

Devon Energy

Lea County, NM (NAD-83)

Seawolf 1-12 Fed

82H

OH

Plan #1

Anticollision Report

23 January, 2017

LEAM Drilling Systems LLC

Anticollision Report

Company:	Devon Energy	Local Co-ordinate Reference:	Well 82H
Project:	Lea County, NM (NAD-83)	TVD Reference:	3318.6' GE + 21' KB @ 3339.60usft
Reference Site:	Seawolf 1-12 Fed	MD Reference:	3318.6' GE + 21' KB @ 3339.60usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	82H	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	Error Model:	ISCWSA
Depth Range:	Unlimited	Scan Method:	Closest Approach 3D
Results Limited by:	Maximum center-center distance of 9,999.98 usft	Error Surface:	Elliptical Conic
Warning Levels Evaluated at:	2.00 Sigma	Casing Method:	Not applied

Survey Tool Program	Date	1/23/2017		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
0.00	22,434.62	Plan #1 (OH)	LEAM MWD+HDGM	MWD+HDGM

Summary						
Site Name	Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance Between Centres (usft)	Between Ellipses (usft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
Seawolf 1-12 Fed						
102H - OH - Plan #1	2,416.53	2,416.93	30.02	19.43	2.834	CC
102H - OH - Plan #1	2,500.00	2,500.40	30.02	19.05	2.737	ES
102H - OH - Plan #1	2,600.00	2,600.00	30.88	19.48	2.708	SF
81H - OH - Plan #1	2,844.77	2,845.08	27.05	14.55	2.164	CC, ES
81H - OH - Plan #1	2,900.00	2,900.22	27.47	14.73	2.156	SF
91H - OH - Plan #1	3,222.64	3,226.41	38.23	24.23	2.731	CC, ES
91H - OH - Plan #1	22,434.80	22,691.70	485.71	169.65	1.537	SF
92H - OH - Plan #1	2,500.00	2,499.60	60.01	49.05	5.473	CC, ES
92H - OH - Plan #1	22,434.80	22,787.99	488.98	181.47	1.590	SF

Offset Design														Offset Site Error:	0.00 usft
Survey Program: 0-LEAM MWD+HDGM														Offset Well Error:	0.00 usft
Reference	Offset	Semi Major Axis		Distance		Minimum Separation		Warning							
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor			
0.00	0.00	0.40	0.40	0.00	0.00	89.52	0.25	30.02	30.02						
100.00	100.00	100.40	100.40	0.09	0.09	89.52	0.25	30.02	30.02	29.84	0.18	168.219			
200.00	200.00	200.40	200.40	0.31	0.31	89.52	0.25	30.02	30.02	29.39	0.63	47.804			
300.00	300.00	300.40	300.40	0.54	0.54	89.52	0.25	30.02	30.02	28.94	1.08	27.861			
400.00	400.00	400.40	400.40	0.76	0.76	89.52	0.25	30.02	30.02	28.49	1.53	19.659			
500.00	500.00	500.40	500.40	0.99	0.99	89.52	0.25	30.02	30.02	28.04	1.98	15.188			
600.00	600.00	600.40	600.40	1.21	1.21	89.52	0.25	30.02	30.02	27.59	2.43	12.374			
700.00	700.00	700.40	700.40	1.44	1.44	89.52	0.25	30.02	30.02	27.15	2.88	10.440			
800.00	800.00	800.40	800.40	1.66	1.66	89.52	0.25	30.02	30.02	26.70	3.33	9.028			
900.00	900.00	900.40	900.40	1.89	1.89	89.52	0.25	30.02	30.02	26.25	3.77	7.953			
1,000.00	1,000.00	1,000.40	1,000.40	2.11	2.11	89.52	0.25	30.02	30.02	25.80	4.22	7.107			
1,100.00	1,100.00	1,100.40	1,100.40	2.34	2.34	89.52	0.25	30.02	30.02	25.35	4.67	6.423			
1,200.00	1,200.00	1,200.40	1,200.40	2.56	2.56	89.52	0.25	30.02	30.02	24.90	5.12	5.860			
1,300.00	1,300.00	1,300.40	1,300.40	2.79	2.79	89.52	0.25	30.02	30.02	24.45	5.57	5.387			
1,400.00	1,400.00	1,400.40	1,400.40	3.01	3.01	89.52	0.25	30.02	30.02	24.00	6.02	4.985			
1,500.00	1,500.00	1,500.40	1,500.40	3.24	3.24	89.52	0.25	30.02	30.02	23.55	6.47	4.639			
1,600.00	1,600.00	1,600.40	1,600.40	3.46	3.46	89.52	0.25	30.02	30.02	23.10	6.92	4.337			
1,700.00	1,700.00	1,700.40	1,700.40	3.69	3.69	89.52	0.25	30.02	30.02	22.65	7.37	4.073			

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

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Anticollision Report

Company: Devon Energy
Project: Lea County, NM (NAD-83)
Reference Site: Seawolf 1-12 Fed
Site Error: 0.00 usft
Reference Well: 82H
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Plan #1

Local Co-ordinate Reference: Well 82H
TVD Reference: 3318.6' GE + 21' KB @ 3339.60usft
MD Reference: 3318.6' GE + 21' KB @ 3339.60usft
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 - 102H - 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		Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
							+N/-S (usft)	+E/-W (usft)						
1,800.00	1,800.00	1,800.40	1,800.40	3.91	3.91	89.52	0.25	30.02	30.02	22.20	7.82	3.839		
1,900.00	1,900.00	1,900.40	1,900.40	4.13	4.14	89.52	0.25	30.02	30.02	21.75	8.27	3.630		
2,000.00	2,000.00	2,000.40	2,000.40	4.36	4.36	89.52	0.25	30.02	30.02	21.30	8.72	3.443		
2,100.00	2,100.00	2,100.40	2,100.40	4.58	4.59	89.52	0.25	30.02	30.02	20.85	9.17	3.274		
2,200.00	2,200.00	2,200.40	2,200.40	4.81	4.81	89.52	0.25	30.02	30.02	20.40	9.62	3.121		
2,300.00	2,300.00	2,300.40	2,300.40	5.03	5.03	89.52	0.25	30.02	30.02	19.95	10.07	2.982		
2,400.00	2,400.00	2,400.40	2,400.40	5.26	5.26	89.52	0.25	30.02	30.02	19.50	10.52	2.854		
2,416.53	2,416.53	2,416.93	2,416.93	5.30	5.30	89.52	0.25	30.02	30.02	19.43	10.59	2.834 CC		
2,500.00	2,500.00	2,500.40	2,500.40	5.48	5.48	89.52	0.25	30.02	30.02	19.05	10.97	2.737 ES		
2,600.00	2,600.00	2,600.00	2,599.99	5.71	5.70	89.20	0.43	30.87	30.88	19.48	11.40	2.708 SF		
2,700.00	2,700.00	2,699.30	2,699.26	5.93	5.90	88.34	0.97	33.41	33.44	21.62	11.82	2.828		
2,800.00	2,800.00	2,798.60	2,798.46	6.16	6.11	87.16	1.87	37.63	37.73	25.48	12.24	3.081		
2,900.00	2,899.99	2,897.77	2,897.45	6.37	6.31	-4.18	3.12	43.52	42.86	30.22	12.65	3.389		
3,000.00	2,999.96	2,996.85	2,996.23	6.57	6.53	-5.66	4.73	51.08	48.00	34.97	13.03	3.683		
3,100.00	3,099.86	3,095.84	3,094.76	6.77	6.74	-7.24	6.69	60.30	53.15	39.74	13.42	3.962		
3,200.00	3,199.68	3,195.18	3,193.50	6.97	6.97	-8.88	8.97	71.05	58.17	44.35	13.81	4.211		
3,300.00	3,299.37	3,295.10	3,292.78	7.18	7.20	-10.57	11.32	82.11	61.76	47.53	14.23	4.340		
3,400.00	3,398.90	3,395.06	3,392.09	7.40	7.43	-12.40	13.68	93.18	63.70	49.05	14.65	4.348		
3,500.00	3,498.26	3,495.03	3,491.42	7.62	7.67	-14.50	16.03	104.25	64.01	48.93	15.07	4.246		
3,600.00	3,597.51	3,595.00	3,590.74	7.85	7.91	-16.81	18.38	115.32	63.57	48.06	15.51	4.100		
3,700.00	3,696.77	3,694.96	3,690.07	8.08	8.16	-19.14	20.73	126.39	63.23	47.28	15.94	3.966		
3,800.00	3,796.02	3,794.93	3,789.39	8.32	8.41	-21.50	23.09	137.46	63.00	46.61	16.39	3.844		
3,900.00	3,895.28	3,894.90	3,888.72	8.56	8.66	-23.87	25.44	148.53	62.87	46.03	16.84	3.734		
3,965.05	3,959.85	3,959.93	3,953.33	8.71	8.82	-25.41	26.97	155.73	62.85	45.71	17.14	3.668		
4,000.00	3,994.53	3,994.86	3,988.04	8.80	8.91	-26.24	27.79	159.60	62.86	45.56	17.30	3.634		
4,100.00	4,093.79	4,094.83	4,087.36	9.05	9.16	-28.61	30.15	170.67	62.95	45.19	17.76	3.544		
4,200.00	4,193.04	4,194.80	4,186.69	9.30	9.42	-30.97	32.50	181.74	63.15	44.91	18.24	3.463		
4,300.00	4,292.30	4,294.76	4,286.01	9.55	9.68	-33.32	34.85	192.80	63.45	44.73	18.72	3.390		
4,400.00	4,391.55	4,394.73	4,385.33	9.81	9.94	-35.63	37.20	203.87	63.86	44.65	19.21	3.325		
4,500.00	4,490.81	4,494.69	4,484.66	10.06	10.20	-37.91	39.56	214.94	64.38	44.67	19.71	3.267		
4,600.00	4,590.06	4,594.66	4,583.98	10.32	10.46	-40.16	41.91	226.01	64.99	44.78	20.21	3.215		
4,700.00	4,689.32	4,694.63	4,683.30	10.59	10.73	-42.35	44.26	237.08	65.70	44.97	20.73	3.170		
4,800.00	4,788.57	4,794.59	4,782.63	10.85	10.99	-44.50	46.62	248.15	66.51	45.26	21.25	3.130		
4,900.00	4,887.82	4,894.56	4,881.95	11.12	11.26	-46.59	48.97	259.22	67.41	45.62	21.78	3.095		
5,000.00	4,987.08	4,994.52	4,981.27	11.39	11.53	-48.63	51.32	270.29	68.39	46.07	22.32	3.064		
5,100.00	5,086.33	5,094.49	5,080.60	11.65	11.80	-50.60	53.67	281.36	69.46	46.60	22.86	3.038		
5,200.00	5,185.59	5,194.46	5,179.92	11.92	12.07	-52.52	56.03	292.43	70.61	47.20	23.41	3.016		
5,300.00	5,284.84	5,294.42	5,279.24	12.20	12.34	-54.37	58.38	303.50	71.83	47.87	23.96	2.998		
5,400.00	5,384.10	5,394.39	5,378.57	12.47	12.61	-56.15	60.73	314.57	73.13	48.61	24.52	2.982		
5,500.00	5,483.35	5,494.35	5,477.89	12.74	12.88	-57.88	63.08	325.63	74.50	49.41	25.08	2.970		
5,600.00	5,582.61	5,594.32	5,577.21	13.02	13.15	-59.53	65.44	336.70	75.93	50.28	25.65	2.960		
5,700.00	5,681.86	5,694.29	5,676.54	13.30	13.43	-61.13	67.79	347.77	77.42	51.20	26.22	2.953		
5,800.00	5,781.12	5,794.25	5,775.86	13.57	13.70	-62.67	70.14	358.84	78.97	52.18	26.79	2.948		
5,900.00	5,880.37	5,894.22	5,875.18	13.85	13.98	-64.14	72.50	369.91	80.57	53.21	27.36	2.945		
6,000.00	5,979.63	5,994.18	5,974.51	14.13	14.25	-65.56	74.85	380.98	82.23	54.29	27.94	2.943		
6,100.00	6,078.88	6,094.15	6,073.83	14.41	14.53	-66.92	77.20	392.05	83.93	55.42	28.51	2.944		
6,200.00	6,178.13	6,194.12	6,173.15	14.69	14.80	-68.22	79.55	403.12	85.68	56.59	29.09	2.945		
6,300.00	6,277.39	6,294.08	6,272.48	14.97	15.08	-69.47	81.91	414.19	87.48	57.80	29.67	2.948		
6,400.00	6,376.64	6,394.05	6,371.80	15.26	15.36	-70.67	84.26	425.26	89.31	59.05	30.25	2.952		
6,500.00	6,475.90	6,494.01	6,471.13	15.54	15.64	-71.83	86.61	436.33	91.18	60.34	30.83	2.957		
6,600.00	6,575.15	6,593.98	6,570.45	15.82	15.91	-72.93	88.97	447.40	93.08	61.67	31.41	2.963		
6,700.00	6,674.41	6,693.95	6,669.77	16.11	16.19	-73.99	91.32	458.46	95.02	63.02	32.00	2.970		

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Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Plan #1

Local Co-ordinate Reference: Well 82H
TVD Reference: 3318.6' GE + 21' KB @ 3339.60usft
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Database: EDM 5000.1 Multi User Db
Offset TVD Reference: Offset Datum

Offset Design Seawolf 1-12 Fed - 102H - 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 Tooface (')	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)					
6,800.00	6,773.66	6,793.91	6,769.10	16.39	16.47	-75.01	93.67	469.53	96.99	64.41	32.58	2.977	
6,900.00	6,872.92	6,893.88	6,868.42	16.67	16.75	-75.99	96.02	480.60	98.99	65.83	33.16	2.985	
7,000.00	6,972.17	6,993.84	6,967.74	16.96	17.03	-76.93	98.38	491.67	101.02	67.27	33.74	2.994	
7,100.00	7,071.43	7,093.81	7,067.07	17.25	17.31	-77.83	100.73	502.74	103.07	68.74	34.32	3.003	
7,200.00	7,170.68	7,193.78	7,166.39	17.53	17.59	-78.69	103.08	513.81	105.15	70.24	34.91	3.012	
7,300.00	7,269.94	7,293.74	7,265.71	17.82	17.87	-79.53	105.44	524.88	107.25	71.76	35.49	3.022	
7,400.00	7,369.19	7,393.71	7,365.04	18.11	18.15	-80.33	107.79	535.95	109.37	73.30	36.07	3.032	
7,500.00	7,468.44	7,493.67	7,464.36	18.39	18.43	-81.10	110.14	547.02	111.51	74.86	36.65	3.042	
7,600.00	7,567.70	7,593.64	7,563.68	18.68	18.71	-81.84	112.49	558.09	113.67	76.44	37.23	3.053	
7,700.00	7,666.95	7,693.61	7,663.01	18.97	18.99	-82.55	114.85	569.16	115.85	78.04	37.81	3.064	
7,800.00	7,766.21	7,793.57	7,762.33	19.26	19.27	-83.24	117.20	580.23	118.05	79.65	38.40	3.075	
7,900.00	7,865.46	7,893.54	7,861.65	19.55	19.56	-83.90	119.55	591.30	120.26	81.29	38.98	3.086	
8,000.00	7,964.72	7,993.50	7,960.98	19.84	19.84	-84.53	121.91	602.36	122.49	82.94	39.56	3.097	
8,100.00	8,063.97	8,093.47	8,060.30	20.13	20.12	-85.15	124.26	613.43	124.74	84.60	40.14	3.108	
8,200.00	8,163.23	8,193.44	8,159.62	20.41	20.40	-85.74	126.61	624.50	126.99	86.28	40.72	3.119	
8,300.00	8,262.48	8,293.40	8,258.95	20.70	20.69	-86.31	128.96	635.57	129.27	87.97	41.30	3.130	
8,400.00	8,361.74	8,393.37	8,358.27	21.00	20.97	-86.86	131.32	646.64	131.55	89.67	41.88	3.141	
8,500.00	8,460.99	8,493.34	8,457.59	21.29	21.25	-87.40	133.67	657.71	133.84	91.39	42.45	3.153	
8,600.00	8,560.25	8,593.30	8,556.92	21.58	21.53	-87.91	136.02	668.78	136.15	93.12	43.03	3.164	
8,700.00	8,659.50	8,693.27	8,656.24	21.87	21.82	-88.41	138.38	679.85	138.47	94.85	43.61	3.175	
8,800.00	8,758.75	8,793.23	8,755.56	22.16	22.10	-88.89	140.73	690.92	140.79	96.60	44.19	3.186	
8,900.00	8,858.01	8,893.20	8,854.89	22.45	22.38	-89.36	143.08	701.99	143.13	98.36	44.77	3.197	
9,000.00	8,957.26	8,993.17	8,954.21	22.74	22.67	-89.81	145.43	713.06	145.47	100.13	45.35	3.208	
9,100.00	9,056.52	9,093.13	9,053.53	23.03	22.95	-90.24	147.79	724.13	147.83	101.90	45.92	3.219	
9,200.00	9,155.77	9,193.10	9,152.86	23.32	23.23	-90.67	150.14	735.19	150.19	103.69	46.50	3.230	
9,300.00	9,255.03	9,293.06	9,252.18	23.62	23.52	-91.08	152.49	746.26	152.56	105.48	47.08	3.241	
9,400.00	9,354.28	9,393.03	9,351.51	23.91	23.80	-91.47	154.85	757.33	154.94	107.28	47.66	3.251	
9,500.00	9,453.54	9,493.00	9,450.83	24.20	24.09	-91.86	157.20	768.40	157.33	109.09	48.23	3.262	
9,600.00	9,552.79	9,592.96	9,550.15	24.49	24.37	-92.23	159.55	779.47	159.72	110.91	48.81	3.272	
9,700.00	9,652.05	9,692.93	9,649.48	24.79	24.66	-92.59	161.90	790.54	162.12	112.73	49.39	3.283	
9,800.00	9,751.30	9,792.89	9,748.80	25.08	24.94	-92.95	164.26	801.61	164.52	114.56	49.96	3.293	
9,900.00	9,850.56	9,892.86	9,848.12	25.37	25.22	-93.29	166.61	812.68	166.93	116.39	50.54	3.303	
10,000.00	9,949.81	9,992.83	9,947.45	25.67	25.51	-93.62	168.96	823.75	169.35	118.23	51.11	3.313	
10,100.00	10,049.06	10,092.79	10,046.77	25.96	25.79	-93.94	171.31	834.82	171.77	120.08	51.69	3.323	
10,200.00	10,148.32	10,192.76	10,146.09	26.25	26.08	-94.26	173.67	845.89	174.20	121.93	52.27	3.333	
10,300.00	10,247.57	10,292.72	10,245.42	26.55	26.36	-94.56	176.02	856.96	176.63	123.79	52.84	3.343	
10,385.00	10,331.94	10,377.70	10,329.84	26.80	26.61	-94.81	178.02	866.36	178.70	125.37	53.33	3.351	
10,400.00	10,346.83	10,392.69	10,344.74	26.84	26.65	-94.86	178.37	868.02	179.07	125.66	53.41	3.353	
10,500.00	10,446.15	10,492.66	10,444.07	27.06	26.93	-94.98	180.73	879.09	181.46	127.54	53.92	3.365	
10,600.00	10,545.57	10,592.74	10,543.51	27.28	27.20	-94.86	183.06	890.06	183.76	129.35	54.41	3.377	
10,700.00	10,645.08	10,692.91	10,643.14	27.49	27.42	-94.72	185.23	900.28	185.90	131.05	54.84	3.390	
10,800.00	10,744.67	10,793.10	10,742.87	27.70	27.63	-94.58	187.22	909.64	187.85	132.58	55.27	3.399	
10,900.00	10,844.34	10,893.30	10,842.69	27.91	27.84	-94.44	189.03	918.16	189.63	133.94	55.68	3.406	
11,000.00	10,944.07	10,993.50	10,942.59	28.11	28.04	-94.30	190.66	925.82	191.22	135.13	56.08	3.409	
11,100.00	11,043.87	11,093.72	11,042.56	28.31	28.24	-94.16	192.10	932.63	192.63	136.15	56.48	3.411	
11,200.00	11,143.71	11,193.94	11,142.60	28.50	28.43	-94.02	193.37	938.58	193.86	137.00	56.86	3.409	
11,300.00	11,243.61	11,294.17	11,242.70	28.68	28.62	-93.88	194.45	943.67	194.91	137.67	57.24	3.405	
11,400.00	11,343.53	11,394.41	11,342.84	28.86	28.80	-93.74	195.35	947.91	195.78	138.18	57.60	3.399	
11,500.00	11,443.49	11,494.66	11,443.02	29.04	28.98	-93.60	196.07	951.30	196.46	138.51	57.95	3.390	
11,600.00	11,543.47	11,594.91	11,543.24	29.21	29.15	-93.45	196.61	953.82	196.97	138.67	58.30	3.379	
11,700.00	11,643.46	11,695.16	11,643.48	29.38	29.32	-93.31	196.97	955.49	197.29	138.66	58.63	3.365	
11,785.00	11,728.46	11,780.39	11,728.70	29.52	29.46	-3.18	197.12	956.24	197.43	138.52	58.91	3.351	

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: 82H
 Well Error: 0.00 usft
 Reference Wellbore: OH
 Reference Design: Plan #1

Local Co-ordinate Reference: Well 82H
 TVD Reference: 3318.6' GE + 21' KB @ 3339.60usft
 MD Reference: 3318.6' GE + 21' KB @ 3339.60usft
 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 - 102H - 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)					
11,800.00	11,743.46	11,795.43	11,743.74	29.54	29.48	-3.16	197.14	956.30	197.44	138.48	58.96	3.349	
11,900.00	11,843.46	11,895.54	11,843.86	29.73	29.65	-3.14	197.16	956.39	197.45	138.14	59.31	3.329	
12,000.00	11,943.46	11,995.54	11,943.86	29.91	29.84	-3.14	197.16	956.39	197.45	137.77	59.68	3.308	
12,083.18	12,026.64	12,078.72	12,027.04	30.06	29.99	-3.14	197.16	956.39	197.45	137.46	59.99	3.291	
12,100.00	12,043.46	12,095.54	12,043.86	30.09	30.02	176.87	197.16	956.39	197.70	137.65	60.05	3.292	
12,150.00	12,093.31	12,145.39	12,093.71	30.18	30.12	176.91	197.16	956.39	201.34	141.11	60.23	3.343	
12,200.00	12,142.65	12,194.74	12,143.05	30.26	30.21	176.98	197.16	956.39	209.30	148.90	60.40	3.465	
12,250.00	12,191.11	12,243.20	12,191.51	30.35	30.30	177.09	197.16	956.39	221.53	160.97	60.57	3.658	
12,300.00	12,238.32	12,290.41	12,238.72	30.43	30.39	177.20	197.16	956.39	237.94	177.21	60.73	3.918	
12,350.00	12,283.92	12,336.00	12,284.32	30.52	30.47	177.32	197.16	956.39	258.39	197.50	60.89	4.244	
12,400.00	12,327.56	12,379.64	12,327.96	30.60	30.56	177.43	197.16	956.39	282.75	221.71	61.04	4.632	
12,450.00	12,368.91	12,420.99	12,369.31	30.69	30.63	177.52	197.16	956.39	310.81	249.63	61.18	5.080	
12,500.00	12,407.65	12,459.74	12,408.05	30.78	30.71	177.58	197.16	956.39	342.37	281.06	61.31	5.584	
12,550.00	12,443.50	12,495.58	12,443.90	30.88	30.77	177.61	197.16	956.39	377.19	315.76	61.43	6.140	
12,600.00	12,476.17	12,528.26	12,476.57	30.98	30.84	177.60	197.16	956.39	415.01	353.46	61.54	6.743	
12,650.00	12,505.42	12,557.51	12,505.82	31.09	30.89	177.53	197.16	956.39	455.52	393.88	61.64	7.390	
12,700.00	12,531.03	12,583.12	12,531.43	31.22	30.94	177.39	197.16	956.39	498.44	436.71	61.73	8.075	
12,750.00	12,552.80	12,604.88	12,553.20	31.35	30.98	177.13	197.16	956.39	543.43	481.63	61.80	8.793	
12,800.00	12,570.56	13,550.81	13,155.00	31.51	32.35	178.88	-392.88	956.37	584.14	540.50	43.64	13.384	
12,850.00	12,584.19	13,598.90	13,155.00	31.68	32.51	178.88	-440.97	956.37	570.52	526.72	43.79	13.027	
12,900.00	12,593.57	13,648.00	13,155.00	31.86	32.69	178.88	-490.07	956.36	561.14	517.19	43.95	12.767	
12,950.00	12,598.64	13,697.72	13,155.00	32.07	32.90	178.88	-539.80	956.36	556.07	511.96	44.11	12.606	
12,983.18	12,599.60	13,730.88	13,155.00	32.22	33.05	178.88	-572.96	956.36	555.11	510.89	44.22	12.553	
12,984.70	12,599.60	13,732.40	13,155.00	32.23	33.05	178.88	-574.47	956.36	555.11	510.89	44.23	12.552	
13,000.00	12,599.56	13,747.71	13,155.00	32.30	33.13	178.88	-589.78	956.36	555.16	510.88	44.28	12.538	
13,100.00	12,599.29	13,847.71	13,155.00	32.81	33.64	178.88	-689.78	956.36	555.42	510.79	44.63	12.444	
13,200.00	12,599.03	13,947.70	13,155.00	33.39	34.22	178.88	-789.78	956.35	555.68	510.65	45.04	12.338	
13,300.00	12,598.76	14,047.70	13,155.00	34.05	34.88	178.87	-889.78	956.35	555.95	510.47	45.48	12.223	
13,400.00	12,598.50	14,147.70	13,155.00	34.77	35.59	178.87	-989.78	956.35	556.21	510.24	45.97	12.099	
13,500.00	12,598.23	14,247.70	13,155.00	35.55	36.37	178.87	-1,089.78	956.34	556.48	509.97	46.50	11.966	
13,600.00	12,597.97	14,347.70	13,155.00	36.38	37.21	178.87	-1,189.78	956.34	556.74	509.67	47.07	11.827	
13,700.00	12,597.70	14,447.70	13,155.00	37.28	38.10	178.87	-1,289.78	956.34	557.01	509.32	47.68	11.681	
13,800.00	12,597.44	14,547.70	13,155.00	38.22	39.03	178.87	-1,389.77	956.33	557.27	508.94	48.33	11.531	
13,900.00	12,597.18	14,647.70	13,155.00	39.20	40.02	178.87	-1,489.77	956.33	557.54	508.53	49.01	11.376	
14,000.00	12,596.91	14,747.70	13,155.00	40.23	41.04	178.87	-1,589.77	956.33	557.80	508.07	49.73	11.217	
14,100.00	12,596.65	14,847.70	13,155.00	41.30	42.10	178.87	-1,689.77	956.32	558.07	507.59	50.48	11.056	
14,200.00	12,596.38	14,947.70	13,155.00	42.40	43.20	178.87	-1,789.77	956.32	558.33	507.08	51.26	10.893	
14,300.00	12,596.12	15,047.70	13,155.00	43.54	44.33	178.87	-1,889.77	956.32	558.60	506.53	52.07	10.729	
14,400.00	12,595.85	15,147.70	13,155.00	44.71	45.50	178.87	-1,989.77	956.31	558.86	505.96	52.90	10.564	
14,500.00	12,595.59	15,247.70	13,155.00	45.90	46.69	178.87	-2,089.77	956.31	559.12	505.36	53.77	10.399	
14,600.00	12,595.32	15,347.70	13,155.00	47.13	47.90	178.87	-2,189.77	956.31	559.39	504.73	54.66	10.234	
14,700.00	12,595.06	15,447.70	13,155.00	48.37	49.14	178.87	-2,289.77	956.30	559.65	504.08	55.57	10.070	
14,800.00	12,594.79	15,547.70	13,155.00	49.64	50.41	178.86	-2,389.77	956.30	559.92	503.41	56.51	9.908	
14,900.00	12,594.53	15,647.70	13,155.00	50.93	51.69	178.86	-2,489.77	956.30	560.18	502.71	57.47	9.747	
15,000.00	12,594.27	15,747.70	13,155.00	52.24	53.00	178.86	-2,589.77	956.29	560.45	501.99	58.46	9.587	
15,100.00	12,594.00	15,847.70	13,155.00	53.57	54.32	178.86	-2,689.77	956.29	560.71	501.25	59.46	9.430	
15,200.00	12,593.74	15,947.70	13,155.00	54.91	55.66	178.86	-2,789.77	956.29	560.98	500.50	60.48	9.275	
15,300.00	12,593.47	16,047.70	13,155.00	56.27	57.01	178.86	-2,889.77	956.28	561.24	499.72	61.52	9.123	
15,400.00	12,593.21	16,147.70	13,155.00	57.64	58.38	178.86	-2,989.77	956.28	561.51	498.93	62.58	8.973	
15,500.00	12,592.94	16,247.70	13,155.00	59.03	59.76	178.86	-3,089.77	956.28	561.77	498.12	63.65	8.826	
15,600.00	12,592.68	16,347.70	13,155.00	60.43	61.15	178.86	-3,189.77	956.27	562.04	497.30	64.74	8.682	
15,700.00	12,592.41	16,447.70	13,155.00	61.84	62.56	178.86	-3,289.77	956.27	562.30	496.46	65.84	8.540	

