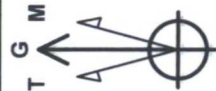




Project: Lea County, NM (NAD-83)
Site: Cotton Draw Unit
Well: 328H (SIMOPS)
Wellbore: OH
Design: Plan #1



Azimuths to Grid North
True North: -0.33°
Magnetic North: 6.95°
Magnetic Field
Strength: 48101.2snT
Dip Angle: 60.03°
Date: 12/16/2015
Model: BGGM2015



DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting
SHL (CDU 328H)	0.00	0.00	0.00	415027.38	734159.63
PBHL (CDU 328H)	8620.00	4269.08	732.81	419296.46	734892.44

SECTION DETAILS

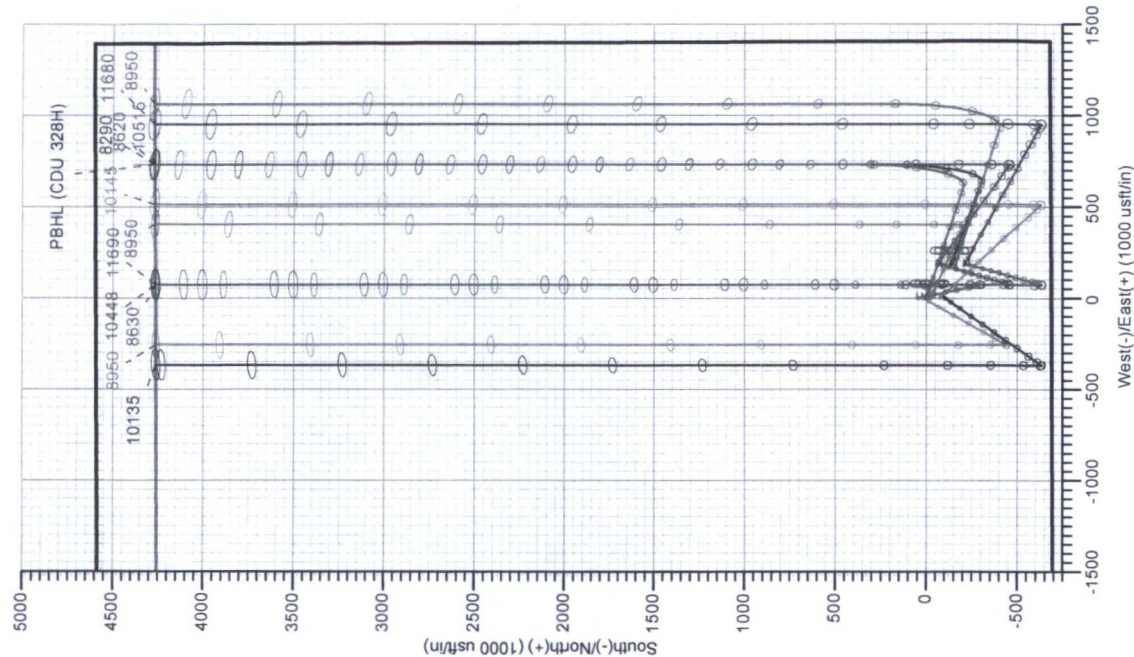
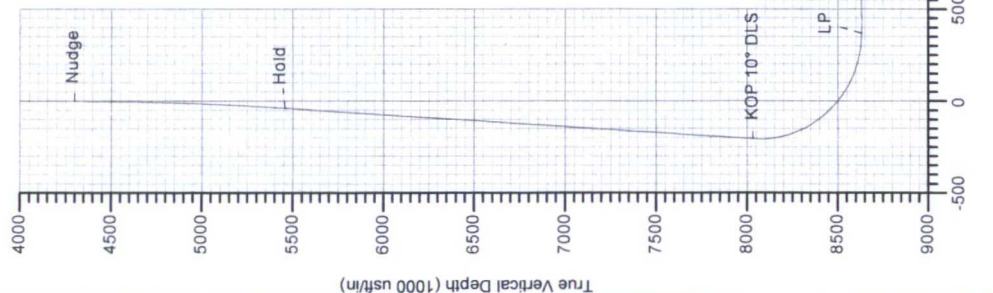
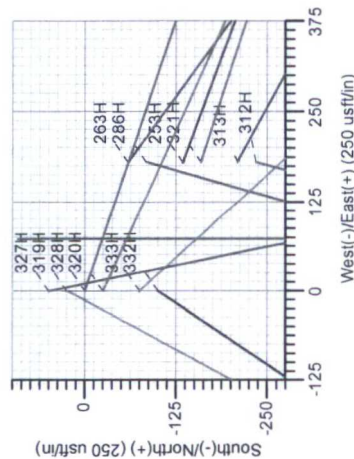
MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4300.00	0.00	0.00	4300.00	0.00	0.00	0.00	0.00	0.00
5464.05	11.64	108.35	5456.05	-37.10	111.85	0.00	0.00	0.00
8094.33	11.64	108.35	8032.24	-204.18	615.57	1.00	108.35	-37.10
9032.22	90.15	0.00	8630.21	369.09	732.81	10.00	-107.97	369.09
12932.22	90.15	0.00	8620.00	4269.08	732.81	0.00	0.00	4269.08

PROJECT DETAILS: Lea County, NM (NAD-83)

Geodetic System: US State Plane 1983
Datum: North American Datum 1983
Ellipsoid: GRS 1980
Zone: New Mexico Eastern Zone

LEGEND

- 327H (SIMOPS), OH, Plan #1 V0
- 320H (SIMOPS), OH, Plan #1 V0
- 253H (SIMOPS), OH, Plan #1 V0
- 312H (SIMOPS), OH, Plan #1 V0
- 286H (SIMOPS), OH, Plan #1 V0
- 313H (SIMOPS), OH, Plan #1 V0
- 263H (SIMOPS), OH, Plan #1 V0
- 321H (SIMOPS), OH, Plan #1 V0
- 333H (SIMOPS), OH, Plan #1 V0
- 319H (SIMOPS), OH, Plan #1 V0
- 332H (SIMOPS), OH, Plan #1 V0
- Plan #1





DEVON ENERGY

Lea County, NM (NAD-83)
Cotton Draw Unit
328H (SIMOPS)

OH

Plan: Plan #1

Standard Planning Report

17 December, 2015





LEAM Drilling Systems LLC
Planning Report



Database: EDM 5000.1 Single User Db
Company: DEVON ENERGY
Project: Lea County, NM (NAD-83)
Site: Cotton Draw Unit
Well: 328H (SIMOPS)
Wellbore: OH
Design: Plan #1

Local Co-ordinate Reference: Well 328H (SIMOPS)
TVD Reference: 3431.4' GE + 30' KB @ 3461.40usft
MD Reference: 3431.4' GE + 30' KB @ 3461.40usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature

Project Lea County, NM (NAD-83)

Map System: US State Plane 1983 System Datum: Mean Sea Level
Geo Datum: North American Datum 1983
Map Zone: New Mexico Eastern Zone

Site Cotton Draw Unit

Site Position: Northing: 414,142.25 usft Latitude: 32° 8' 13.293 N
From: Map Easting: 733,967.43 usft Longitude: 103° 42' 39.602 W
Position Uncertainty: 0.00 usft Slot Radius: 13-3/16 " Grid Convergence: 0.33 °

Well 328H (SIMOPS)

Well Position +N/-S 885.13 usft Northing: 415,027.38 usft Latitude: 32° 8' 22.041 N
+E/-W 192.20 usft Easting: 734,159.63 usft Longitude: 103° 42' 37.307 W
Position Uncertainty 0.00 usft Wellhead Elevation: 3,461.40 usft Ground Level: 3,431.40 usft

Wellbore OH

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	BGGM2015	12/16/2015	7.29	60.03	48,101

Design Plan #1

Audit Notes:

Version: Phase: PLAN Tie On Depth: 0.00

Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.00	0.00	0.00	0.00

Plan Sections

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
4,300.00	0.00	0.00	4,300.00	0.00	0.00	0.00	0.00	0.00	0.00	
5,464.05	11.64	108.35	5,456.05	-37.10	111.85	1.00	1.00	0.00	108.35	
8,094.33	11.64	108.35	8,032.24	-204.18	615.57	0.00	0.00	0.00	0.00	
9,032.22	90.15	0.00	8,630.21	369.09	732.81	10.00	8.37	-11.55	-107.97	
12,932.22	90.15	0.00	8,620.00	4,269.08	732.81	0.00	0.00	0.00	0.00	PBHL (CDU 328H)



LEAM Drilling Systems LLC
Planning Report



Database: EDM 5000.1 Single User Db
Company: DEVON ENERGY
Project: Lea County, NM (NAD-83)
Site: Cotton Draw Unit
Well: 328H (SIMOPS)
Wellbore: OH
Design: Plan #1

Local Co-ordinate Reference: Well 328H (SIMOPS)
TVD Reference: 3431.4' GE + 30' KB @ 3461.40usft
MD Reference: 3431.4' GE + 30' KB @ 3461.40usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SHL (CDU 328H)									
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00
400.00	0.00	0.00	400.00	0.00	0.00	0.00	0.00	0.00	0.00
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	0.00
600.00	0.00	0.00	600.00	0.00	0.00	0.00	0.00	0.00	0.00
700.00	0.00	0.00	700.00	0.00	0.00	0.00	0.00	0.00	0.00
800.00	0.00	0.00	800.00	0.00	0.00	0.00	0.00	0.00	0.00
900.00	0.00	0.00	900.00	0.00	0.00	0.00	0.00	0.00	0.00
1,000.00	0.00	0.00	1,000.00	0.00	0.00	0.00	0.00	0.00	0.00
1,100.00	0.00	0.00	1,100.00	0.00	0.00	0.00	0.00	0.00	0.00
1,200.00	0.00	0.00	1,200.00	0.00	0.00	0.00	0.00	0.00	0.00
1,300.00	0.00	0.00	1,300.00	0.00	0.00	0.00	0.00	0.00	0.00
1,400.00	0.00	0.00	1,400.00	0.00	0.00	0.00	0.00	0.00	0.00
1,500.00	0.00	0.00	1,500.00	0.00	0.00	0.00	0.00	0.00	0.00
1,600.00	0.00	0.00	1,600.00	0.00	0.00	0.00	0.00	0.00	0.00
1,700.00	0.00	0.00	1,700.00	0.00	0.00	0.00	0.00	0.00	0.00
1,800.00	0.00	0.00	1,800.00	0.00	0.00	0.00	0.00	0.00	0.00
1,900.00	0.00	0.00	1,900.00	0.00	0.00	0.00	0.00	0.00	0.00
2,000.00	0.00	0.00	2,000.00	0.00	0.00	0.00	0.00	0.00	0.00
2,100.00	0.00	0.00	2,100.00	0.00	0.00	0.00	0.00	0.00	0.00
2,200.00	0.00	0.00	2,200.00	0.00	0.00	0.00	0.00	0.00	0.00
2,300.00	0.00	0.00	2,300.00	0.00	0.00	0.00	0.00	0.00	0.00
2,400.00	0.00	0.00	2,400.00	0.00	0.00	0.00	0.00	0.00	0.00
2,500.00	0.00	0.00	2,500.00	0.00	0.00	0.00	0.00	0.00	0.00
2,600.00	0.00	0.00	2,600.00	0.00	0.00	0.00	0.00	0.00	0.00
2,700.00	0.00	0.00	2,700.00	0.00	0.00	0.00	0.00	0.00	0.00
2,800.00	0.00	0.00	2,800.00	0.00	0.00	0.00	0.00	0.00	0.00
2,900.00	0.00	0.00	2,900.00	0.00	0.00	0.00	0.00	0.00	0.00
3,000.00	0.00	0.00	3,000.00	0.00	0.00	0.00	0.00	0.00	0.00
3,100.00	0.00	0.00	3,100.00	0.00	0.00	0.00	0.00	0.00	0.00
3,200.00	0.00	0.00	3,200.00	0.00	0.00	0.00	0.00	0.00	0.00
3,300.00	0.00	0.00	3,300.00	0.00	0.00	0.00	0.00	0.00	0.00
3,400.00	0.00	0.00	3,400.00	0.00	0.00	0.00	0.00	0.00	0.00
3,500.00	0.00	0.00	3,500.00	0.00	0.00	0.00	0.00	0.00	0.00
3,600.00	0.00	0.00	3,600.00	0.00	0.00	0.00	0.00	0.00	0.00
3,700.00	0.00	0.00	3,700.00	0.00	0.00	0.00	0.00	0.00	0.00
3,800.00	0.00	0.00	3,800.00	0.00	0.00	0.00	0.00	0.00	0.00
3,900.00	0.00	0.00	3,900.00	0.00	0.00	0.00	0.00	0.00	0.00
4,000.00	0.00	0.00	4,000.00	0.00	0.00	0.00	0.00	0.00	0.00
4,100.00	0.00	0.00	4,100.00	0.00	0.00	0.00	0.00	0.00	0.00
4,200.00	0.00	0.00	4,200.00	0.00	0.00	0.00	0.00	0.00	0.00
4,300.00	0.00	0.00	4,300.00	0.00	0.00	0.00	0.00	0.00	0.00
Nudge									
4,400.00	1.00	108.35	4,400.00	-0.27	0.83	-0.27	1.00	1.00	0.00
4,500.00	2.00	108.35	4,499.96	-1.10	3.31	-1.10	1.00	1.00	0.00
4,600.00	3.00	108.35	4,599.86	-2.47	7.45	-2.47	1.00	1.00	0.00
4,700.00	4.00	108.35	4,699.68	-4.39	13.25	-4.39	1.00	1.00	0.00
4,800.00	5.00	108.35	4,799.37	-6.86	20.69	-6.86	1.00	1.00	0.00
4,900.00	6.00	108.35	4,898.90	-9.88	29.79	-9.88	1.00	1.00	0.00
5,000.00	7.00	108.35	4,998.26	-13.45	40.54	-13.45	1.00	1.00	0.00
5,100.00	8.00	108.35	5,097.40	-17.55	52.92	-17.55	1.00	1.00	0.00



LEAM Drilling Systems LLC
Planning Report



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Company: DEVON ENERGY
Project: Lea County, NM (NAD-83)
Site: Cotton Draw Unit
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Wellbore: OH
Design: Plan #1

Local Co-ordinate Reference:
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North Reference: Grid
Survey Calculation Method: Minimum Curvature

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
5,200.00	9.00	108.35	5,196.30	-22.21	66.95	-22.21	1.00	1.00	0.00
5,300.00	10.00	108.35	5,294.93	-27.40	82.62	-27.40	1.00	1.00	0.00
5,400.00	11.00	108.35	5,393.26	-33.14	99.92	-33.14	1.00	1.00	0.00
5,464.05	11.64	108.35	5,456.05	-37.10	111.85	-37.10	1.00	1.00	0.00
Hold									
5,500.00	11.64	108.35	5,491.27	-39.38	118.73	-39.38	0.00	0.00	0.00
5,600.00	11.64	108.35	5,589.21	-45.73	137.88	-45.73	0.00	0.00	0.00
5,700.00	11.64	108.35	5,687.16	-52.09	157.04	-52.09	0.00	0.00	0.00
5,800.00	11.64	108.35	5,785.10	-58.44	176.19	-58.44	0.00	0.00	0.00
5,900.00	11.64	108.35	5,883.04	-64.79	195.34	-64.79	0.00	0.00	0.00
6,000.00	11.64	108.35	5,980.99	-71.14	214.49	-71.14	0.00	0.00	0.00
6,100.00	11.64	108.35	6,078.93	-77.50	233.64	-77.50	0.00	0.00	0.00
6,200.00	11.64	108.35	6,176.87	-83.85	252.79	-83.85	0.00	0.00	0.00
6,300.00	11.64	108.35	6,274.82	-90.20	271.94	-90.20	0.00	0.00	0.00
6,400.00	11.64	108.35	6,372.76	-96.55	291.09	-96.55	0.00	0.00	0.00
6,500.00	11.64	108.35	6,470.70	-102.90	310.24	-102.90	0.00	0.00	0.00
6,600.00	11.64	108.35	6,568.65	-109.26	329.39	-109.26	0.00	0.00	0.00
6,700.00	11.64	108.35	6,666.59	-115.61	348.55	-115.61	0.00	0.00	0.00
6,800.00	11.64	108.35	6,764.53	-121.96	367.70	-121.96	0.00	0.00	0.00
6,900.00	11.64	108.35	6,862.48	-128.31	386.85	-128.31	0.00	0.00	0.00
7,000.00	11.64	108.35	6,960.42	-134.67	406.00	-134.67	0.00	0.00	0.00
7,100.00	11.64	108.35	7,058.36	-141.02	425.15	-141.02	0.00	0.00	0.00
7,200.00	11.64	108.35	7,156.31	-147.37	444.30	-147.37	0.00	0.00	0.00
7,300.00	11.64	108.35	7,254.25	-153.72	463.45	-153.72	0.00	0.00	0.00
7,400.00	11.64	108.35	7,352.19	-160.07	482.60	-160.07	0.00	0.00	0.00
7,500.00	11.64	108.35	7,450.14	-166.43	501.75	-166.43	0.00	0.00	0.00
7,600.00	11.64	108.35	7,548.08	-172.78	520.90	-172.78	0.00	0.00	0.00
7,700.00	11.64	108.35	7,646.02	-179.13	540.05	-179.13	0.00	0.00	0.00
7,800.00	11.64	108.35	7,743.97	-185.48	559.21	-185.48	0.00	0.00	0.00
7,900.00	11.64	108.35	7,841.91	-191.84	578.36	-191.84	0.00	0.00	0.00
8,000.00	11.64	108.35	7,939.85	-198.19	597.51	-198.19	0.00	0.00	0.00
8,094.33	11.64	108.35	8,032.24	-204.18	615.57	-204.18	0.00	0.00	0.00
KOP 10° DLS									
8,100.00	11.48	105.64	8,037.80	-204.51	616.66	-204.51	10.00	-2.86	-47.82
8,150.00	11.23	80.07	8,086.85	-205.01	626.25	-205.01	10.00	-0.50	-51.14
8,200.00	13.03	57.68	8,135.76	-201.16	635.82	-201.16	10.00	3.61	-44.77
8,250.00	16.22	42.28	8,184.15	-192.97	645.29	-192.97	10.00	6.37	-30.80
8,300.00	20.14	32.26	8,231.66	-180.52	654.58	-180.52	10.00	7.84	-20.04
8,350.00	24.44	25.52	8,277.92	-163.90	663.64	-163.90	10.00	8.61	-13.49
8,400.00	28.96	20.73	8,322.58	-143.23	672.38	-143.23	10.00	9.03	-9.58
8,450.00	33.60	17.15	8,365.30	-118.67	680.75	-118.67	10.00	9.29	-7.16
8,500.00	38.33	14.35	8,405.77	-90.41	688.68	-90.41	10.00	9.45	-5.59
8,550.00	43.10	12.09	8,443.66	-58.67	696.10	-58.67	10.00	9.56	-4.52
8,600.00	47.92	10.20	8,478.69	-23.68	702.97	-23.68	10.00	9.63	-3.78
8,650.00	52.76	8.58	8,510.59	14.28	709.23	14.28	10.00	9.68	-3.24
8,700.00	57.62	7.15	8,539.12	54.94	714.83	54.94	10.00	9.72	-2.85
8,750.00	62.50	5.87	8,564.07	97.97	719.73	97.97	10.00	9.75	-2.56
8,800.00	67.38	4.70	8,585.25	143.06	723.90	143.06	10.00	9.77	-2.34
8,850.00	72.28	3.61	8,602.48	189.85	727.29	189.85	10.00	9.79	-2.18
8,900.00	77.18	2.58	8,615.65	238.00	729.89	238.00	10.00	9.80	-2.06
8,950.00	82.08	1.59	8,624.64	287.14	731.68	287.14	10.00	9.81	-1.98
9,000.00	86.99	0.62	8,629.41	336.88	732.63	336.88	10.00	9.81	-1.94
9,032.22	90.15	0.00	8,630.21	369.09	732.81	369.09	10.00	9.81	-1.92



LEAM Drilling Systems LLC
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MD Reference: 3431.4' GE + 30' KB @ 3461.40usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
LP									
9,100.00	90.15	0.00	8,630.03	436.87	732.81	436.87	0.00	0.00	0.00
9,200.00	90.15	0.00	8,629.77	536.87	732.81	536.87	0.00	0.00	0.00
9,300.00	90.15	0.00	8,629.51	636.87	732.81	636.87	0.00	0.00	0.00
9,400.00	90.15	0.00	8,629.25	736.87	732.81	736.87	0.00	0.00	0.00
9,500.00	90.15	0.00	8,628.99	836.87	732.81	836.87	0.00	0.00	0.00
9,600.00	90.15	0.00	8,628.72	936.87	732.81	936.87	0.00	0.00	0.00
9,700.00	90.15	0.00	8,628.46	1,036.87	732.81	1,036.87	0.00	0.00	0.00
9,800.00	90.15	0.00	8,628.20	1,136.87	732.81	1,136.87	0.00	0.00	0.00
9,900.00	90.15	0.00	8,627.94	1,236.87	732.81	1,236.87	0.00	0.00	0.00
10,000.00	90.15	0.00	8,627.68	1,336.87	732.81	1,336.87	0.00	0.00	0.00
10,100.00	90.15	0.00	8,627.41	1,436.87	732.81	1,436.87	0.00	0.00	0.00
10,200.00	90.15	0.00	8,627.15	1,536.87	732.81	1,536.87	0.00	0.00	0.00
10,300.00	90.15	0.00	8,626.89	1,636.87	732.81	1,636.87	0.00	0.00	0.00
10,400.00	90.15	0.00	8,626.63	1,736.87	732.81	1,736.87	0.00	0.00	0.00
10,500.00	90.15	0.00	8,626.37	1,836.87	732.81	1,836.87	0.00	0.00	0.00
10,600.00	90.15	0.00	8,626.11	1,936.86	732.81	1,936.86	0.00	0.00	0.00
10,700.00	90.15	0.00	8,625.84	2,036.86	732.81	2,036.86	0.00	0.00	0.00
10,800.00	90.15	0.00	8,625.58	2,136.86	732.81	2,136.86	0.00	0.00	0.00
10,900.00	90.15	0.00	8,625.32	2,236.86	732.81	2,236.86	0.00	0.00	0.00
11,000.00	90.15	0.00	8,625.06	2,336.86	732.81	2,336.86	0.00	0.00	0.00
11,100.00	90.15	0.00	8,624.80	2,436.86	732.81	2,436.86	0.00	0.00	0.00
11,200.00	90.15	0.00	8,624.54	2,536.86	732.81	2,536.86	0.00	0.00	0.00
11,300.00	90.15	0.00	8,624.27	2,636.86	732.81	2,636.86	0.00	0.00	0.00
11,400.00	90.15	0.00	8,624.01	2,736.86	732.81	2,736.86	0.00	0.00	0.00
11,500.00	90.15	0.00	8,623.75	2,836.86	732.81	2,836.86	0.00	0.00	0.00
11,600.00	90.15	0.00	8,623.49	2,936.86	732.81	2,936.86	0.00	0.00	0.00
11,700.00	90.15	0.00	8,623.23	3,036.86	732.81	3,036.86	0.00	0.00	0.00
11,800.00	90.15	0.00	8,622.96	3,136.86	732.81	3,136.86	0.00	0.00	0.00
11,900.00	90.15	0.00	8,622.70	3,236.86	732.81	3,236.86	0.00	0.00	0.00
12,000.00	90.15	0.00	8,622.44	3,336.86	732.81	3,336.86	0.00	0.00	0.00
12,100.00	90.15	0.00	8,622.18	3,436.86	732.81	3,436.86	0.00	0.00	0.00
12,200.00	90.15	0.00	8,621.92	3,536.86	732.81	3,536.86	0.00	0.00	0.00
12,300.00	90.15	0.00	8,621.66	3,636.86	732.81	3,636.86	0.00	0.00	0.00
12,400.00	90.15	0.00	8,621.39	3,736.86	732.81	3,736.86	0.00	0.00	0.00
12,500.00	90.15	0.00	8,621.13	3,836.86	732.81	3,836.86	0.00	0.00	0.00
12,600.00	90.15	0.00	8,620.87	3,936.86	732.81	3,936.86	0.00	0.00	0.00
12,700.00	90.15	0.00	8,620.61	4,036.86	732.81	4,036.86	0.00	0.00	0.00
12,800.00	90.15	0.00	8,620.35	4,136.86	732.81	4,136.86	0.00	0.00	0.00
12,900.00	90.15	0.00	8,620.08	4,236.86	732.81	4,236.86	0.00	0.00	0.00
12,932.22	90.15	0.00	8,620.00	4,269.08	732.81	4,269.08	0.00	0.00	0.00
TD - PBHL (CDU 328H)									



LEAM Drilling Systems LLC

Planning Report



Database: EDM 5000.1 Single User Db
Company: DEVON ENERGY
Project: Lea County, NM (NAD-83)
Site: Cotton Draw Unit
Well: 328H (SIMOPS)
Wellbore: OH
Design: Plan #1

Local Co-ordinate Reference: Well 328H (SIMOPS)
TVD Reference: 3431.4' GE + 30' KB @ 3461.40usft
MD Reference: 3431.4' GE + 30' KB @ 3461.40usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature

Design Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
SHL (CDU 328H) - plan hits target center - Point	0.00	0.00	0.00	0.00	0.00	415,027.38	734,159.63	32° 8' 22.041 N	103° 42' 37.307 W
PBHL (CDU 328H) - plan hits target center - Point	0.00	0.00	8,620.00	4,269.08	732.81	419,296.46	734,892.44	32° 9' 4.244 N	103° 42' 28.496 W

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
4,300.00	4,300.00	0.00	0.00	Nudge
5,464.05	5,456.05	-37.10	111.85	Hold
8,094.33	8,032.24	-204.18	615.57	KOP 10° DLS
9,032.22	8,630.21	369.09	732.81	LP
12,932.22	8,620.00	4,269.08	732.81	TD



DEVON ENERGY

Lea County, NM (NAD-83)

Cotton Draw Unit

328H (SIMOPS)

OH

Plan #1

Anticollision Report

17 December, 2015





LEAM Drilling Systems LLC
Anticollision Report



Company:	DEVON ENERGY	Local Co-ordinate Reference:	Well 328H (SIMOPS)
Project:	Lea County, NM (NAD-83)	TVD Reference:	3431.4' GE + 30' KB @ 3461.40usft
Reference Site:	Cotton Draw Unit	MD Reference:	3431.4' GE + 30' KB @ 3461.40usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	328H (SIMOPS)	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 12/17/2015			
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
0.00	12,932.22	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						
Cotton Draw Unit						
253H (SIMOPS) - OH - Plan #1	8,124.04	8,110.91	74.83	39.09	2.094	CC, ES
253H (SIMOPS) - OH - Plan #1	8,150.00	8,131.67	76.31	39.84	2.093	SF
263H (SIMOPS) - OH - Plan #1	6,041.53	6,018.49	49.92	23.98	1.925	CC, ES
263H (SIMOPS) - OH - Plan #1	6,100.00	6,076.46	50.32	24.04	1.915	SF
286H (SIMOPS) - OH - Plan #1	5,630.76	5,612.78	126.32	102.05	5.204	CC, ES
286H (SIMOPS) - OH - Plan #1	5,700.00	5,680.39	127.21	102.56	5.162	SF
312H (SIMOPS) - OH - Plan #1	5,535.82	5,505.80	279.82	256.02	11.756	CC, ES
312H (SIMOPS) - OH - Plan #1	5,900.00	5,861.30	290.76	265.14	11.349	SF
313H (SIMOPS) - OH - Plan #1	7,156.84	7,111.25	267.64	235.02	8.204	CC
313H (SIMOPS) - OH - Plan #1	8,094.33	8,047.68	271.32	232.10	6.918	ES
313H (SIMOPS) - OH - Plan #1	8,100.00	8,053.35	271.40	232.12	6.910	SF
319H (SIMOPS) - OH - Plan #1	4,559.84	4,560.52	23.29	3.28	1.164	Level 2, CC, ES, SF
320H (SIMOPS) - OH - Plan #1	4,300.00	4,300.00	25.00	5.96	1.313	Level 3, CC
320H (SIMOPS) - OH - Plan #1	4,500.00	4,499.64	25.32	5.50	1.278	Level 3, ES
320H (SIMOPS) - OH - Plan #1	4,600.00	4,599.46	25.73	5.53	1.274	Level 3, SF
321H (SIMOPS) - OH - Plan #1	5,513.17	5,468.49	236.02	212.57	10.063	CC, ES
321H (SIMOPS) - OH - Plan #1	12,932.22	13,474.03	466.69	343.81	3.798	SF
327H (SIMOPS) - OH - Plan #1	4,916.07	4,919.57	37.30	16.06	1.756	CC, ES, SF
332H (SIMOPS) - OH - Plan #1	4,300.00	4,300.00	100.00	80.96	5.253	CC, ES
332H (SIMOPS) - OH - Plan #1	4,500.00	4,497.02	101.85	82.05	5.145	SF
333H (SIMOPS) - OH - Plan #1	4,300.00	4,300.00	75.00	55.96	3.940	CC
333H (SIMOPS) - OH - Plan #1	4,400.00	4,399.05	75.36	55.92	3.876	ES
333H (SIMOPS) - OH - Plan #1	4,500.00	4,498.08	76.44	56.63	3.860	SF

Offset Design Cotton Draw Unit - 253H (SIMOPS) - OH - Plan #1												Offset Site Error:	0.00 usft
Survey Program: 0-LEAM MWD-ADJ												Offset Well Error:	0.00 usft
Reference	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning
Depth (usft)	Depth (usft)	Depth (usft)	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	126.60	-134.05	180.50	224.83				
100.00	100.00	100.00	100.00	0.08	0.08	126.60	-134.05	180.50	224.83	224.67	0.16	1,428.969	
200.00	200.00	200.00	200.00	0.30	0.30	126.60	-134.05	180.50	224.83	224.22	0.61	370.474	
300.00	300.00	300.00	300.00	0.53	0.53	126.60	-134.05	180.50	224.83	223.77	1.06	212.825	
400.00	400.00	400.00	400.00	0.75	0.75	126.60	-134.05	180.50	224.83	223.32	1.51	149.296	

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 328H (SIMOPS)
Project:	Lea County, NM (NAD-83)	TVD Reference:	3431.4' GE + 30' KB @ 3461.40usft
Reference Site:	Cotton Draw Unit	MD Reference:	3431.4' GE + 30' KB @ 3461.40usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	328H (SIMOPS)	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 Cotton Draw Unit - 253H (SIMOPS) - 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		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)						
500.00	500.00	500.00	500.00	0.98	0.98	126.60	-134.05	180.50	224.83	222.87	1.96	114.975		
600.00	600.00	600.00	600.00	1.20	1.20	126.60	-134.05	180.50	224.83	222.42	2.40	93.484		
700.00	700.00	700.00	700.00	1.43	1.43	126.60	-134.05	180.50	224.83	221.97	2.85	78.762		
800.00	800.00	800.00	800.00	1.65	1.65	126.60	-134.05	180.50	224.83	221.52	3.30	68.046		
900.00	900.00	900.00	900.00	1.88	1.88	126.60	-134.05	180.50	224.83	221.08	3.75	59.897		
1,000.00	1,000.00	1,000.00	1,000.00	2.10	2.10	126.60	-134.05	180.50	224.83	220.63	4.20	53.491		
1,100.00	1,100.00	1,100.00	1,100.00	2.33	2.33	126.60	-134.05	180.50	224.83	220.18	4.65	48.323		
1,200.00	1,200.00	1,200.00	1,200.00	2.55	2.55	126.60	-134.05	180.50	224.83	219.73	5.10	44.065		
1,300.00	1,300.00	1,300.00	1,300.00	2.78	2.78	126.60	-134.05	180.50	224.83	219.28	5.55	40.497		
1,400.00	1,400.00	1,400.00	1,400.00	3.00	3.00	126.60	-134.05	180.50	224.83	218.83	6.00	37.464		
1,500.00	1,500.00	1,500.00	1,500.00	3.23	3.23	126.60	-134.05	180.50	224.83	218.38	6.45	34.853		
1,600.00	1,600.00	1,600.00	1,600.00	3.45	3.45	126.60	-134.05	180.50	224.83	217.93	6.90	32.582		
1,700.00	1,700.00	1,700.00	1,700.00	3.67	3.67	126.60	-134.05	180.50	224.83	217.48	7.35	30.590		
1,800.00	1,800.00	1,800.00	1,800.00	3.90	3.90	126.60	-134.05	180.50	224.83	217.03	7.80	28.827		
1,900.00	1,900.00	1,900.00	1,900.00	4.12	4.12	126.60	-134.05	180.50	224.83	216.58	8.25	27.256		
2,000.00	2,000.00	2,000.00	2,000.00	4.35	4.35	126.60	-134.05	180.50	224.83	216.13	8.70	25.847		
2,100.00	2,100.00	2,100.00	2,100.00	4.57	4.57	126.60	-134.05	180.50	224.83	215.68	9.15	24.577		
2,200.00	2,200.00	2,200.00	2,200.00	4.80	4.80	126.60	-134.05	180.50	224.83	215.23	9.60	23.426		
2,300.00	2,300.00	2,300.00	2,300.00	5.02	5.02	126.60	-134.05	180.50	224.83	214.78	10.05	22.378		
2,400.00	2,400.00	2,400.00	2,400.00	5.25	5.25	126.60	-134.05	180.50	224.83	214.33	10.50	21.419		
2,500.00	2,500.00	2,500.00	2,500.00	5.47	5.47	126.60	-134.05	180.50	224.83	213.88	10.95	20.540		
2,600.00	2,600.00	2,600.00	2,600.00	5.70	5.70	126.60	-134.05	180.50	224.83	213.43	11.40	19.729		
2,700.00	2,700.00	2,700.00	2,700.00	5.92	5.92	126.60	-134.05	180.50	224.83	212.98	11.85	18.981		
2,800.00	2,800.00	2,800.00	2,800.00	6.15	6.15	126.60	-134.05	180.50	224.83	212.53	12.29	18.287		
2,900.00	2,900.00	2,900.00	2,900.00	6.37	6.37	126.60	-134.05	180.50	224.83	212.08	12.74	17.642		
3,000.00	3,000.00	3,000.00	3,000.00	6.60	6.60	126.60	-134.05	180.50	224.83	211.64	13.19	17.041		
3,100.00	3,100.00	3,100.00	3,100.00	6.82	6.82	126.60	-134.05	180.50	224.83	211.19	13.64	16.479		
3,200.00	3,200.00	3,200.00	3,200.00	7.05	7.05	126.60	-134.05	180.50	224.83	210.74	14.09	15.953		
3,300.00	3,300.00	3,300.00	3,300.00	7.27	7.27	126.60	-134.05	180.50	224.83	210.29	14.54	15.460		
3,400.00	3,400.00	3,400.00	3,400.00	7.50	7.50	126.60	-134.05	180.50	224.83	209.84	14.99	14.997		
3,500.00	3,500.00	3,500.00	3,500.00	7.72	7.72	126.60	-134.05	180.50	224.83	209.39	15.44	14.560		
3,600.00	3,600.00	3,600.00	3,600.00	7.95	7.95	126.60	-134.05	180.50	224.83	208.94	15.89	14.148		
3,700.00	3,700.00	3,700.00	3,700.00	8.17	8.17	126.60	-134.05	180.50	224.83	208.49	16.34	13.759		
3,800.00	3,800.00	3,800.00	3,800.00	8.40	8.40	126.60	-134.05	180.50	224.83	208.04	16.79	13.391		
3,900.00	3,900.00	3,900.00	3,900.00	8.62	8.62	126.60	-134.05	180.50	224.83	207.59	17.24	13.041		
4,000.00	4,000.00	4,000.00	4,000.00	8.84	8.84	126.60	-134.05	180.50	224.83	207.14	17.69	12.710		
4,100.00	4,100.00	4,100.00	4,100.00	9.07	9.07	126.60	-134.05	180.50	224.83	206.69	18.14	12.395		
4,200.00	4,200.00	4,200.00	4,200.00	9.29	9.29	126.60	-134.05	180.50	224.83	206.24	18.59	12.095		
4,300.00	4,300.00	4,300.00	4,300.00	9.52	9.52	126.60	-134.05	180.50	224.83	205.79	19.04	11.810		
4,400.00	4,400.00	4,396.37	4,396.37	9.72	9.72	18.26	-134.33	181.26	224.81	205.37	19.44	11.565		
4,500.00	4,499.96	4,492.74	4,492.71	9.91	9.90	18.29	-135.17	183.54	224.74	204.94	19.80	11.351		
4,600.00	4,599.86	4,589.12	4,589.00	10.11	10.08	18.33	-136.57	187.34	224.63	204.48	20.16	11.144		
4,700.00	4,699.68	4,685.50	4,685.21	10.30	10.27	18.39	-138.53	192.66	224.48	203.97	20.51	10.943		
4,800.00	4,799.37	4,781.88	4,781.31	10.50	10.46	18.48	-141.05	199.50	224.28	203.42	20.87	10.748		
4,900.00	4,898.90	4,878.26	4,877.28	10.70	10.65	18.57	-144.13	207.85	224.05	202.83	21.22	10.559		
5,000.00	4,998.26	4,974.66	4,973.10	10.91	10.85	18.69	-147.77	217.72	223.77	202.20	21.57	10.374		
5,100.00	5,097.40	5,071.05	5,068.73	11.13	11.06	18.83	-151.96	229.10	223.44	201.52	21.92	10.194		
5,200.00	5,196.30	5,167.46	5,164.15	11.36	11.28	18.98	-156.72	241.99	223.08	200.81	22.27	10.017		
5,300.00	5,294.93	5,264.35	5,259.80	11.59	11.50	19.16	-162.04	256.45	222.66	200.04	22.62	9.843		
5,400.00	5,393.26	5,364.33	5,358.41	11.84	11.74	19.44	-167.76	271.95	221.21	198.23	22.98	9.626		
5,464.05	5,456.05	5,428.34	5,421.54	12.01	11.90	19.71	-171.41	281.88	219.41	196.20	23.21	9.453		
5,500.00	5,491.27	5,464.27	5,456.98	12.11	11.99	19.88	-173.47	287.45	218.22	194.85	23.37	9.339		

