

HODDS CCD

APR 29 2016

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DEVON ENERGY

Lea County, NM (NAD-83)

Hognose Viper 23 Fed

8H

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 8H
Project:	Lea County, NM (NAD-83)	TVD Reference:	3683.9' GL + 25' RKB @ 3708.90usft
Reference Site:	Hognose Viper 23 Fed	MD Reference:	3683.9' GL + 25' RKB @ 3708.90usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	8H	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	15,165.08	Plan #1 (OH)	LEAM MWD-ADJ	MWD - Standard	

Summary						
Site Name	Reference	Offset	Distance	Separation	Warning	
Offset Well - Wellbore - Design	Measured Depth (usft)	Measured Depth (usft)	Between Centres (usft)	Between Ellipses (usft)	Factor	
Hognose Viper 23 Fed						
4H - OH - Plan #1	4,466.53	4,466.93	99.96	80.16	5.049	CC
4H - OH - Plan #1	4,500.00	4,500.00	99.96	80.01	5.011	ES
4H - OH - Plan #1	8,000.00	7,994.72	134.77	99.86	3.861	SF
6H - OH - Plan #1	4,966.40	4,967.20	49.99	27.94	2.268	CC
6H - OH - Plan #1	5,000.00	5,000.79	49.99	27.79	2.252	ES
6H - OH - Plan #1	8,400.00	8,396.73	75.15	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	0.40	0.40	0.00	0.00	-90.26	-0.46	-99.96	99.96				
100.00	100.00	100.40	100.40	0.08	0.09	-90.26	-0.46	-99.96	99.96	99.79	0.17	589.832	
200.00	200.00	200.40	200.40	0.31	0.31	-90.26	-0.46	-99.96	99.96	99.34	0.82	181.486	
300.00	300.00	300.40	300.40	0.53	0.53	-90.26	-0.46	-99.96	99.96	98.89	1.07	93.549	
400.00	400.00	400.40	400.40	0.76	0.76	-90.26	-0.46	-99.96	99.96	98.44	1.52	65.847	
500.00	500.00	500.40	500.40	0.98	0.98	-90.26	-0.46	-99.96	99.96	97.99	1.97	50.803	
600.00	600.00	600.40	600.40	1.21	1.21	-90.26	-0.46	-99.96	99.96	97.54	2.42	41.355	
700.00	700.00	700.40	700.40	1.43	1.43	-90.26	-0.46	-99.96	99.96	97.09	2.87	34.870	
800.00	800.00	800.40	800.40	1.66	1.66	-90.26	-0.46	-99.96	99.96	96.64	3.32	30.143	
900.00	900.00	900.40	900.40	1.88	1.88	-90.26	-0.46	-99.96	99.96	96.20	3.77	26.545	
1,000.00	1,000.00	1,000.40	1,000.40	2.11	2.11	-90.26	-0.46	-99.96	99.96	95.75	4.22	23.714	
1,100.00	1,100.00	1,100.40	1,100.40	2.33	2.33	-90.26	-0.46	-99.96	99.96	95.30	4.66	21.429	
1,200.00	1,200.00	1,200.40	1,200.40	2.56	2.56	-90.26	-0.46	-99.96	99.96	94.85	5.11	19.545	
1,300.00	1,300.00	1,300.40	1,300.40	2.78	2.78	-90.26	-0.46	-99.96	99.96	94.40	5.56	17.966	
1,400.00	1,400.00	1,400.40	1,400.40	3.01	3.01	-90.26	-0.46	-99.96	99.96	93.95	6.01	16.623	
1,500.00	1,500.00	1,500.40	1,500.40	3.23	3.23	-90.26	-0.46	-99.96	99.96	93.50	6.46	15.467	
1,600.00	1,600.00	1,600.40	1,600.40	3.46	3.46	-90.26	-0.46	-99.96	99.96	93.05	6.91	14.461	
1,700.00	1,700.00	1,700.40	1,700.40	3.68	3.68	-90.26	-0.46	-99.96	99.96	92.60	7.36	13.578	
1,800.00	1,800.00	1,800.40	1,800.40	3.91	3.91	-90.26	-0.46	-99.96	99.96	92.15	7.81	12.797	
1,900.00	1,900.00	1,900.40	1,900.40	4.13	4.13	-90.26	-0.46	-99.96	99.96	91.70	8.26	12.100	
2,000.00	2,000.00	2,000.40	2,000.40	4.35	4.36	-90.26	-0.46	-99.96	99.96	91.25	8.71	11.476	

