.39	28.10	11.86	159.30	1,162.02	418.02	374.02	44.00	9.500		
9,700.00	9,656.50	9,681.72	9,582.74	24.68	28.46	11.86	161.71	1,179.19	424.20	379.71	44.49	9.534		
9,800.00	9,755.86	9,781.53	9,681.03	24.96	28.81	11.85	164.12	1,196.35	430.39	385.40	44.98	9.568		
9,900.00	9,855.22	9,881.39	9,779.37	25.25	29.17	11.84	166.53	1,213.52	436.57	391.09	45.47	9.600		
10,000.00	9,954.57	9,985.17	9,881.66	25.53	29.45	11.84	168.98	1,230.90	442.29	396.33	45.96	9.624		
10,100.00	10,053.93	10,089.05	9,984.20	25.81	29.73	11.86	171.29	1,247.37	447.12	400.68	46.44	9.629		

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

LEAM Drilling Systems LLC

Anticollision Report

Company: Devon Energy
Project: Lea County, NM (NAD-83)
Reference Site: Seawolf 1-12 Fed
Site Error: 0.00 usft
Reference Well: 102H
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Plan #1

Local Co-ordinate Reference: Well 102H
TVD Reference: 3319' GE + 21' KB @ 3340.00usft
MD Reference: 3319' GE + 21' KB @ 3340.00usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at: 2.00 sigma
Database: EDM 5000.1 Multi User Db
Offset TVD Reference: Offset Datum