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: 82H
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Plan #1

Local Co-ordinate Reference: Well 82H
TVD Reference: 3318.6' GE + 21' KB @ 3339.60usft
MD Reference: 3318.6' GE + 21' KB @ 3339.60usft
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 - 102H - 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)						
15,800.00	12,592.15	16,547.70	13,155.00	63.26	63.97	178.86	-3,389.77	956.27	562.57	495.61	66.96	8.402		
15,900.00	12,591.89	16,647.70	13,155.00	64.69	65.40	178.86	-3,489.77	956.26	562.83	494.74	68.09	8.266		
16,000.00	12,591.62	16,747.70	13,155.00	66.13	66.84	178.86	-3,589.77	956.26	563.09	493.86	69.23	8.134		
16,100.00	12,591.36	16,847.69	13,155.00	67.58	68.28	178.86	-3,689.77	956.26	563.36	492.97	70.39	8.004		
16,200.00	12,591.09	16,947.69	13,155.00	69.04	69.73	178.86	-3,789.77	956.25	563.62	492.07	71.55	7.877		
16,300.00	12,590.83	17,047.69	13,155.00	70.50	71.19	178.85	-3,889.77	956.25	563.89	491.16	72.73	7.753		
16,400.00	12,590.56	17,147.69	13,155.00	71.98	72.66	178.85	-3,989.77	956.25	564.15	490.23	73.92	7.632		
16,500.00	12,590.30	17,247.69	13,155.00	73.46	74.14	178.85	-4,089.77	956.24	564.42	489.30	75.12	7.514		
16,600.00	12,590.03	17,347.69	13,155.00	74.94	75.62	178.85	-4,189.77	956.24	564.68	488.36	76.32	7.398		
16,700.00	12,589.77	17,447.69	13,155.00	76.43	77.11	178.85	-4,289.76	956.24	564.95	487.41	77.54	7.286		
16,800.00	12,589.50	17,547.69	13,155.00	77.93	78.60	178.85	-4,389.76	956.23	565.21	486.45	78.77	7.176		
16,900.00	12,589.24	17,647.69	13,155.00	79.43	80.10	178.85	-4,489.76	956.23	565.48	485.48	80.00	7.068		
17,000.00	12,588.98	17,747.69	13,155.00	80.94	81.60	178.85	-4,589.76	956.22	565.74	484.50	81.24	6.964		
17,100.00	12,588.71	17,847.69	13,155.00	82.46	83.11	178.85	-4,689.76	956.22	566.01	483.52	82.49	6.862		
17,200.00	12,588.45	17,947.69	13,155.00	83.97	84.63	178.85	-4,789.76	956.22	566.27	482.53	83.74	6.762		
17,300.00	12,588.18	18,047.69	13,155.00	85.49	86.15	178.85	-4,889.76	956.21	566.53	481.53	85.01	6.665		
17,400.00	12,587.92	18,147.69	13,155.00	87.02	87.67	178.85	-4,989.76	956.21	566.80	480.52	86.28	6.570		
17,500.00	12,587.65	18,247.69	13,155.00	88.55	89.20	178.85	-5,089.76	956.21	567.06	479.51	87.55	6.477		
17,600.00	12,587.39	18,347.69	13,155.00	90.08	90.73	178.85	-5,189.76	956.20	567.33	478.50	88.83	6.386		
17,700.00	12,587.12	18,447.69	13,155.00	91.62	92.26	178.85	-5,289.76	956.20	567.59	477.47	90.12	6.298		
17,800.00	12,586.86	18,547.69	13,155.00	93.16	93.80	178.84	-5,389.76	956.20	567.86	476.45	91.41	6.212		
17,900.00	12,586.59	18,647.69	13,155.00	94.70	95.34	178.84	-5,489.76	956.19	568.12	475.41	92.71	6.128		
18,000.00	12,586.33	18,747.69	13,155.00	96.25	96.88	178.84	-5,589.76	956.19	568.39	474.38	94.01	6.046		
18,100.00	12,586.07	18,847.69	13,155.00	97.80	98.43	178.84	-5,689.76	956.19	568.65	473.33	95.32	5.966		
18,200.00	12,585.80	18,947.69	13,155.00	99.35	99.98	178.84	-5,789.76	956.18	568.92	472.28	96.63	5.887		
18,300.00	12,585.54	19,047.69	13,155.00	100.90	101.53	178.84	-5,889.76	956.18	569.18	471.23	97.95	5.811		
18,400.00	12,585.27	19,147.69	13,155.00	102.46	103.08	178.84	-5,989.76	956.18	569.45	470.18	99.27	5.736		
18,500.00	12,585.01	19,247.69	13,155.00	104.02	104.64	178.84	-6,089.76	956.17	569.71	469.12	100.59	5.663		
18,600.00	12,584.74	19,347.69	13,155.00	105.58	106.20	178.84	-6,189.76	956.17	569.98	468.05	101.92	5.592		
18,700.00	12,584.48	19,447.69	13,155.00	107.15	107.76	178.84	-6,289.76	956.17	570.24	466.98	103.26	5.523		
18,800.00	12,584.21	19,547.69	13,155.00	108.71	109.32	178.84	-6,389.76	956.16	570.50	465.91	104.59	5.455		
18,900.00	12,583.95	19,647.69	13,155.00	110.28	110.89	178.84	-6,489.76	956.16	570.77	464.84	105.93	5.388		
19,000.00	12,583.69	19,747.68	13,155.00	111.85	112.46	178.84	-6,589.76	956.16	571.03	463.76	107.27	5.323		
19,100.00	12,583.42	19,847.68	13,155.00	113.42	114.03	178.84	-6,689.76	956.15	571.30	462.68	108.62	5.260		
19,200.00	12,583.16	19,947.68	13,155.00	114.99	115.60	178.84	-6,789.76	956.15	571.56	461.59	109.97	5.197		
19,300.00	12,582.89	20,047.68	13,155.00	116.57	117.17	178.83	-6,889.76	956.15	571.83	460.51	111.32	5.137		
19,400.00	12,582.63	20,147.68	13,155.00	118.15	118.74	178.83	-6,989.76	956.14	572.09	459.41	112.68	5.077		
19,500.00	12,582.36	20,247.68	13,155.00	119.72	120.32	178.83	-7,089.75	956.14	572.36	458.32	114.04	5.019		
19,600.00	12,582.10	20,347.68	13,155.00	121.30	121.90	178.83	-7,189.75	956.14	572.62	457.22	115.40	4.962		
19,700.00	12,581.83	20,447.68	13,155.00	122.88	123.48	178.83	-7,289.75	956.13	572.89	456.13	116.76	4.907		
19,800.00	12,581.57	20,547.68	13,155.00	124.47	125.06	178.83	-7,389.75	956.13	573.15	455.02	118.13	4.852		
19,900.00	12,581.30	20,647.68	13,155.00	126.05	126.64	178.83	-7,489.75	956.13	573.42	453.92	119.49	4.799		
20,000.00	12,581.04	20,747.68	13,155.00	127.64	128.22	178.83	-7,589.75	956.12	573.68	452.81	120.87	4.746		
20,100.00	12,580.78	20,847.68	13,155.00	129.22	129.81	178.83	-7,689.75	956.12	573.95	451.71	122.24	4.695		
20,200.00	12,580.51	20,947.68	13,155.00	130.81	131.39	178.83	-7,789.75	956.12	574.21	450.60	123.61	4.645		
20,300.00	12,580.25	21,047.68	13,155.00	132.40	132.98	178.83	-7,889.75	956.11	574.47	449.48	124.99	4.596		
20,400.00	12,579.98	21,147.68	13,155.00	133.99	134.57	178.83	-7,989.75	956.11	574.74	448.37	126.37	4.548		
20,500.00	12,579.72	21,247.68	13,155.00	135.58	136.16	178.83	-8,089.75	956.11	575.00	447.25	127.75	4.501		
20,600.00	12,579.45	21,347.68	13,155.00	137.17	137.75	178.83	-8,189.75	956.10	575.27	446.13	129.14	4.455		
20,700.00	12,579.19	21,447.68	13,155.00	138.76	139.34	178.83	-8,289.75	956.10	575.53	445.01	130.52	4.410		
20,800.00	12,578.92	21,547.68	13,155.00	140.36	140.93	178.83	-8,389.75	956.10	575.80	443.89	131.91	4.365		
20,900.00	12,578.66	21,647.68	13,155.00	141.95	142.52	178.82	-8,489.75	956.09	576.06	442.77	133.30	4.322		

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: 82H
 Well Error: 0.00 usft
 Reference Wellbore: OH
 Reference Design: Plan #1

Local Co-ordinate Reference: Well 82H
 TVD Reference: 3318.6' GE + 21' KB @ 3339.60usft
 MD Reference: 3318.6' GE + 21' KB @ 3339.60usft
 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 - 102H - 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 +N/-S (usft)	Centre +E/-W (usft)					
21,000.00	12,578.40	21,747.68	13,155.00	143.55	144.12	178.82	-8,589.75	956.09	576.33	441.64	134.69	4.279	
21,100.00	12,578.13	21,847.68	13,155.00	145.14	145.71	178.82	-8,689.75	956.09	576.59	440.51	136.08	4.237	
21,200.00	12,577.87	21,947.68	13,155.00	146.74	147.31	178.82	-8,789.75	956.08	576.86	439.38	137.47	4.196	
21,300.00	12,577.60	22,047.68	13,155.00	148.34	148.90	178.82	-8,889.75	956.08	577.12	438.25	138.87	4.156	
21,400.00	12,577.34	22,147.68	13,155.00	149.94	150.50	178.82	-8,989.75	956.08	577.39	437.12	140.26	4.116	
21,500.00	12,577.07	22,247.68	13,155.00	151.54	152.10	178.82	-9,089.75	956.07	577.65	435.99	141.66	4.078	
21,600.00	12,576.81	22,347.68	13,155.00	153.14	153.70	178.82	-9,189.75	956.07	577.91	434.85	143.06	4.040	
21,700.00	12,576.54	22,447.68	13,155.00	154.74	155.30	178.82	-9,289.75	956.07	578.18	433.72	144.46	4.002	
21,800.00	12,576.28	22,547.68	13,155.00	156.34	156.90	178.82	-9,389.75	956.06	578.44	432.58	145.86	3.966	
21,900.00	12,576.01	22,647.67	13,155.00	157.94	158.50	178.82	-9,489.75	956.06	578.71	431.44	147.27	3.930	
22,000.00	12,575.75	22,747.67	13,155.00	159.54	160.10	178.82	-9,589.75	956.05	578.97	430.30	148.67	3.894	
22,100.00	12,575.49	22,847.67	13,155.00	161.15	161.70	178.82	-9,689.75	956.05	579.24	429.16	150.08	3.860	
22,200.00	12,575.22	22,947.67	13,155.00	162.75	163.31	178.82	-9,789.75	956.05	579.50	428.02	151.49	3.825	
22,300.00	12,574.96	23,047.67	13,155.00	164.36	164.91	178.82	-9,889.75	956.04	579.77	426.87	152.89	3.792	
22,400.00	12,574.69	23,147.67	13,155.00	165.96	166.52	178.81	-9,989.74	956.04	580.03	425.73	154.30	3.759	
22,434.80	12,574.60	23,182.47	13,155.00	166.52	167.07	178.81	-10,024.54	956.04	580.12	425.33	154.79	3.748	

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: 82H
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Plan #1

Local Co-ordinate Reference: Well 82H
TVD Reference: 3318.6' GE + 21' KB @ 3339.60usft
MD Reference: 3318.6' GE + 21' KB @ 3339.60usft
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 Tootface (')	Distance						Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
0.00	0.00	0.00	0.00	0.00	0.00	-90.46	-0.24	-29.96	29.96					
100.00	100.00	99.90	99.90	0.09	0.09	-90.46	-0.24	-29.96	29.96	29.78	0.18	168.816		
200.00	200.00	199.90	199.90	0.31	0.31	-90.46	-0.24	-29.96	29.96	29.33	0.63	47.794		
300.00	300.00	299.90	299.90	0.54	0.54	-90.46	-0.24	-29.96	29.96	28.88	1.08	27.834		
400.00	400.00	399.90	399.90	0.76	0.76	-90.46	-0.24	-29.96	29.96	28.44	1.53	19.634		
500.00	500.00	499.90	499.90	0.99	0.99	-90.46	-0.24	-29.96	29.96	27.99	1.98	15.167		
600.00	600.00	599.90	599.90	1.21	1.21	-90.46	-0.24	-29.96	29.96	27.54	2.43	12.355		
700.00	700.00	699.90	699.90	1.44	1.44	-90.46	-0.24	-29.96	29.96	27.09	2.87	10.423		
800.00	800.00	799.90	799.90	1.66	1.66	-90.46	-0.24	-29.96	29.96	26.64	3.32	9.013		
900.00	900.00	899.90	899.90	1.89	1.89	-90.46	-0.24	-29.96	29.96	26.19	3.77	7.940		
1,000.00	1,000.00	999.90	999.90	2.11	2.11	-90.46	-0.24	-29.96	29.96	25.74	4.22	7.094		
1,100.00	1,100.00	1,099.90	1,099.90	2.34	2.34	-90.46	-0.24	-29.96	29.96	25.29	4.67	6.412		
1,200.00	1,200.00	1,199.90	1,199.90	2.56	2.56	-90.46	-0.24	-29.96	29.96	24.84	5.12	5.849		
1,300.00	1,300.00	1,299.90	1,299.90	2.79	2.79	-90.46	-0.24	-29.96	29.96	24.39	5.57	5.377		
1,400.00	1,400.00	1,399.90	1,399.90	3.01	3.01	-90.46	-0.24	-29.96	29.96	23.94	6.02	4.976		
1,500.00	1,500.00	1,499.90	1,499.90	3.24	3.24	-90.46	-0.24	-29.96	29.96	23.49	6.47	4.630		
1,600.00	1,600.00	1,599.90	1,599.90	3.46	3.46	-90.46	-0.24	-29.96	29.96	23.04	6.92	4.329		
1,700.00	1,700.00	1,699.90	1,699.90	3.69	3.68	-90.46	-0.24	-29.96	29.96	22.59	7.37	4.065		
1,800.00	1,800.00	1,799.90	1,799.90	3.91	3.91	-90.46	-0.24	-29.96	29.96	22.14	7.82	3.832		
1,900.00	1,900.00	1,899.90	1,899.90	4.13	4.13	-90.46	-0.24	-29.96	29.96	21.69	8.27	3.623		
2,000.00	2,000.00	1,999.90	1,999.90	4.36	4.36	-90.46	-0.24	-29.96	29.96	21.24	8.72	3.437		
2,100.00	2,100.00	2,099.90	2,099.90	4.58	4.58	-90.46	-0.24	-29.96	29.96	20.79	9.17	3.268		
2,200.00	2,200.00	2,199.90	2,199.90	4.81	4.81	-90.46	-0.24	-29.96	29.96	20.34	9.62	3.115		
2,300.00	2,300.00	2,299.90	2,299.90	5.03	5.03	-90.46	-0.24	-29.96	29.96	19.89	10.07	2.976		
2,400.00	2,400.00	2,399.90	2,399.90	5.26	5.26	-90.46	-0.24	-29.96	29.96	19.44	10.52	2.849		
2,500.00	2,500.00	2,499.90	2,499.90	5.48	5.48	-90.46	-0.24	-29.96	29.96	18.99	10.97	2.732		
2,600.00	2,600.00	2,600.13	2,600.12	5.71	5.71	-88.95	0.54	-29.57	29.57	18.16	11.41	2.591		
2,700.00	2,700.00	2,700.29	2,700.25	5.93	5.93	-84.19	2.89	-28.39	28.54	16.68	11.86	2.407		
2,800.00	2,800.00	2,800.34	2,800.20	6.16	6.15	-75.58	6.80	-26.44	27.30	15.00	12.31	2.219		
2,844.77	2,844.77	2,845.08	2,844.87	6.25	6.25	-160.45	9.05	-25.31	27.05	14.55	12.50	2.164 CC, ES		
2,900.00	2,899.99	2,900.22	2,899.90	6.37	6.38	-153.50	12.26	-23.71	27.47	14.73	12.74	2.156 SF		
3,000.00	2,999.96	2,999.91	2,999.28	6.57	6.60	-140.87	19.25	-20.21	30.54	17.38	13.16	2.321		
3,100.00	3,099.86	3,099.61	3,098.60	6.77	6.83	-131.71	27.02	-16.33	36.28	22.70	13.58	2.671		
3,200.00	3,199.68	3,199.28	3,197.89	6.97	7.05	-127.01	34.79	-12.45	43.70	29.69	14.01	3.119		
3,300.00	3,299.37	3,298.90	3,297.13	7.18	7.28	-125.25	42.55	-8.57	52.32	37.87	14.45	3.621		
3,400.00	3,398.90	3,398.43	3,396.28	7.40	7.52	-125.30	50.30	-4.69	61.95	47.06	14.89	4.160		
3,500.00	3,498.26	3,497.85	3,495.32	7.62	7.75	-126.44	58.05	-0.82	72.61	57.27	15.34	4.733		
3,600.00	3,597.51	3,597.20	3,594.30	7.85	7.98	-127.82	65.79	3.05	83.82	68.02	15.79	5.307		
3,700.00	3,696.77	3,696.55	3,693.27	8.08	8.22	-128.88	73.53	6.92	95.06	78.81	16.25	5.850		
3,800.00	3,796.02	3,795.91	3,792.25	8.32	8.46	-129.72	81.27	10.79	106.33	89.62	16.71	6.364		
3,900.00	3,895.28	3,895.26	3,891.22	8.56	8.70	-130.39	89.01	14.66	117.62	100.45	17.17	6.849		
4,000.00	3,994.53	3,994.61	3,990.19	8.80	8.94	-130.95	96.75	18.53	128.92	111.29	17.64	7.309		
4,100.00	4,093.79	4,093.96	4,089.17	9.05	9.18	-131.42	104.49	22.40	140.24	122.13	18.11	7.744		
4,200.00	4,193.04	4,193.31	4,188.14	9.30	9.42	-131.82	112.23	26.27	151.56	132.98	18.58	8.156		
4,300.00	4,292.30	4,292.67	4,287.12	9.55	9.67	-132.16	119.97	30.14	162.88	143.83	19.06	8.547		
4,400.00	4,391.55	4,392.02	4,386.09	9.81	9.91	-132.46	127.71	34.01	174.22	154.68	19.54	8.918		
4,500.00	4,490.81	4,491.37	4,485.07	10.06	10.15	-132.72	135.45	37.88	185.55	165.53	20.02	9.270		
4,600.00	4,590.06	4,590.72	4,584.04	10.32	10.40	-132.95	143.19	41.75	196.89	176.39	20.50	9.605		
4,700.00	4,689.32	4,690.08	4,683.03	10.59	10.65	-133.15	150.93	45.63	208.23	187.25	20.98	9.924		
4,800.00	4,788.57	4,790.08	4,782.68	10.85	10.84	-133.45	158.32	49.32	219.42	198.01	21.42	10.245		
4,900.00	4,887.82	4,890.12	4,882.45	11.12	11.04	-133.92	164.93	52.63	230.34	208.49	21.85	10.541		
5,000.00	4,987.08	4,990.19	4,982.30	11.39	11.23	-134.55	170.77	55.54	240.98	218.70	22.28	10.815		

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: 82H
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Plan #1

Local Co-ordinate Reference: Well 82H
TVD Reference: 3318.6' GE + 21' KB @ 3339.60usft
MD Reference: 3318.6' GE + 21' KB @ 3339.60usft
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		Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor			
							+N/-S (usft)	+E/-W (usft)							
5,100.00	5,086.33	5,090.27	5,082.22	11.65	11.42	-135.32	175.83	58.07	251.39	228.68	22.71	11.068			
5,200.00	5,185.59	5,190.34	5,182.18	11.92	11.61	-136.21	180.10	60.21	261.58	238.44	23.14	11.304			
5,300.00	5,284.84	5,290.39	5,282.15	12.20	11.80	-137.21	183.59	61.96	271.59	248.02	23.56	11.526			
5,400.00	5,384.10	5,390.41	5,382.12	12.47	11.98	-138.31	186.31	63.31	281.45	257.46	23.98	11.734			
5,500.00	5,483.35	5,490.37	5,482.06	12.74	12.17	-139.50	188.24	64.28	291.19	266.79	24.40	11.933			
5,600.00	5,582.61	5,590.27	5,581.95	13.02	12.35	-140.77	189.39	64.85	300.87	276.05	24.81	12.124			
5,700.00	5,681.86	5,690.08	5,681.76	13.30	12.53	-142.12	189.76	65.04	310.51	285.29	25.22	12.311			
5,800.00	5,781.12	5,789.33	5,781.02	13.57	12.74	-143.46	189.76	65.04	320.24	294.58	25.66	12.480			
5,900.00	5,880.37	5,888.59	5,880.27	13.85	12.96	-144.71	189.76	65.04	330.14	304.04	26.10	12.649			
6,000.00	5,979.63	5,987.84	5,979.53	14.13	13.17	-145.90	189.76	65.04	340.18	313.64	26.54	12.818			
6,100.00	6,078.88	6,087.10	6,078.78	14.41	13.38	-147.01	189.76	65.04	350.36	323.39	26.98	12.987			
6,200.00	6,178.13	6,186.35	6,178.03	14.69	13.60	-148.06	189.76	65.04	360.67	333.25	27.42	13.154			
6,300.00	6,277.39	6,285.61	6,277.29	14.97	13.81	-149.06	189.76	65.04	371.09	343.23	27.86	13.321			
6,400.00	6,376.64	6,384.86	6,376.54	15.26	14.03	-150.00	189.76	65.04	381.61	353.31	28.30	13.485			
6,500.00	6,475.90	6,484.12	6,475.80	15.54	14.24	-150.88	189.76	65.04	392.23	363.49	28.74	13.648			
6,600.00	6,575.15	6,583.37	6,575.05	15.82	14.46	-151.73	189.76	65.04	402.94	373.76	29.18	13.809			
6,700.00	6,674.41	6,682.63	6,674.31	16.11	14.68	-152.52	189.76	65.04	413.73	384.11	29.62	13.967			
6,800.00	6,773.66	6,781.88	6,773.56	16.39	14.89	-153.28	189.76	65.04	424.60	394.54	30.06	14.123			
6,900.00	6,872.92	6,881.14	6,872.82	16.67	15.11	-154.00	189.76	65.04	435.54	405.03	30.51	14.277			
7,000.00	6,972.17	6,980.39	6,972.07	16.96	15.32	-154.69	189.76	65.04	446.54	415.59	30.95	14.428			
7,100.00	7,071.43	7,079.64	7,071.33	17.25	15.54	-155.34	189.76	65.04	457.60	426.21	31.39	14.577			
7,200.00	7,170.68	7,178.90	7,170.58	17.53	15.76	-155.96	189.76	65.04	468.71	436.88	31.84	14.723			
7,300.00	7,269.94	7,278.15	7,269.84	17.82	15.97	-156.55	189.76	65.04	479.88	447.60	32.28	14.866			
7,400.00	7,369.19	7,377.41	7,369.09	18.11	16.19	-157.12	189.76	65.04	491.10	458.38	32.72	15.007			
7,500.00	7,468.44	7,476.66	7,468.34	18.39	16.41	-157.66	189.76	65.04	502.36	469.19	33.17	15.145			
7,600.00	7,567.70	7,575.92	7,567.60	18.68	16.63	-158.17	189.76	65.04	513.67	480.05	33.62	15.281			
7,700.00	7,666.95	7,675.17	7,666.85	18.97	16.84	-158.67	189.76	65.04	525.01	490.95	34.06	15.414			
7,800.00	7,766.21	7,774.43	7,766.11	19.26	17.06	-159.14	189.76	65.04	536.39	501.88	34.51	15.544			
7,900.00	7,865.46	7,873.68	7,865.36	19.55	17.28	-159.59	189.76	65.04	547.81	512.85	34.96	15.672			
8,000.00	7,964.72	7,972.94	7,964.62	19.84	17.50	-160.03	189.76	65.04	559.26	523.85	35.40	15.797			
8,100.00	8,063.97	8,072.19	8,063.87	20.13	17.71	-160.45	189.76	65.04	570.74	534.89	35.85	15.920			
8,200.00	8,163.23	8,171.45	8,163.13	20.41	17.93	-160.85	189.76	65.04	582.24	545.94	36.30	16.040			
8,300.00	8,262.48	8,270.70	8,262.38	20.70	18.15	-161.23	189.76	65.04	593.78	557.03	36.75	16.158			
8,400.00	8,361.74	8,369.95	8,361.64	21.00	18.37	-161.60	189.76	65.04	605.34	568.14	37.20	16.274			
8,500.00	8,460.99	8,469.21	8,460.89	21.29	18.59	-161.96	189.76	65.04	616.92	579.28	37.65	16.388			
8,600.00	8,560.25	8,568.46	8,560.15	21.58	18.81	-162.30	189.76	65.04	628.53	590.44	38.10	16.499			
8,700.00	8,659.50	8,667.72	8,659.40	21.87	19.02	-162.64	189.76	65.04	640.16	601.61	38.55	16.608			
8,800.00	8,758.75	8,766.97	8,758.65	22.16	19.24	-162.95	189.76	65.04	651.81	612.81	39.00	16.715			
8,900.00	8,858.01	8,866.23	8,857.91	22.45	19.46	-163.26	189.76	65.04	663.48	624.03	39.45	16.820			
9,000.00	8,957.26	8,965.48	8,957.16	22.74	19.68	-163.56	189.76	65.04	675.16	635.27	39.90	16.922			
9,100.00	9,056.52	9,064.74	9,056.42	23.03	19.90	-163.85	189.76	65.04	686.87	646.52	40.35	17.023			
9,200.00	9,155.77	9,163.99	9,155.67	23.32	20.12	-164.13	189.76	65.04	698.59	657.79	40.80	17.122			
9,300.00	9,255.03	9,263.25	9,254.93	23.62	20.34	-164.39	189.76	65.04	710.33	669.07	41.25	17.219			
9,400.00	9,354.28	9,362.50	9,354.18	23.91	20.56	-164.65	189.76	65.04	722.08	680.37	41.71	17.314			
9,500.00	9,453.54	9,461.76	9,453.44	24.20	20.78	-164.91	189.76	65.04	733.84	691.68	42.16	17.407			
9,600.00	9,552.79	9,561.01	9,552.69	24.49	21.00	-165.15	189.76	65.04	745.62	703.01	42.61	17.498			
9,700.00	9,652.05	9,660.26	9,651.95	24.79	21.22	-165.39	189.76	65.04	757.41	714.35	43.06	17.588			
9,800.00	9,751.30	9,759.52	9,751.20	25.08	21.44	-165.62	189.76	65.04	769.22	725.70	43.52	17.676			
9,900.00	9,850.56	9,858.77	9,850.46	25.37	21.66	-165.84	189.76	65.04	781.03	737.06	43.97	17.762			
10,000.00	9,949.81	9,958.03	9,949.71	25.67	21.88	-166.05	189.76	65.04	792.86	748.44	44.43	17.847			
10,100.00	10,049.06	10,057.28	10,048.96	25.96	22.10	-166.26	189.76	65.04	804.70	759.82	44.88	17.930			
10,200.00	10,148.32	10,156.54	10,148.22	26.25	22.32	-166.46	189.76	65.04	816.55	771.21	45.33	18.012			

