

HOBBS OCD

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DEVON ENERGY

**Lea County, NM (NAD-83)
Hognose Viper 23 Fed
6H**

**OH
Plan #1**

Anticollision Report

20 May, 2015

MAY 03 2016

LEAM Drilling Systems LLC

Anticollision Report

Company:	DEVON ENERGY	Local Co-ordinate Reference:	Well 6H
Project:	Lea County, NM (NAD-83)	TVD Reference:	3684.7' GL + 25' RKB @ 3709.70usft
Reference Site:	Hognose Viper 23 Fed	MD Reference:	3684.7' GL + 25' RKB @ 3709.70usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	6H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at:	2.00 sigma
Reference Wellbore:	OH	Database:	EDM 5000.1 Single 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	5/20/2015		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
0.00	14,601.25	Plan #1 (OH)	LEAM MWD-ADJ	MWD - Standard	

Summary						
Site Name	Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
Hognose Viper 23 Fed						
4H - OH - Plan #1	4,500.00	4,499.60	49.97	30.02	2.505	CC, ES
4H - OH - Plan #1	7,500.00	7,497.49	67.02	34.33	2.050	SF
8H - OH - Plan #1	5,000.00	4,999.20	49.99	27.80	2.252	CC, ES
8H - OH - Plan #1	8,400.00	8,402.82	75.17	38.34	2.041	SF

Offset Design											Hognose Viper 23 Fed - 4H - OH - Plan #1		Offset Site Error: 0.00 usft	
Survey Program: 0-LEAM MWD-ADJ													Offset Well Error: 0.00 usft	
Reference		Offset		Semi Major Axis		Distance								
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning	
0.00	0.00	0.00	0.00	0.00	0.00	-90.28	-0.24	-49.97	49.97					
100.00	100.00	99.60	99.60	0.08	0.08	-90.28	-0.24	-49.97	49.97	49.30	0.17	297.024		
200.00	200.00	199.60	199.60	0.31	0.31	-90.28	-0.24	-49.97	49.97	49.35	0.62	80.962		
300.00	300.00	299.60	299.60	0.53	0.53	-90.28	-0.24	-49.97	49.97	48.90	1.07	46.844		
400.00	400.00	399.60	399.60	0.78	0.78	-90.28	-0.24	-49.97	49.97	48.45	1.52	32.956		
500.00	500.00	499.60	499.60	0.98	0.98	-90.28	-0.24	-49.97	49.97	48.00	1.97	25.420		
600.00	600.00	599.60	599.60	1.21	1.21	-90.28	-0.24	-49.97	49.97	47.56	2.42	20.889		
700.00	700.00	699.60	699.60	1.43	1.43	-90.28	-0.24	-49.97	49.97	47.11	2.86	17.443		
800.00	800.00	799.60	799.60	1.66	1.66	-90.28	-0.24	-49.97	49.97	46.66	3.31	15.077		
900.00	900.00	899.60	899.60	1.88	1.88	-90.28	-0.24	-49.97	49.97	46.21	3.78	13.276		
1,000.00	1,000.00	999.60	999.60	2.11	2.11	-90.28	-0.24	-49.97	49.97	45.76	4.21	11.860		
1,100.00	1,100.00	1,099.60	1,099.60	2.33	2.33	-90.28	-0.24	-49.97	49.97	45.31	4.66	10.716		
1,200.00	1,200.00	1,199.60	1,199.60	2.56	2.56	-90.28	-0.24	-49.97	49.97	44.86	5.11	9.774		
1,300.00	1,300.00	1,299.60	1,299.60	2.78	2.78	-90.28	-0.24	-49.97	49.97	44.41	5.58	8.984		
1,400.00	1,400.00	1,399.60	1,399.60	3.01	3.01	-90.28	-0.24	-49.97	49.97	43.96	6.01	8.312		
1,500.00	1,500.00	1,499.60	1,499.60	3.23	3.23	-90.28	-0.24	-49.97	49.97	43.51	6.46	7.734		
1,600.00	1,600.00	1,599.60	1,599.60	3.46	3.45	-90.28	-0.24	-49.97	49.97	43.06	6.91	7.231		
1,700.00	1,700.00	1,699.60	1,699.60	3.68	3.68	-90.28	-0.24	-49.97	49.97	42.61	7.36	6.789		
1,800.00	1,800.00	1,799.60	1,799.60	3.91	3.90	-90.28	-0.24	-49.97	49.97	42.16	7.81	6.399		
1,900.00	1,900.00	1,899.60	1,899.60	4.13	4.13	-90.28	-0.24	-49.97	49.97	41.71	8.26	6.050		
2,000.00	2,000.00	1,999.60	1,999.60	4.35	4.35	-90.28	-0.24	-49.97	49.97	41.26	8.71	5.738		
2,100.00	2,100.00	2,099.60	2,099.60	4.58	4.58	-90.28	-0.24	-49.97	49.97	40.81	9.16	5.456		
2,200.00	2,200.00	2,199.60	2,199.60	4.80	4.80	-90.28	-0.24	-49.97	49.97	40.36	9.61	5.201		