Offset Design Seawolf 1-12 Fed - 92H - OH - Plan #1													Offset Site Error: 0.00 usft
Survey Program: 0-LEAM MWD+HDGM													Offset Well Error: 0.00 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Distance		Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)					
10,200.00	10,153.29	10,193.01	10,086.96	26.10	30.00	11.89	173.48	1,262.93	451.05	404.14	46.91	9.615	
10,300.00	10,252.65	10,297.03	10,189.92	26.38	30.26	11.94	175.54	1,277.58	454.08	406.70	47.38	9.584	
10,400.00	10,352.00	10,401.10	10,293.07	26.67	30.51	12.01	177.47	1,291.31	456.21	408.36	47.85	9.535	
10,500.00	10,451.36	10,505.20	10,396.36	26.95	30.76	12.09	179.27	1,304.11	457.45	409.13	48.31	9.469	
10,540.00	10,491.10	10,546.84	10,437.71	27.07	30.86	12.12	179.95	1,308.97	457.69	409.19	48.49	9.438	
10,600.00	10,550.73	10,609.31	10,499.78	27.22	31.00	12.18	180.93	1,315.98	457.93	409.18	48.76	9.392	
10,700.00	10,650.20	10,713.43	10,603.31	27.43	31.24	12.27	182.47	1,326.93	458.31	409.14	49.17	9.322	
10,800.00	10,749.74	10,817.55	10,706.93	27.65	31.46	12.35	183.88	1,336.94	458.64	409.07	49.57	9.253	
10,900.00	10,849.37	10,921.67	10,810.65	27.85	31.68	12.43	185.16	1,346.02	458.93	408.96	49.97	9.185	
11,000.00	10,949.07	11,025.79	10,914.45	28.05	31.89	12.49	186.30	1,354.16	459.16	408.81	50.36	9.118	
11,100.00	11,048.83	11,129.92	11,018.32	28.25	32.10	12.55	187.31	1,361.38	459.36	408.61	50.74	9.053	
11,200.00	11,148.65	11,234.04	11,122.25	28.44	32.29	12.60	188.20	1,367.65	459.50	408.38	51.12	8.988	
11,300.00	11,248.52	11,338.17	11,226.24	28.63	32.48	12.65	188.95	1,373.00	459.60	408.11	51.49	8.925	
11,400.00	11,348.42	11,442.30	11,330.27	28.81	32.67	12.69	189.57	1,377.40	459.66	407.79	51.86	8.863	
11,500.00	11,448.37	11,546.43	11,434.34	28.99	32.84	12.72	190.05	1,380.87	459.66	407.44	52.22	8.802	
11,600.00	11,548.33	11,650.56	11,538.44	29.16	33.01	12.74	190.41	1,383.40	459.62	407.04	52.58	8.742	
11,700.00	11,648.32	11,754.68	11,642.55	29.33	33.17	12.76	190.63	1,385.00	459.54	406.61	52.93	8.683	
11,800.00	11,748.32	11,858.81	11,746.68	29.49	33.33	12.77	190.73	1,385.66	459.40	406.13	53.27	8.624	
11,840.00	11,788.32	11,899.65	11,787.52	29.55	33.39	90.77	190.73	1,385.68	459.35	405.94	53.41	8.600	
11,900.00	11,848.32	11,959.65	11,847.52	29.66	33.49	90.77	190.73	1,385.68	459.35	405.70	53.65	8.562	
12,000.00	11,948.32	12,059.65	11,947.52	29.85	33.65	90.77	190.73	1,385.68	459.35	405.30	54.05	8.499	
12,100.00	12,048.32	12,159.65	12,047.52	30.03	33.82	90.77	190.73	1,385.68	459.35	404.90	54.45	8.436	
12,112.06	12,060.38	12,171.71	12,059.58	30.05	33.84	90.77	190.73	1,385.68	459.35	404.85	54.50	8.429	
12,200.00	12,148.32	12,259.52	12,147.38	30.22	33.98	90.79	190.60	1,385.68	459.35	404.50	54.85	8.375	
12,300.00	12,248.32	12,357.09	12,244.29	30.41	34.11	92.08	180.26	1,385.68	459.62	404.32	55.30	8.311	