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 328H (SIMOPS)
Project:	Lea County, NM (NAD-83)	TVD Reference:	3431.4' GE + 30' KB @ 3461.40usft
Reference Site:	Cotton Draw Unit	MD Reference:	3431.4' GE + 30' KB @ 3461.40usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	328H (SIMOPS)	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 Cotton Draw Unit - 253H (SIMOPS) - 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		Highside Toolface (°)	Distance		Minimum Separation (usft)	Separation Factor	Warning			
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)						
5,600.00	5,589.21	5,564.20	5,555.53	12.38	12.25	20.35	-179.18	302.94	214.91	191.11	23.80	9.031		
5,700.00	5,687.16	5,664.13	5,654.09	12.67	12.51	20.84	-184.89	318.43	211.61	187.37	24.24	8.731		
5,800.00	5,785.10	5,764.06	5,752.64	12.96	12.77	21.34	-190.60	333.93	208.33	183.65	24.68	8.441		
5,900.00	5,883.04	5,863.99	5,851.20	13.26	13.05	21.86	-196.31	349.42	205.07	179.93	25.13	8.159		
6,000.00	5,980.99	5,963.92	5,949.76	13.57	13.32	22.40	-202.02	364.91	201.82	176.23	25.59	7.886		
6,100.00	6,078.93	6,063.85	6,048.31	13.89	13.61	22.95	-207.73	380.41	198.59	172.53	26.06	7.621		
6,200.00	6,176.87	6,163.77	6,146.87	14.21	13.89	23.52	-213.44	395.90	195.38	168.85	26.53	7.364		
6,300.00	6,274.82	6,263.70	6,245.42	14.53	14.19	24.12	-219.15	411.39	192.19	165.18	27.01	7.114		
6,400.00	6,372.76	6,363.63	6,343.98	14.87	14.48	24.73	-224.86	426.89	189.03	161.52	27.50	6.873		
6,500.00	6,470.70	6,463.56	6,442.53	15.21	14.78	25.36	-230.57	442.38	185.88	157.88	28.00	6.639		
6,600.00	6,568.65	6,563.49	6,541.09	15.55	15.08	26.01	-236.28	457.87	182.76	154.25	28.51	6.411		
6,700.00	6,666.59	6,663.42	6,639.64	15.90	15.39	26.69	-241.99	473.37	179.66	150.64	29.02	6.191		
6,800.00	6,764.53	6,763.35	6,738.20	16.25	15.70	27.39	-247.70	488.86	176.59	147.05	29.54	5.978		
6,900.00	6,862.48	6,863.28	6,836.76	16.61	16.01	28.11	-253.41	504.35	173.55	143.47	30.07	5.771		
7,000.00	6,960.42	6,963.21	6,935.31	16.97	16.33	28.86	-259.12	519.85	170.53	139.92	30.61	5.570		
7,100.00	7,058.36	7,063.14	7,033.87	17.33	16.65	29.64	-264.83	535.34	167.55	136.38	31.17	5.376		
7,200.00	7,156.31	7,163.07	7,132.42	17.70	16.97	30.45	-270.54	550.83	164.59	132.86	31.73	5.188		
7,300.00	7,254.25	7,263.00	7,230.98	18.07	17.29	31.28	-276.25	566.33	161.67	129.37	32.30	5.005		
7,400.00	7,352.19	7,362.92	7,329.53	18.44	17.61	32.15	-281.96	581.82	158.79	125.90	32.89	4.828		
7,500.00	7,450.14	7,462.85	7,428.09	18.82	17.94	33.04	-287.67	597.31	155.94	122.46	33.48	4.657		
7,600.00	7,548.08	7,562.78	7,526.64	19.20	18.27	33.97	-293.38	612.81	153.14	119.04	34.10	4.491		
7,700.00	7,646.02	7,662.71	7,625.20	19.58	18.60	34.94	-299.09	628.30	150.37	115.65	34.72	4.331		
7,800.00	7,743.97	7,771.15	7,732.20	19.96	18.95	35.69	-303.82	643.12	146.71	111.34	35.36	4.149		
7,900.00	7,841.91	7,892.74	7,851.21	20.35	19.28	31.34	-289.22	663.83	129.91	94.29	35.61	3.648		
8,000.00	7,939.85	8,000.80	7,952.36	20.74	19.52	17.13	-255.17	679.73	100.82	65.70	35.12	2.871		
8,094.33	8,032.24	8,086.66	8,027.12	21.10	19.67	-10.47	-214.79	691.48	76.82	41.70	35.12	2.187		
8,100.00	8,037.80	8,091.33	8,031.01	21.12	19.68	-9.79	-212.27	692.09	76.13	40.92	35.22	2.162		
8,124.04	8,061.37	8,110.91	8,047.07	21.21	19.71	-6.44	-201.37	694.62	74.83	39.09	35.74	2.094 CC, ES		
8,150.00	8,086.85	8,131.67	8,063.69	21.30	19.74	-2.51	-189.22	697.23	76.31	39.84	36.47	2.093 SF		
8,200.00	8,135.76	8,170.59	8,093.64	21.46	19.81	3.20	-164.82	701.94	86.41	48.55	37.86	2.282		
8,250.00	8,184.15	8,208.32	8,121.04	21.60	19.86	5.38	-139.25	706.25	102.88	64.20	38.68	2.660		
8,300.00	8,231.66	8,245.03	8,146.06	21.74	19.92	5.55	-112.68	710.18	122.56	83.76	38.79	3.159		
8,350.00	8,277.92	8,280.88	8,168.81	21.86	19.98	5.00	-85.22	713.76	143.55	105.21	38.33	3.745		
8,400.00	8,322.58	8,315.99	8,189.41	21.97	20.04	4.30	-56.98	716.99	164.81	127.33	37.48	4.398		
8,450.00	8,365.30	8,350.00	8,207.70	22.07	20.10	3.66	-28.45	719.87	185.77	149.49	36.28	5.120		
8,500.00	8,405.77	8,384.37	8,224.45	22.16	20.17	3.03	1.44	722.50	206.05	171.20	34.84	5.914		
8,550.00	8,443.66	8,417.81	8,239.02	22.24	20.25	2.52	31.44	724.79	225.43	192.23	33.20	6.791		
8,600.00	8,478.69	8,450.00	8,251.39	22.32	20.34	2.11	61.09	726.74	243.75	212.35	31.40	7.762		
8,650.00	8,510.59	8,483.49	8,262.49	22.40	20.43	1.71	92.64	728.48	260.89	231.39	29.50	8.844		
8,700.00	8,539.12	8,515.85	8,271.47	22.48	20.54	1.39	123.69	729.89	276.75	249.21	27.54	10.048		
8,750.00	8,564.07	8,550.00	8,279.06	22.56	20.68	1.07	156.96	731.09	291.28	265.68	25.60	11.378		
8,800.00	8,585.25	8,579.79	8,284.06	22.65	20.81	0.86	186.31	731.87	304.38	280.64	23.74	12.821		
8,850.00	8,602.48	8,611.45	8,287.72	22.76	20.96	0.63	217.75	732.45	316.03	293.96	22.07	14.321		
8,900.00	8,615.65	8,650.00	8,289.86	22.89	21.17	0.37	256.23	732.79	326.31	305.61	20.70	15.761		
8,950.00	8,624.64	8,680.90	8,290.00	23.04	21.36	0.20	287.14	732.81	334.65	314.90	19.74	16.950		
9,000.00	8,629.41	8,730.65	8,290.00	23.22	21.69	0.03	336.88	732.81	339.41	320.04	19.37	17.525		
9,032.22	8,630.21	8,762.86	8,290.00	23.35	21.92	0.00	369.09	732.81	340.21	320.76	19.45	17.495		
9,100.00	8,630.03	8,830.64	8,290.00	23.67	22.46	0.00	436.87	732.81	340.03	320.11	19.93	17.063		
9,200.00	8,629.77	8,930.64	8,290.00	24.28	23.36	0.00	536.87	732.81	339.77	319.07	20.70	16.410		
9,300.00	8,629.51	9,030.64	8,290.00	25.04	24.38	0.00	636.87	732.81	339.51	317.96	21.55	15.752		
9,400.00	8,629.25	9,130.64	8,290.00	25.91	25.49	0.00	736.87	732.81	339.25	316.78	22.47	15.100		
9,500.00	8,628.99	9,230.64	8,290.00	26.90	26.68	0.00	836.87	732.81	338.99	315.55	23.44	14.465		

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 328H (SIMOPS)
Project:	Lea County, NM (NAD-83)	TVD Reference:	3431.4' GE + 30' KB @ 3461.40usft
Reference Site:	Cotton Draw Unit	MD Reference:	3431.4' GE + 30' KB @ 3461.40usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	328H (SIMOPS)	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 Cotton Draw Unit - 253H (SIMOPS) - 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		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)					
9,600.00	8,628.72	9,330.64	8,290.00	27.98	27.94	0.00	936.87	732.81	338.72	314.27	24.45	13.851	
9,700.00	8,628.46	9,430.84	8,290.00	29.13	29.26	0.00	1,036.87	732.81	338.46	312.95	25.52	13.264	
9,800.00	8,628.20	9,530.64	8,290.00	30.36	30.63	0.00	1,136.87	732.81	338.20	311.58	26.62	12.706	
9,900.00	8,627.94	9,630.63	8,290.00	31.65	32.04	0.00	1,236.87	732.81	337.94	310.19	27.75	12.177	
10,000.00	8,627.68	9,730.63	8,290.00	32.99	33.50	0.00	1,336.87	732.81	337.68	308.76	28.92	11.678	
10,100.00	8,627.41	9,830.63	8,290.00	34.38	34.99	0.00	1,436.87	732.81	337.41	307.31	30.11	11.207	
10,200.00	8,627.15	9,930.63	8,290.00	35.80	36.51	0.00	1,536.87	732.81	337.15	305.83	31.32	10.764	
10,300.00	8,626.89	10,030.63	8,290.00	37.27	38.06	0.00	1,636.87	732.81	336.89	304.34	32.56	10.348	
10,400.00	8,626.63	10,130.63	8,290.00	38.76	39.63	0.00	1,736.87	732.81	336.63	302.82	33.81	9.957	
10,500.00	8,626.37	10,230.63	8,290.00	40.28	41.23	0.00	1,836.87	732.81	336.37	301.29	35.08	9.589	
10,600.00	8,626.11	10,330.63	8,290.00	41.82	42.84	0.00	1,936.86	732.81	336.11	299.74	36.36	9.243	
10,700.00	8,625.84	10,430.63	8,290.00	43.39	44.47	0.00	2,036.86	732.81	335.84	298.18	37.66	8.917	
10,800.00	8,625.58	10,530.63	8,290.00	44.98	46.11	0.00	2,136.86	732.81	335.58	296.61	38.97	8.611	
10,900.00	8,625.32	10,630.63	8,290.00	46.58	47.77	0.00	2,236.86	732.81	335.32	295.03	40.29	8.322	
11,000.00	8,625.06	10,730.63	8,290.00	48.20	49.43	0.00	2,336.86	732.81	335.06	293.43	41.62	8.050	
11,100.00	8,624.80	10,830.63	8,290.00	49.84	51.11	0.00	2,436.86	732.81	334.80	291.83	42.96	7.793	
11,200.00	8,624.54	10,930.63	8,290.00	51.48	52.80	0.00	2,536.86	732.81	334.53	290.22	44.31	7.550	
11,300.00	8,624.27	11,030.63	8,290.00	53.14	54.50	0.00	2,636.86	732.81	334.27	288.61	45.67	7.320	
11,400.00	8,624.01	11,130.63	8,290.00	54.81	56.21	0.00	2,736.86	732.81	334.01	286.98	47.03	7.102	
11,500.00	8,623.75	11,230.63	8,290.00	56.49	57.92	0.00	2,836.86	732.81	333.75	285.35	48.40	6.896	
11,600.00	8,623.49	11,330.63	8,290.00	58.18	59.64	0.00	2,936.86	732.81	333.49	283.72	49.77	6.701	
11,700.00	8,623.23	11,430.63	8,290.00	59.88	61.36	0.00	3,036.86	732.81	333.23	282.08	51.15	6.515	
11,800.00	8,622.96	11,530.63	8,290.00	61.58	63.10	0.00	3,136.86	732.81	332.96	280.43	52.53	6.338	
11,900.00	8,622.70	11,630.63	8,290.00	63.29	64.83	0.00	3,236.86	732.81	332.70	278.78	53.92	6.170	
12,000.00	8,622.44	11,730.63	8,290.00	65.01	66.57	0.00	3,336.86	732.81	332.44	277.13	55.31	6.010	
12,100.00	8,622.18	11,830.63	8,290.00	66.73	68.32	0.00	3,436.86	732.81	332.18	275.47	56.71	5.858	
12,200.00	8,621.92	11,930.63	8,290.00	68.46	70.07	0.00	3,536.86	732.81	331.92	273.81	58.11	5.712	
12,300.00	8,621.66	12,030.63	8,290.00	70.19	71.83	0.00	3,636.86	732.81	331.66	272.15	59.51	5.573	
12,400.00	8,621.39	12,130.63	8,290.00	71.93	73.58	0.00	3,736.86	732.81	331.39	270.48	60.91	5.440	
12,500.00	8,621.13	12,230.63	8,290.00	73.67	75.34	0.00	3,836.86	732.81	331.13	268.81	62.32	5.313	
12,600.00	8,620.87	12,330.63	8,290.00	75.42	77.11	0.00	3,936.86	732.81	330.87	267.14	63.73	5.191	
12,700.00	8,620.61	12,430.63	8,290.00	77.17	78.87	0.00	4,036.86	732.81	330.61	265.46	65.15	5.075	
12,800.00	8,620.35	12,530.62	8,290.00	78.92	80.64	0.00	4,136.86	732.81	330.35	263.78	66.56	4.963	
12,900.00	8,620.08	12,630.62	8,290.00	80.68	82.42	0.00	4,236.86	732.81	330.08	262.10	67.98	4.856	
12,932.22	8,620.00	12,662.85	8,290.00	81.24	82.99	0.00	4,269.08	732.81	330.00	261.56	68.44	4.822	



LEAM Drilling Systems LLC
Anticollision Report



Company:	DEVON ENERGY	Local Co-ordinate Reference:	Well 328H (SIMOPS)
Project:	Lea County, NM (NAD-83)	TVD Reference:	3431.4' GE + 30' KB @ 3461.40usft
Reference Site:	Cotton Draw Unit	MD Reference:	3431.4' GE + 30' KB @ 3461.40usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	328H (SIMOPS)	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 Cotton Draw Unit - 263H (SIMOPS) - 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 +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	108.14	-59.06	180.27	189.69				
100.00	100.00	100.00	100.00	0.08	0.08	108.14	-59.06	180.27	189.69	189.54	0.16	1,205.659	
200.00	200.00	200.00	200.00	0.30	0.30	108.14	-59.06	180.27	189.69	189.09	0.61	312.578	
300.00	300.00	300.00	300.00	0.53	0.53	108.14	-59.06	180.27	189.69	188.64	1.06	179.566	
400.00	400.00	400.00	400.00	0.75	0.75	108.14	-59.06	180.27	189.69	188.19	1.51	125.964	
500.00	500.00	500.00	500.00	0.98	0.98	108.14	-59.06	180.27	189.69	187.74	1.96	97.007	
600.00	600.00	600.00	600.00	1.20	1.20	108.14	-59.06	180.27	189.69	187.29	2.40	78.875	
700.00	700.00	700.00	700.00	1.43	1.43	108.14	-59.06	180.27	189.69	186.84	2.85	66.454	
800.00	800.00	800.00	800.00	1.65	1.65	108.14	-59.06	180.27	189.69	186.39	3.30	57.412	
900.00	900.00	900.00	900.00	1.88	1.88	108.14	-59.06	180.27	189.69	185.94	3.75	50.537	
1,000.00	1,000.00	1,000.00	1,000.00	2.10	2.10	108.14	-59.06	180.27	189.69	185.49	4.20	45.132	
1,100.00	1,100.00	1,100.00	1,100.00	2.33	2.33	108.14	-59.06	180.27	189.69	185.04	4.65	40.771	
1,200.00	1,200.00	1,200.00	1,200.00	2.55	2.55	108.14	-59.06	180.27	189.69	184.59	5.10	37.179	
1,300.00	1,300.00	1,300.00	1,300.00	2.78	2.78	108.14	-59.06	180.27	189.69	184.14	5.55	34.169	
1,400.00	1,400.00	1,400.00	1,400.00	3.00	3.00	108.14	-59.06	180.27	189.69	183.69	6.00	31.609	
1,500.00	1,500.00	1,500.00	1,500.00	3.23	3.23	108.14	-59.06	180.27	189.69	183.24	6.45	29.406	
1,600.00	1,600.00	1,600.00	1,600.00	3.45	3.45	108.14	-59.06	180.27	189.69	182.79	6.90	27.491	
1,700.00	1,700.00	1,700.00	1,700.00	3.67	3.67	108.14	-59.06	180.27	189.69	182.34	7.35	25.809	
1,800.00	1,800.00	1,800.00	1,800.00	3.90	3.90	108.14	-59.06	180.27	189.69	181.89	7.80	24.322	
1,900.00	1,900.00	1,900.00	1,900.00	4.12	4.12	108.14	-59.06	180.27	189.69	181.45	8.25	22.996	
2,000.00	2,000.00	2,000.00	2,000.00	4.35	4.35	108.14	-59.06	180.27	189.69	181.00	8.70	21.808	
2,100.00	2,100.00	2,100.00	2,100.00	4.57	4.57	108.14	-59.06	180.27	189.69	180.55	9.15	20.736	
2,200.00	2,200.00	2,200.00	2,200.00	4.80	4.80	108.14	-59.06	180.27	189.69	180.10	9.60	19.765	
2,300.00	2,300.00	2,300.00	2,300.00	5.02	5.02	108.14	-59.06	180.27	189.69	179.65	10.05	18.881	
2,400.00	2,400.00	2,400.00	2,400.00	5.25	5.25	108.14	-59.06	180.27	189.69	179.20	10.50	18.072	
2,500.00	2,500.00	2,500.00	2,500.00	5.47	5.47	108.14	-59.06	180.27	189.69	178.75	10.95	17.330	
2,600.00	2,600.00	2,600.00	2,600.00	5.70	5.70	108.14	-59.06	180.27	189.69	178.30	11.40	16.646	
2,700.00	2,700.00	2,700.00	2,700.00	5.92	5.92	108.14	-59.06	180.27	189.69	177.85	11.85	16.014	
2,800.00	2,800.00	2,800.00	2,800.00	6.15	6.15	108.14	-59.06	180.27	189.69	177.40	12.29	15.429	
2,900.00	2,900.00	2,900.00	2,900.00	6.37	6.37	108.14	-59.06	180.27	189.69	176.95	12.74	14.885	
3,000.00	3,000.00	3,000.00	3,000.00	6.60	6.60	108.14	-59.06	180.27	189.69	176.50	13.19	14.378	
3,100.00	3,100.00	3,100.00	3,100.00	6.82	6.82	108.14	-59.06	180.27	189.69	176.05	13.64	13.904	
3,200.00	3,200.00	3,200.00	3,200.00	7.05	7.05	108.14	-59.06	180.27	189.69	175.60	14.09	13.460	
3,300.00	3,300.00	3,300.00	3,300.00	7.27	7.27	108.14	-59.06	180.27	189.69	175.15	14.54	13.044	
3,400.00	3,400.00	3,400.00	3,400.00	7.50	7.50	108.14	-59.06	180.27	189.69	174.70	14.99	12.653	
3,500.00	3,500.00	3,500.00	3,500.00	7.72	7.72	108.14	-59.06	180.27	189.69	174.25	15.44	12.285	
3,600.00	3,600.00	3,600.00	3,600.00	7.95	7.95	108.14	-59.06	180.27	189.69	173.80	15.89	11.937	
3,700.00	3,700.00	3,700.00	3,700.00	8.17	8.17	108.14	-59.06	180.27	189.69	173.35	16.34	11.609	
3,800.00	3,800.00	3,800.00	3,800.00	8.40	8.40	108.14	-59.06	180.27	189.69	172.90	16.79	11.298	
3,900.00	3,900.00	3,900.00	3,900.00	8.62	8.62	108.14	-59.06	180.27	189.69	172.45	17.24	11.003	
4,000.00	4,000.00	4,000.00	4,000.00	8.84	8.84	108.14	-59.06	180.27	189.69	172.00	17.69	10.724	
4,100.00	4,100.00	4,100.00	4,100.00	9.07	9.07	108.14	-59.06	180.27	189.69	171.56	18.14	10.458	
4,200.00	4,200.00	4,200.00	4,200.00	9.29	9.29	108.14	-59.06	180.27	189.69	171.11	18.59	10.205	
4,300.00	4,300.00	4,300.00	4,300.00	9.52	9.52	108.14	-59.06	180.27	189.69	170.66	19.04	9.964	
4,400.00	4,400.00	4,400.00	4,400.00	9.72	9.74	-0.21	-59.06	180.27	188.82	169.36	19.47	9.700	
4,500.00	4,499.96	4,499.96	4,499.96	9.91	9.97	-0.21	-59.06	180.27	186.20	166.34	19.87	9.372	
4,600.00	4,599.86	4,599.86	4,599.86	10.11	10.19	-0.22	-59.06	180.27	181.84	161.57	20.27	8.972	
4,700.00	4,699.68	4,699.68	4,699.68	10.30	10.42	-0.23	-59.06	180.27	175.74	155.08	20.66	8.506	
4,800.00	4,799.37	4,799.37	4,799.37	10.50	10.64	-0.24	-59.06	180.27	167.89	146.84	21.05	7.976	
4,900.00	4,898.90	4,898.90	4,898.90	10.70	10.86	-0.25	-59.06	180.27	158.31	136.87	21.43	7.386	
5,000.00	4,998.26	4,998.26	4,998.26	10.91	11.09	-0.27	-59.06	180.27	146.99	125.18	21.81	6.739	
5,100.00	5,097.40	5,095.27	5,095.27	11.13	11.28	-0.20	-59.52	180.91	134.71	112.55	22.16	6.080	

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 328H (SIMOPS)
Project:	Lea County, NM (NAD-83)	TVD Reference:	3431.4' GE + 30' KB @ 3461.40usft
Reference Site:	Cotton Draw Unit	MD Reference:	3431.4' GE + 30' KB @ 3461.40usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	328H (SIMOPS)	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 Cotton Draw Unit - 263H (SIMOPS) - 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		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)						
5,200.00	5,196.30	5,192.42	5,192.39	11.36	11.46	0.13	-60.95	182.88	122.30	99.82	22.48	5.441		
5,300.00	5,294.93	5,289.74	5,289.62	11.59	11.64	0.80	-63.35	186.20	109.77	86.98	22.79	4.816		
5,400.00	5,393.26	5,387.23	5,386.94	11.84	11.82	1.93	-66.73	190.86	97.16	74.05	23.11	4.205		
5,464.05	5,456.05	5,449.76	5,449.29	12.01	11.94	3.00	-69.41	194.56	89.05	65.75	23.31	3.821		
5,500.00	5,491.27	5,484.90	5,484.32	12.11	12.00	3.75	-71.09	196.88	84.61	61.17	23.45	3.609		
5,600.00	5,589.21	5,582.89	5,581.89	12.38	12.19	6.47	-76.43	204.26	73.50	49.66	23.84	3.083		
5,700.00	5,687.16	5,681.19	5,679.59	12.67	12.39	10.34	-82.78	213.03	64.30	40.05	24.25	2.651		
5,800.00	5,785.10	5,779.75	5,777.34	12.96	12.59	15.52	-90.13	223.18	57.20	32.52	24.69	2.317		
5,900.00	5,883.04	5,878.50	5,875.06	13.26	12.80	21.94	-98.48	234.71	52.43	27.26	25.17	2.083		
6,000.00	5,980.99	5,977.39	5,972.66	13.57	13.02	29.11	-107.83	247.63	50.13	24.43	25.70	1.951		
6,041.53	6,021.67	6,018.49	6,013.13	13.70	13.11	32.11	-112.01	253.40	49.92	23.98	25.94	1.925	CC, ES	
6,100.00	6,078.93	6,076.46	6,070.14	13.89	13.25	36.19	-118.18	261.92	50.32	24.04	26.28	1.915	SF	
6,200.00	6,176.87	6,176.27	6,168.24	14.21	13.49	42.84	-128.98	276.85	51.87	24.97	26.90	1.928		
6,300.00	6,274.82	6,276.09	6,266.34	14.53	13.74	49.04	-139.79	291.77	54.08	26.53	27.55	1.963		
6,400.00	6,372.76	6,375.90	6,364.43	14.87	14.00	54.69	-150.60	306.70	56.87	28.64	28.22	2.015		
6,500.00	6,470.70	6,475.71	6,462.53	15.21	14.26	59.77	-161.40	321.63	60.15	31.25	28.91	2.081		
6,600.00	6,568.65	6,575.52	6,560.62	15.55	14.54	64.29	-172.21	336.55	63.86	34.26	29.60	2.158		
6,700.00	6,666.59	6,675.33	6,658.72	15.90	14.81	68.29	-183.01	351.48	67.93	37.63	30.30	2.242		
6,800.00	6,764.53	6,775.14	6,756.81	16.25	15.10	71.83	-193.82	366.40	72.28	41.29	30.99	2.332		
6,900.00	6,862.48	6,874.95	6,854.91	16.61	15.39	74.96	-204.63	381.33	76.89	45.19	31.69	2.426		
7,000.00	6,960.42	6,974.76	6,953.00	16.97	15.68	77.73	-215.43	396.26	81.69	49.30	32.39	2.522		
7,100.00	7,058.36	7,074.58	7,051.10	17.33	15.98	80.18	-226.24	411.18	86.66	53.57	33.10	2.619		
7,200.00	7,156.31	7,174.39	7,149.20	17.70	16.29	82.37	-237.04	426.11	91.78	57.98	33.80	2.715		
7,300.00	7,254.25	7,274.20	7,247.29	18.07	16.60	84.32	-247.85	441.03	97.01	62.51	34.50	2.812		
7,400.00	7,352.19	7,374.01	7,345.39	18.44	16.91	86.07	-258.66	455.96	102.35	67.13	35.21	2.907		
7,500.00	7,450.14	7,473.82	7,443.48	18.82	17.23	87.65	-269.46	470.88	107.77	71.85	35.92	3.000		
7,600.00	7,548.08	7,573.63	7,541.58	19.20	17.55	89.07	-280.27	485.81	113.26	76.63	36.63	3.092		
7,700.00	7,646.02	7,673.44	7,639.67	19.58	17.87	90.36	-291.07	500.74	118.82	81.47	37.35	3.182		
7,800.00	7,743.97	7,773.25	7,737.77	19.96	18.20	91.54	-301.88	515.66	124.43	86.37	38.06	3.269		
7,900.00	7,841.91	7,873.07	7,835.86	20.35	18.53	92.61	-312.69	530.59	130.09	91.31	38.78	3.354		
8,000.00	7,939.85	7,972.88	7,933.96	20.74	18.87	93.60	-323.49	545.51	135.79	96.28	39.51	3.437		
8,094.33	8,032.24	8,067.03	8,026.49	21.10	19.19	94.45	-333.69	559.59	141.20	101.01	40.19	3.513		
8,100.00	8,037.80	8,072.69	8,032.05	21.12	19.21	97.17	-334.30	560.44	141.56	101.33	40.23	3.519		
8,150.00	8,086.85	8,122.39	8,080.90	21.30	19.38	122.48	-339.68	567.87	146.90	106.51	40.39	3.637		
8,200.00	8,135.76	8,171.47	8,129.13	21.46	19.54	144.14	-344.99	575.21	156.22	115.91	40.31	3.875		
8,250.00	8,184.15	8,219.56	8,176.40	21.60	19.71	158.47	-350.20	582.40	169.51	129.51	40.00	4.238		
8,300.00	8,231.66	8,266.29	8,222.33	21.74	19.87	167.22	-355.26	589.39	186.74	147.30	39.44	4.735		
8,350.00	8,277.92	8,311.31	8,266.57	21.86	20.03	172.65	-360.13	596.12	207.83	169.19	38.64	5.379		
8,400.00	8,322.58	8,354.27	8,308.80	21.97	20.17	176.18	-364.78	602.55	232.71	195.10	37.61	6.188		
8,450.00	8,365.30	8,394.86	8,348.69	22.07	20.32	178.64	-369.18	608.62	261.21	224.86	36.36	7.185		
8,500.00	8,405.77	8,432.75	8,385.93	22.16	20.45	-179.48	-373.28	614.28	293.16	258.24	34.91	8.397		
8,550.00	8,443.66	8,467.66	8,420.24	22.24	20.57	-177.89	-377.06	619.50	328.31	295.00	33.31	9.856		
8,600.00	8,478.69	8,499.33	8,451.36	22.32	20.68	-176.35	-380.49	624.24	366.41	334.82	31.59	11.599		
8,650.00	8,510.59	8,527.51	8,479.06	22.40	20.78	-174.67	-383.54	628.45	407.16	377.34	29.82	13.654		
8,700.00	8,539.12	8,551.99	8,503.12	22.48	20.87	-172.62	-386.19	632.11	450.26	422.15	28.10	16.022		
8,750.00	8,564.07	8,572.58	8,523.36	22.56	20.94	-169.83	-388.42	635.19	495.36	468.75	26.61	18.615		
8,800.00	8,585.25	8,589.13	8,539.62	22.65	21.00	-165.65	-390.21	637.67	542.12	516.43	25.68	21.108		
8,850.00	8,602.48	8,601.51	8,551.79	22.76	21.04	-158.60	-391.55	639.52	590.17	564.08	26.09	22.622		
8,900.00	8,615.65	8,609.63	8,559.77	22.89	21.07	-144.85	-392.43	640.73	639.15	609.55	29.61	21.589		
8,950.00	8,624.64	8,613.42	8,563.49	23.04	21.08	-115.05	-392.84	641.30	688.68	651.08	37.60	18.316		
9,000.00	8,629.41	8,612.86	8,562.94	23.22	21.08	-71.48	-392.78	641.22	738.37	701.05	37.31	19.789		
9,032.22	8,630.21	8,610.19	8,560.31	23.35	21.07	-51.99	-392.49	640.82	770.30	738.25	32.04	24.039		

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: Cotton Draw Unit
Site Error: 0.00 usft
Reference Well: 328H (SIMOPS)
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Plan #1

Local Co-ordinate Reference: Well 328H (SIMOPS)
TVD Reference: 3431.4' GE + 30' KB @ 3461.40usft
MD Reference: 3431.4' GE + 30' KB @ 3461.40usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at: 2.00 sigma
Database: EDM 5000.1 Single User Db
Offset TVD Reference: Offset Datum