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: 82H
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Plan #1

Local Co-ordinate Reference: Well 82H
TVD Reference: 3318.6' GE + 21' KB @ 3339.60usft
MD Reference: 3318.6' GE + 21' KB @ 3339.60usft
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)
10,300.00	10,247.57	10,255.79	10,247.47	26.55	22.54	-166.66	189.76	65.04	828.41	782.62	45.79	18.092
10,385.00	10,331.94	10,340.16	10,331.84	26.80	22.72	-166.83	189.76	65.04	838.49	792.32	46.18	18.159
10,400.00	10,346.83	10,355.05	10,346.73	26.84	22.76	-166.86	189.76	65.04	840.26	794.02	46.24	18.171
10,500.00	10,446.15	10,454.37	10,446.05	27.06	22.98	-167.05	189.76	65.04	851.59	804.94	46.66	18.253
10,600.00	10,545.57	10,553.79	10,545.47	27.28	23.20	-167.22	189.76	65.04	862.08	815.01	47.07	18.315
10,700.00	10,645.08	10,653.30	10,644.98	27.49	23.42	-167.37	189.76	65.04	871.73	824.24	47.48	18.358
10,800.00	10,744.67	10,752.89	10,744.57	27.70	23.64	-167.51	189.76	65.04	880.53	832.64	47.90	18.384
10,900.00	10,844.34	10,852.56	10,844.24	27.91	23.86	-167.63	189.76	65.04	888.50	840.18	48.31	18.391
11,000.00	10,944.07	10,952.29	10,943.97	28.11	24.08	-167.74	189.76	65.04	895.61	846.89	48.72	18.382
11,100.00	11,043.87	11,052.09	11,043.77	28.31	24.30	-167.83	189.76	65.04	901.87	852.74	49.13	18.356
11,200.00	11,143.71	11,151.93	11,143.61	28.50	24.53	-167.91	189.76	65.04	907.29	857.75	49.54	18.313
11,300.00	11,243.61	11,251.82	11,243.51	28.68	24.75	-167.98	189.76	65.04	911.85	861.90	49.95	18.255
11,400.00	11,343.53	11,351.75	11,343.43	28.86	24.97	-168.03	189.76	65.04	915.57	865.21	50.36	18.180
11,500.00	11,443.49	11,451.71	11,443.39	29.04	25.19	-168.07	189.76	65.04	918.43	867.66	50.77	18.091
11,600.00	11,543.47	11,551.69	11,543.37	29.21	25.41	-168.10	189.76	65.04	920.43	869.26	51.17	17.987
11,700.00	11,643.46	11,651.68	11,643.36	29.38	25.64	-168.12	189.76	65.04	921.59	870.01	51.58	17.868
11,785.00	11,728.46	11,736.68	11,728.36	29.52	25.83	-78.12	189.76	65.04	921.89	869.97	51.92	17.755
11,800.00	11,743.46	11,751.68	11,743.36	29.54	25.86	-78.12	189.76	65.04	921.89	869.91	51.99	17.734
11,900.00	11,843.46	11,851.68	11,843.36	29.73	26.08	-78.12	189.76	65.04	921.89	869.48	52.41	17.590
12,000.00	11,943.46	11,951.68	11,943.36	29.91	26.30	-78.12	189.76	65.04	921.89	869.06	52.84	17.448
12,083.18	12,026.64	12,038.32	12,030.00	30.06	26.49	-78.13	189.66	65.04	921.88	868.68	53.20	17.329
12,100.00	12,043.46	12,063.44	12,055.09	30.09	26.54	101.85	188.66	65.04	921.79	868.51	53.28	17.301
12,150.00	12,093.31	12,137.74	12,128.75	30.18	26.65	101.66	179.26	65.04	921.24	867.77	53.48	17.227
12,200.00	12,142.65	12,211.11	12,199.68	30.26	26.75	101.32	160.71	65.04	920.29	866.66	53.63	17.161
12,250.00	12,191.11	12,283.07	12,266.40	30.35	26.84	100.86	133.86	65.04	918.98	865.23	53.75	17.098
12,300.00	12,238.32	12,353.26	12,327.73	30.43	26.92	100.28	99.82	65.03	917.39	863.54	53.86	17.034
12,350.00	12,283.92	12,421.41	12,382.87	30.52	26.99	99.60	59.84	65.03	915.60	861.63	53.97	16.965
12,400.00	12,327.56	12,487.35	12,431.34	30.60	27.05	98.83	15.19	65.03	913.69	859.58	54.11	16.887
12,450.00	12,368.91	12,551.01	12,472.97	30.69	27.11	98.01	-32.93	65.02	911.74	857.46	54.27	16.799
12,500.00	12,407.65	12,612.38	12,507.82	30.78	27.18	97.12	-83.41	65.02	909.83	855.35	54.48	16.699
12,550.00	12,443.50	12,671.52	12,536.11	30.88	27.28	96.20	-135.32	65.01	908.04	853.31	54.73	16.591
12,600.00	12,476.17	12,728.53	12,558.18	30.98	27.40	95.25	-187.86	65.01	906.42	851.41	55.01	16.476
12,650.00	12,505.42	12,783.53	12,574.42	31.09	27.54	94.28	-240.38	65.01	905.03	849.70	55.33	16.357
12,700.00	12,531.03	12,836.66	12,585.26	31.22	27.70	93.30	-292.37	65.00	903.89	848.23	55.67	16.237
12,750.00	12,552.80	12,888.05	12,591.13	31.35	27.86	92.31	-343.41	65.00	903.05	847.02	56.03	16.118
12,800.00	12,570.56	12,937.56	12,592.48	31.51	28.04	91.33	-392.89	64.99	902.50	846.11	56.40	16.003
12,850.00	12,584.19	12,985.60	12,592.30	31.68	28.23	90.51	-440.93	64.99	902.28	845.50	56.78	15.891
12,886.24	12,591.42	13,021.08	12,592.17	31.81	28.39	90.06	-476.41	64.99	902.25	845.16	57.09	15.805
12,900.00	12,593.57	13,034.66	12,592.12	31.86	28.46	89.92	-489.99	64.98	902.25	845.04	57.21	15.771
12,950.00	12,598.64	13,084.37	12,591.94	32.07	28.69	89.58	-539.70	64.98	902.28	844.61	57.67	15.645
12,984.70	12,599.60	13,119.04	12,591.82	32.23	28.87	89.51	-574.37	64.98	902.30	844.27	58.03	15.550
13,000.00	12,599.56	13,134.35	12,591.76	32.30	28.96	89.51	-589.68	64.98	902.30	844.11	58.19	15.506
13,100.00	12,599.29	13,234.35	12,591.40	32.81	29.54	89.51	-689.68	64.97	902.32	842.98	59.34	15.206
13,200.00	12,599.03	13,334.35	12,591.04	33.39	30.20	89.50	-789.68	64.96	902.33	841.69	60.64	14.879
13,300.00	12,598.76	13,434.35	12,590.67	34.05	30.94	89.49	-889.67	64.95	902.35	840.26	62.09	14.532
13,400.00	12,598.50	13,534.35	12,590.31	34.77	31.74	89.49	-989.67	64.94	902.37	838.69	63.68	14.171
13,500.00	12,598.23	13,634.35	12,589.95	35.55	32.60	89.48	-1,089.67	64.94	902.39	837.00	65.38	13.801
13,600.00	12,597.97	13,734.35	12,589.58	36.38	33.52	89.47	-1,189.67	64.93	902.40	835.19	67.21	13.427
13,700.00	12,597.70	13,834.35	12,589.22	37.28	34.50	89.47	-1,289.67	64.92	902.42	833.28	69.14	13.052
13,800.00	12,597.44	13,934.35	12,588.86	38.22	35.52	89.46	-1,389.67	64.91	902.44	831.27	71.17	12.680
13,900.00	12,597.18	14,034.35	12,588.50	39.20	36.59	89.46	-1,489.67	64.90	902.46	829.17	73.29	12.314
14,000.00	12,596.91	14,134.35	12,588.13	40.23	37.69	89.45	-1,589.67	64.90	902.47	826.99	75.49	11.956

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: 82H
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Plan #1

Local Co-ordinate Reference: Well 82H
TVD Reference: 3318.6' GE + 21' KB @ 3339.60usft
MD Reference: 3318.6' GE + 21' KB @ 3339.60usft
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)	Offset Wellbore Centre +E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
14,100.00	12,596.65	14,234.35	12,587.77	41.30	38.84	89.44	-1,689.67	64.89	902.49	824.73	77.76	11.606		
14,200.00	12,596.38	14,334.35	12,587.41	42.40	40.02	89.44	-1,789.67	64.88	902.51	822.40	80.10	11.267		
14,300.00	12,596.12	14,434.35	12,587.04	43.54	41.23	89.43	-1,889.67	64.87	902.53	820.01	82.51	10.938		
14,400.00	12,595.85	14,534.35	12,586.68	44.71	42.46	89.42	-1,989.67	64.86	902.54	817.57	84.98	10.621		
14,500.00	12,595.59	14,634.35	12,586.32	45.90	43.73	89.42	-2,089.67	64.85	902.56	815.07	87.49	10.316		
14,600.00	12,595.32	14,734.35	12,585.96	47.13	45.02	89.41	-2,189.67	64.85	902.58	812.52	90.06	10.022		
14,700.00	12,595.06	14,834.35	12,585.59	48.37	46.33	89.41	-2,289.66	64.84	902.60	809.93	92.67	9.740		
14,800.00	12,594.79	14,934.35	12,585.23	49.64	47.66	89.40	-2,389.66	64.83	902.61	807.30	95.32	9.469		
14,900.00	12,594.53	15,034.35	12,584.87	50.93	49.00	89.39	-2,489.66	64.82	902.63	804.63	98.01	9.210		
15,000.00	12,594.27	15,134.35	12,584.50	52.24	50.37	89.39	-2,589.66	64.81	902.65	801.92	100.73	8.961		
15,100.00	12,594.00	15,234.35	12,584.14	53.57	51.75	89.38	-2,689.66	64.81	902.67	799.19	103.48	8.723		
15,200.00	12,593.74	15,334.35	12,583.78	54.91	53.15	89.37	-2,789.66	64.80	902.68	796.42	106.26	8.495		
15,300.00	12,593.47	15,434.35	12,583.42	56.27	54.55	89.37	-2,889.66	64.79	902.70	793.63	109.07	8.276		
15,400.00	12,593.21	15,534.35	12,583.05	57.64	55.97	89.36	-2,989.66	64.78	902.72	790.81	111.91	8.067		
15,500.00	12,592.94	15,634.35	12,582.69	59.03	57.41	89.36	-3,089.66	64.77	902.74	787.97	114.76	7.866		
15,600.00	12,592.68	15,734.35	12,582.33	60.43	58.85	89.35	-3,189.66	64.77	902.75	785.11	117.64	7.674		
15,700.00	12,592.41	15,834.35	12,581.96	61.84	60.30	89.34	-3,289.66	64.76	902.77	782.23	120.54	7.489		
15,800.00	12,592.15	15,934.35	12,581.60	63.26	61.76	89.34	-3,389.66	64.75	902.79	779.33	123.46	7.312		
15,900.00	12,591.89	16,034.35	12,581.24	64.69	63.23	89.33	-3,489.66	64.74	902.81	776.42	126.39	7.143		
16,000.00	12,591.62	16,134.35	12,580.87	66.13	64.71	89.32	-3,589.66	64.73	902.83	773.48	129.34	6.980		
16,100.00	12,591.36	16,234.35	12,580.51	67.58	66.20	89.32	-3,689.65	64.72	902.84	770.54	132.31	6.824		
16,200.00	12,591.09	16,334.35	12,580.15	69.04	67.69	89.31	-3,789.65	64.72	902.86	767.57	135.29	6.674		
16,300.00	12,590.83	16,434.35	12,579.79	70.50	69.19	89.31	-3,889.65	64.71	902.88	764.60	138.28	6.529		
16,400.00	12,590.56	16,534.35	12,579.42	71.98	70.69	89.30	-3,989.65	64.70	902.90	761.61	141.28	6.391		
16,500.00	12,590.30	16,634.35	12,579.06	73.46	72.20	89.29	-4,089.65	64.69	902.91	758.62	144.30	6.257		
16,600.00	12,590.03	16,734.35	12,578.70	74.94	73.72	89.29	-4,189.65	64.68	902.93	755.61	147.33	6.129		
16,700.00	12,589.77	16,834.35	12,578.33	76.43	75.24	89.28	-4,289.65	64.68	902.95	752.59	150.36	6.005		
16,800.00	12,589.50	16,934.35	12,577.97	77.93	76.76	89.27	-4,389.65	64.67	902.97	749.56	153.41	5.886		
16,900.00	12,589.24	17,034.35	12,577.61	79.43	78.29	89.27	-4,489.65	64.66	902.99	746.52	156.46	5.771		
17,000.00	12,588.98	17,134.35	12,577.25	80.94	79.83	89.26	-4,589.65	64.65	903.00	743.48	159.53	5.661		
17,100.00	12,588.71	17,234.35	12,576.88	82.46	81.36	89.26	-4,689.65	64.64	903.02	740.42	162.60	5.554		
17,200.00	12,588.45	17,334.35	12,576.52	83.97	82.91	89.25	-4,789.65	64.64	903.04	737.36	165.68	5.451		
17,300.00	12,588.18	17,434.35	12,576.16	85.49	84.45	89.24	-4,889.65	64.63	903.06	734.29	168.76	5.351		
17,400.00	12,587.92	17,534.35	12,575.79	87.02	86.00	89.24	-4,989.65	64.62	903.08	731.22	171.86	5.255		
17,500.00	12,587.65	17,634.35	12,575.43	88.55	87.55	89.23	-5,089.64	64.61	903.09	728.14	174.95	5.162		
17,600.00	12,587.39	17,734.35	12,575.07	90.08	89.10	89.22	-5,189.64	64.60	903.11	725.05	178.06	5.072		
17,700.00	12,587.12	17,834.35	12,574.70	91.62	90.66	89.22	-5,289.64	64.59	903.13	721.96	181.17	4.985		
17,800.00	12,586.86	17,934.35	12,574.34	93.16	92.22	89.21	-5,389.64	64.59	903.15	718.86	184.29	4.901		
17,900.00	12,586.59	18,034.35	12,573.98	94.70	93.78	89.21	-5,489.64	64.58	903.16	715.76	187.41	4.819		
18,000.00	12,586.33	18,134.35	12,573.62	96.25	95.35	89.20	-5,589.64	64.57	903.18	712.65	190.53	4.740		
18,100.00	12,586.07	18,234.35	12,573.25	97.80	96.91	89.19	-5,689.64	64.56	903.20	709.54	193.66	4.664		
18,200.00	12,585.80	18,334.35	12,572.89	99.35	98.48	89.19	-5,789.64	64.55	903.22	706.42	196.80	4.590		
18,300.00	12,585.54	18,434.35	12,572.53	100.90	100.05	89.18	-5,889.64	64.55	903.24	703.30	199.94	4.518		
18,400.00	12,585.27	18,534.35	12,572.16	102.46	101.63	89.17	-5,989.64	64.54	903.25	700.17	203.08	4.448		
18,500.00	12,585.01	18,634.35	12,571.80	104.02	103.20	89.17	-6,089.64	64.53	903.27	697.04	206.23	4.380		
18,600.00	12,584.74	18,734.35	12,571.44	105.58	104.78	89.16	-6,189.64	64.52	903.29	693.91	209.38	4.314		
18,700.00	12,584.48	18,834.35	12,571.08	107.15	106.36	89.16	-6,289.64	64.51	903.31	690.77	212.54	4.250		
18,800.00	12,584.21	18,934.35	12,570.71	108.71	107.94	89.15	-6,389.64	64.51	903.33	687.63	215.69	4.188		
18,900.00	12,583.95	19,034.35	12,570.35	110.28	109.52	89.14	-6,489.63	64.50	903.34	684.49	218.86	4.128		
19,000.00	12,583.69	19,134.35	12,569.99	111.85	111.10	89.14	-6,589.63	64.49	903.36	681.34	222.02	4.069		
19,100.00	12,583.42	19,234.35	12,569.62	113.42	112.69	89.13	-6,689.63	64.48	903.38	678.19	225.19	4.012		
19,200.00	12,583.16	19,334.35	12,569.26	114.99	114.27	89.12	-6,789.63	64.47	903.40	675.04	228.36	3.956		

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: 82H
 Well Error: 0.00 usft
 Reference Wellbore: OH
 Reference Design: Plan #1

Local Co-ordinate Reference: Well 82H
 TVD Reference: 3318.6' GE + 21' KB @ 3339.60usft
 MD Reference: 3318.6' GE + 21' KB @ 3339.60usft
 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 +N/-S (usft)	Centre +E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	
19,300.00	12,582.89	19,434.35	12,568.90	116.57	115.86	89.12	-6,889.63	64.47	903.42	671.89	231.53	3.902	
19,400.00	12,582.63	19,534.35	12,568.54	118.15	117.45	89.11	-6,989.63	64.46	903.43	668.73	234.70	3.849	
19,500.00	12,582.36	19,634.35	12,568.17	119.72	119.04	89.11	-7,089.63	64.45	903.45	665.57	237.88	3.798	
19,600.00	12,582.10	19,734.35	12,567.81	121.30	120.63	89.10	-7,189.63	64.44	903.47	662.41	241.06	3.748	
19,700.00	12,581.83	19,834.35	12,567.45	122.88	122.22	89.09	-7,289.63	64.43	903.49	659.24	244.24	3.699	
19,800.00	12,581.57	19,934.35	12,567.08	124.47	123.82	89.09	-7,389.63	64.42	903.51	656.08	247.43	3.652	
19,900.00	12,581.30	20,034.35	12,566.72	126.05	125.41	89.08	-7,489.63	64.42	903.53	652.91	250.62	3.605	
20,000.00	12,581.04	20,134.35	12,566.36	127.64	127.01	89.08	-7,589.63	64.41	903.54	649.74	253.80	3.560	
20,100.00	12,580.78	20,234.35	12,565.99	129.22	128.60	89.07	-7,689.63	64.40	903.56	646.57	257.00	3.516	
20,200.00	12,580.51	20,334.35	12,565.63	130.81	130.20	89.06	-7,789.63	64.39	903.58	643.39	260.19	3.473	
20,300.00	12,580.25	20,434.35	12,565.27	132.40	131.80	89.06	-7,889.62	64.38	903.60	640.22	263.38	3.431	
20,400.00	12,579.98	20,534.34	12,564.91	133.99	133.40	89.05	-7,989.62	64.38	903.62	637.04	266.58	3.390	
20,500.00	12,579.72	20,634.34	12,564.54	135.58	135.00	89.04	-8,089.62	64.37	903.63	633.86	269.78	3.350	
20,600.00	12,579.45	20,734.34	12,564.18	137.17	136.60	89.04	-8,189.62	64.36	903.65	630.68	272.98	3.310	
20,700.00	12,579.19	20,834.34	12,563.82	138.76	138.20	89.03	-8,289.62	64.35	903.67	627.49	276.18	3.272	
20,800.00	12,578.92	20,934.34	12,563.45	140.36	139.80	89.03	-8,389.62	64.34	903.69	624.31	279.38	3.235	
20,900.00	12,578.66	21,034.34	12,563.09	141.95	141.41	89.02	-8,489.62	64.34	903.71	621.12	282.58	3.198	
21,000.00	12,578.40	21,134.34	12,562.73	143.55	143.01	89.01	-8,589.62	64.33	903.73	617.94	285.79	3.162	
21,100.00	12,578.13	21,234.34	12,562.37	145.14	144.62	89.01	-8,689.62	64.32	903.74	614.75	289.00	3.127	
21,200.00	12,577.87	21,334.34	12,562.00	146.74	146.22	89.00	-8,789.62	64.31	903.76	611.56	292.20	3.093	
21,300.00	12,577.60	21,434.34	12,561.64	148.34	147.83	88.99	-8,889.62	64.30	903.78	608.37	295.41	3.059	
21,400.00	12,577.34	21,534.34	12,561.28	149.94	149.43	88.99	-8,989.62	64.29	903.80	605.17	298.62	3.027	
21,500.00	12,577.07	21,634.34	12,560.91	151.54	151.04	88.98	-9,089.62	64.29	903.82	601.98	301.84	2.994	
21,600.00	12,576.81	21,734.34	12,560.55	153.14	152.65	88.98	-9,189.62	64.28	903.84	598.79	305.05	2.963	
21,700.00	12,576.54	21,834.34	12,560.19	154.74	154.26	88.97	-9,289.62	64.27	903.85	595.59	308.26	2.932	
21,800.00	12,576.28	21,934.34	12,559.82	156.34	155.86	88.96	-9,389.61	64.26	903.87	592.39	311.48	2.902	
21,900.00	12,576.01	22,034.34	12,559.46	157.94	157.47	88.96	-9,489.61	64.25	903.89	589.20	314.70	2.872	
22,000.00	12,575.75	22,134.34	12,559.10	159.54	159.08	88.95	-9,589.61	64.25	903.91	586.00	317.91	2.843	
22,100.00	12,575.49	22,234.34	12,558.74	161.15	160.69	88.94	-9,689.61	64.24	903.93	582.80	321.13	2.815	
22,200.00	12,575.22	22,334.34	12,558.37	162.75	162.30	88.94	-9,789.61	64.23	903.95	579.60	324.35	2.787	
22,300.00	12,574.96	22,434.34	12,558.01	164.36	163.92	88.93	-9,889.61	64.22	903.96	576.39	327.57	2.760	
22,400.00	12,574.69	22,534.34	12,557.65	165.96	165.40	88.93	-9,989.61	64.21	903.98	573.32	330.67	2.734	
22,434.80	12,574.60	22,569.14	12,557.52	166.52	165.83	88.92	-10,024.41	64.21	903.99	572.33	331.66	2.726	

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: 82H
 Well Error: 0.00 usft
 Reference Wellbore: OH
 Reference Design: Plan #1