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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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 ADJ												Offset Well Error:
Reference	Offset	Semi Major Axis		Distance		Minimum		Separation		Warning		
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre -N-S (usft)	Offset Wellbore Centre -E-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor
2,100.00	2,100.00	2,100.40	2,100.40	4.58	4.58	-90.26	-0.46	-99.96	99.96	90.80	9.16	10.913
2,200.00	2,200.00	2,200.40	2,200.40	4.80	4.81	-90.26	-0.46	-99.96	99.96	90.35	9.61	10.402
2,300.00	2,300.00	2,300.40	2,300.40	5.03	5.03	-90.26	-0.46	-99.96	99.96	89.90	10.06	9.937
2,400.00	2,400.00	2,400.40	2,400.40	5.25	5.25	-90.26	-0.46	-99.96	99.96	89.45	10.51	9.512
2,500.00	2,500.00	2,500.40	2,500.40	5.48	5.48	-90.26	-0.46	-99.96	99.96	89.00	10.96	9.122
2,600.00	2,600.00	2,600.40	2,600.40	5.70	5.70	-90.26	-0.46	-99.96	99.96	88.55	11.41	8.763
2,700.00	2,700.00	2,700.40	2,700.40	5.93	5.93	-90.26	-0.46	-99.96	99.96	88.10	11.86	8.430
2,800.00	2,800.00	2,800.40	2,800.40	6.15	6.15	-90.26	-0.46	-99.96	99.96	87.65	12.31	8.122
2,900.00	2,900.00	2,900.40	2,900.40	6.38	6.38	-90.26	-0.46	-99.96	99.96	87.20	12.76	7.836
3,000.00	3,000.00	3,000.40	3,000.40	6.60	6.60	-90.26	-0.46	-99.96	99.96	86.75	13.21	7.569
3,100.00	3,100.00	3,100.40	3,100.40	6.83	6.83	-90.26	-0.46	-99.96	99.96	86.31	13.66	7.320
3,200.00	3,200.00	3,200.40	3,200.40	7.05	7.05	-90.26	-0.46	-99.96	99.96	85.86	14.10	7.087
3,300.00	3,300.00	3,300.40	3,300.40	7.28	7.28	-90.26	-0.46	-99.96	99.96	85.41	14.55	6.868
3,400.00	3,400.00	3,400.40	3,400.40	7.50	7.50	-90.26	-0.46	-99.96	99.96	84.96	15.00	6.662
3,500.00	3,500.00	3,500.40	3,500.40	7.73	7.73	-90.26	-0.46	-99.96	99.96	84.51	15.45	6.468
3,600.00	3,600.00	3,600.40	3,600.40	7.95	7.95	-90.26	-0.46	-99.96	99.96	84.06	15.90	6.286
3,700.00	3,700.00	3,700.40	3,700.40	8.18	8.18	-90.26	-0.46	-99.96	99.96	83.61	16.35	6.113
3,800.00	3,800.00	3,800.40	3,800.40	8.40	8.40	-90.26	-0.46	-99.96	99.96	83.16	16.80	5.949
3,900.00	3,900.00	3,900.40	3,900.40	8.63	8.63	-90.26	-0.46	-99.96	99.96	82.71	17.25	5.794
4,000.00	4,000.00	4,000.40	4,000.40	8.85	8.85	-90.26	-0.46	-99.96	99.96	82.26	17.70	5.647
4,100.00	4,100.00	4,100.40	4,100.40	9.07	9.08	-90.26	-0.46	-99.96	99.96	81.81	18.15	5.507
4,200.00	4,200.00	4,200.40	4,200.40	9.30	9.30	-90.26	-0.46	-99.96	99.96	81.36	18.60	5.374
4,300.00	4,300.00	4,300.40	4,300.40	9.52	9.53	-90.26	-0.46	-99.96	99.96	80.91	19.05	5.247
4,400.00	4,400.00	4,400.40	4,400.40	9.75	9.75	-90.26	-0.46	-99.96	99.96	80.46	19.50	5.126
4,466.53	4,466.53	4,466.93	4,466.93	9.90	9.90	-90.26	-0.46	-99.96	99.96	80.16	19.80	5.049 CC
4,500.00	4,500.00	4,500.00	4,500.00	9.97	9.97	-90.26	-0.46	-99.96	99.96	80.01	19.95	5.011 ES
4,600.00	4,600.00	4,598.05	4,598.04	10.20	10.17	-90.56	-0.99	-101.10	101.13	80.76	20.37	4.964
4,700.00	4,700.00	4,695.58	4,695.49	10.42	10.36	-91.41	-2.58	-104.50	104.64	83.87	20.78	5.036
4,800.00	4,800.00	4,792.85	4,792.56	10.65	10.54	-92.70	-5.20	-110.13	110.53	89.34	21.19	5.217
4,900.00	4,900.00	4,891.39	4,890.74	10.87	10.73	-94.25	-8.74	-117.72	118.44	96.84	21.60	5.484
5,000.00	5,000.00	4,991.01	4,989.98	11.10	10.93	-95.64	-12.41	-125.59	126.63	104.62	22.01	5.753
5,100.00	5,100.00	5,090.63	5,089.22	11.32	11.13	-96.87	-16.08	-133.46	134.89	112.46	22.43	6.014
5,200.00	5,200.00	5,190.25	5,188.48	11.55	11.33	-97.96	-19.75	-141.33	143.20	120.35	22.85	6.267
5,300.00	5,300.00	5,289.86	5,287.70	11.77	11.53	-98.92	-23.42	-149.19	151.55	128.28	23.27	6.513
5,400.00	5,400.00	5,389.48	5,386.94	12.00	11.74	-99.79	-27.09	-157.06	159.95	136.26	23.69	6.751
5,500.00	5,500.00	5,488.10	5,486.19	12.22	11.95	-100.56	-30.76	-164.93	166.38	144.26	24.12	6.981
5,600.00	5,599.99	5,588.82	5,585.52	12.42	12.17	35.92	-34.43	-172.81	175.77	151.29	24.48	7.179
5,700.00	5,699.91	5,688.67	5,685.00	12.60	12.38	35.93	-38.11	-180.70	181.08	158.22	24.84	7.288
5,800.00	5,799.69	5,788.61	5,784.55	12.78	12.60	36.45	-41.79	-188.59	184.24	159.04	25.20	7.312
5,900.00	5,899.27	5,888.54	5,884.11	12.96	12.83	37.44	-45.47	-196.48	185.35	159.80	25.55	7.255
6,000.00	5,998.72	5,988.46	5,983.64	13.14	13.05	38.69	-49.15	-204.38	185.49	159.56	25.93	7.152
6,100.00	6,098.17	6,088.38	6,083.18	13.33	13.27	39.93	-52.83	-212.27	185.72	159.39	26.33	7.054
6,200.00	6,197.63	6,188.30	6,182.72	13.53	13.50	41.17	-56.51	-220.16	186.04	159.31	26.72	6.961
6,300.00	6,297.08	6,288.22	6,282.26	13.72	13.73	42.41	-60.19	-228.05	186.44	159.32	27.13	6.873
6,400.00	6,396.53	6,390.74	6,384.43	13.92	13.96	43.72	-63.79	-235.76	186.55	159.01	27.54	6.774
6,500.00	6,495.98	6,495.28	6,488.79	14.13	14.19	45.36	-66.37	-241.31	184.49	156.53	27.96	6.598
6,600.00	6,595.43	6,599.52	6,592.97	14.33	14.40	47.43	-67.75	-244.26	180.11	151.72	28.39	6.345
6,700.00	6,694.89	6,701.84	6,695.29	14.54	14.60	49.95	-68.00	-244.79	173.70	144.89	28.81	6.029
6,800.00	6,794.34	6,801.29	6,794.74	14.76	14.82	52.68	-68.00	-244.79	167.14	137.89	29.25	5.714
6,900.00	6,893.79	6,900.75	6,894.19	14.97	15.04	55.63	-68.00	-244.79	160.99	131.29	29.70	5.420
7,000.00	6,993.24	7,000.20	6,993.64	15.19	15.25	58.80	-68.00	-244.79	155.31	125.15	30.16	5.150
7,100.00	7,092.70	7,099.65	7,093.10	15.41	15.47	62.20	-68.00	-244.79	150.14	119.52	30.62	4.903