Offset Design Cotton Draw Unit - 263H (SIMOPS) - 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		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)			
9,100.00	8,630.03	8,602.67	8,552.93	23.67	21.04	-49.59	-391.68	639.69	837.32	805.79	31.53	26.553	
9,200.00	8,629.77	8,591.59	8,542.04	24.28	21.00	-46.43	-390.48	638.04	936.30	905.36	30.93	30.269	
9,300.00	8,629.51	8,580.51	8,531.14	25.04	20.97	-43.66	-389.28	636.38	1,035.35	1,004.84	30.51	33.939	
9,400.00	8,629.25	8,569.42	8,520.25	25.91	20.93	-41.23	-388.08	634.72	1,134.46	1,104.23	30.24	37.521	
9,500.00	8,628.99	8,558.34	8,509.36	26.90	20.89	-39.08	-386.88	633.06	1,233.62	1,203.52	30.10	40.984	
9,600.00	8,628.72	8,547.25	8,498.46	27.98	20.85	-37.17	-385.68	631.41	1,332.81	1,302.73	30.08	44.306	
9,700.00	8,628.46	8,536.17	8,487.57	29.13	20.81	-35.48	-384.48	629.75	1,432.02	1,401.86	30.16	47.478	
9,800.00	8,628.20	8,525.09	8,476.68	30.36	20.77	-33.96	-383.28	628.09	1,531.26	1,500.94	30.33	50.493	
9,900.00	8,627.94	8,514.00	8,465.78	31.65	20.73	-32.59	-382.08	626.43	1,630.52	1,599.96	30.56	53.352	
10,000.00	8,627.68	8,502.92	8,454.89	32.99	20.69	-31.36	-380.88	624.78	1,729.79	1,698.93	30.86	56.059	
10,100.00	8,627.41	8,491.84	8,444.00	34.38	20.65	-30.24	-379.68	623.12	1,829.07	1,797.87	31.20	58.617	
10,200.00	8,627.15	12,258.88	10,485.92	35.80	38.27	-180.00	1,517.22	732.78	1,858.87	1,823.26	35.61	52.204	
10,300.00	8,626.89	12,358.87	10,486.98	37.27	39.72	-180.00	1,617.21	732.78	1,860.19	1,823.43	36.76	50.610	
10,400.00	8,626.63	12,458.86	10,488.03	38.76	41.20	-180.00	1,717.19	732.79	1,861.51	1,823.58	37.92	49.085	
10,500.00	8,626.37	12,558.85	10,489.09	40.28	42.71	-180.00	1,817.18	732.79	1,862.83	1,823.71	39.11	47.627	
10,600.00	8,626.11	12,658.84	10,490.15	41.82	44.24	-180.00	1,917.17	732.79	1,864.14	1,823.82	40.32	46.234	
10,700.00	8,625.84	12,758.84	10,491.20	43.39	45.79	-180.00	2,017.15	732.79	1,865.46	1,823.92	41.54	44.904	
10,800.00	8,625.58	12,858.83	10,492.26	44.98	47.36	-180.00	2,117.14	732.79	1,866.78	1,824.00	42.78	43.635	
10,900.00	8,625.32	12,958.82	10,493.32	46.58	48.95	-180.00	2,217.12	732.79	1,868.10	1,824.07	44.03	42.424	
11,000.00	8,625.06	13,058.81	10,494.37	48.20	50.55	-180.00	2,317.11	732.79	1,869.42	1,824.12	45.30	41.269	
11,100.00	8,624.80	13,158.80	10,495.43	49.84	52.17	-180.00	2,417.09	732.79	1,870.74	1,824.16	46.57	40.166	
11,200.00	8,624.54	13,258.79	10,496.49	51.48	53.80	-180.00	2,517.08	732.79	1,872.06	1,824.19	47.86	39.114	
11,300.00	8,624.27	13,358.78	10,497.54	53.14	55.44	-180.00	2,617.07	732.79	1,873.37	1,824.21	49.16	38.109	
11,400.00	8,624.01	13,458.77	10,498.60	54.81	57.10	-180.00	2,717.05	732.79	1,874.69	1,824.23	50.47	37.148	
11,500.00	8,623.75	13,558.77	10,499.66	56.49	58.76	-180.00	2,817.04	732.79	1,876.01	1,824.23	51.78	36.231	
11,600.00	8,623.49	13,658.76	10,500.71	58.18	60.44	-180.00	2,917.02	732.80	1,877.33	1,824.23	53.10	35.353	
11,700.00	8,623.23	13,758.75	10,501.77	59.88	62.12	-180.00	3,017.01	732.80	1,878.65	1,824.22	54.43	34.514	
11,800.00	8,622.96	13,858.74	10,502.83	61.58	63.81	-180.00	3,117.00	732.80	1,879.97	1,824.20	55.77	33.710	
11,900.00	8,622.70	13,958.73	10,503.88	63.29	65.51	-180.00	3,216.98	732.80	1,881.28	1,824.17	57.11	32.941	
12,000.00	8,622.44	14,058.72	10,504.94	65.01	67.21	-180.00	3,316.97	732.80	1,882.60	1,824.14	58.46	32.204	
12,100.00	8,622.18	14,158.71	10,506.00	66.73	68.92	-180.00	3,416.95	732.80	1,883.92	1,824.11	59.81	31.497	
12,200.00	8,621.92	14,258.70	10,507.05	68.46	70.64	-180.00	3,516.94	732.80	1,885.24	1,824.07	61.17	30.818	
12,300.00	8,621.66	14,358.70	10,508.11	70.19	72.36	-180.00	3,616.92	732.80	1,886.56	1,824.02	62.54	30.167	
12,400.00	8,621.39	14,458.69	10,509.17	71.93	74.09	-180.00	3,716.91	732.80	1,887.88	1,823.97	63.91	29.542	
12,500.00	8,621.13	14,558.68	10,510.22	73.67	75.82	-180.00	3,816.90	732.80	1,889.20	1,823.92	65.28	28.941	
12,600.00	8,620.87	14,658.67	10,511.28	75.42	77.56	-180.00	3,916.88	732.80	1,890.51	1,823.86	66.65	28.363	
12,700.00	8,620.61	14,758.66	10,512.33	77.17	79.30	-180.00	4,016.87	732.81	1,891.83	1,823.80	68.03	27.807	
12,800.00	8,620.35	14,858.65	10,513.39	78.92	81.04	-180.00	4,116.85	732.81	1,893.15	1,823.73	69.42	27.272	
12,900.00	8,620.08	14,958.64	10,514.45	80.68	82.79	-180.00	4,216.84	732.81	1,894.47	1,823.66	70.81	26.756	
12,932.22	8,620.00	14,990.86	10,514.79	81.24	83.35	-180.00	4,249.06	732.81	1,894.89	1,823.64	71.25	26.594	

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 328H (SIMOPS)
Project:	Lea County, NM (NAD-83)	TVD Reference:	3431.4' GE + 30' KB @ 3461.40usft
Reference Site:	Cotton Draw Unit	MD Reference:	3431.4' GE + 30' KB @ 3461.40usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	328H (SIMOPS)	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 Cotton Draw Unit - 286H (SIMOPS) - 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								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	114.99	-84.06	180.35	198.97				
100.00	100.00	100.00	100.00	0.08	0.08	114.99	-84.06	180.35	198.97	198.82	0.16	1,264.640	
200.00	200.00	200.00	200.00	0.30	0.30	114.99	-84.06	180.35	198.97	198.37	0.61	327.870	
300.00	300.00	300.00	300.00	0.53	0.53	114.99	-84.06	180.35	198.97	197.92	1.06	188.351	
400.00	400.00	400.00	400.00	0.75	0.75	114.99	-84.06	180.35	198.97	197.47	1.51	132.127	
500.00	500.00	500.00	500.00	0.98	0.98	114.99	-84.06	180.35	198.97	197.02	1.96	101.753	
600.00	600.00	600.00	600.00	1.20	1.20	114.99	-84.06	180.35	198.97	196.57	2.40	82.734	
700.00	700.00	700.00	700.00	1.43	1.43	114.99	-84.06	180.35	198.97	196.12	2.85	69.705	
800.00	800.00	800.00	800.00	1.65	1.65	114.99	-84.06	180.35	198.97	195.67	3.30	60.221	
900.00	900.00	900.00	900.00	1.88	1.88	114.99	-84.06	180.35	198.97	195.22	3.75	53.009	
1,000.00	1,000.00	1,000.00	1,000.00	2.10	2.10	114.99	-84.06	180.35	198.97	194.77	4.20	47.340	
1,100.00	1,100.00	1,100.00	1,100.00	2.33	2.33	114.99	-84.06	180.35	198.97	194.32	4.65	42.766	
1,200.00	1,200.00	1,200.00	1,200.00	2.55	2.55	114.99	-84.06	180.35	198.97	193.87	5.10	38.998	
1,300.00	1,300.00	1,300.00	1,300.00	2.78	2.78	114.99	-84.06	180.35	198.97	193.42	5.55	35.840	
1,400.00	1,400.00	1,400.00	1,400.00	3.00	3.00	114.99	-84.06	180.35	198.97	192.97	6.00	33.155	
1,500.00	1,500.00	1,500.00	1,500.00	3.23	3.23	114.99	-84.06	180.35	198.97	192.52	6.45	30.845	
1,600.00	1,600.00	1,600.00	1,600.00	3.45	3.45	114.99	-84.06	180.35	198.97	192.07	6.90	28.835	
1,700.00	1,700.00	1,700.00	1,700.00	3.67	3.67	114.99	-84.06	180.35	198.97	191.62	7.35	27.072	
1,800.00	1,800.00	1,800.00	1,800.00	3.90	3.90	114.99	-84.06	180.35	198.97	191.17	7.80	25.512	
1,900.00	1,900.00	1,900.00	1,900.00	4.12	4.12	114.99	-84.06	180.35	198.97	190.73	8.25	24.121	
2,000.00	2,000.00	2,000.00	2,000.00	4.35	4.35	114.99	-84.06	180.35	198.97	190.28	8.70	22.875	
2,100.00	2,100.00	2,100.00	2,100.00	4.57	4.57	114.99	-84.06	180.35	198.97	189.83	9.15	21.751	
2,200.00	2,200.00	2,200.00	2,200.00	4.80	4.80	114.99	-84.06	180.35	198.97	189.38	9.60	20.732	
2,300.00	2,300.00	2,300.00	2,300.00	5.02	5.02	114.99	-84.06	180.35	198.97	188.93	10.05	19.804	
2,400.00	2,400.00	2,400.00	2,400.00	5.25	5.25	114.99	-84.06	180.35	198.97	188.48	10.50	18.956	
2,500.00	2,500.00	2,500.00	2,500.00	5.47	5.47	114.99	-84.06	180.35	198.97	188.03	10.95	18.178	
2,600.00	2,600.00	2,600.00	2,600.00	5.70	5.70	114.99	-84.06	180.35	198.97	187.58	11.40	17.461	
2,700.00	2,700.00	2,700.00	2,700.00	5.92	5.92	114.99	-84.06	180.35	198.97	187.13	11.85	16.798	
2,800.00	2,800.00	2,800.00	2,800.00	6.15	6.15	114.99	-84.06	180.35	198.97	186.68	12.29	16.184	
2,900.00	2,900.00	2,900.00	2,900.00	6.37	6.37	114.99	-84.06	180.35	198.97	186.23	12.74	15.613	
3,000.00	3,000.00	3,000.00	3,000.00	6.60	6.60	114.99	-84.06	180.35	198.97	185.78	13.19	15.081	
3,100.00	3,100.00	3,100.00	3,100.00	6.82	6.82	114.99	-84.06	180.35	198.97	185.33	13.64	14.584	
3,200.00	3,200.00	3,200.00	3,200.00	7.05	7.05	114.99	-84.06	180.35	198.97	184.88	14.09	14.119	
3,300.00	3,300.00	3,300.00	3,300.00	7.27	7.27	114.99	-84.06	180.35	198.97	184.43	14.54	13.682	
3,400.00	3,400.00	3,400.00	3,400.00	7.50	7.50	114.99	-84.06	180.35	198.97	183.98	14.99	13.272	
3,500.00	3,500.00	3,500.00	3,500.00	7.72	7.72	114.99	-84.06	180.35	198.97	183.53	15.44	12.886	
3,600.00	3,600.00	3,600.00	3,600.00	7.95	7.95	114.99	-84.06	180.35	198.97	183.08	15.89	12.521	
3,700.00	3,700.00	3,700.00	3,700.00	8.17	8.17	114.99	-84.06	180.35	198.97	182.63	16.34	12.177	
3,800.00	3,800.00	3,800.00	3,800.00	8.40	8.40	114.99	-84.06	180.35	198.97	182.18	16.79	11.851	
3,900.00	3,900.00	3,900.00	3,900.00	8.62	8.62	114.99	-84.06	180.35	198.97	181.73	17.24	11.542	
4,000.00	4,000.00	4,000.00	4,000.00	8.84	8.84	114.99	-84.06	180.35	198.97	181.28	17.69	11.248	
4,100.00	4,100.00	4,100.00	4,100.00	9.07	9.07	114.99	-84.06	180.35	198.97	180.84	18.14	10.970	
4,200.00	4,200.00	4,200.00	4,200.00	9.29	9.29	114.99	-84.06	180.35	198.97	180.39	18.59	10.704	
4,300.00	4,300.00	4,300.00	4,300.00	9.52	9.52	114.99	-84.06	180.35	198.97	179.94	19.04	10.452	
4,400.00	4,400.00	4,399.45	4,399.44	9.72	9.71	6.92	-84.89	180.11	198.24	178.81	19.44	10.200	
4,500.00	4,499.96	4,498.81	4,498.77	9.91	9.88	7.76	-87.37	179.39	196.09	176.30	19.78	9.913	
4,600.00	4,599.86	4,598.00	4,597.86	10.11	10.05	9.20	-91.51	178.21	192.58	172.46	20.13	9.569	
4,700.00	4,699.68	4,696.93	4,696.61	10.30	10.22	11.29	-97.27	176.55	187.89	167.42	20.47	9.180	
4,800.00	4,799.37	4,795.52	4,794.90	10.50	10.40	14.13	-104.64	174.43	182.25	161.44	20.81	8.758	
4,900.00	4,898.90	4,894.67	4,893.67	10.70	10.58	17.61	-112.95	172.05	175.75	154.59	21.16	8.306	
5,000.00	4,998.26	4,993.69	4,992.31	10.91	10.76	21.56	-121.24	169.66	168.31	146.80	21.51	7.825	
5,100.00	5,097.40	5,092.50	5,090.75	11.13	10.94	26.12	-129.52	167.29	160.19	138.31	21.87	7.324	

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



LEAM Drilling Systems LLC
Anticollision Report



Company:	DEVON ENERGY	Local Co-ordinate Reference:	Well 328H (SIMOPS)
Project:	Lea County, NM (NAD-83)	TVD Reference:	3431.4' GE + 30' KB @ 3461.40usft
Reference Site:	Cotton Draw Unit	MD Reference:	3431.4' GE + 30' KB @ 3461.40usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	328H (SIMOPS)	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 Cotton Draw Unit - 286H (SIMOPS) - 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		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)				
5,200.00	5,196.30	5,191.07	5,188.95	11.36	11.13	31.45	-137.78	164.91	151.68	129.43	22.25	6.818		
5,300.00	5,294.93	5,289.38	5,286.89	11.59	11.32	37.75	-146.02	162.55	143.26	120.61	22.65	6.325		
5,400.00	5,393.26	5,387.40	5,384.53	11.84	11.52	45.21	-154.23	160.19	135.54	112.46	23.08	5.871		
5,464.05	5,456.05	5,450.00	5,446.89	12.01	11.64	50.66	-159.47	158.68	131.35	107.96	23.39	5.616		
5,500.00	5,491.27	5,485.11	5,481.87	12.11	11.72	53.90	-162.42	157.84	129.44	105.86	23.58	5.490		
5,600.00	5,589.21	5,582.75	5,579.14	12.38	11.92	63.27	-170.80	155.49	126.50	102.39	24.11	5.247		
5,630.76	5,619.34	5,612.78	5,609.05	12.47	11.98	66.21	-173.11	154.76	126.32	102.05	24.28	5.204 CC, ES		
5,700.00	5,687.16	5,680.39	5,676.41	12.67	12.12	72.80	-178.78	153.14	127.21	102.56	24.64	5.162 SF		
5,800.00	5,785.10	5,778.03	5,773.68	12.96	12.32	81.98	-186.96	150.79	131.50	106.34	25.17	5.225		
5,900.00	5,883.04	5,875.68	5,870.95	13.26	12.53	90.40	-195.14	148.44	139.06	113.39	25.67	5.418		
6,000.00	5,980.99	5,973.32	5,968.22	13.57	12.74	97.85	-203.32	146.09	149.37	123.23	26.14	5.714		
6,100.00	6,078.93	6,070.96	6,065.49	13.89	12.95	104.27	-211.50	143.74	161.93	135.32	26.60	6.087		
6,200.00	6,176.87	6,168.60	6,162.76	14.21	13.17	109.73	-219.68	141.39	176.24	149.19	27.06	6.514		
6,300.00	6,274.82	6,266.24	6,260.03	14.53	13.39	114.36	-227.86	139.04	191.92	164.42	27.50	6.978		
6,400.00	6,372.76	6,363.88	6,357.30	14.87	13.60	118.29	-236.04	136.69	208.66	180.71	27.95	7.465		
6,500.00	6,470.70	6,461.53	6,454.57	15.21	13.83	121.62	-244.22	134.34	226.22	197.82	28.40	7.966		
6,600.00	6,568.65	6,559.17	6,551.84	15.55	14.05	124.48	-252.40	131.99	244.43	215.57	28.85	8.472		
6,700.00	6,666.59	6,656.81	6,649.11	15.90	14.27	126.94	-260.59	129.64	263.14	233.84	29.31	8.978		
6,800.00	6,764.53	6,754.45	6,746.38	16.25	14.50	129.07	-268.77	127.28	282.27	252.50	29.77	9.481		
6,900.00	6,862.48	6,852.09	6,843.65	16.61	14.72	130.93	-276.95	124.93	301.74	271.50	30.24	9.979		
7,000.00	6,960.42	6,949.73	6,940.92	16.97	14.95	132.57	-285.13	122.58	321.47	290.76	30.71	10.469		
7,100.00	7,058.36	7,047.38	7,038.19	17.33	15.18	134.02	-293.31	120.23	341.43	310.25	31.18	10.950		
7,200.00	7,156.31	7,145.02	7,135.46	17.70	15.41	135.31	-301.49	117.88	361.57	329.91	31.66	11.421		
7,300.00	7,254.25	7,242.66	7,232.73	18.07	15.65	136.46	-309.67	115.53	381.88	349.73	32.14	11.881		
7,400.00	7,352.19	7,340.30	7,330.00	18.44	15.88	137.49	-317.85	113.18	402.31	369.69	32.63	12.331		
7,500.00	7,450.14	7,437.94	7,427.27	18.82	16.12	138.43	-326.03	110.83	422.86	389.75	33.11	12.770		
7,600.00	7,548.08	7,535.59	7,524.54	19.20	16.35	139.28	-334.21	108.48	443.51	409.91	33.61	13.198		
7,700.00	7,646.02	7,633.23	7,621.81	19.58	16.59	140.06	-342.39	106.13	464.25	430.15	34.10	13.615		
7,800.00	7,743.97	7,730.87	7,719.08	19.96	16.83	140.76	-350.57	103.78	485.06	450.46	34.60	14.021		
7,900.00	7,841.91	7,828.51	7,816.35	20.35	17.07	141.41	-358.75	101.43	505.94	470.84	35.10	14.416		
8,000.00	7,939.85	7,926.15	7,913.62	20.74	17.31	142.01	-366.94	99.08	526.87	491.27	35.60	14.801		
8,094.33	8,032.24	8,018.26	8,005.37	21.10	17.53	142.53	-374.65	96.87	546.66	510.59	36.07	15.154		
8,100.00	8,030.80	8,023.79	8,010.89	21.12	17.55	145.33	-375.12	96.73	547.86	511.78	36.08	15.184		
8,150.00	8,086.85	8,072.47	8,059.38	21.30	17.67	171.52	-379.19	95.56	559.22	523.07	36.15	15.471		
8,200.00	8,135.76	8,120.64	8,107.36	21.46	17.79	165.76	-383.23	94.40	571.92	535.73	36.19	15.805		
8,250.00	8,184.15	8,167.93	8,154.48	21.60	17.90	150.27	-387.19	93.26	585.94	549.75	36.20	16.187		
8,300.00	8,231.66	8,213.99	8,200.36	21.74	18.02	140.35	-391.05	92.16	601.35	565.17	36.18	16.619		
8,350.00	8,277.92	8,258.47	8,244.67	21.86	18.13	133.82	-394.78	91.09	618.25	582.10	36.14	17.105		
8,400.00	8,322.58	8,301.02	8,287.06	21.97	18.24	129.30	-398.34	90.06	636.75	600.66	36.08	17.647		
8,450.00	8,365.30	8,341.32	8,327.20	22.07	18.34	125.95	-401.72	89.09	656.99	620.97	36.01	18.244		
8,500.00	8,405.77	8,379.07	8,364.81	22.16	18.43	123.26	-404.88	88.18	679.09	643.14	35.95	18.890		
8,550.00	8,443.66	8,413.98	8,399.58	22.24	18.52	120.88	-407.81	87.34	703.16	667.23	35.92	19.575		
8,600.00	8,478.69	8,445.78	8,431.26	22.32	18.60	118.57	-410.47	86.58	729.24	693.28	35.96	20.277		
8,650.00	8,510.59	8,474.23	8,459.61	22.40	18.67	116.14	-412.86	85.89	757.36	721.25	36.11	20.974		
8,700.00	8,539.12	8,499.11	8,484.40	22.48	18.73	113.44	-414.94	85.29	787.46	751.08	36.39	21.642		
8,750.00	8,564.07	8,520.51	8,505.72	22.56	18.79	110.35	-416.73	84.78	819.45	782.65	36.80	22.267		
8,800.00	8,585.25	8,538.90	8,524.04	22.65	18.83	106.82	-418.25	84.34	853.14	815.81	37.33	22.853		
8,850.00	8,602.48	8,553.11	8,538.20	22.76	18.86	102.72	-419.41	84.01	888.34	850.41	37.93	23.422		
8,900.00	8,615.65	8,562.99	8,548.04	22.89	18.89	97.99	-420.20	83.78	924.80	886.31	38.49	24.027		
8,950.00	8,624.64	8,568.40	8,553.43	23.04	18.90	92.68	-420.63	83.66	962.25	923.37	38.88	24.746		
9,000.00	8,629.41	8,569.24	8,554.27	23.22	18.90	86.89	-420.70	83.64	1,000.38	961.41	38.97	25.669		
9,032.22	8,630.21	8,567.33	8,552.36	23.35	18.90	82.98	-420.54	83.68	1,025.16	986.34	38.82	26.409		

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LEAM Drilling Systems LLC
Anticollision Report



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Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design Cotton Draw Unit - 286H (SIMOPS) - 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		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)					
9,100.00	8,630.03	8,561.23	8,546.28	23.67	18.88	-82.45	-420.06	83.82	1,078.20	1,039.00	27.506		
9,200.00	8,629.77	8,552.09	8,537.17	24.28	18.86	-81.66	-419.32	84.03	1,159.22	1,119.37	29.089		
9,300.00	8,629.51	8,542.78	8,527.90	25.04	18.84	-80.86	-418.57	84.25	1,242.94	1,202.33	30.604		
9,400.00	8,629.25	8,533.29	8,518.45	25.91	18.82	-80.04	-417.79	84.47	1,328.85	1,287.38	32.042		
9,500.00	8,628.99	8,523.63	8,508.82	26.90	18.79	-79.22	-416.99	84.70	1,416.56	1,374.15	33.401		
9,600.00	8,628.72	8,514.05	8,499.27	27.98	18.77	-78.40	-416.19	84.93	1,505.74	1,462.32	34.677		
9,700.00	8,628.46	8,505.41	8,490.67	29.13	18.75	-77.67	-415.47	85.14	1,596.16	1,551.66	35.863		
9,800.00	8,628.20	8,496.77	8,482.06	30.36	18.73	-76.94	-414.74	85.35	1,687.62	1,641.97	36.974		
9,900.00	8,627.94	8,488.13	8,473.45	31.65	18.70	-76.21	-414.02	85.56	1,779.95	1,733.13	38.015		
10,000.00	8,627.68	8,479.49	8,464.85	32.99	18.68	-75.49	-413.30	85.77	1,873.03	1,825.00	38.992		
10,100.00	8,627.41	12,132.01	10,456.85	34.38	36.63	-160.16	1,442.60	72.83	1,944.85	1,903.87	47.468		
10,200.00	8,627.15	12,232.01	10,456.53	35.80	38.10	-160.16	1,542.60	72.83	1,944.80	1,902.38	45.846		
10,300.00	8,626.89	12,332.01	10,456.22	37.27	39.60	-160.16	1,642.60	72.83	1,944.75	1,900.85	44.299		
10,400.00	8,626.63	12,432.01	10,455.91	38.76	41.13	-160.16	1,742.60	72.83	1,944.70	1,899.29	42.828		
10,500.00	8,626.37	12,532.01	10,455.59	40.28	42.68	-160.16	1,842.60	72.83	1,944.65	1,897.71	41.429		
10,600.00	8,626.11	12,632.01	10,455.28	41.82	44.25	-160.16	1,942.59	72.83	1,944.60	1,896.11	40.100		
10,700.00	8,625.84	12,732.01	10,454.97	43.39	45.84	-160.16	2,042.59	72.83	1,944.56	1,894.49	38.838		
10,800.00	8,625.58	12,832.01	10,454.65	44.98	47.45	-160.16	2,142.59	72.83	1,944.51	1,892.84	37.639		
10,900.00	8,625.32	12,932.01	10,454.34	46.58	49.07	-160.16	2,242.59	72.83	1,944.46	1,891.19	36.501		
11,000.00	8,625.06	13,032.01	10,454.03	48.20	50.71	-160.16	2,342.59	72.83	1,944.41	1,889.51	35.419		
11,100.00	8,624.80	13,132.01	10,453.71	49.84	52.36	-160.16	2,442.59	72.83	1,944.36	1,887.82	34.391		
11,200.00	8,624.54	13,232.01	10,453.40	51.48	54.02	-160.16	2,542.59	72.83	1,944.31	1,886.12	33.413		
11,300.00	8,624.27	13,332.01	10,453.09	53.14	55.69	-160.16	2,642.59	72.83	1,944.26	1,884.41	32.483		
11,400.00	8,624.01	13,432.01	10,452.77	54.81	57.37	-160.16	2,742.59	72.83	1,944.22	1,882.69	31.597		
11,500.00	8,623.75	13,532.01	10,452.46	56.49	59.06	-160.16	2,842.59	72.83	1,944.17	1,880.95	30.754		
11,600.00	8,623.49	13,632.01	10,452.15	58.18	60.76	-160.16	2,942.59	72.82	1,944.12	1,879.21	29.950		
11,700.00	8,623.23	13,732.01	10,451.83	59.88	62.46	-160.15	3,042.59	72.82	1,944.07	1,877.46	29.183		
11,800.00	8,622.96	13,832.01	10,451.52	61.58	64.17	-160.15	3,142.59	72.82	1,944.02	1,875.70	28.451		
11,900.00	8,622.70	13,932.01	10,451.21	63.29	65.89	-160.15	3,242.59	72.82	1,943.97	1,873.93	27.753		
12,000.00	8,622.44	14,032.01	10,450.89	65.01	67.61	-160.15	3,342.59	72.82	1,943.93	1,872.15	27.084		
12,100.00	8,622.18	14,132.01	10,450.58	66.73	69.34	-160.15	3,442.59	72.82	1,943.88	1,870.37	26.445		
12,200.00	8,621.92	14,232.01	10,450.27	68.46	71.08	-160.15	3,542.59	72.82	1,943.83	1,868.59	25.834		
12,300.00	8,621.66	14,332.01	10,449.95	70.19	72.81	-160.15	3,642.59	72.82	1,943.78	1,866.79	25.248		
12,400.00	8,621.39	14,432.01	10,449.64	71.93	74.56	-160.15	3,742.59	72.82	1,943.73	1,865.00	24.687		
12,500.00	8,621.13	14,532.01	10,449.32	73.67	76.30	-160.15	3,842.59	72.82	1,943.68	1,863.19	24.148		
12,600.00	8,620.87	14,632.01	10,449.01	75.42	78.05	-160.15	3,942.58	72.82	1,943.64	1,861.39	23.631		
12,700.00	8,620.61	14,732.01	10,448.70	77.17	79.81	-160.15	4,042.58	72.82	1,943.59	1,859.58	23.135		
12,800.00	8,620.35	14,832.01	10,448.38	78.92	81.56	-160.15	4,142.58	72.82	1,943.54	1,857.76	22.658		
12,900.00	8,620.08	14,932.01	10,448.07	80.68	83.32	-160.15	4,242.58	72.82	1,943.49	1,855.94	22.199		
12,923.43	8,620.02	14,954.50	10,448.00	81.09	83.72	-160.15	4,265.07	72.82	1,943.48	1,855.52	22.096		
12,932.22	8,620.00	14,954.50	10,448.00	81.24	83.72	-160.15	4,265.07	72.82	1,943.50	1,855.46	22.077		

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 328H (SIMOPS)
Project:	Lea County, NM (NAD-83)	TVD Reference:	3431.4' GE + 30' KB @ 3461.40usft
Reference Site:	Cotton Draw Unit	MD Reference:	3431.4' GE + 30' KB @ 3461.40usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	328H (SIMOPS)	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 Cotton Draw Unit - 312H (SIMOPS) - 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		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)						
0.00	0.00	0.00	0.00	0.00	0.00	142.31	-234.02	180.81	295.73					
100.00	100.00	100.00	100.00	0.08	0.08	142.31	-234.02	180.81	295.73	0.16	1,879.600			
200.00	200.00	200.00	200.00	0.30	0.30	142.31	-234.02	180.81	295.73	0.61	487.304			
300.00	300.00	300.00	300.00	0.53	0.53	142.31	-234.02	180.81	295.73	1.06	279.941			
400.00	400.00	400.00	400.00	0.75	0.75	142.31	-234.02	180.81	295.73	1.51	196.376			
500.00	500.00	500.00	500.00	0.98	0.98	142.31	-234.02	180.81	295.73	1.96	151.232			
600.00	600.00	600.00	600.00	1.20	1.20	142.31	-234.02	180.81	295.73	2.40	122.965			
700.00	700.00	700.00	700.00	1.43	1.43	142.31	-234.02	180.81	295.73	2.85	103.600			
800.00	800.00	800.00	800.00	1.65	1.65	142.31	-234.02	180.81	295.73	3.30	89.505			
900.00	900.00	900.00	900.00	1.88	1.88	142.31	-234.02	180.81	295.73	3.75	78.786			
1,000.00	1,000.00	1,000.00	1,000.00	2.10	2.10	142.31	-234.02	180.81	295.73	4.20	70.359			
1,100.00	1,100.00	1,100.00	1,100.00	2.33	2.33	142.31	-234.02	180.81	295.73	4.65	63.561			
1,200.00	1,200.00	1,200.00	1,200.00	2.55	2.55	142.31	-234.02	180.81	295.73	5.10	57.961			
1,300.00	1,300.00	1,300.00	1,300.00	2.78	2.78	142.31	-234.02	180.81	295.73	5.55	53.268			
1,400.00	1,400.00	1,400.00	1,400.00	3.00	3.00	142.31	-234.02	180.81	295.73	6.00	49.278			
1,500.00	1,500.00	1,500.00	1,500.00	3.23	3.23	142.31	-234.02	180.81	295.73	6.45	45.844			
1,600.00	1,600.00	1,600.00	1,600.00	3.45	3.45	142.31	-234.02	180.81	295.73	6.90	42.857			
1,700.00	1,700.00	1,700.00	1,700.00	3.67	3.67	142.31	-234.02	180.81	295.73	7.35	40.236			
1,800.00	1,800.00	1,800.00	1,800.00	3.90	3.90	142.31	-234.02	180.81	295.73	7.80	37.917			
1,900.00	1,900.00	1,900.00	1,900.00	4.12	4.12	142.31	-234.02	180.81	295.73	8.25	35.851			
2,000.00	2,000.00	2,000.00	2,000.00	4.35	4.35	142.31	-234.02	180.81	295.73	8.70	33.998			
2,100.00	2,100.00	2,100.00	2,100.00	4.57	4.57	142.31	-234.02	180.81	295.73	9.15	32.327			
2,200.00	2,200.00	2,200.00	2,200.00	4.80	4.80	142.31	-234.02	180.81	295.73	9.60	30.813			
2,300.00	2,300.00	2,300.00	2,300.00	5.02	5.02	142.31	-234.02	180.81	295.73	10.05	29.434			
2,400.00	2,400.00	2,400.00	2,400.00	5.25	5.25	142.31	-234.02	180.81	295.73	10.50	28.174			
2,500.00	2,500.00	2,500.00	2,500.00	5.47	5.47	142.31	-234.02	180.81	295.73	10.95	27.017			
2,600.00	2,600.00	2,600.00	2,600.00	5.70	5.70	142.31	-234.02	180.81	295.73	11.40	25.951			
2,700.00	2,700.00	2,700.00	2,700.00	5.92	5.92	142.31	-234.02	180.81	295.73	11.85	24.966			
2,800.00	2,800.00	2,800.00	2,800.00	6.15	6.15	142.31	-234.02	180.81	295.73	12.29	24.053			
2,900.00	2,900.00	2,900.00	2,900.00	6.37	6.37	142.31	-234.02	180.81	295.73	12.74	23.205			
3,000.00	3,000.00	3,000.00	3,000.00	6.60	6.60	142.31	-234.02	180.81	295.73	13.19	22.414			
3,100.00	3,100.00	3,100.00	3,100.00	6.82	6.82	142.31	-234.02	180.81	295.73	13.64	21.676			
3,200.00	3,200.00	3,200.00	3,200.00	7.05	7.05	142.31	-234.02	180.81	295.73	14.09	20.984			
3,300.00	3,300.00	3,300.00	3,300.00	7.27	7.27	142.31	-234.02	180.81	295.73	14.54	20.336			
3,400.00	3,400.00	3,400.00	3,400.00	7.50	7.50	142.31	-234.02	180.81	295.73	14.99	19.726			
3,500.00	3,500.00	3,500.00	3,500.00	7.72	7.72	142.31	-234.02	180.81	295.73	15.44	19.152			
3,600.00	3,600.00	3,600.00	3,600.00	7.95	7.95	142.31	-234.02	180.81	295.73	15.89	18.610			
3,700.00	3,700.00	3,700.00	3,700.00	8.17	8.17	142.31	-234.02	180.81	295.73	16.34	18.098			
3,800.00	3,800.00	3,800.00	3,800.00	8.40	8.40	142.31	-234.02	180.81	295.73	16.79	17.613			
3,900.00	3,900.00	3,900.00	3,900.00	8.62	8.62	142.31	-234.02	180.81	295.73	17.24	17.154			
4,000.00	4,000.00	4,000.00	4,000.00	8.84	8.84	142.31	-234.02	180.81	295.73	17.69	16.718			
4,100.00	4,100.00	4,100.00	4,100.00	9.07	9.07	142.31	-234.02	180.81	295.73	18.14	16.304			
4,200.00	4,200.00	4,200.00	4,200.00	9.29	9.29	142.31	-234.02	180.81	295.73	18.59	15.910			
4,300.00	4,300.00	4,300.00	4,300.00	9.52	9.52	142.31	-234.02	180.81	295.73	19.04	15.534			
4,400.00	4,400.00	4,396.97	4,396.96	9.72	9.71	34.18	-234.81	180.59	295.52	19.43	15.208			
4,500.00	4,499.96	4,493.85	4,493.81	9.91	9.87	34.84	-237.18	179.95	294.91	19.78	14.911			
4,600.00	4,599.86	4,590.58	4,590.45	10.11	10.04	35.94	-241.13	178.88	293.99	20.12	14.609			
4,700.00	4,699.68	4,687.06	4,686.77	10.30	10.21	37.49	-246.63	177.38	292.89	20.47	14.308			
4,800.00	4,799.37	4,783.23	4,782.66	10.50	10.38	39.48	-253.67	175.47	291.80	20.82	14.014			
4,900.00	4,898.90	4,880.57	4,879.59	10.70	10.55	41.94	-262.21	173.15	290.86	21.18	13.732			
5,000.00	4,998.26	4,979.55	4,978.14	10.91	10.73	44.72	-271.13	170.73	289.41	21.55	13.429			
5,100.00	5,097.40	5,078.32	5,076.48	11.13	10.92	47.76	-280.03	168.31	287.48	21.93	13.108			