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

LEAM Drilling Systems LLC

Anticollision Report

Company:	DEVON ENERGY	Local Co-ordinate Reference:	Well 6H
Project:	Lea County, NM (NAD-83)	TVD Reference:	3684.7' GL + 25' RKB @ 3709.70usft
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Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	6H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at:	2.00 sigma
Reference Wellbore:	OH	Database:	EDM 5000.1 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design: Hognose Viper 23 Fed - 4H - OH - Plan #1												Offset Site Error:	0.00 usft
Survey Program: 0 LEAM MWD-ADU												Offset Well Error:	0.00 usft
Reference	Offset	Semi Major Axis		Distance		Minimum Separation		Separation Factor		Warning			
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre N-S (usft)	Offset Wellbore Centre E-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
2,300.00	2,300.00	2,299.60	2,299.60	5.03	5.03	-90.28	-0.24	-49.97	49.97	39.91	10.06	4.969	
2,400.00	2,400.00	2,399.60	2,399.60	5.25	5.25	-90.28	-0.24	-49.97	49.97	39.46	10.51	4.756	
2,500.00	2,500.00	2,499.60	2,499.60	5.48	5.48	-90.28	-0.24	-49.97	49.97	39.01	10.96	4.561	
2,600.00	2,600.00	2,599.60	2,599.60	5.70	5.70	-90.28	-0.24	-49.97	49.97	38.56	11.41	4.381	
2,700.00	2,700.00	2,699.60	2,699.60	5.93	5.93	-90.28	-0.24	-49.97	49.97	38.12	11.86	4.215	
2,800.00	2,800.00	2,799.60	2,799.60	6.15	6.15	-90.28	-0.24	-49.97	49.97	37.67	12.31	4.061	
2,900.00	2,900.00	2,899.60	2,899.60	6.38	6.38	-90.28	-0.24	-49.97	49.97	37.22	12.75	3.918	
3,000.00	3,000.00	2,999.60	2,999.60	6.60	6.60	-90.28	-0.24	-49.97	49.97	36.77	13.20	3.784	
3,100.00	3,100.00	3,099.60	3,099.60	6.83	6.83	-90.28	-0.24	-49.97	49.97	36.32	13.65	3.660	
3,200.00	3,200.00	3,199.60	3,199.60	7.05	7.05	-90.28	-0.24	-49.97	49.97	35.87	14.10	3.543	
3,300.00	3,300.00	3,299.60	3,299.60	7.28	7.28	-90.28	-0.24	-49.97	49.97	35.42	14.55	3.434	
3,400.00	3,400.00	3,399.60	3,399.60	7.50	7.50	-90.28	-0.24	-49.97	49.97	34.97	15.00	3.331	
3,500.00	3,500.00	3,499.60	3,499.60	7.73	7.73	-90.28	-0.24	-49.97	49.97	34.52	15.45	3.234	
3,600.00	3,600.00	3,599.60	3,599.60	7.95	7.95	-90.28	-0.24	-49.97	49.97	34.07	15.90	3.143	
3,700.00	3,700.00	3,699.60	3,699.60	8.18	8.17	-90.28	-0.24	-49.97	49.97	33.62	16.35	3.056	
3,800.00	3,800.00	3,799.60	3,799.60	8.40	8.40	-90.28	-0.24	-49.97	49.97	33.17	16.80	2.974	
3,900.00	3,900.00	3,899.60	3,899.60	8.63	8.62	-90.28	-0.24	-49.97	49.97	32.72	17.25	2.897	
4,000.00	4,000.00	3,899.60	3,899.60	8.85	8.85	-90.28	-0.24	-49.97	49.97	32.27	17.70	2.823	
4,100.00	4,100.00	4,099.60	4,099.60	9.07	9.07	-90.28	-0.24	-49.97	49.97	31.82	18.15	2.753	
4,200.00	4,200.00	4,199.60	4,199.60	9.30	9.30	-90.28	-0.24	-49.97	49.97	31.37	18.60	2.687	
4,300.00	4,300.00	4,299.60	4,299.60	9.52	9.52	-90.28	-0.24	-49.97	49.97	30.92	19.05	2.623	
4,400.00	4,400.00	4,399.60	4,399.60	9.75	9.75	-90.28	-0.24	-49.97	49.97	30.47	19.50	2.563	
4,500.00	4,500.00	4,499.60	4,499.60	9.97	9.97	-90.28	-0.24	-49.97	49.97	30.02	19.95	2.505 CC, ES	
4,600.00	4,600.00	4,598.41	4,598.40	10.20	10.18	-90.37	-0.78	-51.12	51.14	30.77	20.37	2.510	
4,700.00	4,700.00	4,697.08	4,696.99	10.42	10.36	-92.51	-2.39	-54.58	54.69	33.91	20.78	2.632	
4,800.00	4,800.00	4,795.49	4,795.20	10.65	10.55	-94.80	-5.07	-60.32	60.70	39.50	21.19	2.864	
4,900.00	4,900.00	4,894.55	4,893.89	10.87	10.74	-97.24	-8.64	-67.98	68.76	47.16	21.61	3.183	
5,000.00	5,000.00	4,894.17	4,893.13	11.10	10.93	-99.22	-12.31	-75.85	77.11	55.09	22.02	3.501	
5,100.00	5,099.99	5,093.89	5,092.47	11.30	11.13	-27.55	-15.98	-83.72	84.37	61.96	22.40	3.768	
5,200.00	5,199.91	5,193.76	5,191.96	11.48	11.34	27.28	-19.66	-91.61	89.34	66.59	22.75	3.927	
5,300.00	5,299.69	5,293.72	5,291.54	11.66	11.54	27.78	-23.34	-99.51	91.98	68.89	23.09	3.983	
5,333.33	5,332.91	5,327.04	5,324.74	11.72	11.61	28.12	-24.57	-102.14	92.35	69.14	23.21	3.979	
5,400.00	5,399.32	5,393.70	5,391.14	11.85	11.75	28.87	-27.02	-107.41	92.84	69.38	23.46	3.957	
5,500.00	5,498.94	5,493.68	5,490.74	12.04	11.96	29.99	-30.71	-115.30	93.61	69.77	23.84	3.926	
5,600.00	5,598.56	5,593.66	5,590.34	12.23	12.18	31.09	-34.39	-123.20	94.42	70.19	24.23	3.897	
5,700.00	5,698.18	5,693.64	5,689.94	12.43	12.40	32.17	-38.07	-131.10	95.26	70.64	24.62	3.869	
5,800.00	5,797.80	5,793.62	5,789.54	12.63	12.61	33.23	-41.75	-139.00	96.13	71.11	25.02	3.843	
5,900.00	5,897.42	5,893.60	5,889.14	12.83	12.84	34.27	-45.44	-146.89	97.03	71.62	25.42	3.818	
6,000.00	5,997.04	5,993.58	5,988.74	13.03	13.06	35.29	-49.12	-154.79	97.97	72.15	25.82	3.794	
6,100.00	6,096.66	6,093.56	6,088.34	13.24	13.29	36.29	-52.80	-162.69	98.94	72.71	26.23	3.772	
6,200.00	6,196.28	6,193.54	6,187.94	13.45	13.51	37.27	-56.48	-170.59	99.93	73.29	26.64	3.751	
6,300.00	6,295.90	6,293.52	6,287.54	13.66	13.74	38.23	-60.17	-178.46	100.96	73.90	27.05	3.732	
6,400.00	6,395.52	6,394.97	6,388.65	13.86	13.97	39.31	-63.89	-186.05	101.57	74.09	27.48	3.697	
6,500.00	6,495.14	6,497.32	6,490.82	14.09	14.19	41.05	-68.19	-191.40	100.04	72.13	27.91	3.585	
6,600.00	6,594.76	6,599.45	6,592.90	14.31	14.40	43.65	-73.53	-194.27	96.29	67.94	28.35	3.397	
6,700.00	6,694.38	6,700.53	6,693.98	14.53	14.60	47.32	-67.78	-194.80	90.65	61.87	28.79	3.149	
6,800.00	6,794.00	6,800.15	6,793.80	14.75	14.82	51.63	-67.78	-194.80	84.97	55.71	29.26	2.904	
6,900.00	6,893.62	6,899.77	6,893.22	14.98	15.03	56.53	-67.78	-194.80	79.84	50.10	29.74	2.684	
7,000.00	6,993.24	6,999.39	6,992.94	15.20	15.25	62.05	-67.78	-194.80	75.37	45.14	30.24	2.493	
7,100.00	7,092.85	7,099.01	7,092.45	15.43	15.47	68.19	-67.78	-194.80	71.69	40.95	30.74	2.332	
7,200.00	7,192.47	7,198.63	7,192.07	15.66	15.69	74.91	-67.78	-194.80	68.92	37.88	31.24	2.206	
7,300.00	7,292.09	7,298.25	7,291.69	15.89	15.90	82.08	-67.78	-194.80	67.17	35.43	31.74	2.116	