Local Co-ordinate Reference: Well 82H
 TVD Reference: 3318.6' GE + 21' KB @ 3339.60usft
 MD Reference: 3318.6' GE + 21' KB @ 3339.60usft
 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 (°)	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
0.00	0.00	0.00	0.00	0.00	0.00	-90.40	-0.42	-59.98	59.98				
100.00	100.00	100.00	100.00	0.09	0.09	-90.40	-0.42	-59.98	59.98	59.80	0.18	337.799	
200.00	200.00	200.00	200.00	0.31	0.31	-90.40	-0.42	-59.98	59.98	59.35	0.63	95.649	
300.00	300.00	300.00	300.00	0.54	0.54	-90.40	-0.42	-59.98	59.98	58.90	1.08	55.712	
400.00	400.00	400.00	400.00	0.76	0.76	-90.40	-0.42	-59.98	59.98	58.46	1.53	39.302	
500.00	500.00	500.00	500.00	0.99	0.99	-90.40	-0.42	-59.98	59.98	58.01	1.98	30.360	
600.00	600.00	600.00	600.00	1.21	1.21	-90.40	-0.42	-59.98	59.98	57.56	2.43	24.732	
700.00	700.00	700.00	700.00	1.44	1.44	-90.40	-0.42	-59.98	59.98	57.11	2.87	20.865	
800.00	800.00	800.00	800.00	1.66	1.66	-90.40	-0.42	-59.98	59.98	56.66	3.32	18.043	
900.00	900.00	900.00	900.00	1.89	1.89	-90.40	-0.42	-59.98	59.98	56.21	3.77	15.894	
1,000.00	1,000.00	1,000.00	1,000.00	2.11	2.11	-90.40	-0.42	-59.98	59.98	55.76	4.22	14.202	
1,100.00	1,100.00	1,100.00	1,100.00	2.34	2.34	-90.40	-0.42	-59.98	59.98	55.31	4.67	12.836	
1,200.00	1,200.00	1,200.00	1,200.00	2.56	2.56	-90.40	-0.42	-59.98	59.98	54.86	5.12	11.710	
1,300.00	1,300.00	1,300.00	1,300.00	2.79	2.79	-90.40	-0.42	-59.98	59.98	54.41	5.57	10.765	
1,400.00	1,400.00	1,400.00	1,400.00	3.01	3.01	-90.40	-0.42	-59.98	59.98	53.96	6.02	9.961	
1,500.00	1,500.00	1,500.00	1,500.00	3.24	3.24	-90.40	-0.42	-59.98	59.98	53.51	6.47	9.269	
1,600.00	1,600.00	1,600.00	1,600.00	3.46	3.46	-90.40	-0.42	-59.98	59.98	53.06	6.92	8.667	
1,700.00	1,700.00	1,700.00	1,700.00	3.69	3.69	-90.40	-0.42	-59.98	59.98	52.61	7.37	8.139	
1,800.00	1,800.00	1,800.00	1,800.00	3.91	3.91	-90.40	-0.42	-59.98	59.98	52.16	7.82	7.671	
1,900.00	1,900.00	1,900.00	1,900.00	4.13	4.13	-90.40	-0.42	-59.98	59.98	51.71	8.27	7.254	
2,000.00	2,000.00	2,000.00	2,000.00	4.36	4.36	-90.40	-0.42	-59.98	59.98	51.26	8.72	6.880	
2,100.00	2,100.00	2,100.00	2,100.00	4.58	4.58	-90.40	-0.42	-59.98	59.98	50.81	9.17	6.542	
2,200.00	2,200.00	2,200.00	2,200.00	4.81	4.81	-90.40	-0.42	-59.98	59.98	50.36	9.62	6.237	
2,300.00	2,300.00	2,300.00	2,300.00	5.03	5.03	-90.40	-0.42	-59.98	59.98	49.91	10.07	5.958	
2,400.00	2,400.00	2,400.00	2,400.00	5.26	5.26	-90.40	-0.42	-59.98	59.98	49.46	10.52	5.703	
2,500.00	2,500.00	2,500.00	2,500.00	5.48	5.48	-90.40	-0.42	-59.98	59.98	49.02	10.97	5.470	
2,600.00	2,600.00	2,601.00	2,600.99	5.71	5.70	-90.14	-0.14	-59.13	59.14	47.74	11.41	5.185	
2,700.00	2,700.00	2,701.93	2,701.89	5.93	5.91	-89.31	0.68	-56.60	56.63	44.80	11.83	4.785	
2,800.00	2,800.00	2,802.74	2,802.60	6.16	6.12	-87.76	2.05	-52.38	52.48	40.22	12.26	4.280	
2,900.00	2,899.99	2,903.42	2,903.08	6.37	6.34	-175.22	3.97	-46.48	47.62	34.95	12.67	3.758	
3,000.00	2,999.96	3,003.96	3,003.31	6.57	6.55	-171.40	6.42	-38.92	43.02	29.95	13.07	3.292	
3,100.00	3,099.86	3,103.85	3,102.82	6.77	6.77	-166.71	9.11	-30.64	39.66	26.18	13.48	2.942	
3,200.00	3,199.68	3,203.79	3,202.38	6.97	7.00	-162.03	11.81	-22.35	38.28	24.38	13.90	2.754	
3,222.64	3,222.25	3,226.41	3,224.92	7.02	7.05	-161.05	12.42	-20.48	38.23	24.23	14.00	2.731 CC, ES	
3,300.00	3,299.37	3,303.75	3,301.96	7.18	7.22	-158.04	14.50	-14.07	38.78	24.45	14.33	2.707	
3,400.00	3,398.90	3,403.70	3,401.53	7.40	7.45	-155.22	17.19	-5.78	41.04	26.28	14.76	2.781	
3,500.00	3,498.26	3,503.62	3,501.07	7.62	7.68	-153.71	19.88	2.50	44.94	29.75	15.19	2.959	
3,600.00	3,597.51	3,603.51	3,600.57	7.85	7.92	-152.93	22.57	10.78	49.65	34.02	15.63	3.177	
3,700.00	3,696.77	3,703.39	3,700.08	8.08	8.15	-152.28	25.26	19.06	54.36	38.30	16.07	3.384	
3,800.00	3,796.02	3,803.28	3,799.59	8.32	8.39	-151.73	27.95	27.34	59.08	42.57	16.51	3.579	
3,900.00	3,895.28	3,903.17	3,899.10	8.56	8.62	-151.26	30.64	35.62	63.81	46.85	16.96	3.763	
4,000.00	3,994.53	4,003.05	3,998.60	8.80	8.86	-150.86	33.33	43.90	68.53	51.13	17.41	3.937	
4,100.00	4,093.79	4,102.94	4,098.11	9.05	9.10	-150.51	36.02	52.18	73.26	55.40	17.86	4.102	
4,200.00	4,193.04	4,202.83	4,197.62	9.30	9.35	-150.21	38.71	60.46	78.00	59.68	18.32	4.258	
4,300.00	4,292.30	4,302.72	4,297.12	9.55	9.59	-149.93	41.40	68.74	82.73	63.96	18.78	4.406	
4,400.00	4,391.55	4,402.60	4,396.63	9.81	9.83	-149.69	44.09	77.02	87.47	68.23	19.24	4.546	
4,500.00	4,490.81	4,502.49	4,496.14	10.06	10.08	-149.47	46.78	85.30	92.21	72.50	19.70	4.680	
4,600.00	4,590.06	4,602.38	4,595.64	10.32	10.32	-149.28	49.47	93.58	96.95	76.78	20.17	4.806	
4,700.00	4,689.32	4,702.26	4,695.15	10.59	10.57	-149.10	52.16	101.86	101.69	81.05	20.64	4.927	
4,800.00	4,788.57	4,802.15	4,794.66	10.85	10.82	-148.94	54.85	110.14	106.43	85.32	21.11	5.042	
4,900.00	4,887.82	4,902.04	4,894.17	11.12	11.07	-148.79	57.54	118.42	111.17	89.59	21.58	5.151	
5,000.00	4,987.08	5,001.93	4,993.67	11.39	11.32	-148.65	60.23	126.70	115.92	93.86	22.05	5.256	

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

LEAM Drilling Systems LLC

Anticollision Report

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 Reference Site: Seawolf 1-12 Fed
 Site Error: 0.00 usft
 Reference Well: 82H
 Well Error: 0.00 usft
 Reference Wellbore: OH
 Reference Design: Plan #1

Local Co-ordinate Reference: Well 82H
 TVD Reference: 3318.6' GE + 21' KB @ 3339.60usft
 MD Reference: 3318.6' GE + 21' KB @ 3339.60usft
 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)	Between Centres (usft)	Between Ellipses (usft)					
5,100.00	5,086.33	5,101.81	5,093.18	11.65	11.57	-148.53	62.92	134.97	120.66	98.13	22.53	5.356			
5,200.00	5,185.59	5,201.70	5,192.69	11.92	11.82	-148.41	65.61	143.25	125.40	102.40	23.01	5.451			
5,300.00	5,284.84	5,301.59	5,292.19	12.20	12.07	-148.30	68.31	151.53	130.15	106.66	23.48	5.542			
5,400.00	5,384.10	5,401.47	5,391.70	12.47	12.32	-148.20	71.00	159.81	134.89	110.93	23.96	5.629			
5,500.00	5,483.35	5,501.36	5,491.21	12.74	12.57	-148.11	73.69	168.09	139.64	115.19	24.44	5.713			
5,600.00	5,582.61	5,601.25	5,590.71	13.02	12.82	-148.02	76.38	176.37	144.38	119.46	24.92	5.793			
5,700.00	5,681.86	5,701.13	5,690.22	13.30	13.08	-147.94	79.07	184.65	149.13	123.72	25.41	5.870			
5,800.00	5,781.12	5,801.02	5,789.73	13.57	13.33	-147.87	81.76	192.93	153.88	127.98	25.89	5.943			
5,900.00	5,880.37	5,900.91	5,889.24	13.85	13.58	-147.79	84.45	201.21	158.62	132.25	26.38	6.014			
6,000.00	5,979.63	6,000.80	5,988.74	14.13	13.84	-147.73	87.14	209.49	163.37	136.51	26.86	6.082			
6,100.00	6,078.88	6,100.68	6,088.25	14.41	14.09	-147.66	89.83	217.77	168.12	140.77	27.35	6.147			
6,200.00	6,178.13	6,200.57	6,187.76	14.69	14.35	-147.60	92.52	226.05	172.86	145.03	27.83	6.210			
6,300.00	6,277.39	6,300.46	6,287.26	14.97	14.60	-147.54	95.21	234.33	177.61	149.29	28.32	6.271			
6,400.00	6,376.64	6,400.34	6,386.77	15.26	14.86	-147.49	97.90	242.61	182.36	153.55	28.81	6.330			
6,500.00	6,475.90	6,500.23	6,486.28	15.54	15.11	-147.44	100.59	250.89	187.11	157.81	29.30	6.386			
6,600.00	6,575.15	6,600.12	6,585.78	15.82	15.37	-147.39	103.28	259.17	191.85	162.06	29.79	6.440			
6,700.00	6,674.41	6,700.01	6,685.29	16.11	15.62	-147.34	105.97	267.45	196.60	166.32	30.28	6.493			
6,800.00	6,773.66	6,799.89	6,784.80	16.39	15.88	-147.30	108.66	275.73	201.35	170.58	30.77	6.543			
6,900.00	6,872.92	6,899.78	6,884.31	16.67	16.14	-147.26	111.35	284.01	206.10	174.83	31.26	6.592			
7,000.00	6,972.17	6,999.67	6,983.81	16.96	16.39	-147.22	114.04	292.29	210.85	179.09	31.76	6.640			
7,100.00	7,071.43	7,099.55	7,083.32	17.25	16.65	-147.18	116.73	300.57	215.59	183.35	32.25	6.685			
7,200.00	7,170.68	7,199.44	7,182.83	17.53	16.91	-147.14	119.42	308.85	220.34	187.60	32.74	6.730			
7,300.00	7,269.94	7,299.33	7,282.33	17.82	17.16	-147.10	122.11	317.13	225.09	191.86	33.24	6.773			
7,400.00	7,369.19	7,399.22	7,381.84	18.11	17.42	-147.07	124.80	325.41	229.84	196.11	33.73	6.814			
7,500.00	7,468.44	7,499.10	7,481.35	18.39	17.68	-147.04	127.49	333.69	234.59	200.36	34.22	6.854			
7,600.00	7,567.70	7,598.99	7,580.85	18.68	17.94	-147.01	130.18	341.97	239.34	204.62	34.72	6.893			
7,700.00	7,666.95	7,698.88	7,680.36	18.97	18.20	-146.98	132.87	350.25	244.09	208.87	35.22	6.931			
7,800.00	7,766.21	7,798.76	7,779.87	19.26	18.45	-146.95	135.56	358.53	248.84	213.12	35.71	6.968			
7,900.00	7,865.46	7,898.65	7,879.38	19.55	18.71	-146.92	138.25	366.81	253.58	217.38	36.21	7.004			
8,000.00	7,964.72	7,998.54	7,978.88	19.84	18.97	-146.89	140.94	375.08	258.33	221.63	36.70	7.038			
8,100.00	8,063.97	8,098.43	8,078.39	20.13	19.23	-146.87	143.63	383.36	263.08	225.88	37.20	7.072			
8,200.00	8,163.23	8,198.31	8,177.90	20.41	19.49	-146.84	146.32	391.64	267.83	230.13	37.70	7.105			
8,300.00	8,262.48	8,298.20	8,277.40	20.70	19.75	-146.82	149.01	399.92	272.58	234.38	38.20	7.136			
8,400.00	8,361.74	8,398.09	8,376.91	21.00	20.01	-146.80	151.70	408.20	277.33	238.64	38.69	7.167			
8,500.00	8,460.99	8,497.97	8,476.42	21.29	20.27	-146.77	154.39	416.48	282.08	242.89	39.19	7.197			
8,600.00	8,560.25	8,597.86	8,575.92	21.58	20.52	-146.75	157.08	424.76	286.83	247.14	39.69	7.227			
8,700.00	8,659.50	8,697.75	8,675.43	21.87	20.78	-146.73	159.77	433.04	291.58	251.39	40.19	7.255			
8,800.00	8,758.75	8,797.64	8,774.94	22.16	21.04	-146.71	162.46	441.32	296.33	255.64	40.69	7.283			
8,900.00	8,858.01	8,897.52	8,874.45	22.45	21.30	-146.69	165.15	449.60	301.08	259.89	41.19	7.310			
9,000.00	8,957.26	8,997.41	8,973.95	22.74	21.56	-146.67	167.84	457.88	305.83	264.14	41.69	7.336			
9,100.00	9,056.52	9,097.30	9,073.46	23.03	21.82	-146.65	170.53	466.16	310.58	268.39	42.19	7.362			
9,200.00	9,155.77	9,197.18	9,172.97	23.32	22.08	-146.64	173.22	474.44	315.33	272.64	42.69	7.387			
9,300.00	9,255.03	9,295.40	9,270.84	23.62	22.31	-146.67	175.95	482.21	320.33	277.17	43.16	7.423			
9,400.00	9,354.28	9,393.51	9,368.68	23.91	22.50	-146.83	178.01	489.17	325.87	282.28	43.59	7.476			
9,500.00	9,453.54	9,491.54	9,466.50	24.20	22.69	-147.09	180.01	495.32	331.95	287.94	44.01	7.542			
9,600.00	9,552.79	9,589.48	9,564.27	24.49	22.88	-147.45	181.75	500.68	338.58	294.16	44.42	7.622			
9,700.00	9,652.05	9,687.31	9,661.99	24.79	23.06	-147.90	183.23	505.24	345.77	300.95	44.82	7.715			
9,800.00	9,751.30	9,785.03	9,759.62	25.08	23.24	-148.44	184.45	509.00	353.53	308.32	45.21	7.820			
9,900.00	9,850.56	9,882.61	9,857.15	25.37	23.42	-149.05	185.42	511.97	361.89	316.30	45.59	7.938			
10,000.00	9,949.81	9,980.04	9,954.56	25.67	23.59	-149.73	186.12	514.14	370.84	324.89	45.96	8.070			
10,100.00	10,049.06	10,077.32	10,051.82	25.96	23.76	-150.47	186.57	515.52	380.43	334.11	46.32	8.214			
10,200.00	10,148.32	10,174.42	10,148.92	26.25	23.93	-151.26	186.77	516.12	390.65	343.98	46.67	8.371			

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: 82H
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Plan #1

Local Co-ordinate Reference: Well 82H
TVD Reference: 3318.6' GE + 21' KB @ 3339.60usft
MD Reference: 3318.6' GE + 21' KB @ 3339.60usft
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						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)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
10,300.00	10,247.57	10,273.07	10,247.57	26.55	24.11	-152.09	186.77	516.15	401.38	354.34	47.04	8.533	
10,385.00	10,331.94	10,357.44	10,331.94	26.80	24.27	-152.77	186.77	516.15	410.58	363.21	47.37	8.668	
10,400.00	10,346.83	10,372.33	10,346.83	26.84	24.30	-152.89	186.77	516.15	412.20	364.77	47.42	8.692	
10,500.00	10,446.15	10,471.65	10,446.15	27.06	24.50	-153.63	186.77	516.15	422.59	374.81	47.78	8.845	
10,600.00	10,545.57	10,571.07	10,545.57	27.28	24.70	-154.28	186.77	516.15	432.26	384.12	48.14	8.979	
10,700.00	10,645.08	10,670.58	10,645.08	27.49	24.90	-154.86	186.77	516.15	441.20	392.70	48.51	9.096	
10,800.00	10,744.67	10,770.17	10,744.67	27.70	25.10	-155.36	186.77	516.15	449.39	400.52	48.88	9.195	
10,900.00	10,844.34	10,869.84	10,844.34	27.91	25.30	-155.80	186.77	516.15	456.82	407.57	49.25	9.276	
11,000.00	10,944.07	10,969.57	10,944.07	28.11	25.50	-156.19	186.77	516.15	463.47	413.85	49.62	9.340	
11,100.00	11,043.87	11,069.36	11,043.87	28.31	25.70	-156.51	186.77	516.15	469.34	419.34	50.00	9.387	
11,200.00	11,143.71	11,169.21	11,143.71	28.50	25.90	-156.79	186.77	516.15	474.43	424.05	50.38	9.417	
11,300.00	11,243.61	11,269.10	11,243.61	28.68	26.11	-157.02	186.77	516.15	478.72	427.96	50.76	9.430	
11,400.00	11,343.53	11,369.03	11,343.53	28.86	26.31	-157.20	186.77	516.15	482.22	431.07	51.15	9.428	
11,500.00	11,443.49	11,468.99	11,443.49	29.04	26.51	-157.34	186.77	516.15	484.92	433.38	51.53	9.410	
11,600.00	11,543.47	11,568.96	11,543.47	29.21	26.72	-157.44	186.77	516.15	486.81	434.89	51.92	9.377	
11,700.00	11,643.46	11,668.96	11,643.46	29.38	26.92	-157.49	186.77	516.15	487.90	435.59	52.30	9.328	
11,785.00	11,728.46	11,753.96	11,728.46	29.52	27.09	-67.51	186.77	516.15	488.19	435.55	52.64	9.275	
11,800.00	11,743.46	11,768.96	11,743.46	29.54	27.13	-67.51	186.77	516.15	488.19	435.49	52.70	9.264	
11,900.00	11,843.46	11,868.96	11,843.46	29.73	27.33	-67.51	186.77	516.15	488.19	435.08	53.11	9.192	
12,000.00	11,943.46	11,968.96	11,943.46	29.91	27.53	-67.51	186.77	516.15	488.19	434.67	53.52	9.122	
12,083.18	12,026.64	12,052.14	12,026.64	30.06	27.71	-67.51	186.77	516.15	488.19	434.33	53.86	9.064	
12,100.00	12,043.46	12,068.95	12,043.46	30.09	27.74	112.52	186.77	516.15	488.28	434.35	53.93	9.054	
12,150.00	12,093.31	12,118.80	12,093.31	30.18	27.84	112.78	186.77	516.15	489.69	435.55	54.14	9.044	
12,200.00	12,142.65	12,175.57	12,150.07	30.26	27.96	113.45	186.37	516.15	492.75	438.35	54.40	9.058	
12,250.00	12,191.11	12,252.03	12,226.05	30.35	28.08	114.35	178.44	516.15	495.67	441.06	54.61	9.077	
12,300.00	12,238.32	12,330.18	12,301.93	30.43	28.19	114.95	159.94	516.15	497.68	443.03	54.65	9.107	
12,350.00	12,283.92	12,409.39	12,375.54	30.52	28.29	115.24	130.86	516.15	498.65	444.11	54.54	9.143	
12,400.00	12,327.56	12,488.90	12,444.68	30.60	28.38	115.20	91.74	516.15	498.54	444.21	54.33	9.176	
12,450.00	12,368.91	12,567.94	12,507.40	30.69	28.46	114.84	43.74	516.14	497.34	443.24	54.10	9.194	
12,500.00	12,407.65	12,645.78	12,562.14	30.78	28.54	114.18	-11.52	516.14	495.13	441.20	53.93	9.181	
12,550.00	12,443.50	12,721.80	12,607.89	30.88	28.62	113.22	-72.16	516.14	492.02	438.13	53.89	9.130	
12,600.00	12,476.17	12,795.51	12,644.22	30.98	28.71	112.02	-136.24	516.14	488.20	434.16	54.04	9.034	
12,650.00	12,505.42	12,866.58	12,671.18	31.09	28.83	110.59	-201.95	516.14	483.85	429.47	54.38	8.898	
12,700.00	12,531.03	12,934.85	12,689.24	31.22	28.97	108.98	-267.74	516.14	479.18	424.28	54.90	8.728	
12,750.00	12,552.80	13,000.24	12,699.08	31.35	29.15	107.22	-332.36	516.14	474.40	418.85	55.55	8.540	
12,800.00	12,570.56	13,060.16	12,701.65	31.51	29.35	105.45	-392.19	516.14	469.74	413.49	56.25	8.351	
12,850.00	12,584.19	13,108.32	12,701.91	31.68	29.53	104.27	-440.35	516.14	466.19	409.40	56.80	8.208	
12,900.00	12,593.57	13,157.46	12,702.17	31.86	29.74	103.41	-489.49	516.14	463.98	406.64	57.34	8.092	
12,950.00	12,598.64	13,207.22	12,702.43	32.07	29.97	102.94	-539.25	516.14	462.88	405.02	57.86	8.000	
12,979.93	12,599.59	13,237.13	12,702.59	32.21	30.12	102.86	-569.16	516.14	462.71	404.52	58.19	7.952	
12,984.70	12,599.60	13,241.90	12,702.61	32.23	30.14	102.86	-573.93	516.14	462.71	404.47	58.24	7.945	
13,000.00	12,599.56	13,257.20	12,702.69	32.30	30.22	102.88	-589.23	516.14	462.74	404.34	58.40	7.923	
13,100.00	12,599.29	13,357.20	12,703.22	32.81	30.79	102.97	-689.23	516.14	462.93	403.36	59.57	7.772	
13,200.00	12,599.03	13,457.19	12,703.75	33.39	31.43	103.07	-789.22	516.14	463.11	402.24	60.87	7.608	
13,300.00	12,598.76	13,557.19	12,704.28	34.05	32.14	103.16	-889.22	516.14	463.30	400.98	62.32	7.434	
13,400.00	12,598.50	13,657.19	12,704.81	34.77	32.92	103.26	-989.21	516.14	463.49	399.60	63.89	7.254	
13,500.00	12,598.23	13,757.19	12,705.34	35.55	33.76	103.35	-1,089.21	516.14	463.68	398.10	65.58	7.070	
13,600.00	12,597.97	13,857.18	12,705.87	36.38	34.66	103.45	-1,189.20	516.14	463.87	396.50	67.38	6.885	
13,700.00	12,597.70	13,957.18	12,706.40	37.28	35.61	103.55	-1,289.20	516.14	464.07	394.79	69.28	6.699	
13,800.00	12,597.44	14,057.18	12,706.92	38.22	36.61	103.64	-1,389.19	516.14	464.26	393.00	71.26	6.515	
13,900.00	12,597.18	14,157.17	12,707.45	39.20	37.65	103.73	-1,489.19	516.14	464.46	391.12	73.34	6.333	
14,000.00	12,596.91	14,257.17	12,707.98	40.23	38.74	103.83	-1,589.19	516.14	464.66	389.17	75.48	6.156	

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: 82H
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Plan #1

