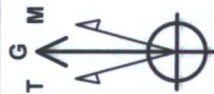




Project: Lea County, NM (NAD-83)
Site: Cotton Draw Unit
Well: 320H (SIMOPS)
Wellbore: OH
Design: Plan #1



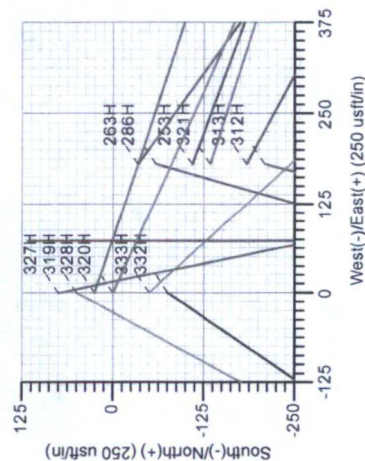
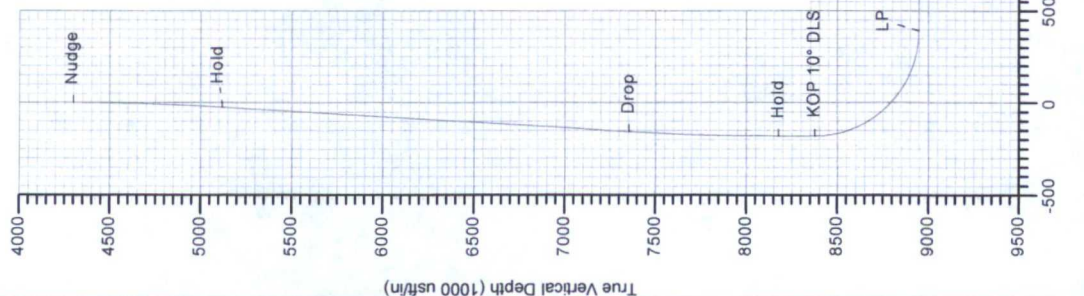
Azimuths to Grid North
True North: -0.33°
Magnetic North: 6.95°
Magnetic Field
Strength: 48101.2snT
Dip Angle: 60.03°
Date: 12/16/2015
Model: BGGM2015



DESIGN TARGET DETAILS				
Name	TVD	+N/-S	+E/-W	Northing
SHL (CDU 320H)	0.00	0.00	0.00	415002.38
PBHL (CDU 320H)	8950.00	4292.07	402.74	419294.45

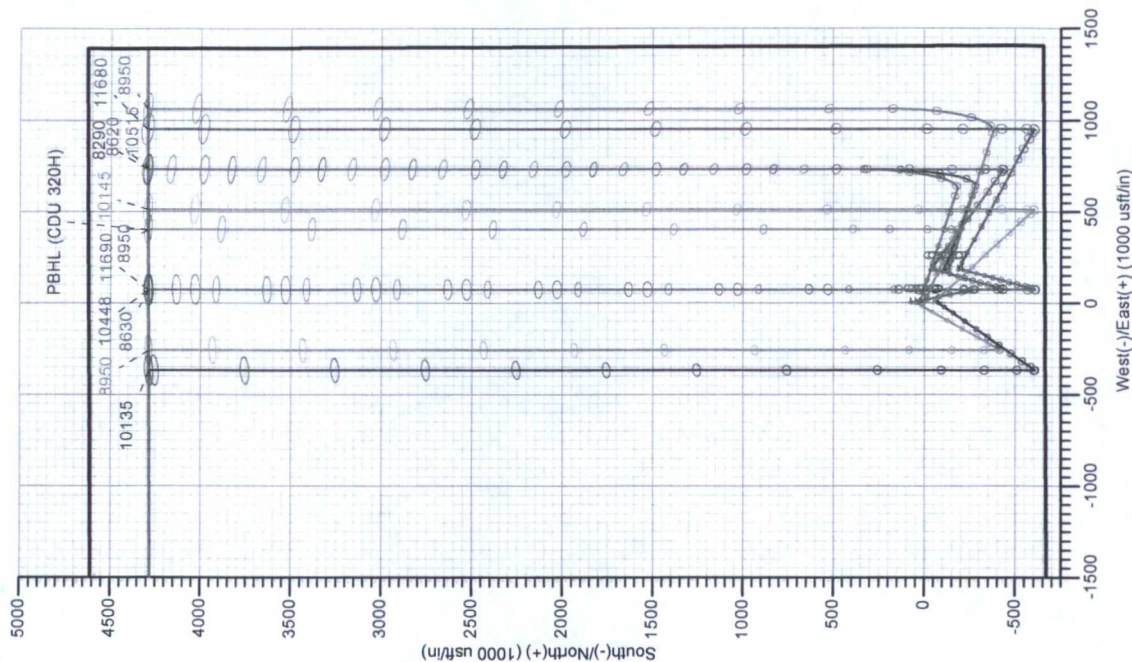
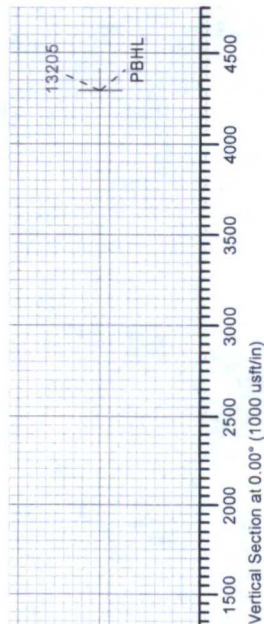
SECTION DETAILS				
MD	Inc	Azi	TVD	+N/-S
0.00	0.00	0.00	0.00	0.00
4300.00	0.00	0.00	4300.00	0.00
5122.90	8.23	114.10	5120.07	-24.09
7383.03	8.23	114.10	7356.93	-156.16
8205.92	0.00	0.00	8177.00	-180.25
8405.92	0.00	0.00	8377.00	-180.25
9305.92	90.00	360.00	8949.96	392.70
13205.29	90.00	360.00	8950.00	4292.07

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
- 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
- △ 328H (SIMOPS), OH, Plan #1 V0
- △ Plan #1





DEVON ENERGY

Lea County, NM (NAD-83)

Cotton Draw Unit

320H (SIMOPS)

OH

Plan: Plan #1

Standard Planning Report

17 December, 2015





LEAM Drilling Systems LLC
Planning Report



Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well 320H (SIMOPS)
Company:	DEVON ENERGY	TVD Reference:	3431.4' GE + 30' KB @ 3461.40usft
Project:	Lea County, NM (NAD-83)	MD Reference:	3431.4' GE + 30' KB @ 3461.40usft
Site:	Cotton Draw Unit	North Reference:	Grid
Well:	320H (SIMOPS)	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1		

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	320H (SIMOPS)					
Well Position	+N/-S	860.13 usft	Northing:	415,002.38 usft	Latitude:	32° 8' 21.794 N
	+E/-W	192.28 usft	Easting:	734,159.70 usft	Longitude:	103° 42' 37.308 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	
5,122.90	8.23	114.10	5,120.07	-24.09	53.85	1.00	1.00	0.00	114.10	
7,383.03	8.23	114.10	7,356.93	-156.16	349.15	0.00	0.00	0.00	0.00	
8,205.92	0.00	0.00	8,177.00	-180.25	403.00	1.00	-1.00	0.00	180.00	
8,405.92	0.00	0.00	8,377.00	-180.25	403.00	0.00	0.00	0.00	0.00	
9,305.92	90.00	360.00	8,949.96	392.70	402.97	10.00	10.00	0.00	360.00	
13,205.29	90.00	360.00	8,950.00	4,292.07	402.74	0.00	0.00	0.00	0.00	PBHL (CDU 320H)



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: 320H (SIMOPS)
Wellbore: OH
Design: Plan #1

Local Co-ordinate Reference:
TVD Reference:
MD Reference:
North Reference:
Survey Calculation Method:

Well 320H (SIMOPS)
3431.4' GE + 30' KB @ 3461.40usft
3431.4' GE + 30' KB @ 3461.40usft
Grid
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 320H)									
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	114.10	4,400.00	-0.36	0.80	-0.36	1.00	1.00	0.00
4,500.00	2.00	114.10	4,499.96	-1.43	3.19	-1.43	1.00	1.00	0.00
4,600.00	3.00	114.10	4,599.86	-3.21	7.17	-3.21	1.00	1.00	0.00
4,700.00	4.00	114.10	4,699.68	-5.70	12.74	-5.70	1.00	1.00	0.00
4,800.00	5.00	114.10	4,799.37	-8.90	19.90	-8.90	1.00	1.00	0.00
4,900.00	6.00	114.10	4,898.90	-12.82	28.65	-12.82	1.00	1.00	0.00
5,000.00	7.00	114.10	4,998.26	-17.44	38.99	-17.44	1.00	1.00	0.00
5,100.00	8.00	114.10	5,097.40	-22.77	50.90	-22.77	1.00	1.00	0.00



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: 320H (SIMOPS)
Wellbore: OH
Design: Plan #1

Local Co-ordinate Reference:
TVD Reference:
MD Reference:
North Reference:
Survey Calculation Method:

Well 320H (SIMOPS)
3431.4' GE + 30' KB @ 3461.40usft
3431.4' GE + 30' KB @ 3461.40usft
Grid
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)
5,122.90	8.23	114.10	5,120.07	-24.09	53.85	-24.09	1.00	1.00	0.00
Hold									
5,200.00	8.23	114.10	5,196.38	-28.59	63.92	-28.59	0.00	0.00	0.00
5,300.00	8.23	114.10	5,295.35	-34.44	76.99	-34.44	0.00	0.00	0.00
5,400.00	8.23	114.10	5,394.32	-40.28	90.06	-40.28	0.00	0.00	0.00
5,500.00	8.23	114.10	5,493.29	-46.12	103.12	-46.12	0.00	0.00	0.00
5,600.00	8.23	114.10	5,592.26	-51.97	116.19	-51.97	0.00	0.00	0.00
5,700.00	8.23	114.10	5,691.23	-57.81	129.25	-57.81	0.00	0.00	0.00
5,800.00	8.23	114.10	5,790.20	-63.65	142.32	-63.65	0.00	0.00	0.00
5,900.00	8.23	114.10	5,889.17	-69.50	155.38	-69.50	0.00	0.00	0.00
6,000.00	8.23	114.10	5,988.14	-75.34	168.45	-75.34	0.00	0.00	0.00
6,100.00	8.23	114.10	6,087.11	-81.19	181.51	-81.19	0.00	0.00	0.00
6,200.00	8.23	114.10	6,186.08	-87.03	194.58	-87.03	0.00	0.00	0.00
6,300.00	8.23	114.10	6,285.05	-92.87	207.65	-92.87	0.00	0.00	0.00
6,400.00	8.23	114.10	6,384.02	-98.72	220.71	-98.72	0.00	0.00	0.00
6,500.00	8.23	114.10	6,483.00	-104.56	233.78	-104.56	0.00	0.00	0.00
6,600.00	8.23	114.10	6,581.97	-110.41	246.84	-110.41	0.00	0.00	0.00
6,700.00	8.23	114.10	6,680.94	-116.25	259.91	-116.25	0.00	0.00	0.00
6,800.00	8.23	114.10	6,779.91	-122.09	272.97	-122.09	0.00	0.00	0.00
6,900.00	8.23	114.10	6,878.88	-127.94	286.04	-127.94	0.00	0.00	0.00
7,000.00	8.23	114.10	6,977.85	-133.78	299.10	-133.78	0.00	0.00	0.00
7,100.00	8.23	114.10	7,076.82	-139.62	312.17	-139.62	0.00	0.00	0.00
7,200.00	8.23	114.10	7,175.79	-145.47	325.24	-145.47	0.00	0.00	0.00
7,300.00	8.23	114.10	7,274.76	-151.31	338.30	-151.31	0.00	0.00	0.00
7,383.03	8.23	114.10	7,356.93	-156.16	349.15	-156.16	0.00	0.00	0.00
Drop									
7,400.00	8.06	114.10	7,373.73	-157.15	351.34	-157.15	1.00	-1.00	0.00
7,500.00	7.06	114.10	7,472.86	-162.52	363.35	-162.52	1.00	-1.00	0.00
7,600.00	6.06	114.10	7,572.21	-167.18	373.78	-167.18	1.00	-1.00	0.00
7,700.00	5.06	114.10	7,671.73	-171.14	382.62	-171.14	1.00	-1.00	0.00
7,800.00	4.06	114.10	7,771.42	-174.38	389.88	-174.38	1.00	-1.00	0.00
7,900.00	3.06	114.10	7,871.22	-176.92	395.55	-176.92	1.00	-1.00	0.00
8,000.00	2.06	114.10	7,971.12	-178.74	399.62	-178.74	1.00	-1.00	0.00
8,100.00	1.06	114.10	8,071.08	-179.85	402.11	-179.85	1.00	-1.00	0.00
8,205.92	0.00	0.00	8,177.00	-180.25	403.00	-180.25	1.00	-1.00	0.00
Hold									
8,300.00	0.00	0.00	8,271.08	-180.25	403.00	-180.25	0.00	0.00	0.00
8,405.92	0.00	0.00	8,377.00	-180.25	403.00	-180.25	0.00	0.00	0.00
KOP 10° DLS									
8,450.00	4.41	360.00	8,421.03	-178.56	403.00	-178.56	10.00	10.00	0.00
8,500.00	9.41	360.00	8,470.66	-172.54	403.00	-172.54	10.00	10.00	0.00
8,550.00	14.41	360.00	8,519.56	-162.23	403.00	-162.23	10.00	10.00	0.00
8,600.00	19.41	360.00	8,567.39	-147.69	403.00	-147.69	10.00	10.00	0.00
8,650.00	24.41	360.00	8,613.76	-129.04	403.00	-129.04	10.00	10.00	0.00
8,700.00	29.41	360.00	8,658.33	-106.42	403.00	-106.42	10.00	10.00	0.00
8,750.00	34.41	360.00	8,700.77	-80.00	402.99	-80.00	10.00	10.00	0.00
8,800.00	39.41	360.00	8,740.73	-49.99	402.99	-49.99	10.00	10.00	0.00
8,850.00	44.41	360.00	8,777.93	-16.60	402.99	-16.60	10.00	10.00	0.00
8,900.00	49.41	360.00	8,812.08	19.90	402.99	19.90	10.00	10.00	0.00
8,950.00	54.41	360.00	8,842.92	59.24	402.99	59.24	10.00	10.00	0.00
9,000.00	59.41	360.00	8,870.21	101.12	402.98	101.12	10.00	10.00	0.00
9,050.00	64.41	360.00	8,893.75	145.21	402.98	145.21	10.00	10.00	0.00
9,100.00	69.41	360.00	8,913.35	191.19	402.98	191.19	10.00	10.00	0.00



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: 320H (SIMOPS)
Wellbore: OH
Design: Plan #1

Local Co-ordinate Reference:
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)
9,150.00	74.41	360.00	8,928.87	238.70	402.98	238.70	10.00	10.00	0.00
9,200.00	79.41	360.00	8,940.19	287.39	402.97	287.39	10.00	10.00	0.00
9,250.00	84.41	360.00	8,947.23	336.87	402.97	336.87	10.00	10.00	0.00
9,300.00	89.41	360.00	8,949.93	386.79	402.97	386.79	10.00	10.00	0.00
9,305.92	90.00	360.00	8,949.96	392.70	402.97	392.70	10.00	10.00	0.00
LP									
9,400.00	90.00	360.00	8,949.96	486.79	402.96	486.79	0.00	0.00	0.00
9,500.00	90.00	360.00	8,949.96	586.79	402.96	586.79	0.00	0.00	0.00
9,600.00	90.00	360.00	8,949.96	686.79	402.95	686.79	0.00	0.00	0.00
9,700.00	90.00	360.00	8,949.96	786.79	402.94	786.79	0.00	0.00	0.00
9,800.00	90.00	360.00	8,949.96	886.79	402.94	886.79	0.00	0.00	0.00
9,900.00	90.00	360.00	8,949.96	986.79	402.93	986.79	0.00	0.00	0.00
10,000.00	90.00	360.00	8,949.97	1,086.79	402.93	1,086.79	0.00	0.00	0.00
10,100.00	90.00	360.00	8,949.97	1,186.79	402.92	1,186.79	0.00	0.00	0.00
10,200.00	90.00	360.00	8,949.97	1,286.79	402.91	1,286.79	0.00	0.00	0.00
10,300.00	90.00	360.00	8,949.97	1,386.79	402.91	1,386.79	0.00	0.00	0.00
10,400.00	90.00	360.00	8,949.97	1,486.79	402.90	1,486.79	0.00	0.00	0.00
10,500.00	90.00	360.00	8,949.97	1,586.79	402.90	1,586.79	0.00	0.00	0.00
10,600.00	90.00	360.00	8,949.97	1,686.79	402.89	1,686.79	0.00	0.00	0.00
10,700.00	90.00	360.00	8,949.97	1,786.79	402.89	1,786.79	0.00	0.00	0.00
10,800.00	90.00	360.00	8,949.97	1,886.79	402.88	1,886.79	0.00	0.00	0.00
10,900.00	90.00	360.00	8,949.98	1,986.79	402.87	1,986.79	0.00	0.00	0.00
11,000.00	90.00	360.00	8,949.98	2,086.79	402.87	2,086.79	0.00	0.00	0.00
11,100.00	90.00	360.00	8,949.98	2,186.79	402.86	2,186.79	0.00	0.00	0.00
11,200.00	90.00	360.00	8,949.98	2,286.79	402.86	2,286.79	0.00	0.00	0.00
11,300.00	90.00	360.00	8,949.98	2,386.79	402.85	2,386.79	0.00	0.00	0.00
11,400.00	90.00	360.00	8,949.98	2,486.79	402.85	2,486.79	0.00	0.00	0.00
11,500.00	90.00	360.00	8,949.98	2,586.79	402.84	2,586.79	0.00	0.00	0.00
11,600.00	90.00	360.00	8,949.98	2,686.79	402.83	2,686.79	0.00	0.00	0.00
11,700.00	90.00	360.00	8,949.98	2,786.79	402.83	2,786.79	0.00	0.00	0.00
11,800.00	90.00	360.00	8,949.98	2,886.79	402.82	2,886.79	0.00	0.00	0.00
11,900.00	90.00	360.00	8,949.99	2,986.79	402.82	2,986.79	0.00	0.00	0.00
12,000.00	90.00	360.00	8,949.99	3,086.79	402.81	3,086.79	0.00	0.00	0.00
12,100.00	90.00	360.00	8,949.99	3,186.79	402.80	3,186.79	0.00	0.00	0.00
12,200.00	90.00	360.00	8,949.99	3,286.79	402.80	3,286.79	0.00	0.00	0.00
12,300.00	90.00	360.00	8,949.99	3,386.79	402.79	3,386.79	0.00	0.00	0.00
12,400.00	90.00	360.00	8,949.99	3,486.79	402.79	3,486.79	0.00	0.00	0.00
12,500.00	90.00	360.00	8,949.99	3,586.79	402.78	3,586.79	0.00	0.00	0.00
12,600.00	90.00	360.00	8,949.99	3,686.79	402.78	3,686.79	0.00	0.00	0.00
12,700.00	90.00	360.00	8,949.99	3,786.79	402.77	3,786.79	0.00	0.00	0.00
12,800.00	90.00	360.00	8,950.00	3,886.79	402.76	3,886.79	0.00	0.00	0.00
12,900.00	90.00	360.00	8,950.00	3,986.79	402.76	3,986.79	0.00	0.00	0.00
13,000.00	90.00	360.00	8,950.00	4,086.79	402.75	4,086.79	0.00	0.00	0.00
13,100.00	90.00	360.00	8,950.00	4,186.79	402.75	4,186.79	0.00	0.00	0.00
13,205.29	90.00	360.00	8,950.00	4,292.07	402.74	4,292.07	0.00	0.00	0.00