12,400.00	12,348.32	12,450.00	12,333.67	30.59	34.22	95.18	155.28	1,385.68	461.40	405.54	55.86	8.259	
12,500.00	12,448.32	12,530.71	12,407.17	30.78	34.30	99.25	122.09	1,385.68	467.11	410.62	56.49	8.269	
12,600.00	12,548.32	12,600.00	12,466.03	30.97	34.36	103.62	85.61	1,385.68	479.58	422.57	57.01	8.413	
12,633.73	12,582.05	12,623.38	12,484.84	31.04	34.37	105.24	71.73	1,385.68	485.73	428.58	57.15	8.499	
12,650.00	12,598.31	12,633.46	12,492.77	31.06	34.38	-73.73	65.51	1,385.68	489.03	431.83	57.20	8.550	
12,700.00	12,648.17	12,664.12	12,516.21	31.14	34.41	-70.63	45.74	1,385.68	499.88	442.65	57.24	8.734	
12,750.00	12,697.52	12,700.00	12,542.24	31.22	34.43	-67.33	21.06	1,385.68	511.62	454.37	57.26	8.936	
12,800.00	12,745.99	12,724.29	12,558.97	31.28	34.45	-64.85	3.45	1,385.68	523.81	466.85	56.96	9.196	
12,850.00	12,793.22	12,750.00	12,575.84	31.34	34.47	-62.40	-15.94	1,385.68	536.32	479.72	56.60	9.475	
12,900.00	12,838.83	12,783.26	12,596.35	31.40	34.50	-59.77	-42.12	1,385.68	548.78	492.46	56.33	9.743	
12,950.00	12,882.50	12,812.39	12,613.04	31.45	34.53	-57.53	-65.99	1,385.69	561.04	505.13	55.92	10.034	
13,000.00	12,923.87	12,850.00	12,632.75	31.50	34.56	-55.21	-98.01	1,385.69	572.98	517.34	55.64	10.298	
13,050.00	12,962.65	12,870.12	12,642.42	31.54	34.58	-53.68	-115.65	1,385.69	584.12	529.06	55.06	10.609	
13,100.00	12,998.53	12,900.00	12,655.63	31.59	34.62	-52.03	-142.45	1,385.69	594.62	539.95	54.67	10.876	
13,150.00	13,031.24	12,927.28	12,666.45	31.63	34.65	-50.65	-167.50	1,385.69	604.24	549.95	54.29	11.130	
13,200.00	13,060.53	12,950.00	12,674.55	31.68	34.68	-49.52	-188.72	1,385.69	612.94	559.01	53.92	11.367	
13,250.00	13,086.18	12,984.04	12,685.09	31.74	34.73	-48.39	-221.08	1,385.69	620.47	566.69	53.77	11.539	
13,300.00	13,107.99	13,012.31	12,692.36	31.80	34.78	-47.54	-248.39	1,385.69	626.89	573.25	53.65	11.685	
13,350.00	13,125.80	13,050.00	12,699.96	31.88	34.85	-46.78	-285.31	1,385.69	632.24	578.56	53.67	11.780	
13,400.00	13,139.47	13,068.68	12,702.82	31.97	34.89	-46.36	-303.77	1,385.69	636.07	582.35	53.72	11.840	
13,450.00	13,148.90	13,100.00	12,706.26	32.07	34.96	-46.02	-334.89	1,385.69	638.75	584.82	53.94	11.843	
13,500.00	13,154.01	13,124.94	12,707.77	32.20	35.02	-45.86	-359.79	1,385.69	640.09	585.81	54.28	11.793	
13,533.73	13,155.00	13,144.07	12,708.20	32.30	35.07	-45.84	-378.91	1,385.70	640.25	585.68	54.57	11.732	
13,600.00	13,155.00	13,210.34	12,708.63	32.51	35.26	-45.87	-445.17	1,385.70	639.96	584.87	55.09	11.617	
13,700.00	13,155.00	13,310.33	12,709.27	32.91	35.62	-45.91	-545.17	1,385.70	639.52	583.56	55.95	11.430	
13,800.00	13,155.00	13,410.33	12,709.92	33.38	36.04	-45.96	-645.16	1,385.70	639.07	582.15	56.92	11.228	
13,900.00	13,155.00	13,510.33	12,710.56	33.93	36.54	-46.00	-745.16	1,385.71	638.63	580.65	57.98	11.014	