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

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Well Error:	0.00 usft	Output errors are at:	2.00 sigma
Reference Wellbore:	OH	Database:	EDM 5000.1 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design: Hognose Viper 23 Fed - 4H - OH - Plan #1													Offset Site Error:
Survey Program: 0-LEAM (MWD-AOI)													0.00 usft
Reference	Offset	Semi Major Axis		Distance		Minimum		Separation		Warning		Offset Well Error:	
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	
7,400.00	7,391.71	7,397.87	7,391.31	16.13	16.12	89.51	-67.78	-194.80	66.53	34.30	32.22	2.065	
7,408.61	7,398.29	7,404.45	7,397.89	16.14	16.13	90.00	-67.78	-194.80	66.52	34.27	32.25	2.063	
7,500.00	7,491.33	7,497.49	7,490.93	16.36	16.34	96.95	-67.78	-194.80	67.02	34.33	32.69	2.050 SF	
7,600.00	7,590.95	7,597.11	7,590.55	16.59	16.56	104.17	-67.78	-194.80	68.63	35.50	33.13	2.071	
7,700.00	7,690.57	7,696.73	7,690.17	16.83	16.77	110.95	-67.78	-194.80	71.27	37.72	33.55	2.124	
7,800.00	7,790.19	7,796.34	7,789.79	17.07	16.99	117.18	-67.78	-194.80	74.84	40.89	33.95	2.204	
7,833.33	7,823.40	7,829.55	7,823.00	17.15	17.07	119.12	-67.78	-194.80	76.21	42.13	34.09	2.236	
7,900.00	7,889.86	7,896.01	7,889.46	17.30	17.21	122.46	-67.78	-194.80	78.90	44.54	34.36	2.297	
8,000.00	7,989.59	7,995.85	7,989.29	17.52	17.43	125.84	-67.78	-194.80	82.09	47.32	34.76	2.361	
8,100.00	8,089.64	8,095.80	8,089.24	17.73	17.65	127.55	-67.78	-194.80	83.91	48.73	35.18	2.385	
8,166.67	8,156.31	8,162.46	8,155.91	17.86	17.80	-0.13	-67.78	-194.80	84.27	48.82	35.45	2.377	
8,200.00	8,189.64	8,195.79	8,189.24	17.93	17.87	-0.13	-67.78	-194.80	84.27	48.68	35.59	2.368	
8,300.00	8,289.64	8,295.79	8,289.24	18.14	18.09	-0.13	-67.78	-194.80	84.27	48.24	36.03	2.339	
8,400.00	8,389.64	8,395.79	8,389.24	18.35	18.31	-0.13	-67.78	-194.80	84.27	47.81	36.46	2.311	
8,500.00	8,489.64	8,495.79	8,489.24	18.56	18.53	-0.13	-67.78	-194.80	84.27	47.37	36.90	2.284	
8,600.00	8,589.64	8,595.79	8,589.24	18.78	18.75	-0.13	-67.78	-194.80	84.27	46.93	37.33	2.257	
8,700.00	8,689.64	8,695.79	8,689.24	18.99	18.97	-0.13	-67.78	-194.80	84.27	46.50	37.77	2.231	
8,800.00	8,789.64	8,795.79	8,789.24	19.20	19.19	-0.13	-67.78	-194.80	84.27	46.06	38.21	2.206	
8,900.00	8,889.64	8,895.79	8,889.24	19.42	19.41	-0.13	-67.78	-194.80	84.27	45.63	38.64	2.181	
9,000.00	8,989.64	8,995.79	8,989.24	19.63	19.63	-0.13	-67.78	-194.80	84.27	45.19	39.08	2.156	
9,100.00	9,089.64	9,095.79	9,089.24	19.84	19.85	-0.13	-67.78	-194.80	84.27	44.75	39.52	2.132	
9,200.00	9,189.64	9,195.79	9,189.24	20.06	20.04	-0.12	-62.22	-194.80	90.70	50.77	39.93	2.272	
9,300.00	9,289.64	9,295.79	9,289.24	20.27	20.21	-0.10	-44.75	-194.80	111.78	71.46	40.32	2.772	
9,400.00	9,389.64	9,395.79	9,389.24	20.49	20.36	-0.08	-18.38	-194.80	146.28	105.58	40.70	3.594	
9,502.46	9,492.10	9,498.25	9,492.75	20.71	20.49	-0.07	13.97	-194.80	193.64	152.58	41.05	4.717	
9,550.00	9,539.59	9,545.74	9,534.85	20.81	20.56	-0.05	33.77	-194.81	217.62	176.52	41.10	5.295	
9,600.00	9,589.17	9,595.32	9,584.85	20.90	20.60	-0.05	48.50	-194.81	241.22	200.32	40.90	5.898	
9,650.00	9,638.02	9,644.17	9,633.85	20.99	20.65	-0.04	63.94	-194.81	265.60	223.12	40.47	6.513	
9,700.00	9,687.55	9,693.70	9,683.25	21.07	20.71	-0.04	88.43	-194.81	289.26	244.41	39.85	7.134	
9,750.00	9,732.01	9,738.16	9,727.85	21.15	20.77	-0.04	109.95	-194.81	303.48	264.48	39.00	7.781	
9,800.00	9,776.45	9,782.60	9,772.15	21.22	20.85	-0.03	134.11	-194.81	321.12	283.15	37.97	8.458	
9,850.00	9,818.72	9,824.87	9,814.41	21.28	20.92	-0.03	155.76	-194.81	337.11	300.35	36.78	9.171	
9,900.00	9,858.50	9,864.65	9,854.15	21.34	20.98	-0.03	173.57	-194.81	351.58	316.19	35.39	9.935	
9,950.00	9,895.50	9,901.65	9,891.15	21.40	21.10	-0.03	204.87	-194.81	364.09	330.16	33.93	10.731	
10,000.00	9,929.43	9,935.58	9,924.03	21.45	21.21	-0.03	230.52	-194.81	375.01	342.63	32.38	11.582	
10,050.00	9,960.02	9,966.17	9,955.52	21.51	21.34	-0.03	259.75	-194.81	384.21	353.41	30.80	12.475	
10,100.00	9,987.06	9,993.21	9,982.56	21.60	21.46	-0.03	283.59	-194.81	391.61	362.38	29.22	13.401	
10,150.00	10,010.33	10,016.48	10,005.83	21.73	21.57	-0.03	305.81	-194.82	397.31	369.59	27.72	14.332	
10,200.00	10,029.66	10,035.81	10,024.01	21.92	21.75	-0.02	338.99	-194.82	401.09	374.71	26.39	15.201	
10,250.00	10,044.89	10,051.04	10,040.14	22.13	21.91	-0.02	367.28	-194.82	403.14	377.89	25.26	15.961	
10,300.00	10,055.92	10,062.07	10,050.17	22.38	22.12	-0.02	402.11	-194.82	403.48	379.04	24.43	16.514	
10,350.00	10,062.66	10,068.81	10,061.81	22.65	22.27	-0.02	424.86	-194.82	401.84	377.90	23.94	16.786	
10,400.00	10,065.05	10,071.20	10,064.05	22.96	22.44	-0.02	451.82	-194.82	398.50	374.85	23.85	16.710	
10,410.66	10,065.00	10,071.15	10,064.00	23.03	22.44	-0.02	451.82	-194.82	397.70	373.83	23.87	16.661	
10,500.00	10,063.72	10,069.87	10,060.87	23.65	22.88	-0.02	513.66	-194.82	393.37	369.17	24.20	16.255	
10,600.00	10,062.29	10,068.44	10,061.44	24.46	23.67	-0.02	613.55	-194.83	393.15	368.45	24.70	15.916	
10,700.00	10,060.86	10,066.91	10,063.91	25.37	24.57	-0.02	713.85	-194.83	392.94	367.86	25.28	15.546	
10,800.00	10,059.42	10,065.57	10,062.57	26.38	25.57	-0.02	813.84	-194.83	392.72	366.80	25.92	15.152	
10,900.00	10,057.99	10,064.12	10,061.12	27.47	26.66	-0.02	913.63	-194.84	392.51	365.88	26.53	14.739	
11,000.00	10,056.56	10,062.71	10,063.71	28.63	27.83	-0.02	1,013.62	-194.84	392.29	364.89	27.40	14.317	
11,100.00	10,055.13	10,061.28	10,062.28	29.87	29.06	-0.02	1,113.61	-194.84	392.08	363.85	28.23	13.891	
11,200.00	10,053.70	10,060.85	10,061.85	31.16	30.35	-0.02	1,213.61	-194.85	391.87	362.76	29.10	13.465	