TD - PBHL (CDU 320H)



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: 320H (SIMOPS)
Wellbore: OH
Design: Plan #1

Local Co-ordinate Reference:
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 320H) - plan hits target center - Point	0.00	0.00	0.00	0.00	0.00	415,002.38	734,159.70	32° 8' 21.794 N	103° 42' 37.308 W
PBHL (CDU 320H) - plan hits target center - Point	0.00	0.00	8,950.00	4,292.07	402.74	419,294.45	734,562.44	32° 9' 4.244 N	103° 42' 32.335 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
5,122.90	5,120.07	-24.09	53.85	Hold
7,383.03	7,356.93	-156.16	349.15	Drop
8,205.92	8,177.00	-180.25	403.00	Hold
8,405.92	8,377.00	-180.25	403.00	KOP 10° DLS
9,305.92	8,949.96	392.70	402.97	LP
13,205.29	8,950.00	4,292.07	402.74	TD



DEVON ENERGY

Lea County, NM (NAD-83)

Cotton Draw Unit

320H (SIMOPS)

OH

Plan #1

Anticollision Report

17 December, 2015





LEAM Drilling Systems LLC
Anticollision Report



Company:	DEVON ENERGY	Local Co-ordinate Reference:	Well 320H (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:	320H (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	13,205.29	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	5,160.57	5,130.65	208.09	185.99	9.416	CC
253H (SIMOPS) - OH - Plan #1	5,200.00	5,168.71	208.22	185.96	9.357	ES
253H (SIMOPS) - OH - Plan #1	13,205.29	12,660.84	737.90	640.69	7.590	SF
263H (SIMOPS) - OH - Plan #1	5,928.04	5,909.94	80.45	55.06	3.169	CC, ES
263H (SIMOPS) - OH - Plan #1	6,000.00	5,980.98	80.88	55.20	3.150	SF
286H (SIMOPS) - OH - Plan #1	5,751.42	5,738.48	99.39	74.70	4.026	CC, ES
286H (SIMOPS) - OH - Plan #1	5,800.00	5,786.46	99.68	74.75	3.999	SF
312H (SIMOPS) - OH - Plan #1	5,538.68	5,514.27	251.73	227.99	10.605	CC
312H (SIMOPS) - OH - Plan #1	5,600.00	5,574.82	251.91	227.90	10.492	ES
312H (SIMOPS) - OH - Plan #1	6,000.00	5,969.80	262.06	236.21	10.139	SF
313H (SIMOPS) - OH - Plan #1	5,134.34	5,100.00	257.08	235.07	11.681	CC, ES
313H (SIMOPS) - OH - Plan #1	7,500.00	7,457.74	320.51	287.97	9.848	SF
319H (SIMOPS) - OH - Plan #1	4,650.68	4,652.66	47.41	27.08	2.332	CC, ES
319H (SIMOPS) - OH - Plan #1	4,700.00	4,702.01	47.65	27.15	2.324	SF
321H (SIMOPS) - OH - Plan #1	4,300.00	4,300.00	224.83	205.79	11.810	CC
321H (SIMOPS) - OH - Plan #1	4,400.00	4,395.61	224.95	205.52	11.574	ES
321H (SIMOPS) - OH - Plan #1	13,205.29	13,469.97	659.99	495.32	4.008	SF
327H (SIMOPS) - OH - Plan #1	5,051.09	5,057.84	58.29	36.59	2.686	CC, ES, SF
328H (SIMOPS) - OH - Plan #1	4,450.39	4,450.65	24.99	5.35	1.273	Level 3, CC
328H (SIMOPS) - OH - Plan #1	4,700.00	4,700.55	25.35	4.76	1.231	Level 2, ES, SF
332H (SIMOPS) - OH - Plan #1	4,300.00	4,300.00	75.00	55.96	3.940	CC
332H (SIMOPS) - OH - Plan #1	4,400.00	4,398.92	75.36	55.92	3.877	ES
332H (SIMOPS) - OH - Plan #1	4,500.00	4,497.73	76.57	56.78	3.868	SF
333H (SIMOPS) - OH - Plan #1	4,300.00	4,300.00	50.00	30.96	2.626	CC
333H (SIMOPS) - OH - Plan #1	4,400.00	4,399.36	50.28	30.84	2.586	ES
333H (SIMOPS) - OH - Plan #1	4,500.00	4,498.72	51.12	31.32	2.582	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		Offset		Semi Major Axis		Distance							Warning				
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre		Between Centres	Between Ellipses	Minimum Separation	Separation Factor					
(usft)	(usft)	(usft)	(usft)	(usft)	(usft)	(°)	+N/-S (usft)	+E/-W (usft)	(usft)	(usft)	(usft)						
0.00	0.00	0.00	0.00	0.00	0.00	121.15	-109.05	180.42	210.82								
100.00	100.00	100.00	100.00	0.08	0.08	121.15	-109.05	180.42	210.82	210.66	0.16	1,339.927					

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 320H (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:	320H (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)							
200.00	200.00	200.00	200.00	0.30	0.30	121.15	-109.05	180.42	210.82	210.21	0.61	347.389			
300.00	300.00	300.00	300.00	0.53	0.53	121.15	-109.05	180.42	210.82	209.76	1.06	199.564			
400.00	400.00	400.00	400.00	0.75	0.75	121.15	-109.05	180.42	210.82	209.31	1.51	139.993			
500.00	500.00	500.00	500.00	0.98	0.98	121.15	-109.05	180.42	210.82	208.86	1.96	107.810			
600.00	600.00	600.00	600.00	1.20	1.20	121.15	-109.05	180.42	210.82	208.41	2.40	87.659			
700.00	700.00	700.00	700.00	1.43	1.43	121.15	-109.05	180.42	210.82	207.96	2.85	73.854			
800.00	800.00	800.00	800.00	1.65	1.65	121.15	-109.05	180.42	210.82	207.52	3.30	63.806			
900.00	900.00	900.00	900.00	1.88	1.88	121.15	-109.05	180.42	210.82	207.07	3.75	56.165			
1,000.00	1,000.00	1,000.00	1,000.00	2.10	2.10	121.15	-109.05	180.42	210.82	206.62	4.20	50.158			
1,100.00	1,100.00	1,100.00	1,100.00	2.33	2.33	121.15	-109.05	180.42	210.82	206.17	4.65	45.312			
1,200.00	1,200.00	1,200.00	1,200.00	2.55	2.55	121.15	-109.05	180.42	210.82	205.72	5.10	41.319			
1,300.00	1,300.00	1,300.00	1,300.00	2.78	2.78	121.15	-109.05	180.42	210.82	205.27	5.55	37.974			
1,400.00	1,400.00	1,400.00	1,400.00	3.00	3.00	121.15	-109.05	180.42	210.82	204.82	6.00	35.129			
1,500.00	1,500.00	1,500.00	1,500.00	3.23	3.23	121.15	-109.05	180.42	210.82	204.37	6.45	32.681			
1,600.00	1,600.00	1,600.00	1,600.00	3.45	3.45	121.15	-109.05	180.42	210.82	203.92	6.90	30.552			
1,700.00	1,700.00	1,700.00	1,700.00	3.67	3.67	121.15	-109.05	180.42	210.82	203.47	7.35	28.683			
1,800.00	1,800.00	1,800.00	1,800.00	3.90	3.90	121.15	-109.05	180.42	210.82	203.02	7.80	27.030			
1,900.00	1,900.00	1,900.00	1,900.00	4.12	4.12	121.15	-109.05	180.42	210.82	202.57	8.25	25.557			
2,000.00	2,000.00	2,000.00	2,000.00	4.35	4.35	121.15	-109.05	180.42	210.82	202.12	8.70	24.236			
2,100.00	2,100.00	2,100.00	2,100.00	4.57	4.57	121.15	-109.05	180.42	210.82	201.67	9.15	23.045			
2,200.00	2,200.00	2,200.00	2,200.00	4.80	4.80	121.15	-109.05	180.42	210.82	201.22	9.60	21.966			
2,300.00	2,300.00	2,300.00	2,300.00	5.02	5.02	121.15	-109.05	180.42	210.82	200.77	10.05	20.983			
2,400.00	2,400.00	2,400.00	2,400.00	5.25	5.25	121.15	-109.05	180.42	210.82	200.32	10.50	20.085			
2,500.00	2,500.00	2,500.00	2,500.00	5.47	5.47	121.15	-109.05	180.42	210.82	199.87	10.95	19.260			
2,600.00	2,600.00	2,600.00	2,600.00	5.70	5.70	121.15	-109.05	180.42	210.82	199.42	11.40	18.500			
2,700.00	2,700.00	2,700.00	2,700.00	5.92	5.92	121.15	-109.05	180.42	210.82	198.97	11.85	17.798			
2,800.00	2,800.00	2,800.00	2,800.00	6.15	6.15	121.15	-109.05	180.42	210.82	198.52	12.29	17.147			
2,900.00	2,900.00	2,900.00	2,900.00	6.37	6.37	121.15	-109.05	180.42	210.82	198.08	12.74	16.542			
3,000.00	3,000.00	3,000.00	3,000.00	6.60	6.60	121.15	-109.05	180.42	210.82	197.63	13.19	15.979			
3,100.00	3,100.00	3,100.00	3,100.00	6.82	6.82	121.15	-109.05	180.42	210.82	197.18	13.64	15.452			
3,200.00	3,200.00	3,200.00	3,200.00	7.05	7.05	121.15	-109.05	180.42	210.82	196.73	14.09	14.959			
3,300.00	3,300.00	3,300.00	3,300.00	7.27	7.27	121.15	-109.05	180.42	210.82	196.28	14.54	14.497			
3,400.00	3,400.00	3,400.00	3,400.00	7.50	7.50	121.15	-109.05	180.42	210.82	195.83	14.99	14.062			
3,500.00	3,500.00	3,500.00	3,500.00	7.72	7.72	121.15	-109.05	180.42	210.82	195.38	15.44	13.653			
3,600.00	3,600.00	3,600.00	3,600.00	7.95	7.95	121.15	-109.05	180.42	210.82	194.93	15.89	13.267			
3,700.00	3,700.00	3,700.00	3,700.00	8.17	8.17	121.15	-109.05	180.42	210.82	194.48	16.34	12.902			
3,800.00	3,800.00	3,800.00	3,800.00	8.40	8.40	121.15	-109.05	180.42	210.82	194.03	16.79	12.556			
3,900.00	3,900.00	3,900.00	3,900.00	8.62	8.62	121.15	-109.05	180.42	210.82	193.58	17.24	12.229			
4,000.00	4,000.00	4,000.00	4,000.00	8.84	8.84	121.15	-109.05	180.42	210.82	193.13	17.69	11.918			
4,100.00	4,100.00	4,100.00	4,100.00	9.07	9.07	121.15	-109.05	180.42	210.82	192.68	18.14	11.623			
4,200.00	4,200.00	4,200.00	4,200.00	9.29	9.29	121.15	-109.05	180.42	210.82	192.23	18.59	11.342			
4,300.00	4,300.00	4,300.00	4,300.00	9.52	9.52	121.15	-109.05	180.42	210.82	191.78	19.04	11.074			
4,400.00	4,400.00	4,396.51	4,396.51	9.72	9.72	7.04	-109.33	181.19	210.78	191.34	19.44	10.844			
4,500.00	4,499.96	4,493.03	4,492.99	9.91	9.90	7.00	-110.17	183.48	210.66	190.87	19.79	10.643			
4,600.00	4,599.86	4,589.54	4,589.42	10.10	10.08	6.93	-111.58	187.29	210.47	190.32	20.15	10.446			
4,700.00	4,699.68	4,686.06	4,685.77	10.29	10.27	6.83	-113.55	192.62	210.20	189.70	20.50	10.254			
4,800.00	4,799.37	4,782.58	4,782.01	10.49	10.46	6.71	-116.07	199.48	209.85	189.00	20.85	10.066			
4,900.00	4,898.90	4,879.11	4,878.12	10.69	10.66	6.56	-119.16	207.86	209.42	188.23	21.19	9.882			
5,000.00	4,998.26	4,975.64	4,974.07	10.89	10.86	6.38	-122.81	217.76	208.92	187.39	21.54	9.701			
5,100.00	5,097.40	5,072.17	5,069.83	11.11	11.06	6.17	-127.02	229.17	208.35	186.47	21.88	9.524			
5,122.90	5,120.07	5,094.27	5,091.73	11.16	11.11	6.11	-128.06	232.00	208.21	186.25	21.95	9.484			
5,160.57	5,157.36	5,130.65	5,127.74	11.24	11.19	6.02	-129.84	236.82	208.09	185.99	22.10	9.416 CC			

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 320H (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:	320H (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)		Between Centres (usft)	Between Ellipses (usft)							
5,200.00	5,196.38	5,168.71	5,165.38	11.33	11.28	5.91	-131.78	242.10	208.22	185.96	22.25	9.357	ES		
5,300.00	5,295.35	5,265.73	5,261.17	11.56	11.50	5.59	-137.12	256.59	209.89	187.04	22.85	9.259			
5,400.00	5,394.32	5,365.70	5,359.76	11.80	11.75	5.23	-142.83	272.09	211.78	188.73	23.05	9.188			
5,500.00	5,493.29	5,465.67	5,458.36	12.04	11.99	4.88	-148.55	287.59	213.87	190.41	23.46	9.118			
5,600.00	5,592.26	5,565.64	5,556.95	12.28	12.25	4.53	-154.26	303.09	215.97	192.10	23.87	9.049			
5,700.00	5,691.23	5,665.61	5,655.55	12.53	12.51	4.20	-159.97	318.59	218.08	193.80	24.28	8.982			
5,800.00	5,790.20	5,765.58	5,754.14	12.79	12.78	3.87	-165.68	334.09	220.20	195.50	24.70	8.916			
5,900.00	5,889.17	5,865.55	5,852.74	13.05	13.05	3.54	-171.40	349.59	222.32	197.21	25.12	8.852			
6,000.00	5,988.14	5,965.52	5,951.33	13.31	13.33	3.22	-177.11	365.09	224.45	198.91	25.54	8.789			
6,100.00	6,087.11	6,065.49	6,049.93	13.58	13.61	2.91	-182.82	380.59	226.59	200.63	25.96	8.728			
6,200.00	6,186.08	6,165.46	6,148.53	13.85	13.90	2.60	-188.53	396.09	228.73	202.34	26.39	8.668			
6,300.00	6,285.05	6,265.43	6,247.12	14.12	14.19	2.30	-194.25	411.59	230.89	204.07	26.82	8.609			
6,400.00	6,384.02	6,365.40	6,345.72	14.40	14.49	2.01	-199.96	427.09	233.04	205.79	27.25	8.552			
6,500.00	6,483.00	6,465.36	6,444.31	14.68	14.79	1.72	-205.67	442.59	235.21	207.52	27.69	8.496			
6,600.00	6,581.97	6,565.33	6,542.91	14.96	15.09	1.43	-211.38	458.09	237.37	209.25	28.12	8.441			
6,700.00	6,680.94	6,665.30	6,641.50	15.24	15.40	1.15	-217.10	473.59	239.55	210.99	28.56	8.387			
6,800.00	6,779.91	6,765.27	6,740.10	15.53	15.71	0.88	-222.81	489.09	241.73	212.73	29.00	8.335			
6,900.00	6,878.88	6,865.24	6,838.69	15.82	16.02	0.61	-228.52	504.59	243.92	214.47	29.44	8.284			
7,000.00	6,977.85	6,965.21	6,937.29	16.11	16.33	0.34	-234.23	520.08	246.11	216.22	29.89	8.235			
7,100.00	7,076.82	7,065.18	7,035.88	16.41	16.65	0.08	-239.95	535.58	248.30	217.97	30.33	8.186			
7,200.00	7,175.79	7,165.15	7,134.48	16.70	16.97	-0.17	-245.66	551.08	250.50	219.72	30.78	8.138			
7,300.00	7,274.76	7,265.12	7,233.07	17.00	17.30	-0.42	-251.37	566.58	252.71	221.48	31.23	8.092			
7,383.03	7,356.93	7,348.12	7,314.94	17.25	17.57	-0.63	-256.12	579.45	254.55	222.94	31.60	8.054			
7,400.00	7,373.73	7,365.09	7,331.67	17.30	17.62	-0.67	-257.08	582.08	254.95	223.26	31.69	8.046			
7,500.00	7,472.86	7,465.03	7,430.23	17.55	17.95	-0.91	-262.80	597.58	258.33	226.16	32.17	8.031			
7,600.00	7,572.21	7,564.89	7,528.72	17.80	18.28	-1.13	-268.50	613.06	263.46	230.82	32.64	8.072			
7,700.00	7,671.73	7,664.65	7,627.11	18.04	18.61	-1.34	-274.20	628.53	270.34	237.24	33.10	8.167			
7,800.00	7,771.42	7,771.92	7,732.96	18.26	18.95	-1.84	-278.81	645.17	278.49	244.92	33.57	8.296			
7,900.00	7,871.22	7,890.72	7,849.27	18.48	19.27	-5.95	-284.67	663.45	282.76	248.70	34.06	8.302			
8,000.00	7,971.12	7,998.49	7,950.27	18.69	19.51	-13.47	-231.10	679.33	285.33	250.76	34.57	8.253			
8,100.00	8,071.08	8,090.78	8,030.55	18.89	19.68	-22.52	-187.56	691.95	292.77	257.61	35.15	8.328			
8,205.92	8,177.00	8,171.33	8,094.19	19.09	19.81	82.21	-139.33	701.95	312.90	277.10	35.80	8.740			
8,300.00	8,271.08	8,229.68	8,135.81	19.26	19.90	75.10	-98.98	708.50	343.85	307.48	36.36	9.456			
8,405.92	8,377.00	8,283.11	8,170.17	19.47	19.98	68.61	-58.46	713.90	392.77	355.83	36.94	10.634			
8,450.00	8,421.03	8,300.00	8,180.24	19.56	20.01	64.11	-45.00	715.48	416.49	379.20	37.29	11.170			
8,500.00	8,470.66	8,326.05	8,195.00	19.65	20.06	58.63	-23.65	717.80	444.14	406.51	37.63	11.804			
8,550.00	8,519.56	8,350.00	8,207.70	19.72	20.10	53.86	-3.45	719.80	472.05	434.31	37.74	12.506			
8,600.00	8,567.39	8,372.48	8,218.86	19.79	20.15	49.70	15.98	721.55	499.74	462.08	37.66	13.271			
8,650.00	8,613.76	8,400.00	8,231.48	19.85	20.21	45.75	40.36	723.54	526.86	489.55	37.31	14.120			
8,700.00	8,658.33	8,419.51	8,239.72	19.90	20.25	42.70	57.99	724.83	553.04	516.29	36.75	15.051			
8,750.00	8,700.77	8,450.00	8,251.39	19.94	20.34	39.62	86.09	726.67	578.18	542.24	35.94	16.087			
8,800.00	8,740.73	8,466.99	8,257.25	19.98	20.38	37.41	102.01	727.59	601.85	566.87	34.97	17.208			
8,850.00	8,777.93	8,500.00	8,267.29	20.02	20.49	35.08	133.42	729.17	624.22	590.39	33.83	18.453			
8,900.00	8,812.08	8,514.82	8,271.21	20.07	20.54	33.49	147.69	729.78	644.72	612.10	32.62	19.784			
8,950.00	8,842.92	8,550.00	8,279.06	20.11	20.68	31.76	181.96	731.02	663.78	632.45	31.33	21.186			
9,000.00	8,870.21	8,562.90	8,281.41	20.17	20.73	30.64	194.64	731.39	680.65	650.55	30.10	22.615			
9,050.00	8,893.75	8,587.01	8,285.05	20.25	20.84	29.54	218.47	731.96	695.77	666.85	28.93	24.053			
9,100.00	8,913.35	8,600.00	8,286.60	20.35	20.91	28.72	231.36	732.26	709.10	681.19	27.91	25.406			
9,150.00	8,928.87	8,635.35	8,289.35	20.50	21.09	27.87	266.59	732.63	720.03	692.90	27.13	26.539			
9,200.00	8,940.19	8,659.55	8,289.99	20.70	21.23	27.27	290.79	732.73	729.05	702.41	26.64	27.365			
9,250.00	8,947.23	8,705.64	8,290.00	20.95	21.51	26.76	336.87	732.74	735.32	708.74	26.58	27.666			
9,300.00	8,949.93	8,755.55	8,290.00	21.25	21.87	26.55	386.79	732.74	737.73	710.73	27.01	27.318			