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

LEAM Drilling Systems LLC

Anticollision Report

Company: Devon Energy
Project: Lea County, NM (NAD-83)
Reference Site: Seawolf 1-12 Fed
Site Error: 0.00 usft
Reference Well: 102H
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Plan #1

Local Co-ordinate Reference: Well 102H
TVD Reference: 3319' GE + 21' KB @ 3340.00usft
MD Reference: 3319' GE + 21' KB @ 3340.00usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at 2.00 sigma
Database: EDM 5000.1 Multi User Db
Offset TVD Reference: Offset Datum

Offset Design Seawolf 1-12 Fed - 92H - OH - Plan #1												Offset Site Error: 0.00 usft
Survey Program: O-LEAM MWD+HDGM												Offset Well Error: 0.00 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Distance		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)				
14,000.00	13,155.00	13,610.33	12,711.20	34.55	37.11	-46.04	-845.16	1,385.71	638.19	579.05	59.14	10.791
14,100.00	13,155.00	13,710.33	12,711.84	35.24	37.74	-46.08	-945.15	1,385.71	637.75	577.36	60.39	10.560
14,200.00	13,155.00	13,810.32	12,712.49	35.99	38.44	-46.12	-1,045.15	1,385.72	637.31	575.59	61.72	10.326
14,300.00	13,155.00	13,910.32	12,713.13	36.80	39.19	-46.17	-1,145.14	1,385.72	636.87	573.74	63.13	10.088
14,400.00	13,155.00	14,010.32	12,713.77	37.66	39.99	-46.21	-1,245.14	1,385.72	636.43	571.81	64.61	9.850
14,500.00	13,155.00	14,110.32	12,714.42	38.58	40.85	-46.25	-1,345.14	1,385.72	635.99	569.82	66.16	9.612
14,600.00	13,155.00	14,210.32	12,715.06	39.54	41.76	-46.29	-1,445.13	1,385.73	635.55	567.77	67.78	9.377
14,700.00	13,155.00	14,310.31	12,715.70	40.54	42.71	-46.33	-1,545.13	1,385.73	635.11	565.65	69.45	9.144
14,800.00	13,155.00	14,410.31	12,716.34	41.59	43.70	-46.38	-1,645.12	1,385.73	634.67	563.48	71.19	8.916
14,900.00	13,155.00	14,510.31	12,716.99	42.67	44.73	-46.42	-1,745.12	1,385.74	634.23	561.26	72.97	8.692
15,000.00	13,155.00	14,610.31	12,717.63	43.79	45.80	-46.46	-1,845.11	1,385.74	633.79	558.99	74.80	8.473
15,100.00	13,155.00	14,710.31	12,718.27	44.94	46.90	-46.50	-1,945.11	1,385.74	633.35	556.67	76.68	8.259
15,200.00	13,155.00	14,810.30	12,718.92	46.11	48.03	-46.55	-2,045.11	1,385.75	632.91	554.31	78.61	8.052
15,300.00	13,155.00	14,910.30	12,719.56	47.32	49.19	-46.59	-2,145.10	1,385.75	632.48	551.91	80.57	7.850
15,400.00	13,155.00	15,010.30	12,720.20	48.55	50.37	-46.63	-2,245.10	1,385.75	632.04	549.47	82.57	7.655
15,500.00	13,155.00	15,110.30	12,720.85	49.80	51.58	-46.68	-2,345.09	1,385.76	631.60	547.00	84.60	7.466
15,600.00	13,155.00	15,210.29	12,721.49	51.08	52.82	-46.72	-2,445.09	1,385.76	631.17	544.50	86.67	7.283
15,700.00	13,155.00	15,310.29	12,722.13	52.37	54.07	-46.76	-2,545.09	1,385.76	630.73	541.97	88.76	7.106
15,800.00	13,155.00	15,410.29	12,722.77	53.68	55.34	-46.80	-2,645.08	1,385.76	630.30	539.41	90.89	6.935
15,900.00	13,155.00	15,510.29	12,723.42	55.01	56.64	-46.85	-2,745.08	1,385.77	629.86	536.82	93.04	6.770
16,000.00	13,155.00	15,610.29	12,724.06	56.36	57.95	-46.89	-2,845.07	1,385.77	629.43	534.20	95.22	6.610
16,100.00	13,155.00	15,710.28	12,724.70	57.72	59.27	-46.93	-2,945.07	1,385.77	628.99	531.57	97.42	6.456