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 328H (SIMOPS)
Project:	Lea County, NM (NAD-83)	TVD Reference:	3431.4' GE + 30' KB @ 3461.40usft
Reference Site:	Cotton Draw Unit	MD Reference:	3431.4' GE + 30' KB @ 3461.40usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	328H (SIMOPS)	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 Cotton Draw Unit - 312H (SIMOPS) - 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
5,200.00	5,196.30	5,176.87	5,174.60	11.36	11.11	51.11	-288.91	165.90	285.30	262.97	22.33	12.779	
5,300.00	5,294.93	5,275.15	5,272.45	11.59	11.30	54.76	-297.77	163.50	283.10	260.36	22.74	12.451	
5,400.00	5,393.26	5,373.14	5,370.01	11.84	11.49	58.73	-306.60	161.10	281.18	258.01	23.17	12.136	
5,464.05	5,456.05	5,435.73	5,432.33	12.01	11.62	61.44	-312.24	159.57	280.25	256.80	23.46	11.947	
5,500.00	5,491.27	5,470.83	5,467.27	12.11	11.69	62.99	-315.40	158.71	279.93	256.30	23.63	11.847	
5,535.82	5,526.36	5,505.80	5,502.09	12.21	11.76	64.54	-318.55	157.86	279.82	256.02	23.80	11.756 CC, ES	
5,600.00	5,589.21	5,568.45	5,564.46	12.38	11.89	67.32	-324.20	156.33	280.17	256.05	24.11	11.618	
5,700.00	5,687.16	5,666.06	5,661.66	12.67	12.10	71.83	-332.99	153.94	282.08	257.47	24.61	11.462	
5,800.00	5,785.10	5,763.68	5,758.85	12.96	12.31	75.85	-341.79	151.55	285.63	260.51	25.11	11.374	
5,900.00	5,883.04	5,861.30	5,856.04	13.26	12.52	79.95	-350.58	149.16	290.76	265.14	25.62	11.349 SF	
6,000.00	5,980.99	5,958.92	5,953.24	13.57	12.73	83.90	-359.38	146.77	297.38	271.25	26.13	11.381	
6,100.00	6,078.93	6,056.54	6,050.43	13.89	12.94	87.66	-368.18	144.39	305.41	278.76	26.64	11.463	
6,200.00	6,176.87	6,154.16	6,147.62	14.21	13.16	91.23	-376.97	142.00	314.73	287.57	27.16	11.589	
6,300.00	6,274.82	6,251.78	6,244.81	14.53	13.38	94.58	-385.77	139.61	325.23	297.56	27.67	11.753	
6,400.00	6,372.76	6,349.40	6,342.01	14.87	13.60	97.73	-394.57	137.22	336.80	308.61	28.18	11.950	
6,500.00	6,470.70	6,447.02	6,439.20	15.21	13.83	100.66	-403.36	134.83	349.33	320.64	28.70	12.173	
6,600.00	6,568.65	6,544.64	6,536.39	15.55	14.05	103.39	-412.16	132.45	362.74	333.53	29.21	12.419	
6,700.00	6,666.59	6,642.26	6,633.59	15.90	14.28	105.92	-420.95	130.06	376.91	347.19	29.72	12.682	
6,800.00	6,764.53	6,739.88	6,730.78	16.25	14.51	108.27	-429.75	127.67	391.77	361.54	30.23	12.959	
6,900.00	6,862.48	6,837.50	6,827.97	16.61	14.74	110.45	-438.55	125.28	407.25	376.51	30.74	13.247	
7,000.00	6,960.42	6,935.12	6,925.17	16.97	14.97	112.48	-447.34	122.89	423.27	392.02	31.25	13.544	
7,100.00	7,058.36	7,032.74	7,022.36	17.33	15.21	114.35	-456.14	120.51	439.78	408.01	31.76	13.845	
7,200.00	7,156.31	7,130.36	7,119.55	17.70	15.44	116.09	-464.93	118.12	456.72	424.44	32.28	14.151	
7,300.00	7,254.25	7,227.97	7,216.74	18.07	15.68	117.71	-473.73	115.73	474.05	441.26	32.79	14.458	
7,400.00	7,352.19	7,325.59	7,313.94	18.44	15.92	119.21	-482.53	113.34	491.72	458.42	33.30	14.766	
7,500.00	7,450.14	7,423.21	7,411.13	18.82	16.16	120.61	-491.32	110.95	509.71	475.89	33.82	15.073	
7,600.00	7,548.08	7,520.83	7,508.32	19.20	16.40	121.92	-500.12	108.57	527.97	493.64	34.33	15.378	
7,700.00	7,646.02	7,618.45	7,605.52	19.58	16.64	123.13	-508.92	106.18	546.49	511.64	34.85	15.681	
7,800.00	7,743.97	7,716.07	7,702.71	19.96	16.88	124.27	-517.71	103.79	565.23	529.86	35.37	15.981	
7,900.00	7,841.91	7,813.69	7,799.90	20.35	17.13	125.34	-526.51	101.40	584.17	548.28	35.89	16.278	
8,000.00	7,939.85	7,911.31	7,897.09	20.74	17.37	126.34	-535.30	99.02	603.30	566.89	36.41	16.571	
8,094.33	8,032.24	8,003.40	7,988.78	21.10	17.60	127.23	-543.60	96.76	621.50	584.60	36.90	16.843	
8,100.00	8,037.80	8,008.93	7,994.29	21.12	17.62	130.03	-544.10	96.63	622.61	585.70	36.91	16.870	
8,150.00	8,086.85	8,057.58	8,042.72	21.30	17.74	136.31	-548.48	95.44	633.78	596.88	36.91	17.172	
8,200.00	8,135.76	8,105.69	8,090.63	21.46	17.86	139.29	-552.82	94.26	647.29	610.47	36.82	17.580	
8,250.00	8,184.15	8,152.90	8,137.63	21.60	17.98	142.81	-557.07	93.11	663.05	626.40	36.65	18.090	
8,300.00	8,231.66	8,198.85	8,183.38	21.74	18.10	146.35	-561.21	91.98	681.01	644.59	36.42	18.699	
8,350.00	8,277.92	8,243.19	8,227.53	21.86	18.21	149.18	-565.21	90.90	701.16	665.02	36.14	19.402	
8,400.00	8,322.58	8,285.58	8,269.73	21.97	18.32	151.93	-569.03	89.86	723.49	687.66	35.83	20.193	
8,450.00	8,365.30	8,325.70	8,309.68	22.07	18.42	154.78	-572.64	88.88	748.00	712.48	35.52	21.060	
8,500.00	8,405.77	8,363.25	8,347.06	22.16	18.52	157.64	-576.03	87.96	774.68	739.44	35.24	21.982	
8,550.00	8,443.66	8,397.93	8,381.59	22.24	18.61	160.50	-579.15	87.11	803.51	768.46	35.05	22.926	
8,600.00	8,478.69	8,429.49	8,413.01	22.32	18.69	163.37	-582.00	86.34	834.42	799.43	34.99	23.847	
8,650.00	8,510.59	8,458.44	8,441.84	22.40	18.76	166.24	-584.60	85.63	867.33	832.22	35.11	24.702	
8,700.00	8,539.12	8,484.92	8,468.20	22.48	18.83	169.11	-586.93	85.00	902.06	866.61	35.45	25.449	
8,750.00	8,564.07	8,507.55	8,490.75	22.56	18.88	172.00	-588.87	84.47	938.45	902.44	36.01	26.059	
8,800.00	8,585.25	8,526.14	8,509.27	22.65	18.92	174.88	-590.44	84.05	976.32	939.54	36.78	26.548	
8,850.00	8,602.48	8,540.49	8,523.56	22.76	18.96	177.77	-591.63	83.72	1,015.44	977.80	37.64	26.976	
8,900.00	8,615.65	8,550.44	8,533.47	22.89	18.98	180.66	-592.44	83.50	1,055.56	1,017.12	38.44	27.457	
8,950.00	8,624.64	8,555.85	8,538.86	23.04	18.99	183.55	-592.88	83.38	1,096.39	1,057.42	38.97	28.131	
9,000.00	8,629.41	8,556.62	8,539.63	23.22	19.00	186.44	-592.94	83.37	1,137.62	1,098.59	39.04	29.142	
9,032.22	8,630.21	8,554.62	8,537.64	23.35	18.99	189.33	-592.78	83.41	1,164.25	1,125.48	38.78	30.023	

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 328H (SIMOPS)
Project:	Lea County, NM (NAD-83)	TVD Reference:	3431.4' GE + 30' KB @ 3461.40usft
Reference Site:	Cotton Draw Unit	MD Reference:	3431.4' GE + 30' KB @ 3461.40usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	328H (SIMOPS)	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 Cotton Draw Unit - 312H (SIMOPS) - 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
9,100.00	8,630.03	8,548.30	8,531.35	23.67	18.98	-81.12	-592.27	83.55	1,220.82	1,181.67	39.15	31.186	
9,200.00	8,629.77	8,538.84	8,521.92	24.28	18.95	-80.31	-591.49	83.76	1,306.18	1,266.39	39.78	32.833	
9,300.00	8,629.51	8,529.20	8,512.31	25.04	18.93	-79.49	-590.69	83.98	1,393.42	1,352.90	40.53	34.383	
9,400.00	8,629.25	8,519.37	8,502.52	25.91	18.91	-78.65	-589.87	84.20	1,482.23	1,440.86	41.37	35.833	
9,500.00	8,628.99	8,509.35	8,492.54	26.90	18.88	-77.80	-589.03	84.43	1,572.32	1,530.04	42.28	37.185	
9,600.00	8,628.72	8,499.14	8,482.37	27.98	18.86	-76.94	-588.16	84.67	1,663.49	1,620.22	43.27	38.446	
9,700.00	8,628.46	8,488.72	8,471.99	29.13	18.84	-76.07	-587.26	84.91	1,755.57	1,711.27	44.31	39.624	
9,800.00	8,628.20	8,478.10	8,461.41	30.36	18.81	-75.18	-586.33	85.16	1,848.43	1,803.04	45.39	40.726	
9,900.00	8,627.94	8,467.26	8,450.62	31.65	18.78	-74.29	-585.38	85.42	1,941.94	1,895.44	46.50	41.761	
10,000.00	8,627.68	8,456.20	8,439.60	32.99	18.75	-73.38	-584.40	85.69	2,036.02	1,988.38	47.64	42.737	
10,100.00	8,627.41	8,445.23	8,428.68	34.38	18.73	-72.49	-583.41	85.95	2,130.60	2,081.79	48.80	43.656	
10,200.00	8,627.15	8,435.96	8,419.45	35.80	18.70	-71.75	-582.58	86.18	2,225.60	2,175.58	50.02	44.491	
10,300.00	8,626.89	8,426.69	8,410.22	37.27	18.68	-71.01	-581.74	86.41	2,320.99	2,269.73	51.26	45.281	
10,400.00	8,626.63	8,417.42	8,400.99	38.76	18.66	-70.27	-580.91	86.64	2,416.72	2,364.21	52.50	46.029	
10,500.00	8,626.37	8,408.15	8,391.76	40.28	18.63	-69.54	-580.07	86.86	2,512.74	2,458.98	53.76	46.742	
10,600.00	8,626.11	8,398.87	8,382.53	41.82	18.61	-68.82	-579.24	87.09	2,609.03	2,554.02	55.02	47.423	
10,700.00	8,625.84	8,389.60	8,373.30	43.39	18.59	-68.11	-578.40	87.32	2,705.56	2,649.28	56.28	48.077	
10,800.00	8,625.58	8,380.33	8,364.07	44.98	18.56	-67.40	-577.57	87.54	2,802.30	2,744.77	57.53	48.706	
10,900.00	8,625.32	8,371.06	8,354.84	46.58	18.54	-66.70	-576.73	87.77	2,899.23	2,840.44	58.79	49.314	
11,000.00	8,625.06	8,361.79	8,345.61	48.20	18.51	-66.00	-575.90	88.00	2,996.34	2,936.29	60.04	49.902	
11,100.00	8,624.80	8,352.52	8,336.37	49.84	18.49	-65.31	-575.06	88.22	3,093.60	3,032.31	61.29	50.474	
11,200.00	8,624.54	14,630.91	11,690.00	51.48	57.49	-167.85	2,536.86	72.81	3,135.71	3,080.41	55.30	56.707	
11,300.00	8,624.27	14,730.91	11,690.00	53.14	59.14	-167.85	2,636.86	72.81	3,135.96	3,079.25	56.71	55.299	
11,400.00	8,624.01	14,830.91	11,690.00	54.81	60.81	-167.85	2,736.86	72.81	3,136.22	3,078.09	58.13	53.949	
11,500.00	8,623.75	14,930.91	11,690.00	56.49	62.48	-167.85	2,836.86	72.81	3,136.48	3,076.91	59.57	52.656	
11,600.00	8,623.49	15,030.91	11,690.00	58.18	64.16	-167.85	2,936.86	72.81	3,136.73	3,075.72	61.01	51.415	
11,700.00	8,623.23	15,130.91	11,690.00	59.88	65.85	-167.85	3,036.86	72.81	3,136.99	3,074.53	62.46	50.224	
11,800.00	8,622.96	15,230.91	11,690.00	61.58	67.55	-167.86	3,136.86	72.81	3,137.24	3,073.32	63.92	49.081	
11,900.00	8,622.70	15,330.91	11,690.00	63.29	69.25	-167.86	3,236.86	72.81	3,137.50	3,072.11	65.39	47.984	
12,000.00	8,622.44	15,430.91	11,690.00	65.01	70.96	-167.86	3,336.86	72.81	3,137.76	3,070.89	66.86	46.930	
12,100.00	8,622.18	15,530.91	11,690.00	66.73	72.67	-167.86	3,436.86	72.81	3,138.01	3,069.67	68.34	45.917	
12,200.00	8,621.92	15,630.91	11,690.00	68.46	74.39	-167.86	3,536.86	72.81	3,138.27	3,068.44	69.83	44.942	
12,300.00	8,621.66	15,730.91	11,690.00	70.19	76.12	-167.86	3,636.86	72.81	3,138.52	3,067.20	71.32	44.005	
12,400.00	8,621.39	15,830.91	11,690.00	71.93	77.85	-167.86	3,736.86	72.82	3,138.78	3,065.96	72.82	43.103	
12,500.00	8,621.13	15,930.90	11,690.00	73.67	79.58	-167.86	3,836.86	72.82	3,139.04	3,064.71	74.32	42.234	
12,600.00	8,620.87	16,030.90	11,690.00	75.42	81.32	-167.86	3,936.86	72.82	3,139.29	3,063.46	75.83	41.398	
12,700.00	8,620.61	16,130.90	11,690.00	77.17	83.06	-167.86	4,036.86	72.82	3,139.55	3,062.20	77.35	40.591	
12,800.00	8,620.35	16,230.90	11,690.00	78.92	84.81	-167.87	4,136.86	72.82	3,139.80	3,060.94	78.86	39.813	
12,900.00	8,620.08	16,330.90	11,690.00	80.68	86.56	-167.87	4,236.86	72.82	3,140.06	3,059.67	80.39	39.063	
12,932.22	8,620.00	16,359.12	11,690.00	81.24	87.05	-167.87	4,265.07	72.82	3,140.14	3,059.30	80.85	38.841	

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 328H (SIMOPS)
Project:	Lea County, NM (NAD-83)	TVD Reference:	3431.4' GE + 30' KB @ 3461.40usft
Reference Site:	Cotton Draw Unit	MD Reference:	3431.4' GE + 30' KB @ 3461.40usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	328H (SIMOPS)	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 Cotton Draw Unit - 313H (SIMOPS) - 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	139.15	-209.03	180.74	276.33				
100.00	100.00	100.00	100.00	0.08	0.08	139.15	-209.03	180.74	276.33	276.17	0.16	1,756.307	
200.00	200.00	200.00	200.00	0.30	0.30	139.15	-209.03	180.74	276.33	275.72	0.61	455.339	
300.00	300.00	300.00	300.00	0.53	0.53	139.15	-209.03	180.74	276.33	275.27	1.06	261.578	
400.00	400.00	400.00	400.00	0.75	0.75	139.15	-209.03	180.74	276.33	274.83	1.51	183.495	
500.00	500.00	500.00	500.00	0.98	0.98	139.15	-209.03	180.74	276.33	274.38	1.96	141.312	
600.00	600.00	600.00	600.00	1.20	1.20	139.15	-209.03	180.74	276.33	273.93	2.40	114.899	
700.00	700.00	700.00	700.00	1.43	1.43	139.15	-209.03	180.74	276.33	273.48	2.85	96.804	
800.00	800.00	800.00	800.00	1.65	1.65	139.15	-209.03	180.74	276.33	273.03	3.30	83.634	
900.00	900.00	900.00	900.00	1.88	1.88	139.15	-209.03	180.74	276.33	272.58	3.75	73.618	
1,000.00	1,000.00	1,000.00	1,000.00	2.10	2.10	139.15	-209.03	180.74	276.33	272.13	4.20	65.744	
1,100.00	1,100.00	1,100.00	1,100.00	2.33	2.33	139.15	-209.03	180.74	276.33	271.68	4.65	59.392	
1,200.00	1,200.00	1,200.00	1,200.00	2.55	2.55	139.15	-209.03	180.74	276.33	271.23	5.10	54.159	
1,300.00	1,300.00	1,300.00	1,300.00	2.78	2.78	139.15	-209.03	180.74	276.33	270.78	5.55	49.774	
1,400.00	1,400.00	1,400.00	1,400.00	3.00	3.00	139.15	-209.03	180.74	276.33	270.33	6.00	46.046	
1,500.00	1,500.00	1,500.00	1,500.00	3.23	3.23	139.15	-209.03	180.74	276.33	269.88	6.45	42.837	
1,600.00	1,600.00	1,600.00	1,600.00	3.45	3.45	139.15	-209.03	180.74	276.33	269.43	6.90	40.046	
1,700.00	1,700.00	1,700.00	1,700.00	3.67	3.67	139.15	-209.03	180.74	276.33	268.98	7.35	37.597	
1,800.00	1,800.00	1,800.00	1,800.00	3.90	3.90	139.15	-209.03	180.74	276.33	268.53	7.80	35.430	
1,900.00	1,900.00	1,900.00	1,900.00	4.12	4.12	139.15	-209.03	180.74	276.33	268.08	8.25	33.499	
2,000.00	2,000.00	2,000.00	2,000.00	4.35	4.35	139.15	-209.03	180.74	276.33	267.63	8.70	31.768	
2,100.00	2,100.00	2,100.00	2,100.00	4.57	4.57	139.15	-209.03	180.74	276.33	267.18	9.15	30.207	
2,200.00	2,200.00	2,200.00	2,200.00	4.80	4.80	139.15	-209.03	180.74	276.33	266.73	9.60	28.792	
2,300.00	2,300.00	2,300.00	2,300.00	5.02	5.02	139.15	-209.03	180.74	276.33	266.28	10.05	27.504	
2,400.00	2,400.00	2,400.00	2,400.00	5.25	5.25	139.15	-209.03	180.74	276.33	265.83	10.50	26.326	
2,500.00	2,500.00	2,500.00	2,500.00	5.47	5.47	139.15	-209.03	180.74	276.33	265.38	10.95	25.245	
2,600.00	2,600.00	2,600.00	2,600.00	5.70	5.70	139.15	-209.03	180.74	276.33	264.94	11.40	24.249	
2,700.00	2,700.00	2,700.00	2,700.00	5.92	5.92	139.15	-209.03	180.74	276.33	264.49	11.85	23.329	
2,800.00	2,800.00	2,800.00	2,800.00	6.15	6.15	139.15	-209.03	180.74	276.33	264.04	12.29	22.476	
2,900.00	2,900.00	2,900.00	2,900.00	6.37	6.37	139.15	-209.03	180.74	276.33	263.59	12.74	21.683	
3,000.00	3,000.00	3,000.00	3,000.00	6.60	6.60	139.15	-209.03	180.74	276.33	263.14	13.19	20.944	
3,100.00	3,100.00	3,100.00	3,100.00	6.82	6.82	139.15	-209.03	180.74	276.33	262.69	13.64	20.254	
3,200.00	3,200.00	3,200.00	3,200.00	7.05	7.05	139.15	-209.03	180.74	276.33	262.24	14.09	19.608	
3,300.00	3,300.00	3,300.00	3,300.00	7.27	7.27	139.15	-209.03	180.74	276.33	261.79	14.54	19.002	
3,400.00	3,400.00	3,400.00	3,400.00	7.50	7.50	139.15	-209.03	180.74	276.33	261.34	14.99	18.432	
3,500.00	3,500.00	3,500.00	3,500.00	7.72	7.72	139.15	-209.03	180.74	276.33	260.89	15.44	17.895	
3,600.00	3,600.00	3,600.00	3,600.00	7.95	7.95	139.15	-209.03	180.74	276.33	260.44	15.89	17.389	
3,700.00	3,700.00	3,700.00	3,700.00	8.17	8.17	139.15	-209.03	180.74	276.33	259.99	16.34	16.911	
3,800.00	3,800.00	3,800.00	3,800.00	8.40	8.40	139.15	-209.03	180.74	276.33	259.54	16.79	16.458	
3,900.00	3,900.00	3,900.00	3,900.00	8.62	8.62	139.15	-209.03	180.74	276.33	259.09	17.24	16.029	
4,000.00	4,000.00	4,000.00	4,000.00	8.84	8.84	139.15	-209.03	180.74	276.33	258.64	17.69	15.622	
4,100.00	4,100.00	4,100.00	4,100.00	9.07	9.07	139.15	-209.03	180.74	276.33	258.19	18.14	15.234	
4,200.00	4,200.00	4,200.00	4,200.00	9.29	9.29	139.15	-209.03	180.74	276.33	257.74	18.59	14.866	
4,300.00	4,300.00	4,300.00	4,300.00	9.52	9.52	139.15	-209.03	180.74	276.33	257.29	19.04	14.515	
4,400.00	4,400.00	4,395.68	4,395.68	9.72	9.71	30.83	-209.41	181.44	276.36	256.93	19.44	14.219	
4,500.00	4,499.96	4,491.37	4,491.33	9.91	9.89	30.92	-210.55	183.54	276.46	256.66	19.79	13.967	
4,600.00	4,599.86	4,587.05	4,586.93	10.11	10.07	31.07	-212.46	187.06	276.62	256.47	20.15	13.728	
4,700.00	4,599.68	4,682.73	4,682.44	10.30	10.25	31.28	-215.12	191.97	276.85	256.34	20.51	13.501	
4,800.00	4,799.37	4,778.41	4,777.85	10.50	10.44	31.55	-218.55	198.28	277.15	256.28	20.86	13.284	
4,900.00	4,898.90	4,874.09	4,873.13	10.70	10.62	31.88	-222.73	206.00	277.52	256.30	21.22	13.079	
5,000.00	4,998.26	4,969.77	4,968.25	10.91	10.82	32.26	-227.67	215.11	277.97	256.40	21.58	12.882	
5,100.00	5,097.40	5,065.45	5,063.17	11.13	11.02	32.70	-233.37	225.61	278.51	256.57	21.94	12.695	

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 328H (SIMOPS)
Project:	Lea County, NM (NAD-83)	TVD Reference:	3431.4' GE + 30' KB @ 3461.40usft
Reference Site:	Cotton Draw Unit	MD Reference:	3431.4' GE + 30' KB @ 3461.40usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	328H (SIMOPS)	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 Cotton Draw Unit - 313H (SIMOPS) - 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		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	
5,200.00	5,196.30	5,161.13	5,157.89	11.36	11.23	33.20	-239.82	237.51	279.15	256.84	22.30	12.516	
5,300.00	5,294.93	5,256.80	5,252.36	11.59	11.45	33.76	-247.03	250.80	279.88	257.20	22.67	12.344	
5,400.00	5,393.26	5,356.39	5,350.54	11.84	11.69	34.45	-254.98	265.46	280.08	257.02	23.06	12.145	
5,464.05	5,456.05	5,420.37	5,413.62	12.01	11.84	35.01	-260.09	274.89	279.48	256.17	23.32	11.987	
5,500.00	5,491.27	5,456.29	5,449.03	12.11	11.93	35.35	-262.96	280.18	278.99	255.52	23.48	11.883	
5,600.00	5,589.21	5,556.17	5,547.50	12.38	12.18	36.29	-270.94	294.90	277.69	253.75	23.94	11.601	
5,700.00	5,687.16	5,656.06	5,645.98	12.67	12.44	37.23	-278.92	309.61	276.46	252.05	24.41	11.327	
5,800.00	5,785.10	5,755.95	5,744.45	12.96	12.71	38.19	-286.90	324.32	275.31	250.42	24.89	11.062	
5,900.00	5,883.04	5,855.84	5,842.92	13.26	12.98	39.16	-294.88	339.04	274.23	248.85	25.38	10.805	
6,000.00	5,980.99	5,955.72	5,941.40	13.57	13.26	40.13	-302.86	353.75	273.23	247.35	25.89	10.556	
6,100.00	6,078.93	6,055.61	6,039.87	13.89	13.54	41.11	-310.84	368.47	272.31	245.91	26.40	10.314	
6,200.00	6,176.87	6,155.50	6,138.35	14.21	13.83	42.09	-318.82	383.18	271.48	244.55	26.93	10.080	
6,300.00	6,274.82	6,255.38	6,236.82	14.53	14.12	43.08	-326.80	397.90	270.72	243.25	27.47	9.854	
6,400.00	6,372.76	6,355.27	6,335.30	14.87	14.41	44.08	-334.79	412.61	270.05	242.02	28.03	9.635	
6,500.00	6,470.70	6,455.16	6,433.77	15.21	14.71	45.08	-342.77	427.32	269.45	240.86	28.59	9.424	
6,600.00	6,568.65	6,555.04	6,532.24	15.55	15.02	46.09	-350.75	442.04	268.94	239.77	29.17	9.219	
6,700.00	6,666.59	6,654.93	6,630.72	15.90	15.32	47.10	-358.73	456.75	268.52	238.75	29.76	9.022	
6,800.00	6,764.53	6,754.82	6,729.19	16.25	15.63	48.11	-366.71	471.47	268.17	237.81	30.37	8.831	
6,900.00	6,862.48	6,854.70	6,827.67	16.61	15.95	49.12	-374.69	486.18	267.92	236.93	30.98	8.647	
7,000.00	6,960.42	6,954.59	6,926.14	16.97	16.26	50.14	-382.67	500.90	267.74	236.13	31.61	8.470	
7,100.00	7,058.36	7,054.48	7,024.62	17.33	16.58	51.15	-390.65	515.61	267.65	235.40	32.25	8.299	
7,156.84	7,114.03	7,111.25	7,080.59	17.54	16.77	51.73	-395.18	523.97	267.64	235.02	32.62	8.204 CC	
7,200.00	7,156.31	7,154.36	7,123.09	17.70	16.91	52.17	-398.63	530.32	267.64	234.74	32.90	8.134	
7,300.00	7,254.25	7,254.25	7,221.56	18.07	17.23	53.19	-406.61	545.04	267.72	234.16	33.57	7.976	
7,400.00	7,352.19	7,354.14	7,320.04	18.44	17.56	54.20	-414.59	559.75	267.89	233.64	34.24	7.823	
7,500.00	7,450.14	7,454.02	7,418.51	18.82	17.89	55.22	-422.57	574.47	268.13	233.20	34.93	7.676	
7,600.00	7,548.08	7,553.91	7,516.99	19.20	18.22	56.23	-430.55	589.18	268.47	232.84	35.63	7.535	
7,700.00	7,646.02	7,653.80	7,615.46	19.58	18.55	57.24	-438.53	603.90	268.88	232.55	36.33	7.400	
7,800.00	7,743.97	7,753.69	7,713.94	19.96	18.89	58.24	-446.51	618.61	269.38	232.33	37.05	7.270	
7,900.00	7,841.91	7,853.57	7,812.41	20.35	19.22	59.25	-454.49	633.32	269.96	232.18	37.78	7.146	
8,000.00	7,939.85	7,953.46	7,910.88	20.74	19.56	60.24	-462.47	648.04	270.62	232.11	38.52	7.026	
8,094.33	8,032.24	8,047.68	8,003.78	21.10	19.88	61.18	-470.00	661.92	271.32	232.10	39.22	6.918 ES	
8,100.00	8,037.80	8,053.35	8,009.36	21.12	19.90	63.89	-470.45	662.75	271.40	232.12	39.28	6.910 SF	
8,150.00	8,086.85	8,103.16	8,058.47	21.30	20.07	69.52	-474.43	670.09	274.43	234.81	39.62	6.926	
8,200.00	8,135.76	8,152.48	8,107.09	21.46	20.24	112.02	-478.37	677.36	281.77	242.05	39.72	7.094	
8,250.00	8,184.15	8,200.92	8,154.85	21.60	20.41	127.57	-482.24	684.49	293.38	253.82	39.56	7.416	
8,300.00	8,231.66	8,248.13	8,201.39	21.74	20.57	137.72	-486.01	691.45	309.19	270.05	39.14	7.899	
8,350.00	8,277.92	8,293.75	8,246.36	21.86	20.73	144.57	-489.66	698.17	329.10	290.64	38.46	8.557	
8,400.00	8,322.58	8,337.41	8,289.41	21.97	20.88	149.40	-493.14	704.60	352.96	315.43	37.53	9.404	
8,450.00	8,365.30	8,378.81	8,330.22	22.07	21.02	152.93	-496.45	710.70	380.58	344.22	36.37	10.465	
8,500.00	8,405.77	8,417.60	8,368.47	22.16	21.15	155.57	-499.55	716.41	411.77	376.78	34.99	11.769	
8,550.00	8,443.66	8,453.52	8,403.87	22.24	21.28	157.56	-502.42	721.70	446.26	412.84	33.42	13.352	
8,600.00	8,478.69	8,486.27	8,436.16	22.32	21.39	159.05	-505.04	726.53	483.80	452.09	31.71	15.257	
8,650.00	8,510.59	8,515.61	8,465.08	22.40	21.49	160.10	-507.38	730.85	524.09	494.19	29.90	17.528	
8,700.00	8,539.12	8,541.32	8,490.43	22.48	21.58	160.75	-509.43	734.64	566.81	538.76	28.05	20.204	
8,750.00	8,564.07	8,563.20	8,512.00	22.56	21.66	160.95	-511.18	737.86	611.64	585.38	26.26	23.290	
8,800.00	8,585.25	8,581.08	8,529.63	22.65	21.72	160.58	-512.61	740.49	658.23	633.58	24.65	26.703	
8,850.00	8,602.48	8,594.83	8,543.19	22.76	21.77	159.23	-513.71	742.52	706.22	682.78	23.44	30.124	
8,900.00	8,615.65	8,604.35	8,552.57	22.89	21.80	155.52	-514.47	743.92	755.24	732.02	23.22	32.529	
8,950.00	8,624.64	8,609.56	8,557.71	23.04	21.82	141.38	-514.89	744.69	804.92	777.73	27.19	29.609	
9,000.00	8,629.41	8,610.42	8,558.55	23.22	21.82	39.44	-514.96	744.82	854.87	823.91	30.96	27.610	
9,032.22	8,630.21	8,608.66	8,556.82	23.35	21.82	8.82	-514.82	744.56	887.03	866.32	20.71	42.833	

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 328H (SIMOPS)
Project:	Lea County, NM (NAD-83)	TVD Reference:	3431.4' GE + 30' KB @ 3461.40usft
Reference Site:	Cotton Draw Unit	MD Reference:	3431.4' GE + 30' KB @ 3461.40usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	328H (SIMOPS)	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 Cotton Draw Unit - 313H (SIMOPS) - 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		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)				
9,100.00	8,630.03	8,603.07	8,551.31	23.67	21.80	7.66	-514.37	743.73	954.55	933.88	20.68	46.165		
9,200.00	8,629.77	8,594.83	8,543.18	24.28	21.77	6.20	-513.71	742.52	1,054.19	1,033.45	20.73	50.843		
9,300.00	8,629.51	8,586.58	8,535.05	25.04	21.74	4.98	-513.05	741.30	1,153.82	1,132.93	20.89	55.231		
9,400.00	8,629.25	8,578.33	8,526.92	25.91	21.71	3.94	-512.39	740.09	1,253.47	1,232.34	21.13	59.333		
9,500.00	8,628.99	8,570.09	8,518.79	26.90	21.68	3.05	-511.73	738.87	1,353.11	1,331.69	21.42	63.159		
9,600.00	8,628.72	8,561.84	8,510.66	27.98	21.65	2.28	-511.07	737.66	1,452.76	1,430.98	21.77	66.719		
9,700.00	8,628.46	8,553.59	8,502.53	29.13	21.63	1.60	-510.42	736.44	1,552.40	1,530.24	22.17	70.029		
9,800.00	8,628.20	8,545.34	8,494.40	30.36	21.60	1.00	-509.76	735.23	1,652.05	1,629.45	22.60	73.101		
9,900.00	8,627.94	8,537.10	8,486.27	31.65	21.57	0.47	-509.10	734.01	1,751.70	1,728.64	23.06	75.954		
10,000.00	8,627.68	8,528.85	8,478.14	32.99	21.54	0.00	-508.44	732.80	1,851.35	1,827.80	23.55	78.601		
10,100.00	8,627.41	8,520.60	8,470.01	34.38	21.51	-0.43	-507.78	731.58	1,951.01	1,926.94	24.07	81.060		
10,200.00	8,627.15	8,512.35	8,461.88	35.80	21.48	-0.82	-507.12	730.37	2,050.66	2,026.05	24.61	83.343		
10,300.00	8,626.89	8,504.11	8,453.74	37.27	21.45	-1.17	-506.46	729.15	2,150.31	2,125.15	25.16	85.465		
10,400.00	8,626.63	8,495.86	8,445.61	38.76	21.43	-1.49	-505.80	727.94	2,249.97	2,224.24	25.73	87.440		
10,500.00	8,626.37	8,487.61	8,437.48	40.28	21.40	-1.79	-505.14	726.73	2,349.62	2,323.30	26.32	89.278		
10,600.00	8,626.11	8,479.36	8,429.35	41.82	21.37	-2.06	-504.48	725.51	2,449.28	2,422.36	26.92	90.992		
10,700.00	8,625.84	8,471.12	8,421.22	43.39	21.34	-2.31	-503.83	724.30	2,548.93	2,521.40	27.53	92.592		
10,800.00	8,625.58	8,462.87	8,413.09	44.98	21.31	-2.54	-503.17	723.08	2,648.59	2,620.44	28.15	94.087		
10,900.00	8,625.32	8,454.62	8,404.96	46.58	21.28	-2.75	-502.51	721.87	2,748.24	2,719.46	28.78	95.486		
11,000.00	8,625.06	8,446.37	8,396.83	48.20	21.25	-2.95	-501.85	720.65	2,847.90	2,818.48	29.42	96.797		
11,100.00	8,624.80	8,438.13	8,388.70	49.84	21.23	-3.14	-501.19	719.44	2,947.55	2,917.49	30.07	98.027		
11,200.00	8,624.54	8,429.88	8,380.57	51.48	21.20	-3.31	-500.53	718.22	3,047.21	3,016.49	30.72	99.183		
11,300.00	8,624.27	14,783.00	11,683.76	53.14	60.00	175.89	2,643.93	952.78	3,067.39	3,015.22	52.17	58.796		
11,400.00	8,624.01	14,883.00	11,683.53	54.81	61.63	175.89	2,743.93	952.78	3,067.42	3,013.96	53.46	57.377		
11,500.00	8,623.75	14,983.00	11,683.30	56.49	63.27	175.89	2,843.93	952.78	3,067.45	3,012.69	54.76	56.016		
11,600.00	8,623.49	15,083.00	11,683.07	58.18	64.92	175.89	2,943.93	952.79	3,067.49	3,011.42	56.07	54.710		
11,700.00	8,623.23	15,183.00	11,682.84	59.88	66.57	175.89	3,043.93	952.79	3,067.52	3,010.13	57.39	53.455		
11,800.00	8,622.96	15,283.00	11,682.60	61.58	68.24	175.89	3,143.93	952.79	3,067.55	3,008.84	58.71	52.250		
11,900.00	8,622.70	15,383.00	11,682.37	63.29	69.92	175.89	3,243.93	952.79	3,067.58	3,007.54	60.04	51.091		
12,000.00	8,622.44	15,483.00	11,682.14	65.01	71.60	175.89	3,343.93	952.79	3,067.61	3,006.23	61.38	49.978		
12,100.00	8,622.18	15,583.00	11,681.91	66.73	73.29	175.89	3,443.93	952.79	3,067.64	3,004.91	62.72	48.906		
12,200.00	8,621.92	15,683.00	11,681.68	68.46	74.98	175.89	3,543.93	952.79	3,067.67	3,003.59	64.08	47.876		
12,300.00	8,621.66	15,783.00	11,681.45	70.19	76.68	175.89	3,643.93	952.80	3,067.70	3,002.27	65.43	46.884		
12,400.00	8,621.39	15,883.00	11,681.22	71.93	78.39	175.89	3,743.93	952.80	3,067.73	3,000.94	66.79	45.929		
12,500.00	8,621.13	15,983.00	11,680.99	73.67	80.10	175.89	3,843.93	952.80	3,067.76	2,999.60	68.16	45.008		
12,600.00	8,620.87	16,083.00	11,680.76	75.42	81.82	175.89	3,943.93	952.80	3,067.79	2,998.26	69.53	44.121		
12,700.00	8,620.61	16,183.00	11,680.52	77.17	83.54	175.89	4,043.93	952.80	3,067.82	2,996.91	70.91	43.265		
12,800.00	8,620.35	16,283.00	11,680.29	78.92	85.27	175.89	4,143.93	952.80	3,067.85	2,995.56	72.29	42.440		
12,900.00	8,620.08	16,383.00	11,680.06	80.68	87.00	175.89	4,243.93	952.80	3,067.88	2,994.21	73.67	41.643		
12,932.22	8,620.00	16,410.43	11,680.00	81.24	87.52	175.89	4,271.37	952.80	3,067.90	2,993.81	74.08	41.412		