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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-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)	Offset Wellbore Centre E/W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning	
7,200.00	7,192.15	7,199.10	7,192.55	15.84	15.69	65.83	-68.00	-244.79	145.54	114.44	31.09	4.681		
7,300.00	7,291.60	7,298.55	7,292.00	15.86	15.90	69.67	-68.00	-244.79	141.56	109.99	31.57	4.484		
7,400.00	7,391.05	7,398.01	7,391.45	16.09	16.12	73.72	-68.00	-244.79	138.26	106.21	32.05	4.314		
7,500.00	7,490.50	7,497.46	7,490.90	16.32	16.34	77.94	-68.00	-244.79	135.68	103.15	32.53	4.171		
7,600.00	7,589.96	7,596.91	7,590.36	16.55	16.56	82.29	-68.00	-244.79	133.88	100.86	33.02	4.055		
7,700.00	7,689.41	7,696.36	7,689.81	16.79	16.77	86.74	-68.00	-244.79	132.87	99.38	33.50	3.967		
7,772.71	7,781.72	7,788.88	7,782.12	16.96	16.93	90.00	-68.00	-244.79	132.66	98.81	33.84	3.920		
7,800.00	7,788.86	7,795.81	7,789.26	17.03	16.99	91.22	-68.00	-244.79	132.69	98.71	33.97	3.906		
7,900.00	7,888.31	7,895.27	7,888.71	17.26	17.21	95.70	-68.00	-244.79	133.32	98.88	34.44	3.871		
8,000.00	7,987.77	7,994.72	7,988.17	17.51	17.43	100.10	-68.00	-244.79	134.77	99.86	34.90	3.861 SF		
8,100.00	8,087.22	8,094.17	8,087.62	17.75	17.65	104.39	-68.00	-244.79	137.00	101.64	35.35	3.875		
8,200.00	8,186.57	8,193.52	8,187.07	17.99	17.86	108.51	-68.00	-244.79	139.97	104.18	35.80	3.910		
8,300.00	8,286.12	8,293.08	8,286.52	18.24	18.08	112.45	-68.00	-244.79	143.65	107.42	36.23	3.965		
8,400.00	8,385.57	8,392.53	8,385.97	18.48	18.30	116.18	-68.00	-244.79	147.98	111.32	36.66	4.037		
8,500.00	8,485.03	8,491.98	8,485.43	18.73	18.52	119.68	-68.00	-244.79	152.90	115.82	37.08	4.123		
8,600.00	8,584.48	8,591.43	8,584.88	18.98	18.74	122.96	-68.00	-244.79	158.35	120.86	37.50	4.223		
8,700.00	8,683.93	8,690.88	8,684.33	19.23	18.96	126.00	-68.00	-244.79	164.29	126.39	37.91	4.334		
8,800.00	8,783.38	8,790.34	8,783.78	19.49	19.18	128.84	-68.00	-244.79	170.67	132.35	38.32	4.454		
8,900.00	8,882.84	8,889.79	8,883.24	19.74	19.40	131.46	-68.00	-244.79	177.43	138.70	38.73	4.581		
8,930.00	8,912.67	8,919.62	8,913.07	19.82	19.46	132.21	-68.00	-244.79	179.53	140.68	38.85	4.621		
9,000.00	8,982.35	8,989.30	8,982.75	19.99	19.62	133.79	-68.00	-244.79	184.10	144.94	39.16	4.702		
9,100.00	9,082.08	9,089.03	9,082.48	20.22	19.84	135.44	-68.00	-244.79	189.25	149.66	39.59	4.780		
9,200.00	9,181.97	9,187.20	9,180.52	20.43	20.01	136.32	-64.47	-244.79	197.37	157.40	39.97	4.938		
9,300.00	9,281.94	9,239.41	9,231.58	20.64	20.16	136.84	-51.99	-244.79	216.21	175.88	40.33	5.381		
9,330.00	9,311.94	9,260.36	9,251.86	20.70	20.20	-0.07	-46.69	-244.79	223.87	183.44	40.43	5.537		
9,400.00	9,381.94	9,307.60	9,296.76	20.84	20.29	-0.06	-32.08	-244.79	245.56	204.89	40.67	6.038		
9,500.00	9,481.94	9,370.28	9,354.20	21.04	20.41	-0.06	-7.06	-244.79	285.54	244.53	41.01	6.963		
9,600.00	9,581.94	9,426.77	9,403.36	21.25	20.52	-0.05	20.73	-244.79	334.83	293.50	41.33	8.102		
9,700.00	9,681.94	9,477.02	9,444.59	21.46	20.60	-0.05	49.42	-244.80	391.99	350.36	41.63	9.417		
9,800.00	9,781.94	9,521.35	9,478.76	21.66	20.68	-0.04	77.64	-244.80	455.72	413.81	41.91	10.873		
9,900.00	9,881.94	9,550.00	9,499.65	21.87	20.74	-0.04	97.26	-244.80	525.07	482.90	42.17	12.452		
9,955.23	9,937.17	9,579.74	9,520.25	21.99	20.80	-0.04	118.69	-244.80	565.03	522.70	42.33	13.349		
10,000.00	9,981.89	9,600.00	9,533.65	22.08	20.85	-0.03	133.89	-244.80	597.35	555.01	42.34	14.109		
10,050.00	10,031.51	9,600.00	9,533.65	22.16	20.85	-0.03	133.89	-244.80	631.71	589.61	42.10	15.005		
10,100.00	10,080.40	9,630.78	9,552.94	22.23	20.92	-0.02	157.87	-244.80	663.46	621.78	41.68	15.919		
10,150.00	10,128.21	9,650.00	9,564.33	22.29	20.98	-0.02	173.35	-244.80	693.30	652.28	41.02	16.902		
10,200.00	10,174.56	9,667.80	9,574.40	22.34	21.03	-0.02	188.02	-244.80	720.90	680.75	40.15	17.954		
10,250.00	10,219.11	9,700.00	9,591.45	22.38	21.14	-0.02	215.34	-244.80	748.46	707.34	39.12	19.083		
10,300.00	10,261.51	9,700.00	9,591.45	22.41	21.14	-0.02	215.34	-244.80	769.15	731.29	37.87	20.312		
10,350.00	10,301.44	9,725.15	9,603.88	22.44	21.24	-0.02	237.31	-244.80	789.60	753.10	36.51	21.630		
10,400.00	10,338.60	9,750.00	9,614.81	22.46	21.34	-0.02	259.53	-244.80	807.68	772.65	35.03	23.054		
10,450.00	10,372.70	9,750.00	9,614.81	22.48	21.34	-0.02	259.53	-244.80	823.47	790.02	33.45	24.617		
10,500.00	10,403.49	9,783.95	9,628.44	22.49	21.49	-0.01	290.62	-244.80	836.17	804.28	31.89	26.224		
10,550.00	10,430.73	9,800.00	9,634.23	22.50	21.57	-0.01	305.59	-244.81	846.62	816.30	30.32	27.627		
10,600.00	10,454.21	9,823.63	9,641.99	22.51	21.69	-0.01	327.90	-244.81	854.44	825.61	28.84	29.629		
10,650.00	10,473.76	9,850.00	9,649.57	22.54	21.83	-0.01	353.16	-244.81	859.75	832.23	27.51	31.248		
10,700.00	10,489.23	9,850.00	9,649.57	22.68	21.83	-0.01	353.16	-244.81	862.58	836.21	26.36	32.722		
10,750.00	10,500.49	9,883.44	9,657.48	22.86	22.03	-0.01	385.65	-244.81	862.32	836.76	25.56	33.741		
10,800.00	10,507.47	9,900.00	9,660.69	23.08	22.12	-0.01	401.89	-244.81	859.72	834.65	25.07	34.293		
10,850.00	10,510.10	9,923.31	9,664.42	23.33	22.27	-0.01	424.89	-244.81	854.47	829.48	24.99	34.197		
10,887.23	10,510.00	9,930.16	9,665.34	23.42	22.32	-0.01	431.69	-244.81	852.06	827.02	25.05	34.017		
10,900.00	10,509.32	9,950.00	9,667.53	23.60	22.44	-0.01	451.40	-244.81	847.63	822.48	25.15	33.700		

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 8H
Project:	Lea County, NM (NAD-83)	TVD Reference:	3683.9' GL + 25' RKB @ 3708.90usft
Reference Site:	Hognose Viper 23 Fed	MD Reference:	3683.9' GL + 25' RKB @ 3708.90usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	8H	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-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 (usft)	E-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
11,000.00	10,507.22	9,983.54	9,669.99	24.24	22.67	-0.01	484.86	-244.81	838.45	813.00	25.45	32.949	
11,100.00	10,505.13	10,043.94	9,669.99	24.99	23.13	-0.01	545.26	-244.81	836.00	810.16	25.84	32.351	
11,200.00	10,503.03	10,143.93	9,668.38	25.84	23.96	-0.01	645.25	-244.82	835.12	808.73	26.39	31.848	
11,300.00	10,500.94	10,243.93	9,667.16	26.79	24.89	-0.01	745.24	-244.82	834.24	807.24	27.00	30.896	
11,400.00	10,498.85	10,343.93	9,665.94	27.83	25.92	-0.01	845.23	-244.82	833.37	805.69	27.68	30.107	
11,500.00	10,496.75	10,443.92	9,664.72	28.94	27.03	-0.01	945.21	-244.83	832.49	804.07	28.42	29.293	
11,600.00	10,494.66	10,543.92	9,663.51	30.12	28.22	-0.01	1,045.20	-244.83	831.61	802.40	29.21	28.467	
11,700.00	10,492.56	10,643.91	9,662.29	31.37	29.47	-0.01	1,145.19	-244.84	830.73	800.68	30.06	27.636	
11,800.00	10,490.47	10,743.91	9,661.07	32.66	30.78	-0.01	1,245.18	-244.84	829.86	798.91	30.95	26.811	
11,900.00	10,488.38	10,843.91	9,659.86	34.01	32.14	-0.01	1,345.17	-244.84	828.98	797.09	31.89	25.997	
12,000.00	10,486.28	10,943.90	9,658.64	35.40	33.54	-0.01	1,445.16	-244.85	828.10	795.24	32.86	25.200	
12,100.00	10,484.19	11,043.90	9,657.42	36.83	34.99	-0.01	1,545.15	-244.85	827.23	793.35	33.87	24.422	
12,200.00	10,482.09	11,143.89	9,656.21	38.29	36.47	-0.01	1,645.14	-244.85	826.35	791.43	34.91	23.668	
12,300.00	10,480.00	11,243.89	9,654.99	39.78	37.97	-0.01	1,745.12	-244.86	825.47	789.49	35.99	22.938	
12,400.00	10,477.91	11,343.89	9,653.77	41.30	39.51	-0.01	1,845.11	-244.86	824.60	787.51	37.09	22.234	
12,500.00	10,475.81	11,443.88	9,652.56	42.84	41.07	-0.01	1,945.10	-244.86	823.72	785.51	38.21	21.557	
12,600.00	10,473.72	11,543.88	9,651.34	44.40	42.65	-0.01	2,045.09	-244.87	822.84	783.48	39.36	20.907	
12,700.00	10,471.62	11,643.88	9,650.12	45.99	44.25	-0.01	2,145.08	-244.87	821.96	781.44	40.52	20.283	
12,800.00	10,469.53	11,743.87	9,648.90	47.59	45.87	-0.01	2,245.07	-244.87	821.09	779.38	41.71	19.685	
12,900.00	10,467.44	11,843.87	9,647.69	49.20	47.50	-0.01	2,345.06	-244.88	820.21	777.29	42.91	19.112	
13,000.00	10,465.34	11,943.86	9,646.47	50.83	49.14	-0.01	2,445.05	-244.88	819.33	775.20	44.13	18.564	
13,100.00	10,463.25	12,043.86	9,645.25	52.48	50.80	-0.01	2,545.03	-244.89	818.46	773.09	45.37	18.040	
13,200.00	10,461.15	12,143.86	9,644.04	54.13	52.47	-0.01	2,645.02	-244.89	817.58	770.96	46.62	17.538	
13,300.00	10,459.06	12,243.85	9,642.82	55.80	54.15	-0.01	2,745.01	-244.89	816.70	768.82	47.88	17.059	
13,400.00	10,456.97	12,343.85	9,641.60	57.47	55.84	-0.01	2,845.00	-244.90	815.82	766.68	49.15	16.599	
13,500.00	10,454.87	12,443.84	9,640.39	59.16	57.54	-0.01	2,944.99	-244.90	814.95	764.52	50.43	16.160	
13,600.00	10,452.78	12,543.84	9,639.17	60.85	59.24	-0.01	3,044.98	-244.90	814.07	762.35	51.72	15.739	
13,700.00	10,450.68	12,643.84	9,637.95	62.55	60.96	-0.01	3,144.97	-244.91	813.19	760.17	53.02	15.337	
13,800.00	10,448.59	12,743.83	9,636.73	64.26	62.67	0.00	3,244.96	-244.91	812.32	757.98	54.33	14.951	
13,900.00	10,446.50	12,843.83	9,635.52	65.97	64.40	0.00	3,344.94	-244.91	811.44	755.79	55.65	14.581	
14,000.00	10,444.40	12,943.83	9,634.30	67.69	66.13	0.00	3,444.93	-244.92	810.56	753.59	56.97	14.227	
14,100.00	10,442.31	13,043.82	9,633.08	69.41	67.86	0.00	3,544.92	-244.92	809.68	751.38	58.30	13.887	
14,200.00	10,440.21	13,143.82	9,631.87	71.14	69.60	0.00	3,644.91	-244.92	808.81	749.16	59.64	13.561	
14,300.00	10,438.12	13,243.81	9,630.65	72.88	71.35	0.00	3,744.90	-244.93	807.93	746.94	60.99	13.248	
14,400.00	10,436.03	13,343.81	9,629.43	74.62	73.10	0.00	3,844.89	-244.93	807.05	744.72	62.33	12.947	
14,500.00	10,433.93	13,443.81	9,628.22	76.36	74.85	0.00	3,944.88	-244.94	806.18	742.49	63.69	12.658	
14,600.00	10,431.84	13,543.80	9,627.00	78.11	76.60	0.00	4,044.87	-244.94	805.30	740.25	65.05	12.380	
14,700.00	10,429.74	13,643.80	9,625.78	79.86	78.36	0.00	4,144.85	-244.94	804.42	738.01	66.41	12.113	
14,800.00	10,427.65	13,743.79	9,624.56	81.61	80.12	0.00	4,244.84	-244.95	803.54	735.77	67.78	11.855	
14,900.00	10,425.56	13,843.79	9,623.35	83.37	81.89	0.00	4,344.83	-244.95	802.67	733.52	69.15	11.607	
15,000.00	10,423.46	13,943.79	9,622.13	85.13	83.66	0.00	4,444.82	-244.95	801.79	731.26	70.53	11.368	
15,100.00	10,421.37	14,043.78	9,620.91	86.89	85.43	0.00	4,544.81	-244.96	800.91	729.01	71.91	11.138	
15,165.32	10,420.00	14,109.10	9,620.12	88.05	86.58	0.00	4,610.12	-244.96	800.34	727.53	72.81	10.992	