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

LEAM Drilling Systems LLC

Anticollision Report

Company:	DEVON ENERGY	Local Co-ordinate Reference:	Well 6H
Project:	Lea County, NM (NAD-83)	TVD Reference:	3684.7' GL + 25' RKB @ 3709.70usft
Reference Site:	Hognose Viper 23 Fed	MD Reference:	3684.7' GL + 25' RKB @ 3709.70usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	6H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore:	OH	Database	EDM 5000.1 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design: Hognose Viper 23 Fed - 4H - OH - Plan #1												Offset Site Error:	0.00 usft
Survey Program: 10 LEAM MWD-ADJ												Offset Well Error:	0.00 usft
Reference	Offset	Semi Major Axis		Distance		Minimum Separation		Separation Factor		Warning			
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre N-S (usft)	Offset Wellbore Centre E-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
11,300.00	10,052.27	10,812.11	9,660.24	32.50	31.70	-0.02	1,313.60	-194.85	391.65	361.63	30.02	13.044	
11,400.00	10,050.84	10,912.11	9,659.03	33.88	33.09	-0.02	1,413.59	-194.85	391.44	360.45	30.99	12.631	
11,500.00	10,049.40	11,012.11	9,657.81	35.31	34.52	-0.02	1,513.58	-194.88	391.22	358.23	31.99	12.229	
11,600.00	10,047.97	11,112.11	9,656.59	36.77	35.99	-0.02	1,613.58	-194.86	391.01	357.98	33.03	11.838	
11,700.00	10,046.54	11,212.11	9,655.38	38.27	37.49	-0.02	1,713.57	-194.87	390.79	356.70	34.10	11.461	
11,800.00	10,045.11	11,312.11	9,654.16	39.79	39.02	-0.02	1,813.56	-194.87	390.58	355.38	35.20	11.097	
11,900.00	10,043.68	11,412.11	9,652.94	41.33	40.57	-0.02	1,913.55	-194.87	390.37	354.04	36.32	10.748	
12,000.00	10,042.25	11,512.11	9,651.72	42.90	42.14	-0.02	2,013.55	-194.88	390.15	352.68	37.47	10.413	
12,100.00	10,040.82	11,612.11	9,650.51	44.49	43.74	-0.01	2,113.54	-194.88	389.94	351.30	38.64	10.092	
12,200.00	10,039.39	11,712.11	9,649.29	46.10	45.35	-0.01	2,213.53	-194.88	389.72	349.90	39.83	9.788	
12,300.00	10,037.95	11,812.11	9,648.07	47.72	46.98	-0.01	2,313.52	-194.89	389.51	348.47	41.03	9.492	
12,400.00	10,036.52	11,912.11	9,646.86	49.35	48.62	-0.01	2,413.52	-194.89	389.29	347.04	42.28	9.213	
12,500.00	10,035.09	12,012.11	9,645.64	51.00	50.27	-0.01	2,513.51	-194.89	389.08	345.58	43.49	8.945	
12,600.00	10,033.66	12,112.11	9,644.42	52.66	51.94	-0.01	2,613.50	-194.90	388.86	344.12	44.75	8.690	
12,700.00	10,032.23	12,212.11	9,643.21	54.33	53.62	-0.01	2,713.49	-194.90	388.65	342.64	46.01	8.447	
12,800.00	10,030.80	12,312.11	9,641.99	56.02	55.30	-0.01	2,813.49	-194.91	388.44	341.15	47.29	8.214	
12,900.00	10,029.36	12,412.11	9,640.77	57.70	57.00	-0.01	2,913.48	-194.91	388.22	339.65	48.58	7.992	
13,000.00	10,027.93	12,512.11	9,639.55	59.40	58.70	-0.01	3,013.47	-194.91	388.01	338.13	49.87	7.780	
13,100.00	10,026.50	12,612.11	9,638.34	61.11	60.41	-0.01	3,113.46	-194.92	387.79	336.61	51.18	7.577	
13,200.00	10,025.07	12,712.11	9,637.12	62.82	62.13	-0.01	3,213.45	-194.92	387.58	335.08	52.49	7.383	
13,300.00	10,023.64	12,812.11	9,635.90	64.54	63.85	-0.01	3,313.45	-194.92	387.36	333.55	53.82	7.198	
13,400.00	10,022.21	12,912.11	9,634.69	66.26	65.58	-0.01	3,413.44	-194.93	387.15	332.00	55.15	7.020	
13,500.00	10,020.78	13,012.11	9,633.47	67.99	67.31	-0.01	3,513.43	-194.93	386.93	330.45	56.48	6.850	
13,600.00	10,019.34	13,112.11	9,632.25	69.73	69.05	-0.01	3,613.42	-194.93	386.72	328.89	57.83	6.688	
13,700.00	10,017.91	13,212.11	9,631.04	71.47	70.79	-0.01	3,713.42	-194.94	386.51	327.33	59.17	6.532	
13,800.00	10,016.49	13,312.11	9,629.82	73.21	72.54	0.00	3,813.41	-194.94	386.29	325.76	60.53	6.382	
13,900.00	10,015.05	13,412.11	9,628.60	74.96	74.29	0.00	3,913.40	-194.94	386.08	324.19	61.89	6.238	
14,000.00	10,013.62	13,512.11	9,627.38	76.71	76.05	0.00	4,013.39	-194.95	385.86	322.61	63.25	6.100	
14,100.00	10,012.19	13,612.11	9,626.17	78.47	77.80	0.00	4,113.39	-194.95	385.65	321.03	64.62	5.968	
14,200.00	10,010.76	13,712.11	9,624.95	80.22	79.57	0.00	4,213.38	-194.96	385.43	319.44	65.99	5.840	
14,300.00	10,009.32	13,812.11	9,623.73	81.98	81.33	0.00	4,313.37	-194.96	385.22	317.85	67.37	5.718	
14,400.00	10,007.89	13,912.11	9,622.52	83.75	83.10	0.00	4,413.36	-194.96	385.00	316.25	68.75	5.600	
14,500.00	10,006.46	14,012.11	9,621.30	85.51	84.87	0.00	4,513.36	-194.97	384.79	314.65	70.14	5.488	
14,602.05	10,005.00	14,114.16	9,620.06	86.99	86.87	0.00	4,615.40	-194.97	384.57	313.37	71.20	5.401	