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 320H (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:	320H (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			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	
9,305.92	8,949.96	8,761.47	8,290.00	21.28	21.91	26.55	392.70	732.74	737.76	710.67	27.09	27.236		
9,400.00	8,949.96	8,855.55	8,290.00	21.94	22.67	26.55	486.79	732.74	737.76	709.72	28.05	26.304		
9,500.00	8,949.96	8,955.55	8,290.00	22.77	23.61	26.55	586.79	732.74	737.77	708.59	29.18	25.283		
9,600.00	8,949.96	9,055.55	8,290.00	23.72	24.65	26.55	686.79	732.74	737.77	707.36	30.41	24.258		
9,700.00	8,949.96	9,155.55	8,290.00	24.76	25.78	26.55	786.79	732.74	737.78	706.04	31.74	23.245		
9,800.00	8,949.96	9,255.55	8,290.00	25.89	26.99	26.55	886.79	732.74	737.78	704.64	33.14	22.261		
9,900.00	8,949.96	9,355.55	8,290.00	27.10	28.26	26.55	986.79	732.74	737.78	703.17	34.62	21.313		
10,000.00	8,949.97	9,455.55	8,290.00	28.37	29.59	26.55	1,086.79	732.74	737.79	701.63	36.15	20.408		
10,100.00	8,949.97	9,555.55	8,290.00	29.70	30.98	26.55	1,186.79	732.74	737.79	700.05	37.74	19.548		
10,200.00	8,949.97	9,655.55	8,290.00	31.08	32.40	26.55	1,286.79	732.74	737.79	698.41	39.38	18.736		
10,300.00	8,949.97	9,755.55	8,290.00	32.50	33.87	26.55	1,386.79	732.74	737.80	696.74	41.06	17.970		
10,400.00	8,949.97	9,855.55	8,290.00	33.96	35.37	26.55	1,486.79	732.74	737.80	695.03	42.77	17.249		
10,500.00	8,949.97	9,955.55	8,290.00	35.46	36.90	26.55	1,586.79	732.74	737.80	693.28	44.52	16.571		
10,600.00	8,949.97	10,055.55	8,290.00	36.98	38.45	26.56	1,686.79	732.74	737.81	691.51	46.30	15.935		
10,700.00	8,949.97	10,155.55	8,290.00	38.53	40.03	26.56	1,786.79	732.74	737.81	689.71	48.10	15.338		
10,800.00	8,949.97	10,255.55	8,290.00	40.11	41.63	26.56	1,886.79	732.74	737.81	687.89	49.93	14.777		
10,900.00	8,949.98	10,355.55	8,290.00	41.70	43.24	26.56	1,986.79	732.74	737.82	686.04	51.78	14.250		
11,000.00	8,949.98	10,455.55	8,290.00	43.31	44.87	26.56	2,086.79	732.74	737.82	684.18	53.64	13.755		
11,100.00	8,949.98	10,555.55	8,290.00	44.94	46.52	26.56	2,186.79	732.74	737.83	682.30	55.52	13.289		
11,200.00	8,949.98	10,655.55	8,290.00	46.59	48.18	26.56	2,286.79	732.74	737.83	680.41	57.42	12.850		
11,300.00	8,949.98	10,755.55	8,290.00	48.24	49.85	26.56	2,386.79	732.74	737.83	678.50	59.33	12.436		
11,400.00	8,949.98	10,855.55	8,290.00	49.91	51.53	26.56	2,486.79	732.74	737.84	676.58	61.25	12.046		
11,500.00	8,949.98	10,955.55	8,290.00	51.59	53.22	26.56	2,586.79	732.74	737.84	674.65	63.19	11.677		
11,600.00	8,949.98	11,055.55	8,290.00	53.28	54.92	26.56	2,686.79	732.74	737.84	672.71	65.13	11.329		
11,700.00	8,949.98	11,155.55	8,290.00	54.98	56.63	26.56	2,786.79	732.74	737.85	670.76	67.08	10.999		
11,800.00	8,949.98	11,255.55	8,290.00	56.68	58.35	26.56	2,886.79	732.74	737.85	668.81	69.04	10.687		
11,900.00	8,949.99	11,355.55	8,290.00	58.40	60.07	26.56	2,986.79	732.74	737.85	666.84	71.01	10.390		
12,000.00	8,949.99	11,455.55	8,290.00	60.12	61.80	26.56	3,086.79	732.74	737.86	664.87	72.99	10.109		
12,100.00	8,949.99	11,555.55	8,290.00	61.84	63.53	26.56	3,186.79	732.74	737.86	662.89	74.97	9.842		
12,200.00	8,949.99	11,655.55	8,290.00	63.57	65.27	26.56	3,286.79	732.74	737.86	660.90	76.96	9.587		
12,300.00	8,949.99	11,755.55	8,290.00	65.31	67.01	26.56	3,386.79	732.74	737.87	658.91	78.96	9.345		
12,400.00	8,949.99	11,855.55	8,290.00	67.05	68.76	26.56	3,486.79	732.74	737.87	656.91	80.96	9.114		
12,500.00	8,949.99	11,955.55	8,290.00	68.80	70.51	26.56	3,586.79	732.74	737.88	654.91	82.96	8.894		
12,600.00	8,949.99	12,055.55	8,290.00	70.55	72.26	26.56	3,686.79	732.74	737.88	652.91	84.97	8.684		
12,700.00	8,949.99	12,155.55	8,290.00	72.30	74.02	26.56	3,786.79	732.74	737.88	650.90	86.99	8.483		
12,800.00	8,950.00	12,255.55	8,290.00	74.06	75.78	26.56	3,886.79	732.74	737.89	648.88	89.00	8.291		
12,900.00	8,950.00	12,355.55	8,290.00	75.82	77.55	26.56	3,986.79	732.74	737.89	646.87	91.02	8.107		
13,000.00	8,950.00	12,455.55	8,290.00	77.58	79.32	26.56	4,086.79	732.74	737.89	644.85	93.05	7.930		
13,100.00	8,950.00	12,555.55	8,290.00	79.35	81.09	26.56	4,186.79	732.74	737.90	642.82	95.08	7.761		
13,205.29	8,950.00	12,660.84	8,290.00	81.21	82.95	26.56	4,292.07	732.74	737.90	640.69	97.21	7.590 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 320H (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:	320H (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: O-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	100.70	-34.06	180.19	183.39					
100.00	100.00	100.00	100.00	0.08	0.08	100.70	-34.06	180.19	183.39	183.23	0.16	1,165.561		
200.00	200.00	200.00	200.00	0.30	0.30	100.70	-34.06	180.19	183.39	182.78	0.61	302.183		
300.00	300.00	300.00	300.00	0.53	0.53	100.70	-34.06	180.19	183.39	182.33	1.06	173.594		
400.00	400.00	400.00	400.00	0.75	0.75	100.70	-34.06	180.19	183.39	181.88	1.51	121.775		
500.00	500.00	500.00	500.00	0.98	0.98	100.70	-34.06	180.19	183.39	181.43	1.96	93.781		
600.00	600.00	600.00	600.00	1.20	1.20	100.70	-34.06	180.19	183.39	180.98	2.40	76.252		
700.00	700.00	700.00	700.00	1.43	1.43	100.70	-34.06	180.19	183.39	180.53	2.85	64.244		
800.00	800.00	800.00	800.00	1.65	1.65	100.70	-34.06	180.19	183.39	180.08	3.30	55.503		
900.00	900.00	900.00	900.00	1.88	1.88	100.70	-34.06	180.19	183.39	179.63	3.75	48.856		
1,000.00	1,000.00	1,000.00	1,000.00	2.10	2.10	100.70	-34.06	180.19	183.39	179.18	4.20	43.631		
1,100.00	1,100.00	1,100.00	1,100.00	2.33	2.33	100.70	-34.06	180.19	183.39	178.73	4.65	39.415		
1,200.00	1,200.00	1,200.00	1,200.00	2.55	2.55	100.70	-34.06	180.19	183.39	178.28	5.10	35.942		
1,300.00	1,300.00	1,300.00	1,300.00	2.78	2.78	100.70	-34.06	180.19	183.39	177.83	5.55	33.032		
1,400.00	1,400.00	1,400.00	1,400.00	3.00	3.00	100.70	-34.06	180.19	183.39	177.38	6.00	30.558		
1,500.00	1,500.00	1,500.00	1,500.00	3.23	3.23	100.70	-34.06	180.19	183.39	176.93	6.45	28.428		
1,600.00	1,600.00	1,600.00	1,600.00	3.45	3.45	100.70	-34.06	180.19	183.39	176.48	6.90	26.576		
1,700.00	1,700.00	1,700.00	1,700.00	3.67	3.67	100.70	-34.06	180.19	183.39	176.04	7.35	24.951		
1,800.00	1,800.00	1,800.00	1,800.00	3.90	3.90	100.70	-34.06	180.19	183.39	175.59	7.80	23.513		
1,900.00	1,900.00	1,900.00	1,900.00	4.12	4.12	100.70	-34.06	180.19	183.39	175.14	8.25	22.231		
2,000.00	2,000.00	2,000.00	2,000.00	4.35	4.35	100.70	-34.06	180.19	183.39	174.69	8.70	21.083		
2,100.00	2,100.00	2,100.00	2,100.00	4.57	4.57	100.70	-34.06	180.19	183.39	174.24	9.15	20.047		
2,200.00	2,200.00	2,200.00	2,200.00	4.80	4.80	100.70	-34.06	180.19	183.39	173.79	9.60	19.108		
2,300.00	2,300.00	2,300.00	2,300.00	5.02	5.02	100.70	-34.06	180.19	183.39	173.34	10.05	18.253		
2,400.00	2,400.00	2,400.00	2,400.00	5.25	5.25	100.70	-34.06	180.19	183.39	172.89	10.50	17.471		
2,500.00	2,500.00	2,500.00	2,500.00	5.47	5.47	100.70	-34.06	180.19	183.39	172.44	10.95	16.753		
2,600.00	2,600.00	2,600.00	2,600.00	5.70	5.70	100.70	-34.06	180.19	183.39	171.99	11.40	16.093		
2,700.00	2,700.00	2,700.00	2,700.00	5.92	5.92	100.70	-34.06	180.19	183.39	171.54	11.85	15.482		
2,800.00	2,800.00	2,800.00	2,800.00	6.15	6.15	100.70	-34.06	180.19	183.39	171.09	12.29	14.916		
2,900.00	2,900.00	2,900.00	2,900.00	6.37	6.37	100.70	-34.06	180.19	183.39	170.64	12.74	14.390		
3,000.00	3,000.00	3,000.00	3,000.00	6.60	6.60	100.70	-34.06	180.19	183.39	170.19	13.19	13.899		
3,100.00	3,100.00	3,100.00	3,100.00	6.82	6.82	100.70	-34.06	180.19	183.39	169.74	13.64	13.441		
3,200.00	3,200.00	3,200.00	3,200.00	7.05	7.05	100.70	-34.06	180.19	183.39	169.29	14.09	13.013		
3,300.00	3,300.00	3,300.00	3,300.00	7.27	7.27	100.70	-34.06	180.19	183.39	168.84	14.54	12.610		
3,400.00	3,400.00	3,400.00	3,400.00	7.50	7.50	100.70	-34.06	180.19	183.39	168.39	14.99	12.232		
3,500.00	3,500.00	3,500.00	3,500.00	7.72	7.72	100.70	-34.06	180.19	183.39	167.94	15.44	11.876		
3,600.00	3,600.00	3,600.00	3,600.00	7.95	7.95	100.70	-34.06	180.19	183.39	167.49	15.89	11.540		
3,700.00	3,700.00	3,700.00	3,700.00	8.17	8.17	100.70	-34.06	180.19	183.39	167.04	16.34	11.223		
3,800.00	3,800.00	3,800.00	3,800.00	8.40	8.40	100.70	-34.06	180.19	183.39	166.60	16.79	10.922		
3,900.00	3,900.00	3,900.00	3,900.00	8.62	8.62	100.70	-34.06	180.19	183.39	166.15	17.24	10.637		
4,000.00	4,000.00	4,000.00	4,000.00	8.84	8.84	100.70	-34.06	180.19	183.39	165.70	17.69	10.367		
4,100.00	4,100.00	4,100.00	4,100.00	9.07	9.07	100.70	-34.06	180.19	183.39	165.25	18.14	10.110		
4,200.00	4,200.00	4,200.00	4,200.00	9.29	9.29	100.70	-34.06	180.19	183.39	164.80	18.59	9.866		
4,300.00	4,300.00	4,300.00	4,300.00	9.52	9.52	100.70	-34.06	180.19	183.39	164.35	19.04	9.633		
4,400.00	4,400.00	4,400.00	4,400.00	9.72	9.74	-13.46	-34.06	180.19	182.54	163.07	19.46	9.378		
4,500.00	4,499.96	4,499.96	4,499.96	9.91	9.97	-13.66	-34.06	180.19	179.99	160.13	19.87	9.061		
4,600.00	4,599.86	4,599.86	4,599.86	10.10	10.19	-14.01	-34.06	180.19	175.76	155.49	20.26	8.674		
4,700.00	4,699.68	4,699.68	4,699.68	10.29	10.42	-14.52	-34.06	180.19	169.84	149.18	20.66	8.223		
4,800.00	4,799.37	4,799.37	4,799.37	10.49	10.64	-15.23	-34.06	180.19	162.25	141.21	21.04	7.710		
4,900.00	4,898.90	4,898.90	4,898.90	10.69	10.86	-16.20	-34.06	180.19	153.02	131.60	21.43	7.141		
5,000.00	4,998.26	4,998.26	4,998.26	10.89	11.09	-17.51	-34.06	180.19	142.18	120.37	21.81	6.519		
5,100.00	5,097.40	5,095.54	5,095.53	11.11	11.29	-19.06	-34.53	180.84	130.48	108.32	22.16	5.887		

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 320H (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:	320H (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)						
5,122.90	5,120.07	5,117.83	5,117.82	11.16	11.33	-19.44	-34.77	181.18	127.79	105.55	22.24	5.746		
5,200.00	5,196.38	5,193.03	5,192.99	11.33	11.46	-20.66	-35.97	182.83	119.18	96.65	22.53	5.290		
5,300.00	5,295.35	5,290.86	5,290.74	11.56	11.64	-22.10	-38.39	186.17	109.35	86.44	22.91	4.772		
5,400.00	5,394.32	5,389.01	5,388.71	11.80	11.82	-23.27	-41.80	190.89	101.00	77.70	23.30	4.334		
5,500.00	5,493.29	5,487.39	5,486.80	12.04	12.01	-24.03	-46.21	196.98	94.08	70.38	23.69	3.970		
5,600.00	5,592.26	5,585.97	5,584.95	12.28	12.20	-24.27	-51.62	204.44	88.56	64.47	24.09	3.676		
5,700.00	5,691.23	5,684.67	5,683.04	12.53	12.39	-23.85	-58.02	213.29	84.44	59.95	24.49	3.448		
5,800.00	5,790.20	5,783.45	5,781.01	12.79	12.60	-22.70	-65.42	223.51	81.73	56.85	24.88	3.285		
5,900.00	5,889.17	5,882.24	5,878.76	13.05	12.81	-20.82	-73.81	235.10	80.51	55.23	25.28	3.185		
5,928.04	5,916.93	5,909.94	5,906.12	13.12	12.87	-20.16	-76.34	238.60	80.45	55.06	25.39	3.169 CC, ES		
6,000.00	5,988.14	5,980.98	5,976.20	13.31	13.03	-18.26	-83.19	248.05	80.88	55.20	25.67	3.150 SF		
6,100.00	6,087.11	6,079.83	6,073.45	13.58	13.26	-15.20	-93.54	262.36	82.91	56.85	26.06	3.181		
6,200.00	6,186.08	6,179.68	6,171.59	13.85	13.50	-12.09	-104.35	277.29	85.74	59.27	26.46	3.240		
6,300.00	6,285.05	6,279.54	6,269.73	14.12	13.75	-9.20	-115.16	292.22	88.79	61.93	26.86	3.306		
6,400.00	6,384.02	6,379.40	6,367.87	14.40	14.01	-6.50	-125.97	307.15	92.07	64.80	27.27	3.376		
6,500.00	6,483.00	6,479.25	6,466.01	14.68	14.27	-3.99	-136.79	322.08	95.53	67.85	27.68	3.451		
6,600.00	6,581.97	6,579.11	6,564.15	14.96	14.55	-1.66	-147.60	337.02	99.16	71.06	28.09	3.529		
6,700.00	6,680.94	6,678.96	6,662.29	15.24	14.82	0.50	-158.41	351.95	102.94	74.43	28.52	3.610		
6,800.00	6,779.91	6,778.82	6,760.43	15.53	15.11	2.51	-169.22	366.88	106.86	77.92	28.94	3.692		
6,900.00	6,878.88	6,878.67	6,858.57	15.82	15.40	4.37	-180.03	381.81	110.90	81.53	29.37	3.776		
7,000.00	6,977.85	6,978.53	6,956.71	16.11	15.69	6.10	-190.84	396.75	115.05	85.24	29.81	3.860		
7,100.00	7,076.82	7,078.39	7,054.84	16.41	15.99	7.71	-201.65	411.68	119.30	89.05	30.25	3.944		
7,200.00	7,175.79	7,178.24	7,152.98	16.70	16.30	9.21	-212.46	426.61	123.63	92.93	30.70	4.027		
7,300.00	7,274.76	7,278.10	7,251.12	17.00	16.61	10.60	-223.27	441.54	128.05	96.89	31.15	4.110		
7,383.03	7,356.93	7,361.00	7,332.60	17.25	16.87	11.69	-232.25	453.94	131.77	100.23	31.53	4.179		
7,400.00	7,373.73	7,377.95	7,349.26	17.30	16.92	11.90	-234.08	456.48	132.56	100.94	31.62	4.193		
7,500.00	7,472.86	7,477.75	7,447.35	17.55	17.24	13.02	-244.89	471.40	138.24	106.14	32.10	4.306		
7,600.00	7,572.21	7,577.46	7,545.34	17.80	17.56	13.89	-255.68	486.31	145.66	113.08	32.58	4.471		
7,700.00	7,671.73	7,677.02	7,643.19	18.04	17.89	14.52	-266.46	501.20	154.80	121.75	33.05	4.684		
7,800.00	7,771.42	7,776.43	7,740.89	18.26	18.21	14.92	-277.22	516.06	165.62	132.12	33.50	4.944		
7,900.00	7,871.22	7,875.64	7,838.40	18.48	18.54	15.14	-287.96	530.90	178.13	144.19	33.94	5.248		
8,000.00	7,971.12	7,974.63	7,935.68	18.69	18.88	15.20	-298.68	545.70	192.31	157.94	34.37	5.595		
8,100.00	8,071.08	8,073.37	8,032.72	18.89	19.21	15.13	-309.37	560.47	208.15	173.36	34.79	5.984		
8,205.92	8,177.00	8,177.64	8,135.20	19.09	19.57	129.05	-320.66	576.06	226.74	191.54	35.21	6.440		
8,300.00	8,271.08	8,270.10	8,226.07	19.26	19.88	128.83	-330.67	589.89	244.09	208.49	35.60	6.856		
8,405.92	8,377.00	8,374.20	8,328.38	19.47	20.24	128.61	-341.94	605.46	263.62	227.56	36.06	7.311		
8,450.00	8,421.03	8,417.29	8,370.74	19.56	20.39	128.08	-346.61	611.90	272.78	236.63	36.15	7.546		
8,500.00	8,470.66	8,465.41	8,418.03	19.65	20.56	127.91	-351.82	619.10	285.67	249.49	36.18	7.896		
8,550.00	8,519.56	8,512.36	8,464.17	19.72	20.73	128.07	-356.90	626.12	301.24	265.11	36.13	8.337		
8,600.00	8,567.39	8,557.79	8,508.82	19.79	20.89	128.44	-361.82	632.91	319.59	283.59	36.00	8.878		
8,650.00	8,613.76	8,601.35	8,551.63	19.85	21.04	128.88	-366.53	639.42	340.82	305.05	35.77	9.527		
8,700.00	8,658.33	8,642.71	8,592.27	19.90	21.19	129.23	-371.01	645.61	365.01	329.53	35.48	10.289		
8,750.00	8,700.77	8,681.55	8,630.45	19.94	21.32	129.37	-375.22	651.42	392.18	357.06	35.12	11.166		
8,800.00	8,740.73	8,719.56	8,667.82	19.98	21.44	129.33	-379.29	657.05	422.26	387.51	34.75	12.152		
8,850.00	8,777.93	8,755.32	8,703.02	20.02	21.55	128.93	-383.00	662.17	455.01	420.60	34.41	13.225		
8,900.00	8,812.08	8,787.83	8,735.05	20.07	21.65	127.97	-386.26	666.67	490.33	456.15	34.18	14.346		
8,950.00	8,842.92	8,816.81	8,763.63	20.11	21.73	126.29	-389.07	670.55	528.07	493.91	34.17	15.456		
9,000.00	8,870.21	8,841.99	8,788.48	20.17	21.81	123.66	-391.45	673.84	568.03	533.54	34.48	16.472		
9,050.00	8,893.75	8,863.13	8,809.36	20.25	21.87	119.79	-393.39	676.52	609.95	574.71	35.24	17.306		
9,100.00	8,913.35	8,880.01	8,826.04	20.35	21.92	114.29	-394.91	678.62	653.54	617.05	36.50	17.908		
9,150.00	8,928.87	8,892.42	8,838.30	20.50	21.95	106.74	-396.01	680.14	698.49	660.36	38.13	18.321		
9,200.00	8,940.19	8,900.18	8,845.98	20.70	21.97	96.80	-396.69	681.08	744.44	704.73	39.71	18.749		