Local Co-ordinate Reference: Well 82H
TVD Reference: 3318.6' GE + 21' KB @ 3339.60usft
MD Reference: 3318.6' GE + 21' KB @ 3339.60usft
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: O-LEAM MWD+HDGM													Offset Well Error: 0.00 usft
Reference		Offset		Semi Major Axis		Highside Tooface (")	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	12,596.65	14,357.17	12,708.51	41.30	39.86	103.92	-1,689.18	516.14	464.86	387.15	77.70	5.982	
14,200.00	12,596.38	14,457.16	12,709.04	42.40	41.01	104.02	-1,789.18	516.14	465.06	385.07	79.98	5.814	
14,300.00	12,596.12	14,557.16	12,709.57	43.54	42.20	104.11	-1,889.17	516.14	465.26	382.93	82.32	5.652	
14,400.00	12,595.85	14,657.16	12,710.10	44.71	43.42	104.21	-1,989.17	516.14	465.46	380.74	84.72	5.494	
14,500.00	12,595.59	14,757.15	12,710.63	45.90	44.66	104.30	-2,089.16	516.14	465.66	378.51	87.16	5.343	
14,600.00	12,595.32	14,857.15	12,711.15	47.13	45.93	104.40	-2,189.16	516.14	465.87	376.22	89.64	5.197	
14,700.00	12,595.06	14,957.15	12,711.68	48.37	47.22	104.49	-2,289.15	516.14	466.07	373.91	92.17	5.057	
14,800.00	12,594.79	15,057.14	12,712.21	49.64	48.53	104.58	-2,389.15	516.14	466.28	371.55	94.73	4.922	
14,900.00	12,594.53	15,157.14	12,712.74	50.93	49.86	104.68	-2,489.14	516.14	466.49	369.16	97.33	4.793	
15,000.00	12,594.27	15,257.14	12,713.27	52.24	51.20	104.77	-2,589.14	516.14	466.70	366.74	99.96	4.669	
15,100.00	12,594.00	15,357.14	12,713.80	53.57	52.57	104.87	-2,689.14	516.14	466.91	364.30	102.61	4.550	
15,200.00	12,593.74	15,457.13	12,714.33	54.91	53.95	104.96	-2,789.13	516.14	467.12	361.83	105.29	4.436	
15,300.00	12,593.47	15,557.13	12,714.86	56.27	55.34	105.05	-2,889.13	516.14	467.34	359.34	108.00	4.327	
15,400.00	12,593.21	15,657.13	12,715.38	57.64	56.74	105.15	-2,989.12	516.14	467.55	356.83	110.73	4.223	
15,500.00	12,592.94	15,757.12	12,715.91	59.03	58.16	105.24	-3,089.12	516.14	467.77	354.30	113.47	4.122	
15,600.00	12,592.68	15,857.12	12,716.44	60.43	59.59	105.33	-3,189.11	516.14	467.99	351.75	116.24	4.026	
15,700.00	12,592.41	15,957.12	12,716.97	61.84	61.03	105.43	-3,289.11	516.14	468.21	349.18	119.02	3.934	
15,800.00	12,592.15	16,057.11	12,717.50	63.26	62.48	105.52	-3,389.10	516.14	468.43	346.61	121.82	3.845	
15,900.00	12,591.89	16,157.11	12,718.03	64.69	63.93	105.61	-3,489.10	516.14	468.65	344.02	124.63	3.760	
16,000.00	12,591.62	16,257.11	12,718.56	66.13	65.40	105.71	-3,589.09	516.14	468.87	341.41	127.46	3.679	
16,100.00	12,591.36	16,357.10	12,719.09	67.58	66.87	105.80	-3,689.09	516.14	469.09	338.80	130.30	3.600	
16,200.00	12,591.09	16,457.10	12,719.61	69.04	68.35	105.89	-3,789.09	516.14	469.32	336.17	133.15	3.525	
16,300.00	12,590.83	16,557.10	12,720.14	70.50	69.84	105.99	-3,889.08	516.14	469.55	333.54	136.00	3.452	
16,400.00	12,590.56	16,657.09	12,720.67	71.98	71.34	106.08	-3,989.08	516.13	469.77	330.90	138.87	3.383	
16,500.00	12,590.30	16,757.09	12,721.20	73.46	72.84	106.17	-4,089.07	516.13	470.00	328.25	141.75	3.316	
16,600.00	12,590.03	16,857.09	12,721.73	74.94	74.34	106.26	-4,189.07	516.13	470.23	325.60	144.64	3.251	
16,700.00	12,589.77	16,957.08	12,722.26	76.43	75.85	106.36	-4,289.06	516.13	470.46	322.93	147.53	3.189	
16,800.00	12,589.50	17,057.08	12,722.79	77.93	77.37	106.45	-4,389.06	516.13	470.69	320.27	150.43	3.129	
16,900.00	12,589.24	17,157.08	12,723.32	79.43	78.89	106.54	-4,489.05	516.13	470.93	317.59	153.33	3.071	
17,000.00	12,588.98	17,257.08	12,723.84	80.94	80.41	106.63	-4,589.05	516.13	471.16	314.92	156.25	3.016	
17,100.00	12,588.71	17,357.07	12,724.37	82.46	81.94	106.73	-4,689.04	516.13	471.40	312.24	159.16	2.962	
17,200.00	12,588.45	17,457.07	12,724.90	83.97	83.48	106.82	-4,789.04	516.13	471.64	309.55	162.08	2.910	
17,300.00	12,588.18	17,557.07	12,725.43	85.49	85.01	106.91	-4,889.04	516.13	471.87	306.86	165.01	2.860	
17,400.00	12,587.92	17,657.06	12,725.96	87.02	86.56	107.00	-4,989.03	516.13	472.11	304.17	167.94	2.811	
17,500.00	12,587.65	17,757.06	12,726.49	88.55	88.10	107.09	-5,089.03	516.13	472.36	301.48	170.87	2.764	
17,600.00	12,587.39	17,857.06	12,727.02	90.08	89.65	107.18	-5,189.02	516.13	472.60	298.79	173.81	2.719	
17,700.00	12,587.12	17,957.05	12,727.55	91.62	91.20	107.28	-5,289.02	516.13	472.84	296.09	176.75	2.675	
17,800.00	12,586.86	18,057.05	12,728.07	93.16	92.75	107.37	-5,389.01	516.13	473.09	293.39	179.69	2.633	
17,900.00	12,586.59	18,157.05	12,728.60	94.70	94.31	107.46	-5,489.01	516.13	473.33	290.69	182.64	2.592	
18,000.00	12,586.33	18,257.04	12,729.13	96.25	95.86	107.55	-5,589.00	516.13	473.58	287.99	185.58	2.552	
18,100.00	12,586.07	18,357.04	12,729.66	97.80	97.43	107.64	-5,689.00	516.13	473.83	285.29	188.53	2.513	
18,200.00	12,585.80	18,457.04	12,730.19	99.35	98.99	107.73	-5,788.99	516.13	474.08	282.59	191.48	2.476	
18,300.00	12,585.54	18,557.03	12,730.72	100.90	100.55	107.82	-5,888.99	516.13	474.33	279.89	194.43	2.440	
18,400.00	12,585.27	18,657.03	12,731.25	102.46	102.12	107.91	-5,988.99	516.13	474.58	277.19	197.39	2.404	
18,500.00	12,585.01	18,757.03	12,731.78	104.02	103.69	108.00	-6,088.98	516.13	474.83	274.49	200.34	2.370	
18,600.00	12,584.74	18,857.02	12,732.30	105.58	105.26	108.10	-6,188.98	516.13	475.08	271.79	203.29	2.337	
18,700.00	12,584.48	18,957.02	12,732.83	107.15	106.84	108.19	-6,288.97	516.13	475.34	269.09	206.25	2.305	
18,800.00	12,584.21	19,057.02	12,733.36	108.71	108.41	108.28	-6,388.97	516.13	475.60	266.39	209.21	2.273	
18,900.00	12,583.95	19,157.02	12,733.89	110.28	109.99	108.37	-6,488.96	516.13	475.85	263.69	212.16	2.243	
19,000.00	12,583.69	19,257.01	12,734.42	111.85	111.57	108.46	-6,588.96	516.13	476.11	260.99	215.12	2.213	
19,100.00	12,583.42	19,357.01	12,734.95	113.42	113.15	108.55	-6,688.95	516.13	476.37	258.30	218.07	2.184	
19,200.00	12,583.16	19,457.01	12,735.48	114.99	114.73	108.64	-6,788.95	516.13	476.63	255.60	221.03	2.156	

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: 82H
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Plan #1

Local Co-ordinate Reference: Well 82H
TVD Reference: 3318.6' GE + 21' KB @ 3339.60usft
MD Reference: 3318.6' GE + 21' KB @ 3339.60usft
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	12,582.89	19,557.00	12,736.01	116.57	116.31	108.73	-8,888.95	516.13	476.90	252.91	2.229		
19,400.00	12,582.63	19,657.00	12,736.53	118.15	117.90	108.82	-6,988.94	516.13	477.16	250.22	2.103		
19,500.00	12,582.36	19,757.00	12,737.06	119.72	119.48	108.91	-7,088.94	516.13	477.42	247.53	2.077		
19,600.00	12,582.10	19,856.99	12,737.59	121.30	121.07	109.00	-7,188.93	516.13	477.69	244.84	2.051		
19,700.00	12,581.83	19,956.99	12,738.12	122.88	122.66	109.09	-7,288.93	516.13	477.96	242.15	2.027		
19,800.00	12,581.57	20,056.99	12,738.65	124.47	124.25	109.18	-7,388.92	516.13	478.23	239.46	2.003		
19,900.00	12,581.30	20,156.98	12,739.18	126.05	125.84	109.26	-7,488.92	516.13	478.49	236.78	1.980		
20,000.00	12,581.04	20,256.98	12,739.71	127.64	127.43	109.35	-7,588.91	516.13	478.76	234.10	1.957		
20,100.00	12,580.78	20,356.98	12,740.24	129.22	129.03	109.44	-7,688.91	516.13	479.04	231.42	1.935		
20,200.00	12,580.51	20,456.97	12,740.76	130.81	130.62	109.53	-7,788.90	516.13	479.31	228.74	1.913		
20,300.00	12,580.25	20,556.97	12,741.29	132.40	132.22	109.62	-7,888.90	516.13	479.58	226.07	1.892		
20,400.00	12,579.98	20,656.97	12,741.82	133.99	133.81	109.71	-7,988.90	516.13	479.86	223.40	1.871		
20,500.00	12,579.72	20,756.97	12,742.35	135.58	135.41	109.80	-8,088.89	516.12	480.13	220.73	1.851		
20,600.00	12,579.45	20,856.96	12,742.88	137.17	137.01	109.89	-8,188.89	516.12	480.41	218.06	1.831		
20,700.00	12,579.19	20,956.96	12,743.41	138.76	138.60	109.98	-8,288.88	516.12	480.69	215.40	1.812		
20,800.00	12,578.92	21,056.96	12,743.94	140.36	140.20	110.06	-8,388.88	516.12	480.97	212.74	1.793		
20,900.00	12,578.66	21,156.95	12,744.47	141.95	141.80	110.15	-8,488.87	516.12	481.25	210.08	1.775		
21,000.00	12,578.40	21,256.95	12,744.99	143.55	143.40	110.24	-8,588.87	516.12	481.53	207.42	1.757		
21,100.00	12,578.13	21,356.95	12,745.52	145.14	145.01	110.33	-8,688.86	516.12	481.82	204.77	1.739		
21,200.00	12,577.87	21,456.94	12,746.05	146.74	146.61	110.42	-8,788.86	516.12	482.10	202.12	1.722		
21,300.00	12,577.60	21,556.94	12,746.58	148.34	148.21	110.51	-8,888.85	516.12	482.39	199.47	1.705		
21,400.00	12,577.34	21,656.94	12,747.11	149.94	149.82	110.59	-8,988.85	516.12	482.67	196.83	1.689		
21,500.00	12,577.07	21,756.93	12,747.64	151.54	151.42	110.68	-9,088.85	516.12	482.96	194.19	1.672		
21,600.00	12,576.81	21,856.93	12,748.17	153.14	153.03	110.77	-9,188.84	516.12	483.25	191.55	1.657		
21,700.00	12,576.54	21,956.93	12,748.70	154.74	154.63	110.86	-9,288.84	516.12	483.54	188.91	1.641		
21,800.00	12,576.28	22,056.92	12,749.22	156.34	156.24	110.94	-9,388.83	516.12	483.83	186.28	1.626		
21,900.00	12,576.01	22,156.92	12,749.75	157.94	157.84	111.03	-9,488.83	516.12	484.12	183.65	1.611		
22,000.00	12,575.75	22,256.92	12,750.28	159.54	159.45	111.12	-9,588.82	516.12	484.42	181.03	1.597		
22,100.00	12,575.49	22,356.91	12,750.81	161.15	161.06	111.20	-9,688.82	516.12	484.71	178.40	1.582		
22,200.00	12,575.22	22,456.91	12,751.34	162.75	162.67	111.29	-9,788.81	516.12	485.01	175.79	1.568		
22,300.00	12,574.96	22,556.91	12,751.87	164.36	164.28	111.38	-9,888.81	516.12	485.30	173.17	1.555		
22,400.00	12,574.69	22,656.91	12,752.40	165.96	165.89	111.47	-9,988.80	516.12	485.60	170.56	1.541		
22,434.80	12,574.60	22,691.70	12,752.58	166.52	166.45	111.50	-10,023.60	516.12	485.71	169.65	1.537 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: 82H
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Plan #1

Local Co-ordinate Reference: Well 82H
TVD Reference: 3318.6' GE + 21' KB @ 3339.60usft
MD Reference: 3318.6' GE + 21' KB @ 3339.60usft
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 Toothface (')	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	89.57	0.45	60.01	60.01				
100.00	100.00	99.60	99.60	0.09	0.09	89.57	0.45	60.01	60.01	59.83	0.18	338.647	
200.00	200.00	199.60	199.60	0.31	0.31	89.57	0.45	60.01	60.01	59.39	0.63	95.835	
300.00	300.00	299.60	299.60	0.54	0.54	89.57	0.45	60.01	60.01	58.94	1.08	55.787	
400.00	400.00	399.60	399.60	0.76	0.76	89.57	0.45	60.01	60.01	58.49	1.53	39.345	
500.00	500.00	499.60	499.60	0.99	0.99	89.57	0.45	60.01	60.01	58.04	1.97	30.389	
600.00	600.00	599.60	599.60	1.21	1.21	89.57	0.45	60.01	60.01	57.59	2.42	24.754	
700.00	700.00	699.60	699.60	1.44	1.44	89.57	0.45	60.01	60.01	57.14	2.87	20.882	
800.00	800.00	799.60	799.60	1.66	1.66	89.57	0.45	60.01	60.01	56.69	3.32	18.057	
900.00	900.00	899.60	899.60	1.89	1.89	89.57	0.45	60.01	60.01	56.24	3.77	15.906	
1,000.00	1,000.00	999.60	999.60	2.11	2.11	89.57	0.45	60.01	60.01	55.79	4.22	14.213	
1,100.00	1,100.00	1,099.60	1,099.60	2.34	2.34	89.57	0.45	60.01	60.01	55.34	4.67	12.845	
1,200.00	1,200.00	1,199.60	1,199.60	2.56	2.56	89.57	0.45	60.01	60.01	54.89	5.12	11.718	
1,300.00	1,300.00	1,299.60	1,299.60	2.79	2.79	89.57	0.45	60.01	60.01	54.44	5.57	10.772	
1,400.00	1,400.00	1,399.60	1,399.60	3.01	3.01	89.57	0.45	60.01	60.01	53.99	6.02	9.968	
1,500.00	1,500.00	1,499.60	1,499.60	3.24	3.23	89.57	0.45	60.01	60.01	53.54	6.47	9.275	
1,600.00	1,600.00	1,599.60	1,599.60	3.46	3.46	89.57	0.45	60.01	60.01	53.09	6.92	8.673	
1,700.00	1,700.00	1,699.60	1,699.60	3.69	3.68	89.57	0.45	60.01	60.01	52.64	7.37	8.144	
1,800.00	1,800.00	1,799.60	1,799.60	3.91	3.91	89.57	0.45	60.01	60.01	52.19	7.82	7.675	
1,900.00	1,900.00	1,899.60	1,899.60	4.13	4.13	89.57	0.45	60.01	60.01	51.74	8.27	7.258	
2,000.00	2,000.00	1,999.60	1,999.60	4.36	4.36	89.57	0.45	60.01	60.01	51.29	8.72	6.884	
2,100.00	2,100.00	2,099.60	2,099.60	4.58	4.58	89.57	0.45	60.01	60.01	50.84	9.17	6.546	
2,200.00	2,200.00	2,199.60	2,199.60	4.81	4.81	89.57	0.45	60.01	60.01	50.39	9.62	6.240	
2,300.00	2,300.00	2,299.60	2,299.60	5.03	5.03	89.57	0.45	60.01	60.01	49.95	10.07	5.962	
2,400.00	2,400.00	2,399.60	2,399.60	5.26	5.26	89.57	0.45	60.01	60.01	49.50	10.52	5.707	
2,500.00	2,500.00	2,499.60	2,499.60	5.48	5.48	89.57	0.45	60.01	60.01	49.05	10.97	5.473 CC, ES	
2,600.00	2,600.00	2,598.57	2,598.56	5.71	5.69	89.47	0.57	60.85	60.86	49.46	11.40	5.339	
2,700.00	2,700.00	2,697.47	2,697.43	5.93	5.89	89.17	0.92	63.38	63.42	51.61	11.82	5.367	
2,800.00	2,800.00	2,796.26	2,796.13	6.16	6.10	88.72	1.52	67.59	67.70	55.46	12.24	5.533	
2,900.00	2,899.99	2,894.92	2,894.61	6.37	6.30	-1.85	2.34	73.48	72.82	60.18	12.63	5.763	
3,000.00	2,999.96	2,993.50	2,992.89	6.57	6.51	-2.51	3.41	81.04	77.91	64.90	13.02	5.985	
3,100.00	3,099.86	3,091.99	3,090.93	6.77	6.73	-3.25	4.70	90.27	82.99	69.59	13.40	6.193	
3,200.00	3,199.68	3,190.38	3,188.72	6.97	6.95	-4.06	6.23	101.15	88.05	74.27	13.78	6.388	
3,300.00	3,299.37	3,288.70	3,286.21	7.18	7.18	-4.93	7.99	113.68	93.10	78.94	14.17	6.573	
3,400.00	3,398.90	3,386.92	3,383.38	7.40	7.42	-5.85	9.98	127.85	98.15	83.61	14.55	6.747	
3,500.00	3,498.26	3,485.05	3,480.21	7.62	7.67	-6.80	12.21	143.66	103.21	88.28	14.93	6.913	
3,600.00	3,597.51	3,584.63	3,578.27	7.85	7.93	-7.75	14.61	160.76	108.52	93.17	15.35	7.070	
3,700.00	3,696.77	3,684.47	3,676.60	8.08	8.20	-8.61	17.02	177.93	113.88	98.09	15.78	7.216	
3,800.00	3,796.02	3,784.31	3,774.92	8.32	8.48	-9.39	19.44	195.10	119.26	103.04	16.22	7.353	
3,900.00	3,895.28	3,884.15	3,873.25	8.56	8.76	-10.11	21.85	212.27	124.66	108.00	16.66	7.482	
4,000.00	3,994.53	3,984.00	3,971.57	8.80	9.05	-10.77	24.26	229.43	130.08	112.98	17.11	7.604	
4,100.00	4,093.79	4,083.84	4,069.90	9.05	9.35	-11.37	26.67	246.60	135.52	117.96	17.56	7.720	
4,200.00	4,193.04	4,183.68	4,168.22	9.30	9.65	-11.93	29.09	263.77	140.97	122.96	18.01	7.828	
4,300.00	4,292.30	4,283.52	4,266.55	9.55	9.95	-12.44	31.50	280.94	146.43	127.97	18.46	7.931	
4,400.00	4,391.55	4,383.36	4,364.88	9.81	10.26	-12.92	33.91	298.11	151.90	132.98	18.92	8.028	
4,500.00	4,490.81	4,483.21	4,463.20	10.06	10.57	-13.36	36.33	315.28	157.39	138.00	19.38	8.119	
4,600.00	4,590.06	4,583.05	4,561.53	10.32	10.88	-13.78	38.74	332.45	162.88	143.03	19.85	8.206	
4,700.00	4,689.32	4,682.89	4,659.85	10.59	11.20	-14.17	41.15	349.62	168.38	148.06	20.32	8.288	
4,800.00	4,788.57	4,782.73	4,758.18	10.85	11.52	-14.53	43.56	366.78	173.89	153.10	20.78	8.366	
4,900.00	4,887.82	4,882.58	4,856.50	11.12	11.84	-14.87	45.98	383.95	179.40	158.14	21.26	8.440	
5,000.00	4,987.08	4,982.42	4,954.83	11.39	12.16	-15.19	48.39	401.12	184.92	163.19	21.73	8.510	
5,100.00	5,086.33	5,082.26	5,053.15	11.65	12.49	-15.50	50.80	418.29	190.44	168.24	22.21	8.576	

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: 82H
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Plan #1

Local Co-ordinate Reference: Well 82H
TVD Reference: 3318.6' GE + 21' KB @ 3339.60usft
MD Reference: 3318.6' GE + 21' KB @ 3339.60usft
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			Distance							Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Tooface (")	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor			
5,200.00	5,185.59	5,182.10	5,151.48	11.92	12.82	-15.78	53.22	435.46	195.97	173.29	22.68	8.639			
5,300.00	5,284.84	5,281.95	5,249.80	12.20	13.15	-16.05	55.63	452.63	201.51	178.34	23.16	8.699			
5,400.00	5,384.10	5,381.79	5,348.13	12.47	13.48	-16.31	58.04	469.80	207.05	183.40	23.65	8.756			
5,500.00	5,483.35	5,481.63	5,446.46	12.74	13.81	-16.55	60.45	486.97	212.59	188.46	24.13	8.811			
5,600.00	5,582.61	5,581.47	5,544.78	13.02	14.15	-16.78	62.87	504.13	218.14	193.52	24.61	8.862			
5,700.00	5,681.86	5,681.32	5,643.11	13.30	14.48	-17.00	65.28	521.30	223.69	198.59	25.10	8.912			
5,800.00	5,781.12	5,781.16	5,741.43	13.57	14.82	-17.20	67.69	538.47	229.24	203.65	25.59	8.959			
5,900.00	5,880.37	5,881.00	5,839.76	13.85	15.16	-17.40	70.11	555.64	234.80	208.72	26.08	9.004			
6,000.00	5,979.63	5,980.84	5,938.08	14.13	15.50	-17.59	72.52	572.81	240.35	213.79	26.57	9.047			
6,100.00	6,078.88	6,080.68	6,036.41	14.41	15.84	-17.77	74.93	589.98	245.91	218.86	27.06	9.088			
6,200.00	6,178.13	6,180.53	6,134.73	14.69	16.18	-17.94	77.35	607.15	251.48	223.93	27.55	9.128			
6,300.00	6,277.39	6,280.37	6,233.06	14.97	16.52	-18.11	79.76	624.32	257.04	229.00	28.04	9.166			
6,400.00	6,376.64	6,380.21	6,331.39	15.26	16.86	-18.26	82.17	641.48	262.61	234.07	28.54	9.202			
6,500.00	6,475.90	6,480.05	6,429.71	15.54	17.20	-18.41	84.58	658.65	268.18	239.14	29.03	9.237			
6,600.00	6,575.15	6,579.90	6,528.04	15.82	17.55	-18.56	87.00	675.82	273.75	244.22	29.53	9.270			
6,700.00	6,674.41	6,679.74	6,626.36	16.11	17.89	-18.70	89.41	692.99	279.32	249.29	30.03	9.302			
6,800.00	6,773.66	6,779.58	6,724.69	16.39	18.24	-18.83	91.82	710.16	284.90	254.37	30.53	9.333			
6,900.00	6,872.92	6,879.42	6,823.01	16.67	18.58	-18.96	94.24	727.33	290.47	259.45	31.03	9.362			
7,000.00	6,972.17	6,979.27	6,921.34	16.96	18.93	-19.08	96.65	744.50	296.05	264.52	31.53	9.391			
7,100.00	7,071.43	7,079.11	7,019.66	17.25	19.28	-19.20	99.06	761.67	301.63	269.60	32.03	9.418			
7,200.00	7,170.68	7,178.95	7,117.99	17.53	19.63	-19.32	101.47	778.83	307.21	274.68	32.53	9.445			
7,300.00	7,269.94	7,278.79	7,216.32	17.82	19.97	-19.43	103.89	796.00	312.79	279.76	33.03	9.470			
7,400.00	7,369.19	7,378.64	7,314.64	18.11	20.32	-19.54	106.30	813.17	318.37	284.84	33.53	9.494			
7,500.00	7,468.44	7,478.48	7,412.97	18.39	20.67	-19.64	108.71	830.34	323.95	289.92	34.04	9.518			
7,600.00	7,567.70	7,578.32	7,511.29	18.68	21.02	-19.74	111.13	847.51	329.54	295.00	34.54	9.541			
7,700.00	7,666.95	7,678.16	7,609.62	18.97	21.37	-19.84	113.54	864.68	335.12	300.08	35.04	9.563			
7,800.00	7,766.21	7,778.00	7,707.94	19.26	21.72	-19.93	115.95	881.85	340.71	305.16	35.55	9.584			
7,900.00	7,865.46	7,877.85	7,806.27	19.55	22.07	-20.02	118.36	899.01	346.29	310.24	36.05	9.605			
8,000.00	7,964.72	7,977.69	7,904.59	19.84	22.42	-20.11	120.78	916.18	351.88	315.32	36.56	9.625			
8,100.00	8,063.97	8,077.53	8,002.92	20.13	22.77	-20.19	123.19	933.35	357.47	320.40	37.07	9.644			
8,200.00	8,163.23	8,177.37	8,101.25	20.41	23.13	-20.27	125.60	950.52	363.06	325.49	37.57	9.662			
8,300.00	8,262.48	8,277.22	8,199.57	20.70	23.48	-20.35	128.02	967.69	368.65	330.57	38.08	9.680			
8,400.00	8,361.74	8,377.06	8,297.90	21.00	23.83	-20.43	130.43	984.86	374.24	335.65	38.59	9.698			
8,500.00	8,460.99	8,476.90	8,396.22	21.29	24.18	-20.50	132.84	1,002.03	379.83	340.73	39.10	9.715			
8,600.00	8,560.25	8,576.74	8,494.55	21.58	24.54	-20.58	135.25	1,019.20	385.42	345.82	39.61	9.731			
8,700.00	8,659.50	8,676.59	8,592.87	21.87	24.89	-20.65	137.67	1,036.36	391.02	350.90	40.12	9.747			
8,800.00	8,758.75	8,776.43	8,691.20	22.16	25.24	-20.72	140.08	1,053.53	396.61	355.98	40.63	9.763			
8,900.00	8,858.01	8,876.27	8,789.52	22.45	25.60	-20.78	142.49	1,070.70	402.20	361.07	41.14	9.777			
9,000.00	8,957.26	8,976.11	8,887.85	22.74	25.95	-20.85	144.91	1,087.87	407.80	366.15	41.65	9.792			
9,100.00	9,056.52	9,075.96	8,986.17	23.03	26.30	-20.91	147.32	1,105.04	413.39	371.23	42.16	9.806			
9,200.00	9,155.77	9,175.80	9,084.50	23.32	26.66	-20.97	149.73	1,122.21	418.99	376.32	42.67	9.820			
9,300.00	9,255.03	9,275.64	9,182.83	23.62	27.01	-21.03	152.15	1,139.38	424.58	381.40	43.18	9.833			
9,400.00	9,354.28	9,375.48	9,281.15	23.91	27.37	-21.09	154.56	1,156.55	430.18	386.49	43.69	9.846			
9,500.00	9,453.54	9,475.32	9,379.48	24.20	27.72	-21.15	156.97	1,173.71	435.77	391.57	44.20	9.859			
9,600.00	9,552.79	9,575.17	9,477.80	24.49	28.08	-21.20	159.38	1,190.88	441.37	396.66	44.71	9.871			
9,700.00	9,652.05	9,675.01	9,576.13	24.79	28.43	-21.26	161.80	1,208.05	446.97	401.74	45.23	9.883			
9,800.00	9,751.30	9,774.85	9,674.45	25.08	28.79	-21.31	164.21	1,225.22	452.57	406.83	45.74	9.894			
9,900.00	9,850.56	9,874.69	9,772.78	25.37	29.14	-21.36	166.62	1,242.39	458.16	411.91	46.25	9.906			
10,000.00	9,949.81	9,978.41	9,874.99	25.67	29.44	-21.43	169.07	1,259.81	463.37	416.62	46.75	9.911			
10,100.00	10,049.06	10,082.42	9,977.65	25.96	29.71	-21.52	171.40	1,276.36	467.69	420.45	47.24	9.900			
10,200.00	10,148.32	10,186.50	10,080.52	26.25	29.98	-21.63	173.60	1,292.00	471.14	423.40	47.73	9.870			
10,300.00	10,247.57	10,290.63	10,183.59	26.55	30.24	-21.77	175.66	1,306.72	473.70	425.48	48.22	9.823			

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: 82H
 Well Error: 0.00 usft
 Reference Wellbore: OH
 Reference Design: Plan #1