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 328H (SIMOPS)
Project:	Lea County, NM (NAD-83)	TVD Reference:	3431.4' GE + 30' KB @ 3461.40usft
Reference Site:	Cotton Draw Unit	MD Reference:	3431.4' GE + 30' KB @ 3461.40usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	328H (SIMOPS)	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 Cotton Draw Unit - 319H (SIMOPS) - 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		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)					
0.00	0.00	0.00	0.00	0.00	0.00	-0.16	25.00	-0.07	25.00				
100.00	100.00	100.00	100.00	0.08	0.08	-0.16	25.00	-0.07	25.00	24.84	0.16	158.896	
200.00	200.00	200.00	200.00	0.30	0.30	-0.16	25.00	-0.07	25.00	24.39	0.61	41.195	
300.00	300.00	300.00	300.00	0.53	0.53	-0.16	25.00	-0.07	25.00	23.94	1.06	23.665	
400.00	400.00	400.00	400.00	0.75	0.75	-0.16	25.00	-0.07	25.00	23.49	1.51	16.601	
500.00	500.00	500.00	500.00	0.98	0.98	-0.16	25.00	-0.07	25.00	23.04	1.96	12.785	
600.00	600.00	600.00	600.00	1.20	1.20	-0.16	25.00	-0.07	25.00	22.60	2.40	10.395	
700.00	700.00	700.00	700.00	1.43	1.43	-0.16	25.00	-0.07	25.00	22.15	2.85	8.758	
800.00	800.00	800.00	800.00	1.65	1.65	-0.16	25.00	-0.07	25.00	21.70	3.30	7.566	
900.00	900.00	900.00	900.00	1.88	1.88	-0.16	25.00	-0.07	25.00	21.25	3.75	6.660	
1,000.00	1,000.00	1,000.00	1,000.00	2.10	2.10	-0.16	25.00	-0.07	25.00	20.80	4.20	5.948	
1,100.00	1,100.00	1,100.00	1,100.00	2.33	2.33	-0.16	25.00	-0.07	25.00	20.35	4.65	5.373	
1,200.00	1,200.00	1,200.00	1,200.00	2.55	2.55	-0.16	25.00	-0.07	25.00	19.90	5.10	4.900	
1,300.00	1,300.00	1,300.00	1,300.00	2.78	2.78	-0.16	25.00	-0.07	25.00	19.45	5.55	4.503	
1,400.00	1,400.00	1,400.00	1,400.00	3.00	3.00	-0.16	25.00	-0.07	25.00	19.00	6.00	4.166	
1,500.00	1,500.00	1,500.00	1,500.00	3.23	3.23	-0.16	25.00	-0.07	25.00	18.55	6.45	3.876	
1,600.00	1,600.00	1,600.00	1,600.00	3.45	3.45	-0.16	25.00	-0.07	25.00	18.10	6.90	3.623	
1,700.00	1,700.00	1,700.00	1,700.00	3.67	3.67	-0.16	25.00	-0.07	25.00	17.65	7.35	3.401	
1,800.00	1,800.00	1,800.00	1,800.00	3.90	3.90	-0.16	25.00	-0.07	25.00	17.20	7.80	3.205	
1,900.00	1,900.00	1,900.00	1,900.00	4.12	4.12	-0.16	25.00	-0.07	25.00	16.75	8.25	3.031	
2,000.00	2,000.00	2,000.00	2,000.00	4.35	4.35	-0.16	25.00	-0.07	25.00	16.30	8.70	2.874	
2,100.00	2,100.00	2,100.00	2,100.00	4.57	4.57	-0.16	25.00	-0.07	25.00	15.85	9.15	2.733	
2,200.00	2,200.00	2,200.00	2,200.00	4.80	4.80	-0.16	25.00	-0.07	25.00	15.40	9.60	2.605	
2,300.00	2,300.00	2,300.00	2,300.00	5.02	5.02	-0.16	25.00	-0.07	25.00	14.95	10.05	2.488	
2,400.00	2,400.00	2,400.00	2,400.00	5.25	5.25	-0.16	25.00	-0.07	25.00	14.50	10.50	2.382	
2,500.00	2,500.00	2,500.00	2,500.00	5.47	5.47	-0.16	25.00	-0.07	25.00	14.05	10.95	2.284	
2,600.00	2,600.00	2,600.00	2,600.00	5.70	5.70	-0.16	25.00	-0.07	25.00	13.60	11.40	2.194	
2,700.00	2,700.00	2,700.00	2,700.00	5.92	5.92	-0.16	25.00	-0.07	25.00	13.15	11.85	2.111	
2,800.00	2,800.00	2,800.00	2,800.00	6.15	6.15	-0.16	25.00	-0.07	25.00	12.71	12.29	2.033	
2,900.00	2,900.00	2,900.00	2,900.00	6.37	6.37	-0.16	25.00	-0.07	25.00	12.26	12.74	1.962	
3,000.00	3,000.00	3,000.00	3,000.00	6.60	6.60	-0.16	25.00	-0.07	25.00	11.81	13.19	1.895	
3,100.00	3,100.00	3,100.00	3,100.00	6.82	6.82	-0.16	25.00	-0.07	25.00	11.36	13.64	1.832	
3,200.00	3,200.00	3,200.00	3,200.00	7.05	7.05	-0.16	25.00	-0.07	25.00	10.91	14.09	1.774	
3,300.00	3,300.00	3,300.00	3,300.00	7.27	7.27	-0.16	25.00	-0.07	25.00	10.46	14.54	1.719	
3,400.00	3,400.00	3,400.00	3,400.00	7.50	7.50	-0.16	25.00	-0.07	25.00	10.01	14.99	1.668	
3,500.00	3,500.00	3,500.00	3,500.00	7.72	7.72	-0.16	25.00	-0.07	25.00	9.56	15.44	1.619	
3,600.00	3,600.00	3,600.00	3,600.00	7.95	7.95	-0.16	25.00	-0.07	25.00	9.11	15.89	1.573	
3,700.00	3,700.00	3,700.00	3,700.00	8.17	8.17	-0.16	25.00	-0.07	25.00	8.66	16.34	1.530	
3,800.00	3,800.00	3,800.00	3,800.00	8.40	8.40	-0.16	25.00	-0.07	25.00	8.21	16.79	1.489 Level 3	
3,900.00	3,900.00	3,900.00	3,900.00	8.62	8.62	-0.16	25.00	-0.07	25.00	7.76	17.24	1.450 Level 3	
4,000.00	4,000.00	4,000.00	4,000.00	8.84	8.84	-0.16	25.00	-0.07	25.00	7.31	17.69	1.413 Level 3	
4,100.00	4,100.00	4,100.00	4,100.00	9.07	9.07	-0.16	25.00	-0.07	25.00	6.86	18.14	1.378 Level 3	
4,200.00	4,200.00	4,200.00	4,200.00	9.29	9.29	-0.16	25.00	-0.07	25.00	6.41	18.59	1.345 Level 3	
4,300.00	4,300.00	4,300.00	4,300.00	9.52	9.52	-0.16	25.00	-0.07	25.00	5.96	19.04	1.313 Level 3	
4,400.00	4,400.00	4,400.36	4,400.36	9.72	9.72	-111.45	24.23	-0.50	24.54	5.10	19.44	1.262 Level 3	
4,500.00	4,499.96	4,500.62	4,500.58	9.91	9.89	-120.82	21.92	-1.77	23.58	3.78	19.80	1.191 Level 2	
4,559.84	4,559.75	4,560.52	4,560.43	10.03	9.99	-129.84	19.81	-2.93	23.29	3.28	20.01	1.164 Level 2, CC, ES, SF	
4,600.00	4,599.86	4,600.66	4,600.52	10.11	10.06	-137.22	18.09	-3.88	23.49	3.34	20.15	1.166 Level 2	
4,700.00	4,699.68	4,700.37	4,700.05	10.30	10.24	-157.81	12.75	-6.82	26.40	5.90	20.49	1.288 Level 3	
4,800.00	4,799.37	4,799.66	4,799.03	10.50	10.42	-176.08	5.93	-10.58	33.79	12.96	20.82	1.622	
4,900.00	4,898.90	4,898.41	4,897.32	10.70	10.60	171.09	-2.35	-15.13	45.58	24.41	21.16	2.154	
5,000.00	4,998.26	4,996.53	4,994.81	10.91	10.79	162.73	-12.04	-20.47	61.12	39.61	21.51	2.841	

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 328H (SIMOPS)
Project:	Lea County, NM (NAD-83)	TVD Reference:	3431.4' GE + 30' KB @ 3461.40usft
Reference Site:	Cotton Draw Unit	MD Reference:	3431.4' GE + 30' KB @ 3461.40usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	328H (SIMOPS)	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 Cotton Draw Unit - 319H (SIMOPS) - 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		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)						
5,100.00	5,097.40	5,093.92	5,091.38	11.13	10.98	157.22	-23.10	-26.56	79.91	58.04	21.87	3.654		
5,200.00	5,196.30	5,190.48	5,186.90	11.36	11.18	153.45	-35.49	-33.39	101.65	79.42	22.23	4.573		
5,300.00	5,294.93	5,288.12	5,281.26	11.59	11.38	150.76	-49.15	-40.91	126.17	103.58	22.59	5.584		
5,400.00	5,393.26	5,380.79	5,374.39	11.84	11.60	148.77	-64.03	-49.10	153.35	130.38	22.96	6.678		
5,464.05	5,456.05	5,442.05	5,434.57	12.01	11.74	147.81	-74.07	-54.64	171.89	148.68	23.21	7.406		
5,500.00	5,491.27	5,478.40	5,468.31	12.11	11.83	147.45	-79.71	-57.74	182.47	159.11	23.36	7.810		
5,600.00	5,589.21	5,571.92	5,562.14	12.38	12.06	146.62	-95.38	-66.37	211.94	188.13	23.80	8.904		
5,700.00	5,687.16	5,667.44	5,655.97	12.67	12.31	146.00	-111.04	-75.00	241.43	217.18	24.25	9.956		
5,800.00	5,785.10	5,762.96	5,749.80	12.96	12.56	145.51	-126.71	-83.63	270.94	246.24	24.71	10.966		
5,900.00	5,883.04	5,858.49	5,843.64	13.26	12.82	145.11	-142.38	-92.26	300.47	275.30	25.17	11.937		
6,000.00	5,980.99	5,954.01	5,937.47	13.57	13.08	144.79	-158.05	-100.89	330.01	304.37	25.65	12.868		
6,100.00	6,078.93	6,049.53	6,031.30	13.89	13.36	144.52	-173.72	-109.52	359.56	333.43	26.13	13.762		
6,200.00	6,176.87	6,145.05	6,125.14	14.21	13.63	144.29	-189.39	-118.15	389.11	362.50	26.61	14.620		
6,300.00	6,274.82	6,240.58	6,218.97	14.53	13.92	144.10	-205.05	-126.78	418.67	391.56	27.11	15.443		
6,400.00	6,372.76	6,336.10	6,312.80	14.87	14.21	143.93	-220.72	-135.40	448.23	420.62	27.61	16.233		
6,500.00	6,470.70	6,431.62	6,406.63	15.21	14.50	143.78	-236.39	-144.03	477.80	449.68	28.12	16.991		
6,600.00	6,568.65	6,527.14	6,500.47	15.55	14.80	143.65	-252.06	-152.66	507.37	478.73	28.64	17.718		
6,700.00	6,666.59	6,622.67	6,594.30	15.90	15.10	143.53	-267.73	-161.29	536.94	507.78	29.16	18.416		
6,800.00	6,764.53	6,718.19	6,688.13	16.25	15.41	143.42	-283.40	-169.92	566.51	536.83	29.68	19.086		
6,900.00	6,862.48	6,813.71	6,781.97	16.61	15.72	143.33	-299.06	-178.55	596.08	565.87	30.21	19.729		
7,000.00	6,960.42	6,909.23	6,875.80	16.97	16.03	143.24	-314.73	-187.18	625.66	594.91	30.75	20.346		
7,100.00	7,058.36	7,004.76	6,969.63	17.33	16.35	143.17	-330.40	-195.81	655.23	623.94	31.29	20.940		
7,200.00	7,156.31	7,100.28	7,063.46	17.70	16.67	143.09	-346.07	-204.44	684.81	652.97	31.84	21.510		
7,300.00	7,254.25	7,201.18	7,162.64	18.07	17.00	143.04	-362.35	-213.41	714.18	681.79	32.40	22.044		
7,400.00	7,352.19	7,306.85	7,266.80	18.44	17.31	143.09	-377.90	-221.97	742.40	709.44	32.96	22.524		
7,500.00	7,450.14	7,413.29	7,372.05	18.82	17.62	143.24	-391.85	-229.66	769.33	735.81	33.52	22.950		
7,600.00	7,548.08	7,520.46	7,478.28	19.20	17.92	143.48	-404.17	-236.44	794.98	760.90	34.08	23.328		
7,700.00	7,646.02	7,628.28	7,585.41	19.58	18.21	143.81	-414.81	-242.30	819.32	784.70	34.63	23.661		
7,800.00	7,743.97	7,736.67	7,693.33	19.96	18.48	144.22	-423.72	-247.21	842.39	807.22	35.17	23.951		
7,900.00	7,841.91	7,845.57	7,801.92	20.35	18.74	144.70	-430.86	-251.14	864.18	828.47	35.71	24.203		
8,000.00	7,939.85	7,954.90	7,911.08	20.74	18.99	145.26	-436.22	-254.09	884.71	848.48	36.23	24.420		
8,094.33	8,032.24	8,058.35	8,014.46	21.10	19.21	145.85	-439.61	-255.96	902.95	866.23	36.71	24.594		
8,100.00	8,037.80	8,064.58	8,020.68	21.12	19.22	148.65	-439.76	-256.04	904.01	867.29	36.73	24.615		
8,150.00	8,086.85	8,119.57	8,075.66	21.30	19.34	174.87	-440.84	-256.64	913.91	877.09	36.82	24.820		
8,200.00	8,135.76	8,174.48	8,130.56	21.46	19.44	-162.30	-441.47	-256.98	924.59	887.69	36.90	25.060		
8,250.00	8,184.15	8,228.07	8,184.15	21.60	19.55	-146.63	-441.63	-257.07	935.99	899.04	36.95	25.333		
8,300.00	8,231.66	8,275.57	8,231.66	21.74	19.63	-136.44	-441.63	-257.07	948.31	911.34	36.97	25.648		
8,350.00	8,277.92	8,321.84	8,277.92	21.86	19.72	-129.64	-441.63	-257.07	961.69	924.69	36.99	25.996		
8,400.00	8,322.58	8,366.50	8,322.58	21.97	19.80	-124.86	-441.63	-257.07	976.18	939.17	37.01	26.377		
8,450.00	8,365.30	8,409.22	8,365.30	22.07	19.89	-121.32	-441.63	-257.07	991.87	954.84	37.03	26.786		
8,500.00	8,405.77	8,449.83	8,450.71	22.16	20.02	-119.78	-436.87	-257.07	1,008.21	971.19	37.02	27.232		
8,550.00	8,443.66	8,614.21	8,566.65	22.24	20.07	-119.22	-409.33	-257.07	1,023.05	986.16	36.89	27.730		
8,600.00	8,478.69	8,753.52	8,691.23	22.32	19.99	-118.68	-347.78	-257.07	1,035.33	998.67	36.66	28.242		
8,650.00	8,510.59	8,908.62	8,807.91	22.40	19.77	-117.63	-246.30	-257.08	1,044.05	1,007.61	36.44	28.648		
8,700.00	8,539.12	9,068.56	8,895.27	22.48	19.53	-115.74	-112.95	-257.08	1,048.64	1,012.16	36.48	28.745		
8,750.00	8,564.07	9,219.75	8,941.05	22.56	19.36	-113.10	30.68	-257.08	1,049.19	1,012.28	36.92	28.421		
8,800.00	8,585.25	9,332.62	8,949.96	22.65	19.60	-110.61	143.03	-257.08	1,046.59	1,009.03	37.56	27.864		
8,850.00	8,602.48	9,379.42	8,949.96	22.76	19.80	-109.60	189.83	-257.09	1,043.91	1,005.94	37.97	27.495		
8,900.00	8,615.65	9,427.57	8,949.96	22.89	20.05	-108.81	237.98	-257.09	1,042.06	1,003.61	38.45	27.099		
8,950.00	8,624.64	9,476.70	8,949.96	23.04	20.32	-108.25	287.11	-257.09	1,040.91	1,001.90	39.00	26.689		
9,000.00	8,629.41	9,526.45	8,949.96	23.22	20.63	-107.95	336.86	-257.09	1,040.34	1,000.73	39.61	26.265		
9,028.23	8,630.21	9,554.66	8,949.96	23.33	20.83	-107.90	365.07	-257.09	1,040.26	1,000.28	39.98	26.019		

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 328H (SIMOPS)
Project:	Lea County, NM (NAD-83)	TVD Reference:	3431.4' GE + 30' KB @ 3461.40usft
Reference Site:	Cotton Draw Unit	MD Reference:	3431.4' GE + 30' KB @ 3461.40usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	328H (SIMOPS)	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 Cotton Draw Unit - 319H (SIMOPS) - 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 +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
9,032.22	8,630.21	9,558.66	8,949.96	23.35	20.86	-107.90	369.07	-257.09	1,040.26	1,000.23	40.03	25.986	
9,100.00	8,630.03	9,626.43	8,949.96	23.67	21.35	-107.91	436.84	-257.09	1,040.31	999.36	40.95	25.403	
9,200.00	8,629.77	9,726.43	8,949.96	24.28	22.19	-107.92	536.84	-257.09	1,040.40	997.88	42.51	24.472	
9,300.00	8,629.51	9,826.43	8,949.96	25.04	23.14	-107.94	636.84	-257.10	1,040.48	996.18	44.30	23.488	
9,400.00	8,629.25	9,926.43	8,949.96	25.91	24.19	-107.95	736.84	-257.10	1,040.56	994.28	46.28	22.484	
9,500.00	8,628.99	10,026.43	8,949.97	26.90	25.32	-107.97	836.84	-257.10	1,040.65	992.21	48.43	21.486	
9,600.00	8,628.72	10,126.43	8,949.97	27.98	26.53	-107.98	936.84	-257.10	1,040.73	989.99	50.74	20.512	
9,700.00	8,628.46	10,226.43	8,949.97	29.13	27.80	-107.99	1,036.84	-257.11	1,040.81	987.64	53.17	19.574	
9,800.00	8,628.20	10,326.43	8,949.97	30.36	29.13	-108.01	1,136.84	-257.11	1,040.90	985.17	55.72	18.680	
9,900.00	8,627.94	10,426.43	8,949.97	31.65	30.51	-108.02	1,236.84	-257.11	1,040.98	982.61	58.37	17.834	
10,000.00	8,627.68	10,526.43	8,949.97	32.99	31.94	-108.03	1,336.84	-257.11	1,041.06	979.96	61.10	17.038	
10,100.00	8,627.41	10,626.43	8,949.97	34.38	33.41	-108.05	1,436.84	-257.11	1,041.15	977.24	63.91	16.290	
10,200.00	8,627.15	10,726.43	8,949.97	35.80	34.91	-108.06	1,536.84	-257.12	1,041.23	974.45	66.79	15.591	
10,300.00	8,626.89	10,826.43	8,949.97	37.27	36.44	-108.08	1,636.84	-257.12	1,041.31	971.60	69.72	14.936	
10,400.00	8,626.63	10,926.43	8,949.97	38.76	37.99	-108.09	1,736.84	-257.12	1,041.40	968.70	72.70	14.325	
10,500.00	8,626.37	11,026.43	8,949.98	40.28	39.57	-108.10	1,836.84	-257.12	1,041.48	965.76	75.72	13.754	
10,600.00	8,626.11	11,126.43	8,949.98	41.82	41.17	-108.12	1,936.84	-257.13	1,041.57	962.78	78.79	13.220	
10,700.00	8,625.84	11,226.43	8,949.98	43.39	42.79	-108.13	2,036.84	-257.13	1,041.65	959.77	81.89	12.721	
10,800.00	8,625.58	11,326.43	8,949.98	44.98	44.42	-108.14	2,136.84	-257.13	1,041.73	956.72	85.01	12.254	
10,900.00	8,625.32	11,426.43	8,949.98	46.58	46.07	-108.16	2,236.84	-257.13	1,041.82	953.65	88.17	11.816	
11,000.00	8,625.06	11,526.43	8,949.98	48.20	47.73	-108.17	2,336.84	-257.14	1,041.90	950.55	91.35	11.405	
11,100.00	8,624.80	11,626.43	8,949.98	49.84	49.40	-108.18	2,436.84	-257.14	1,041.99	947.43	94.56	11.020	
11,200.00	8,624.54	11,726.43	8,949.98	51.48	51.08	-108.20	2,536.84	-257.14	1,042.07	944.29	97.78	10.657	
11,300.00	8,624.27	11,826.43	8,949.98	53.14	52.78	-108.21	2,636.84	-257.14	1,042.16	941.14	101.02	10.316	
11,400.00	8,624.01	11,926.43	8,949.98	54.81	54.48	-108.23	2,736.84	-257.14	1,042.24	937.96	104.28	9.995	
11,500.00	8,623.75	12,026.43	8,949.99	56.49	56.19	-108.24	2,836.84	-257.15	1,042.32	934.78	107.55	9.692	
11,600.00	8,623.49	12,126.43	8,949.99	58.18	57.90	-108.25	2,936.84	-257.15	1,042.41	931.58	110.83	9.405	
11,700.00	8,623.23	12,226.43	8,949.99	59.88	59.62	-108.27	3,036.83	-257.15	1,042.49	928.36	114.13	9.134	
11,800.00	8,622.96	12,326.43	8,949.99	61.58	61.35	-108.28	3,136.83	-257.15	1,042.58	925.14	117.44	8.878	
11,900.00	8,622.70	12,426.42	8,949.99	63.29	63.09	-108.29	3,236.83	-257.16	1,042.66	921.91	120.75	8.635	
12,000.00	8,622.44	12,526.42	8,949.99	65.01	64.83	-108.31	3,336.83	-257.16	1,042.75	918.66	124.08	8.404	
12,100.00	8,622.18	12,626.42	8,949.99	66.73	66.57	-108.32	3,436.83	-257.16	1,042.83	915.41	127.42	8.184	
12,200.00	8,621.92	12,726.42	8,949.99	68.46	68.32	-108.34	3,536.83	-257.16	1,042.92	912.16	130.76	7.976	
12,300.00	8,621.66	12,826.42	8,949.99	70.19	70.07	-108.35	3,636.83	-257.17	1,043.00	908.89	134.11	7.777	
12,400.00	8,621.39	12,926.42	8,949.99	71.93	71.83	-108.36	3,736.83	-257.17	1,043.09	905.62	137.47	7.588	
12,500.00	8,621.13	13,026.42	8,950.00	73.67	73.59	-108.38	3,836.83	-257.17	1,043.17	902.34	140.83	7.407	
12,600.00	8,620.87	13,126.42	8,950.00	75.42	75.35	-108.39	3,936.83	-257.17	1,043.26	899.06	144.20	7.235	
12,700.00	8,620.61	13,226.42	8,950.00	77.17	77.12	-108.40	4,036.83	-257.17	1,043.34	895.77	147.57	7.070	
12,800.00	8,620.35	13,326.42	8,950.00	78.92	78.89	-108.42	4,136.83	-257.18	1,043.43	892.47	150.95	6.912	
12,900.00	8,620.08	13,426.42	8,950.00	80.68	80.66	-108.43	4,236.83	-257.18	1,043.51	889.17	154.34	6.761	
12,909.19	8,620.06	13,435.61	8,950.00	80.84	80.82	-108.43	4,246.02	-257.18	1,043.52	888.87	154.65	6.748	
12,932.22	8,620.00	13,452.65	8,950.00	81.24	81.12	-108.43	4,263.06	-257.18	1,043.56	888.23	155.33	6.718	

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 328H (SIMOPS)
Project:	Lea County, NM (NAD-83)	TVD Reference:	3431.4' GE + 30' KB @ 3461.40usft
Reference Site:	Cotton Draw Unit	MD Reference:	3431.4' GE + 30' KB @ 3461.40usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	328H (SIMOPS)	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 Cotton Draw Unit - 320H (SIMOPS) - 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		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)					
0.00	0.00	0.00	0.00	0.00	0.00	179.84	-25.00	0.07	25.00				
100.00	100.00	100.00	100.00	0.08	0.08	179.84	-25.00	0.07	25.00	24.84	0.16	158.896	
200.00	200.00	200.00	200.00	0.30	0.30	179.84	-25.00	0.07	25.00	24.39	0.61	41.195	
300.00	300.00	300.00	300.00	0.53	0.53	179.84	-25.00	0.07	25.00	23.94	1.06	23.665	
400.00	400.00	400.00	400.00	0.75	0.75	179.84	-25.00	0.07	25.00	23.49	1.51	16.601	
500.00	500.00	500.00	500.00	0.98	0.98	179.84	-25.00	0.07	25.00	23.04	1.96	12.785	
600.00	600.00	600.00	600.00	1.20	1.20	179.84	-25.00	0.07	25.00	22.60	2.40	10.395	
700.00	700.00	700.00	700.00	1.43	1.43	179.84	-25.00	0.07	25.00	22.15	2.85	8.758	
800.00	800.00	800.00	800.00	1.65	1.65	179.84	-25.00	0.07	25.00	21.70	3.30	7.566	
900.00	900.00	900.00	900.00	1.88	1.88	179.84	-25.00	0.07	25.00	21.25	3.75	6.660	
1,000.00	1,000.00	1,000.00	1,000.00	2.10	2.10	179.84	-25.00	0.07	25.00	20.80	4.20	5.948	
1,100.00	1,100.00	1,100.00	1,100.00	2.33	2.33	179.84	-25.00	0.07	25.00	20.35	4.65	5.373	
1,200.00	1,200.00	1,200.00	1,200.00	2.55	2.55	179.84	-25.00	0.07	25.00	19.90	5.10	4.900	
1,300.00	1,300.00	1,300.00	1,300.00	2.78	2.78	179.84	-25.00	0.07	25.00	19.45	5.55	4.503	
1,400.00	1,400.00	1,400.00	1,400.00	3.00	3.00	179.84	-25.00	0.07	25.00	19.00	6.00	4.166	
1,500.00	1,500.00	1,500.00	1,500.00	3.23	3.23	179.84	-25.00	0.07	25.00	18.55	6.45	3.876	
1,600.00	1,600.00	1,600.00	1,600.00	3.45	3.45	179.84	-25.00	0.07	25.00	18.10	6.90	3.623	
1,700.00	1,700.00	1,700.00	1,700.00	3.67	3.67	179.84	-25.00	0.07	25.00	17.65	7.35	3.401	
1,800.00	1,800.00	1,800.00	1,800.00	3.90	3.90	179.84	-25.00	0.07	25.00	17.20	7.80	3.205	
1,900.00	1,900.00	1,900.00	1,900.00	4.12	4.12	179.84	-25.00	0.07	25.00	16.75	8.25	3.031	
2,000.00	2,000.00	2,000.00	2,000.00	4.35	4.35	179.84	-25.00	0.07	25.00	16.30	8.70	2.874	
2,100.00	2,100.00	2,100.00	2,100.00	4.57	4.57	179.84	-25.00	0.07	25.00	15.85	9.15	2.733	
2,200.00	2,200.00	2,200.00	2,200.00	4.80	4.80	179.84	-25.00	0.07	25.00	15.40	9.60	2.605	
2,300.00	2,300.00	2,300.00	2,300.00	5.02	5.02	179.84	-25.00	0.07	25.00	14.95	10.05	2.488	
2,400.00	2,400.00	2,400.00	2,400.00	5.25	5.25	179.84	-25.00	0.07	25.00	14.50	10.50	2.382	
2,500.00	2,500.00	2,500.00	2,500.00	5.47	5.47	179.84	-25.00	0.07	25.00	14.05	10.95	2.284	
2,600.00	2,600.00	2,600.00	2,600.00	5.70	5.70	179.84	-25.00	0.07	25.00	13.60	11.40	2.194	
2,700.00	2,700.00	2,700.00	2,700.00	5.92	5.92	179.84	-25.00	0.07	25.00	13.15	11.85	2.111	
2,800.00	2,800.00	2,800.00	2,800.00	6.15	6.15	179.84	-25.00	0.07	25.00	12.71	12.29	2.033	
2,900.00	2,900.00	2,900.00	2,900.00	6.37	6.37	179.84	-25.00	0.07	25.00	12.26	12.74	1.962	
3,000.00	3,000.00	3,000.00	3,000.00	6.60	6.60	179.84	-25.00	0.07	25.00	11.81	13.19	1.895	
3,100.00	3,100.00	3,100.00	3,100.00	6.82	6.82	179.84	-25.00	0.07	25.00	11.36	13.64	1.832	
3,200.00	3,200.00	3,200.00	3,200.00	7.05	7.05	179.84	-25.00	0.07	25.00	10.91	14.09	1.774	
3,300.00	3,300.00	3,300.00	3,300.00	7.27	7.27	179.84	-25.00	0.07	25.00	10.46	14.54	1.719	
3,400.00	3,400.00	3,400.00	3,400.00	7.50	7.50	179.84	-25.00	0.07	25.00	10.01	14.99	1.668	
3,500.00	3,500.00	3,500.00	3,500.00	7.72	7.72	179.84	-25.00	0.07	25.00	9.56	15.44	1.619	
3,600.00	3,600.00	3,600.00	3,600.00	7.95	7.95	179.84	-25.00	0.07	25.00	9.11	15.89	1.573	
3,700.00	3,700.00	3,700.00	3,700.00	8.17	8.17	179.84	-25.00	0.07	25.00	8.66	16.34	1.530	
3,800.00	3,800.00	3,800.00	3,800.00	8.40	8.40	179.84	-25.00	0.07	25.00	8.21	16.79	1.489 Level 3	
3,900.00	3,900.00	3,900.00	3,900.00	8.62	8.62	179.84	-25.00	0.07	25.00	7.76	17.24	1.450 Level 3	
4,000.00	4,000.00	4,000.00	4,000.00	8.84	8.84	179.84	-25.00	0.07	25.00	7.31	17.69	1.413 Level 3	
4,100.00	4,100.00	4,100.00	4,100.00	9.07	9.07	179.84	-25.00	0.07	25.00	6.86	18.14	1.378 Level 3	
4,200.00	4,200.00	4,200.00	4,200.00	9.29	9.29	179.84	-25.00	0.07	25.00	6.41	18.59	1.345 Level 3	
4,300.00	4,300.00	4,300.00	4,300.00	9.52	9.52	179.84	-25.00	0.07	25.00	5.96	19.04	1.313 Level 3, CC	
4,400.00	4,400.00	4,399.82	4,399.82	9.72	9.72	71.56	-25.36	0.87	25.08	5.53	19.45	1.290 Level 3	
4,500.00	4,499.96	4,499.64	4,499.60	9.91	9.91	71.78	-26.42	3.25	25.32	5.50	19.82	1.278 Level 3, ES	
4,600.00	4,599.86	4,599.46	4,599.33	10.11	10.10	72.15	-28.19	7.21	25.73	5.53	20.20	1.274 Level 3, SF	
4,700.00	4,699.68	4,699.28	4,698.96	10.30	10.29	72.63	-30.68	12.77	26.30	5.71	20.58	1.278 Level 3	
4,800.00	4,799.37	4,799.10	4,798.47	10.50	10.48	73.23	-33.87	19.90	27.03	6.06	20.98	1.289 Level 3	
4,900.00	4,898.90	4,898.91	4,897.82	10.70	10.69	73.92	-37.77	28.62	27.93	6.56	21.38	1.307 Level 3	
5,000.00	4,998.26	4,998.72	4,996.99	10.91	10.89	74.67	-42.37	38.92	29.00	7.21	21.79	1.331 Level 3	
5,100.00	5,097.40	5,098.53	5,095.95	11.13	11.11	75.47	-47.68	50.79	30.24	8.02	22.22	1.361 Level 3	