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 320H (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:	320H (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: O-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)						
9,250.00	8,947.23	8,903.17	8,848.94	20.95	21.98	84.60	-396.95	681.44	791.02	750.57	40.45	19.557		
9,300.00	8,949.93	8,901.27	8,847.06	21.25	21.98	71.19	-396.79	681.21	837.85	798.23	39.62	21.147		
9,305.92	8,949.96	8,900.72	8,846.51	21.28	21.98	69.60	-396.74	681.15	843.39	803.98	39.41	21.399		
9,400.00	8,949.96	8,891.28	8,837.18	21.94	21.95	67.85	-395.91	680.00	932.00	892.24	39.76	23.441		
9,500.00	8,949.96	8,881.02	8,827.04	22.77	21.92	65.97	-395.00	678.75	1,027.17	986.98	40.20	25.555		
9,600.00	8,949.96	8,870.52	8,816.66	23.72	21.89	64.09	-394.06	677.45	1,123.10	1,082.42	40.88	27.607		
9,700.00	8,949.96	8,859.76	8,806.03	24.76	21.86	62.21	-393.09	676.10	1,219.60	1,178.40	41.20	29.601		
9,800.00	8,949.96	8,848.74	8,795.15	25.89	21.83	60.33	-392.07	674.70	1,316.55	1,274.81	41.74	31.543		
9,900.00	8,949.96	8,837.45	8,784.00	27.10	21.79	58.45	-391.02	673.25	1,413.85	1,371.57	42.28	33.441		
10,000.00	8,949.97	8,825.88	8,772.58	28.37	21.76	56.57	-389.93	671.74	1,511.43	1,468.62	42.81	35.305		
10,100.00	8,949.97	11,887.23	10,481.99	29.70	33.20	167.85	1,170.59	732.71	1,567.20	1,534.92	32.28	48.546		
10,200.00	8,949.97	11,987.22	10,483.05	31.08	34.51	167.86	1,270.58	732.71	1,568.24	1,534.84	33.39	46.963		
10,300.00	8,949.97	12,087.22	10,484.11	32.50	35.86	167.87	1,370.57	732.71	1,569.27	1,534.73	34.54	45.428		
10,400.00	8,949.97	12,187.21	10,485.16	33.96	37.25	167.88	1,470.56	732.71	1,570.30	1,534.57	35.73	43.947		
10,500.00	8,949.97	12,287.20	10,486.22	35.46	38.68	167.88	1,570.55	732.71	1,571.34	1,534.38	36.95	42.523		
10,600.00	8,949.97	12,387.20	10,487.28	36.98	40.14	167.89	1,670.54	732.71	1,572.37	1,534.17	38.20	41.159		
10,700.00	8,949.97	12,487.19	10,488.33	38.53	41.62	167.90	1,770.53	732.71	1,573.40	1,533.92	39.48	39.854		
10,800.00	8,949.97	12,587.19	10,489.39	40.11	43.14	167.91	1,870.51	732.71	1,574.44	1,533.66	40.78	38.607		
10,900.00	8,949.98	12,687.18	10,490.45	41.70	44.67	167.91	1,970.50	732.72	1,575.47	1,533.37	42.10	37.419		
11,000.00	8,949.98	12,787.18	10,491.50	43.31	46.23	167.92	2,070.49	732.72	1,576.50	1,533.06	43.45	36.286		
11,100.00	8,949.98	12,887.17	10,492.56	44.94	47.81	167.93	2,170.48	732.72	1,577.54	1,532.73	44.81	35.207		
11,200.00	8,949.98	12,987.17	10,493.62	46.59	49.40	167.94	2,270.47	732.72	1,578.57	1,532.39	46.18	34.180		
11,300.00	8,949.98	13,087.16	10,494.67	48.24	51.01	167.95	2,370.46	732.72	1,579.61	1,532.03	47.58	33.202		
11,400.00	8,949.98	13,187.15	10,495.73	49.91	52.63	167.95	2,470.45	732.72	1,580.64	1,531.66	48.98	32.270		
11,500.00	8,949.98	13,287.15	10,496.79	51.59	54.26	167.96	2,570.44	732.72	1,581.67	1,531.27	50.40	31.382		
11,600.00	8,949.98	13,387.14	10,497.84	53.28	55.91	167.97	2,670.43	732.72	1,582.71	1,530.88	51.83	30.537		
11,700.00	8,949.98	13,487.14	10,498.90	54.98	57.57	167.98	2,770.41	732.72	1,583.74	1,530.47	53.27	29.731		
11,800.00	8,949.98	13,587.13	10,499.96	56.68	59.24	167.98	2,870.40	732.72	1,584.77	1,530.06	54.72	28.962		
11,900.00	8,949.99	13,687.13	10,501.01	58.40	60.91	167.99	2,970.39	732.72	1,585.81	1,529.63	56.18	28.229		
12,000.00	8,949.99	13,787.12	10,502.07	60.12	62.60	168.00	3,070.38	732.73	1,586.84	1,529.20	57.64	27.529		
12,100.00	8,949.99	13,887.12	10,503.13	61.84	64.29	168.01	3,170.37	732.73	1,587.88	1,528.76	59.12	26.860		
12,200.00	8,949.99	13,987.11	10,504.18	63.57	65.99	168.02	3,270.36	732.73	1,588.91	1,528.31	60.60	26.220		
12,300.00	8,949.99	14,087.10	10,505.24	65.31	67.70	168.02	3,370.35	732.73	1,589.94	1,527.86	62.09	25.609		
12,400.00	8,949.99	14,187.10	10,506.30	67.05	69.41	168.03	3,470.34	732.73	1,590.98	1,527.40	63.58	25.024		
12,500.00	8,949.99	14,287.09	10,507.35	68.80	71.13	168.04	3,570.32	732.73	1,592.01	1,526.94	65.08	24.463		
12,600.00	8,949.99	14,387.09	10,508.41	70.55	72.85	168.05	3,670.31	732.73	1,593.05	1,526.47	66.58	23.926		
12,700.00	8,949.99	14,487.08	10,509.47	72.30	74.58	168.05	3,770.30	732.73	1,594.08	1,525.99	68.09	23.411		
12,800.00	8,950.00	14,587.08	10,510.52	74.06	76.31	168.06	3,870.29	732.73	1,595.12	1,525.51	69.60	22.917		
12,900.00	8,950.00	14,687.07	10,511.58	75.82	78.05	168.07	3,970.28	732.73	1,596.15	1,525.03	71.12	22.443		
13,000.00	8,950.00	14,787.07	10,512.64	77.58	79.79	168.08	4,070.27	732.73	1,597.18	1,524.54	72.64	21.987		
13,100.00	8,950.00	14,887.06	10,513.69	79.35	81.54	168.08	4,170.26	732.73	1,598.22	1,524.05	74.17	21.549		
13,205.29	8,950.00	14,992.34	10,514.80	81.21	83.38	168.09	4,275.54	732.74	1,599.31	1,523.53	75.77	21.106		



LEAM Drilling Systems LLC
Anticollision Report



Company:	DEVON ENERGY	Local Co-ordinate Reference:	Well 320H (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:	320H (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 (°)	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	108.14	-59.06	180.27	189.70					
100.00	100.00	100.00	100.00	0.08	0.08	108.14	-59.06	180.27	189.70	189.54	0.16	1,205.711		
200.00	200.00	200.00	200.00	0.30	0.30	108.14	-59.06	180.27	189.70	189.10	0.61	312.592		
300.00	300.00	300.00	300.00	0.53	0.53	108.14	-59.06	180.27	189.70	188.65	1.06	179.574		
400.00	400.00	400.00	400.00	0.75	0.75	108.14	-59.06	180.27	189.70	188.20	1.51	125.970		
500.00	500.00	500.00	500.00	0.98	0.98	108.14	-59.06	180.27	189.70	187.75	1.96	97.011		
600.00	600.00	600.00	600.00	1.20	1.20	108.14	-59.06	180.27	189.70	187.30	2.40	78.878		
700.00	700.00	700.00	700.00	1.43	1.43	108.14	-59.06	180.27	189.70	186.85	2.85	66.457		
800.00	800.00	800.00	800.00	1.65	1.65	108.14	-59.06	180.27	189.70	186.40	3.30	57.415		
900.00	900.00	900.00	900.00	1.88	1.88	108.14	-59.06	180.27	189.70	185.95	3.75	50.539		
1,000.00	1,000.00	1,000.00	1,000.00	2.10	2.10	108.14	-59.06	180.27	189.70	185.50	4.20	45.134		
1,100.00	1,100.00	1,100.00	1,100.00	2.33	2.33	108.14	-59.06	180.27	189.70	185.05	4.65	40.773		
1,200.00	1,200.00	1,200.00	1,200.00	2.55	2.55	108.14	-59.06	180.27	189.70	184.60	5.10	37.181		
1,300.00	1,300.00	1,300.00	1,300.00	2.78	2.78	108.14	-59.06	180.27	189.70	184.15	5.55	34.170		
1,400.00	1,400.00	1,400.00	1,400.00	3.00	3.00	108.14	-59.06	180.27	189.70	183.70	6.00	31.610		
1,500.00	1,500.00	1,500.00	1,500.00	3.23	3.23	108.14	-59.06	180.27	189.70	183.25	6.45	29.408		
1,600.00	1,600.00	1,600.00	1,600.00	3.45	3.45	108.14	-59.06	180.27	189.70	182.80	6.90	27.492		
1,700.00	1,700.00	1,700.00	1,700.00	3.67	3.67	108.14	-59.06	180.27	189.70	182.35	7.35	25.810		
1,800.00	1,800.00	1,800.00	1,800.00	3.90	3.90	108.14	-59.06	180.27	189.70	181.90	7.80	24.323		
1,900.00	1,900.00	1,900.00	1,900.00	4.12	4.12	108.14	-59.06	180.27	189.70	181.45	8.25	22.997		
2,000.00	2,000.00	2,000.00	2,000.00	4.35	4.35	108.14	-59.06	180.27	189.70	181.00	8.70	21.809		
2,100.00	2,100.00	2,100.00	2,100.00	4.57	4.57	108.14	-59.06	180.27	189.70	180.55	9.15	20.737		
2,200.00	2,200.00	2,200.00	2,200.00	4.80	4.80	108.14	-59.06	180.27	189.70	180.10	9.60	19.766		
2,300.00	2,300.00	2,300.00	2,300.00	5.02	5.02	108.14	-59.06	180.27	189.70	179.66	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	189.70	179.21	10.50	18.073		
2,500.00	2,500.00	2,500.00	2,500.00	5.47	5.47	108.14	-59.06	180.27	189.70	178.76	10.95	17.331		
2,600.00	2,600.00	2,600.00	2,600.00	5.70	5.70	108.14	-59.06	180.27	189.70	178.31	11.40	16.647		
2,700.00	2,700.00	2,700.00	2,700.00	5.92	5.92	108.14	-59.06	180.27	189.70	177.86	11.85	16.015		
2,800.00	2,800.00	2,800.00	2,800.00	6.15	6.15	108.14	-59.06	180.27	189.70	177.41	12.29	15.430		
2,900.00	2,900.00	2,900.00	2,900.00	6.37	6.37	108.14	-59.06	180.27	189.70	176.96	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	189.70	176.51	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	189.70	176.06	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	189.70	175.61	14.09	13.461		
3,300.00	3,300.00	3,300.00	3,300.00	7.27	7.27	108.14	-59.06	180.27	189.70	175.16	14.54	13.045		
3,400.00	3,400.00	3,400.00	3,400.00	7.50	7.50	108.14	-59.06	180.27	189.70	174.71	14.99	12.654		
3,500.00	3,500.00	3,500.00	3,500.00	7.72	7.72	108.14	-59.06	180.27	189.70	174.26	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	189.70	173.81	15.89	11.938		
3,700.00	3,700.00	3,700.00	3,700.00	8.17	8.17	108.14	-59.06	180.27	189.70	173.36	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	189.70	172.91	16.79	11.299		
3,900.00	3,900.00	3,900.00	3,900.00	8.62	8.62	108.14	-59.06	180.27	189.70	172.46	17.24	11.004		
4,000.00	4,000.00	4,000.00	4,000.00	8.84	8.84	108.14	-59.06	180.27	189.70	172.01	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	189.70	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	189.70	171.11	18.59	10.208		
4,300.00	4,300.00	4,300.00	4,300.00	9.52	9.52	108.14	-59.06	180.27	189.70	170.66	19.04	9.965		
4,400.00	4,400.00	4,399.87	4,399.86	9.72	9.71	-5.72	-59.90	180.03	188.87	169.43	19.43	9.718		
4,500.00	4,499.96	4,499.85	4,499.81	9.91	9.88	-5.00	-62.40	179.31	186.39	166.61	19.78	9.424		
4,600.00	4,599.86	4,599.28	4,599.15	10.10	10.05	-3.76	-66.57	178.12	182.32	162.20	20.12	9.062		
4,700.00	4,699.68	4,698.68	4,698.36	10.29	10.23	-1.94	-72.39	176.45	176.77	156.31	20.46	8.640		
4,800.00	4,799.37	4,797.77	4,797.14	10.49	10.40	0.58	-79.83	174.31	169.93	149.13	20.80	8.171		
4,900.00	4,898.90	4,897.03	4,896.03	10.69	10.58	3.65	-88.14	171.92	161.89	140.75	21.14	7.660		
5,000.00	4,998.26	4,996.15	4,994.77	10.89	10.76	7.12	-96.45	169.53	152.64	131.16	21.48	7.108		
5,100.00	5,097.40	5,095.08	5,093.32	11.11	10.95	11.15	-104.74	167.15	142.30	120.49	21.82	6.522		