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

LEAM Drilling Systems LLC

Anticollision Report

Company:	DEVON ENERGY	Local Co-ordinate Reference:	Well 6H
Project:	Lea County, NM (NAD-83)	TVD Reference:	3684.7' GL + 25' RKB @ 3709.70usft
Reference Site:	Hognose Viper 23 Fed	MD Reference:	3684.7' GL + 25' RKB @ 3709.70usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	6H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore:	OH	Database:	EDM 5000.1 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design Hognose Viper 23 Fed - 8H - OH - Plan #1												Offset Site Error:	0.00 usft
Survey Program: O-LEAM MWD-ADJ												Offset Well Error:	0.00 usft
Reference	Offset	Semi Major Axis		Distance		Minimum		Separation		Warning			
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N-S (usft)	+E-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	
0.00	0.00	0.00	0.00	0.00	0.00	89.75	0.22	49.99	50.00				
100.00	100.00	99.20	99.20	0.08	0.08	89.75	0.22	49.99	49.99	49.82	0.17	297.739	
200.00	200.00	199.20	199.20	0.31	0.31	89.75	0.22	49.99	49.99	49.37	0.62	81.113	
300.00	300.00	299.20	299.20	0.53	0.53	89.75	0.22	49.99	49.99	48.92	1.07	46.902	
400.00	400.00	399.20	399.20	0.76	0.76	89.75	0.22	49.99	49.99	48.48	1.52	32.989	
500.00	500.00	499.20	499.20	0.98	0.98	89.75	0.22	49.99	49.99	48.03	1.96	25.442	
600.00	600.00	599.20	599.20	1.21	1.21	89.75	0.22	49.99	49.99	47.58	2.41	20.705	
700.00	700.00	699.20	699.20	1.43	1.43	89.75	0.22	49.99	49.99	47.13	2.86	17.455	
800.00	800.00	799.20	799.20	1.66	1.66	89.75	0.22	49.99	49.99	46.68	3.31	15.087	
900.00	900.00	899.20	899.20	1.88	1.88	89.75	0.22	49.99	49.99	46.23	3.76	13.285	
1,000.00	1,000.00	999.20	999.20	2.11	2.11	89.75	0.22	49.99	49.99	45.78	4.21	11.867	
1,100.00	1,100.00	1,099.20	1,099.20	2.33	2.33	89.75	0.22	49.99	49.99	45.33	4.66	10.723	
1,200.00	1,200.00	1,199.20	1,199.20	2.56	2.55	89.75	0.22	49.99	49.99	44.88	5.11	9.780	
1,300.00	1,300.00	1,299.20	1,299.20	2.78	2.78	89.75	0.22	49.99	49.99	44.43	5.56	8.989	
1,400.00	1,400.00	1,399.20	1,399.20	3.01	3.00	89.75	0.22	49.99	49.99	43.98	6.01	8.317	
1,500.00	1,500.00	1,499.20	1,499.20	3.23	3.23	89.75	0.22	49.99	49.99	43.53	6.46	7.738	
1,600.00	1,600.00	1,599.20	1,599.20	3.46	3.45	89.75	0.22	49.99	49.99	43.08	6.91	7.235	
1,700.00	1,700.00	1,699.20	1,699.20	3.68	3.68	89.75	0.22	49.99	49.99	42.63	7.36	6.793	
1,800.00	1,800.00	1,799.20	1,799.20	3.91	3.90	89.75	0.22	49.99	49.99	42.18	7.81	6.402	
1,900.00	1,900.00	1,899.20	1,899.20	4.13	4.13	89.75	0.22	49.99	49.99	41.73	8.26	6.053	
2,000.00	2,000.00	1,999.20	1,999.20	4.35	4.35	89.75	0.22	49.99	49.99	41.28	8.71	5.741	
2,100.00	2,100.00	2,099.20	2,099.20	4.58	4.58	89.75	0.22	49.99	49.99	40.83	9.16	5.459	
2,200.00	2,200.00	2,199.20	2,199.20	4.80	4.80	89.75	0.22	49.99	49.99	40.38	9.61	5.204	
2,300.00	2,300.00	2,299.20	2,299.20	5.03	5.03	89.75	0.22	49.99	49.99	39.93	10.06	4.971	
2,400.00	2,400.00	2,399.20	2,399.20	5.25	5.25	89.75	0.22	49.99	49.99	39.48	10.51	4.758	
2,500.00	2,500.00	2,499.20	2,499.20	5.48	5.48	89.75	0.22	49.99	49.99	39.03	10.96	4.563	
2,600.00	2,600.00	2,599.20	2,599.20	5.70	5.70	89.75	0.22	49.99	49.99	38.59	11.41	4.383	
2,700.00	2,700.00	2,699.20	2,699.20	5.93	5.93	89.75	0.22	49.99	49.99	38.14	11.85	4.217	
2,800.00	2,800.00	2,799.20	2,799.20	6.15	6.15	89.75	0.22	49.99	49.99	37.69	12.30	4.063	
2,900.00	2,900.00	2,899.20	2,899.20	6.38	6.38	89.75	0.22	49.99	49.99	37.24	12.75	3.920	
3,000.00	3,000.00	2,999.20	2,999.20	6.60	6.60	89.75	0.22	49.99	49.99	36.79	13.20	3.786	
3,100.00	3,100.00	3,099.20	3,099.20	6.83	6.83	89.75	0.22	49.99	49.99	36.34	13.65	3.662	
3,200.00	3,200.00	3,199.20	3,199.20	7.05	7.05	89.75	0.22	49.99	49.99	35.89	14.10	3.545	
3,300.00	3,300.00	3,299.20	3,299.20	7.28	7.28	89.75	0.22	49.99	49.99	35.44	14.55	3.435	
3,400.00	3,400.00	3,399.20	3,399.20	7.50	7.50	89.75	0.22	49.99	49.99	34.99	15.00	3.332	
3,500.00	3,500.00	3,499.20	3,499.20	7.73	7.72	89.75	0.22	49.99	49.99	34.54	15.45	3.235	
3,600.00	3,600.00	3,599.20	3,599.20	7.95	7.95	89.75	0.22	49.99	49.99	34.09	15.90	3.144	
3,700.00	3,700.00	3,699.20	3,699.20	8.18	8.17	89.75	0.22	49.99	49.99	33.64	16.35	3.058	
3,800.00	3,800.00	3,799.20	3,799.20	8.40	8.40	89.75	0.22	49.99	49.99	33.19	16.80	2.976	
3,900.00	3,900.00	3,899.20	3,899.20	8.63	8.62	89.75	0.22	49.99	49.99	32.74	17.25	2.898	
4,000.00	4,000.00	3,999.20	3,999.20	8.85	8.85	89.75	0.22	49.99	49.99	32.29	17.70	2.825	
4,100.00	4,100.00	4,099.20	4,099.20	9.07	9.07	89.75	0.22	49.99	49.99	31.84	18.15	2.755	
4,200.00	4,200.00	4,199.20	4,199.20	9.30	9.30	89.75	0.22	49.99	49.99	31.39	18.60	2.688	
4,300.00	4,300.00	4,299.20	4,299.20	9.52	9.52	89.75	0.22	49.99	49.99	30.94	19.05	2.625	
4,400.00	4,400.00	4,399.20	4,399.20	9.75	9.75	89.75	0.22	49.99	49.99	30.49	19.50	2.564	
4,500.00	4,500.00	4,499.20	4,499.20	9.97	9.97	89.75	0.22	49.99	49.99	30.04	19.95	2.506	
4,600.00	4,600.00	4,599.20	4,599.20	10.20	10.20	89.75	0.22	49.99	49.99	29.59	20.40	2.451	
4,700.00	4,700.00	4,699.20	4,699.20	10.42	10.42	89.75	0.22	49.99	49.99	29.15	20.85	2.398	
4,800.00	4,800.00	4,799.20	4,799.20	10.65	10.65	89.75	0.22	49.99	49.99	28.70	21.29	2.348	
4,900.00	4,900.00	4,899.20	4,899.20	10.87	10.87	89.75	0.22	49.99	49.99	28.25	21.74	2.299	
5,000.00	5,000.00	4,999.20	4,999.20	11.10	11.10	89.75	0.22	49.99	49.99	27.80	22.19	2.252 CC, ES	
5,100.00	5,099.99	5,099.19	5,099.19	11.30	11.32	-143.14	0.22	49.99	51.03	28.42	22.61	2.257	