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 328H (SIMOPS)
Project:	Lea County, NM (NAD-83)	TVD Reference:	3431.4' GE + 30' KB @ 3461.40usft
Reference Site:	Cotton Draw Unit	MD Reference:	3431.4' GE + 30' KB @ 3461.40usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	328H (SIMOPS)	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 Cotton Draw Unit - 320H (SIMOPS) - 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		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)
5,200.00	5,196.30	5,196.48	5,194.87	11.36	11.33	77.16	-53.50	63.80	31.49	8.82	22.67	1.389	Level 3
5,300.00	5,294.93	5,298.44	5,293.81	11.59	11.56	81.65	-59.34	76.86	32.48	9.33	23.14	1.403	Level 3
5,400.00	5,393.26	5,398.35	5,392.68	11.84	11.79	88.82	-65.18	89.91	33.57	9.94	23.64	1.420	Level 3
5,464.05	5,456.05	5,462.29	5,455.97	12.01	11.95	94.64	-68.92	98.27	34.60	10.64	23.95	1.444	Level 3
5,500.00	5,491.27	5,498.17	5,491.48	12.11	12.03	98.06	-71.02	102.95	35.35	11.22	24.13	1.465	Level 3
5,600.00	5,589.21	5,597.98	5,590.27	12.38	12.28	106.76	-76.85	115.99	38.06	13.47	24.59	1.548	
5,700.00	5,687.16	5,697.79	5,689.05	12.67	12.53	114.16	-82.68	129.04	41.52	16.48	25.03	1.658	
5,800.00	5,785.10	5,797.60	5,787.83	12.96	12.78	120.33	-88.51	142.08	45.56	20.09	25.46	1.789	
5,900.00	5,883.04	5,897.41	5,886.61	13.26	13.04	125.46	-94.35	155.12	50.04	24.15	25.89	1.933	
6,000.00	5,980.99	5,997.22	5,985.39	13.57	13.30	129.71	-100.18	168.16	54.85	28.54	26.32	2.084	
6,100.00	6,078.93	6,097.02	6,084.17	13.89	13.57	133.27	-106.01	181.20	59.92	33.17	26.75	2.240	
6,200.00	6,176.87	6,196.83	6,182.95	14.21	13.84	136.26	-111.84	194.24	65.19	38.00	27.18	2.398	
6,300.00	6,274.82	6,296.64	6,281.73	14.53	14.11	138.79	-117.68	207.28	70.60	42.97	27.62	2.556	
6,400.00	6,372.76	6,396.45	6,380.51	14.87	14.39	140.97	-123.51	220.32	76.13	48.06	28.07	2.712	
6,500.00	6,470.70	6,496.26	6,479.29	15.21	14.67	142.84	-129.34	233.36	81.75	53.24	28.52	2.867	
6,600.00	6,568.65	6,596.07	6,578.07	15.55	14.95	144.48	-135.18	246.40	87.46	58.49	28.97	3.019	
6,700.00	6,666.59	6,695.87	6,676.85	15.90	15.23	145.91	-141.01	259.44	93.22	63.79	29.43	3.168	
6,800.00	6,764.53	6,795.68	6,775.63	16.25	15.52	147.18	-146.84	272.48	99.04	69.15	29.89	3.314	
6,900.00	6,862.48	6,895.49	6,874.41	16.61	15.81	148.30	-152.67	285.52	104.89	74.54	30.35	3.456	
7,000.00	6,960.42	6,995.30	6,973.19	16.97	16.10	149.31	-158.51	298.56	110.79	79.97	30.82	3.595	
7,100.00	7,058.36	7,095.11	7,071.98	17.33	16.39	150.21	-164.34	311.60	116.71	85.42	31.29	3.730	
7,200.00	7,156.31	7,194.92	7,170.76	17.70	16.69	151.03	-170.17	324.64	122.66	90.90	31.76	3.862	
7,300.00	7,254.25	7,294.72	7,269.54	18.07	16.99	151.77	-176.00	337.68	128.64	96.40	32.24	3.990	
7,400.00	7,352.19	7,394.31	7,368.10	18.44	17.28	152.44	-181.82	350.68	134.64	101.92	32.72	4.115	
7,500.00	7,450.14	7,492.07	7,464.99	18.82	17.53	153.27	-187.12	362.53	141.53	108.38	33.15	4.269	
7,600.00	7,548.08	7,589.57	7,561.84	19.20	17.77	154.36	-191.73	372.84	149.91	116.34	33.57	4.466	
7,700.00	7,646.02	7,686.76	7,658.55	19.58	18.00	155.63	-195.65	381.62	159.79	125.83	33.96	4.705	
7,800.00	7,743.97	7,783.58	7,755.04	19.96	18.23	157.02	-198.90	388.87	171.22	136.88	34.35	4.985	
7,900.00	7,841.91	7,879.98	7,851.24	20.35	18.44	158.46	-201.47	394.61	184.23	149.52	34.72	5.307	
8,000.00	7,939.85	7,975.91	7,947.05	20.74	18.64	159.92	-203.37	398.86	198.85	163.77	35.08	5.668	
8,094.33	8,032.24	8,065.92	8,037.01	21.10	18.82	161.27	-204.55	401.51	214.12	178.69	35.42	6.044	
8,100.00	8,037.80	8,071.32	8,042.41	21.12	18.84	164.10	-204.60	401.63	215.08	179.64	35.44	6.069	
8,150.00	8,086.85	8,118.87	8,089.95	21.30	18.93	169.90	-204.98	402.47	223.81	188.21	35.60	6.287	
8,200.00	8,135.76	8,166.14	8,137.22	21.46	19.01	174.05	-205.19	402.95	232.91	197.11	35.80	6.506	
8,250.00	8,184.15	8,213.07	8,184.15	21.60	19.10	174.02	-205.25	403.07	242.53	206.51	36.02	6.733	
8,300.00	8,231.66	8,260.58	8,231.66	21.74	19.19	176.14	-205.25	403.07	252.72	216.48	36.24	6.973	
8,350.00	8,277.92	8,306.84	8,277.92	21.86	19.28	177.07	-205.25	403.07	263.83	227.39	36.44	7.240	
8,400.00	8,322.58	8,351.50	8,322.58	21.97	19.37	177.06	-205.25	403.07	276.36	239.78	36.58	7.555	
8,450.00	8,365.30	8,394.23	8,365.30	22.07	19.45	177.06	-205.25	403.07	290.86	254.22	36.64	7.938	
8,500.00	8,405.77	8,441.85	8,412.91	22.16	19.54	177.06	-204.12	403.07	307.49	270.89	36.60	8.401	
8,550.00	8,443.66	8,494.77	8,465.49	22.24	19.64	177.06	-198.37	403.07	325.37	288.94	36.42	8.933	
8,600.00	8,478.69	8,551.55	8,521.07	22.32	19.72	177.06	-186.84	403.07	344.03	307.92	36.11	9.527	
8,650.00	8,510.59	8,612.97	8,579.57	22.40	19.80	177.06	-168.25	403.07	363.06	327.38	35.67	10.177	
8,700.00	8,539.12	8,679.91	8,640.66	22.48	19.88	177.06	-140.98	403.07	381.96	346.81	35.14	10.869	
8,750.00	8,564.07	8,753.33	8,703.51	22.56	19.95	177.06	-103.11	403.07	400.20	365.64	34.56	11.580	
8,800.00	8,585.25	8,834.20	8,766.49	22.65	20.01	177.06	-52.50	403.06	417.17	383.18	33.99	12.274	
8,850.00	8,602.48	8,923.24	8,826.84	22.76	20.08	177.06	12.85	403.06	432.20	398.69	33.51	12.898	
8,900.00	8,615.65	9,020.64	8,880.39	22.89	20.20	177.06	94.07	403.05	444.56	411.29	33.26	13.365	
8,950.00	8,624.64	9,125.66	8,921.83	23.04	20.42	177.06	190.41	403.05	453.51	420.16	33.35	13.597	
9,000.00	8,629.41	9,236.26	8,945.73	23.22	20.88	177.06	298.21	403.04	458.46	424.56	33.90	13.525	
9,032.22	8,630.21	9,307.29	8,949.96	23.35	21.29	177.06	369.07	403.04	459.33	424.83	34.50	13.314	
9,100.00	8,630.03	9,375.06	8,949.96	23.67	21.76	177.06	436.85	403.03	459.46	424.15	35.31	13.011	

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 328H (SIMOPS)
Project:	Lea County, NM (NAD-83)	TVD Reference:	3431.4' GE + 30' KB @ 3461.40usft
Reference Site:	Cotton Draw Unit	MD Reference:	3431.4' GE + 30' KB @ 3461.40usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	328H (SIMOPS)	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 Cotton Draw Unit - 320H (SIMOPS) - 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						Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	
9,200.00	8,829.77	9,475.06	8,949.96	24.28	22.56	-134.15	536.85	403.03	459.65	423.00	36.64	12.544	
9,300.00	8,829.51	9,575.06	8,949.96	25.04	23.48	-134.18	636.85	403.02	459.83	421.70	38.13	12.058	
9,400.00	8,829.25	9,675.06	8,949.96	25.91	24.50	-134.20	736.85	403.02	460.02	420.25	39.77	11.568	
9,500.00	8,828.99	9,775.06	8,949.96	26.90	25.61	-134.22	836.85	403.01	460.21	418.68	41.53	11.083	
9,600.00	8,828.72	9,875.06	8,949.96	27.98	26.80	-134.25	936.85	403.01	460.40	417.00	43.39	10.610	
9,700.00	8,828.46	9,975.06	8,949.97	29.13	28.05	-134.27	1,036.85	403.00	460.58	415.23	45.36	10.155	
9,800.00	8,828.20	10,075.06	8,949.97	30.36	29.37	-134.29	1,136.84	402.99	460.77	413.37	47.40	9.720	
9,900.00	8,827.94	10,175.06	8,949.97	31.65	30.73	-134.32	1,236.84	402.99	460.96	411.44	49.52	9.308	
10,000.00	8,827.68	10,275.06	8,949.97	32.99	32.14	-134.34	1,336.84	402.98	461.15	409.44	51.71	8.918	
10,100.00	8,827.41	10,375.06	8,949.97	34.38	33.60	-134.36	1,436.84	402.98	461.34	407.39	53.95	8.552	
10,200.00	8,827.15	10,475.06	8,949.97	35.80	35.08	-134.38	1,536.84	402.97	461.52	405.29	56.23	8.207	
10,300.00	8,826.89	10,575.06	8,949.97	37.27	36.60	-134.41	1,636.84	402.96	461.71	403.15	58.57	7.884	
10,400.00	8,826.63	10,675.06	8,949.97	38.76	38.15	-134.43	1,736.84	402.96	461.90	400.97	60.93	7.580	
10,500.00	8,826.37	10,775.06	8,949.97	40.28	39.71	-134.45	1,836.84	402.95	462.09	398.75	63.34	7.296	
10,600.00	8,826.11	10,875.06	8,949.97	41.82	41.30	-134.47	1,936.84	402.95	462.28	396.51	65.77	7.029	
10,700.00	8,825.84	10,975.06	8,949.98	43.39	42.91	-134.50	2,036.84	402.94	462.46	394.24	68.22	6.779	
10,800.00	8,825.58	11,075.06	8,949.98	44.98	44.54	-134.52	2,136.84	402.94	462.65	391.95	70.71	6.543	
10,900.00	8,825.32	11,175.06	8,949.98	46.58	46.18	-134.54	2,236.84	402.93	462.84	389.63	73.21	6.322	
11,000.00	8,825.06	11,275.06	8,949.98	48.20	47.83	-134.57	2,336.84	402.92	463.03	387.30	75.73	6.115	
11,100.00	8,824.80	11,375.06	8,949.98	49.84	49.50	-134.59	2,436.84	402.92	463.22	384.96	78.26	5.919	
11,200.00	8,824.54	11,475.05	8,949.98	51.48	51.17	-134.61	2,536.84	402.91	463.41	382.59	80.81	5.734	
11,300.00	8,824.27	11,575.05	8,949.98	53.14	52.86	-134.63	2,636.84	402.91	463.60	380.22	83.38	5.560	
11,400.00	8,824.01	11,675.05	8,949.98	54.81	54.55	-134.66	2,736.84	402.90	463.78	377.83	85.95	5.396	
11,500.00	8,823.75	11,775.05	8,949.98	56.49	56.26	-134.68	2,836.84	402.89	463.97	375.43	88.54	5.240	
11,600.00	8,823.49	11,875.05	8,949.99	58.18	57.97	-134.70	2,936.84	402.89	464.16	373.03	91.14	5.093	
11,700.00	8,823.23	11,975.05	8,949.99	59.88	59.69	-134.72	3,036.84	402.88	464.35	370.61	93.74	4.953	
11,800.00	8,822.96	12,075.05	8,949.99	61.58	61.41	-134.75	3,136.84	402.88	464.54	368.19	96.36	4.821	
11,900.00	8,822.70	12,175.05	8,949.99	63.29	63.14	-134.77	3,236.84	402.87	464.73	365.75	98.98	4.695	
12,000.00	8,822.44	12,275.05	8,949.99	65.01	64.88	-134.79	3,336.84	402.87	464.92	363.32	101.60	4.576	
12,100.00	8,822.18	12,375.05	8,949.99	66.73	66.62	-134.81	3,436.84	402.86	465.11	360.87	104.24	4.462	
12,200.00	8,821.92	12,475.05	8,949.99	68.46	68.36	-134.84	3,536.84	402.85	465.30	358.42	106.87	4.354	
12,300.00	8,821.66	12,575.05	8,949.99	70.19	70.11	-134.86	3,636.84	402.85	465.49	355.97	109.52	4.250	
12,400.00	8,821.39	12,675.05	8,949.99	71.93	71.86	-134.88	3,736.84	402.84	465.68	353.51	112.16	4.152	
12,500.00	8,821.13	12,775.05	8,950.00	73.67	73.62	-134.90	3,836.84	402.84	465.87	351.05	114.81	4.058	
12,600.00	8,820.87	12,875.05	8,950.00	75.42	75.38	-134.93	3,936.84	402.83	466.06	348.59	117.47	3.968	
12,700.00	8,820.61	12,975.05	8,950.00	77.17	77.14	-134.95	4,036.83	402.83	466.25	346.12	120.13	3.881	
12,800.00	8,820.35	13,075.05	8,950.00	78.92	78.91	-134.97	4,136.83	402.82	466.44	343.65	122.79	3.799	
12,900.00	8,820.08	13,175.05	8,950.00	80.68	80.68	-134.99	4,236.83	402.81	466.63	341.18	125.45	3.720	
12,932.22	8,820.00	13,205.29	8,950.00	81.24	81.21	-135.00	4,267.07	402.81	466.69	340.41	126.28	3.696	

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



LEAM Drilling Systems LLC
Anticollision Report



Company:	DEVON ENERGY	Local Co-ordinate Reference:	Well 328H (SIMOPS)
Project:	Lea County, NM (NAD-83)	TVD Reference:	3431.4' GE + 30' KB @ 3461.40usft
Reference Site:	Cotton Draw Unit	MD Reference:	3431.4' GE + 30' KB @ 3461.40usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	328H (SIMOPS)	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 Cotton Draw Unit - 321H (SIMOPS) - 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		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)
0.00	0.00	0.00	0.00	0.00	0.00	131.37	-159.04	180.58	240.63				
100.00	100.00	100.00	100.00	0.08	0.08	131.37	-159.04	180.58	240.63	240.47	0.16	1,529.377	
200.00	200.00	200.00	200.00	0.30	0.30	131.37	-159.04	180.58	240.63	240.02	0.61	396.506	
300.00	300.00	300.00	300.00	0.53	0.53	131.37	-159.04	180.58	240.63	239.57	1.06	227.780	
400.00	400.00	400.00	400.00	0.75	0.75	131.37	-159.04	180.58	240.63	239.12	1.51	159.786	
500.00	500.00	500.00	500.00	0.98	0.98	131.37	-159.04	180.58	240.63	238.67	1.96	123.054	
600.00	600.00	600.00	600.00	1.20	1.20	131.37	-159.04	180.58	240.63	238.22	2.40	100.053	
700.00	700.00	700.00	700.00	1.43	1.43	131.37	-159.04	180.58	240.63	237.77	2.85	84.296	
800.00	800.00	800.00	800.00	1.65	1.65	131.37	-159.04	180.58	240.63	237.32	3.30	72.828	
900.00	900.00	900.00	900.00	1.88	1.88	131.37	-159.04	180.58	240.63	236.87	3.75	64.106	
1,000.00	1,000.00	1,000.00	1,000.00	2.10	2.10	131.37	-159.04	180.58	240.63	236.42	4.20	57.249	
1,100.00	1,100.00	1,100.00	1,100.00	2.33	2.33	131.37	-159.04	180.58	240.63	235.97	4.65	51.718	
1,200.00	1,200.00	1,200.00	1,200.00	2.55	2.55	131.37	-159.04	180.58	240.63	235.52	5.10	47.161	
1,300.00	1,300.00	1,300.00	1,300.00	2.78	2.78	131.37	-159.04	180.58	240.63	235.08	5.55	43.343	
1,400.00	1,400.00	1,400.00	1,400.00	3.00	3.00	131.37	-159.04	180.58	240.63	234.63	6.00	40.096	
1,500.00	1,500.00	1,500.00	1,500.00	3.23	3.23	131.37	-159.04	180.58	240.63	234.18	6.45	37.302	
1,600.00	1,600.00	1,600.00	1,600.00	3.45	3.45	131.37	-159.04	180.58	240.63	233.73	6.90	34.872	
1,700.00	1,700.00	1,700.00	1,700.00	3.67	3.67	131.37	-159.04	180.58	240.63	233.28	7.35	32.739	
1,800.00	1,800.00	1,800.00	1,800.00	3.90	3.90	131.37	-159.04	180.58	240.63	232.83	7.80	30.852	
1,900.00	1,900.00	1,900.00	1,900.00	4.12	4.12	131.37	-159.04	180.58	240.63	232.38	8.25	29.171	
2,000.00	2,000.00	2,000.00	2,000.00	4.35	4.35	131.37	-159.04	180.58	240.63	231.93	8.70	27.663	
2,100.00	2,100.00	2,100.00	2,100.00	4.57	4.57	131.37	-159.04	180.58	240.63	231.48	9.15	26.304	
2,200.00	2,200.00	2,200.00	2,200.00	4.80	4.80	131.37	-159.04	180.58	240.63	231.03	9.60	25.072	
2,300.00	2,300.00	2,300.00	2,300.00	5.02	5.02	131.37	-159.04	180.58	240.63	230.58	10.05	23.950	
2,400.00	2,400.00	2,400.00	2,400.00	5.25	5.25	131.37	-159.04	180.58	240.63	230.13	10.50	22.924	
2,500.00	2,500.00	2,500.00	2,500.00	5.47	5.47	131.37	-159.04	180.58	240.63	229.68	10.95	21.983	
2,600.00	2,600.00	2,600.00	2,600.00	5.70	5.70	131.37	-159.04	180.58	240.63	229.23	11.40	21.116	
2,700.00	2,700.00	2,700.00	2,700.00	5.92	5.92	131.37	-159.04	180.58	240.63	228.78	11.85	20.314	
2,800.00	2,800.00	2,800.00	2,800.00	6.15	6.15	131.37	-159.04	180.58	240.63	228.33	12.29	19.572	
2,900.00	2,900.00	2,900.00	2,900.00	6.37	6.37	131.37	-159.04	180.58	240.63	227.88	12.74	18.881	
3,000.00	3,000.00	3,000.00	3,000.00	6.60	6.60	131.37	-159.04	180.58	240.63	227.43	13.19	18.238	
3,100.00	3,100.00	3,100.00	3,100.00	6.82	6.82	131.37	-159.04	180.58	240.63	226.98	13.64	17.637	
3,200.00	3,200.00	3,200.00	3,200.00	7.05	7.05	131.37	-159.04	180.58	240.63	226.53	14.09	17.074	
3,300.00	3,300.00	3,300.00	3,300.00	7.27	7.27	131.37	-159.04	180.58	240.63	226.08	14.54	16.547	
3,400.00	3,400.00	3,400.00	3,400.00	7.50	7.50	131.37	-159.04	180.58	240.63	225.63	14.99	16.050	
3,500.00	3,500.00	3,500.00	3,500.00	7.72	7.72	131.37	-159.04	180.58	240.63	225.19	15.44	15.583	
3,600.00	3,600.00	3,600.00	3,600.00	7.95	7.95	131.37	-159.04	180.58	240.63	224.74	15.89	15.142	
3,700.00	3,700.00	3,700.00	3,700.00	8.17	8.17	131.37	-159.04	180.58	240.63	224.29	16.34	14.726	
3,800.00	3,800.00	3,800.00	3,800.00	8.40	8.40	131.37	-159.04	180.58	240.63	223.84	16.79	14.332	
3,900.00	3,900.00	3,900.00	3,900.00	8.62	8.62	131.37	-159.04	180.58	240.63	223.39	17.24	13.958	
4,000.00	4,000.00	4,000.00	4,000.00	8.84	8.84	131.37	-159.04	180.58	240.63	222.94	17.69	13.603	
4,100.00	4,100.00	4,100.00	4,100.00	9.07	9.07	131.37	-159.04	180.58	240.63	222.49	18.14	13.266	
4,200.00	4,200.00	4,200.00	4,200.00	9.29	9.29	131.37	-159.04	180.58	240.63	222.04	18.59	12.945	
4,300.00	4,300.00	4,300.00	4,300.00	9.52	9.52	131.37	-159.04	180.58	240.63	221.59	19.04	12.639	
4,400.00	4,400.00	4,396.29	4,396.29	9.72	9.72	23.02	-159.29	181.35	240.59	221.16	19.44	12.377	
4,500.00	4,499.96	4,492.59	4,492.55	9.91	9.90	23.03	-160.03	183.66	240.50	220.69	19.80	12.145	
4,600.00	4,599.86	4,588.88	4,588.76	10.11	10.08	23.03	-161.27	187.51	240.33	220.17	20.16	11.920	
4,700.00	4,699.68	4,685.18	4,684.89	10.30	10.27	23.04	-163.01	192.90	240.10	219.58	20.52	11.701	
4,800.00	4,799.37	4,781.48	4,780.92	10.50	10.46	23.06	-165.24	199.82	239.81	218.93	20.88	11.487	
4,900.00	4,898.90	4,877.79	4,876.81	10.70	10.66	23.07	-167.96	208.28	239.45	218.22	21.23	11.277	
5,000.00	4,998.26	4,974.10	4,972.55	10.91	10.86	23.09	-171.18	218.28	239.03	217.44	21.59	11.072	
5,100.00	5,097.40	5,070.42	5,068.10	11.13	11.07	23.12	-174.89	229.81	238.54	216.59	21.94	10.871	

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 328H (SIMOPS)
Project:	Lea County, NM (NAD-83)	TVD Reference:	3431.4' GE + 30' KB @ 3461.40usft
Reference Site:	Cotton Draw Unit	MD Reference:	3431.4' GE + 30' KB @ 3461.40usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	328H (SIMOPS)	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 Cotton Draw Unit - 321H (SIMOPS) - 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		Highside Toolface (°)	Distance		Minimum Separation (usft)	Separation Factor	Warning			
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)						
5,200.00	5,196.30	5,166.75	5,163.45	11.36	11.28	23.14	-179.09	242.86	237.98	215.68	22.30	10.672		
5,300.00	5,294.93	5,263.09	5,258.56	11.59	11.51	23.17	-183.78	257.44	237.36	214.71	22.66	10.477		
5,400.00	5,393.26	5,359.44	5,353.41	11.84	11.74	23.20	-188.97	273.55	236.68	213.67	23.02	10.284		
5,464.05	5,456.05	5,421.15	5,414.01	12.01	11.90	23.22	-192.54	284.66	236.21	212.96	23.25	10.161		
5,500.00	5,491.27	5,455.80	5,447.97	12.11	11.99	23.22	-194.64	291.17	236.04	212.64	23.40	10.087		
5,513.17	5,504.17	5,468.49	5,460.41	12.14	12.03	23.22	-195.42	293.60	236.02	212.57	23.46	10.063 CC, ES		
5,600.00	5,589.21	5,552.15	5,542.21	12.38	12.26	23.12	-200.80	310.30	236.60	212.78	23.83	9.930		
5,700.00	5,687.16	5,650.07	5,637.65	12.67	12.54	22.87	-207.50	331.13	238.57	214.30	24.26	9.832		
5,800.00	5,785.10	5,750.04	5,735.03	12.96	12.84	22.60	-214.43	352.64	240.78	216.07	24.71	9.744		
5,900.00	5,883.04	5,850.01	5,832.41	13.26	13.16	22.33	-221.35	374.15	243.00	217.84	25.16	9.656		
6,000.00	5,980.99	5,949.98	5,929.79	13.57	13.48	22.07	-228.28	395.66	245.23	219.60	25.62	9.571		
6,100.00	6,078.93	6,049.94	6,027.17	13.89	13.81	21.81	-235.20	417.17	247.46	221.37	26.09	9.486		
6,200.00	6,176.87	6,149.91	6,124.56	14.21	14.15	21.55	-242.13	438.68	249.69	223.14	26.55	9.404		
6,300.00	6,274.82	6,249.88	6,221.94	14.53	14.50	21.30	-249.05	460.20	251.93	224.91	27.02	9.323		
6,400.00	6,372.76	6,349.85	6,319.32	14.87	14.85	21.06	-255.98	481.71	254.18	226.68	27.50	9.244		
6,500.00	6,470.70	6,449.82	6,416.70	15.21	15.21	20.82	-262.90	503.22	256.42	228.45	27.98	9.166		
6,600.00	6,568.65	6,549.79	6,514.08	15.55	15.58	20.58	-269.82	524.73	258.68	230.22	28.46	9.090		
6,700.00	6,666.59	6,649.76	6,611.46	15.90	15.96	20.35	-276.75	546.24	260.94	232.00	28.94	9.017		
6,800.00	6,764.53	6,749.73	6,708.84	16.25	16.34	20.12	-283.67	567.75	263.20	233.77	29.43	8.944		
6,900.00	6,862.48	6,849.70	6,806.22	16.61	16.72	19.89	-290.60	589.26	265.46	235.55	29.91	8.874		
7,000.00	6,960.42	6,949.67	6,903.61	16.97	17.11	19.67	-297.52	610.77	267.73	237.33	30.41	8.805		
7,100.00	7,058.36	7,049.63	7,000.99	17.33	17.51	19.46	-304.45	632.28	270.01	239.11	30.90	8.738		
7,200.00	7,156.31	7,149.60	7,098.37	17.70	17.90	19.24	-311.37	653.79	272.29	240.89	31.39	8.673		
7,300.00	7,254.25	7,249.57	7,195.75	18.07	18.31	19.03	-318.30	675.30	274.57	242.68	31.89	8.610		
7,400.00	7,352.19	7,349.54	7,293.13	18.44	18.71	18.82	-325.22	696.81	276.85	244.47	32.39	8.548		
7,500.00	7,450.14	7,449.51	7,390.51	18.82	19.12	18.62	-332.14	718.32	279.14	246.25	32.89	8.488		
7,600.00	7,548.08	7,549.48	7,487.89	19.20	19.53	18.42	-339.07	739.84	281.44	248.05	33.39	8.429		
7,700.00	7,646.02	7,649.45	7,585.28	19.58	19.95	18.22	-345.99	761.35	283.73	249.84	33.89	8.372		
7,800.00	7,743.97	7,749.42	7,682.66	19.96	20.37	18.03	-352.92	782.86	286.03	251.63	34.40	8.316		
7,900.00	7,841.91	7,849.39	7,780.04	20.35	20.79	17.84	-359.84	804.37	288.33	253.43	34.90	8.261		
8,000.00	7,939.85	7,949.35	7,877.42	20.74	21.21	17.65	-366.77	825.88	290.64	255.23	35.41	8.209		
8,094.33	8,032.24	8,043.66	7,969.28	21.10	21.61	17.48	-373.30	846.17	292.81	256.93	35.88	8.160		
8,100.00	8,037.80	8,049.32	7,974.80	21.12	21.63	20.12	-373.69	847.39	292.96	257.03	35.93	8.153		
8,150.00	8,086.85	8,099.20	8,023.39	21.30	21.85	45.31	-377.15	858.12	295.67	259.35	36.32	8.140		
8,200.00	8,135.76	8,148.64	8,071.55	21.46	22.06	67.78	-380.57	868.76	300.96	264.29	36.67	8.208		
8,250.00	8,184.15	8,197.25	8,118.90	21.60	22.27	83.63	-383.94	879.22	308.95	272.01	36.94	8.363		
8,300.00	8,231.66	8,244.66	8,165.08	21.74	22.47	94.35	-387.22	889.42	319.85	282.73	37.13	8.615		
8,350.00	8,277.92	8,290.52	8,209.76	21.86	22.67	101.92	-390.40	899.29	333.89	296.69	37.19	8.977		
8,400.00	8,322.58	8,334.48	8,252.58	21.97	22.86	107.51	-393.44	908.75	351.25	314.13	37.12	9.462		
8,450.00	8,365.30	8,376.20	8,293.22	22.07	23.04	111.73	-396.33	917.72	372.09	335.18	36.90	10.083		
8,500.00	8,405.77	8,415.36	8,331.36	22.16	23.21	114.89	-399.05	926.15	396.46	359.91	36.55	10.846		
8,550.00	8,443.66	8,474.63	8,389.16	22.24	23.45	118.89	-401.87	938.92	423.93	387.85	36.08	11.751		
8,600.00	8,478.69	8,578.26	8,489.82	22.32	23.81	124.68	-392.78	961.15	450.57	415.23	35.34	12.751		
8,650.00	8,510.59	8,709.34	8,612.09	22.40	24.17	129.89	-355.03	988.16	473.81	439.44	34.37	13.785		
8,700.00	8,539.12	8,873.82	8,748.49	22.48	24.50	133.92	-269.24	1,018.29	490.93	457.57	33.36	14.716		
8,750.00	8,564.07	9,066.94	8,870.54	22.56	24.79	135.95	-123.24	1,045.25	498.82	466.16	32.66	15.273		
8,800.00	8,585.25	9,265.66	8,939.65	22.65	25.12	135.47	61.39	1,060.52	495.57	462.99	32.58	15.211		
8,850.00	8,602.48	9,394.80	8,950.00	22.76	25.47	134.11	189.85	1,062.80	483.05	450.38	32.67	14.788		
8,900.00	8,615.65	9,442.95	8,950.00	22.89	25.64	134.14	238.00	1,062.80	471.83	439.73	32.09	14.701		
8,950.00	8,624.64	9,492.09	8,950.00	23.04	25.85	134.12	287.14	1,062.80	464.22	432.54	31.68	14.653		
9,000.00	8,629.41	9,541.83	8,950.00	23.22	26.10	134.10	336.88	1,062.80	460.21	428.75	31.46	14.629		
9,030.95	8,630.21	9,572.77	8,950.00	23.34	26.27	134.10	367.82	1,062.80	459.52	428.12	31.40	14.634		

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 328H (SIMOPS)
Project:	Lea County, NM (NAD-83)	TVD Reference:	3431.4' GE + 30' KB @ 3461.40usft
Reference Site:	Cotton Draw Unit	MD Reference:	3431.4' GE + 30' KB @ 3461.40usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	328H (SIMOPS)	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 Cotton Draw Unit - 321H (SIMOPS) - 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
9,032.22	8,630.21	9,574.04	8,950.00	23.35	26.28	134.10	369.09	1,062.80	459.52	428.13	31.40	14.635	
9,100.00	8,630.03	9,641.82	8,950.00	23.67	26.71	134.12	436.87	1,062.80	459.65	427.54	32.11	14.314	
9,200.00	8,629.77	9,741.82	8,950.00	24.28	27.44	134.14	536.87	1,062.80	459.83	426.51	33.32	13.799	
9,300.00	8,629.51	9,841.82	8,950.00	25.04	28.29	134.16	636.87	1,062.80	460.01	425.29	34.72	13.248	
9,400.00	8,629.25	9,941.82	8,950.00	25.91	29.25	134.19	736.87	1,062.80	460.19	423.91	36.28	12.683	
9,500.00	8,628.99	10,041.82	8,950.00	26.90	30.30	134.21	836.87	1,062.80	460.38	422.39	37.99	12.119	
9,600.00	8,628.72	10,141.82	8,950.00	27.98	31.43	134.23	936.87	1,062.80	460.56	420.74	39.82	11.567	
9,700.00	8,628.46	10,241.82	8,950.00	29.13	32.63	134.26	1,036.87	1,062.80	460.74	418.99	41.75	11.035	
9,800.00	8,628.20	10,341.82	8,950.00	30.36	33.89	134.28	1,136.87	1,062.80	460.93	417.14	43.78	10.528	
9,900.00	8,627.94	10,441.82	8,950.00	31.65	35.20	134.30	1,236.87	1,062.80	461.11	415.22	45.89	10.048	
10,000.00	8,627.68	10,541.82	8,950.00	32.99	36.55	134.33	1,336.87	1,062.80	461.29	413.22	48.07	9.596	
10,100.00	8,627.41	10,641.82	8,950.00	34.38	37.95	134.35	1,436.87	1,062.80	461.47	411.17	50.31	9.173	
10,200.00	8,627.15	10,741.82	8,950.00	35.80	39.39	134.37	1,536.87	1,062.80	461.66	409.06	52.60	8.777	
10,300.00	8,626.89	10,841.82	8,950.00	37.27	40.85	134.40	1,636.87	1,062.80	461.84	406.90	54.94	8.407	
10,400.00	8,626.63	10,941.82	8,950.00	38.76	42.35	134.42	1,736.87	1,062.80	462.02	404.71	57.31	8.062	
10,500.00	8,626.37	11,041.81	8,950.00	40.28	43.87	134.44	1,836.87	1,062.80	462.21	402.49	59.72	7.739	
10,600.00	8,626.11	11,141.81	8,950.00	41.82	45.41	134.47	1,936.86	1,062.80	462.39	400.23	62.16	7.438	
10,700.00	8,625.84	11,241.81	8,950.00	43.39	46.98	134.49	2,036.86	1,062.80	462.57	397.94	64.63	7.157	
10,800.00	8,625.58	11,341.81	8,950.00	44.98	48.56	134.51	2,136.86	1,062.80	462.76	395.64	67.12	6.894	
10,900.00	8,625.32	11,441.81	8,950.00	46.58	50.16	134.53	2,236.86	1,062.80	462.94	393.31	69.63	6.648	
11,000.00	8,625.06	11,541.81	8,950.00	48.20	51.77	134.56	2,336.86	1,062.80	463.12	390.96	72.16	6.418	
11,100.00	8,624.80	11,641.81	8,950.00	49.84	53.40	134.58	2,436.86	1,062.80	463.31	388.60	74.71	6.202	
11,200.00	8,624.54	11,741.81	8,950.00	51.48	55.04	134.60	2,536.86	1,062.80	463.49	386.22	77.27	5.998	
11,300.00	8,624.27	11,841.81	8,950.00	53.14	56.69	134.63	2,636.86	1,062.80	463.68	383.83	79.84	5.807	
11,400.00	8,624.01	11,941.81	8,950.00	54.81	58.36	134.65	2,736.86	1,062.80	463.86	381.43	82.43	5.627	
11,500.00	8,623.75	12,041.81	8,950.00	56.49	60.03	134.67	2,836.86	1,062.80	464.04	379.02	85.02	5.458	
11,600.00	8,623.49	12,141.81	8,950.00	58.18	61.71	134.70	2,936.86	1,062.80	464.23	376.60	87.63	5.298	
11,700.00	8,623.23	12,241.81	8,950.00	59.88	63.40	134.72	3,036.86	1,062.80	464.41	374.17	90.24	5.146	
11,800.00	8,622.96	12,341.81	8,950.00	61.58	65.10	134.74	3,136.86	1,062.80	464.60	371.73	92.86	5.003	
11,900.00	8,622.70	12,441.81	8,950.00	63.29	66.80	134.76	3,236.86	1,062.80	464.78	369.29	95.49	4.867	
12,000.00	8,622.44	12,541.81	8,950.00	65.01	68.51	134.79	3,336.86	1,062.80	464.96	366.84	98.12	4.739	
12,100.00	8,622.18	12,641.81	8,950.00	66.73	70.22	134.81	3,436.86	1,062.80	465.15	364.39	100.76	4.616	
12,200.00	8,621.92	12,741.81	8,950.00	68.46	71.95	134.83	3,536.86	1,062.80	465.33	361.93	103.41	4.500	
12,300.00	8,621.66	12,841.81	8,950.00	70.19	73.67	134.86	3,636.86	1,062.80	465.52	359.46	106.06	4.389	
12,400.00	8,621.39	12,941.81	8,950.00	71.93	75.40	134.88	3,736.86	1,062.80	465.70	356.99	108.71	4.284	
12,500.00	8,621.13	13,041.81	8,950.00	73.67	77.14	134.90	3,836.86	1,062.80	465.89	354.52	111.37	4.183	
12,600.00	8,620.87	13,141.81	8,950.00	75.42	78.88	134.92	3,936.86	1,062.80	466.07	352.05	114.03	4.087	
12,700.00	8,620.61	13,241.81	8,950.00	77.17	80.62	134.95	4,036.86	1,062.80	466.26	349.57	116.69	3.996	
12,800.00	8,620.35	13,341.81	8,950.00	78.92	82.37	134.97	4,136.86	1,062.80	466.44	347.09	119.35	3.908	
12,900.00	8,620.08	13,441.81	8,950.00	80.68	84.12	134.99	4,236.86	1,062.80	466.63	344.61	122.02	3.824	
12,932.22	8,620.00	13,474.03	8,950.00	81.24	84.68	135.00	4,269.08	1,062.80	466.69	343.81	122.88	3.798 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	Local Co-ordinate Reference:	Well 328H (SIMOPS)
Project:	Lea County, NM (NAD-83)	TVD Reference:	3431.4' GE + 30' KB @ 3461.40usft
Reference Site:	Cotton Draw Unit	MD Reference:	3431.4' GE + 30' KB @ 3461.40usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	328H (SIMOPS)	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 Cotton Draw Unit - 327H (SIMOPS) - 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		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)					
0.00	0.00	0.00	0.00	0.00	0.00	-0.16	50.00	-0.14	50.00				
100.00	100.00	100.00	100.00	0.08	0.08	-0.16	50.00	-0.14	50.00	49.84	0.16	317.792	
200.00	200.00	200.00	200.00	0.30	0.30	-0.16	50.00	-0.14	50.00	49.39	0.61	82.391	
300.00	300.00	300.00	300.00	0.53	0.53	-0.16	50.00	-0.14	50.00	48.94	1.06	47.331	
400.00	400.00	400.00	400.00	0.75	0.75	-0.16	50.00	-0.14	50.00	48.49	1.51	33.202	
500.00	500.00	500.00	500.00	0.98	0.98	-0.16	50.00	-0.14	50.00	48.04	1.96	25.569	
600.00	600.00	600.00	600.00	1.20	1.20	-0.16	50.00	-0.14	50.00	47.60	2.40	20.790	
700.00	700.00	700.00	700.00	1.43	1.43	-0.16	50.00	-0.14	50.00	47.15	2.85	17.516	
800.00	800.00	800.00	800.00	1.65	1.65	-0.16	50.00	-0.14	50.00	46.70	3.30	15.133	
900.00	900.00	900.00	900.00	1.88	1.88	-0.16	50.00	-0.14	50.00	46.25	3.75	13.321	
1,000.00	1,000.00	1,000.00	1,000.00	2.10	2.10	-0.16	50.00	-0.14	50.00	45.80	4.20	11.896	
1,100.00	1,100.00	1,100.00	1,100.00	2.33	2.33	-0.16	50.00	-0.14	50.00	45.35	4.65	10.747	
1,200.00	1,200.00	1,200.00	1,200.00	2.55	2.55	-0.16	50.00	-0.14	50.00	44.90	5.10	9.800	
1,300.00	1,300.00	1,300.00	1,300.00	2.78	2.78	-0.16	50.00	-0.14	50.00	44.45	5.55	9.006	
1,400.00	1,400.00	1,400.00	1,400.00	3.00	3.00	-0.16	50.00	-0.14	50.00	44.00	6.00	8.332	
1,500.00	1,500.00	1,500.00	1,500.00	3.23	3.23	-0.16	50.00	-0.14	50.00	43.55	6.45	7.751	
1,600.00	1,600.00	1,600.00	1,600.00	3.45	3.45	-0.16	50.00	-0.14	50.00	43.10	6.90	7.246	
1,700.00	1,700.00	1,700.00	1,700.00	3.67	3.67	-0.16	50.00	-0.14	50.00	42.65	7.35	6.803	
1,800.00	1,800.00	1,800.00	1,800.00	3.90	3.90	-0.16	50.00	-0.14	50.00	42.20	7.80	6.411	
1,900.00	1,900.00	1,900.00	1,900.00	4.12	4.12	-0.16	50.00	-0.14	50.00	41.75	8.25	6.061	
2,000.00	2,000.00	2,000.00	2,000.00	4.35	4.35	-0.16	50.00	-0.14	50.00	41.30	8.70	5.748	
2,100.00	2,100.00	2,100.00	2,100.00	4.57	4.57	-0.16	50.00	-0.14	50.00	40.85	9.15	5.466	
2,200.00	2,200.00	2,200.00	2,200.00	4.80	4.80	-0.16	50.00	-0.14	50.00	40.40	9.60	5.210	
2,300.00	2,300.00	2,300.00	2,300.00	5.02	5.02	-0.16	50.00	-0.14	50.00	39.95	10.05	4.977	
2,400.00	2,400.00	2,400.00	2,400.00	5.25	5.25	-0.16	50.00	-0.14	50.00	39.50	10.50	4.763	
2,500.00	2,500.00	2,500.00	2,500.00	5.47	5.47	-0.16	50.00	-0.14	50.00	39.05	10.95	4.568	
2,600.00	2,600.00	2,600.00	2,600.00	5.70	5.70	-0.16	50.00	-0.14	50.00	38.60	11.40	4.388	
2,700.00	2,700.00	2,700.00	2,700.00	5.92	5.92	-0.16	50.00	-0.14	50.00	38.16	11.85	4.221	
2,800.00	2,800.00	2,800.00	2,800.00	6.15	6.15	-0.16	50.00	-0.14	50.00	37.71	12.29	4.067	
2,900.00	2,900.00	2,900.00	2,900.00	6.37	6.37	-0.16	50.00	-0.14	50.00	37.26	12.74	3.923	
3,000.00	3,000.00	3,000.00	3,000.00	6.60	6.60	-0.16	50.00	-0.14	50.00	36.81	13.19	3.790	
3,100.00	3,100.00	3,100.00	3,100.00	6.82	6.82	-0.16	50.00	-0.14	50.00	36.36	13.64	3.665	
3,200.00	3,200.00	3,200.00	3,200.00	7.05	7.05	-0.16	50.00	-0.14	50.00	35.91	14.09	3.548	
3,300.00	3,300.00	3,300.00	3,300.00	7.27	7.27	-0.16	50.00	-0.14	50.00	35.46	14.54	3.438	
3,400.00	3,400.00	3,400.00	3,400.00	7.50	7.50	-0.16	50.00	-0.14	50.00	35.01	14.99	3.335	
3,500.00	3,500.00	3,500.00	3,500.00	7.72	7.72	-0.16	50.00	-0.14	50.00	34.56	15.44	3.238	
3,600.00	3,600.00	3,600.00	3,600.00	7.95	7.95	-0.16	50.00	-0.14	50.00	34.11	15.89	3.146	
3,700.00	3,700.00	3,700.00	3,700.00	8.17	8.17	-0.16	50.00	-0.14	50.00	33.66	16.34	3.060	
3,800.00	3,800.00	3,800.00	3,800.00	8.40	8.40	-0.16	50.00	-0.14	50.00	33.21	16.79	2.978	
3,900.00	3,900.00	3,900.00	3,900.00	8.62	8.62	-0.16	50.00	-0.14	50.00	32.76	17.24	2.900	
4,000.00	4,000.00	4,000.00	4,000.00	8.84	8.84	-0.16	50.00	-0.14	50.00	32.31	17.69	2.827	
4,100.00	4,100.00	4,100.00	4,100.00	9.07	9.07	-0.16	50.00	-0.14	50.00	31.86	18.14	2.757	
4,200.00	4,200.00	4,200.00	4,200.00	9.29	9.29	-0.16	50.00	-0.14	50.00	31.41	18.59	2.690	
4,300.00	4,300.00	4,300.00	4,300.00	9.52	9.52	-0.16	50.00	-0.14	50.00	30.96	19.04	2.626	
4,400.00	4,400.00	4,400.85	4,400.85	9.72	9.72	-109.28	49.13	0.04	49.42	29.98	19.44	2.542	
4,500.00	4,499.96	4,501.66	4,501.62	9.91	9.89	-111.70	46.52	0.57	47.73	27.93	19.80	2.411	
4,600.00	4,599.86	4,602.38	4,602.24	10.11	10.06	-116.10	42.19	1.46	45.12	24.96	20.16	2.238	
4,700.00	4,699.68	4,702.95	4,702.62	10.30	10.23	-123.10	36.13	2.71	41.97	21.46	20.52	2.046	
4,800.00	4,799.37	4,803.34	4,802.70	10.50	10.41	-133.50	28.36	4.31	38.99	18.12	20.86	1.869	
4,900.00	4,898.90	4,903.50	4,902.39	10.70	10.59	-147.79	18.90	6.25	37.34	16.15	21.19	1.762	
4,916.07	4,914.88	4,919.57	4,918.36	10.74	10.62	-150.41	17.22	6.60	37.30	16.06	21.24	1.756 CC, ES, SF	
5,000.00	4,998.26	5,003.38	5,001.62	10.91	10.78	-164.86	7.76	8.54	38.53	17.03	21.51	1.792	