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 320H (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:	320H (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									
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		
5,122.90	5,120.07	5,117.69	5,115.85	11.16	10.99	12.18	-106.63	166.61	139.81	117.91	21.90	6.385			
5,200.00	5,196.38	5,193.85	5,191.72	11.33	11.14	15.91	-113.01	164.78	131.60	109.40	22.21	5.927			
5,300.00	5,295.35	5,292.62	5,290.11	11.56	11.33	21.45	-121.29	162.40	121.92	99.31	22.62	5.391			
5,400.00	5,394.32	5,391.39	5,388.50	11.80	11.53	27.87	-129.56	160.02	113.58	90.54	23.04	4.929			
5,500.00	5,493.29	5,490.16	5,486.90	12.04	11.73	35.17	-137.84	157.64	106.89	83.40	23.49	4.550			
5,600.00	5,592.26	5,588.93	5,585.29	12.28	11.93	43.27	-146.11	155.27	102.17	78.22	23.96	4.265			
5,700.00	5,691.23	5,687.69	5,683.68	12.53	12.13	51.94	-154.39	152.89	99.71	75.28	24.44	4.080			
5,751.42	5,742.12	5,738.48	5,734.27	12.66	12.24	56.52	-158.64	151.67	99.39	74.70	24.69	4.026 CC, ES			
5,800.00	5,790.20	5,786.46	5,782.07	12.79	12.34	60.83	-162.66	150.51	99.68	74.75	24.93	3.999 SF			
5,900.00	5,889.17	5,885.23	5,880.47	13.05	12.55	69.52	-170.94	148.13	102.07	76.65	25.42	4.015			
6,000.00	5,988.14	5,984.00	5,978.86	13.31	12.77	77.64	-179.21	145.76	106.73	80.82	25.91	4.120			
6,100.00	6,087.11	6,082.77	6,077.25	13.58	12.98	84.97	-187.49	143.38	113.37	86.98	26.38	4.297			
6,200.00	6,186.08	6,181.54	6,175.64	13.85	13.20	91.41	-195.77	141.00	121.67	94.81	26.85	4.531			
6,300.00	6,285.05	6,280.31	6,274.04	14.12	13.42	96.97	-204.04	138.63	131.31	104.00	27.31	4.807			
6,400.00	6,384.02	6,379.08	6,372.43	14.40	13.64	101.75	-212.32	136.25	142.03	114.26	27.77	5.114			
6,500.00	6,483.00	6,477.84	6,470.82	14.68	13.86	105.84	-220.59	133.87	153.60	125.37	28.23	5.441			
6,600.00	6,581.97	6,576.61	6,569.22	14.96	14.09	109.35	-228.87	131.49	165.83	137.15	28.69	5.781			
6,700.00	6,680.94	6,675.38	6,667.61	15.24	14.31	112.37	-237.14	129.12	178.60	149.46	29.15	6.128			
6,800.00	6,779.91	6,774.15	6,766.00	15.53	14.54	114.99	-245.42	126.74	191.80	162.19	29.61	6.478			
6,900.00	6,878.88	6,872.92	6,864.39	15.82	14.77	117.26	-253.69	124.36	205.34	175.27	30.07	6.829			
7,000.00	6,977.85	6,971.69	6,962.79	16.11	15.00	119.26	-261.97	121.98	219.16	188.62	30.54	7.177			
7,100.00	7,076.82	7,070.46	7,061.18	16.41	15.24	121.01	-270.24	119.61	233.21	202.20	31.00	7.522			
7,200.00	7,175.79	7,169.23	7,159.57	16.70	15.47	122.57	-278.52	117.23	247.45	215.97	31.48	7.862			
7,300.00	7,274.76	7,267.99	7,257.97	17.00	15.71	123.96	-286.79	114.85	261.85	229.90	31.95	8.196			
7,383.03	7,356.93	7,350.00	7,339.66	17.25	15.90	125.00	-293.66	112.88	273.91	241.57	32.34	8.469			
7,400.00	7,373.73	7,366.77	7,356.36	17.30	15.94	125.22	-295.07	112.48	276.37	243.95	32.43	8.523			
7,500.00	7,472.66	7,465.68	7,454.90	17.55	16.18	126.26	-303.36	110.10	290.34	257.45	32.89	8.828			
7,600.00	7,572.21	7,564.79	7,553.63	17.80	16.42	126.95	-311.66	107.71	303.34	269.98	33.35	9.095			
7,700.00	7,671.73	7,664.05	7,652.52	18.04	16.66	127.32	-319.98	105.32	315.31	281.50	33.81	9.325			
7,800.00	7,771.42	7,763.45	7,751.54	18.26	16.91	127.43	-328.30	102.93	326.23	291.96	34.27	9.520			
7,900.00	7,871.22	7,862.96	7,850.66	18.48	17.15	127.28	-336.64	100.53	336.11	301.38	34.72	9.680			
8,000.00	7,971.12	7,962.53	7,949.86	18.69	17.40	126.91	-344.98	98.14	344.94	309.77	35.17	9.808			
8,100.00	8,071.08	8,062.14	8,049.09	18.89	17.64	126.32	-353.33	95.74	352.76	317.15	35.61	9.907			
8,205.92	8,177.00	8,167.67	8,154.21	19.09	17.90	-120.42	-362.17	93.20	359.99	323.93	36.06	9.983			
8,300.00	8,271.08	8,261.39	8,247.58	19.26	18.14	-121.31	-370.02	90.94	365.99	329.52	36.47	10.036			
8,405.92	8,377.00	8,366.91	8,352.70	19.47	18.40	-122.27	-378.86	88.40	372.84	335.90	36.93	10.095			
8,450.00	8,421.03	8,410.63	8,396.25	19.56	18.51	-122.54	-382.53	87.35	376.63	339.54	37.10	10.153			
8,500.00	8,470.66	8,459.56	8,445.00	19.65	18.63	-123.16	-386.63	86.17	383.23	346.03	37.20	10.302			
8,550.00	8,519.56	8,507.42	8,492.67	19.72	18.75	-124.00	-390.64	85.02	389.43	355.22	37.21	10.547			
8,600.00	8,567.39	8,554.96	8,540.03	19.79	18.87	-125.03	-394.56	83.90	404.37	367.26	37.11	10.896			
8,650.00	8,613.76	8,601.07	8,585.99	19.85	18.98	-126.11	-398.18	82.86	419.16	382.25	36.91	11.356			
8,700.00	8,658.33	8,645.20	8,629.99	19.90	19.08	-127.13	-401.48	81.91	436.99	400.39	36.60	11.938			
8,750.00	8,700.77	8,687.05	8,671.73	19.94	19.18	-127.97	-404.46	81.05	458.00	421.78	36.22	12.646			
8,800.00	8,740.73	8,726.31	8,710.89	19.98	19.27	-128.53	-407.12	80.29	482.26	446.48	35.78	13.478			
8,850.00	8,777.93	8,762.70	8,747.19	20.02	19.35	-128.70	-409.48	79.61	509.78	474.43	35.35	14.422			
8,900.00	8,812.08	8,795.94	8,780.36	20.07	19.43	-128.38	-411.53	79.02	540.46	505.47	34.98	15.449			
8,950.00	8,842.92	8,825.75	8,810.12	20.11	19.49	-127.43	-413.29	78.51	574.15	539.37	34.78	16.510			
9,000.00	8,870.21	8,851.91	8,836.23	20.17	19.55	-125.68	-414.78	78.09	610.62	575.80	34.82	17.535			
9,050.00	8,893.75	8,874.18	8,858.47	20.25	19.60	-122.92	-416.00	77.74	649.60	614.38	35.22	18.444			
9,100.00	8,913.35	8,892.35	8,876.61	20.35	19.64	-118.87	-416.96	77.46	690.77	654.73	36.04	19.168			
9,150.00	8,928.87	8,906.24	8,890.48	20.50	19.67	-113.17	-417.68	77.25	733.76	696.50	37.26	19.694			
9,200.00	8,940.19	8,915.69	8,899.92	20.70	19.69	-105.45	-418.16	77.12	778.20	739.52	38.68	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 320H (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:	320H (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 (°)	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)						
9,250.00	8,947.23	8,920.58	8,904.79	20.95	19.70	-95.50	-418.40	77.05	823.69	783.89	39.81	20.692		
9,300.00	8,949.93	8,920.79	8,905.01	21.25	19.70	-83.60	-418.41	77.04	869.82	829.91	39.91	21.794		
9,305.92	8,949.96	8,920.51	8,904.73	21.28	19.70	-82.10	-418.40	77.05	875.30	835.48	39.83	21.978		
9,400.00	8,949.96	8,915.38	8,899.61	21.94	19.69	-81.22	-418.14	77.12	963.12	922.72	40.40	23.840		
9,500.00	8,949.96	8,909.83	8,894.07	22.77	19.68	-80.27	-417.86	77.20	1,057.62	1,016.50	41.12	25.722		
9,600.00	8,949.96	8,904.18	8,888.43	23.72	19.67	-79.30	-417.57	77.28	1,153.02	1,111.09	41.93	27.496		
9,700.00	8,949.96	8,898.43	8,882.68	24.76	19.66	-78.33	-417.28	77.37	1,249.12	1,206.28	42.83	29.163		
9,800.00	8,949.96	8,892.56	8,876.82	25.89	19.64	-77.34	-416.97	77.46	1,345.76	1,301.96	43.80	30.725		
9,900.00	8,949.96	8,886.59	8,870.85	27.10	19.63	-76.34	-416.66	77.55	1,442.84	1,398.02	44.82	32.190		
10,000.00	8,949.97	8,880.49	8,864.77	28.37	19.62	-75.33	-416.33	77.64	1,540.27	1,494.38	45.89	33.566		
10,100.00	8,949.97	11,855.93	10,457.71	29.70	32.76	-167.65	1,191.51	72.76	1,543.48	1,509.84	33.64	45.889		
10,200.00	8,949.97	11,955.93	10,457.40	31.08	34.12	-167.65	1,291.51	72.76	1,543.17	1,508.39	34.78	44.374		
10,300.00	8,949.97	12,055.93	10,457.09	32.50	35.53	-167.64	1,391.51	72.76	1,542.86	1,506.91	35.96	42.910		
10,400.00	8,949.97	12,155.92	10,456.77	33.96	36.98	-167.64	1,491.51	72.76	1,542.55	1,505.38	37.17	41.501		
10,500.00	8,949.97	12,255.92	10,456.46	35.46	38.46	-167.64	1,591.51	72.76	1,542.25	1,503.83	38.41	40.148		
10,600.00	8,949.97	12,355.92	10,456.15	36.98	39.96	-167.64	1,691.50	72.76	1,541.94	1,502.25	39.69	38.853		
10,700.00	8,949.97	12,455.92	10,455.83	38.53	41.50	-167.63	1,791.50	72.76	1,541.63	1,500.64	40.98	37.614		
10,800.00	8,949.97	12,555.92	10,455.52	40.11	43.05	-167.63	1,891.50	72.76	1,541.32	1,499.01	42.31	36.432		
10,900.00	8,949.98	12,655.92	10,455.21	41.70	44.63	-167.63	1,991.50	72.76	1,541.01	1,497.36	43.65	35.304		
11,000.00	8,949.98	12,755.92	10,454.89	43.31	46.22	-167.63	2,091.50	72.76	1,540.70	1,495.69	45.01	34.229		
11,100.00	8,949.98	12,855.92	10,454.58	44.94	47.83	-167.63	2,191.50	72.76	1,540.39	1,494.00	46.39	33.205		
11,200.00	8,949.98	12,955.92	10,454.27	46.59	49.46	-167.62	2,291.50	72.76	1,540.09	1,492.30	47.79	32.229		
11,300.00	8,949.98	13,055.92	10,453.95	48.24	51.10	-167.62	2,391.50	72.76	1,539.78	1,490.58	49.20	31.299		
11,400.00	8,949.98	13,155.92	10,453.64	49.91	52.75	-167.62	2,491.50	72.76	1,539.47	1,488.85	50.62	30.412		
11,500.00	8,949.98	13,255.92	10,453.32	51.59	54.42	-167.62	2,591.50	72.76	1,539.16	1,487.11	52.06	29.567		
11,600.00	8,949.98	13,355.92	10,453.01	53.28	56.09	-167.61	2,691.49	72.75	1,538.85	1,485.35	53.50	28.762		
11,700.00	8,949.98	13,455.92	10,452.70	54.98	57.77	-167.61	2,791.49	72.75	1,538.54	1,483.58	54.96	27.993		
11,800.00	8,949.98	13,555.92	10,452.38	56.68	59.46	-167.61	2,891.49	72.75	1,538.24	1,481.81	56.43	27.259		
11,900.00	8,949.99	13,655.92	10,452.07	58.40	61.16	-167.61	2,991.49	72.75	1,537.93	1,480.02	57.91	26.559		
12,000.00	8,949.99	13,755.92	10,451.76	60.12	62.87	-167.60	3,091.49	72.75	1,537.62	1,478.23	59.39	25.889		
12,100.00	8,949.99	13,855.92	10,451.44	61.84	64.58	-167.60	3,191.49	72.75	1,537.31	1,476.43	60.88	25.249		
12,200.00	8,949.99	13,955.92	10,451.13	63.57	66.30	-167.60	3,291.49	72.75	1,537.00	1,474.62	62.39	24.637		
12,300.00	8,949.99	14,055.92	10,450.82	65.31	68.03	-167.60	3,391.49	72.75	1,536.69	1,472.80	63.89	24.051		
12,400.00	8,949.99	14,155.91	10,450.50	67.05	69.76	-167.60	3,491.49	72.75	1,536.39	1,470.98	65.41	23.490		
12,500.00	8,949.99	14,255.91	10,450.19	68.80	71.49	-167.59	3,591.49	72.75	1,536.08	1,469.15	66.92	22.952		
12,600.00	8,949.99	14,355.91	10,449.88	70.55	73.23	-167.59	3,691.49	72.75	1,535.77	1,467.32	68.45	22.437		
12,700.00	8,949.99	14,455.91	10,449.56	72.30	74.97	-167.59	3,791.48	72.75	1,535.46	1,465.48	69.98	21.942		
12,800.00	8,950.00	14,555.91	10,449.25	74.06	76.72	-167.59	3,891.48	72.75	1,535.15	1,463.64	71.51	21.467		
12,900.00	8,950.00	14,655.91	10,448.94	75.82	78.47	-167.58	3,991.48	72.75	1,534.84	1,461.79	73.05	21.010		
13,000.00	8,950.00	14,755.91	10,448.62	77.58	80.23	-167.58	4,091.48	72.75	1,534.54	1,459.94	74.60	20.572		
13,100.00	8,950.00	14,855.91	10,448.31	79.35	81.98	-167.58	4,191.48	72.75	1,534.23	1,458.09	76.14	20.149		
13,201.68	8,950.00	14,954.50	10,448.00	81.15	83.72	-167.58	4,290.07	72.74	1,533.92	1,456.22	77.70	19.743		
13,205.29	8,950.00	14,954.50	10,448.00	81.21	83.72	-167.58	4,290.07	72.74	1,533.92	1,456.19	77.72	19.735		



LEAM Drilling Systems LLC
Anticollision Report



Company:	DEVON ENERGY	Local Co-ordinate Reference:	Well 320H (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:	320H (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		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	139.15	-209.02	180.73	276.32				
100.00	100.00	100.00	100.00	0.08	0.08	139.15	-209.02	180.73	276.32	276.17	0.16	1,756.253	
200.00	200.00	200.00	200.00	0.30	0.30	139.15	-209.02	180.73	276.32	275.72	0.61	455.325	
300.00	300.00	300.00	300.00	0.53	0.53	139.15	-209.02	180.73	276.32	275.27	1.06	261.570	
400.00	400.00	400.00	400.00	0.75	0.75	139.15	-209.02	180.73	276.32	274.82	1.51	183.489	
500.00	500.00	500.00	500.00	0.98	0.98	139.15	-209.02	180.73	276.32	274.37	1.96	141.308	
600.00	600.00	600.00	600.00	1.20	1.20	139.15	-209.02	180.73	276.32	273.92	2.40	114.895	
700.00	700.00	700.00	700.00	1.43	1.43	139.15	-209.02	180.73	276.32	273.47	2.85	96.801	
800.00	800.00	800.00	800.00	1.65	1.65	139.15	-209.02	180.73	276.32	273.02	3.30	83.631	
900.00	900.00	900.00	900.00	1.88	1.88	139.15	-209.02	180.73	276.32	272.57	3.75	73.615	
1,000.00	1,000.00	1,000.00	1,000.00	2.10	2.10	139.15	-209.02	180.73	276.32	272.12	4.20	65.742	
1,100.00	1,100.00	1,100.00	1,100.00	2.33	2.33	139.15	-209.02	180.73	276.32	271.67	4.65	59.390	
1,200.00	1,200.00	1,200.00	1,200.00	2.55	2.55	139.15	-209.02	180.73	276.32	271.22	5.10	54.158	
1,300.00	1,300.00	1,300.00	1,300.00	2.78	2.78	139.15	-209.02	180.73	276.32	270.77	5.55	49.772	
1,400.00	1,400.00	1,400.00	1,400.00	3.00	3.00	139.15	-209.02	180.73	276.32	270.32	6.00	46.044	
1,500.00	1,500.00	1,500.00	1,500.00	3.23	3.23	139.15	-209.02	180.73	276.32	269.87	6.45	42.835	
1,600.00	1,600.00	1,600.00	1,600.00	3.45	3.45	139.15	-209.02	180.73	276.32	269.42	6.90	40.045	
1,700.00	1,700.00	1,700.00	1,700.00	3.67	3.67	139.15	-209.02	180.73	276.32	268.97	7.35	37.596	
1,800.00	1,800.00	1,800.00	1,800.00	3.90	3.90	139.15	-209.02	180.73	276.32	268.52	7.80	35.429	
1,900.00	1,900.00	1,900.00	1,900.00	4.12	4.12	139.15	-209.02	180.73	276.32	268.07	8.25	33.498	
2,000.00	2,000.00	2,000.00	2,000.00	4.35	4.35	139.15	-209.02	180.73	276.32	267.62	8.70	31.767	
2,100.00	2,100.00	2,100.00	2,100.00	4.57	4.57	139.15	-209.02	180.73	276.32	267.17	9.15	30.206	
2,200.00	2,200.00	2,200.00	2,200.00	4.80	4.80	139.15	-209.02	180.73	276.32	266.73	9.60	28.791	
2,300.00	2,300.00	2,300.00	2,300.00	5.02	5.02	139.15	-209.02	180.73	276.32	266.28	10.05	27.503	
2,400.00	2,400.00	2,400.00	2,400.00	5.25	5.25	139.15	-209.02	180.73	276.32	265.83	10.50	26.325	
2,500.00	2,500.00	2,500.00	2,500.00	5.47	5.47	139.15	-209.02	180.73	276.32	265.38	10.95	25.244	
2,600.00	2,600.00	2,600.00	2,600.00	5.70	5.70	139.15	-209.02	180.73	276.32	264.93	11.40	24.248	
2,700.00	2,700.00	2,700.00	2,700.00	5.92	5.92	139.15	-209.02	180.73	276.32	264.48	11.85	23.328	
2,800.00	2,800.00	2,800.00	2,800.00	6.15	6.15	139.15	-209.02	180.73	276.32	264.03	12.29	22.475	
2,900.00	2,900.00	2,900.00	2,900.00	6.37	6.37	139.15	-209.02	180.73	276.32	263.58	12.74	21.682	
3,000.00	3,000.00	3,000.00	3,000.00	6.60	6.60	139.15	-209.02	180.73	276.32	263.13	13.19	20.943	
3,100.00	3,100.00	3,100.00	3,100.00	6.82	6.82	139.15	-209.02	180.73	276.32	262.68	13.64	20.253	
3,200.00	3,200.00	3,200.00	3,200.00	7.05	7.05	139.15	-209.02	180.73	276.32	262.23	14.09	19.607	
3,300.00	3,300.00	3,300.00	3,300.00	7.27	7.27	139.15	-209.02	180.73	276.32	261.78	14.54	19.001	
3,400.00	3,400.00	3,400.00	3,400.00	7.50	7.50	139.15	-209.02	180.73	276.32	261.33	14.99	18.431	
3,500.00	3,500.00	3,500.00	3,500.00	7.72	7.72	139.15	-209.02	180.73	276.32	260.88	15.44	17.895	
3,600.00	3,600.00	3,600.00	3,600.00	7.95	7.95	139.15	-209.02	180.73	276.32	260.43	15.89	17.389	
3,700.00	3,700.00	3,700.00	3,700.00	8.17	8.17	139.15	-209.02	180.73	276.32	259.98	16.34	16.910	
3,800.00	3,800.00	3,800.00	3,800.00	8.40	8.40	139.15	-209.02	180.73	276.32	259.53	16.79	16.458	
3,900.00	3,900.00	3,900.00	3,900.00	8.62	8.62	139.15	-209.02	180.73	276.32	259.08	17.24	16.028	
4,000.00	4,000.00	4,000.00	4,000.00	8.84	8.84	139.15	-209.02	180.73	276.32	258.63	17.69	15.621	
4,100.00	4,100.00	4,100.00	4,100.00	9.07	9.07	139.15	-209.02	180.73	276.32	258.18	18.14	15.234	
4,200.00	4,200.00	4,200.00	4,200.00	9.29	9.29	139.15	-209.02	180.73	276.32	257.73	18.59	14.866	
4,300.00	4,300.00	4,300.00	4,300.00	9.52	9.52	139.15	-209.02	180.73	276.32	257.28	19.04	14.515	
4,400.00	4,400.00	4,397.36	4,397.36	9.72	9.71	25.27	-209.82	180.52	276.01	256.58	19.43	14.205	
4,500.00	4,499.96	4,494.66	4,494.62	9.91	9.87	25.93	-212.21	179.87	275.09	255.32	19.77	13.912	
4,600.00	4,599.86	4,591.80	4,591.68	10.10	10.04	27.03	-216.19	178.79	273.65	253.53	20.12	13.604	
4,700.00	4,699.68	4,688.74	4,688.44	10.29	10.21	28.59	-221.74	177.28	271.80	251.34	20.46	13.286	
4,800.00	4,799.37	4,785.38	4,784.80	10.49	10.38	30.61	-228.85	175.35	269.73	248.93	20.80	12.967	
4,900.00	4,898.90	4,883.11	4,882.12	10.69	10.55	33.11	-237.44	173.02	267.55	246.39	21.15	12.648	
5,000.00	4,998.26	4,982.19	4,980.77	10.89	10.74	35.94	-246.37	170.59	264.65	243.13	21.51	12.302	
5,100.00	5,097.40	5,081.09	5,079.24	11.11	10.92	39.06	-255.28	168.18	261.05	239.17	21.88	11.929	