Local Co-ordinate Reference: Well 82H
 TVD Reference: 3318.6' GE + 21' KB @ 3339.60usft
 MD Reference: 3318.6' GE + 21' KB @ 3339.60usft
 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)					
10,385.00	10,331.94	10,379.17	10,271.32	26.80	30.46	-21.91	177.32	1,318.51	475.19	426.55	48.64	9.770	
10,400.00	10,346.83	10,394.79	10,286.81	26.84	30.50	-21.94	177.60	1,320.52	475.39	426.68	48.71	9.760	
10,500.00	10,446.15	10,498.97	10,390.18	27.06	30.75	-22.11	179.41	1,333.39	476.73	427.59	49.14	9.701	
10,600.00	10,545.57	10,603.17	10,493.67	27.28	30.99	-22.26	181.09	1,345.33	477.99	428.42	49.57	9.643	
10,700.00	10,645.08	10,707.37	10,597.28	27.49	31.22	-22.41	182.64	1,356.33	479.18	429.20	49.98	9.587	
10,800.00	10,744.67	10,811.58	10,700.99	27.70	31.45	-22.53	184.05	1,366.41	480.31	429.91	50.39	9.531	
10,900.00	10,844.34	10,915.80	10,804.81	27.91	31.67	-22.65	185.34	1,375.55	481.35	430.56	50.80	9.476	
11,000.00	10,944.07	11,020.03	10,908.71	28.11	31.88	-22.75	186.49	1,383.76	482.33	431.14	51.19	9.422	
11,100.00	11,043.87	11,124.27	11,012.69	28.31	32.09	-22.83	187.51	1,391.03	483.23	431.65	51.58	9.368	
11,200.00	11,143.71	11,228.52	11,116.74	28.50	32.28	-22.91	188.40	1,397.36	484.06	432.10	51.96	9.316	
11,300.00	11,243.61	11,332.77	11,220.85	28.68	32.47	-22.97	189.16	1,402.76	484.82	432.48	52.34	9.264	
11,400.00	11,343.53	11,437.03	11,325.01	28.86	32.66	-23.01	189.79	1,407.22	485.50	432.79	52.70	9.212	
11,500.00	11,443.49	11,541.30	11,429.22	29.04	32.83	-23.05	190.28	1,410.74	486.10	433.04	53.06	9.162	
11,600.00	11,543.47	11,645.57	11,533.46	29.21	33.00	-23.06	190.65	1,413.32	486.63	433.22	53.41	9.111	
11,700.00	11,643.46	11,749.85	11,637.72	29.38	33.16	-23.07	190.88	1,414.97	487.08	433.33	53.75	9.062	
11,785.00	11,728.46	11,838.49	11,726.36	29.52	33.30	66.93	190.97	1,415.62	487.40	433.36	54.04	9.019	
11,800.00	11,743.46	11,854.13	11,742.00	29.54	33.32	66.93	190.98	1,415.67	487.45	433.35	54.10	9.011	
11,900.00	11,843.46	11,955.19	11,843.06	29.73	33.48	66.94	190.98	1,415.70	487.47	432.99	54.48	8.948	
12,000.00	11,943.46	12,055.19	11,943.06	29.91	33.64	66.94	190.98	1,415.70	487.47	432.60	54.87	8.884	
12,083.18	12,026.64	12,138.37	12,026.24	30.06	33.78	66.94	190.98	1,415.70	487.47	432.27	55.20	8.831	
12,100.00	12,043.46	12,155.19	12,043.06	30.09	33.81	-113.08	190.98	1,415.70	487.57	432.30	55.27	8.822	
12,150.00	12,093.31	12,205.04	12,092.91	30.18	33.89	-113.34	190.98	1,415.70	489.01	433.50	55.51	8.809	
12,200.00	12,142.65	12,258.22	12,146.08	30.26	33.98	-113.96	190.88	1,415.70	492.22	436.41	55.80	8.821	
12,250.00	12,191.11	12,335.48	12,223.00	30.35	34.08	-114.96	184.22	1,415.70	495.58	439.63	55.95	8.857	
12,300.00	12,238.32	12,414.74	12,300.23	30.43	34.18	-115.67	166.71	1,415.70	497.99	442.05	55.94	8.903	
12,350.00	12,283.92	12,495.32	12,375.52	30.52	34.26	-116.05	138.17	1,415.70	499.29	443.54	55.76	8.955	
12,400.00	12,327.56	12,576.42	12,446.49	30.60	34.34	-116.09	99.07	1,415.70	499.42	443.97	55.45	9.006	
12,450.00	12,368.91	12,657.18	12,510.99	30.69	34.40	-115.78	50.58	1,415.70	498.36	443.28	55.08	9.047	
12,500.00	12,407.65	12,736.79	12,567.28	30.78	34.46	-115.14	-5.63	1,415.70	496.18	441.47	54.72	9.068	
12,550.00	12,443.50	12,814.53	12,614.21	30.88	34.53	-114.20	-67.53	1,415.71	493.01	438.55	54.45	9.054	
12,600.00	12,476.17	12,889.84	12,651.30	30.98	34.61	-112.98	-133.01	1,415.71	489.01	434.69	54.32	9.002	
12,650.00	12,505.42	12,962.35	12,678.59	31.09	34.70	-111.53	-200.14	1,415.71	484.41	430.04	54.36	8.911	
12,700.00	12,531.03	13,031.85	12,696.60	31.22	34.82	-109.88	-267.22	1,415.71	479.42	424.85	54.57	8.785	
12,750.00	12,552.80	13,098.30	12,706.11	31.35	34.96	-108.08	-332.94	1,415.71	474.29	419.35	54.93	8.634	
12,800.00	12,570.56	13,157.39	12,708.29	31.51	35.11	-106.33	-391.98	1,415.72	469.28	413.82	55.46	8.461	
12,850.00	12,584.19	13,205.57	12,708.60	31.68	35.25	-105.17	-440.16	1,415.72	465.53	409.44	56.09	8.299	
12,900.00	12,593.57	13,254.73	12,708.92	31.86	35.41	-104.34	-489.31	1,415.72	463.18	406.50	56.68	8.172	
12,950.00	12,598.64	13,304.48	12,709.24	32.07	35.60	-103.88	-539.07	1,415.72	462.01	404.82	57.20	8.077	
12,979.62	12,599.59	13,334.09	12,709.43	32.20	35.71	-103.81	-568.68	1,415.72	461.83	404.34	57.49	8.033	
12,984.70	12,599.60	13,339.17	12,709.46	32.23	35.73	-103.81	-573.75	1,415.72	461.84	404.30	57.54	8.027	
13,000.00	12,599.56	13,354.47	12,709.56	32.30	35.80	-103.83	-589.05	1,415.72	461.87	404.19	57.68	8.008	
13,100.00	12,599.29	13,454.47	12,710.20	32.81	36.26	-103.94	-689.05	1,415.72	462.08	403.40	58.68	7.874	
13,200.00	12,599.03	13,554.46	12,710.84	33.39	36.78	-104.05	-789.04	1,415.73	462.30	402.46	59.84	7.726	
13,300.00	12,598.76	13,654.46	12,711.49	34.05	37.38	-104.16	-889.04	1,415.73	462.51	401.37	61.14	7.565	
13,400.00	12,598.50	13,754.45	12,712.13	34.77	38.04	-104.27	-989.03	1,415.73	462.73	400.16	62.57	7.395	
13,500.00	12,598.23	13,854.45	12,712.77	35.55	38.76	-104.38	-1,089.02	1,415.74	462.95	398.82	64.12	7.220	
13,600.00	12,597.97	13,954.45	12,713.41	36.38	39.54	-104.48	-1,189.02	1,415.74	463.17	397.38	65.79	7.040	
13,700.00	12,597.70	14,054.44	12,714.06	37.28	40.37	-104.59	-1,289.01	1,415.74	463.39	395.83	67.56	6.859	
13,800.00	12,597.44	14,154.44	12,714.70	38.22	41.25	-104.70	-1,389.00	1,415.75	463.62	394.18	69.43	6.677	
13,900.00	12,597.18	14,254.43	12,715.34	39.20	42.17	-104.81	-1,489.00	1,415.75	463.84	392.45	71.39	6.497	
14,000.00	12,596.91	14,354.43	12,715.99	40.23	43.14	-104.92	-1,588.99	1,415.75	464.07	390.64	73.43	6.320	
14,100.00	12,596.65	14,454.43	12,716.63	41.30	44.15	-105.03	-1,688.99	1,415.76	464.30	388.75	75.55	6.146	

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: 82H
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Plan #1

Local Co-ordinate Reference: Well 82H
TVD Reference: 3318.6' GE + 21' KB @ 3339.60usft
MD Reference: 3318.6' GE + 21' KB @ 3339.60usft
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			Distance						
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
14,200.00	12,596.38	14,554.42	12,717.27	42.40	45.20	-105.14	-1,788.98	1,415.76	464.53	386.80	77.73	5.976	
14,300.00	12,596.12	14,654.42	12,717.91	43.54	46.28	-105.24	-1,888.97	1,415.76	464.76	384.79	79.97	5.811	
14,400.00	12,595.85	14,754.41	12,718.56	44.71	47.39	-105.35	-1,988.97	1,415.76	465.00	382.72	82.27	5.652	
14,500.00	12,595.59	14,854.41	12,719.20	45.90	48.54	-105.46	-2,088.96	1,415.77	465.23	380.60	84.63	5.497	
14,600.00	12,595.32	14,954.40	12,719.84	47.13	49.71	-105.57	-2,188.96	1,415.77	465.47	378.44	87.03	5.349	
14,700.00	12,595.06	15,054.40	12,720.49	48.37	50.90	-105.67	-2,288.95	1,415.77	465.71	376.24	89.47	5.205	
14,800.00	12,594.79	15,154.40	12,721.13	49.64	52.12	-105.78	-2,388.94	1,415.78	465.95	374.00	91.95	5.067	
14,900.00	12,594.53	15,254.39	12,721.77	50.93	53.37	-105.89	-2,488.94	1,415.78	466.19	371.72	94.47	4.935	
15,000.00	12,594.27	15,354.39	12,722.41	52.24	54.63	-106.00	-2,588.93	1,415.78	466.44	369.41	97.02	4.807	
15,100.00	12,594.00	15,454.38	12,723.06	53.57	55.91	-106.10	-2,688.92	1,415.79	466.68	367.08	99.60	4.685	
15,200.00	12,593.74	15,554.38	12,723.70	54.91	57.21	-106.21	-2,788.92	1,415.79	466.93	364.71	102.21	4.568	
15,300.00	12,593.47	15,654.38	12,724.34	56.27	58.53	-106.32	-2,888.91	1,415.79	467.18	362.33	104.85	4.456	
15,400.00	12,593.21	15,754.37	12,724.99	57.64	59.86	-106.43	-2,988.91	1,415.80	467.43	359.92	107.51	4.348	
15,500.00	12,592.94	15,854.37	12,725.63	59.03	61.21	-106.53	-3,088.90	1,415.80	467.68	357.50	110.18	4.245	
15,600.00	12,592.68	15,954.36	12,726.27	60.43	62.57	-106.64	-3,188.89	1,415.80	467.93	355.05	112.88	4.145	
15,700.00	12,592.41	16,054.36	12,726.91	61.84	63.95	-106.75	-3,288.89	1,415.80	468.19	352.59	115.60	4.050	
15,800.00	12,592.15	16,154.36	12,727.56	63.26	65.33	-106.85	-3,388.88	1,415.81	468.45	350.12	118.33	3.959	
15,900.00	12,591.89	16,254.35	12,728.20	64.69	66.73	-106.96	-3,488.87	1,415.81	468.71	347.63	121.08	3.871	
16,000.00	12,591.62	16,354.35	12,728.84	66.13	68.14	-107.06	-3,588.87	1,415.81	468.97	345.13	123.84	3.787	
16,100.00	12,591.36	16,454.34	12,729.49	67.58	69.56	-107.17	-3,688.86	1,415.82	469.23	342.61	126.61	3.706	
16,200.00	12,591.09	16,554.34	12,730.13	69.04	70.99	-107.28	-3,788.86	1,415.82	469.49	340.09	129.40	3.628	
16,300.00	12,590.83	16,654.33	12,730.77	70.50	72.42	-107.38	-3,888.85	1,415.82	469.76	337.56	132.19	3.554	
16,400.00	12,590.56	16,754.33	12,731.41	71.98	73.87	-107.49	-3,988.84	1,415.83	470.02	335.02	135.00	3.482	
16,500.00	12,590.30	16,854.33	12,732.06	73.46	75.32	-107.59	-4,088.84	1,415.83	470.29	332.48	137.81	3.413	
16,600.00	12,590.03	16,954.32	12,732.70	74.94	76.78	-107.70	-4,188.83	1,415.83	470.56	329.93	140.64	3.346	
16,700.00	12,589.77	17,054.32	12,733.34	76.43	78.24	-107.81	-4,288.83	1,415.83	470.83	327.37	143.47	3.282	
16,800.00	12,589.50	17,154.31	12,733.99	77.93	79.72	-107.91	-4,388.82	1,415.84	471.11	324.80	146.30	3.220	
16,900.00	12,589.24	17,254.31	12,734.63	79.43	81.20	-108.02	-4,488.81	1,415.84	471.38	322.24	149.15	3.161	
17,000.00	12,588.98	17,354.31	12,735.27	80.94	82.68	-108.12	-4,588.81	1,415.84	471.66	319.66	151.99	3.103	
17,100.00	12,588.71	17,454.30	12,735.91	82.46	84.17	-108.23	-4,688.80	1,415.85	471.94	317.09	154.85	3.048	
17,200.00	12,588.45	17,554.30	12,736.56	83.97	85.67	-108.33	-4,788.79	1,415.85	472.21	314.51	157.71	2.994	
17,300.00	12,588.18	17,654.29	12,737.20	85.49	87.17	-108.43	-4,888.79	1,415.85	472.50	311.93	160.57	2.943	
17,400.00	12,587.92	17,754.29	12,737.84	87.02	88.67	-108.54	-4,988.78	1,415.86	472.78	309.34	163.43	2.893	
17,500.00	12,587.65	17,854.29	12,738.49	88.55	90.18	-108.64	-5,088.78	1,415.86	473.06	306.76	166.30	2.845	
17,600.00	12,587.39	17,954.28	12,739.13	90.08	91.70	-108.75	-5,188.77	1,415.86	473.35	304.17	169.18	2.798	
17,700.00	12,587.12	18,054.28	12,739.77	91.62	93.21	-108.85	-5,288.76	1,415.87	473.64	301.58	172.05	2.753	
17,800.00	12,586.86	18,154.27	12,740.41	93.16	94.74	-108.96	-5,388.76	1,415.87	473.92	298.99	174.93	2.709	
17,900.00	12,586.59	18,254.27	12,741.06	94.70	96.26	-109.06	-5,488.75	1,415.87	474.21	296.41	177.81	2.667	
18,000.00	12,586.33	18,354.26	12,741.70	96.25	97.79	-109.16	-5,588.75	1,415.87	474.51	293.82	180.69	2.626	
18,100.00	12,586.07	18,454.26	12,742.34	97.80	99.32	-109.27	-5,688.74	1,415.88	474.80	291.23	183.57	2.586	
18,200.00	12,585.80	18,554.26	12,742.99	99.35	100.86	-109.37	-5,788.73	1,415.88	475.10	288.64	186.46	2.548	
18,300.00	12,585.54	18,654.25	12,743.63	100.90	102.40	-109.47	-5,888.73	1,415.88	475.39	286.05	189.34	2.511	
18,400.00	12,585.27	18,754.25	12,744.27	102.46	103.94	-109.58	-5,988.72	1,415.89	475.69	283.46	192.23	2.475	
18,500.00	12,585.01	18,854.24	12,744.91	104.02	105.48	-109.68	-6,088.71	1,415.89	475.99	280.87	195.12	2.440	
18,600.00	12,584.74	18,954.24	12,745.56	105.58	107.03	-109.78	-6,188.71	1,415.89	476.29	278.29	198.00	2.405	
18,700.00	12,584.48	19,054.24	12,746.20	107.15	108.58	-109.89	-6,288.70	1,415.90	476.59	275.70	200.89	2.372	
18,800.00	12,584.21	19,154.23	12,746.84	108.71	110.13	-109.99	-6,388.70	1,415.90	476.90	273.12	203.78	2.340	
18,900.00	12,583.95	19,254.23	12,747.49	110.28	111.69	-110.09	-6,488.69	1,415.90	477.20	270.54	206.67	2.309	
19,000.00	12,583.69	19,354.22	12,748.13	111.85	113.24	-110.19	-6,588.68	1,415.91	477.51	267.96	209.55	2.279	
19,100.00	12,583.42	19,454.22	12,748.77	113.42	114.80	-110.30	-6,688.68	1,415.91	477.82	265.38	212.44	2.249	
19,200.00	12,583.16	19,554.22	12,749.41	114.99	116.36	-110.40	-6,788.67	1,415.91	478.13	262.80	215.33	2.220	
19,300.00	12,582.89	19,654.21	12,750.06	116.57	117.92	-110.50	-6,888.66	1,415.91	478.44	260.23	218.21	2.193	

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: 82H
 Well Error: 0.00 usft
 Reference Wellbore: OH
 Reference Design: Plan #1

Local Co-ordinate Reference: Well 82H
 TVD Reference: 3318.6' GE + 21' KB @ 3339.60usft
 MD Reference: 3318.6' GE + 21' KB @ 3339.60usft
 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			Distance						Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (")	Offset Wellbore +N/-S (usft)	Centre +E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	
19,400.00	12,582.63	19,754.21	12,750.70	118.15	119.49	-110.60	-6,988.66	1,415.92	478.76	257.66	221.10	2.165	
19,500.00	12,582.36	19,854.20	12,751.34	119.72	121.06	-110.70	-7,088.65	1,415.92	479.07	255.09	223.98	2.139	
19,600.00	12,582.10	19,954.20	12,751.99	121.30	122.62	-110.81	-7,188.65	1,415.92	479.39	252.53	226.86	2.113	
19,700.00	12,581.83	20,054.19	12,752.63	122.88	124.19	-110.91	-7,288.64	1,415.93	479.71	249.96	229.74	2.088	
19,800.00	12,581.57	20,154.19	12,753.27	124.47	125.77	-111.01	-7,388.63	1,415.93	480.03	247.40	232.62	2.064	
19,900.00	12,581.30	20,254.19	12,753.91	126.05	127.34	-111.11	-7,488.63	1,415.93	480.35	244.84	235.50	2.040	
20,000.00	12,581.04	20,354.18	12,754.56	127.64	128.91	-111.21	-7,588.62	1,415.94	480.67	242.29	238.38	2.016	
20,100.00	12,580.78	20,454.18	12,755.20	129.22	130.49	-111.31	-7,688.62	1,415.94	480.99	239.74	241.26	1.994	
20,200.00	12,580.51	20,554.17	12,755.84	130.81	132.07	-111.41	-7,788.61	1,415.94	481.32	237.19	244.13	1.972	
20,300.00	12,580.25	20,654.17	12,756.49	132.40	133.65	-111.51	-7,888.60	1,415.94	481.65	234.64	247.00	1.950	
20,400.00	12,579.98	20,754.17	12,757.13	133.99	135.23	-111.61	-7,988.60	1,415.95	481.97	232.10	249.87	1.929	
20,500.00	12,579.72	20,854.16	12,757.77	135.58	136.81	-111.72	-8,088.59	1,415.95	482.30	229.56	252.74	1.908	
20,600.00	12,579.45	20,954.16	12,758.41	137.17	138.39	-111.82	-8,188.58	1,415.95	482.64	227.03	255.61	1.888	
20,700.00	12,579.19	21,054.15	12,759.06	138.76	139.97	-111.92	-8,288.58	1,415.96	482.97	224.50	258.47	1.869	
20,800.00	12,578.92	21,154.15	12,759.70	140.36	141.56	-112.02	-8,388.57	1,415.96	483.30	221.97	261.34	1.849	
20,900.00	12,578.66	21,254.15	12,760.34	141.95	143.15	-112.12	-8,488.57	1,415.96	483.64	219.44	264.20	1.831	
21,000.00	12,578.40	21,354.14	12,760.99	143.55	144.73	-112.22	-8,588.56	1,415.97	483.98	216.92	267.05	1.812	
21,100.00	12,578.13	21,454.14	12,761.63	145.14	146.32	-112.32	-8,688.55	1,415.97	484.32	214.41	269.91	1.794	
21,200.00	12,577.87	21,554.13	12,762.27	146.74	147.91	-112.41	-8,788.55	1,415.97	484.66	211.89	272.76	1.777	
21,300.00	12,577.60	21,654.13	12,762.91	148.34	149.50	-112.51	-8,888.54	1,415.98	485.00	209.38	275.61	1.760	
21,400.00	12,577.34	21,754.12	12,763.56	149.94	151.09	-112.61	-8,988.53	1,415.98	485.34	206.88	278.46	1.743	
21,500.00	12,577.07	21,854.12	12,764.20	151.54	152.68	-112.71	-9,088.53	1,415.98	485.69	204.38	281.31	1.727	
21,600.00	12,576.81	21,954.12	12,764.84	153.14	154.28	-112.81	-9,188.52	1,415.98	486.03	201.88	284.15	1.710	
21,700.00	12,576.54	22,054.11	12,765.49	154.74	155.87	-112.91	-9,288.52	1,415.99	486.38	199.39	286.99	1.695	
21,800.00	12,576.28	22,154.11	12,766.13	156.34	157.47	-113.01	-9,388.51	1,415.99	486.73	196.90	289.83	1.679	
21,900.00	12,576.01	22,254.10	12,766.77	157.94	159.06	-113.11	-9,488.50	1,415.99	487.08	194.41	292.67	1.664	
22,000.00	12,575.75	22,354.10	12,767.41	159.54	160.66	-113.21	-9,588.50	1,416.00	487.43	191.93	295.50	1.650	
22,100.00	12,575.49	22,454.10	12,768.06	161.15	162.25	-113.30	-9,688.49	1,416.00	487.78	189.45	298.33	1.635	
22,200.00	12,575.22	22,554.09	12,768.70	162.75	163.85	-113.40	-9,788.49	1,416.00	488.14	186.98	301.16	1.621	
22,300.00	12,574.96	22,654.09	12,769.34	164.36	165.45	-113.50	-9,888.48	1,416.01	488.49	184.51	303.98	1.607	
22,400.00	12,574.69	22,754.08	12,769.99	165.96	166.88	-113.60	-9,988.47	1,416.01	488.85	182.24	306.61	1.594	
22,434.80	12,574.60	22,787.99	12,770.20	166.52	167.31	-113.63	-10,022.38	1,416.01	488.98	181.47	307.51	1.590 SF	

LEAM Drilling Systems LLC

Anticollision Report

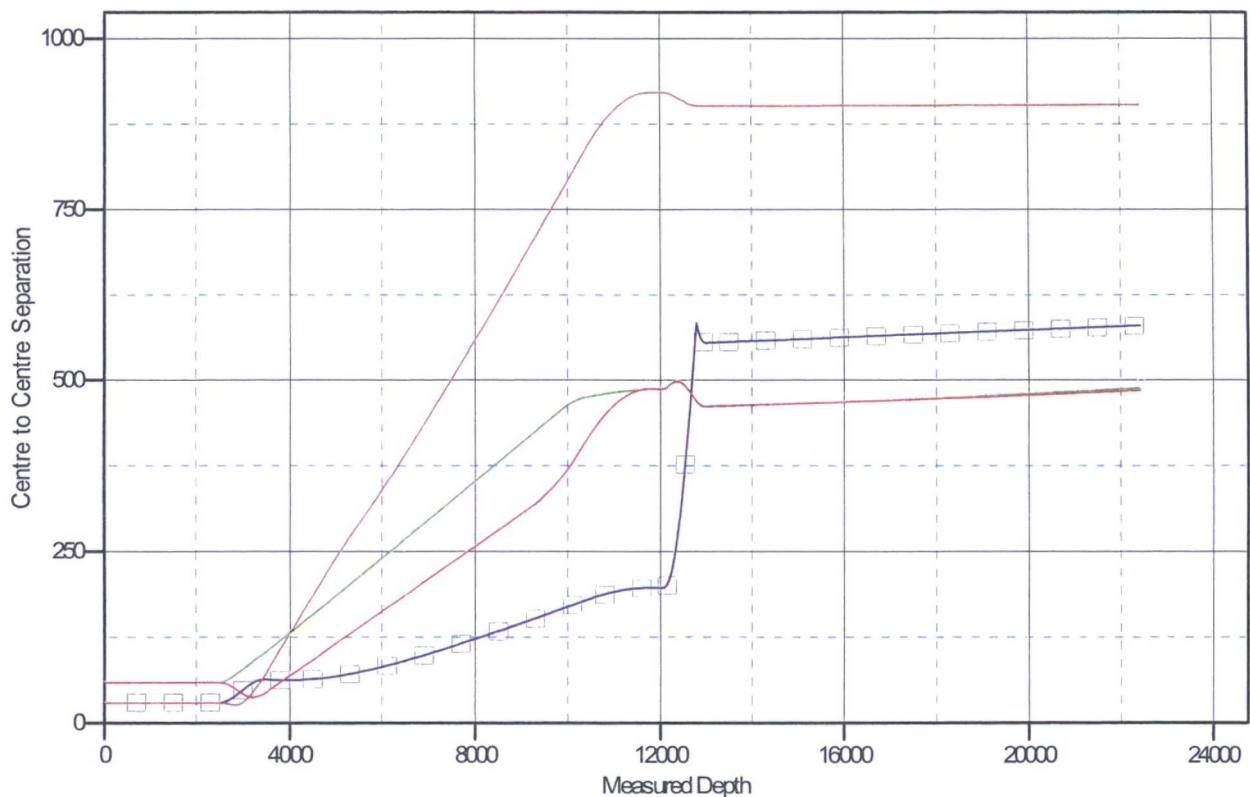
Company: Devon Energy
Project: Lea County, NM (NAD-83)
Reference Site: Seawolf 1-12 Fed
Site Error: 0.00 usft
Reference Well: 82H
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Plan #1

Local Co-ordinate Reference: Well 82H
TVD Reference: 3318.6' GE + 21' KB @ 3339.60usft
MD Reference: 3318.6' GE + 21' KB @ 3339.60usft
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 3318.6' GE + 21' KB @ 3339.60usft
Offset Depths are relative to Offset Datum
Central Meridian is 104° 20' 0.000 W

Coordinates are relative to: 82H
Coordinate System is US State Plane 1983, New Mexico Eastern Zone
Grid Convergence at Surface is: 0.42°