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 328H (SIMOPS)
Project:	Lea County, NM (NAD-83)	TVD Reference:	3431.4' GE + 30' KB @ 3461.40usft
Reference Site:	Cotton Draw Unit	MD Reference:	3431.4' GE + 30' KB @ 3461.40usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	328H (SIMOPS)	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 Cotton Draw Unit - 327H (SIMOPS) - 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							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	5,097.40	5,102.68	5,100.12	11.13	10.97	178.91	-4.55	11.07	43.91	22.08	21.83	2.011		
5,200.00	5,196.30	5,201.72	5,198.35	11.36	11.16	167.27	-16.89	13.61	53.65	31.45	22.20	2.417		
5,300.00	5,294.93	5,300.59	5,296.42	11.59	11.37	159.89	-29.21	16.14	66.52	43.94	22.58	2.946		
5,400.00	5,393.26	5,399.28	5,394.30	11.84	11.58	155.43	-41.51	18.67	81.68	58.72	22.97	3.557		
5,464.05	5,456.05	5,462.36	5,456.88	12.01	11.71	153.59	-49.37	20.28	92.39	69.17	23.22	3.979		
5,500.00	5,491.27	5,497.75	5,491.98	12.11	11.79	152.81	-53.78	21.19	98.60	75.22	23.38	4.218		
5,600.00	5,589.21	5,596.18	5,589.61	12.38	12.01	151.08	-66.04	23.71	115.97	92.13	23.84	4.865		
5,700.00	5,687.16	5,694.61	5,687.24	12.67	12.23	149.80	-78.31	26.23	133.41	109.11	24.30	5.490		
5,800.00	5,785.10	5,793.04	5,784.87	12.96	12.45	148.82	-90.58	28.75	150.89	126.12	24.77	6.092		
5,900.00	5,883.04	5,891.47	5,882.50	13.26	12.69	148.04	-102.84	31.28	168.42	143.17	25.25	6.670		
6,000.00	5,980.99	5,989.90	5,980.13	13.57	12.92	147.41	-115.11	33.80	185.96	160.23	25.74	7.226		
6,100.00	6,078.93	6,088.33	6,077.76	13.89	13.16	146.89	-127.37	36.32	203.53	177.30	26.23	7.760		
6,200.00	6,176.87	6,186.76	6,175.39	14.21	13.40	146.45	-139.64	38.84	221.11	194.38	26.73	8.272		
6,300.00	6,274.82	6,285.19	6,273.02	14.53	13.64	146.07	-151.90	41.36	238.70	211.46	27.24	8.764		
6,400.00	6,372.76	6,383.62	6,370.65	14.87	13.89	145.75	-164.17	43.88	256.30	228.55	27.75	9.236		
6,500.00	6,470.70	6,482.05	6,468.28	15.21	14.14	145.46	-176.43	46.40	273.90	245.64	28.27	9.689		
6,600.00	6,568.65	6,580.48	6,565.91	15.55	14.39	145.22	-188.70	48.92	291.52	262.72	28.79	10.124		
6,700.00	6,666.59	6,678.91	6,663.54	15.90	14.65	145.00	-200.97	51.45	309.13	279.81	29.33	10.541		
6,800.00	6,764.53	6,777.34	6,761.17	16.25	14.91	144.80	-213.23	53.97	326.75	296.89	29.86	10.942		
6,900.00	6,862.48	6,875.77	6,858.80	16.61	15.17	144.63	-225.50	56.49	344.38	313.97	30.40	11.327		
7,000.00	6,960.42	6,974.20	6,956.43	16.97	15.43	144.47	-237.76	59.01	362.00	331.05	30.95	11.697		
7,100.00	7,058.36	7,072.63	7,054.06	17.33	15.70	144.32	-250.03	61.53	379.63	348.13	31.50	12.053		
7,200.00	7,156.31	7,171.21	7,151.84	17.70	15.96	144.20	-262.26	64.05	397.26	365.21	32.05	12.395		
7,300.00	7,254.25	7,270.30	7,250.28	18.07	16.22	144.25	-273.38	66.33	414.77	382.19	32.59	12.728		
7,400.00	7,352.19	7,369.40	7,348.92	18.44	16.47	144.54	-282.82	68.27	432.14	399.03	33.11	13.051		
7,500.00	7,450.14	7,468.46	7,447.65	18.82	16.71	145.02	-290.59	69.87	449.38	415.77	33.62	13.368		
7,600.00	7,548.08	7,567.41	7,546.41	19.20	16.94	145.67	-296.68	71.12	466.54	432.43	34.11	13.679		
7,700.00	7,646.02	7,666.20	7,645.09	19.58	17.16	146.49	-301.09	72.03	483.66	449.08	34.58	13.989		
7,800.00	7,743.97	7,764.76	7,743.61	19.96	17.37	147.44	-303.83	72.59	500.80	465.77	35.03	14.298		
7,900.00	7,841.91	7,863.04	7,841.89	20.35	17.57	148.51	-304.91	72.81	518.03	482.58	35.45	14.611		
8,000.00	7,939.85	7,961.01	7,939.85	20.74	17.77	149.63	-304.93	72.82	535.44	499.57	35.87	14.926		
8,094.33	8,032.24	8,053.40	8,032.24	21.10	17.95	150.63	-304.93	72.82	552.03	515.76	36.27	15.220		
8,100.00	8,037.80	8,058.95	8,037.80	21.12	17.96	153.44	-304.93	72.82	553.03	516.76	36.28	15.244		
8,150.00	8,086.85	8,114.26	8,093.08	21.30	18.07	179.81	-303.79	72.82	562.22	525.85	36.36	15.461		
8,200.00	8,135.76	8,173.45	8,151.85	21.46	18.15	-156.95	-297.02	72.82	571.33	534.92	36.42	15.689		
8,250.00	8,184.15	8,232.35	8,209.34	21.60	18.20	-140.66	-284.31	72.82	580.26	543.82	36.44	15.926		
8,300.00	8,231.66	8,290.91	8,264.90	21.74	18.23	-129.71	-265.88	72.82	588.93	552.49	36.44	16.162		
8,350.00	8,277.92	8,349.04	8,317.91	21.86	18.24	-122.03	-242.08	72.82	597.31	560.87	36.44	16.391		
8,400.00	8,322.58	8,406.69	8,367.82	21.97	18.23	-116.30	-213.29	72.82	605.34	568.89	36.45	16.605		
8,450.00	8,365.30	8,463.80	8,414.18	22.07	18.21	-111.80	-179.97	72.82	612.97	576.48	36.49	16.797		
8,500.00	8,405.77	8,520.32	8,456.56	22.16	18.20	-108.11	-142.62	72.82	620.15	583.59	36.57	16.960		
8,550.00	8,443.66	8,576.20	8,494.65	22.24	18.19	-105.00	-101.76	72.82	626.85	590.18	36.68	17.091		
8,600.00	8,478.69	8,631.41	8,528.20	22.32	18.20	-102.32	-57.94	72.82	633.03	596.19	36.84	17.185		
8,650.00	8,510.59	8,685.92	8,557.03	22.40	18.23	-99.97	-11.70	72.82	638.64	601.60	37.04	17.241		
8,700.00	8,539.12	8,739.71	8,581.05	22.48	18.30	-97.90	36.40	72.82	643.65	606.36	37.29	17.259		
8,750.00	8,564.07	8,792.76	8,600.22	22.56	18.40	-96.06	85.85	72.82	648.04	610.45	37.59	17.239		
8,800.00	8,585.25	8,845.06	8,614.57	22.65	18.54	-94.43	136.12	72.82	651.78	613.84	37.93	17.182		
8,850.00	8,602.48	8,896.60	8,624.16	22.76	18.71	-92.99	186.75	72.82	654.84	616.52	38.32	17.089		
8,900.00	8,615.65	8,947.39	8,629.13	22.89	18.93	-91.73	237.28	72.82	657.21	618.47	38.74	16.963		
8,950.00	8,624.64	8,997.27	8,629.96	23.04	19.17	-90.68	287.14	72.82	658.88	619.68	39.20	16.806		
9,000.00	8,629.41	9,047.01	8,629.96	23.22	19.47	-90.08	336.88	72.82	659.82	620.08	39.74	16.604		
9,032.22	8,630.21	9,079.22	8,629.96	23.35	19.66	-89.98	369.09	72.82	659.99	619.89	40.10	16.459		

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 328H (SIMOPS)
Project:	Lea County, NM (NAD-83)	TVD Reference:	3431.4' GE + 30' KB @ 3461.40usft
Reference Site:	Cotton Draw Unit	MD Reference:	3431.4' GE + 30' KB @ 3461.40usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	328H (SIMOPS)	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 Cotton Draw Unit - 327H (SIMOPS) - 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		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)						
9,100.00	8,630.03	9,147.00	8,629.96	23.67	20.14	-89.99	436.87	72.82	659.99	618.96	16.083			
9,109.03	8,630.01	9,156.02	8,629.96	23.72	20.21	-90.00	445.90	72.82	659.99	618.82	16.030			
9,200.00	8,629.77	9,247.00	8,629.96	24.28	20.95	-90.02	536.87	72.82	659.99	617.37	15.483			
9,300.00	8,629.51	9,347.00	8,629.96	25.04	21.89	-90.04	636.87	72.82	659.99	615.53	14.845			
9,400.00	8,629.25	9,447.00	8,629.96	25.91	22.93	-90.06	736.87	72.82	659.99	613.48	14.190			
9,500.00	8,628.99	9,547.00	8,629.96	26.90	24.07	-90.08	836.87	72.82	659.99	611.24	13.539			
9,600.00	8,628.72	9,647.00	8,629.97	27.98	25.28	-90.11	936.87	72.82	659.99	608.84	12.903			
9,700.00	8,628.46	9,747.00	8,629.97	29.13	26.57	-90.13	1,036.87	72.82	659.99	606.30	12.292			
9,800.00	8,628.20	9,847.00	8,629.97	30.36	27.91	-90.15	1,136.87	72.82	659.99	603.63	11.710			
9,900.00	8,627.94	9,947.00	8,629.97	31.65	29.31	-90.18	1,236.87	72.82	659.99	600.86	11.162			
10,000.00	8,627.68	10,047.00	8,629.97	32.99	30.76	-90.20	1,336.87	72.82	659.99	598.00	10.646			
10,100.00	8,627.41	10,147.00	8,629.97	34.38	32.24	-90.22	1,436.87	72.82	660.00	595.06	10.164			
10,200.00	8,627.15	10,247.00	8,629.97	35.80	33.75	-90.24	1,536.87	72.82	660.00	592.05	9.713			
10,300.00	8,626.89	10,347.00	8,629.97	37.27	35.30	-90.27	1,636.87	72.82	660.00	588.98	9.293			
10,400.00	8,626.63	10,447.00	8,629.97	38.76	36.87	-90.29	1,736.87	72.82	660.00	585.85	8.901			
10,500.00	8,626.37	10,546.99	8,629.97	40.28	38.47	-90.31	1,836.86	72.82	660.00	582.68	8.536			
10,600.00	8,626.11	10,646.99	8,629.98	41.82	40.08	-90.34	1,936.86	72.82	660.00	579.47	8.195			
10,700.00	8,625.84	10,746.99	8,629.98	43.39	41.71	-90.36	2,036.86	72.82	660.00	576.22	7.878			
10,800.00	8,625.58	10,846.99	8,629.98	44.98	43.36	-90.38	2,136.86	72.82	660.01	572.94	7.581			
10,900.00	8,625.32	10,946.99	8,629.98	46.58	45.02	-90.40	2,236.86	72.82	660.01	569.63	7.303			
11,000.00	8,625.06	11,046.99	8,629.98	48.20	46.69	-90.43	2,336.86	72.82	660.01	566.30	7.043			
11,100.00	8,624.80	11,146.99	8,629.98	49.84	48.38	-90.45	2,436.86	72.82	660.01	562.94	6.800			
11,200.00	8,624.54	11,246.99	8,629.98	51.48	50.07	-90.47	2,536.86	72.82	660.01	559.57	6.571			
11,300.00	8,624.27	11,346.99	8,629.98	53.14	51.78	-90.50	2,636.86	72.82	660.02	556.17	6.356			
11,400.00	8,624.01	11,446.99	8,629.98	54.81	53.49	-90.52	2,736.86	72.82	660.02	552.76	6.153			
11,500.00	8,623.75	11,546.99	8,629.99	56.49	55.21	-90.54	2,836.86	72.82	660.02	549.33	5.963			
11,600.00	8,623.49	11,646.99	8,629.99	58.18	56.93	-90.56	2,936.86	72.82	660.02	545.89	5.783			
11,700.00	8,623.23	11,746.99	8,629.99	59.88	58.67	-90.59	3,036.86	72.82	660.03	542.43	5.613			
11,800.00	8,622.96	11,846.99	8,629.99	61.58	60.40	-90.61	3,136.86	72.82	660.03	538.97	5.452			
11,900.00	8,622.70	11,946.99	8,629.99	63.29	62.15	-90.63	3,236.86	72.82	660.03	535.49	5.300			
12,000.00	8,622.44	12,046.99	8,629.99	65.01	63.90	-90.66	3,336.86	72.82	660.03	532.01	5.155			
12,100.00	8,622.18	12,146.99	8,629.99	66.73	65.65	-90.68	3,436.86	72.82	660.04	528.51	5.018			
12,200.00	8,621.92	12,246.99	8,629.99	68.46	67.40	-90.70	3,536.86	72.82	660.04	525.01	4.888			
12,300.00	8,621.66	12,346.99	8,629.99	70.19	69.16	-90.72	3,636.86	72.82	660.04	521.50	4.764			
12,400.00	8,621.39	12,446.99	8,629.99	71.93	70.93	-90.75	3,736.86	72.82	660.05	517.98	4.646			
12,500.00	8,621.13	12,546.99	8,630.00	73.67	72.69	-90.77	3,836.86	72.82	660.05	514.46	4.534			
12,600.00	8,620.87	12,646.99	8,630.00	75.42	74.46	-90.79	3,936.86	72.82	660.05	510.93	4.426			
12,700.00	8,620.61	12,746.99	8,630.00	77.17	76.23	-90.82	4,036.86	72.82	660.06	507.39	4.324			
12,800.00	8,620.35	12,846.99	8,630.00	78.92	78.01	-90.84	4,136.86	72.82	660.06	503.85	4.226			
12,900.00	8,620.08	12,946.99	8,630.00	80.68	79.78	-90.86	4,236.86	72.82	660.07	500.31	4.132			
12,914.27	8,620.05	12,961.26	8,630.00	80.93	80.04	-90.86	4,251.13	72.82	660.07	499.80	4.119			
12,932.22	8,620.00	12,975.20	8,630.00	81.24	80.29	-90.87	4,265.07	72.82	660.08	499.25	4.104			



LEAM Drilling Systems LLC
Anticollision Report



Company:	DEVON ENERGY	Local Co-ordinate Reference:	Well 328H (SIMOPS)
Project:	Lea County, NM (NAD-83)	TVD Reference:	3431.4' GE + 30' KB @ 3461.40usft
Reference Site:	Cotton Draw Unit	MD Reference:	3431.4' GE + 30' KB @ 3461.40usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	328H (SIMOPS)	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 Cotton Draw Unit - 332H (SIMOPS) - 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		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)					
0.00	0.00	0.00	0.00	0.00	0.00	179.84	-100.00	0.29	100.00				
100.00	100.00	100.00	100.00	0.08	0.08	179.84	-100.00	0.29	100.00	99.84	0.16	635.584	
200.00	200.00	200.00	200.00	0.30	0.30	179.84	-100.00	0.29	100.00	99.39	0.61	164.781	
300.00	300.00	300.00	300.00	0.53	0.53	179.84	-100.00	0.29	100.00	98.94	1.06	94.662	
400.00	400.00	400.00	400.00	0.75	0.75	179.84	-100.00	0.29	100.00	98.49	1.51	66.404	
500.00	500.00	500.00	500.00	0.98	0.98	179.84	-100.00	0.29	100.00	98.05	1.96	51.139	
600.00	600.00	600.00	600.00	1.20	1.20	179.84	-100.00	0.29	100.00	97.60	2.40	41.580	
700.00	700.00	700.00	700.00	1.43	1.43	179.84	-100.00	0.29	100.00	97.15	2.85	35.032	
800.00	800.00	800.00	800.00	1.65	1.65	179.84	-100.00	0.29	100.00	96.70	3.30	30.266	
900.00	900.00	900.00	900.00	1.88	1.88	179.84	-100.00	0.29	100.00	96.25	3.75	26.641	
1,000.00	1,000.00	1,000.00	1,000.00	2.10	2.10	179.84	-100.00	0.29	100.00	95.80	4.20	23.792	
1,100.00	1,100.00	1,100.00	1,100.00	2.33	2.33	179.84	-100.00	0.29	100.00	95.35	4.65	21.493	
1,200.00	1,200.00	1,200.00	1,200.00	2.55	2.55	179.84	-100.00	0.29	100.00	94.90	5.10	19.600	
1,300.00	1,300.00	1,300.00	1,300.00	2.78	2.78	179.84	-100.00	0.29	100.00	94.45	5.55	18.013	
1,400.00	1,400.00	1,400.00	1,400.00	3.00	3.00	179.84	-100.00	0.29	100.00	94.00	6.00	16.663	
1,500.00	1,500.00	1,500.00	1,500.00	3.23	3.23	179.84	-100.00	0.29	100.00	93.55	6.45	15.502	
1,600.00	1,600.00	1,600.00	1,600.00	3.45	3.45	179.84	-100.00	0.29	100.00	93.10	6.90	14.492	
1,700.00	1,700.00	1,700.00	1,700.00	3.67	3.67	179.84	-100.00	0.29	100.00	92.65	7.35	13.606	
1,800.00	1,800.00	1,800.00	1,800.00	3.90	3.90	179.84	-100.00	0.29	100.00	92.20	7.80	12.822	
1,900.00	1,900.00	1,900.00	1,900.00	4.12	4.12	179.84	-100.00	0.29	100.00	91.75	8.25	12.123	
2,000.00	2,000.00	2,000.00	2,000.00	4.35	4.35	179.84	-100.00	0.29	100.00	91.30	8.70	11.496	
2,100.00	2,100.00	2,100.00	2,100.00	4.57	4.57	179.84	-100.00	0.29	100.00	90.85	9.15	10.931	
2,200.00	2,200.00	2,200.00	2,200.00	4.80	4.80	179.84	-100.00	0.29	100.00	90.40	9.60	10.419	
2,300.00	2,300.00	2,300.00	2,300.00	5.02	5.02	179.84	-100.00	0.29	100.00	89.95	10.05	9.953	
2,400.00	2,400.00	2,400.00	2,400.00	5.25	5.25	179.84	-100.00	0.29	100.00	89.50	10.50	9.527	
2,500.00	2,500.00	2,500.00	2,500.00	5.47	5.47	179.84	-100.00	0.29	100.00	89.05	10.95	9.136	
2,600.00	2,600.00	2,600.00	2,600.00	5.70	5.70	179.84	-100.00	0.29	100.00	88.60	11.40	8.775	
2,700.00	2,700.00	2,700.00	2,700.00	5.92	5.92	179.84	-100.00	0.29	100.00	88.16	11.85	8.442	
2,800.00	2,800.00	2,800.00	2,800.00	6.15	6.15	179.84	-100.00	0.29	100.00	87.71	12.29	8.134	
2,900.00	2,900.00	2,900.00	2,900.00	6.37	6.37	179.84	-100.00	0.29	100.00	87.26	12.74	7.847	
3,000.00	3,000.00	3,000.00	3,000.00	6.60	6.60	179.84	-100.00	0.29	100.00	86.81	13.19	7.579	
3,100.00	3,100.00	3,100.00	3,100.00	6.82	6.82	179.84	-100.00	0.29	100.00	86.36	13.64	7.330	
3,200.00	3,200.00	3,200.00	3,200.00	7.05	7.05	179.84	-100.00	0.29	100.00	85.91	14.09	7.096	
3,300.00	3,300.00	3,300.00	3,300.00	7.27	7.27	179.84	-100.00	0.29	100.00	85.46	14.54	6.876	
3,400.00	3,400.00	3,400.00	3,400.00	7.50	7.50	179.84	-100.00	0.29	100.00	85.01	14.99	6.670	
3,500.00	3,500.00	3,500.00	3,500.00	7.72	7.72	179.84	-100.00	0.29	100.00	84.56	15.44	6.476	
3,600.00	3,600.00	3,600.00	3,600.00	7.95	7.95	179.84	-100.00	0.29	100.00	84.11	15.89	6.293	
3,700.00	3,700.00	3,700.00	3,700.00	8.17	8.17	179.84	-100.00	0.29	100.00	83.66	16.34	6.120	
3,800.00	3,800.00	3,800.00	3,800.00	8.40	8.40	179.84	-100.00	0.29	100.00	83.21	16.79	5.956	
3,900.00	3,900.00	3,900.00	3,900.00	8.62	8.62	179.84	-100.00	0.29	100.00	82.76	17.24	5.801	
4,000.00	4,000.00	4,000.00	4,000.00	8.84	8.84	179.84	-100.00	0.29	100.00	82.31	17.69	5.653	
4,100.00	4,100.00	4,100.00	4,100.00	9.07	9.07	179.84	-100.00	0.29	100.00	81.86	18.14	5.513	
4,200.00	4,200.00	4,200.00	4,200.00	9.29	9.29	179.84	-100.00	0.29	100.00	81.41	18.59	5.380	
4,300.00	4,300.00	4,300.00	4,300.00	9.52	9.52	179.84	-100.00	0.29	100.00	80.96	19.04	5.253 CC, ES	
4,400.00	4,400.00	4,398.57	4,398.56	9.72	9.71	72.22	-100.70	-0.20	100.44	81.00	19.44	5.167	
4,500.00	4,499.96	4,497.02	4,496.98	9.91	9.89	74.39	-102.79	-1.64	101.85	82.05	19.80	5.145 SF	
4,600.00	4,599.86	4,595.25	4,595.12	10.11	10.06	77.85	-106.26	-4.04	104.53	84.37	20.16	5.184	
4,700.00	4,699.68	4,693.14	4,692.84	10.30	10.23	82.36	-111.09	-7.38	108.89	88.36	20.53	5.304	
4,800.00	4,799.37	4,790.59	4,789.99	10.50	10.41	87.58	-117.27	-11.64	115.43	94.52	20.91	5.521	
4,900.00	4,898.90	4,887.48	4,886.45	10.70	10.59	93.11	-124.76	-16.81	124.60	103.31	21.28	5.854	
5,000.00	4,998.26	4,983.71	4,982.09	10.91	10.77	98.59	-133.53	-22.87	136.75	115.09	21.66	6.312	
5,100.00	5,097.40	5,079.19	5,076.79	11.13	10.96	103.73	-143.53	-29.78	152.10	130.05	22.05	6.899	

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 328H (SIMOPS)
Project:	Lea County, NM (NAD-83)	TVD Reference:	3431.4' GE + 30' KB @ 3461.40usft
Reference Site:	Cotton Draw Unit	MD Reference:	3431.4' GE + 30' KB @ 3461.40usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	328H (SIMOPS)	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 Cotton Draw Unit - 332H (SIMOPS) - 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
5,200.00	5,196.30	5,173.80	5,170.42	11.36	11.16	108.37	-154.72	-37.50	170.71	148.28	22.43	7.612	
5,300.00	5,294.93	5,270.40	5,265.88	11.59	11.37	112.57	-166.87	-45.89	191.88	169.05	22.81	8.410	
5,400.00	5,393.26	5,366.79	5,361.14	11.84	11.58	116.31	-178.99	-54.27	214.65	191.46	23.20	9.253	
5,464.05	5,456.05	5,428.31	5,421.94	12.01	11.72	118.49	-186.73	-59.61	230.11	206.67	23.45	9.814	
5,500.00	5,491.27	5,462.80	5,456.02	12.11	11.80	119.70	-191.07	-62.61	239.03	215.44	23.59	10.132	
5,600.00	5,589.21	5,558.73	5,550.82	12.38	12.02	122.65	-203.13	-70.94	264.30	240.30	24.00	11.011	
5,700.00	5,687.16	5,654.66	5,645.62	12.67	12.25	125.08	-215.20	-79.27	290.12	265.70	24.43	11.877	
5,800.00	5,785.10	5,750.59	5,740.43	12.96	12.49	127.12	-227.27	-87.61	316.36	291.50	24.86	12.727	
5,900.00	5,883.04	5,846.51	5,835.23	13.26	12.73	128.85	-239.33	-95.94	342.92	317.62	25.30	13.555	
6,000.00	5,980.99	5,942.44	5,930.03	13.57	12.98	130.33	-251.40	-104.27	369.72	343.98	25.75	14.360	
6,100.00	6,078.93	6,038.37	6,024.83	13.89	13.23	131.61	-263.46	-112.60	396.73	370.53	26.20	15.141	
6,200.00	6,176.87	6,134.30	6,119.63	14.21	13.48	132.73	-275.53	-120.94	423.90	397.23	26.66	15.897	
6,300.00	6,274.82	6,230.22	6,214.43	14.53	13.74	133.72	-287.60	-129.27	451.20	424.07	27.13	16.628	
6,400.00	6,372.76	6,326.15	6,309.23	14.87	14.01	134.59	-299.66	-137.60	478.61	451.00	27.61	17.335	
6,500.00	6,470.70	6,422.08	6,404.03	15.21	14.27	135.37	-311.73	-145.93	506.11	478.02	28.09	18.017	
6,600.00	6,568.65	6,518.01	6,498.83	15.55	14.54	136.07	-323.79	-154.27	533.69	505.12	28.58	18.675	
6,700.00	6,666.59	6,613.94	6,593.63	15.90	14.81	136.70	-335.86	-162.60	561.34	532.27	29.07	19.310	
6,800.00	6,764.53	6,709.86	6,688.43	16.25	15.09	137.27	-347.92	-170.93	589.04	559.48	29.57	19.923	
6,900.00	6,862.48	6,805.79	6,783.23	16.61	15.37	137.79	-359.99	-179.27	616.80	586.73	30.07	20.513	
7,000.00	6,960.42	6,901.72	6,878.03	16.97	15.65	138.26	-372.06	-187.60	644.59	614.02	30.57	21.083	
7,100.00	7,058.36	6,997.65	6,972.83	17.33	15.93	138.70	-384.12	-195.93	672.42	641.34	31.08	21.633	
7,200.00	7,156.31	7,093.57	7,067.63	17.70	16.22	139.10	-396.19	-204.26	700.29	668.69	31.60	22.163	
7,300.00	7,254.25	7,189.50	7,162.43	18.07	16.51	139.47	-408.25	-212.60	728.19	696.07	32.12	22.674	
7,400.00	7,352.19	7,285.43	7,257.23	18.44	16.80	139.81	-420.32	-220.93	756.11	723.47	32.64	23.168	
7,500.00	7,450.14	7,381.36	7,352.03	18.82	17.09	140.13	-432.38	-229.26	784.05	750.89	33.16	23.644	
7,600.00	7,548.08	7,477.28	7,446.83	19.20	17.39	140.43	-444.45	-237.59	812.02	778.33	33.69	24.104	
7,700.00	7,646.02	7,573.21	7,541.63	19.58	17.68	140.70	-456.52	-245.93	840.00	805.79	34.22	24.548	
7,800.00	7,743.97	7,669.14	7,636.43	19.96	17.98	140.96	-468.58	-254.26	868.01	833.25	34.75	24.977	
7,900.00	7,841.91	7,765.07	7,731.23	20.35	18.28	141.21	-480.65	-262.59	896.02	860.73	35.29	25.391	
8,000.00	7,939.85	7,861.00	7,826.03	20.74	18.58	141.43	-492.71	-270.93	924.05	888.23	35.83	25.792	
8,094.33	8,032.24	7,951.49	7,915.46	21.10	18.87	141.64	-504.10	-278.79	950.51	914.17	36.34	26.157	
8,100.00	8,037.80	7,956.92	7,920.83	21.12	18.89	144.46	-504.78	-279.26	952.11	915.76	36.35	26.194	
8,150.00	8,086.85	8,004.63	7,967.98	21.30	19.04	170.96	-510.78	-283.40	967.00	930.59	36.41	26.556	
8,200.00	8,135.76	8,051.64	8,014.44	21.46	19.19	-165.80	-516.69	-287.49	983.25	946.79	36.45	26.973	
8,250.00	8,184.15	8,097.62	8,059.87	21.60	19.34	-149.63	-522.48	-291.48	1,000.77	964.30	36.48	27.436	
8,300.00	8,231.66	8,142.19	8,103.92	21.74	19.48	-138.89	-528.08	-295.35	1,019.55	983.06	36.50	27.936	
8,350.00	8,277.92	8,185.03	8,146.26	21.86	19.62	-131.45	-533.47	-299.07	1,039.58	1,003.06	36.52	28.465	
8,400.00	8,322.58	8,225.81	8,186.56	21.97	19.75	-125.94	-538.60	-302.61	1,060.87	1,024.30	36.57	29.012	
8,450.00	8,365.30	8,264.22	8,224.51	22.07	19.87	-121.57	-543.43	-305.95	1,083.43	1,046.78	36.65	29.564	
8,500.00	8,405.77	8,299.96	8,259.84	22.16	19.98	-117.88	-547.93	-309.06	1,107.29	1,070.51	36.78	30.108	
8,550.00	8,443.66	8,332.77	8,292.26	22.24	20.09	-114.55	-552.05	-311.91	1,132.44	1,095.47	36.97	30.628	
8,600.00	8,478.69	8,362.39	8,321.53	22.32	20.19	-111.38	-555.78	-314.48	1,158.89	1,121.64	37.25	31.113	
8,650.00	8,510.59	8,388.60	8,347.43	22.40	20.27	-108.22	-559.08	-316.76	1,186.60	1,148.99	37.60	31.557	
8,700.00	8,539.12	8,411.20	8,369.77	22.48	20.34	-104.97	-561.92	-318.72	1,215.49	1,177.47	38.03	31.965	
8,750.00	8,564.07	8,430.01	8,388.36	22.56	20.40	-101.55	-564.28	-320.35	1,245.49	1,207.00	38.49	32.358	
8,800.00	8,585.25	8,444.90	8,403.08	22.65	20.45	-97.91	-566.16	-321.65	1,276.45	1,237.50	38.95	32.769	
8,850.00	8,602.48	8,455.76	8,413.80	22.76	20.49	-94.03	-567.52	-322.59	1,308.23	1,268.88	39.35	33.247	
8,900.00	8,615.65	8,462.49	8,420.45	22.89	20.51	-89.94	-568.37	-323.17	1,340.63	1,301.02	39.61	33.847	
8,950.00	8,624.64	8,465.04	8,422.98	23.04	20.52	-85.68	-568.89	-323.40	1,373.42	1,333.75	39.67	34.622	
9,000.00	8,629.41	8,463.41	8,421.36	23.22	20.51	-81.33	-568.48	-323.25	1,406.37	1,366.88	39.49	35.617	
9,032.22	8,630.21	8,460.14	8,418.13	23.35	20.50	-78.51	-568.07	-322.97	1,427.56	1,388.32	39.23	36.386	
9,100.00	8,630.03	8,451.44	8,409.53	23.67	20.47	-78.06	-566.98	-322.21	1,472.89	1,433.31	39.58	37.212	