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 320H (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:	320H (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					Warning		
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)		Separation Factor	
5,122.90	5,120.07	5,103.71	5,101.76	11.16	10.96	39.82	-257.32	167.62	260.15	238.18	21.97	11.842		
5,200.00	5,196.38	5,179.84	5,177.56	11.33	11.11	42.41	-264.18	165.76	257.35	235.06	22.29	11.548		
5,300.00	5,295.35	5,278.59	5,275.87	11.56	11.31	45.85	-273.08	163.34	254.53	231.83	22.70	11.211		
5,400.00	5,394.32	5,377.33	5,374.19	11.80	11.50	49.35	-281.98	160.93	252.68	229.55	23.13	10.924		
5,500.00	5,493.29	5,476.08	5,472.50	12.04	11.70	52.89	-290.87	158.51	251.80	228.23	23.57	10.685		
5,538.68	5,531.57	5,514.27	5,510.53	12.13	11.78	54.26	-294.31	157.58	251.73	227.99	23.74	10.605 CC		
5,600.00	5,592.26	5,574.82	5,570.82	12.28	11.91	56.44	-299.77	156.10	251.91	227.90	24.01	10.492 ES		
5,700.00	5,691.23	5,673.57	5,669.13	12.53	12.11	59.97	-308.67	153.68	253.01	228.55	24.46	10.344		
5,800.00	5,790.20	5,772.31	5,767.44	12.79	12.32	63.46	-317.57	151.27	255.09	230.17	24.92	10.238		
5,900.00	5,889.17	5,871.06	5,865.76	13.05	12.54	66.88	-326.46	148.85	258.11	232.73	25.38	10.170		
6,000.00	5,988.14	5,969.80	5,964.07	13.31	12.75	70.21	-335.36	146.44	262.06	236.21	25.85	10.139 SF		
6,100.00	6,087.11	6,068.55	6,062.38	13.58	12.97	73.44	-344.26	144.02	266.88	240.56	26.32	10.140		
6,200.00	6,186.08	6,167.29	6,160.70	13.85	13.19	76.54	-353.16	141.61	272.53	245.74	26.80	10.170		
6,300.00	6,285.05	6,266.04	6,259.01	14.12	13.41	79.51	-362.05	139.19	278.97	251.69	27.28	10.227		
6,400.00	6,384.02	6,364.78	6,357.32	14.40	13.64	82.35	-370.95	136.77	286.13	258.37	27.76	10.308		
6,500.00	6,483.00	6,463.53	6,455.64	14.68	13.87	85.04	-379.85	134.36	293.97	265.72	28.24	10.408		
6,600.00	6,581.97	6,562.27	6,553.95	14.96	14.09	87.59	-388.75	131.94	302.42	273.69	28.73	10.526		
6,700.00	6,680.94	6,661.02	6,652.27	15.24	14.32	90.00	-397.64	129.53	311.45	282.23	29.22	10.659		
6,800.00	6,779.91	6,759.76	6,750.58	15.53	14.56	92.27	-406.54	127.11	321.01	291.30	29.71	10.804		
6,900.00	6,878.88	6,858.51	6,848.89	15.82	14.79	94.41	-415.44	124.70	331.04	300.84	30.20	10.960		
7,000.00	6,977.85	6,957.25	6,947.21	16.11	15.03	96.42	-424.34	122.28	341.51	310.81	30.70	11.125		
7,100.00	7,076.82	7,056.00	7,045.52	16.41	15.26	98.31	-433.23	119.87	352.37	321.18	31.19	11.297		
7,200.00	7,175.79	7,154.74	7,143.83	16.70	15.50	100.09	-442.13	117.45	363.60	331.91	31.69	11.474		
7,300.00	7,274.76	7,253.49	7,242.15	17.00	15.74	101.76	-451.03	115.04	375.16	342.97	32.19	11.655		
7,383.03	7,356.93	7,335.48	7,323.78	17.25	15.94	103.07	-458.42	113.03	384.98	352.38	32.60	11.808		
7,400.00	7,373.73	7,352.24	7,340.46	17.30	15.98	103.35	-459.93	112.62	387.01	354.32	32.68	11.841		
7,500.00	7,472.86	7,451.13	7,438.92	17.55	16.23	104.78	-468.84	110.20	398.84	365.69	33.14	12.033		
7,600.00	7,572.21	7,550.20	7,537.56	17.80	16.47	105.90	-477.77	107.78	410.39	376.79	33.60	12.214		
7,700.00	7,671.73	7,649.43	7,636.36	18.04	16.72	106.74	-486.71	105.35	421.56	387.52	34.05	12.381		
7,800.00	7,771.42	7,748.80	7,735.29	18.26	16.96	107.31	-495.66	102.92	432.29	397.79	34.49	12.532		
7,900.00	7,871.22	7,848.26	7,834.32	18.48	17.21	107.63	-504.62	100.49	442.51	407.58	34.93	12.668		
8,000.00	7,971.12	7,947.78	7,933.41	18.69	17.46	107.73	-513.59	98.05	452.21	416.85	35.36	12.788		
8,100.00	8,071.08	8,047.35	8,032.54	18.89	17.71	107.62	-522.56	95.62	461.38	425.60	35.78	12.894		
8,205.92	8,177.00	8,152.82	8,137.54	19.09	17.98	-138.62	-532.07	93.04	470.54	434.32	36.22	12.993		
8,300.00	8,271.08	8,246.48	8,230.80	19.26	18.22	-139.08	-540.51	90.75	478.44	441.84	36.60	13.071		
8,405.92	8,377.00	8,351.94	8,335.80	19.47	18.49	-139.59	-550.01	88.17	487.38	450.33	37.05	13.154		
8,450.00	8,421.03	8,395.63	8,379.30	19.56	18.60	-139.59	-553.94	87.10	492.40	455.23	37.17	13.247		
8,500.00	8,470.66	8,444.49	8,427.95	19.65	18.73	-139.68	-558.35	85.90	501.22	464.05	37.17	13.486		
8,550.00	8,519.56	8,494.22	8,477.47	19.72	18.85	-139.86	-562.73	84.71	513.31	476.28	37.02	13.865		
8,600.00	8,567.39	8,542.67	8,525.73	19.79	18.96	-140.06	-566.81	83.60	528.59	491.85	36.74	14.388		
8,650.00	8,613.76	8,589.44	8,572.34	19.85	19.07	-140.22	-570.55	82.59	547.09	510.77	36.33	15.061		
8,700.00	8,658.33	8,634.19	8,616.95	19.90	19.18	-140.29	-573.97	81.66	568.83	533.02	35.80	15.888		
8,750.00	8,700.77	8,676.63	8,659.27	19.94	19.28	-140.19	-577.05	80.83	593.77	558.57	35.20	16.868		
8,800.00	8,740.73	8,716.44	8,698.98	19.98	19.37	-139.85	-579.80	80.08	621.87	587.30	34.56	17.993		
8,850.00	8,777.93	8,753.33	8,735.78	20.02	19.45	-139.17	-582.23	79.42	653.00	619.05	33.95	19.236		
8,900.00	8,812.08	8,787.02	8,769.40	20.07	19.53	-138.06	-584.35	78.84	687.03	653.60	33.43	20.549		
8,950.00	8,842.92	8,817.24	8,799.57	20.11	19.60	-136.35	-586.17	78.35	723.76	690.63	33.13	21.849		
9,000.00	8,870.21	8,843.75	8,826.03	20.17	19.66	-133.87	-587.71	77.93	762.94	729.80	33.14	23.021		
9,050.00	8,893.75	8,866.31	8,848.55	20.25	19.71	-130.34	-588.96	77.59	804.32	770.71	33.61	23.928		
9,100.00	8,913.35	8,884.71	8,866.92	20.35	19.75	-125.38	-589.96	77.32	847.59	812.93	34.66	24.453		
9,150.00	8,928.87	8,898.76	8,880.95	20.50	19.78	-118.48	-590.70	77.12	892.41	856.11	36.30	24.585		
9,200.00	8,940.19	8,908.31	8,890.48	20.70	19.80	-109.06	-591.19	76.98	938.43	900.15	38.28	24.517		

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 320H (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:	320H (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: O-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)		
9,250.00	8,947.23	8,913.22	8,895.38	20.95	19.81	-96.80	-591.45	76.92	985.28	945.42	39.86	24.720			
9,300.00	8,949.93	8,913.38	8,895.55	21.25	19.81	-82.27	-591.45	76.91	1,032.58	992.66	39.91	25.870			
9,305.92	8,949.96	8,913.08	8,895.25	21.28	19.81	-80.48	-591.44	76.92	1,038.19	998.41	39.78	26.098			
9,400.00	8,949.96	8,907.77	8,889.94	21.94	19.80	-79.57	-591.17	76.99	1,127.76	1,087.43	40.33	27.962			
9,500.00	8,949.96	8,902.02	8,884.20	22.77	19.79	-78.60	-590.87	77.07	1,223.68	1,182.65	41.03	29.826			
9,600.00	8,949.96	8,896.16	8,878.35	23.72	19.78	-77.61	-590.56	77.16	1,320.19	1,278.37	41.82	31.570			
9,700.00	8,949.96	8,890.19	8,872.39	24.76	19.76	-76.61	-590.25	77.24	1,417.15	1,374.47	42.69	33.197			
9,800.00	8,949.96	8,884.10	8,866.31	25.89	19.75	-75.60	-589.93	77.33	1,514.50	1,470.87	43.63	34.714			
9,900.00	8,949.96	8,877.89	8,860.11	27.10	19.73	-74.58	-589.59	77.42	1,612.14	1,567.52	44.62	36.131			
10,000.00	8,949.97	8,871.56	8,853.79	28.37	19.72	-73.54	-589.25	77.51	1,710.04	1,664.39	45.65	37.458			
10,100.00	8,949.97	8,865.11	8,847.34	29.70	19.71	-72.50	-588.90	77.61	1,808.15	1,761.44	46.72	38.705			
10,200.00	8,949.97	8,858.52	8,840.77	31.08	19.69	-71.45	-588.53	77.71	1,906.44	1,858.64	47.80	39.882			
10,300.00	8,949.97	8,851.80	8,834.06	32.50	19.68	-70.39	-588.16	77.81	2,004.88	1,955.98	48.90	40.998			
10,400.00	8,949.97	8,844.94	8,827.21	33.96	19.66	-69.32	-587.77	77.91	2,103.44	2,053.44	50.01	42.063			
10,500.00	8,949.97	8,837.94	8,820.22	35.46	19.64	-68.24	-587.37	78.02	2,202.12	2,151.01	51.11	43.084			
10,600.00	8,949.97	8,830.79	8,813.09	36.98	19.63	-67.16	-586.96	78.13	2,300.90	2,248.69	52.21	44.068			
10,700.00	8,949.97	8,823.49	8,805.80	38.53	19.61	-66.07	-586.54	78.25	2,399.76	2,346.46	53.30	45.023			
10,800.00	8,949.97	8,816.03	8,798.36	40.11	19.60	-64.97	-586.10	78.37	2,498.69	2,444.32	54.37	45.954			
10,900.00	8,949.98	8,808.42	8,790.75	41.70	19.58	-63.87	-585.65	78.49	2,597.69	2,542.26	55.43	46.867			
11,000.00	8,949.98	8,800.63	8,782.98	43.31	19.56	-62.77	-585.18	78.62	2,696.74	2,640.29	56.46	47.766			
11,100.00	8,949.98	14,255.83	11,690.00	44.94	51.39	-173.13	2,186.78	72.74	2,759.84	2,712.74	47.10	58.600			
11,200.00	8,949.98	14,355.83	11,690.00	46.59	53.00	-173.13	2,286.78	72.74	2,759.84	2,711.49	48.35	57.085			
11,300.00	8,949.98	14,455.83	11,690.00	48.24	54.62	-173.13	2,386.78	72.74	2,759.83	2,710.22	49.61	55.630			
11,400.00	8,949.98	14,555.83	11,690.00	49.91	56.26	-173.13	2,486.78	72.74	2,759.83	2,708.94	50.89	54.232			
11,500.00	8,949.98	14,655.83	11,690.00	51.59	57.90	-173.13	2,586.78	72.74	2,759.83	2,707.65	52.18	52.891			
11,600.00	8,949.98	14,755.83	11,690.00	53.28	59.56	-173.13	2,686.78	72.74	2,759.83	2,706.35	53.48	51.602			
11,700.00	8,949.98	14,855.83	11,690.00	54.98	61.22	-173.13	2,786.78	72.74	2,759.83	2,705.03	54.80	50.365			
11,800.00	8,949.98	14,955.83	11,690.00	56.68	62.90	-173.13	2,886.78	72.74	2,759.82	2,703.71	56.12	49.177			
11,900.00	8,949.99	15,055.83	11,690.00	58.40	64.58	-173.13	2,986.78	72.74	2,759.82	2,702.37	57.45	48.036			
12,000.00	8,949.99	15,155.83	11,690.00	60.12	66.27	-173.13	3,086.78	72.74	2,759.82	2,701.03	58.79	46.940			
12,100.00	8,949.99	15,255.83	11,690.00	61.84	67.97	-173.13	3,186.78	72.74	2,759.82	2,699.67	60.14	45.886			
12,200.00	8,949.99	15,355.83	11,690.00	63.57	69.68	-173.13	3,286.78	72.74	2,759.82	2,698.32	61.50	44.873			
12,300.00	8,949.99	15,455.83	11,690.00	65.31	71.39	-173.13	3,386.78	72.74	2,759.82	2,696.95	62.87	43.899			
12,400.00	8,949.99	15,555.83	11,690.00	67.05	73.10	-173.13	3,486.78	72.74	2,759.81	2,695.57	64.24	42.961			
12,500.00	8,949.99	15,655.83	11,690.00	68.80	74.82	-173.13	3,586.78	72.74	2,759.81	2,694.19	65.62	42.059			
12,600.00	8,949.99	15,755.83	11,690.00	70.55	76.55	-173.13	3,686.78	72.74	2,759.81	2,692.81	67.00	41.190			
12,700.00	8,949.99	15,855.83	11,690.00	72.30	78.28	-173.13	3,786.78	72.74	2,759.81	2,691.42	68.39	40.353			
12,800.00	8,950.00	15,955.83	11,690.00	74.06	80.02	-173.13	3,886.78	72.74	2,759.81	2,690.02	69.79	39.546			
12,900.00	8,950.00	16,055.83	11,690.00	75.82	81.76	-173.13	3,986.78	72.74	2,759.81	2,688.62	71.19	38.768			
13,000.00	8,950.00	16,155.83	11,690.00	77.58	83.50	-173.13	4,086.78	72.74	2,759.80	2,687.21	72.59	38.018			
13,100.00	8,950.00	16,255.83	11,690.00	79.35	85.25	-173.13	4,186.78	72.74	2,759.80	2,685.80	74.00	37.294			
13,175.83	8,950.00	16,331.66	11,690.00	80.69	86.57	-173.13	4,262.61	72.74	2,759.80	2,684.73	75.07	36.761			
13,205.29	8,950.00	16,359.12	11,690.00	81.21	87.05	-173.13	4,290.07	72.74	2,759.80	2,684.32	75.48	36.565			