16,200.00	13,155.00	15,810.28	12,725.35	59.10	60.62	-46.98	-3,045.07	1,385.78	628.56	528.91	99.65	6.308
16,300.00	13,155.00	15,910.28	12,725.99	60.48	61.97	-47.02	-3,145.06	1,385.78	628.12	526.23	101.89	6.165
16,400.00	13,155.00	16,010.28	12,726.63	61.88	63.34	-47.06	-3,245.06	1,385.78	627.69	523.53	104.16	6.026
16,500.00	13,155.00	16,110.28	12,727.27	63.30	64.72	-47.11	-3,345.05	1,385.79	627.26	520.81	106.44	5.893
16,600.00	13,155.00	16,210.27	12,727.92	64.72	66.11	-47.15	-3,445.05	1,385.79	626.82	518.08	108.75	5.764
16,700.00	13,155.00	16,310.27	12,728.56	66.15	67.52	-47.19	-3,545.04	1,385.79	626.39	515.33	111.06	5.640
16,800.00	13,155.00	16,410.27	12,729.20	67.59	68.93	-47.24	-3,645.04	1,385.80	625.96	512.56	113.40	5.520
16,900.00	13,155.00	16,510.27	12,729.85	69.04	70.36	-47.28	-3,745.04	1,385.80	625.53	509.78	115.75	5.404
17,000.00	13,155.00	16,610.27	12,730.49	70.50	71.79	-47.32	-3,845.03	1,385.80	625.10	506.98	118.12	5.292
17,100.00	13,155.00	16,710.26	12,731.13	71.96	73.23	-47.37	-3,945.03	1,385.80	624.67	504.17	120.49	5.184
17,200.00	13,155.00	16,810.26	12,731.77	73.43	74.68	-47.41	-4,045.02	1,385.81	624.24	501.35	122.89	5.080
17,300.00	13,155.00	16,910.26	12,732.42	74.91	76.13	-47.46	-4,145.02	1,385.81	623.81	498.51	125.29	4.979
17,400.00	13,155.00	17,010.26	12,733.06	76.40	77.60	-47.50	-4,245.02	1,385.81	623.38	495.67	127.71	4.881
17,500.00	13,155.00	17,110.26	12,733.70	77.89	79.07	-47.54	-4,345.01	1,385.82	622.95	492.81	130.14	4.787
17,600.00	13,155.00	17,210.25	12,734.35	79.38	80.54	-47.59	-4,445.01	1,385.82	622.52	489.94	132.58	4.696
17,700.00	13,155.00	17,310.25	12,734.99	80.89	82.02	-47.63	-4,545.00	1,385.82	622.09	487.06	135.03	4.607
17,800.00	13,155.00	17,410.25	12,735.63	82.39	83.51	-47.68	-4,645.00	1,385.83	621.66	484.17	137.49	4.522
17,900.00	13,155.00	17,510.25	12,736.27	83.90	85.01	-47.72	-4,745.00	1,385.83	621.23	481.27	139.96	4.439
18,000.00	13,155.00	17,610.25	12,736.92	85.42	86.50	-47.76	-4,844.99	1,385.83	620.81	478.37	142.44	4.358
18,100.00	13,155.00	17,710.24	12,737.56	86.94	88.01	-47.81	-4,944.99	1,385.83	620.38	475.45	144.93	4.281
18,200.00	13,155.00	17,810.24	12,738.20	88.47	89.52	-47.85	-5,044.98	1,385.84	619.95	472.53	147.42	4.205
18,300.00	13,155.00	17,910.24	12,738.85	89.99	91.03	-47.90	-5,144.98	1,385.84	619.52	469.59	149.93	4.132
18,400.00	13,155.00	18,010.24	12,739.49	91.53	92.54	-47.94	-5,244.97	1,385.84	619.10	466.65	152.44	4.061
18,500.00	13,155.00	18,110.23	12,740.13	93.06	94.06	-47.99	-5,344.97	1,385.85	618.67	463.71	154.97	3.992
18,600.00	13,155.00	18,210.23	12,740.77	94.60	95.59	-48.03	-5,444.97	1,385.85	618.25	460.75	157.50	3.925
18,700.00	13,155.00	18,310.23	12,741.42	96.14	97.12	-48.08	-5,544.96	1,385.85	617.82	457.79	160.03	3.861
18,800.00	13,155.00	18,410.23	12,742.06	97.69	98.65	-48.12	-5,644.96	1,385.86	617.40	454.82	162.58	3.798
18,900.00	13,155.00	18,510.23	12,742.70	99.24	100.18	-48.17	-5,744.95	1,385.86	616.97	451.84	165.13	3.736
19,000.00	13,155.00	18,610.22	12,743.35	100.79	101.72	-48.21	-5,844.95	1,385.86	616.55	448.86	167.69	3.677
19,100.00	13,155.00	18,710.22	12,743.99	102.34	103.26	-48.26	-5,944.95	1,385.87	616.13	445.87	170.25	3.619