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 8H
Project:	Lea County, NM (NAD-83)	TVD Reference:	3683.9' GL + 25' RKB @ 3708.90usft
Reference Site:	Hognose Viper 23 Fed	MD Reference:	3683.9' GL + 25' RKB @ 3708.90usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	8H	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 - 6H - OH - Plan #1													Offset Site Error:
Survey Program: 0-LEAM MWD-ADJ													Offset Well Error:
Reference	Vertical	Offset	Semi Major Axis	Reference	Offset	Highside	Offset Wellbore Centre	Between	Between	Minimum	Separation	Warning	
Depth (usft)	Depth (usft)	Depth (usft)	Depth (usft)	(usft)	(usft)	(F)	N-S (usft)	Centres (usft)	Ellipses (usft)	Separation (usft)	Factor		
0.00	0.00	0.80	0.80	0.00	0.00	-90.25	-0.22	-49.99	49.99				
100.00	100.00	100.80	100.80	0.08	0.09	-90.25	-0.22	-49.99	49.99	49.82	0.17	293.418	
200.00	200.00	200.80	200.80	0.31	0.31	-90.25	-0.22	-49.99	49.99	49.37	0.62	80.642	
300.00	300.00	300.80	300.80	0.53	0.54	-90.25	-0.22	-49.99	49.99	48.92	1.07	46.745	
400.00	400.00	400.80	400.80	0.76	0.76	-90.25	-0.22	-49.99	49.99	48.47	1.52	32.911	
500.00	500.00	500.80	500.80	0.98	0.99	-90.25	-0.22	-49.99	49.99	48.02	1.97	25.395	
600.00	600.00	600.80	600.80	1.21	1.21	-90.25	-0.22	-49.99	49.99	47.57	2.42	20.674	
700.00	700.00	700.80	700.80	1.43	1.43	-90.25	-0.22	-49.99	49.99	47.12	2.87	17.433	
800.00	800.00	800.80	800.80	1.66	1.66	-90.25	-0.22	-49.99	49.99	46.67	3.32	15.071	
900.00	900.00	900.80	900.80	1.88	1.88	-90.25	-0.22	-49.99	49.99	46.22	3.77	13.272	
1,000.00	1,000.00	1,000.80	1,000.80	2.11	2.11	-90.25	-0.22	-49.99	49.99	45.77	4.22	11.857	
1,100.00	1,100.00	1,100.80	1,100.80	2.33	2.33	-90.25	-0.22	-49.99	49.99	45.32	4.67	10.714	
1,200.00	1,200.00	1,200.80	1,200.80	2.56	2.56	-90.25	-0.22	-49.99	49.99	44.88	5.12	9.773	
1,300.00	1,300.00	1,300.80	1,300.80	2.78	2.78	-90.25	-0.22	-49.99	49.99	44.43	5.56	8.983	
1,400.00	1,400.00	1,400.80	1,400.80	3.01	3.01	-90.25	-0.22	-49.99	49.99	43.98	6.01	8.312	
1,500.00	1,500.00	1,500.80	1,500.80	3.23	3.23	-90.25	-0.22	-49.99	49.99	43.53	6.46	7.734	
1,600.00	1,600.00	1,600.80	1,600.80	3.46	3.46	-90.25	-0.22	-49.99	49.99	43.08	6.91	7.231	
1,700.00	1,700.00	1,700.80	1,700.80	3.68	3.68	-90.25	-0.22	-49.99	49.99	42.63	7.36	6.790	
1,800.00	1,800.00	1,800.80	1,800.80	3.91	3.91	-90.25	-0.22	-49.99	49.99	42.18	7.81	6.399	
1,900.00	1,900.00	1,900.80	1,900.80	4.13	4.13	-90.25	-0.22	-49.99	49.99	41.73	8.26	6.051	
2,000.00	2,000.00	2,000.80	2,000.80	4.35	4.36	-90.25	-0.22	-49.99	49.99	41.28	8.71	5.738	
2,100.00	2,100.00	2,100.80	2,100.80	4.58	4.58	-90.25	-0.22	-49.99	49.99	40.83	9.16	5.457	
2,200.00	2,200.00	2,200.80	2,200.80	4.80	4.81	-90.25	-0.22	-49.99	49.99	40.38	9.61	5.202	
2,300.00	2,300.00	2,300.80	2,300.80	5.03	5.03	-90.25	-0.22	-49.99	49.99	39.93	10.06	4.969	
2,400.00	2,400.00	2,400.80	2,400.80	5.25	5.25	-90.25	-0.22	-49.99	49.99	39.48	10.51	4.757	
2,500.00	2,500.00	2,500.80	2,500.80	5.48	5.48	-90.25	-0.22	-49.99	49.99	39.03	10.96	4.562	
2,600.00	2,600.00	2,600.80	2,600.80	5.70	5.71	-90.25	-0.22	-49.99	49.99	38.58	11.41	4.382	
2,700.00	2,700.00	2,700.80	2,700.80	5.93	5.93	-90.25	-0.22	-49.99	49.99	38.13	11.86	4.216	
2,800.00	2,800.00	2,800.80	2,800.80	6.15	6.15	-90.25	-0.22	-49.99	49.99	37.68	12.31	4.062	
2,900.00	2,900.00	2,900.80	2,900.80	6.38	6.38	-90.25	-0.22	-49.99	49.99	37.23	12.76	3.919	
3,000.00	3,000.00	3,000.80	3,000.80	6.60	6.60	-90.25	-0.22	-49.99	49.99	36.78	13.21	3.785	
3,100.00	3,100.00	3,100.80	3,100.80	6.83	6.83	-90.25	-0.22	-49.99	49.99	36.33	13.66	3.661	
3,200.00	3,200.00	3,200.80	3,200.80	7.05	7.05	-90.25	-0.22	-49.99	49.99	35.88	14.11	3.544	
3,300.00	3,300.00	3,300.80	3,300.80	7.28	7.28	-90.25	-0.22	-49.99	49.99	35.44	14.56	3.434	
3,400.00	3,400.00	3,400.80	3,400.80	7.50	7.50	-90.25	-0.22	-49.99	49.99	34.99	15.00	3.332	
3,500.00	3,500.00	3,500.80	3,500.80	7.73	7.73	-90.25	-0.22	-49.99	49.99	34.54	15.45	3.235	
3,600.00	3,600.00	3,600.80	3,600.80	7.95	7.95	-90.25	-0.22	-49.99	49.99	34.09	15.90	3.143	
3,700.00	3,700.00	3,700.80	3,700.80	8.18	8.18	-90.25	-0.22	-49.99	49.99	33.64	16.35	3.057	
3,800.00	3,800.00	3,800.80	3,800.80	8.40	8.40	-90.25	-0.22	-49.99	49.99	33.19	16.80	2.975	
3,900.00	3,900.00	3,900.80	3,900.80	8.63	8.63	-90.25	-0.22	-49.99	49.99	32.74	17.25	2.898	
4,000.00	4,000.00	4,000.80	4,000.80	8.85	8.85	-90.25	-0.22	-49.99	49.99	32.29	17.70	2.824	
4,100.00	4,100.00	4,100.80	4,100.80	9.07	9.08	-90.25	-0.22	-49.99	49.99	31.84	18.15	2.754	
4,200.00	4,200.00	4,200.80	4,200.80	9.30	9.30	-90.25	-0.22	-49.99	49.99	31.39	18.60	2.687	
4,300.00	4,300.00	4,300.80	4,300.80	9.52	9.53	-90.25	-0.22	-49.99	49.99	30.94	19.05	2.624	
4,400.00	4,400.00	4,400.80	4,400.80	9.75	9.75	-90.25	-0.22	-49.99	49.99	30.49	19.50	2.564	
4,500.00	4,500.00	4,500.80	4,500.80	9.97	9.98	-90.25	-0.22	-49.99	49.99	30.04	19.95	2.506	
4,600.00	4,600.00	4,600.80	4,600.80	10.20	10.20	-90.25	-0.22	-49.99	49.99	29.59	20.40	2.451	
4,700.00	4,700.00	4,700.80	4,700.80	10.42	10.43	-90.25	-0.22	-49.99	49.99	29.14	20.85	2.398	
4,800.00	4,800.00	4,800.80	4,800.80	10.65	10.65	-90.25	-0.22	-49.99	49.99	28.69	21.30	2.347	
4,900.00	4,900.00	4,900.80	4,900.80	10.87	10.87	-90.25	-0.22	-49.99	49.99	28.24	21.75	2.299	
4,966.40	4,966.40	4,967.20	4,967.20	11.02	11.02	-90.25	-0.22	-49.99	49.99	27.94	22.05	2.268 CC	
5,000.00	5,000.00	5,000.79	5,000.79	11.10	11.10	-90.25	-0.22	-49.99	49.99	27.79	22.20	2.252 ES	