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

LEAM Drilling Systems LLC

Anticollision Report

Company:	DEVON ENERGY	Local Co-ordinate Reference:	Well 6H
Project:	Lea County, NM (NAD-83)	TVD Reference:	3684.7' GL + 25' RKB @ 3709.70usft
Reference Site:	Hognose Viper 23 Fed	MD Reference:	3684.7' GL + 25' RKB @ 3709.70usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	6H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at:	2.00 sigma
Reference Wellbore:	OH	Database:	EDM 5000.1 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design: Hognose Viper 23 Fed -- 8H - OH - Plan #1												Offset Site Error	0.00 usft
Survey Program: O-LEAM MWD-ADJ												Offset Well Error	0.00 usft
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre N-S (usft)	Offset Wellbore Centre E-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
5,200.00	5,199.91	5,199.11	5,199.11	11.48	11.55	-145.60	0.22	49.99	54.22	31.22	23.00	2.357	
5,300.00	5,299.89	5,298.89	5,298.89	11.68	11.77	-149.10	0.22	49.99	59.74	36.36	23.38	2.556	
5,333.33	5,332.91	5,332.11	5,332.11	11.72	11.84	-150.39	0.22	49.99	62.12	38.63	23.50	2.644	
5,400.00	5,399.32	5,398.52	5,398.52	11.85	11.99	-152.84	0.22	49.99	67.24	43.48	23.76	2.830	
5,500.00	5,498.94	5,498.14	5,498.14	12.04	12.22	-155.87	0.22	49.99	75.11	50.94	24.17	3.108	
5,600.00	5,598.56	5,599.61	5,599.60	12.23	12.42	-157.91	-0.73	49.10	82.05	57.50	24.55	3.342	
5,700.00	5,698.18	5,701.43	5,701.33	12.43	12.60	-158.75	-3.86	46.37	86.77	61.85	24.91	3.483	
5,800.00	5,797.80	5,803.43	5,803.11	12.63	12.78	-158.54	-3.59	41.78	89.19	63.91	25.28	3.528	
5,900.00	5,897.42	5,905.36	5,904.60	12.83	12.97	-157.65	-15.49	35.34	89.33	63.67	25.65	3.482	
6,000.00	5,997.04	6,005.33	6,004.02	13.03	13.15	-156.27	-23.14	28.21	88.48	62.45	26.03	3.399	
6,100.00	6,096.86	6,105.31	6,103.45	13.24	13.34	-154.87	-30.78	21.08	87.68	61.27	26.41	3.320	
6,200.00	6,196.28	6,205.28	6,202.88	13.45	13.54	-153.44	-38.42	13.96	86.94	60.15	26.79	3.245	
6,300.00	6,295.90	6,305.25	6,302.30	13.66	13.73	-151.99	-46.06	6.83	86.25	59.07	27.18	3.173	
6,400.00	6,395.52	6,405.23	6,401.73	13.88	13.93	-150.52	-53.71	-0.30	85.62	58.04	27.53	3.105	
6,500.00	6,495.14	6,505.20	6,501.15	14.09	14.14	-149.02	-61.35	-7.42	85.05	57.07	27.98	3.040	
6,600.00	6,594.76	6,605.17	6,600.58	14.31	14.34	-147.51	-68.99	-14.55	84.53	56.15	28.38	2.978	
6,700.00	6,694.38	6,705.15	6,700.01	14.53	14.55	-145.98	-76.63	-21.68	84.07	55.28	28.80	2.920	
6,800.00	6,794.00	6,805.12	6,799.43	14.75	14.77	-144.43	-84.28	-28.81	83.68	54.47	29.21	2.864	
6,900.00	6,893.62	6,905.09	6,898.86	14.98	14.98	-142.87	-91.92	-35.93	83.35	53.71	29.64	2.812	
7,000.00	6,993.24	7,005.07	6,998.28	15.20	15.20	-141.30	-99.56	-43.06	83.08	53.01	30.07	2.763	
7,100.00	7,092.85	7,105.04	7,097.71	15.43	15.42	-139.71	-107.21	-50.19	82.87	52.36	30.51	2.716	
7,200.00	7,192.47	7,205.02	7,197.14	15.66	15.65	-138.13	-114.95	-57.31	82.72	51.77	30.95	2.673	
7,300.00	7,292.09	7,304.99	7,296.56	15.89	15.87	-136.53	-122.49	-64.44	82.64	51.24	31.40	2.632	
7,376.21	7,368.01	7,381.19	7,372.33	16.07	16.05	-135.32	-126.32	-69.87	82.62	50.88	31.75	2.603	
7,400.00	7,391.71	7,404.96	7,395.99	16.13	16.10	-134.94	-130.13	-71.57	82.63	50.77	31.86	2.594	
7,500.00	7,491.33	7,504.94	7,495.41	16.36	16.33	-133.35	-137.78	-78.69	82.67	50.36	32.32	2.558	
7,600.00	7,590.95	7,604.91	7,594.84	16.59	16.57	-131.76	-145.42	-85.82	82.78	50.00	32.79	2.525	
7,700.00	7,690.57	7,704.88	7,694.26	16.83	16.80	-130.17	-153.06	-92.95	82.96	49.70	33.26	2.494	
7,800.00	7,790.19	7,804.86	7,793.69	17.07	17.04	-128.59	-160.70	-100.07	83.20	49.48	33.74	2.466	
7,833.33	7,823.40	7,838.18	7,826.83	17.15	17.12	-128.07	-163.25	-102.45	83.29	49.39	33.90	2.457	
7,900.00	7,889.88	7,904.82	7,893.10	17.30	17.28	-126.71	-168.35	-107.20	83.15	48.91	34.24	2.429	
8,000.00	7,989.89	8,004.69	7,992.43	17.52	17.52	-123.39	-175.98	-114.32	81.80	47.06	34.75	2.354	
8,100.00	8,089.64	8,104.41	8,091.60	17.73	17.76	-118.33	-183.60	-121.43	79.46	44.19	35.27	2.253	
8,186.67	8,156.31	8,170.77	8,157.60	17.86	17.92	-118.16	-188.68	-128.16	77.66	42.04	35.62	2.180	
8,200.00	8,189.64	8,203.92	8,190.57	17.93	18.00	-120.96	-191.21	-128.52	76.84	41.04	35.80	2.146	
8,300.00	8,289.64	8,303.37	8,289.47	18.14	18.25	-128.41	-198.81	-135.61	75.29	38.95	36.33	2.072	
8,357.98	8,347.62	8,361.04	8,346.82	18.26	18.39	-133.00	-203.22	-139.72	75.04	38.42	36.63	2.049	
8,400.00	8,389.64	8,402.82	8,388.38	18.35	18.49	-136.33	-206.42	-142.70	75.17	38.34	36.83	2.041 SF	
8,500.00	8,489.64	8,502.28	8,487.29	18.56	18.74	-144.13	-214.02	-149.79	76.50	39.21	37.29	2.052	
8,600.00	8,589.64	8,601.73	8,586.20	18.78	18.99	-151.53	-221.62	-156.88	79.19	41.49	37.70	2.100	
8,700.00	8,689.64	8,701.18	8,685.10	18.99	19.24	-158.35	-229.23	-163.97	83.12	45.04	38.08	2.183	
8,800.00	8,789.64	8,800.63	8,784.01	19.20	19.49	-164.48	-236.83	-171.06	88.13	49.68	38.45	2.282	
8,900.00	8,889.64	8,900.08	8,882.92	19.42	19.74	-169.90	-244.43	-178.15	94.03	55.23	38.80	2.424	
9,000.00	8,989.64	9,000.77	8,983.12	19.63	19.99	-174.43	-251.65	-184.88	100.25	61.10	39.15	2.561	
9,100.00	9,089.64	9,102.37	9,084.45	19.84	20.22	-177.45	-257.06	-189.93	105.22	65.69	39.52	2.662	
9,200.00	9,189.64	9,204.30	9,186.28	20.06	20.44	-179.23	-260.51	-193.14	108.51	68.59	39.91	2.719	
9,300.00	9,289.64	9,306.40	9,288.34	20.27	20.65	-179.95	-261.97	-194.51	109.93	69.80	40.32	2.726	
9,400.00	9,389.64	9,406.80	9,388.84	20.49	20.85	-179.97	-262.02	-194.55	109.98	69.24	40.74	2.699	
9,502.46	9,492.10	9,509.36	9,491.30	20.71	21.06	-179.97	-262.02	-194.55	109.98	68.80	41.18	2.671	
9,550.00	9,539.59	9,556.85	9,538.79	20.81	21.16	-179.98	-262.02	-194.55	111.95	70.70	41.25	2.714	
9,600.00	9,589.17	9,606.43	9,588.37	20.90	21.26	-179.98	-262.02	-194.55	118.26	77.16	41.10	2.877	
9,650.00	9,638.02	9,655.28	9,637.22	20.99	21.36	-179.98	-262.02	-194.55	128.87	88.15	40.72	3.164	