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

LEAM Drilling Systems LLC

Anticollision Report

Company: Devon Energy
 Project: Lea County, NM (NAD-83)
 Reference Site: Seawolf 1-12 Fed
 Site Error: 0.00 usft
 Reference Well: 102H
 Well Error: 0.00 usft
 Reference Wellbore: OH
 Reference Design: Plan #1

Local Co-ordinate Reference: Well 102H
 TVD Reference: 3319' GE + 21' KB @ 3340.00usft
 MD Reference: 3319' GE + 21' KB @ 3340.00usft
 North Reference: Grid
 Survey Calculation Method: Minimum Curvature
 Output errors are at 2.00 sigma
 Database: EDM 5000.1 Multi User Db
 Offset TVD Reference: Offset Datum

Offset Design Seawolf 1-12 Fed - 92H - OH - Plan #1														Offset Site Error: 0.00 usft
Survey Program: 0-LEAM MWD+HDGM														Offset Well Error: 0.00 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Distance		Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)						
19,200.00	13,155.00	18,810.22	12,744.63	103.90	104.80	-48.30	-6,044.94	1,385.87	615.70	442.88	172.83	3.563		
19,300.00	13,155.00	18,910.22	12,745.27	105.45	106.35	-48.35	-6,144.94	1,385.87	615.28	439.88	175.40	3.508		
19,400.00	13,155.00	19,010.22	12,745.92	107.01	107.90	-48.39	-6,244.93	1,385.87	614.86	436.87	177.99	3.454		
19,500.00	13,155.00	19,110.21	12,746.56	108.58	109.45	-48.44	-6,344.93	1,385.88	614.44	433.86	180.58	3.403		
19,600.00	13,155.00	19,210.21	12,747.20	110.14	111.00	-48.48	-6,444.92	1,385.88	614.02	430.84	183.17	3.352		
19,700.00	13,155.00	19,310.21	12,747.85	111.71	112.56	-48.53	-6,544.92	1,385.88	613.59	427.82	185.78	3.303		
19,800.00	13,155.00	19,410.21	12,748.49	113.28	114.11	-48.57	-6,644.92	1,385.89	613.17	424.79	188.38	3.255		
19,900.00	13,155.00	19,510.21	12,749.13	114.85	115.67	-48.62	-6,744.91	1,385.89	612.75	421.76	191.00	3.208		
20,000.00	13,155.00	19,610.20	12,749.77	116.42	117.24	-48.66	-6,844.91	1,385.89	612.33	418.72	193.61	3.163		
20,100.00	13,155.00	19,710.20	12,750.42	117.99	118.80	-48.71	-6,944.90	1,385.90	611.91	415.67	196.24	3.118		
20,200.00	13,155.00	19,810.20	12,751.06	119.57	120.37	-48.76	-7,044.90	1,385.90	611.49	412.63	198.87	3.075		
20,300.00	13,155.00	19,910.20	12,751.70	121.14	121.93	-48.80	-7,144.90	1,385.90	611.08	409.57	201.50	3.033		
20,400.00	13,155.00	20,010.20	12,752.35	122.72	123.50	-48.85	-7,244.89	1,385.91	610.66	406.52	204.14	2.991		
20,500.00	13,155.00	20,110.19	12,752.99	124.30	125.07	-48.89	-7,344.89	1,385.91	610.24	403.46	206.78	2.951		
20,600.00	13,155.00	20,210.19	12,753.63	125.88	126.65	-48.94	-7,444.88	1,385.91	609.82	400.39	209.43	2.912		
20,700.00	13,155.00	20,310.19	12,754.27	127.47	128.22	-48.98	-7,544.88	1,385.91	609.40	397.32	212.09	2.873		
20,800.00	13,155.00	20,410.19	12,754.92	129.05	129.80	-49.03	-7,644.88	1,385.92	608.99	394.24	214.74	2.836		