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 8H
Project:	Lea County, NM (NAD-83)	TVD Reference:	3683.9' GL + 25' RKB @ 3708.90usft
Reference Site:	Hognose Viper 23 Fed	MD Reference:	3683.9' GL + 25' RKB @ 3708.90usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	8H	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 - 6H - OH - Plan #1													Offset Site Error:
Survey Program: 0-LEAM MWD-ADJ													Offset Well Error:
Reference	Offset	Semi Major Axis		Distance		Warning							
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N-S (usft)	+E-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	
5,100.00	5,100.00	5,100.00	5,099.99	11.32	11.30	-91.15	-1.03	-51.02	51.04	28.42	22.52	2.256	
5,200.00	5,200.00	5,198.56	5,198.47	11.55	11.48	-93.60	-3.40	-54.06	54.21	31.19	23.02	2.355	
5,300.00	5,300.00	5,297.12	5,296.82	11.77	11.66	-97.07	-7.33	-59.09	59.88	36.25	23.43	2.547	
5,400.00	5,400.00	5,396.25	5,395.59	12.00	11.84	-100.80	-12.54	-65.77	67.15	43.32	23.93	2.818	
5,500.00	5,500.00	5,495.87	5,494.83	12.22	12.03	-103.84	-17.89	-72.61	75.02	50.77	24.24	3.094	
5,600.00	5,599.99	5,595.59	5,594.17	12.42	12.22	31.11	-23.24	-79.46	81.93	57.32	24.61	3.329	
5,700.00	5,699.91	5,695.47	5,693.67	12.60	12.42	30.24	-28.60	-86.32	86.66	61.71	24.96	3.473	
5,800.00	5,799.69	5,795.44	5,793.26	12.78	12.62	30.31	-33.96	-93.18	89.14	63.85	25.29	3.525	
5,900.00	5,899.27	5,895.42	5,892.86	12.96	12.82	31.24	-39.33	-100.05	89.37	63.75	25.62	3.488	
6,000.00	5,998.72	5,995.40	5,992.45	13.14	13.02	32.62	-44.69	-106.91	88.52	62.52	25.99	3.405	
6,100.00	6,098.17	6,095.37	6,092.05	13.33	13.23	34.02	-50.06	-113.78	87.72	61.35	26.37	3.326	
6,200.00	6,197.63	6,195.34	6,191.64	13.53	13.44	35.44	-55.42	-120.65	86.97	60.22	26.76	3.250	
6,300.00	6,297.08	6,295.32	6,291.23	13.72	13.65	36.90	-60.79	-127.51	86.28	59.13	27.15	3.178	
6,400.00	6,396.53	6,395.29	6,390.33	13.92	13.86	38.37	-66.15	-134.38	85.65	58.10	27.55	3.109	
6,500.00	6,495.98	6,495.26	6,490.42	14.13	14.08	39.86	-71.52	-141.24	85.07	57.13	27.95	3.044	
6,600.00	6,595.43	6,595.24	6,590.01	14.33	14.30	41.38	-76.88	-148.11	84.55	56.20	28.35	2.982	
6,700.00	6,694.89	6,695.21	6,689.61	14.54	14.52	42.91	-82.25	-154.98	84.10	55.33	28.77	2.923	
6,800.00	6,794.34	6,795.19	6,789.20	14.76	14.74	44.45	-87.61	-161.84	83.70	54.51	29.19	2.868	
6,900.00	6,893.79	6,895.16	6,888.79	14.97	14.97	46.01	-92.97	-168.71	83.36	53.75	29.61	2.815	
7,000.00	6,993.24	6,995.13	6,988.39	15.19	15.19	47.58	-98.34	-175.58	83.09	53.04	30.04	2.766	
7,100.00	7,092.70	7,095.11	7,087.98	15.41	15.42	49.17	-103.70	-182.44	82.88	52.39	30.48	2.719	
7,200.00	7,192.15	7,195.08	7,187.57	15.64	15.65	50.75	-109.07	-189.31	82.73	51.80	30.93	2.675	
7,300.00	7,291.60	7,295.05	7,287.17	15.86	15.88	52.35	-114.43	-196.17	82.64	51.27	31.38	2.634	
7,381.18	7,372.33	7,376.21	7,368.01	16.05	16.07	53.64	-118.79	-201.75	82.62	50.88	31.75	2.603	
7,400.00	7,391.05	7,395.03	7,386.76	16.09	16.11	53.94	-119.80	-203.04	82.62	50.79	31.83	2.596	
7,500.00	7,490.50	7,495.00	7,486.35	16.32	16.35	55.53	-125.16	-209.91	82.67	50.37	32.30	2.560	
7,600.00	7,589.96	7,594.97	7,585.94	16.55	16.58	57.12	-130.52	-216.77	82.78	50.01	32.76	2.526	
7,700.00	7,689.41	7,694.95	7,685.54	16.79	16.82	58.71	-135.89	-223.64	82.95	49.71	33.24	2.496	
7,800.00	7,788.86	7,794.92	7,785.13	17.03	17.06	60.29	-141.25	-230.50	83.18	49.46	33.72	2.467	
7,900.00	7,888.31	7,895.71	7,885.58	17.26	17.29	62.15	-146.35	-237.03	83.18	48.97	34.21	2.432	
8,000.00	7,987.77	7,996.86	7,986.55	17.51	17.51	65.43	-149.94	-241.62	81.88	47.18	34.72	2.359	
8,100.00	8,087.22	8,097.69	8,087.33	17.75	17.73	70.46	-151.88	-244.11	79.55	44.31	35.25	2.257	
8,200.00	8,186.67	8,197.83	8,187.47	17.99	17.92	77.42	-152.26	-244.60	76.91	41.12	35.78	2.149	
8,300.00	8,286.12	8,297.28	8,286.92	18.24	18.13	85.17	-152.26	-244.60	75.31	39.00	36.32	2.074	
8,361.04	8,346.82	8,357.98	8,347.62	18.39	18.26	90.00	-152.26	-244.60	75.04	38.42	36.63	2.049	
8,400.00	8,385.57	8,396.73	8,386.37	18.48	18.34	93.09	-152.26	-244.60	75.15	38.34	36.82	2.041 SF	
8,500.00	8,485.03	8,496.19	8,485.83	18.73	18.56	100.90	-152.26	-244.60	76.44	39.17	37.27	2.051	
8,600.00	8,584.48	8,595.64	8,585.28	18.98	18.77	108.32	-152.26	-244.60	79.09	41.41	37.68	2.099	
8,700.00	8,683.93	8,695.09	8,684.73	19.23	18.98	115.15	-152.26	-244.60	82.99	44.93	38.05	2.181	
8,800.00	8,783.38	8,794.54	8,784.18	19.49	19.19	121.30	-152.26	-244.60	87.96	49.55	38.41	2.290	
8,900.00	8,882.84	8,893.99	8,883.64	19.74	19.40	126.75	-152.26	-244.60	93.84	55.09	38.75	2.422	
8,930.00	8,912.67	8,923.83	8,913.47	19.82	19.47	128.24	-152.26	-244.60	95.75	56.90	38.85	2.465	
9,000.00	8,982.35	8,993.51	8,983.15	19.99	19.62	131.29	-152.26	-244.60	100.04	60.93	39.11	2.558	
9,100.00	9,082.08	9,093.24	9,082.88	20.22	19.83	134.34	-152.26	-244.60	105.02	65.53	39.49	2.659	
9,200.00	9,181.97	9,193.12	9,182.77	20.43	20.04	136.16	-152.26	-244.60	108.37	68.48	39.89	2.717	
9,300.00	9,281.94	9,293.10	9,282.74	20.64	20.26	136.93	-152.26	-244.60	109.89	69.59	40.30	2.727	
9,330.00	9,311.94	9,323.10	9,312.74	20.70	20.32	-0.03	-152.26	-244.60	109.98	69.56	40.42	2.721	
9,400.00	9,381.94	9,393.10	9,382.74	20.84	20.47	-0.03	-152.26	-244.60	109.98	69.27	40.71	2.701	
9,500.00	9,481.94	9,493.10	9,482.74	21.04	20.69	-0.03	-152.26	-244.60	109.98	68.84	41.14	2.673	
9,600.00	9,581.94	9,593.10	9,582.74	21.25	20.86	-0.03	-147.28	-244.60	115.97	74.43	41.54	2.792	
9,700.00	9,681.94	9,693.10	9,682.74	21.46	21.00	-0.02	-131.17	-244.60	136.09	94.17	41.92	3.247	
9,800.00	9,781.94	9,793.10	9,782.74	21.66	21.12	-0.02	-106.51	-244.60	169.25	126.98	42.27	4.004	