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

LEAM Drilling Systems LLC

Anticollision Report

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Project:	Lea County, NM (NAD-83)	TVD Reference:	3684.7' GL + 25' RKB @ 3709.70usft
Reference Site:	Hognose Viper 23 Fed	MD Reference:	3684.7' GL + 25' RKB @ 3709.70usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	6H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.1 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Hognose Viper 23 Fed - 8H - OH - Plan #1												Offset Site Error	0.00 usft
Survey Program: 10-LEAM MVD-ADJ												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)			
9,700.00	9,885.75	9,703.01	9,684.95	21.07	21.46	179.98	-262.02	-194.55	143.70	103.57	40.13	3.581	
9,750.00	9,732.01	9,749.27	9,731.21	21.15	21.56	179.98	-262.02	-194.55	162.63	123.30	39.33	4.135	
9,800.00	9,776.45	9,793.71	9,775.65	21.22	21.65	179.98	-262.02	-194.55	185.52	147.18	38.34	4.839	
9,850.00	9,818.72	9,835.98	9,817.92	21.28	21.74	179.99	-262.02	-194.55	212.19	175.02	37.18	5.708	
9,900.00	9,858.50	9,875.76	9,857.70	21.34	21.82	179.99	-262.02	-194.55	242.45	206.58	35.87	6.760	
9,950.00	9,895.50	9,912.76	9,894.70	21.40	21.90	179.99	-262.02	-194.55	276.06	241.62	34.44	8.015	
10,000.00	9,929.43	9,946.69	9,928.83	21.45	21.97	179.99	-262.02	-194.55	312.77	279.82	32.94	9.494	
10,050.00	9,960.02	10,012.30	9,994.15	21.51	22.10	179.99	-259.18	-194.56	351.19	319.71	31.48	11.156	
10,100.00	9,987.06	10,108.90	10,089.00	21.60	22.24	179.99	-241.54	-194.56	387.71	357.61	30.10	12.880	
10,150.00	10,010.33	10,238.23	10,208.80	21.73	22.37	179.99	-193.54	-194.56	420.33	391.46	28.87	14.561	
10,200.00	10,029.66	10,416.04	10,349.88	21.92	22.46	179.99	-86.49	-194.57	445.87	417.83	27.84	16.007	
10,250.00	10,044.89	10,646.90	10,472.67	22.13	22.53	179.99	107.17	-194.59	458.56	431.47	27.09	16.926	
10,300.00	10,055.92	10,872.82	10,509.89	22.38	23.45	180.00	328.53	-194.60	454.87	428.20	26.66	17.061	
10,350.00	10,062.66	10,922.20	10,508.85	22.65	23.74	180.00	377.89	-194.61	447.09	420.76	26.33	16.979	
10,400.00	10,065.05	10,972.07	10,507.81	22.96	24.06	180.00	427.75	-194.61	443.65	417.26	26.40	16.807	
10,410.66	10,065.00	10,982.72	10,507.58	23.03	24.13	180.00	438.40	-194.61	443.48	417.02	26.46	16.759	
10,500.00	10,063.72	11,072.06	10,505.71	23.65	24.78	180.00	527.72	-194.62	442.89	416.01	26.89	16.474	
10,600.00	10,062.29	11,172.06	10,503.62	24.46	25.60	180.00	627.70	-194.63	442.23	414.81	27.42	16.125	
10,700.00	10,060.86	11,272.06	10,501.53	25.37	26.53	180.00	727.67	-194.64	441.57	413.54	28.03	15.753	
10,800.00	10,059.42	11,372.06	10,499.43	26.38	27.54	180.00	827.65	-194.65	440.90	412.21	28.70	15.363	
10,900.00	10,057.99	11,472.05	10,497.34	27.47	28.63	180.00	927.63	-194.66	440.24	410.82	29.43	14.961	
11,000.00	10,056.56	11,572.05	10,495.24	28.63	29.79	180.00	1,027.60	-194.66	439.58	409.37	30.21	14.553	
11,100.00	10,055.13	11,672.05	10,493.15	29.87	31.02	180.00	1,127.58	-194.67	438.92	407.88	31.04	14.142	
11,200.00	10,053.70	11,772.05	10,491.06	31.16	32.30	180.00	1,227.55	-194.68	438.25	406.34	31.91	13.733	
11,300.00	10,052.27	11,872.05	10,488.96	32.50	33.63	180.00	1,327.53	-194.69	437.59	404.76	32.83	13.329	
11,400.00	10,050.84	11,972.04	10,486.87	33.88	35.01	180.00	1,427.51	-194.70	436.93	403.14	33.79	12.931	
11,500.00	10,049.40	12,072.04	10,484.77	35.31	36.43	180.00	1,527.48	-194.71	436.27	401.48	34.78	12.543	
11,600.00	10,047.97	12,172.04	10,482.68	36.77	37.88	180.00	1,627.46	-194.72	435.60	399.80	35.81	12.165	
11,700.00	10,046.54	12,272.04	10,480.59	38.27	39.36	180.00	1,727.43	-194.72	434.94	398.08	36.86	11.799	
11,800.00	10,045.11	12,372.03	10,478.49	39.79	40.87	180.00	1,827.41	-194.73	434.28	396.33	37.94	11.445	
11,900.00	10,043.68	12,472.03	10,476.40	41.33	42.41	180.00	1,927.38	-194.74	433.61	394.56	39.05	11.103	
12,000.00	10,042.25	12,572.03	10,474.30	42.90	43.96	180.00	2,027.36	-194.75	432.95	392.77	40.18	10.774	
12,100.00	10,040.82	12,672.03	10,472.21	44.49	45.54	180.00	2,127.34	-194.76	432.29	390.95	41.34	10.458	
12,200.00	10,039.38	12,772.03	10,470.12	46.10	47.14	180.00	2,227.31	-194.77	431.63	389.12	42.51	10.154	
12,300.00	10,037.95	12,872.02	10,468.02	47.72	48.75	180.00	2,327.29	-194.77	430.96	387.27	43.70	9.863	
12,400.00	10,036.52	12,972.02	10,465.93	49.35	50.38	180.00	2,427.26	-194.78	430.30	385.40	44.90	9.583	
12,500.00	10,035.09	13,072.02	10,463.83	51.00	52.02	180.00	2,527.24	-194.79	429.64	383.52	46.12	9.315	
12,600.00	10,033.66	13,172.02	10,461.74	52.66	53.67	180.00	2,627.22	-194.80	428.98	381.62	47.36	9.058	
12,700.00	10,032.23	13,272.01	10,459.65	54.33	55.33	180.00	2,727.19	-194.81	428.31	379.71	48.61	8.812	
12,800.00	10,030.80	13,372.01	10,457.55	56.02	57.00	180.00	2,827.17	-194.82	427.65	377.79	49.86	8.576	
12,900.00	10,029.36	13,472.01	10,455.46	57.70	58.68	180.00	2,927.14	-194.83	426.99	375.85	51.14	8.350	
13,000.00	10,027.93	13,572.01	10,453.36	59.40	60.37	180.00	3,027.12	-194.83	426.33	373.91	52.42	8.134	
13,100.00	10,026.50	13,672.01	10,451.27	61.11	62.07	180.00	3,127.10	-194.84	425.66	371.96	53.71	7.926	
13,200.00	10,025.07	13,772.00	10,449.18	62.82	63.78	180.00	3,227.07	-194.85	425.00	369.99	55.01	7.727	
13,300.00	10,023.64	13,872.00	10,447.08	64.54	65.49	180.00	3,327.05	-194.86	424.34	368.02	56.31	7.535	
13,400.00	10,022.21	13,972.00	10,444.99	66.26	67.21	180.00	3,427.02	-194.87	423.67	366.05	57.63	7.352	
13,500.00	10,020.78	14,072.00	10,442.89	67.99	68.93	180.00	3,527.00	-194.88	423.01	364.06	58.95	7.176	
13,600.00	10,019.34	14,171.99	10,440.80	69.73	70.66	180.00	3,626.97	-194.89	422.35	362.07	60.28	7.007	
13,700.00	10,017.91	14,271.99	10,438.71	71.47	72.39	180.00	3,726.95	-194.89	421.69	360.07	61.61	6.844	
13,800.00	10,016.48	14,371.99	10,436.61	73.21	74.13	180.00	3,826.93	-194.90	421.02	358.07	62.95	6.688	
13,900.00	10,015.05	14,471.99	10,434.52	74.96	75.87	180.00	3,926.90	-194.91	420.36	356.06	64.30	6.537	
14,000.00	10,013.62	14,571.99	10,432.42	76.71	77.62	180.00	4,026.88	-194.92	419.70	354.05	65.65	6.393	