20,900.00	13,155.00	20,510.19	12,755.56	130.64	131.37	-49.08	-7,744.87	1,385.92	608.57	391.16	217.41	2.799		
21,000.00	13,155.00	20,610.18	12,756.20	132.22	132.95	-49.12	-7,844.87	1,385.92	608.15	388.08	220.07	2.763		
21,100.00	13,155.00	20,710.18	12,756.85	133.81	134.53	-49.17	-7,944.86	1,385.93	607.74	384.99	222.75	2.728		
21,200.00	13,155.00	20,810.18	12,757.49	135.40	136.11	-49.22	-8,044.86	1,385.93	607.32	381.90	225.42	2.694		
21,300.00	13,155.00	20,910.18	12,758.13	136.99	137.69	-49.26	-8,144.85	1,385.93	606.91	378.81	228.10	2.661		
21,400.00	13,155.00	21,010.18	12,758.77	138.58	139.28	-49.31	-8,244.85	1,385.94	606.49	375.71	230.79	2.628		
21,500.00	13,155.00	21,110.17	12,759.42	140.17	140.86	-49.35	-8,344.85	1,385.94	606.08	372.60	233.48	2.596		
21,600.00	13,155.00	21,210.17	12,760.06	141.76	142.45	-49.40	-8,444.84	1,385.94	605.67	369.50	236.17	2.565		
21,700.00	13,155.00	21,310.17	12,760.70	143.36	144.03	-49.45	-8,544.84	1,385.94	605.25	366.39	238.87	2.534		
21,800.00	13,155.00	21,410.17	12,761.35	144.95	145.62	-49.49	-8,644.83	1,385.95	604.84	363.27	241.57	2.504		
21,900.00	13,155.00	21,510.16	12,761.99	146.55	147.21	-49.54	-8,744.83	1,385.95	604.43	360.15	244.27	2.474		
22,000.00	13,155.00	21,610.16	12,762.63	148.14	148.80	-49.59	-8,844.83	1,385.95	604.02	357.03	246.98	2.446		
22,100.00	13,155.00	21,710.16	12,763.27	149.74	150.39	-49.63	-8,944.82	1,385.96	603.60	353.91	249.70	2.417		
22,200.00	13,155.00	21,810.16	12,763.92	151.34	151.98	-49.68	-9,044.82	1,385.96	603.19	350.78	252.41	2.390		
22,300.00	13,155.00	21,910.16	12,764.56	152.94	153.58	-49.73	-9,144.81	1,385.96	602.78	347.65	255.14	2.363		
22,400.00	13,155.00	22,010.15	12,765.20	154.54	155.17	-49.78	-9,244.81	1,385.97	602.37	344.51	257.86	2.336		
22,500.00	13,155.00	22,110.15	12,765.85	156.14	156.76	-49.82	-9,344.81	1,385.97	601.96	341.37	260.59	2.310		
22,600.00	13,155.00	22,210.15	12,766.49	157.74	158.36	-49.87	-9,444.80	1,385.97	601.55	338.23	263.32	2.284		
22,700.00	13,155.00	22,310.15	12,767.13	159.34	159.96	-49.92	-9,544.80	1,385.98	601.14	335.08	266.06	2.259		
22,800.00	13,155.00	22,410.15	12,767.78	160.94	161.55	-49.96	-9,644.79	1,385.98	600.73	331.93	268.80	2.235		
22,900.00	13,155.00	22,510.14	12,768.42	162.54	163.15	-50.01	-9,744.79	1,385.98	600.32	328.78	271.54	2.211		
23,000.00	13,155.00	22,610.14	12,769.06	164.15	164.75	-50.06	-9,844.78	1,385.98	599.92	325.62	274.29	2.187		
23,100.00	13,155.00	22,710.14	12,769.70	165.75	166.31	-50.11	-9,944.78	1,385.99	599.51	322.50	277.01	2.164		
23,179.57	13,155.00	22,787.99	12,770.20	167.03	167.31	-50.14	-10,022.63	1,385.99	599.19	320.20	278.99	2.148		
23,182.55	13,155.00	22,787.99	12,770.20	167.07	167.31	-50.14	-10,022.63	1,385.99	599.19	320.01	279.19	2.146 SF		