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 8H
Project:	Lea County, NM (NAD-83)	TVD Reference:	3683.9' GL + 25' RKB @ 3708.90usft
Reference Site:	Hognose Viper 23 Fed	MD Reference:	3683.9' GL + 25' RKB @ 3708.90usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	8H	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 - 6H - OH - Plan #1														Offset Site Error:
Survey Program: 0-LEAM MWD-ADJ														Offset Well Error:
Reference	Offset	Semi Major Axis		Distance		Warning								
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Footcandle (°)	Offset Wellbore Centre (usft)	+N-S (usft)	+E-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
9,900.00	9,881.94	9,800.00	9,776.45	21.87	21.22	-0.02	-76.73	-244.60	213.81	171.20	42.61	5.018		
9,955.23	9,937.17	9,833.85	9,805.32	21.99	21.25	-0.02	-59.07	-244.60	242.64	199.86	42.78	5.671		
10,000.00	9,981.89	9,860.07	9,826.94	22.08	21.29	-0.01	-44.23	-244.61	266.51	223.71	42.80	6.227		
10,050.00	10,031.51	9,889.12	9,850.07	22.16	21.33	-0.01	-26.67	-244.61	291.69	249.09	42.59	6.848		
10,100.00	10,080.40	9,917.94	9,872.11	22.23	21.36	-0.01	-8.11	-244.61	315.26	273.10	42.16	7.477		
10,150.00	10,128.21	9,950.00	9,895.50	22.29	21.40	-0.01	13.82	-244.61	337.21	295.69	41.52	8.122		
10,200.00	10,174.56	9,975.03	9,912.88	22.34	21.42	-0.01	31.82	-244.61	357.40	316.74	40.66	8.790		
10,250.00	10,219.11	10,000.00	9,929.43	22.38	21.45	-0.01	50.53	-244.61	375.91	336.30	39.61	9.490		
10,300.00	10,261.51	10,031.55	9,949.14	22.41	21.49	-0.01	75.16	-244.61	392.60	354.10	38.41	10.222		
10,350.00	10,301.44	10,050.00	9,960.02	22.44	21.51	-0.01	90.05	-244.62	407.69	370.65	37.04	11.006		
10,400.00	10,338.60	10,087.87	9,980.73	22.46	21.57	-0.01	121.50	-244.62	420.56	384.96	35.60	11.814		
10,450.00	10,372.70	10,115.60	9,994.74	22.48	21.64	-0.01	145.68	-244.62	431.75	397.68	34.07	12.672		
10,500.00	10,403.49	10,150.00	10,010.33	22.49	21.73	-0.01	176.33	-244.62	441.15	408.62	32.53	13.562		
10,550.00	10,430.73	10,171.32	10,019.05	22.50	21.81	-0.01	195.77	-244.62	448.47	417.47	31.00	14.468		
10,600.00	10,454.21	10,200.00	10,029.66	22.51	21.92	0.00	222.42	-244.63	453.96	424.39	29.57	15.354		
10,650.00	10,473.76	10,226.89	10,038.37	22.54	22.03	0.00	247.86	-244.63	457.51	429.22	28.29	16.174		
10,700.00	10,489.23	10,250.00	10,044.89	22.68	22.13	0.00	270.03	-244.63	459.17	431.94	27.23	16.966		
10,750.00	10,500.49	10,282.40	10,052.52	22.86	22.29	0.00	301.51	-244.63	458.80	432.33	25.47	17.333		
10,800.00	10,507.47	10,300.00	10,055.92	23.08	22.38	0.00	318.78	-244.63	456.74	430.71	26.04	17.543		
10,850.00	10,510.10	10,337.94	10,061.43	23.33	22.59	0.00	356.31	-244.64	452.34	426.32	26.02	17.365		
10,867.23	10,510.00	10,350.00	10,062.66	23.42	22.65	0.00	368.31	-244.64	450.46	424.36	26.10	17.258		
10,900.00	10,509.32	10,365.80	10,063.88	23.60	22.75	0.00	384.06	-244.64	447.15	420.95	26.20	17.068		
11,000.00	10,507.22	10,430.87	10,064.71	24.24	23.17	0.00	449.11	-244.64	443.36	416.80	26.56	16.695		
11,100.00	10,505.13	10,530.87	10,063.28	24.99	23.90	0.00	549.10	-244.65	442.70	415.65	27.05	16.368		
11,200.00	10,503.03	10,630.87	10,061.84	25.84	24.74	0.00	649.08	-244.66	442.03	414.42	27.61	16.010		
11,300.00	10,500.94	10,730.87	10,060.41	26.79	25.68	0.00	749.07	-244.67	441.37	413.14	28.24	15.631		
11,400.00	10,498.85	10,830.87	10,058.98	27.83	26.71	0.00	849.05	-244.67	440.71	411.79	28.92	15.237		
11,500.00	10,496.75	10,930.86	10,057.55	28.94	27.83	0.00	949.05	-244.68	440.05	410.39	29.67	14.833		
11,600.00	10,494.66	11,030.86	10,056.12	30.12	29.01	0.00	1,049.03	-244.69	439.38	408.92	30.46	14.423		
11,700.00	10,492.56	11,130.86	10,054.69	31.37	30.26	0.00	1,149.02	-244.70	438.72	407.41	31.31	14.012		
11,800.00	10,490.47	11,230.86	10,053.26	32.66	31.57	0.00	1,249.01	-244.70	438.06	405.86	32.20	13.604		
11,900.00	10,488.38	11,330.85	10,051.82	34.01	32.93	0.00	1,349.00	-244.71	437.40	404.27	33.13	13.202		
12,000.00	10,486.28	11,430.85	10,050.39	35.40	34.32	0.00	1,448.98	-244.72	436.73	402.63	34.10	12.808		
12,100.00	10,484.19	11,530.85	10,048.96	36.83	35.76	0.00	1,548.97	-244.73	436.07	400.97	35.10	12.422		
12,200.00	10,482.09	11,630.85	10,047.53	38.29	37.23	0.00	1,648.96	-244.73	435.41	399.27	36.14	12.048		
12,300.00	10,480.00	11,730.85	10,046.10	39.78	38.74	0.00	1,748.95	-244.74	434.75	397.54	37.20	11.686		
12,400.00	10,477.91	11,830.84	10,044.67	41.30	40.28	0.00	1,848.94	-244.75	434.08	395.79	38.29	11.336		
12,500.00	10,475.81	11,930.84	10,043.24	42.84	41.82	0.00	1,948.92	-244.76	433.42	394.01	39.41	10.998		
12,600.00	10,473.72	12,030.84	10,041.81	44.40	43.39	0.00	2,048.91	-244.76	432.76	392.21	40.55	10.673		
12,700.00	10,471.62	12,130.84	10,040.37	45.99	44.99	0.00	2,148.90	-244.77	432.09	390.39	41.71	10.361		
12,800.00	10,469.53	12,230.83	10,038.94	47.59	46.60	0.00	2,248.89	-244.78	431.43	388.55	42.88	10.061		
12,900.00	10,467.44	12,330.83	10,037.51	49.20	48.22	0.00	2,348.87	-244.79	430.77	386.69	44.08	9.773		
13,000.00	10,465.34	12,430.83	10,036.08	50.83	49.86	0.00	2,448.86	-244.79	430.11	384.82	45.29	9.497		
13,100.00	10,463.25	12,530.83	10,034.65	52.48	51.51	0.00	2,548.85	-244.80	429.44	382.93	46.51	9.233		
13,200.00	10,461.15	12,630.83	10,033.22	54.13	53.18	0.00	2,648.84	-244.81	428.78	381.03	47.75	8.979		
13,300.00	10,459.06	12,730.82	10,031.79	55.80	54.85	0.00	2,748.82	-244.82	428.12	379.12	49.00	8.737		
13,400.00	10,456.97	12,830.82	10,030.35	57.47	56.54	0.00	2,848.81	-244.83	427.46	377.19	50.27	8.504		
13,500.00	10,454.87	12,930.82	10,028.92	59.16	58.23	0.00	2,948.80	-244.83	426.79	375.25	51.54	8.281		
13,600.00	10,452.78	13,030.82	10,027.49	60.85	59.93	0.00	3,048.79	-244.84	426.13	373.31	52.82	8.067		
13,700.00	10,450.68	13,130.82	10,026.06	62.55	61.64	0.00	3,148.77	-244.85	425.47	371.35	54.12	7.862		
13,800.00	10,448.59	13,230.81	10,024.63	64.26	63.35	0.00	3,248.76	-244.86	424.81	369.39	55.42	7.665		
13,900.00	10,446.50	13,330.81	10,023.20	65.97	65.07	0.00	3,348.75	-244.86	424.14	367.41	56.73	7.477		