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 320H (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:	320H (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 (°)	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	135.53	-184.03	180.66	257.89					
100.00	100.00	100.00	100.00	0.08	0.08	135.53	-184.03	180.66	257.89	257.73	0.16	1,639.090		
200.00	200.00	200.00	200.00	0.30	0.30	135.53	-184.03	180.66	257.89	257.28	0.61	424.950		
300.00	300.00	300.00	300.00	0.53	0.53	135.53	-184.03	180.66	257.89	256.83	1.06	244.120		
400.00	400.00	400.00	400.00	0.75	0.75	135.53	-184.03	180.66	257.89	256.38	1.51	171.248		
500.00	500.00	500.00	500.00	0.98	0.98	135.53	-184.03	180.66	257.89	255.93	1.96	131.881		
600.00	600.00	600.00	600.00	1.20	1.20	135.53	-184.03	180.66	257.89	255.48	2.40	107.230		
700.00	700.00	700.00	700.00	1.43	1.43	135.53	-184.03	180.66	257.89	255.03	2.85	90.344		
800.00	800.00	800.00	800.00	1.65	1.65	135.53	-184.03	180.66	257.89	254.58	3.30	78.052		
900.00	900.00	900.00	900.00	1.88	1.88	135.53	-184.03	180.66	257.89	254.14	3.75	68.704		
1,000.00	1,000.00	1,000.00	1,000.00	2.10	2.10	135.53	-184.03	180.66	257.89	253.69	4.20	61.356		
1,100.00	1,100.00	1,100.00	1,100.00	2.33	2.33	135.53	-184.03	180.66	257.89	253.24	4.65	55.428		
1,200.00	1,200.00	1,200.00	1,200.00	2.55	2.55	135.53	-184.03	180.66	257.89	252.79	5.10	50.545		
1,300.00	1,300.00	1,300.00	1,300.00	2.78	2.78	135.53	-184.03	180.66	257.89	252.34	5.55	46.452		
1,400.00	1,400.00	1,400.00	1,400.00	3.00	3.00	135.53	-184.03	180.66	257.89	251.89	6.00	42.972		
1,500.00	1,500.00	1,500.00	1,500.00	3.23	3.23	135.53	-184.03	180.66	257.89	251.44	6.45	39.978		
1,600.00	1,600.00	1,600.00	1,600.00	3.45	3.45	135.53	-184.03	180.66	257.89	250.99	6.90	37.373		
1,700.00	1,700.00	1,700.00	1,700.00	3.67	3.67	135.53	-184.03	180.66	257.89	250.54	7.35	35.088		
1,800.00	1,800.00	1,800.00	1,800.00	3.90	3.90	135.53	-184.03	180.66	257.89	250.09	7.80	33.065		
1,900.00	1,900.00	1,900.00	1,900.00	4.12	4.12	135.53	-184.03	180.66	257.89	249.64	8.25	31.263		
2,000.00	2,000.00	2,000.00	2,000.00	4.35	4.35	135.53	-184.03	180.66	257.89	249.19	8.70	29.648		
2,100.00	2,100.00	2,100.00	2,100.00	4.57	4.57	135.53	-184.03	180.66	257.89	248.74	9.15	28.191		
2,200.00	2,200.00	2,200.00	2,200.00	4.80	4.80	135.53	-184.03	180.66	257.89	248.29	9.60	26.870		
2,300.00	2,300.00	2,300.00	2,300.00	5.02	5.02	135.53	-184.03	180.66	257.89	247.84	10.05	25.668		
2,400.00	2,400.00	2,400.00	2,400.00	5.25	5.25	135.53	-184.03	180.66	257.89	247.39	10.50	24.569		
2,500.00	2,500.00	2,500.00	2,500.00	5.47	5.47	135.53	-184.03	180.66	257.89	246.94	10.95	23.560		
2,600.00	2,600.00	2,600.00	2,600.00	5.70	5.70	135.53	-184.03	180.66	257.89	246.49	11.40	22.630		
2,700.00	2,700.00	2,700.00	2,700.00	5.92	5.92	135.53	-184.03	180.66	257.89	246.04	11.85	21.772		
2,800.00	2,800.00	2,800.00	2,800.00	6.15	6.15	135.53	-184.03	180.66	257.89	245.59	12.29	20.976		
2,900.00	2,900.00	2,900.00	2,900.00	6.37	6.37	135.53	-184.03	180.66	257.89	245.14	12.74	20.236		
3,000.00	3,000.00	3,000.00	3,000.00	6.60	6.60	135.53	-184.03	180.66	257.89	244.69	13.19	19.546		
3,100.00	3,100.00	3,100.00	3,100.00	6.82	6.82	135.53	-184.03	180.66	257.89	244.25	13.64	18.902		
3,200.00	3,200.00	3,200.00	3,200.00	7.05	7.05	135.53	-184.03	180.66	257.89	243.80	14.09	18.299		
3,300.00	3,300.00	3,300.00	3,300.00	7.27	7.27	135.53	-184.03	180.66	257.89	243.35	14.54	17.734		
3,400.00	3,400.00	3,400.00	3,400.00	7.50	7.50	135.53	-184.03	180.66	257.89	242.90	14.99	17.202		
3,500.00	3,500.00	3,500.00	3,500.00	7.72	7.72	135.53	-184.03	180.66	257.89	242.45	15.44	16.701		
3,600.00	3,600.00	3,600.00	3,600.00	7.95	7.95	135.53	-184.03	180.66	257.89	242.00	15.89	16.229		
3,700.00	3,700.00	3,700.00	3,700.00	8.17	8.17	135.53	-184.03	180.66	257.89	241.55	16.34	15.782		
3,800.00	3,800.00	3,800.00	3,800.00	8.40	8.40	135.53	-184.03	180.66	257.89	241.10	16.79	15.360		
3,900.00	3,900.00	3,900.00	3,900.00	8.62	8.62	135.53	-184.03	180.66	257.89	240.65	17.24	14.959		
4,000.00	4,000.00	4,000.00	4,000.00	8.84	8.84	135.53	-184.03	180.66	257.89	240.20	17.69	14.579		
4,100.00	4,100.00	4,100.00	4,100.00	9.07	9.07	135.53	-184.03	180.66	257.89	239.75	18.14	14.218		
4,200.00	4,200.00	4,200.00	4,200.00	9.29	9.29	135.53	-184.03	180.66	257.89	239.30	18.59	13.874		
4,300.00	4,300.00	4,300.00	4,300.00	9.52	9.52	135.53	-184.03	180.66	257.89	238.85	19.04	13.546		
4,400.00	4,400.00	4,395.87	4,395.87	9.72	9.71	21.45	-184.41	181.37	257.88	238.44	19.43	13.269		
4,500.00	4,499.96	4,491.75	4,491.71	9.91	9.89	21.49	-185.56	183.48	257.84	238.05	19.79	13.030		
4,600.00	4,599.86	4,587.63	4,587.51	10.10	10.07	21.57	-187.47	187.01	257.78	237.64	20.14	12.799		
4,700.00	4,699.88	4,683.51	4,683.22	10.29	10.25	21.68	-190.15	191.94	257.69	237.20	20.49	12.576		
4,800.00	4,799.37	4,779.39	4,778.83	10.49	10.44	21.82	-193.59	198.28	257.58	236.74	20.84	12.360		
4,900.00	4,898.90	4,875.28	4,874.31	10.69	10.63	22.00	-197.79	206.03	257.45	236.27	21.19	12.151		
5,000.00	4,998.26	4,971.17	4,969.64	10.89	10.82	22.20	-202.75	215.18	257.30	235.77	21.54	11.947		
5,100.00	5,097.40	5,067.07	5,064.78	11.11	11.02	22.44	-208.47	225.73	257.13	235.25	21.88	11.750		

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 320H (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:	320H (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
5,122.90	5,120.07	5,089.03	5,086.54	11.16	11.07	22.50	-209.89	228.35	257.09	235.13	21.96	11.705	
5,134.34	5,131.39	5,100.00	5,097.40	11.19	11.09	22.52	-210.61	229.68	257.08	235.07	22.01	11.681	CC, ES
5,200.00	5,196.38	5,162.97	5,159.71	11.33	11.23	22.66	-214.95	237.69	257.43	235.16	22.27	11.561	
5,300.00	5,295.35	5,258.85	5,254.38	11.56	11.45	22.78	-222.19	251.03	259.27	236.60	22.66	11.440	
5,400.00	5,394.32	5,358.57	5,352.69	11.80	11.69	22.83	-230.16	265.71	262.00	238.92	23.07	11.355	
5,500.00	5,493.29	5,458.53	5,451.23	12.04	11.94	22.88	-238.14	280.44	264.73	241.24	23.49	11.271	
5,600.00	5,592.26	5,558.49	5,549.78	12.28	12.19	22.93	-246.13	295.16	267.46	243.55	23.91	11.187	
5,700.00	5,691.23	5,658.45	5,648.33	12.53	12.45	22.98	-254.11	309.89	270.20	245.86	24.33	11.105	
5,800.00	5,790.20	5,758.41	5,746.88	12.79	12.72	23.03	-262.10	324.62	272.93	248.17	24.76	11.023	
5,900.00	5,889.17	5,858.38	5,845.43	13.05	12.99	23.07	-270.09	339.34	275.66	250.47	25.19	10.942	
6,000.00	5,988.14	5,958.34	5,943.96	13.31	13.26	23.12	-278.07	354.07	278.40	252.77	25.63	10.863	
6,100.00	6,087.11	6,058.30	6,042.53	13.58	13.55	23.17	-286.06	368.79	281.13	255.06	26.07	10.784	
6,200.00	6,186.08	6,158.26	6,141.08	13.85	13.83	23.21	-294.05	383.52	283.86	257.35	26.51	10.707	
6,300.00	6,285.05	6,258.23	6,239.63	14.12	14.13	23.25	-302.03	398.24	286.60	259.64	26.96	10.631	
6,400.00	6,384.02	6,358.19	6,338.17	14.40	14.42	23.30	-310.02	412.97	289.33	261.92	27.41	10.557	
6,500.00	6,483.00	6,458.15	6,436.72	14.68	14.72	23.34	-318.00	427.69	292.07	264.21	27.86	10.483	
6,600.00	6,581.97	6,558.11	6,535.27	14.96	15.03	23.38	-325.99	442.42	294.80	266.49	28.32	10.411	
6,700.00	6,680.94	6,658.08	6,633.82	15.24	15.33	23.42	-333.98	457.14	297.54	268.76	28.77	10.340	
6,800.00	6,779.91	6,758.04	6,732.37	15.53	15.64	23.46	-341.96	471.87	300.27	271.04	29.24	10.271	
6,900.00	6,878.88	6,858.00	6,830.92	15.82	15.96	23.50	-349.95	486.60	303.01	273.31	29.70	10.202	
7,000.00	6,977.85	6,957.96	6,929.47	16.11	16.27	23.54	-357.94	501.32	305.74	275.58	30.17	10.136	
7,100.00	7,076.82	7,057.93	7,028.02	16.41	16.59	23.58	-365.92	516.05	308.48	277.84	30.63	10.070	
7,200.00	7,175.79	7,157.89	7,126.56	16.70	16.92	23.61	-373.91	530.77	311.21	280.11	31.10	10.006	
7,300.00	7,274.76	7,257.85	7,225.11	17.00	17.24	23.65	-381.89	545.50	313.95	282.37	31.58	9.942	
7,383.03	7,356.93	7,340.85	7,306.93	17.25	17.51	23.68	-388.53	557.72	316.22	284.25	31.97	9.891	
7,400.00	7,373.73	7,357.81	7,323.66	17.30	17.57	23.69	-389.88	560.22	316.71	284.65	32.06	9.880	
7,500.00	7,472.86	7,457.74	7,422.17	17.55	17.90	23.65	-397.86	574.94	320.51	287.97	32.55	9.848	SF
7,600.00	7,572.21	7,557.59	7,520.61	17.80	18.23	23.50	-405.84	589.65	325.92	292.89	33.02	9.869	
7,700.00	7,671.73	7,657.33	7,618.94	18.04	18.56	23.25	-413.81	604.34	332.92	299.44	33.49	9.942	
7,800.00	7,771.42	7,756.93	7,717.13	18.26	18.90	22.89	-421.77	619.02	341.54	307.61	33.94	10.064	
7,900.00	7,871.22	7,856.36	7,815.16	18.48	19.23	22.46	-429.71	633.66	351.78	317.41	34.37	10.235	
8,000.00	7,971.12	7,955.59	7,912.99	18.69	19.57	21.95	-437.64	648.28	363.65	328.86	34.79	10.452	
8,100.00	8,071.08	8,054.59	8,010.59	18.89	19.91	21.38	-445.55	662.87	377.16	341.96	35.20	10.716	
8,205.92	8,177.00	8,159.18	8,113.69	19.09	20.26	134.83	-453.90	678.27	393.28	357.67	35.61	11.045	
8,300.00	8,271.08	8,251.92	8,205.13	19.26	20.58	134.21	-461.31	691.93	408.45	372.46	35.99	11.349	
8,405.92	8,377.00	8,356.35	8,308.08	19.47	20.94	133.56	-469.66	707.32	425.58	389.14	36.44	11.679	
8,450.00	8,421.03	8,399.62	8,350.74	19.56	21.09	132.86	-473.11	713.69	433.86	397.37	36.49	11.889	
8,500.00	8,470.66	8,448.06	8,398.49	19.65	21.26	132.24	-476.98	720.83	445.99	409.52	36.47	12.230	
8,550.00	8,519.56	8,495.46	8,445.22	19.72	21.42	131.77	-480.77	727.81	460.97	424.62	36.35	12.681	
8,600.00	8,567.39	8,541.44	8,490.55	19.79	21.58	131.38	-484.44	734.58	478.80	442.65	36.15	13.244	
8,650.00	8,613.76	8,585.67	8,534.15	19.85	21.74	131.01	-487.98	741.10	499.48	463.61	35.88	13.922	
8,700.00	8,658.33	8,627.80	8,575.69	19.90	21.88	130.57	-491.34	747.31	523.01	487.47	35.54	14.715	
8,750.00	8,700.77	8,667.53	8,614.85	19.94	22.02	129.97	-494.52	753.16	549.38	514.20	35.18	15.615	
8,800.00	8,740.73	8,704.53	8,651.33	19.98	22.15	129.10	-497.47	758.81	578.53	543.69	34.84	16.607	
8,850.00	8,777.93	8,738.53	8,684.86	20.02	22.27	127.86	-500.19	763.62	610.39	575.82	34.57	17.657	
8,900.00	8,812.08	8,769.28	8,715.17	20.07	22.38	126.12	-502.65	768.15	644.82	610.36	34.46	18.713	
8,950.00	8,842.92	8,796.54	8,742.04	20.11	22.48	123.71	-504.83	772.16	681.64	647.05	34.59	19.704	
9,000.00	8,870.21	8,820.10	8,765.27	20.17	22.56	120.45	-506.71	775.63	720.64	685.58	35.07	20.550	
9,050.00	8,893.75	8,839.78	8,784.67	20.25	22.63	116.09	-508.28	778.53	761.57	725.63	35.94	21.192	
9,100.00	8,913.35	8,855.43	8,800.10	20.35	22.68	110.39	-509.53	780.84	804.12	766.94	37.18	21.627	
9,150.00	8,928.87	8,866.94	8,811.45	20.50	22.72	103.09	-510.45	782.53	847.99	809.35	38.63	21.950	
9,200.00	8,940.19	8,874.21	8,818.62	20.70	22.75	94.10	-511.03	783.60	892.82	852.92	39.90	22.376	

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 320H (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:	320H (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 (°)	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)						
9,250.00	8,947.23	8,877.20	8,821.56	20.95	22.76	83.65	-511.27	784.04	938.27	897.83	40.45	23.198		
9,300.00	8,949.93	8,875.87	8,820.25	21.25	22.75	72.46	-511.16	783.85	983.97	944.12	39.85	24.691		
9,305.92	8,949.96	8,875.42	8,819.81	21.28	22.75	71.13	-511.13	783.78	989.38	949.67	39.70	24.919		
9,400.00	8,949.96	8,867.91	8,812.40	21.94	22.73	70.08	-510.53	782.67	1,075.98	1,035.78	40.20	26.768		
9,500.00	8,949.96	8,859.92	8,804.52	22.77	22.70	68.98	-509.89	781.50	1,169.25	1,128.43	40.82	28.644		
9,600.00	8,949.96	8,851.93	8,796.65	23.72	22.67	67.89	-509.25	780.32	1,263.49	1,221.97	41.53	30.426		
9,700.00	8,949.96	8,843.94	8,788.77	24.76	22.64	66.80	-508.61	779.14	1,358.52	1,316.21	42.31	32.112		
9,800.00	8,949.96	8,835.95	8,780.90	25.89	22.61	65.73	-507.97	777.97	1,454.16	1,411.02	43.14	33.708		
9,900.00	8,949.96	8,827.96	8,773.02	27.10	22.59	64.67	-507.34	776.79	1,550.31	1,506.29	44.02	35.218		
10,000.00	8,949.97	8,819.97	8,765.14	28.37	22.56	63.62	-506.70	775.61	1,646.89	1,601.95	44.94	36.650		
10,100.00	8,949.97	8,811.98	8,757.27	29.70	22.53	62.58	-506.06	774.44	1,743.81	1,697.94	45.88	38.012		
10,200.00	8,949.97	8,803.99	8,749.39	31.08	22.50	61.56	-505.42	773.26	1,841.03	1,794.20	46.83	39.310		
10,300.00	8,949.97	8,796.00	8,741.52	32.50	22.47	60.54	-504.78	772.08	1,938.50	1,890.69	47.80	40.552		
10,400.00	8,949.97	8,788.02	8,733.64	33.96	22.45	59.55	-504.14	770.91	2,036.18	1,987.40	48.78	41.744		
10,500.00	8,949.97	8,780.03	8,725.76	35.46	22.42	58.56	-503.51	769.73	2,134.05	2,084.29	49.75	42.892		
10,600.00	8,949.97	8,772.04	8,717.89	36.98	22.39	57.59	-502.87	768.55	2,232.07	2,181.35	50.73	44.002		
10,700.00	8,949.97	8,764.05	8,710.01	38.53	22.36	56.63	-502.23	767.38	2,330.24	2,278.55	51.69	45.077		
10,800.00	8,949.97	8,756.06	8,702.13	40.11	22.33	55.69	-501.59	766.20	2,428.53	2,375.88	52.65	46.122		
10,900.00	8,949.98	8,748.07	8,694.26	41.70	22.31	54.77	-500.95	765.02	2,526.93	2,473.33	53.60	47.142		
11,000.00	8,949.98	8,740.08	8,686.38	43.31	22.28	53.85	-500.31	763.85	2,625.43	2,570.89	54.54	48.138		
11,100.00	8,949.98	8,732.09	8,678.51	44.94	22.25	52.96	-499.68	762.67	2,724.01	2,668.55	55.46	49.114		
11,200.00	8,949.98	14,407.16	11,684.63	46.59	53.99	168.63	2,293.10	952.71	2,789.39	2,740.32	49.07	56.850		
11,300.00	8,949.98	14,507.16	11,684.40	48.24	55.57	168.63	2,393.10	952.71	2,789.16	2,738.75	50.41	55.331		
11,400.00	8,949.98	14,607.16	11,684.17	49.91	57.16	168.63	2,493.10	952.71	2,788.94	2,737.17	51.77	53.875		
11,500.00	8,949.98	14,707.16	11,683.94	51.59	58.77	168.63	2,593.10	952.71	2,788.71	2,735.57	53.14	52.480		
11,600.00	8,949.98	14,807.16	11,683.70	53.28	60.39	168.63	2,693.10	952.71	2,788.48	2,733.96	54.52	51.144		
11,700.00	8,949.98	14,907.16	11,683.47	54.98	62.02	168.63	2,793.10	952.71	2,788.26	2,732.34	55.92	49.863		
11,800.00	8,949.98	15,007.16	11,683.24	56.68	63.66	168.62	2,893.10	952.71	2,788.03	2,730.71	57.32	48.636		
11,900.00	8,949.99	15,107.16	11,683.01	58.40	65.32	168.62	2,993.10	952.71	2,787.80	2,729.06	58.74	47.459		
12,000.00	8,949.99	15,207.16	11,682.78	60.12	66.98	168.62	3,093.10	952.72	2,787.58	2,727.41	60.17	46.330		
12,100.00	8,949.99	15,307.16	11,682.55	61.84	68.64	168.62	3,193.10	952.72	2,787.35	2,725.75	61.60	45.247		
12,200.00	8,949.99	15,407.16	11,682.32	63.57	70.32	168.62	3,293.09	952.72	2,787.13	2,724.08	63.05	44.208		
12,300.00	8,949.99	15,507.16	11,682.09	65.31	72.01	168.62	3,393.09	952.72	2,786.90	2,722.40	64.50	43.210		
12,400.00	8,949.99	15,607.16	11,681.86	67.05	73.70	168.62	3,493.09	952.72	2,786.67	2,720.72	65.95	42.252		
12,500.00	8,949.99	15,707.16	11,681.62	68.80	75.39	168.62	3,593.09	952.72	2,786.45	2,719.03	67.42	41.330		
12,600.00	8,949.99	15,807.16	11,681.39	70.55	77.10	168.62	3,693.09	952.72	2,786.22	2,717.33	68.89	40.445		
12,700.00	8,949.99	15,907.16	11,681.16	72.30	78.81	168.61	3,793.09	952.73	2,785.99	2,715.63	70.37	39.593		
12,800.00	8,950.00	16,007.16	11,680.93	74.06	80.52	168.61	3,893.09	952.73	2,785.77	2,713.92	71.85	38.773		
12,900.00	8,950.00	16,107.16	11,680.70	75.82	82.24	168.61	3,993.09	952.73	2,785.54	2,712.21	73.34	37.983		
13,000.00	8,950.00	16,207.16	11,680.47	77.58	83.96	168.61	4,093.09	952.73	2,785.32	2,710.49	74.83	37.223		
13,100.00	8,950.00	16,307.16	11,680.24	79.35	85.69	168.61	4,193.09	952.73	2,785.09	2,708.76	76.33	36.490		
13,205.29	8,950.00	16,410.43	11,680.00	81.21	87.52	168.61	4,296.37	952.73	2,784.85	2,706.96	77.90	35.751		