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

LEAM Drilling Systems LLC

Anticollision Report

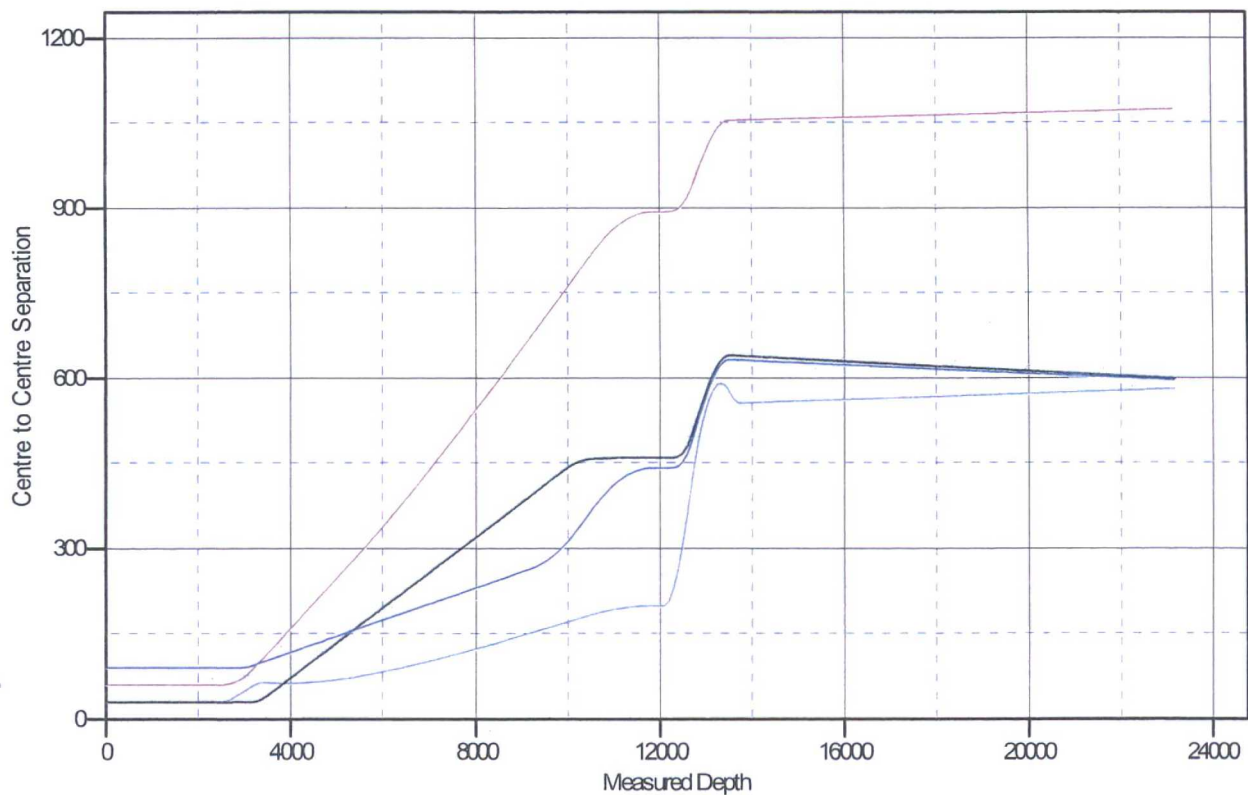
Company: Devon Energy
Project: Lea County, NM (NAD-83)
Reference Site: Seawolf 1-12 Fed
Site Error: 0.00 usft
Reference Well: 102H
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Plan #1

Local Co-ordinate Reference: Well 102H
TVD Reference: 3319' GE + 21' KB @ 3340.00usft
MD Reference: 3319' GE + 21' KB @ 3340.00usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at: 2.00 sigma
Database: EDM 5000.1 Multi User Db
Offset TVD Reference: Offset Datum

Reference Depths are relative to 3319' GE + 21' KB @ 3340.00usft
Offset Depths are relative to Offset Datum
Central Meridian is 104° 20' 0.000 W

Coordinates are relative to: 102H
Coordinate System is US State Plane 1983, New Mexico Eastern Zone
Grid Convergence at Surface is: 0.42°

Ladder Plot



LEGEND

81H, OH, Plan #1 V0 92H, OH, Plan #1 V0
82H, OH, Plan #1 V0 91H, OH, Plan #1 V0

LEAM Drilling Systems LLC

Anticollision Report

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