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 8H
Project:	Lea County, NM (NAD-83)	TVD Reference:	3683.9' GL + 25' RKB @ 3708.90usft
Reference Site:	Hognose Viper 23 Fed	MD Reference:	3683.9' GL + 25' RKB @ 3708.90usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	8H	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 - 6H - OH - Plan #1													Offset Site Error
Survey Program: O-LEAM MWD ADJ													Offset Well Error
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 (ft)	Offset Wellbore Centre (usft)	+W-S (usft)	-E-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor
14,000.00	10,444.40	13,430.81	10,021.77	67.69	66.80	0.00	3,448.74	-244.87	423.48	365.43	58.05	7.296	
14,100.00	10,442.31	13,530.81	10,020.33	69.41	68.53	0.00	3,548.72	-244.88	422.82	363.45	59.37	7.122	
14,200.00	10,440.21	13,630.80	10,018.90	71.14	70.26	0.00	3,648.71	-244.89	422.15	361.45	60.70	6.955	
14,300.00	10,438.12	13,730.80	10,017.47	72.88	72.00	0.00	3,748.70	-244.89	421.49	359.45	62.04	6.794	
14,400.00	10,436.03	13,830.80	10,016.04	74.62	73.75	0.00	3,848.69	-244.90	420.83	357.45	63.38	6.640	
14,500.00	10,433.93	13,930.80	10,014.61	76.36	75.50	0.00	3,948.67	-244.91	420.17	355.44	64.73	6.491	
14,600.00	10,431.84	14,030.80	10,013.18	78.11	77.25	0.00	4,048.66	-244.92	419.50	353.42	66.08	6.348	
14,700.00	10,429.74	14,130.79	10,011.75	79.86	79.01	0.00	4,148.65	-244.92	418.84	351.40	67.44	6.211	
14,800.00	10,427.65	14,230.79	10,010.31	81.61	80.77	0.00	4,248.64	-244.93	418.18	349.38	68.80	6.078	
14,900.00	10,425.56	14,330.79	10,008.88	83.37	82.53	0.00	4,348.62	-244.94	417.52	347.35	70.17	5.950	
15,000.00	10,423.46	14,430.79	10,007.45	85.13	84.29	0.00	4,448.61	-244.95	416.85	345.31	71.54	5.827	
15,100.00	10,421.37	14,530.78	10,006.02	86.89	85.96	0.00	4,548.60	-244.95	416.19	343.40	72.79	5.718	
15,165.32	10,420.00	14,596.10	10,005.09	89.05	86.90	0.00	4,613.91	-244.96	415.76	342.29	73.47	5.659	