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

LEAM Drilling Systems LLC

Anticollision Report

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Reference Well:	6H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at:	2.00 sigma
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Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design Hognose Viper 23 Fed - 8H - OH - Plan #1													Offset Site Error	0.00 usft
Survey Program: LO-LEAM MWD-ADJ													Offset Well Error	0.00 usft
Reference		Offset		Semi Major Axis		Distance								
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14,100.00	10,012.19	14,671.98	10,430.33	78.47	79.37	180.00	4,126.85	-194.93	419.04	352.03	87.01	8.253		
14,200.00	10,010.76	14,771.98	10,428.24	80.22	81.12	180.00	4,226.83	-194.94	418.37	350.00	68.37	6.119		
14,300.00	10,009.32	14,871.98	10,426.14	81.98	82.88	180.00	4,326.81	-194.95	417.71	347.98	69.74	5.990		
14,400.00	10,007.89	14,971.98	10,424.05	83.75	84.64	180.00	4,426.78	-194.95	417.05	345.94	71.10	5.865		
14,500.00	10,006.46	15,071.97	10,421.95	85.51	86.40	180.00	4,526.76	-194.96	416.39	343.91	72.48	5.745		
14,579.89	10,005.32	15,151.87	10,420.28	86.67	87.81	180.00	4,606.63	-194.97	415.86	342.56	73.30	5.673		
14,602.05	10,005.00	15,165.32	10,420.00	86.99	88.05	180.00	4,620.08	-194.97	415.80	342.33	73.47	5.659		

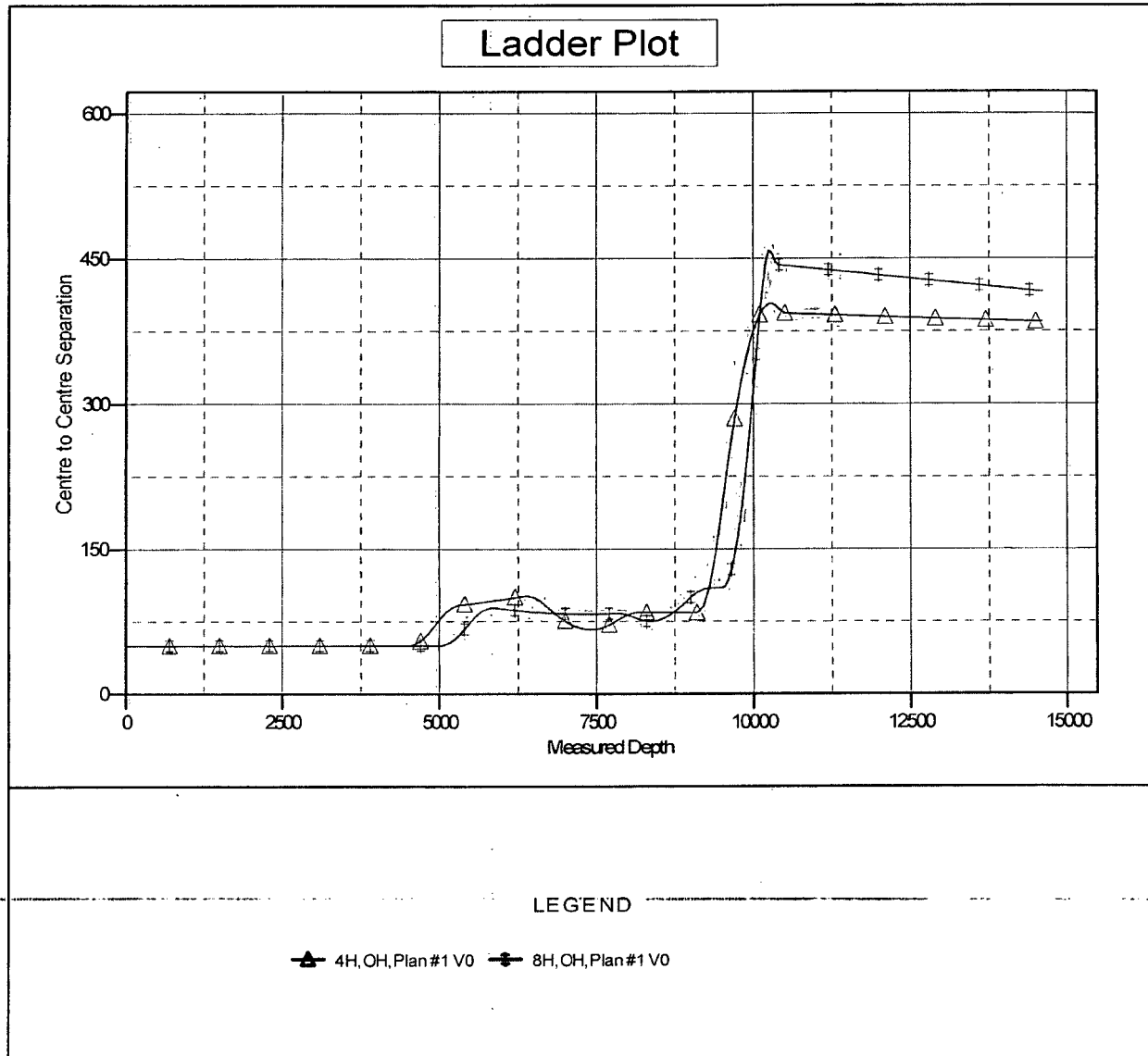
LEAM Drilling Systems LLC

Anticollision Report

Company:	DEVON ENERGY	Local/Co-ordinate Reference:	Well 6H
Project:	Lea County, NM (NAD-83)	TVD Reference:	3684.7' GL + 25' RKB @ 3709.70usft
Reference Site:	Hognose Viper 23 Fed	MD Reference:	3684.7' GL + 25' RKB @ 3709.70usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	6H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at:	2.00 sigma
Reference Wellbore:	OH	Database:	EDM 5000.1 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Reference Depths are relative to 3684.7' GL + 25' RKB @ 3709.70usft
 Offset Depths are relative to Offset Datum
 Central Meridian is 104° 20' 0.000 W

Coordinates are relative to: 6H
 Coordinate System is US State Plane 1983, New Mexico Eastern Zone
 Grid Convergence at Surface is: 0.42°



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

LEAM Drilling Systems LLC

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