Ladder Plot



LEGEND

102H, OH, Plan #1 V0 92H, OH, Plan #1 V0
81H, OH, Plan #1 V0 91H, OH, Plan #1 V0

LEAM Drilling Systems LLC

Anticollision Report

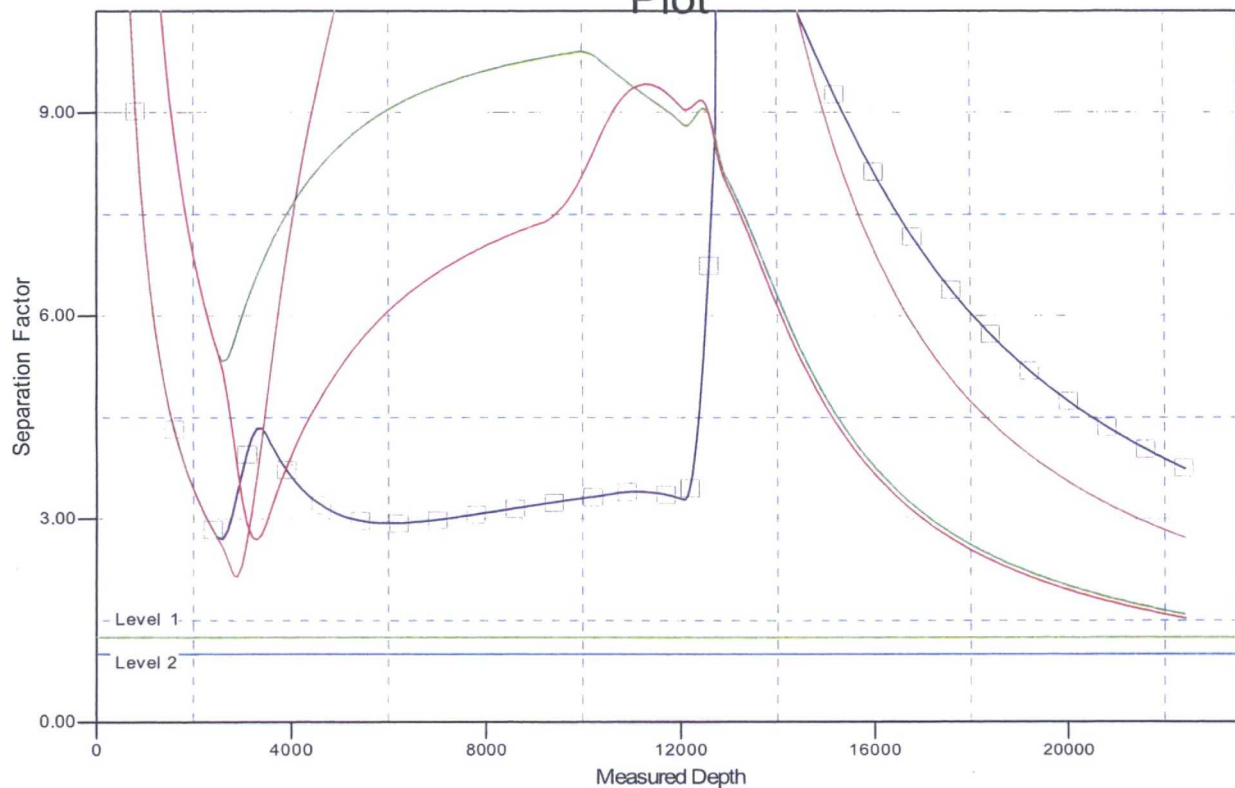
Company: Devon Energy
Project: Lea County, NM (NAD-83)
Reference Site: Seawolf 1-12 Fed
Site Error: 0.00 usft
Reference Well: 82H
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Plan #1

Local Co-ordinate Reference: Well 82H
TVD Reference: 3318.6' GE + 21' KB @ 3339.60usft
MD Reference: 3318.6' GE + 21' KB @ 3339.60usft
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 3318.6' GE + 21' KB @ 3339.60usft
Offset Depths are relative to Offset Datum
Central Meridian is 104° 20' 0.000 W

Coordinates are relative to: 82H
Coordinate System is US State Plane 1983, New Mexico Eastern Zone
Grid Convergence at Surface is: 0.42°

Separation Factor Plot



LEGEND

102H, OH, Plan #1 V0 92H, OH, Plan #1 V0
81H, OH, Plan #1 V0 91H, OH, Plan #1 V0

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

Devon Energy

Anticollision Risk Report

Company: WESTERN DIVISION
Project: PBNM
Reference Site: Dzurisin
Site Error: 0.00
Reference Well: Seawolf 1-12 Fed 82H
Well Error: 0.00
Reference Wellbore: Wellbore #1
Reference Design: Plan 1

Local Co-ordinate Reference: Well Seawolf 1-12 Fed 82H
TVD Reference: 1 @ 3342.40ft
MD Reference: 1 @ 3342.40ft
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at 2.00 sigma
Database: EDM r5000 US Production
Offset TVD Reference: Offset Datum

Reference	Plan 1
Filter type:	NO GLOBAL FILTER: Using user defined selection & filtering criteria
Interpolation Method:	Stations Interval 100.00ft
Depth Range:	Unlimited
Results Limited by:	Maximum center-center distance of 10,000.00ft
Warning Levels Evaluated at:	2.00 Sigma
Error Model:	ISCWSA
Scan Method:	Closest Approach 3D
Error Surface:	Combined Covariances
Casing Method:	Not applied

Risk Settings
Vertical Depth for Analysis: ft (Below TVD Reference Datum)
Level of Acceptable Risk (1 in):
Minimum Separation: 0 ft

Survey Tool Program		Date	8/26/2016		
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
0.00	22,447.27	Plan 1 (Wellbore #1)	MWD	MWD - Standard	

Summary						
Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
Dzurisin						
Seawolf 1-12 Fed 81H - Wellbore #1 - Plan 1	4,000.00	4,000.50	49.98	37.46	3.992 CC, ES	
Seawolf 1-12 Fed 81H - Wellbore #1 - Plan 1	22,447.27	22,424.19	904.00	547.37	2.535 SF	

Offset Design													Dzurisin - Seawolf 1-12 Fed 81H - Wellbore #1 - Plan 1		Offset Site Error: 0.00 ft	
Survey Program: 0-MWD														Offset Well Error: 0.00 ft		
Reference		Offset		Semi Major Axis		Distance						Risked Separation Factor	Probability of Collision	Warning		
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor						
0.00	0.00	0.50	0.50	0.00	0.00	-90.47	49.98					0				
100.00	100.00	100.50	100.50	0.09	0.09	-90.47	49.98	49.86	0.12	408.409	0	0				
200.00	200.00	200.50	200.50	0.31	0.31	-90.47	49.98	49.54	0.44	113.531	0	0				
300.00	300.00	300.50	300.50	0.54	0.54	-90.47	49.98	49.22	0.76	65.929	0	0				
400.00	400.00	400.50	400.50	0.76	0.76	-90.47	49.98	48.91	1.08	46.452	0	0				
500.00	500.00	500.50	500.50	0.99	0.99	-90.47	49.98	48.59	1.39	35.859	0	0				
600.00	600.00	600.50	600.50	1.21	1.21	-90.47	49.98	48.27	1.71	29.200	0	0				
700.00	700.00	700.50	700.50	1.43	1.44	-90.47	49.98	47.95	2.03	24.627	0	0				
800.00	800.00	800.50	800.50	1.66	1.66	-90.47	49.98	47.63	2.35	21.292	0	0				
900.00	900.00	900.50	900.50	1.88	1.89	-90.47	49.98	47.32	2.67	18.753	0	0				
1,000.00	1,000.00	1,000.50	1,000.50	2.11	2.11	-90.47	49.98	47.00	2.98	16.755	0	0				
1,100.00	1,100.00	1,100.50	1,100.50	2.33	2.33	-90.47	49.98	46.68	3.30	15.141	0	0				
1,200.00	1,200.00	1,200.50	1,200.50	2.56	2.56	-90.47	49.98	46.36	3.62	13.811	0	0				
1,300.00	1,300.00	1,300.50	1,300.50	2.78	2.78	-90.47	49.98	46.04	3.94	12.696	0	0				
1,400.00	1,400.00	1,400.50	1,400.50	3.01	3.01	-90.47	49.98	45.73	4.25	11.748	0	0				
1,500.00	1,500.00	1,500.50	1,500.50	3.23	3.23	-90.47	49.98	45.41	4.57	10.931	0	0				
1,600.00	1,600.00	1,600.50	1,600.50	3.46	3.46	-90.47	49.98	45.09	4.89	10.220	0	0				
1,700.00	1,700.00	1,700.50	1,700.50	3.68	3.68	-90.47	49.98	44.77	5.21	9.597	0	0				
1,800.00	1,800.00	1,800.50	1,800.50	3.91	3.91	-90.47	49.98	44.46	5.53	9.045	0	0				
1,900.00	1,900.00	1,900.50	1,900.50	4.13	4.13	-90.47	49.98	44.14	5.84	8.553	0	0				
2,000.00	2,000.00	2,000.50	2,000.50	4.36	4.36	-90.47	49.98	43.82	6.16	8.111	0	0				

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

Devon Energy

Anticollision Risk Report

Company: WESTERN DIVISION
 Project: PBNM
 Reference Site: Dzurisin
 Site Error: 0.00
 Reference Well: Seawolf 1-12 Fed 82H
 Well Error: 0.00
 Reference Wellbore: Wellbore #1
 Reference Design: Plan 1

Local Co-ordinate Reference: Well Seawolf 1-12 Fed 82H
 TVD Reference: 1 @ 3342.40ft
 MD Reference: 1 @ 3342.40ft
 North Reference: Grid
 Survey Calculation Method: Minimum Curvature
 Output errors are at: 2.00 sigma
 Database: EDM r5000 US Production
 Offset TVD Reference: Offset Datum

Offset Design Dzurisin - Seawolf 1-12 Fed 81H - Wellbore #1 - Plan 1													Offset Site Error:	0.00 ft
Survey Program: 0-MWD													Offset Well Error:	0.00 ft
Reference		Offset		Semi Major Axis		Distance						Risked Separation Factor	Probability of Collision	Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Tooface (")	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor				
2,100.00	2,100.00	2,100.50	2,100.50	4.58	4.58	-90.47	49.98	43.50	6.48	7.714	0			
2,200.00	2,200.00	2,200.50	2,200.50	4.81	4.81	-90.47	49.98	43.18	6.80	7.353	0			
2,300.00	2,300.00	2,300.50	2,300.50	5.03	5.03	-90.47	49.98	42.87	7.12	7.024	0			
2,400.00	2,400.00	2,400.50	2,400.50	5.26	5.26	-90.47	49.98	42.55	7.43	6.724	0			
2,500.00	2,500.00	2,500.50	2,500.50	5.48	5.48	-90.47	49.98	42.23	7.75	6.448	0			
2,600.00	2,600.00	2,600.50	2,600.50	5.71	5.71	-90.47	49.98	41.91	8.07	6.194	0			
2,700.00	2,700.00	2,700.50	2,700.50	5.93	5.93	-90.47	49.98	41.59	8.39	5.959	0			
2,800.00	2,800.00	2,800.50	2,800.50	6.15	6.16	-90.47	49.98	41.28	8.70	5.742	0			
2,900.00	2,900.00	2,900.50	2,900.50	6.38	6.38	-90.47	49.98	40.96	9.02	5.540	0			
3,000.00	3,000.00	3,000.50	3,000.50	6.60	6.61	-90.47	49.98	40.64	9.34	5.351	0			
3,100.00	3,100.00	3,100.50	3,100.50	6.83	6.83	-90.47	49.98	40.32	9.66	5.175	0			
3,200.00	3,200.00	3,200.50	3,200.50	7.05	7.05	-90.47	49.98	40.01	9.98	5.010	0			
3,300.00	3,300.00	3,300.50	3,300.50	7.28	7.28	-90.47	49.98	39.69	10.29	4.855	0			
3,400.00	3,400.00	3,400.50	3,400.50	7.50	7.50	-90.47	49.98	39.37	10.61	4.710	0			
3,500.00	3,500.00	3,500.50	3,500.50	7.73	7.73	-90.47	49.98	39.05	10.93	4.573	0			
3,600.00	3,600.00	3,600.50	3,600.50	7.95	7.95	-90.47	49.98	38.73	11.25	4.444	0			
3,700.00	3,700.00	3,700.50	3,700.50	8.18	8.18	-90.47	49.98	38.42	11.57	4.322	0			
3,800.00	3,800.00	3,800.50	3,800.50	8.40	8.40	-90.47	49.98	38.10	11.88	4.206	0			
3,900.00	3,900.00	3,900.50	3,900.50	8.63	8.63	-90.47	49.98	37.78	12.20	4.096	0			
4,000.00	4,000.00	4,000.50	4,000.50	8.85	8.85	-90.47	49.98	37.46	12.52	3.992	0	CC, ES		
4,100.00	4,100.00	4,100.50	4,100.50	9.06	9.08	179.54	50.85	38.03	12.83	3.965	0			
4,200.00	4,199.96	4,200.46	4,200.46	9.26	9.30	179.56	53.47	40.35	13.12	4.074	0			
4,300.00	4,299.86	4,300.36	4,300.36	9.46	9.53	179.59	57.83	44.41	13.42	4.308	0			
4,400.00	4,399.68	4,400.18	4,400.18	9.66	9.75	179.63	63.94	50.22	13.72	4.659	0			
4,500.00	4,499.37	4,499.87	4,499.87	9.87	9.98	179.67	71.78	57.76	14.02	5.119	0			
4,600.00	4,598.99	4,599.49	4,599.49	10.08	10.20	179.71	80.50	66.18	14.32	5.620	0			
4,700.00	4,698.60	4,699.10	4,699.10	10.30	10.42	179.74	89.21	74.59	14.63	6.100	0			
4,800.00	4,798.22	4,798.72	4,798.72	10.51	10.65	179.76	97.93	83.00	14.93	6.560	0			
4,900.00	4,897.84	4,898.34	4,898.34	10.73	10.87	179.78	106.65	91.42	15.23	7.002	0			
5,000.00	4,997.46	4,997.96	4,997.96	10.96	11.09	179.80	115.36	99.83	15.53	7.426	0			
5,100.00	5,097.08	5,097.58	5,097.58	11.18	11.32	179.81	124.08	108.24	15.84	7.834	0			
5,200.00	5,196.70	5,197.20	5,197.20	11.41	11.54	179.82	132.79	116.65	16.14	8.225	0			
5,300.00	5,296.32	5,296.82	5,296.82	11.64	11.77	179.83	141.51	125.06	16.45	8.602	0			
5,400.00	5,395.94	5,396.44	5,396.44	11.87	11.99	179.84	150.22	133.47	16.76	8.965	0			
5,500.00	5,495.56	5,496.06	5,496.06	12.10	12.21	179.85	158.94	141.87	17.06	9.314	0			
5,600.00	5,595.18	5,595.68	5,595.68	12.33	12.42	179.86	168.43	151.08	17.35	9.705	0			
5,700.00	5,694.80	5,695.30	5,695.30	12.57	12.61	179.87	179.60	161.97	17.63	10.187	0			
5,800.00	5,794.42	5,795.45	5,785.34	12.80	12.81	179.88	192.43	174.53	17.90	10.749	0			
5,900.00	5,894.04	5,881.07	5,880.79	13.04	13.01	179.89	206.93	188.76	18.17	11.388	0			
6,000.00	5,993.66	5,976.19	5,975.64	13.28	13.22	179.89	223.06	204.63	18.43	12.101	0			
6,100.00	6,093.28	6,073.74	6,072.83	13.52	13.44	179.90	240.38	221.66	18.72	12.843	0			
6,200.00	6,192.90	6,172.22	6,170.93	13.77	13.67	179.91	257.74	238.73	19.01	13.560	0			
6,300.00	6,292.52	6,270.70	6,269.04	14.01	13.90	179.91	275.11	255.81	19.30	14.255	0			
6,400.00	6,392.14	6,369.18	6,367.15	14.25	14.14	179.92	292.47	272.88	19.59	14.928	0			
6,500.00	6,491.76	6,467.67	6,465.25	14.50	14.38	179.92	309.84	289.95	19.89	15.580	0			
6,600.00	6,591.37	6,566.15	6,563.36	14.75	14.62	179.93	327.20	307.02	20.18	16.213	0			
6,700.00	6,690.99	6,664.63	6,661.46	14.99	14.87	179.93	344.57	324.09	20.48	16.827	0			
6,800.00	6,790.61	6,763.11	6,759.57	15.24	15.12	179.93	361.93	341.16	20.77	17.422	0			
6,900.00	6,890.23	6,861.59	6,857.68	15.49	15.38	179.94	379.30	358.22	21.07	18.000	0			
7,000.00	6,989.85	6,960.07	6,955.78	15.74	15.64	179.94	396.66	375.29	21.37	18.561	0			
7,100.00	7,089.47	7,058.55	7,053.89	15.99	15.90	179.94	414.02	392.35	21.67	19.106	0			
7,200.00	7,189.09	7,157.03	7,151.99	16.24	16.17	179.94	431.39	409.42	21.97	19.635	0			
7,300.00	7,288.71	7,255.51	7,250.10	16.50	16.44	179.95	448.75	426.48	22.27	20.149	0			
7,400.00	7,388.33	7,356.28	7,350.50	16.75	16.69	179.95	465.99	443.41	22.58	20.636	0			

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

Devon Energy
Anticollision Risk Report

Company: WESTERN DIVISION
Project: PBNM
Reference Site: Dzurisin
Site Error: 0.00
Reference Well: Seawolf 1-12 Fed 82H
Well Error: 0.00
Reference Wellbore: Wellbore #1
Reference Design: Plan 1

Local Co-ordinate Reference: Well Seawolf 1-12 Fed 82H
TVD Reference: 1 @ 3342.40ft
MD Reference: 1 @ 3342.40ft
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at 2.00 sigma
Database: EDM r5000 US Production
Offset TVD Reference: Offset Datum

Offset Design Dzurisin - Seawolf 1-12 Fed 81H - Wellbore #1 - Plan 1													Offset Site Error: 0.00 ft
Survey Program: 0-MWD													Offset Well Error: 0.00 ft
Reference		Offset		Semi Major Axis		Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Risk Separation Factor	Probability of Collision	
7,500.00	7,487.95	7,459.18	7,453.08	17.00	16.91	179.95	482.43	459.53	22.89	21.071	0		
7,600.00	7,587.57	7,562.38	7,556.04	17.26	17.12	179.95	497.98	474.77	23.21	21.459	0		
7,700.00	7,687.19	7,665.86	7,659.33	17.51	17.33	179.95	512.64	489.12	23.52	21.798	0		
7,800.00	7,786.81	7,769.61	7,762.95	17.77	17.54	179.95	526.40	502.57	23.83	22.092	0		
7,900.00	7,886.43	7,873.62	7,866.87	18.02	17.75	179.96	539.26	515.13	24.14	22.341	0		
8,000.00	7,986.05	7,977.86	7,971.05	18.28	17.96	179.96	551.23	526.78	24.45	22.547	0		
8,100.00	8,085.67	8,082.32	8,075.49	18.54	18.16	179.96	562.29	537.53	24.76	22.712	0		
8,200.00	8,185.29	8,186.99	8,180.14	18.79	18.37	179.96	572.44	547.37	25.07	22.837	0		
8,300.00	8,284.91	8,291.84	8,284.99	19.05	18.56	179.96	581.68	556.31	25.37	22.929	0		
8,400.00	8,384.53	8,391.88	8,385.03	19.31	18.76	179.96	590.40	564.73	25.67	23.000	0		
8,500.00	8,484.14	8,491.49	8,484.64	19.57	18.97	179.96	599.12	573.13	25.98	23.058	0		
8,600.00	8,583.76	8,591.11	8,584.26	19.83	19.19	179.96	607.83	581.53	26.30	23.113	0		
8,700.00	8,683.38	8,690.73	8,683.88	20.09	19.40	179.96	616.55	589.93	26.61	23.167	0		
8,800.00	8,783.00	8,790.35	8,783.50	20.35	19.62	179.96	625.26	598.33	26.93	23.219	0		
8,900.00	8,882.62	8,889.97	8,883.12	20.61	19.83	179.96	633.98	606.73	27.24	23.270	0		
9,000.00	8,982.24	8,989.59	8,982.74	20.87	20.05	179.96	642.69	615.13	27.56	23.319	0		
9,100.00	9,081.86	9,089.21	9,082.36	21.13	20.26	179.96	651.41	623.53	27.88	23.367	0		
9,200.00	9,181.48	9,188.83	9,181.98	21.39	20.48	179.96	660.13	631.93	28.19	23.414	0		
9,300.00	9,281.10	9,288.45	9,281.60	21.65	20.70	179.96	668.84	640.33	28.51	23.460	0		
9,400.00	9,380.72	9,388.07	9,381.22	21.91	20.91	179.97	677.56	648.73	28.83	23.505	0		
9,500.00	9,480.34	9,487.69	9,480.84	22.18	21.13	179.97	686.27	657.13	29.14	23.548	0		
9,600.00	9,580.03	9,587.38	9,580.53	22.41	21.35	179.97	694.12	664.67	29.45	23.571	0		
9,700.00	9,679.84	9,687.19	9,680.34	22.61	21.57	179.97	700.22	670.48	29.74	23.546	0		
9,800.00	9,779.75	9,787.10	9,780.25	22.81	21.78	179.97	704.58	674.56	30.03	23.464	0		
9,900.00	9,879.71	9,887.06	9,880.21	22.99	22.00	179.97	707.20	676.88	30.32	23.326	0		
10,000.00	9,979.70	9,987.05	9,980.20	23.17	22.22	-90.03	708.08	677.47	30.61	23.133	0		
10,100.00	10,079.70	10,087.05	10,080.20	23.36	22.44	-90.03	708.08	677.17	30.91	22.909	0		
10,200.00	10,179.70	10,187.05	10,180.20	23.56	22.66	-90.03	708.08	676.86	31.22	22.683	0		
10,300.00	10,279.70	10,287.05	10,280.20	23.76	22.88	-90.03	708.08	676.55	31.52	22.462	0		
10,400.00	10,379.70	10,387.05	10,380.20	23.97	23.10	-90.03	708.08	676.24	31.83	22.244	0		
10,500.00	10,479.70	10,487.05	10,480.20	24.17	23.32	-90.03	708.08	675.93	32.14	22.031	0		
10,600.00	10,579.70	10,587.05	10,580.20	24.37	23.53	-90.03	708.08	675.63	32.45	21.821	0		
10,700.00	10,679.70	10,687.05	10,680.20	24.58	23.75	-90.03	708.08	675.32	32.76	21.615	0		
10,800.00	10,779.70	10,787.06	10,780.20	24.78	23.97	-90.03	708.08	675.01	33.07	21.413	0		
10,900.00	10,879.70	10,887.06	10,880.20	24.98	24.19	-90.03	708.08	674.70	33.38	21.215	0		
11,000.00	10,979.70	10,987.06	10,980.20	25.19	24.41	-90.03	708.08	674.39	33.69	21.020	0		
11,100.00	11,079.70	11,087.06	11,080.20	25.39	24.63	-90.03	708.08	674.08	34.00	20.829	0		
11,200.00	11,179.70	11,187.06	11,180.20	25.60	24.85	-90.03	708.08	673.77	34.30	20.641	0		
11,300.00	11,279.70	11,287.06	11,280.20	25.81	25.07	-90.03	708.08	673.46	34.61	20.456	0		
11,400.00	11,379.70	11,387.06	11,380.20	26.01	25.29	-90.03	708.08	673.15	34.92	20.275	0		
11,500.00	11,479.70	11,487.06	11,480.20	26.22	25.51	-90.03	708.08	672.84	35.23	20.096	0		
11,600.00	11,579.70	11,587.06	11,580.20	26.42	25.73	-90.03	708.08	672.53	35.54	19.921	0		
11,700.00	11,679.70	11,687.06	11,680.20	26.63	25.95	-90.03	708.08	672.22	35.86	19.748	0		
11,800.00	11,779.70	11,787.06	11,780.20	26.84	26.17	-90.03	708.08	671.91	36.17	19.579	0		
11,900.00	11,879.70	11,887.06	11,880.20	27.05	26.39	-90.03	708.08	671.60	36.48	19.412	0		
12,000.00	11,979.71	11,987.06	11,980.21	27.25	26.61	-90.03	708.08	671.29	36.79	19.248	0		
12,100.00	12,079.71	12,087.06	12,080.21	27.46	26.83	-90.03	708.08	670.98	37.10	19.087	0		
12,127.79	12,107.49	12,114.84	12,107.99	27.52	26.89	-90.03	708.08	670.89	37.18	19.042	0		
12,146.00	12,125.71	12,133.05	12,126.20	27.56	26.93	-90.04	708.08	670.84	37.24	19.014	0		
12,150.00	12,129.70	12,137.04	12,130.19	27.57	26.94	91.06	708.08	670.83	37.25	19.008	0		
12,175.00	12,154.69	12,161.99	12,155.10	27.61	26.99	91.03	708.09	670.78	37.32	18.976	0		
12,200.00	12,179.59	12,186.92	12,179.90	27.65	27.03	90.99	708.14	670.76	37.38	18.946	0		
12,225.00	12,204.35	12,211.83	12,204.51	27.70	27.07	90.95	708.20	670.77	37.44	18.917	0		
12,250.00	12,228.88	12,236.72	12,228.86	27.75	27.12	90.91	708.30	670.80	37.50	18.890	0		

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

Devon Energy

Anticollision Risk Report

Company: WESTERN DIVISION
 Project: PBNM
 Reference Site: Dzurisin
 Site Error: 0.00
 Reference Well: Seawolf 1-12 Fed 82H
 Well Error: 0.00
 Reference Wellbore: Wellbore #1
 Reference Design: Plan 1

Local Co-ordinate Reference: Well Seawolf 1-12 Fed 82H
 TVD Reference: 1 @ 3342.40ft
 MD Reference: 1 @ 3342.40ft
 North Reference: Grid
 Survey Calculation Method: Minimum Curvature
 Output errors are at: 2.00 sigma
 Database: EDM r5000 US Production
 Offset TVD Reference: Offset Datum