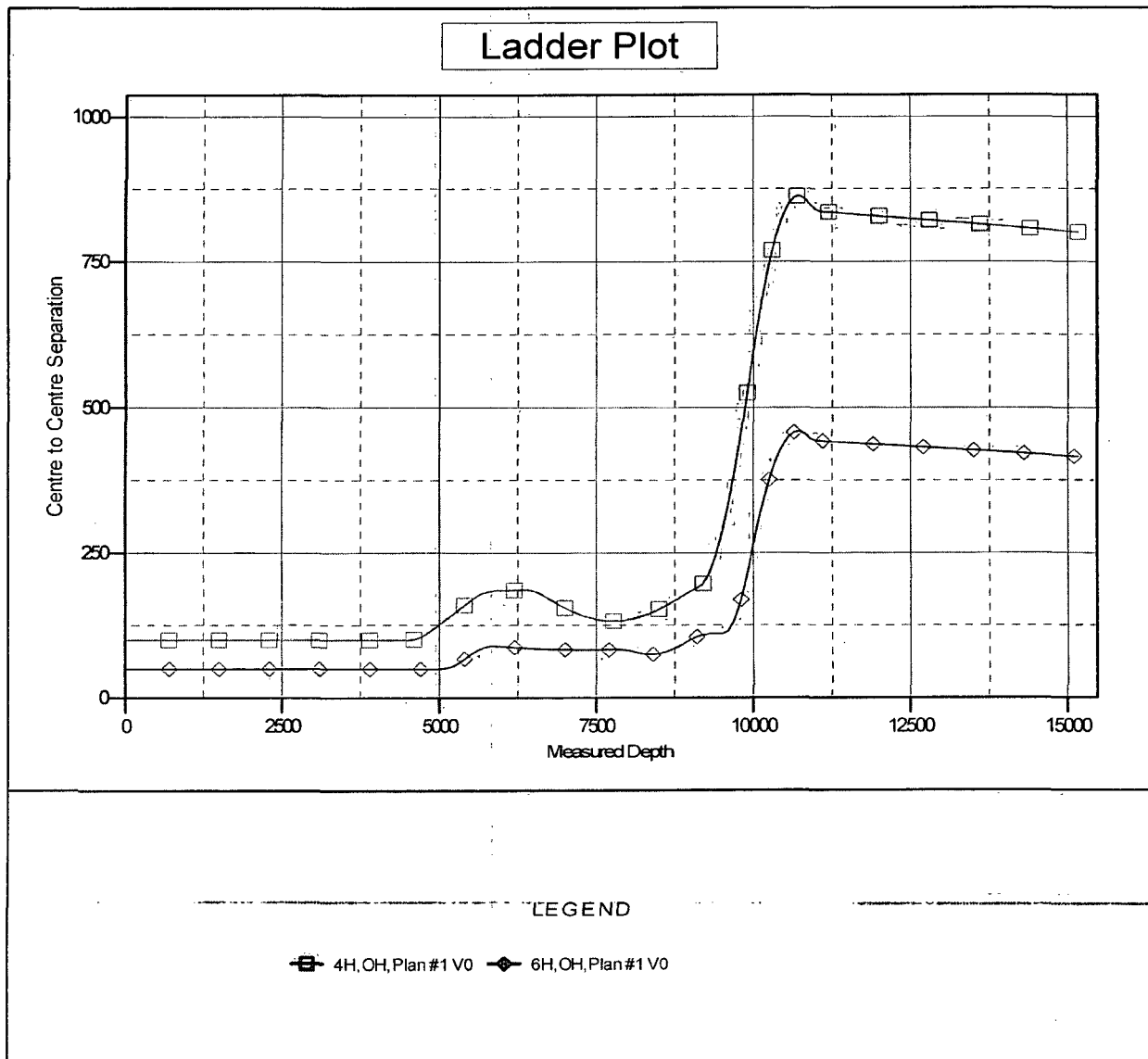
LEAM Drilling Systems LLC

Anticollision Report

Company:	DEVON ENERGY	Local Co-ordinate Reference:	Well: 8H
Project:	Lea County, NM (NAD-83)	TVD Reference:	3683.9' GL + 25' RKB @ 3708.90usft
Reference Site:	Hognose Viper 23 Fed	MD Reference:	3683.9' GL + 25' RKB @ 3708.90usft
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Reference Well:	8H	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 3683.9' GL + 25' RKB @ 3708.90usft
 Offset Depths are relative to Offset Datum
 Central Meridian is 104° 20' 0.000 W

Coordinates are relative to: 8H
 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

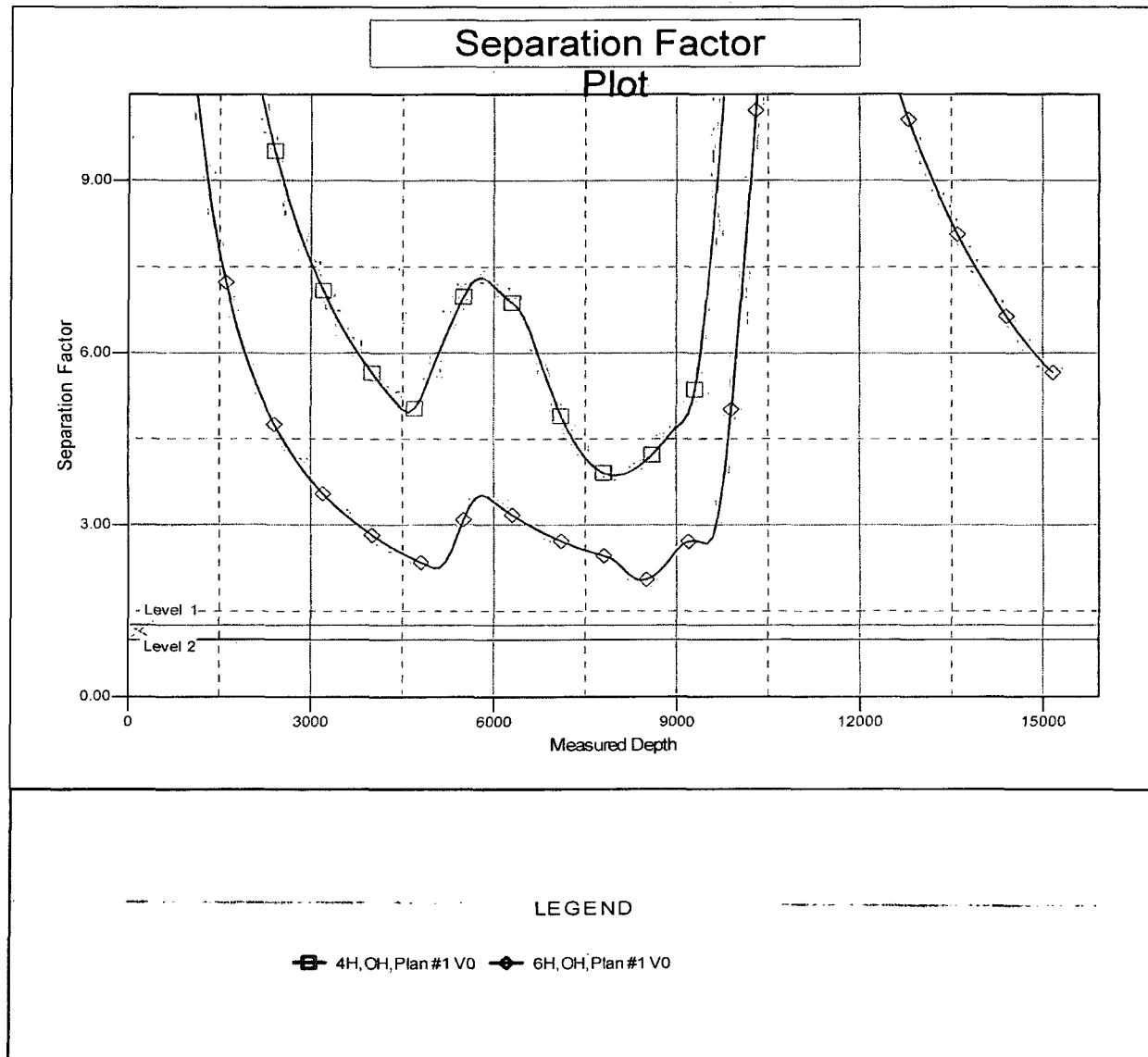
LEAM Drilling Systems LLC

Anticollision Report

Company:	DEVON ENERGY	Local Co-ordinate Reference:	Well 8H
Project:	Lea County, NM (NAD-83)	TVD Reference:	3683.9' GL + 25' RKB @ 3708.90usft
Reference Site:	Hognose Viper 23 Fed	MD Reference:	3683.9' GL + 25' RKB @ 3708.90usft
Site Error:	0.00' usft	North Reference:	Grid
Reference Well:	8H	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 3683.9' GL + 25' RKB @ 3708.90usft
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