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 328H (SIMOPS)
Project:	Lea County, NM (NAD-83)	TVD Reference:	3431.4' GE + 30' KB @ 3461.40usft
Reference Site:	Cotton Draw Unit	MD Reference:	3431.4' GE + 30' KB @ 3461.40usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	328H (SIMOPS)	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 Cotton Draw Unit - 332H (SIMOPS) - 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							Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
9,200.00	8,629.77	8,438.60	8,396.85	24.28	20.43	-77.39	-565.36	-321.10	1,542.69	1,502.50	40.19	38.385		
9,300.00	8,629.51	8,425.76	8,384.16	25.04	20.39	-76.72	-563.75	-319.98	1,615.56	1,574.65	40.91	39.489		
9,400.00	8,629.25	8,412.93	8,371.48	25.91	20.35	-76.05	-562.14	-318.87	1,691.12	1,649.39	41.73	40.523		
9,500.00	8,628.99	8,400.09	8,358.79	26.90	20.31	-75.39	-560.52	-317.75	1,769.01	1,726.37	42.64	41.489		
9,600.00	8,628.72	8,387.25	8,346.10	27.98	20.27	-74.73	-558.91	-316.64	1,848.93	1,805.32	43.62	42.390		
9,700.00	8,628.46	11,604.30	10,134.97	29.13	31.73	-143.86	1,036.86	-367.20	1,865.36	1,822.27	43.10	43.285		
9,800.00	8,628.20	11,704.30	10,134.97	30.36	33.06	-143.87	1,136.86	-367.20	1,865.58	1,820.71	44.87	41.579		
9,900.00	8,627.94	11,804.30	10,134.97	31.65	34.43	-143.87	1,236.86	-367.20	1,865.79	1,819.08	46.70	39.949		
10,000.00	8,627.68	11,904.30	10,134.97	32.99	35.84	-143.88	1,336.86	-367.20	1,866.00	1,817.41	48.59	38.400		
10,100.00	8,627.41	12,004.30	10,134.97	34.38	37.29	-143.88	1,436.86	-367.20	1,866.21	1,815.68	50.53	36.931		
10,200.00	8,627.15	12,104.30	10,134.97	35.80	38.77	-143.89	1,536.86	-367.20	1,866.42	1,813.91	52.51	35.542		
10,300.00	8,626.89	12,204.30	10,134.97	37.27	40.28	-143.89	1,636.86	-367.20	1,866.63	1,812.10	54.53	34.229		
10,400.00	8,626.63	12,304.30	10,134.98	38.76	41.81	-143.90	1,736.86	-367.20	1,866.85	1,810.26	56.59	32.991		
10,500.00	8,626.37	12,404.30	10,134.98	40.28	43.36	-143.90	1,836.86	-367.20	1,867.06	1,808.39	58.67	31.822		
10,600.00	8,626.11	12,504.30	10,134.98	41.82	44.94	-143.91	1,936.86	-367.20	1,867.27	1,806.49	60.78	30.720		
10,700.00	8,625.84	12,604.30	10,134.98	43.39	46.53	-143.91	2,036.86	-367.19	1,867.48	1,804.56	62.92	29.680		
10,800.00	8,625.58	12,704.30	10,134.98	44.98	48.14	-143.92	2,136.86	-367.19	1,867.69	1,802.62	65.08	28.699		
10,900.00	8,625.32	12,804.30	10,134.98	46.58	49.77	-143.92	2,236.86	-367.19	1,867.91	1,800.65	67.26	27.773		
11,000.00	8,625.06	12,904.30	10,134.98	48.20	51.41	-143.93	2,336.86	-367.19	1,868.12	1,798.66	69.45	26.897		
11,100.00	8,624.80	13,004.30	10,134.98	49.84	53.06	-143.93	2,436.86	-367.19	1,868.33	1,796.66	71.67	26.070		
11,200.00	8,624.54	13,104.30	10,134.98	51.48	54.72	-143.94	2,536.86	-367.19	1,868.54	1,794.65	73.89	25.287		
11,300.00	8,624.27	13,204.30	10,134.98	53.14	56.39	-143.94	2,636.86	-367.19	1,868.75	1,792.62	76.14	24.545		
11,400.00	8,624.01	13,304.30	10,134.99	54.81	58.07	-143.95	2,736.86	-367.19	1,868.97	1,790.58	78.39	23.842		
11,500.00	8,623.75	13,404.30	10,134.99	56.49	59.76	-143.95	2,836.86	-367.19	1,869.18	1,788.52	80.65	23.175		
11,600.00	8,623.49	13,504.30	10,134.99	58.18	61.46	-143.95	2,936.85	-367.19	1,869.39	1,786.46	82.93	22.542		
11,700.00	8,623.23	13,604.30	10,134.99	59.88	63.16	-143.96	3,036.85	-367.19	1,869.60	1,784.39	85.21	21.940		
11,800.00	8,622.96	13,704.30	10,134.99	61.58	64.87	-143.96	3,136.85	-367.19	1,869.81	1,782.31	87.51	21.367		
11,900.00	8,622.70	13,804.30	10,134.99	63.29	66.59	-143.97	3,236.85	-367.19	1,870.03	1,780.22	89.81	20.822		
12,000.00	8,622.44	13,904.30	10,134.99	65.01	68.31	-143.97	3,336.85	-367.18	1,870.24	1,778.12	92.12	20.303		
12,100.00	8,622.18	14,004.30	10,134.99	66.73	70.04	-143.98	3,436.85	-367.18	1,870.45	1,776.02	94.43	19.807		
12,200.00	8,621.92	14,104.30	10,134.99	68.46	71.78	-143.98	3,536.85	-367.18	1,870.66	1,773.91	96.75	19.334		
12,300.00	8,621.66	14,204.30	10,134.99	70.19	73.51	-143.99	3,636.85	-367.18	1,870.87	1,771.79	99.08	18.882		
12,400.00	8,621.39	14,304.29	10,135.00	71.93	75.25	-143.99	3,736.85	-367.18	1,871.09	1,769.67	101.42	18.450		
12,500.00	8,621.13	14,404.29	10,135.00	73.67	77.00	-144.00	3,836.85	-367.18	1,871.30	1,767.55	103.75	18.036		
12,600.00	8,620.87	14,504.29	10,135.00	75.42	78.75	-144.00	3,936.85	-367.18	1,871.51	1,765.42	106.10	17.640		
12,700.00	8,620.61	14,604.29	10,135.00	77.17	80.50	-144.01	4,036.85	-367.18	1,871.72	1,763.28	108.44	17.260		
12,800.00	8,620.35	14,704.29	10,135.00	78.92	82.26	-144.01	4,136.85	-367.18	1,871.94	1,761.14	110.79	16.896		
12,900.00	8,620.08	14,804.29	10,135.00	80.68	84.02	-144.02	4,236.85	-367.18	1,872.15	1,759.00	113.15	16.546		
12,932.22	8,620.00	14,829.84	10,135.00	81.24	84.47	-144.02	4,262.40	-367.18	1,872.23	1,758.40	113.83	16.448		

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 328H (SIMOPS)
Project:	Lea County, NM (NAD-83)	TVD Reference:	3431.4' GE + 30' KB @ 3461.40usft
Reference Site:	Cotton Draw Unit	MD Reference:	3431.4' GE + 30' KB @ 3461.40usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	328H (SIMOPS)	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 Cotton Draw Unit - 333H (SIMOPS) - 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		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	179.84	-75.00	0.21	75.00				
100.00	100.00	100.00	100.00	0.08	0.08	179.84	-75.00	0.21	75.00	74.84	0.16	476.688	
200.00	200.00	200.00	200.00	0.30	0.30	179.84	-75.00	0.21	75.00	74.39	0.61	123.586	
300.00	300.00	300.00	300.00	0.53	0.53	179.84	-75.00	0.21	75.00	73.94	1.06	70.996	
400.00	400.00	400.00	400.00	0.75	0.75	179.84	-75.00	0.21	75.00	73.49	1.51	49.803	
500.00	500.00	500.00	500.00	0.98	0.98	179.84	-75.00	0.21	75.00	73.04	1.96	38.354	
600.00	600.00	600.00	600.00	1.20	1.20	179.84	-75.00	0.21	75.00	72.60	2.40	31.185	
700.00	700.00	700.00	700.00	1.43	1.43	179.84	-75.00	0.21	75.00	72.15	2.85	26.274	
800.00	800.00	800.00	800.00	1.65	1.65	179.84	-75.00	0.21	75.00	71.70	3.30	22.699	
900.00	900.00	900.00	900.00	1.88	1.88	179.84	-75.00	0.21	75.00	71.25	3.75	19.981	
1,000.00	1,000.00	1,000.00	1,000.00	2.10	2.10	179.84	-75.00	0.21	75.00	70.80	4.20	17.844	
1,100.00	1,100.00	1,100.00	1,100.00	2.33	2.33	179.84	-75.00	0.21	75.00	70.35	4.65	16.120	
1,200.00	1,200.00	1,200.00	1,200.00	2.55	2.55	179.84	-75.00	0.21	75.00	69.90	5.10	14.700	
1,300.00	1,300.00	1,300.00	1,300.00	2.78	2.78	179.84	-75.00	0.21	75.00	69.45	5.55	13.509	
1,400.00	1,400.00	1,400.00	1,400.00	3.00	3.00	179.84	-75.00	0.21	75.00	69.00	6.00	12.497	
1,500.00	1,500.00	1,500.00	1,500.00	3.23	3.23	179.84	-75.00	0.21	75.00	68.55	6.45	11.627	
1,600.00	1,600.00	1,600.00	1,600.00	3.45	3.45	179.84	-75.00	0.21	75.00	68.10	6.90	10.869	
1,700.00	1,700.00	1,700.00	1,700.00	3.67	3.67	179.84	-75.00	0.21	75.00	67.65	7.35	10.204	
1,800.00	1,800.00	1,800.00	1,800.00	3.90	3.90	179.84	-75.00	0.21	75.00	67.20	7.80	9.616	
1,900.00	1,900.00	1,900.00	1,900.00	4.12	4.12	179.84	-75.00	0.21	75.00	66.75	8.25	9.092	
2,000.00	2,000.00	2,000.00	2,000.00	4.35	4.35	179.84	-75.00	0.21	75.00	66.30	8.70	8.622	
2,100.00	2,100.00	2,100.00	2,100.00	4.57	4.57	179.84	-75.00	0.21	75.00	65.85	9.15	8.199	
2,200.00	2,200.00	2,200.00	2,200.00	4.80	4.80	179.84	-75.00	0.21	75.00	65.40	9.60	7.815	
2,300.00	2,300.00	2,300.00	2,300.00	5.02	5.02	179.84	-75.00	0.21	75.00	64.95	10.05	7.465	
2,400.00	2,400.00	2,400.00	2,400.00	5.25	5.25	179.84	-75.00	0.21	75.00	64.50	10.50	7.145	
2,500.00	2,500.00	2,500.00	2,500.00	5.47	5.47	179.84	-75.00	0.21	75.00	64.05	10.95	6.852	
2,600.00	2,600.00	2,600.00	2,600.00	5.70	5.70	179.84	-75.00	0.21	75.00	63.60	11.40	6.582	
2,700.00	2,700.00	2,700.00	2,700.00	5.92	5.92	179.84	-75.00	0.21	75.00	63.16	11.85	6.332	
2,800.00	2,800.00	2,800.00	2,800.00	6.15	6.15	179.84	-75.00	0.21	75.00	62.71	12.29	6.100	
2,900.00	2,900.00	2,900.00	2,900.00	6.37	6.37	179.84	-75.00	0.21	75.00	62.26	12.74	5.885	
3,000.00	3,000.00	3,000.00	3,000.00	6.60	6.60	179.84	-75.00	0.21	75.00	61.81	13.19	5.685	
3,100.00	3,100.00	3,100.00	3,100.00	6.82	6.82	179.84	-75.00	0.21	75.00	61.36	13.64	5.497	
3,200.00	3,200.00	3,200.00	3,200.00	7.05	7.05	179.84	-75.00	0.21	75.00	60.91	14.09	5.322	
3,300.00	3,300.00	3,300.00	3,300.00	7.27	7.27	179.84	-75.00	0.21	75.00	60.46	14.54	5.157	
3,400.00	3,400.00	3,400.00	3,400.00	7.50	7.50	179.84	-75.00	0.21	75.00	60.01	14.99	5.003	
3,500.00	3,500.00	3,500.00	3,500.00	7.72	7.72	179.84	-75.00	0.21	75.00	59.56	15.44	4.857	
3,600.00	3,600.00	3,600.00	3,600.00	7.95	7.95	179.84	-75.00	0.21	75.00	59.11	15.89	4.720	
3,700.00	3,700.00	3,700.00	3,700.00	8.17	8.17	179.84	-75.00	0.21	75.00	58.66	16.34	4.590	
3,800.00	3,800.00	3,800.00	3,800.00	8.40	8.40	179.84	-75.00	0.21	75.00	58.21	16.79	4.467	
3,900.00	3,900.00	3,900.00	3,900.00	8.62	8.62	179.84	-75.00	0.21	75.00	57.76	17.24	4.350	
4,000.00	4,000.00	4,000.00	4,000.00	8.84	8.84	179.84	-75.00	0.21	75.00	57.31	17.69	4.240	
4,100.00	4,100.00	4,100.00	4,100.00	9.07	9.07	179.84	-75.00	0.21	75.00	56.86	18.14	4.135	
4,200.00	4,200.00	4,200.00	4,200.00	9.29	9.29	179.84	-75.00	0.21	75.00	56.41	18.59	4.035	
4,300.00	4,300.00	4,300.00	4,300.00	9.52	9.52	179.84	-75.00	0.21	75.00	55.96	19.04	3.940 CC	
4,400.00	4,400.00	4,399.05	4,399.04	9.72	9.72	71.66	-75.63	0.80	75.36	55.92	19.44	3.876 ES	
4,500.00	4,499.96	4,498.08	4,498.04	9.91	9.89	72.19	-77.51	2.54	76.44	56.63	19.80	3.860 SF	
4,600.00	4,599.86	4,597.09	4,596.96	10.11	10.07	73.03	-80.64	5.46	78.25	58.08	20.17	3.879	
4,700.00	4,699.68	4,696.08	4,695.76	10.30	10.25	74.14	-85.02	9.53	80.81	60.27	20.54	3.933	
4,800.00	4,799.37	4,795.01	4,794.40	10.50	10.43	75.47	-90.65	14.76	84.15	63.22	20.93	4.021	
4,900.00	4,898.90	4,893.90	4,892.84	10.70	10.62	76.95	-97.53	21.15	88.28	66.96	21.31	4.142	
5,000.00	4,998.26	4,992.72	4,991.04	10.91	10.81	78.52	-105.64	28.69	93.23	71.52	21.72	4.293	
5,100.00	5,097.40	5,091.47	5,088.95	11.13	11.02	80.14	-114.98	37.37	99.02	76.89	22.13	4.474	

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



LEAM Drilling Systems LLC
Anticollision Report



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Reference Wellbore	OH	Database:	EDM 5000.1 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design Cotton Draw Unit - 333H (SIMOPS) - 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							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	
5,200.00	5,196.30	5,190.13	5,186.55	11.36	11.23	81.75	-125.55	47.19	105.66	83.10	22.56	4.683	
5,300.00	5,294.93	5,288.70	5,283.80	11.59	11.45	83.31	-137.33	58.14	113.17	90.15	23.02	4.917	
5,400.00	5,393.26	5,387.42	5,380.92	11.84	11.68	84.83	-150.33	70.22	121.52	98.03	23.49	5.173	
5,464.05	5,456.05	5,451.18	5,443.57	12.01	11.84	85.99	-158.96	78.24	127.03	103.22	23.81	5.335	
5,500.00	5,491.27	5,486.96	5,478.74	12.11	11.93	86.71	-163.80	82.74	130.13	106.13	23.99	5.423	
5,600.00	5,589.21	5,586.49	5,576.55	12.38	12.18	88.55	-177.28	95.26	138.85	114.34	24.52	5.664	
5,700.00	5,687.16	5,686.01	5,674.36	12.67	12.44	90.18	-190.75	107.78	147.70	122.65	25.06	5.895	
5,800.00	5,785.10	5,785.54	5,772.17	12.96	12.71	91.61	-204.22	120.30	156.66	131.05	25.61	6.117	
5,900.00	5,883.04	5,885.06	5,869.99	13.26	12.99	92.90	-217.69	132.82	165.70	139.52	26.18	6.329	
6,000.00	5,980.99	5,984.59	5,967.80	13.57	13.27	94.05	-231.16	145.34	174.82	148.06	26.76	6.532	
6,100.00	6,078.93	6,084.11	6,065.61	13.89	13.56	95.08	-244.63	157.86	184.00	156.64	27.36	6.725	
6,200.00	6,176.87	6,183.64	6,163.42	14.21	13.86	96.02	-258.11	170.38	193.23	165.26	27.97	6.909	
6,300.00	6,274.82	6,283.17	6,261.23	14.53	14.16	96.87	-271.58	182.90	202.51	173.93	28.59	7.084	
6,400.00	6,372.76	6,382.69	6,359.04	14.87	14.47	97.64	-285.05	195.42	211.83	182.62	29.22	7.251	
6,500.00	6,470.70	6,482.22	6,456.86	15.21	14.78	98.35	-298.52	207.94	221.19	191.33	29.85	7.409	
6,600.00	6,568.65	6,581.74	6,554.67	15.55	15.10	99.01	-311.99	220.46	230.57	200.07	30.50	7.559	
6,700.00	6,666.59	6,681.27	6,652.48	15.90	15.42	99.61	-325.46	232.97	239.99	208.83	31.16	7.702	
6,800.00	6,764.53	6,780.79	6,750.29	16.25	15.75	100.17	-338.94	245.49	249.43	217.60	31.83	7.837	
6,900.00	6,862.48	6,880.32	6,848.10	16.61	16.08	100.68	-352.41	258.01	258.89	226.39	32.50	7.966	
7,000.00	6,960.42	6,979.84	6,945.91	16.97	16.41	101.16	-365.88	270.53	268.37	235.19	33.18	8.089	
7,100.00	7,058.36	7,079.37	7,043.72	17.33	16.75	101.61	-379.35	283.05	277.86	244.00	33.86	8.205	
7,200.00	7,156.31	7,178.89	7,141.54	17.70	17.09	102.02	-392.82	295.57	287.38	252.82	34.56	8.316	
7,300.00	7,254.25	7,278.42	7,239.35	18.07	17.43	102.42	-406.29	308.09	296.90	261.65	35.25	8.422	
7,400.00	7,352.19	7,377.95	7,337.16	18.44	17.77	102.78	-419.76	320.61	306.44	270.48	35.96	8.523	
7,500.00	7,450.14	7,477.47	7,434.97	18.82	18.12	103.13	-433.24	333.13	315.99	279.33	36.67	8.618	
7,600.00	7,548.08	7,577.00	7,532.78	19.20	18.47	103.45	-446.71	345.65	325.55	288.18	37.38	8.710	
7,700.00	7,646.02	7,676.52	7,630.59	19.58	18.82	103.75	-460.18	358.17	335.13	297.03	38.10	8.797	
7,800.00	7,743.97	7,776.05	7,728.41	19.96	19.18	104.04	-473.65	370.69	344.71	305.89	38.82	8.880	
7,900.00	7,841.91	7,875.57	7,826.22	20.35	19.54	104.32	-487.12	383.21	354.29	314.75	39.54	8.959	
8,000.00	7,939.85	7,975.10	7,924.03	20.74	19.90	104.57	-500.59	395.73	363.89	323.62	40.27	9.035	
8,094.33	8,032.24	8,068.98	8,016.30	21.10	20.24	104.81	-513.30	407.54	372.95	331.98	40.97	9.104	
8,100.00	8,037.80	8,074.62	8,021.84	21.12	20.26	107.50	-514.07	408.25	373.52	332.52	40.99	9.112	
8,150.00	8,086.85	8,124.10	8,070.47	21.30	20.44	132.87	-520.76	414.47	380.55	339.45	41.10	9.259	
8,200.00	8,135.76	8,172.85	8,118.38	21.46	20.62	154.92	-527.36	420.60	391.19	350.19	41.00	9.541	
8,250.00	8,184.15	8,220.49	8,165.20	21.60	20.79	169.88	-533.81	426.59	405.41	364.72	40.69	9.964	
8,300.00	8,231.86	8,268.67	8,210.58	21.74	20.96	179.41	-540.06	432.40	423.18	383.01	40.17	10.535	
8,350.00	8,277.92	8,311.02	8,254.16	21.86	21.12	-174.32	-546.06	437.98	444.45	405.00	39.45	11.267	
8,400.00	8,322.58	8,353.22	8,295.63	21.97	21.28	-169.93	-551.78	443.29	469.17	430.63	38.54	12.173	
8,450.00	8,365.30	8,393.58	8,335.31	22.07	21.42	-166.60	-557.21	448.34	497.22	459.74	37.48	13.268	
8,500.00	8,405.77	8,431.86	8,372.99	22.16	21.54	-163.82	-562.19	452.97	528.40	492.12	36.28	14.564	
8,550.00	8,443.66	8,467.31	8,407.91	22.24	21.65	-161.24	-566.64	457.10	562.52	527.49	35.03	16.058	
8,600.00	8,478.89	8,499.67	8,439.82	22.32	21.74	-158.57	-570.56	460.75	599.38	565.57	33.82	17.725	
8,650.00	8,510.59	8,528.67	8,468.45	22.40	21.83	-155.55	-573.96	463.91	638.74	605.98	32.76	19.497	
8,700.00	8,539.12	8,554.07	8,493.54	22.48	21.90	-151.88	-576.86	466.60	680.34	648.29	32.05	21.226	
8,750.00	8,564.07	8,575.64	8,514.86	22.56	21.97	-147.16	-579.25	468.82	723.88	691.94	31.94	22.662	
8,800.00	8,585.25	8,593.16	8,532.19	22.65	22.02	-140.78	-581.15	470.59	769.06	736.33	32.74	23.492	
8,850.00	8,602.48	8,606.44	8,545.33	22.76	22.06	-131.91	-582.57	471.90	815.55	780.86	34.69	23.513	
8,900.00	8,615.65	8,615.31	8,554.10	22.89	22.08	-119.56	-583.50	472.77	863.00	825.39	37.60	22.950	
8,950.00	8,624.64	8,619.60	8,558.35	23.04	22.09	-103.28	-583.94	473.19	911.04	870.83	40.21	22.657	
9,000.00	8,629.41	8,619.19	8,557.95	23.22	22.09	-84.77	-583.90	473.15	959.32	918.93	40.39	23.752	
9,032.22	8,630.21	8,616.40	8,555.18	23.35	22.08	-73.39	-583.61	472.88	990.37	951.48	38.90	25.461	
9,100.00	8,630.03	8,608.33	8,547.20	23.67	22.06	-71.84	-582.76	472.09	1,055.69	1,016.72	38.97	27.088	

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 328H (SIMOPS)
Project:	Lea County, NM (NAD-83)	TVD Reference:	3431.4' GE + 30' KB @ 3461.40usft
Reference Site:	Cotton Draw Unit	MD Reference:	3431.4' GE + 30' KB @ 3461.40usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	328H (SIMOPS)	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 Cotton Draw Unit - 333H (SIMOPS) - 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
9,200.00	8,629.77	8,596.15	8,535.15	24.28	22.03	-69.57	-581.47	470.89	1,152.49	1,113.36	39.13	29.450	
9,300.00	8,629.51	8,583.62	8,522.75	25.04	21.99	-67.33	-580.12	469.63	1,249.69	1,210.34	39.35	31.757	
9,400.00	8,629.25	8,570.72	8,509.99	25.91	21.95	-65.11	-578.71	468.32	1,347.19	1,307.57	39.61	34.007	
9,500.00	8,628.99	8,557.43	8,496.86	26.90	21.91	-62.94	-577.23	466.95	1,444.93	1,405.02	39.91	36.205	
9,600.00	8,628.72	11,526.39	10,144.97	27.98	30.73	-171.74	936.86	512.74	1,532.13	1,500.69	31.44	48.727	
9,700.00	8,628.46	11,626.39	10,144.97	29.13	31.98	-171.74	1,036.86	512.75	1,532.39	1,499.86	32.53	47.109	
9,800.00	8,628.20	11,726.39	10,144.97	30.36	33.29	-171.74	1,136.86	512.75	1,532.65	1,499.00	33.65	45.546	
9,900.00	8,627.94	11,826.39	10,144.97	31.65	34.64	-171.75	1,236.86	512.75	1,532.91	1,498.10	34.81	44.042	
10,000.00	8,627.68	11,926.39	10,144.97	32.99	36.03	-171.75	1,336.86	512.75	1,533.17	1,497.18	35.99	42.600	
10,100.00	8,627.41	12,026.39	10,144.97	34.38	37.46	-171.75	1,436.86	512.75	1,533.43	1,496.23	37.20	41.221	
10,200.00	8,627.15	12,126.39	10,144.97	35.80	38.92	-171.75	1,536.86	512.76	1,533.69	1,495.25	38.43	39.904	
10,300.00	8,626.89	12,226.39	10,144.97	37.27	40.41	-171.75	1,636.86	512.76	1,533.95	1,494.26	39.69	38.648	
10,400.00	8,626.63	12,326.39	10,144.98	38.76	41.92	-171.75	1,736.85	512.76	1,534.21	1,493.24	40.97	37.451	
10,500.00	8,626.37	12,426.39	10,144.98	40.28	43.46	-171.76	1,836.85	512.76	1,534.47	1,492.21	42.26	36.311	
10,600.00	8,626.11	12,526.39	10,144.98	41.82	45.02	-171.76	1,936.85	512.76	1,534.73	1,491.16	43.57	35.225	
10,700.00	8,625.84	12,626.39	10,144.98	43.39	46.60	-171.76	2,036.85	512.77	1,534.99	1,490.09	44.89	34.192	
10,800.00	8,625.58	12,726.39	10,144.98	44.98	48.20	-171.76	2,136.85	512.77	1,535.25	1,489.02	46.23	33.208	
10,900.00	8,625.32	12,826.39	10,144.98	46.58	49.81	-171.76	2,236.85	512.77	1,535.51	1,487.93	47.58	32.271	
11,000.00	8,625.06	12,926.39	10,144.98	48.20	51.43	-171.76	2,336.85	512.77	1,535.77	1,486.82	48.94	31.379	
11,100.00	8,624.80	13,026.39	10,144.98	49.84	53.07	-171.76	2,436.85	512.77	1,536.03	1,485.71	50.31	30.528	
11,200.00	8,624.54	13,126.38	10,144.98	51.48	54.72	-171.77	2,536.85	512.78	1,536.29	1,484.59	51.70	29.718	
11,300.00	8,624.27	13,226.38	10,144.98	53.14	56.38	-171.77	2,636.85	512.78	1,536.55	1,483.46	53.09	28.944	
11,400.00	8,624.01	13,326.38	10,144.99	54.81	58.05	-171.77	2,736.85	512.78	1,536.81	1,482.32	54.48	28.206	
11,500.00	8,623.75	13,426.38	10,144.99	56.49	59.73	-171.77	2,836.85	512.78	1,537.07	1,481.18	55.89	27.501	
11,600.00	8,623.49	13,526.38	10,144.99	58.18	61.42	-171.77	2,936.85	512.78	1,537.33	1,480.02	57.30	26.828	
11,700.00	8,623.23	13,626.38	10,144.99	59.88	63.12	-171.77	3,036.85	512.79	1,537.59	1,478.86	58.72	26.184	
11,800.00	8,622.96	13,726.38	10,144.99	61.58	64.82	-171.77	3,136.85	512.79	1,537.85	1,477.70	60.15	25.568	
11,900.00	8,622.70	13,826.38	10,144.99	63.29	66.53	-171.78	3,236.85	512.79	1,538.11	1,476.53	61.58	24.978	
12,000.00	8,622.44	13,926.38	10,144.99	65.01	68.25	-171.78	3,336.85	512.79	1,538.36	1,475.35	63.01	24.413	
12,100.00	8,622.18	14,026.38	10,144.99	66.73	69.97	-171.78	3,436.85	512.79	1,538.62	1,474.17	64.45	23.871	
12,200.00	8,621.92	14,126.38	10,144.99	68.46	71.69	-171.78	3,536.85	512.80	1,538.88	1,472.98	65.90	23.352	
12,300.00	8,621.66	14,226.38	10,144.99	70.19	73.43	-171.78	3,636.85	512.80	1,539.14	1,471.80	67.35	22.853	
12,400.00	8,621.39	14,326.38	10,145.00	71.93	75.16	-171.78	3,736.85	512.80	1,539.40	1,470.60	68.80	22.374	
12,500.00	8,621.13	14,426.38	10,145.00	73.67	76.90	-171.78	3,836.85	512.80	1,539.66	1,469.40	70.26	21.914	
12,600.00	8,620.87	14,526.38	10,145.00	75.42	78.64	-171.79	3,936.85	512.80	1,539.92	1,468.20	71.72	21.471	
12,700.00	8,620.61	14,626.38	10,145.00	77.17	80.39	-171.79	4,036.85	512.81	1,540.18	1,467.00	73.18	21.045	
12,800.00	8,620.35	14,726.38	10,145.00	78.92	82.14	-171.79	4,136.85	512.81	1,540.44	1,465.79	74.65	20.635	
12,900.00	8,620.08	14,826.38	10,145.00	80.68	83.90	-171.79	4,236.85	512.81	1,540.70	1,464.58	76.12	20.240	
12,932.22	8,620.00	14,857.28	10,145.00	81.24	84.44	-171.79	4,267.74	512.81	1,540.79	1,464.20	76.59	20.119	

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



LEAM Drilling Systems LLC
Anticollision Report

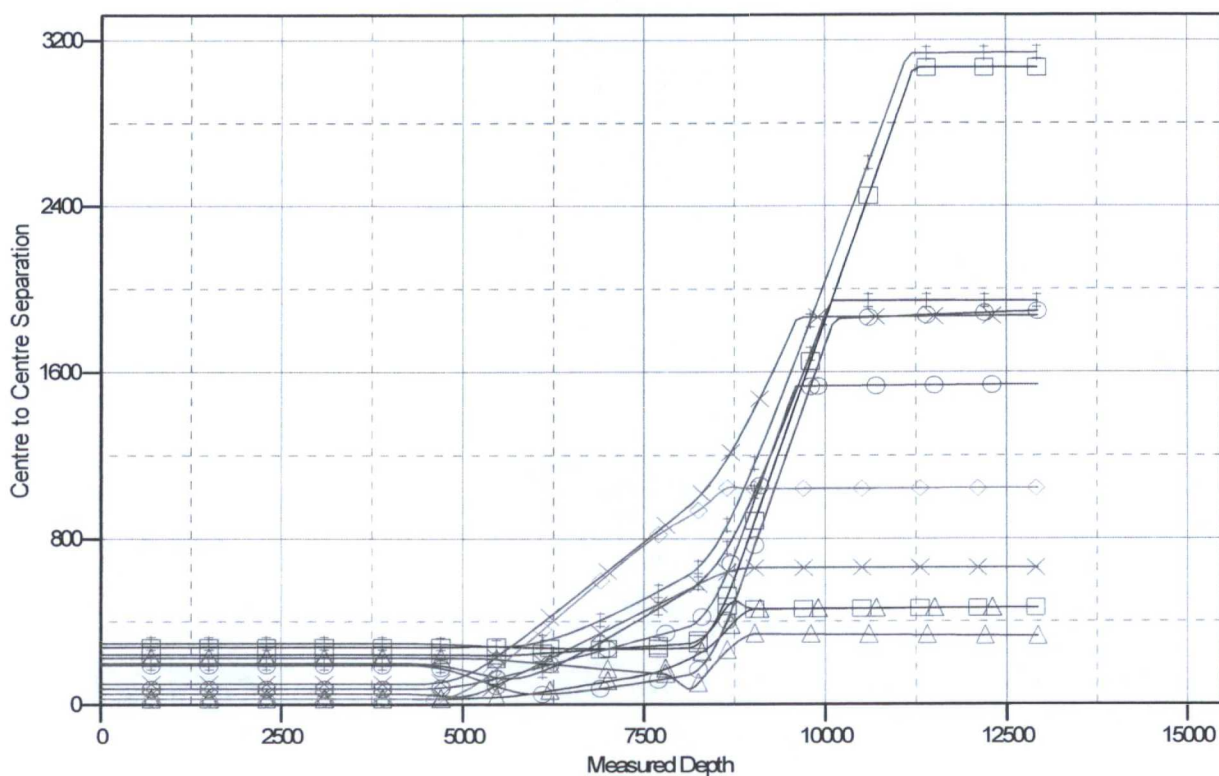


Company:	DEVON ENERGY	Local Co-ordinate Reference:	Well 328H (SIMOPS)
Project:	Lea County, NM (NAD-83)	TVD Reference:	3431.4' GE + 30' KB @ 3461.40usft
Reference Site:	Cotton Draw Unit	MD Reference:	3431.4' GE + 30' KB @ 3461.40usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	328H (SIMOPS)	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 3431.4' GE + 30' KB @ 3461.40usft
Offset Depths are relative to Offset Datum
Central Meridian is 104° 20' 0.000 W

Coordinates are relative to: 328H (SIMOPS)
Coordinate System is US State Plane 1983, New Mexico Eastern Zone
Grid Convergence at Surface is: 0.33°

Ladder Plot



LEGEND

✕ 327H (SIMOPS), OH, Plan #1 V0	✕ 286H (SIMOPS), OH, Plan #1 V0	✕ 333H (SIMOPS), OH, Plan #1 V0
✕ 320H (SIMOPS), OH, Plan #1 V0	✕ 313H (SIMOPS), OH, Plan #1 V0	✕ 319H (SIMOPS), OH, Plan #1 V0
✕ 253H (SIMOPS), OH, Plan #1 V0	✕ 263H (SIMOPS), OH, Plan #1 V0	✕ 332H (SIMOPS), OH, Plan #1 V0
✕ 312H (SIMOPS), OH, Plan #1 V0	✕ 321H (SIMOPS), OH, Plan #1 V0	

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

Company:	DEVON ENERGY	Local Co-ordinate Reference:	Well 328H (SIMOPS)
Project:	Lea County, NM (NAD-83)	TVD Reference:	3431.4' GE + 30' KB @ 3461.40usft
Reference Site:	Cotton Draw Unit	MD Reference:	3431.4' GE + 30' KB @ 3461.40usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	328H (SIMOPS)	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 3431.4' GE + 30' KB @ 3461.40usft

Offset Depths are relative to Offset Datum

Central Meridian is 104° 20' 0.000 W

Coordinates are relative to: 328H (SIMOPS)

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

Grid Convergence at Surface is: 0.33°