Offset Design Dzurisin - Seawolf 1-12 Fed 81H - Wellbore #1 - Plan 1													Offset Site Error: 0.00 ft
Survey Program: 0-MWD													Offset Well Error: 0.00 ft
Reference		Offset		Semi Major Axis		Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Risk Separation Factor	Probability of Collision	
12,275.00	12,253.14	12,261.59	12,252.90	27.79	27.16	90.86	708.42	670.86	37.56	18.863	0		
12,300.00	12,277.05	12,286.44	12,276.55	27.84	27.21	90.82	708.56	670.95	37.62	18.837	0		
12,325.00	12,300.54	12,311.27	12,299.76	27.89	27.25	90.77	708.73	671.06	37.68	18.811	0		
12,350.00	12,323.55	12,336.08	12,322.46	27.93	27.30	90.72	708.92	671.19	37.74	18.786	0		
12,375.00	12,346.03	12,360.87	12,344.59	27.98	27.35	90.66	709.14	671.34	37.80	18.759	0		
12,400.00	12,367.89	12,385.65	12,366.10	28.03	27.40	90.61	709.38	671.51	37.87	18.731	0		
12,425.00	12,389.10	12,410.41	12,386.93	28.08	27.45	90.55	709.64	671.69	37.95	18.701	0		
12,450.00	12,409.58	12,435.15	12,407.03	28.13	27.50	90.49	709.92	671.89	38.03	18.669	0		
12,475.00	12,429.28	12,459.88	12,426.34	28.18	27.56	90.43	710.22	672.11	38.11	18.634	0		
12,500.00	12,448.15	12,484.59	12,444.81	28.23	27.63	90.37	710.54	672.33	38.21	18.596	0		
12,525.00	12,466.14	12,509.29	12,462.40	28.29	27.70	90.31	710.88	672.57	38.32	18.553	0		
12,550.00	12,483.19	12,533.98	12,479.06	28.35	27.78	90.25	711.24	672.81	38.43	18.506	0		
12,575.00	12,499.27	12,558.65	12,494.75	28.41	27.87	90.18	711.62	673.06	38.56	18.453	0		
12,600.00	12,514.32	12,583.31	12,509.42	28.47	27.98	90.12	712.01	673.30	38.71	18.395	0		
12,625.00	12,528.31	12,607.96	12,523.05	28.54	28.10	90.06	712.42	673.55	38.86	18.332	0		
12,650.00	12,541.19	12,632.60	12,535.60	28.61	28.24	89.99	712.84	673.80	39.03	18.262	0		
12,675.00	12,552.93	12,657.23	12,547.03	28.68	28.40	89.93	713.27	674.05	39.22	18.186	0		
12,700.00	12,563.50	12,681.86	12,557.32	28.76	28.58	89.86	713.71	674.29	39.42	18.103	0		
12,725.00	12,572.88	12,706.48	12,566.44	28.85	28.78	89.80	714.17	674.52	39.64	18.014	0		
12,750.00	12,581.02	12,731.09	12,574.37	28.94	28.99	89.74	714.63	674.75	39.88	17.919	0		
12,775.00	12,587.92	12,755.69	12,581.09	29.04	29.23	89.67	715.10	674.97	40.13	17.818	0		
12,800.00	12,593.55	12,780.30	12,586.58	29.15	29.48	89.61	715.57	675.17	40.40	17.711	0		
12,825.00	12,597.90	12,804.90	12,590.82	29.26	29.76	89.55	716.06	675.37	40.69	17.599	0		
12,850.00	12,600.96	12,829.50	12,593.81	29.37	30.05	89.49	716.54	675.55	40.99	17.482	0		
12,875.00	12,602.71	12,854.10	12,595.54	29.50	30.35	89.44	717.03	675.72	41.30	17.361	0		
12,907.30	12,603.14	12,886.02	12,595.98	29.66	30.77	89.39	717.66	675.93	41.73	17.197	0		
13,000.00	12,602.90	12,978.71	12,595.64	30.20	32.13	89.38	719.47	676.34	43.13	16.683	0		
13,100.00	12,602.63	13,078.69	12,595.27	30.87	33.80	89.37	721.42	676.58	44.84	16.089	0		
13,200.00	12,602.37	13,178.67	12,594.91	31.64	35.64	89.37	723.37	676.61	46.76	15.470	0		
13,300.00	12,602.11	13,278.65	12,594.54	32.49	37.64	89.36	725.33	676.46	48.86	14.844	0		
13,400.00	12,601.84	13,378.63	12,594.17	33.43	39.78	89.35	727.28	676.15	51.13	14.225	0		
13,500.00	12,601.58	13,478.61	12,593.81	34.43	42.02	89.35	729.23	675.70	53.53	13.623	0		
13,600.00	12,601.32	13,578.59	12,593.44	35.50	44.36	89.34	731.18	675.13	56.05	13.045	0		
13,700.00	12,601.05	13,678.57	12,593.08	36.63	46.78	89.33	733.14	674.45	58.68	12.493	0		
13,800.00	12,600.79	13,778.55	12,592.71	37.82	49.27	89.33	735.09	673.68	61.41	11.971	0		
13,900.00	12,600.53	13,878.53	12,592.34	39.06	51.82	89.32	737.04	672.83	64.21	11.479	0		
14,000.00	12,600.26	13,978.52	12,591.98	40.34	54.42	89.32	739.00	671.91	67.08	11.016	0		
14,100.00	12,600.00	14,078.50	12,591.61	41.66	57.06	89.31	740.95	670.93	70.02	10.582	0		
14,200.00	12,599.74	14,178.48	12,591.24	43.02	59.74	89.30	742.90	669.89	73.01	10.175	0		
14,300.00	12,599.47	14,278.46	12,590.88	44.42	62.46	89.30	744.86	668.81	76.05	9.795	0		
14,400.00	12,599.21	14,378.44	12,590.51	45.84	65.20	89.29	746.81	667.68	79.13	9.438	0		
14,500.00	12,598.95	14,478.42	12,590.14	47.30	67.97	89.29	748.76	666.51	82.25	9.104	0		
14,600.00	12,598.68	14,578.40	12,589.78	48.78	70.76	89.28	750.71	665.32	85.40	8.791	0		
14,700.00	12,598.42	14,678.38	12,589.41	50.28	73.57	89.27	752.67	664.09	88.58	8.497	0		
14,800.00	12,598.15	14,778.36	12,589.04	51.80	76.39	89.27	754.62	662.83	91.79	8.221	0		
14,900.00	12,597.89	14,878.34	12,588.68	53.35	79.24	89.26	756.57	661.55	95.02	7.962	0		
15,000.00	12,597.63	14,978.32	12,588.31	54.91	82.09	89.26	758.53	660.25	98.28	7.718	0		
15,100.00	12,597.36	15,078.31	12,587.95	56.48	84.96	89.25	760.48	658.93	101.55	7.489	0		
15,200.00	12,597.10	15,178.29	12,587.58	58.08	87.84	89.24	762.43	657.59	104.84	7.272	0		
15,300.00	12,596.84	15,278.27	12,587.21	59.68	90.74	89.24	764.39	656.24	108.15	7.068	0		
15,400.00	12,596.57	15,378.25	12,586.85	61.30	93.64	89.23	766.34	654.87	111.47	6.875	0		
15,500.00	12,596.31	15,478.23	12,586.48	62.93	96.55	89.23	768.29	653.48	114.81	6.692	0		
15,600.00	12,596.05	15,578.21	12,586.11	64.57	99.46	89.22	770.25	652.09	118.16	6.519	0		
15,700.00	12,595.78	15,678.19	12,585.75	66.22	102.39	89.22	772.20	650.68	121.52	6.355	0		

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

Devon Energy

Anticollision Risk Report

Company: WESTERN DIVISION
Project: PBNM
Reference Site: Dzurisin
Site Error: 0.00
Reference Well: Seawolf 1-12 Fed 82H
Well Error: 0.00
Reference Wellbore: Wellbore #1
Reference Design: Plan 1

Local Co-ordinate Reference: Well Seawolf 1-12 Fed 82H
TVD Reference: 1 @ 3342.40ft
MD Reference: 1 @ 3342.40ft
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at 2.00 sigma
Database: EDM r5000 US Production
Offset TVD Reference: Offset Datum

Offset Design Dzurisin - Seawolf 1-12 Fed 81H - Wellbore #1 - Plan 1													Offset Site Error: 0.00 ft
Survey Program: 0-MWD													Offset Well Error: 0.00 ft
Reference		Offset		Semi Major Axis		Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Tooface (')	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Riskd Separation Factor	Probability of Collision	
15,800.00	12,595.52	15,778.17	12,585.38	67.88	105.32	89.21	774.15	649.26	124.89	6.199	0		
15,900.00	12,595.26	15,878.15	12,585.01	69.55	108.25	89.20	776.11	647.84	128.27	6.051	0		
16,000.00	12,594.99	15,978.13	12,584.65	71.23	111.20	89.20	778.06	646.40	131.66	5.910	0		
16,100.00	12,594.73	16,078.11	12,584.28	72.91	114.14	89.19	780.01	644.96	135.05	5.776	0		
16,200.00	12,594.46	16,178.10	12,583.91	74.60	117.10	89.19	781.97	643.51	138.46	5.648	0		
16,300.00	12,594.20	16,278.08	12,583.55	76.30	120.05	89.18	783.92	642.05	141.87	5.526	0		
16,400.00	12,593.94	16,378.06	12,583.18	78.00	123.01	89.18	785.87	640.58	145.29	5.409	0		
16,500.00	12,593.67	16,478.04	12,582.82	79.71	125.98	89.17	787.82	639.11	148.71	5.298	0		
16,600.00	12,593.41	16,578.02	12,582.45	81.43	128.94	89.17	789.78	637.64	152.14	5.191	0		
16,700.00	12,593.15	16,678.00	12,582.08	83.15	131.91	89.16	791.73	636.16	155.58	5.089	0		
16,800.00	12,592.88	16,777.98	12,581.72	84.87	134.89	89.15	793.68	634.67	159.02	4.991	0		
16,900.00	12,592.62	16,877.96	12,581.35	86.60	137.86	89.15	795.64	633.18	162.46	4.897	0		
17,000.00	12,592.36	16,977.94	12,580.98	88.33	140.84	89.14	797.59	631.68	165.91	4.807	0		
17,100.00	12,592.09	17,077.92	12,580.62	90.07	143.83	89.14	799.54	630.18	169.36	4.721	0		
17,200.00	12,591.83	17,177.90	12,580.25	91.81	146.81	89.13	801.50	628.68	172.82	4.638	0		
17,300.00	12,591.57	17,277.88	12,579.88	93.56	149.80	89.13	803.45	627.17	176.28	4.558	0		
17,400.00	12,591.30	17,377.87	12,579.52	95.30	152.78	89.12	805.40	625.66	179.74	4.481	0		
17,500.00	12,591.04	17,477.85	12,579.15	97.05	155.77	89.12	807.36	624.15	183.21	4.407	0		
17,600.00	12,590.78	17,577.83	12,578.78	98.81	158.77	89.11	809.31	622.63	186.68	4.335	0		
17,700.00	12,590.51	17,677.81	12,578.42	100.56	161.76	89.11	811.26	621.11	190.15	4.266	0		
17,800.00	12,590.25	17,777.79	12,578.05	102.32	164.76	89.10	813.22	619.59	193.63	4.200	0		
17,900.00	12,589.98	17,877.77	12,577.68	104.08	167.75	89.10	815.17	618.06	197.11	4.136	0		
18,000.00	12,589.72	17,977.75	12,577.32	105.85	170.75	89.09	817.12	616.54	200.59	4.074	0		
18,100.00	12,589.46	18,077.73	12,576.95	107.61	173.75	89.09	819.08	615.01	204.07	4.014	0		
18,200.00	12,589.19	18,177.71	12,576.59	109.38	176.75	89.08	821.03	613.48	207.55	3.956	0		
18,300.00	12,588.93	18,277.69	12,576.22	111.15	179.76	89.08	822.98	611.94	211.04	3.900	0		
18,400.00	12,588.67	18,377.67	12,575.85	112.92	182.76	89.07	824.94	610.41	214.53	3.845	0		
18,500.00	12,588.40	18,477.66	12,575.49	114.70	185.77	89.07	826.89	608.87	218.02	3.793	0		
18,600.00	12,588.14	18,577.64	12,575.12	116.47	188.77	89.06	828.84	607.33	221.51	3.742	0		
18,700.00	12,587.88	18,677.62	12,574.75	118.25	191.78	89.06	830.80	605.79	225.01	3.692	0		
18,800.00	12,587.61	18,777.60	12,574.39	120.03	194.79	89.05	832.75	604.25	228.50	3.644	0		
18,900.00	12,587.35	18,877.58	12,574.02	121.81	197.80	89.05	834.70	602.70	232.00	3.598	0		
19,000.00	12,587.09	18,977.56	12,573.65	123.59	200.81	89.04	836.66	601.16	235.50	3.553	0		
19,100.00	12,586.82	19,077.54	12,573.29	125.38	203.82	89.04	838.61	599.61	239.00	3.509	0		
19,200.00	12,586.56	19,177.52	12,572.92	127.16	206.83	89.03	840.56	598.06	242.50	3.466	0		
19,300.00	12,586.29	19,277.50	12,572.55	128.95	209.84	89.03	842.52	596.51	246.00	3.425	0		
19,400.00	12,586.03	19,377.48	12,572.19	130.73	212.85	89.02	844.47	594.96	249.51	3.385	0		
19,500.00	12,585.77	19,477.46	12,571.82	132.52	215.87	89.02	846.42	593.41	253.01	3.345	0		
19,600.00	12,585.50	19,577.45	12,571.46	134.31	218.88	89.01	848.38	591.86	256.52	3.307	0		
19,700.00	12,585.24	19,677.43	12,571.09	136.10	221.90	89.01	850.33	590.30	260.03	3.270	0		
19,800.00	12,584.98	19,777.41	12,570.72	137.90	224.91	89.00	852.28	588.75	263.54	3.234	0		
19,900.00	12,584.71	19,877.39	12,570.36	139.69	227.93	89.00	854.24	587.19	267.05	3.199	0		
20,000.00	12,584.45	19,977.37	12,569.99	141.48	230.95	89.00	856.19	585.63	270.56	3.165	0		
20,100.00	12,584.19	20,077.35	12,569.62	143.28	233.96	88.99	858.14	584.07	274.07	3.131	0		
20,200.00	12,583.92	20,177.33	12,569.26	145.07	236.98	88.99	860.10	582.52	277.58	3.099	0		
20,300.00	12,583.66	20,277.31	12,568.89	146.87	240.00	88.98	862.05	580.96	281.10	3.067	0		
20,400.00	12,583.40	20,377.29	12,568.52	148.67	243.02	88.98	864.01	579.40	284.61	3.036	0		
20,500.00	12,583.13	20,477.27	12,568.16	150.47	246.04	88.97	865.96	577.83	288.13	3.005	0		
20,600.00	12,582.87	20,577.25	12,567.79	152.27	249.06	88.97	867.91	576.27	291.64	2.976	0		
20,700.00	12,582.60	20,677.24	12,567.42	154.07	252.08	88.96	869.87	574.71	295.16	2.947	0		
20,800.00	12,582.34	20,777.22	12,567.06	155.87	255.10	88.96	871.82	573.14	298.67	2.919	0		
20,900.00	12,582.08	20,877.20	12,566.69	157.67	258.12	88.96	873.77	571.58	302.19	2.891	0		
21,000.00	12,581.81	20,977.18	12,566.33	159.47	261.15	88.95	875.73	570.01	305.71	2.865	0		
21,100.00	12,581.55	21,077.16	12,565.96	161.27	264.17	88.95	877.68	568.45	309.23	2.838	0		

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

Devon Energy

Anticollision Risk Report

Company: WESTERN DIVISION
Project: PBNM
Reference Site: Dzurisin
Site Error: 0.00
Reference Well: Seawolf 1-12 Fed 82H
Well Error: 0.00
Reference Wellbore: Wellbore #1
Reference Design: Plan 1

Local Co-ordinate Reference: Well Seawolf 1-12 Fed 82H
TVD Reference: 1 @ 3342.40ft
MD Reference: 1 @ 3342.40ft
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at 2.00 sigma
Database: EDM r5000 US Production
Offset TVD Reference: Offset Datum

Offset Design Dzurisin - Seawolf 1-12 Fed 81H - Wellbore #1 - Plan 1												Offset Site Error:	0.00 ft
Survey Program: 0-MWD												Offset Well Error:	0.00 ft
Reference		Offset		Semi Major Axis		Distance							
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Risk Factor	Probability of Collision	Warning
21,200.00	12,581.29	21,177.14	12,565.59	163.08	267.19	88.94	879.63	566.88	312.75	2.813	0		
21,300.00	12,581.02	21,277.12	12,565.23	164.88	270.21	88.94	881.59	565.32	316.27	2.787	0		
21,400.00	12,580.76	21,377.10	12,564.86	166.69	273.24	88.93	883.54	563.75	319.79	2.763	0		
21,500.00	12,580.50	21,477.08	12,564.49	168.49	276.26	88.93	885.49	562.18	323.31	2.739	0		
21,600.00	12,580.23	21,577.06	12,564.13	170.30	279.29	88.92	887.45	560.61	326.84	2.715	0		
21,700.00	12,579.97	21,677.04	12,563.76	172.10	282.31	88.92	889.40	559.04	330.36	2.692	0		
21,800.00	12,579.71	21,777.03	12,563.39	173.91	285.33	88.92	891.35	557.47	333.88	2.670	0		
21,900.00	12,579.44	21,877.01	12,563.03	175.72	288.36	88.91	893.31	555.90	337.41	2.648	0		
22,000.00	12,579.18	21,976.99	12,562.66	177.53	291.39	88.91	895.26	554.33	340.93	2.626	0		
22,100.00	12,578.92	22,076.97	12,562.29	179.33	294.41	88.90	897.21	552.76	344.45	2.605	0		
22,200.00	12,578.65	22,176.95	12,561.93	181.14	297.44	88.90	899.17	551.19	347.98	2.584	0		
22,300.00	12,578.39	22,276.93	12,561.56	182.95	300.46	88.90	901.12	549.62	351.51	2.564	0		
22,400.00	12,578.12	22,376.91	12,561.19	184.76	303.49	88.89	903.08	548.04	355.03	2.544	0		
22,412.12	12,578.09	22,389.03	12,561.15	184.98	303.86	88.89	903.31	547.85	355.46	2.541	0		
22,447.27	12,578.00	22,424.19	12,561.02	185.58	304.86	88.89	904.00	547.37	356.63	2.535	0		SF

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

Devon Energy
Anticollision Risk Report

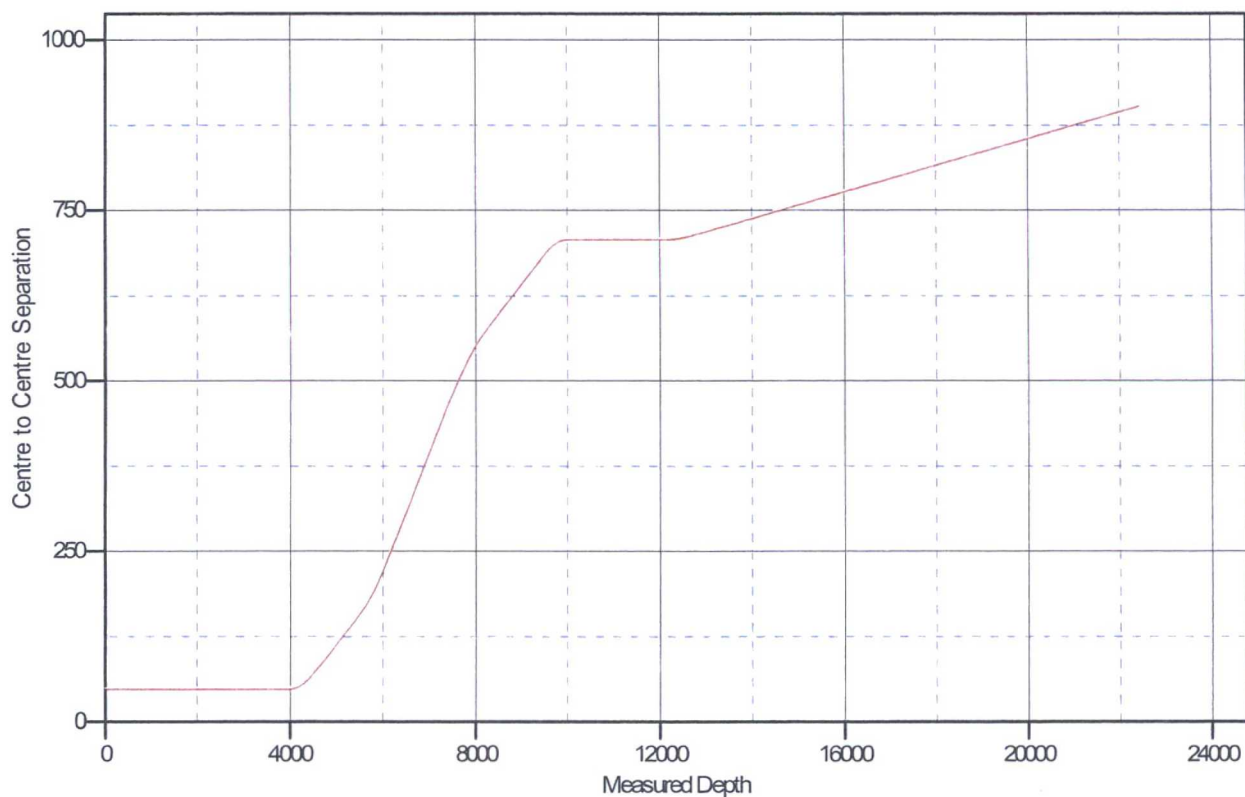
Company: WESTERN DIVISION
Project: PBNM
Reference Site: Dzurisin
Site Error: 0.00
Reference Well: Seawolf 1-12 Fed 82H
Well Error: 0.00
Reference Wellbore: Wellbore #1
Reference Design: Plan 1

Local Co-ordinate Reference: Well Seawolf 1-12 Fed 82H
TVD Reference: 1 @ 3342.40ft
MD Reference: 1 @ 3342.40ft
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at 2.00 sigma
Database: EDM r5000 US Production
Offset TVD Reference: Offset Datum

Reference Depths are relative to 1 @ 3342.40ft
Offset Depths are relative to Offset Datum
Central Meridian is -104.333334 °

Coordinates are relative to: Seawolf 1-12 Fed 82H
Coordinate System is US State Plane 1983, New Mexico Eastern Zone
Grid Convergence at Surface is: 0.43°

Ladder Plot



LEGEND

▲ Seawolf 1-12 Fed 81H, Wellbore #1, Plan 1 V0

Devon Energy
Anticollision Risk Report

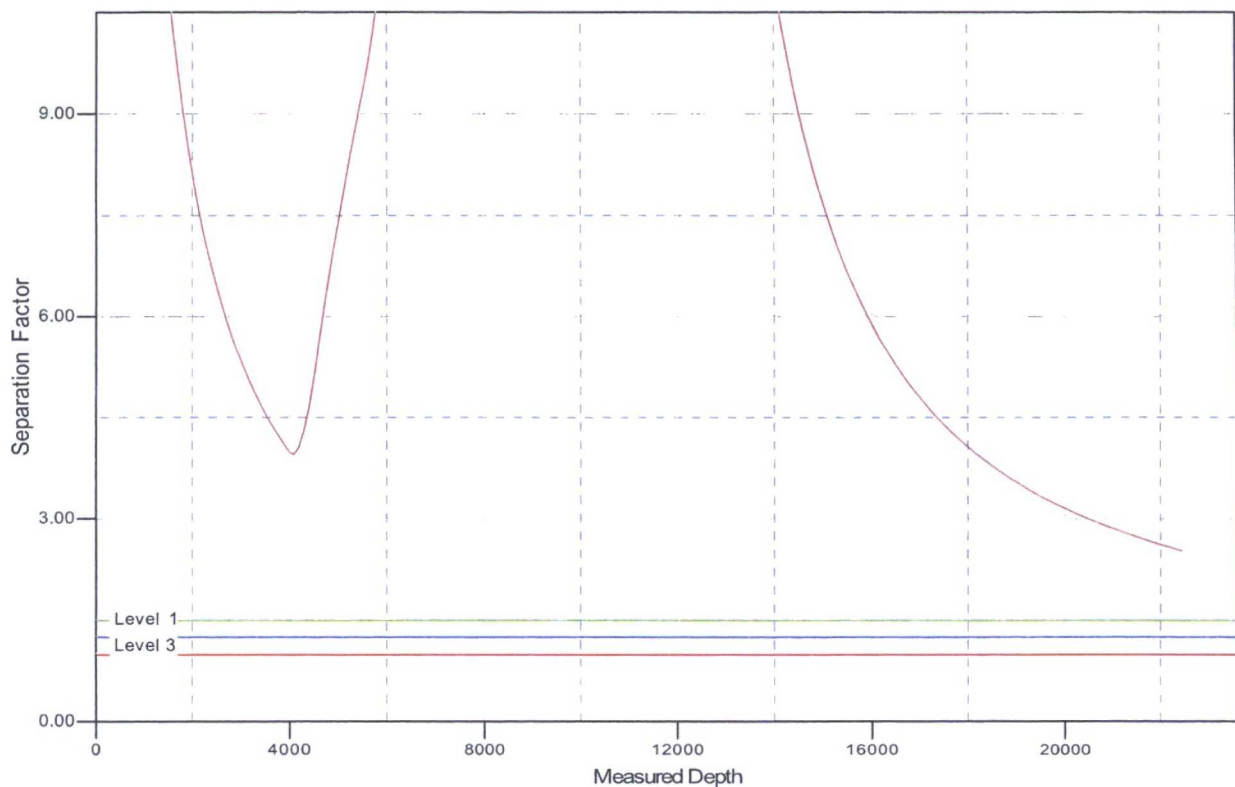
Company: WESTERN DIVISION
Project: PBNM
Reference Site: Dzurisin
Site Error: 0.00
Reference Well: Seawolf 1-12 Fed 82H
Well Error: 0.00
Reference Wellbore Wellbore #1
Reference Design: Plan 1

Local Co-ordinate Reference: Well Seawolf 1-12 Fed 82H
TVD Reference: 1 @ 3342.40ft
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North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at 2.00 sigma
Database: EDM r5000 US Production
Offset TVD Reference: Offset Datum

Reference Depths are relative to 1 @ 3342.40ft
Offset Depths are relative to Offset Datum
Central Meridian is -104.333334 °

Coordinates are relative to: Seawolf 1-12 Fed 82H
Coordinate System is US State Plane 1983, New Mexico Eastern Zone
Grid Convergence at Surface is: 0.43°

Separation Factor Plot



LEGEND

▲ Seawolf 1-12 Fed 81H, Wellbore #1, Plan 1 V0