LEAM Drilling Systems LLC
Anticollision Report



Company:	DEVON ENERGY	Local Co-ordinate Reference:	Well 320H (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:	320H (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)							
0.00	0.00	0.00	0.00	0.00	0.00	-0.16	50.00	-0.14	50.00	49.84	0.16	317.792			
100.00	100.00	100.00	100.00	0.08	0.08	-0.16	50.00	-0.14	50.00	49.39	0.61	82.391			
200.00	200.00	200.00	200.00	0.30	0.30	-0.16	50.00	-0.14	50.00	48.94	1.06	47.331			
300.00	300.00	300.00	300.00	0.53	0.53	-0.16	50.00	-0.14	50.00	48.49	1.51	33.202			
400.00	400.00	400.00	400.00	0.75	0.75	-0.16	50.00	-0.14	50.00	48.04	1.96	25.589			
500.00	500.00	500.00	500.00	0.98	0.98	-0.16	50.00	-0.14	50.00	47.60	2.40	20.790			
600.00	600.00	600.00	600.00	1.20	1.20	-0.16	50.00	-0.14	50.00	47.15	2.85	17.516			
700.00	700.00	700.00	700.00	1.43	1.43	-0.16	50.00	-0.14	50.00	46.70	3.30	15.133			
800.00	800.00	800.00	800.00	1.65	1.65	-0.16	50.00	-0.14	50.00	46.25	3.75	13.321			
900.00	900.00	900.00	900.00	1.88	1.88	-0.16	50.00	-0.14	50.00	45.80	4.20	11.896			
1,000.00	1,000.00	1,000.00	1,000.00	2.10	2.10	-0.16	50.00	-0.14	50.00	45.35	4.65	10.747			
1,100.00	1,100.00	1,100.00	1,100.00	2.33	2.33	-0.16	50.00	-0.14	50.00	44.90	5.10	9.800			
1,200.00	1,200.00	1,200.00	1,200.00	2.55	2.55	-0.16	50.00	-0.14	50.00	44.45	5.55	9.006			
1,300.00	1,300.00	1,300.00	1,300.00	2.78	2.78	-0.16	50.00	-0.14	50.00	44.00	6.00	8.332			
1,400.00	1,400.00	1,400.00	1,400.00	3.00	3.00	-0.16	50.00	-0.14	50.00	43.55	6.45	7.751			
1,500.00	1,500.00	1,500.00	1,500.00	3.23	3.23	-0.16	50.00	-0.14	50.00	43.10	6.90	7.246			
1,600.00	1,600.00	1,600.00	1,600.00	3.45	3.45	-0.16	50.00	-0.14	50.00	42.65	7.35	6.803			
1,700.00	1,700.00	1,700.00	1,700.00	3.67	3.67	-0.16	50.00	-0.14	50.00	42.20	7.80	6.411			
1,800.00	1,800.00	1,800.00	1,800.00	3.90	3.90	-0.16	50.00	-0.14	50.00	41.75	8.25	6.061			
1,900.00	1,900.00	1,900.00	1,900.00	4.12	4.12	-0.16	50.00	-0.14	50.00	41.30	8.70	5.748			
2,000.00	2,000.00	2,000.00	2,000.00	4.35	4.35	-0.16	50.00	-0.14	50.00	40.85	9.15	5.466			
2,100.00	2,100.00	2,100.00	2,100.00	4.57	4.57	-0.16	50.00	-0.14	50.00	40.40	9.60	5.210			
2,200.00	2,200.00	2,200.00	2,200.00	4.80	4.80	-0.16	50.00	-0.14	50.00	39.95	10.05	4.977			
2,300.00	2,300.00	2,300.00	2,300.00	5.02	5.02	-0.16	50.00	-0.14	50.00	39.50	10.50	4.763			
2,400.00	2,400.00	2,400.00	2,400.00	5.25	5.25	-0.16	50.00	-0.14	50.00	39.05	10.95	4.568			
2,500.00	2,500.00	2,500.00	2,500.00	5.47	5.47	-0.16	50.00	-0.14	50.00	38.60	11.40	4.388			
2,600.00	2,600.00	2,600.00	2,600.00	5.70	5.70	-0.16	50.00	-0.14	50.00	38.16	11.85	4.221			
2,700.00	2,700.00	2,700.00	2,700.00	5.92	5.92	-0.16	50.00	-0.14	50.00	37.71	12.29	4.067			
2,800.00	2,800.00	2,800.00	2,800.00	6.15	6.15	-0.16	50.00	-0.14	50.00	37.26	12.74	3.923			
2,900.00	2,900.00	2,900.00	2,900.00	6.37	6.37	-0.16	50.00	-0.14	50.00	36.81	13.19	3.790			
3,000.00	3,000.00	3,000.00	3,000.00	6.60	6.60	-0.16	50.00	-0.14	50.00	36.36	13.64	3.665			
3,100.00	3,100.00	3,100.00	3,100.00	6.82	6.82	-0.16	50.00	-0.14	50.00	35.91	14.09	3.548			
3,200.00	3,200.00	3,200.00	3,200.00	7.05	7.05	-0.16	50.00	-0.14	50.00	35.46	14.54	3.438			
3,300.00	3,300.00	3,300.00	3,300.00	7.27	7.27	-0.16	50.00	-0.14	50.00	35.01	14.99	3.335			
3,400.00	3,400.00	3,400.00	3,400.00	7.50	7.50	-0.16	50.00	-0.14	50.00	34.56	15.44	3.238			
3,500.00	3,500.00	3,500.00	3,500.00	7.72	7.72	-0.16	50.00	-0.14	50.00	34.11	15.89	3.146			
3,600.00	3,600.00	3,600.00	3,600.00	7.95	7.95	-0.16	50.00	-0.14	50.00	33.66	16.34	3.060			
3,700.00	3,700.00	3,700.00	3,700.00	8.17	8.17	-0.16	50.00	-0.14	50.00	33.21	16.79	2.978			
3,800.00	3,800.00	3,800.00	3,800.00	8.40	8.40	-0.16	50.00	-0.14	50.00	32.76	17.24	2.900			
3,900.00	3,900.00	3,900.00	3,900.00	8.62	8.62	-0.16	50.00	-0.14	50.00	32.31	17.69	2.827			
4,000.00	4,000.00	4,000.00	4,000.00	8.84	8.84	-0.16	50.00	-0.14	50.00	31.86	18.14	2.757			
4,100.00	4,100.00	4,100.00	4,100.00	9.07	9.07	-0.16	50.00	-0.14	50.00	31.41	18.59	2.690			
4,200.00	4,200.00	4,200.00	4,200.00	9.29	9.29	-0.16	50.00	-0.14	50.00	30.96	19.04	2.626			
4,300.00	4,300.00	4,300.00	4,300.00	9.52	9.52	-0.16	50.00	-0.14	50.00	30.51	19.49	2.562			
4,400.00	4,400.00	4,400.75	4,400.75	9.72	9.72	-115.69	49.22	-0.57	49.60	30.16	19.94	2.502			
4,500.00	4,499.96	4,501.40	4,501.36	9.91	9.89	-120.08	46.90	-1.85	48.61	28.81	19.80	2.455			
4,600.00	4,599.86	4,601.86	4,601.72	10.10	10.07	-127.70	43.04	-3.98	47.60	27.45	20.15	2.362			
4,650.68	4,650.46	4,652.66	4,652.43	10.20	10.16	-132.83	40.50	-5.38	47.41	27.08	20.33	2.332 CC, ES			
4,700.00	4,699.68	4,702.01	4,701.68	10.29	10.24	-138.56	37.65	-6.94	47.65	27.15	20.50	2.324 SF			
4,800.00	4,799.37	4,801.76	4,801.12	10.49	10.42	-151.77	30.77	-10.74	50.15	29.31	20.84	2.407			
4,900.00	4,898.90	4,901.02	4,899.92	10.69	10.60	-165.36	22.41	-15.34	56.37	35.20	21.17	2.663			
5,000.00	4,998.26	4,999.69	4,997.96	10.89	10.79	-177.35	12.62	-20.73	66.85	45.36	21.50	3.110			

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 320H (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:	320H (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: O-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)				
5,100.00	5,097.40	5,097.69	5,095.12	11.11	10.99	173.09	1.44	-26.89	81.50	59.66	21.84	3.732		
5,122.90	5,120.07	5,120.02	5,117.23	11.16	11.03	171.25	-1.31	-28.40	85.40	63.48	21.92	3.896		
5,200.00	5,196.38	5,195.00	5,191.37	11.33	11.19	165.81	-11.11	-33.80	99.40	77.18	22.23	4.472		
5,300.00	5,295.35	5,291.75	5,286.81	11.56	11.40	160.07	-25.00	-41.45	119.12	96.48	22.64	5.262		
5,400.00	5,394.32	5,387.99	5,381.47	11.80	11.61	155.39	-40.21	-49.82	140.47	117.41	23.06	6.091		
5,500.00	5,493.29	5,484.99	5,476.75	12.04	11.85	151.72	-56.12	-58.59	162.86	139.36	23.50	6.932		
5,600.00	5,592.26	5,581.99	5,572.03	12.28	12.09	148.94	-72.03	-67.35	185.74	161.80	23.94	7.760		
5,700.00	5,691.23	5,678.99	5,667.31	12.53	12.34	146.77	-87.94	-76.11	208.94	184.55	24.38	8.569		
5,800.00	5,790.20	5,775.99	5,762.60	12.79	12.59	145.03	-103.85	-84.88	232.37	207.53	24.84	9.356		
5,900.00	5,889.17	5,872.98	5,857.88	13.05	12.86	143.61	-119.76	-93.64	255.96	230.67	25.30	10.119		
6,000.00	5,988.14	5,969.98	5,953.16	13.31	13.13	142.43	-135.67	-102.40	279.68	253.92	25.76	10.856		
6,100.00	6,087.11	6,066.98	6,048.44	13.58	13.41	141.43	-151.58	-111.16	303.50	277.27	26.23	11.569		
6,200.00	6,186.08	6,163.98	6,143.73	13.85	13.69	140.58	-167.49	-119.93	327.39	300.68	26.71	12.257		
6,300.00	6,285.05	6,260.98	6,239.01	14.12	13.98	139.84	-183.40	-128.69	351.34	324.14	27.19	12.920		
6,400.00	6,384.02	6,357.97	6,334.29	14.40	14.27	139.20	-199.31	-137.45	375.33	347.65	27.68	13.559		
6,500.00	6,483.00	6,454.97	6,429.57	14.68	14.57	138.64	-215.22	-146.21	399.37	371.19	28.17	14.175		
6,600.00	6,581.97	6,551.97	6,524.85	14.96	14.88	138.14	-231.13	-154.98	423.43	394.76	28.67	14.768		
6,700.00	6,680.94	6,648.97	6,620.14	15.24	15.18	137.69	-247.04	-163.74	447.53	418.35	29.17	15.340		
6,800.00	6,779.91	6,745.96	6,715.42	15.53	15.50	137.29	-262.95	-172.50	471.65	441.96	29.68	15.891		
6,900.00	6,878.88	6,842.96	6,810.70	15.82	15.81	136.93	-278.86	-181.27	495.78	465.59	30.19	16.422		
7,000.00	6,977.85	6,939.96	6,905.98	16.11	16.13	136.60	-294.77	-190.03	519.94	489.23	30.71	16.933		
7,100.00	7,076.82	7,036.96	7,001.26	16.41	16.46	136.30	-310.68	-198.79	544.11	512.88	31.22	17.426		
7,200.00	7,175.79	7,133.96	7,096.55	16.70	16.78	136.02	-326.59	-207.55	568.29	536.54	31.74	17.902		
7,300.00	7,274.76	7,238.43	7,199.32	17.00	17.11	135.81	-343.02	-216.60	591.92	559.63	32.28	18.336		
7,383.03	7,356.93	7,326.23	7,285.94	17.25	17.37	135.73	-355.57	-223.51	610.53	577.80	32.73	18.655		
7,400.00	7,373.73	7,344.24	7,303.73	17.30	17.42	135.75	-357.99	-224.85	614.20	581.38	32.82	18.714		
7,500.00	7,472.86	7,450.88	7,409.28	17.55	17.73	135.86	-371.37	-232.22	634.32	600.97	33.36	19.016		
7,600.00	7,572.21	7,558.36	7,515.92	17.80	18.02	135.96	-383.11	-238.68	651.85	617.97	33.88	19.239		
7,700.00	7,671.73	7,666.56	7,623.51	18.04	18.30	136.03	-393.16	-244.22	666.74	632.35	34.39	19.387		
7,800.00	7,771.42	7,775.38	7,731.91	18.26	18.58	136.09	-401.46	-248.79	678.99	644.10	34.89	19.463		
7,900.00	7,871.22	7,884.69	7,840.97	18.48	18.83	136.14	-407.99	-252.38	688.57	653.20	35.36	19.471		
8,000.00	7,971.12	7,994.38	7,950.52	18.69	19.08	136.17	-412.71	-254.98	695.47	659.64	35.82	19.413		
8,100.00	8,071.08	8,104.32	8,060.41	18.89	19.31	136.19	-415.59	-256.57	699.67	663.41	36.27	19.293		
8,205.92	8,177.00	8,220.92	8,177.00	19.09	19.53	-109.70	-416.63	-257.14	701.19	664.48	36.71	19.103		
8,300.00	8,271.08	8,315.00	8,271.08	19.26	19.71	-109.70	-416.63	-257.14	701.19	664.12	37.07	18.914		
8,370.62	8,341.69	8,385.61	8,341.69	19.40	19.84	-109.70	-416.63	-257.14	701.19	663.83	37.36	18.768		
8,405.92	8,377.00	8,420.92	8,377.00	19.47	19.91	-109.70	-416.63	-257.14	701.19	663.68	37.50	18.696		
8,450.00	8,421.03	8,495.83	8,451.70	19.56	20.02	-109.58	-411.74	-257.14	700.79	663.09	37.70	18.588		
8,500.00	8,470.66	8,579.87	8,533.92	19.65	20.07	-109.17	-394.72	-257.14	699.40	661.57	37.83	18.489		
8,550.00	8,519.56	8,662.01	8,611.04	19.72	20.06	-108.49	-366.65	-257.14	697.10	659.23	37.87	18.409		
8,600.00	8,567.39	8,741.47	8,681.09	19.79	20.00	-107.57	-329.28	-257.14	694.04	656.20	37.84	18.341		
8,650.00	8,613.76	8,817.71	8,742.83	19.85	19.90	-106.46	-284.64	-257.15	690.40	652.62	37.78	18.273		
8,700.00	8,658.33	8,890.47	8,795.73	19.90	19.80	-105.19	-234.76	-257.15	686.39	648.67	37.72	18.196		
8,750.00	8,700.77	8,959.63	8,839.77	19.94	19.69	-103.81	-181.49	-257.15	682.21	644.52	37.69	18.101		
8,800.00	8,740.73	9,025.28	8,875.36	19.98	19.59	-102.34	-126.37	-257.15	678.05	640.34	37.70	17.984		
8,850.00	8,777.93	9,087.59	8,903.10	20.02	19.51	-100.82	-70.61	-257.15	674.07	636.30	37.77	17.845		
8,900.00	8,812.08	9,146.80	8,923.71	20.07	19.43	-99.25	-15.12	-257.15	670.43	632.51	37.91	17.683		
8,950.00	8,842.92	9,203.19	8,937.91	20.11	19.37	-97.66	39.43	-257.15	667.23	629.11	38.13	17.501		
9,000.00	8,870.21	9,257.03	8,946.40	20.17	19.37	-96.05	92.57	-257.15	664.58	626.17	38.40	17.305		
9,050.00	8,893.75	9,308.58	8,949.83	20.25	19.51	-94.43	143.99	-257.16	662.52	623.78	38.74	17.103		
9,100.00	8,913.35	9,355.76	8,949.96	20.35	19.70	-92.97	191.17	-257.16	661.15	622.03	39.12	16.899		
9,150.00	8,928.87	9,403.28	8,949.96	20.50	19.92	-91.76	238.69	-257.16	660.47	620.93	39.54	16.702		

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 320H (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:	320H (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						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	8,940.19	9,451.96	8,949.96	20.70	20.18	-90.83	287.37	-257.16	660.20	620.15	40.05	16.483	
9,250.00	8,947.23	9,501.45	8,949.96	20.95	20.46	-90.24	336.86	-257.16	660.14	619.54	40.59	16.263	
9,300.00	8,949.93	9,551.36	8,949.96	21.25	20.81	-90.00	386.77	-257.16	660.13	618.90	41.23	16.010	
9,305.92	8,949.96	9,557.28	8,949.96	21.28	20.85	-90.00	392.69	-257.16	660.13	618.82	41.31	15.980	
9,400.00	8,949.96	9,651.36	8,949.96	21.94	21.56	-90.00	486.77	-257.16	660.12	617.45	42.68	15.468	
9,500.00	8,949.96	9,751.36	8,949.96	22.77	22.42	-90.00	586.77	-257.17	660.12	615.75	44.38	14.876	
9,600.00	8,949.96	9,851.36	8,949.96	23.72	23.40	-90.00	686.77	-257.17	660.12	613.82	46.30	14.257	
9,700.00	8,949.96	9,951.36	8,949.96	24.76	24.46	-90.00	786.77	-257.17	660.11	611.69	48.43	13.631	
9,800.00	8,949.96	10,051.36	8,949.97	25.89	25.61	-90.00	886.77	-257.17	660.11	609.38	50.73	13.013	
9,900.00	8,949.96	10,151.36	8,949.97	27.10	26.84	-90.00	986.77	-257.18	660.11	606.93	53.18	12.413	
10,000.00	8,949.97	10,251.36	8,949.97	28.37	28.13	-90.00	1,086.77	-257.18	660.10	604.34	55.76	11.838	
10,100.00	8,949.97	10,351.36	8,949.97	29.70	29.47	-90.00	1,186.77	-257.18	660.10	601.64	58.46	11.291	
10,200.00	8,949.97	10,451.36	8,949.97	31.08	30.87	-90.00	1,286.77	-257.18	660.10	598.84	61.26	10.776	
10,300.00	8,949.97	10,551.36	8,949.97	32.50	32.30	-90.00	1,386.77	-257.18	660.09	595.95	64.14	10.291	
10,400.00	8,949.97	10,651.36	8,949.97	33.96	33.78	-90.00	1,486.77	-257.19	660.09	592.99	67.10	9.837	
10,500.00	8,949.97	10,751.36	8,949.97	35.46	35.29	-90.00	1,586.77	-257.19	660.09	589.96	70.13	9.413	
10,600.00	8,949.97	10,851.36	8,949.97	36.98	36.82	-90.00	1,686.77	-257.19	660.08	586.88	73.21	9.017	
10,700.00	8,949.97	10,951.36	8,949.97	38.53	38.38	-90.00	1,786.77	-257.19	660.08	583.74	76.34	8.647	
10,800.00	8,949.97	11,051.36	8,949.98	40.11	39.97	-90.00	1,886.77	-257.20	660.08	580.56	79.52	8.301	
10,900.00	8,949.98	11,151.36	8,949.98	41.70	41.57	-90.00	1,986.77	-257.20	660.07	577.34	82.73	7.978	
11,000.00	8,949.98	11,251.36	8,949.98	43.31	43.19	-90.00	2,086.77	-257.20	660.07	574.08	85.99	7.676	
11,100.00	8,949.98	11,351.36	8,949.98	44.94	44.83	-90.00	2,186.77	-257.20	660.07	570.80	89.27	7.394	
11,200.00	8,949.98	11,451.36	8,949.98	46.59	46.48	-90.00	2,286.77	-257.20	660.06	567.48	92.58	7.130	
11,300.00	8,949.98	11,551.36	8,949.98	48.24	48.14	-90.00	2,386.77	-257.21	660.06	564.14	95.92	6.882	
11,400.00	8,949.98	11,651.36	8,949.98	49.91	49.82	-90.00	2,486.77	-257.21	660.05	560.78	99.27	6.649	
11,500.00	8,949.98	11,751.36	8,949.98	51.59	51.50	-90.00	2,586.77	-257.21	660.05	557.40	102.65	6.430	
11,600.00	8,949.98	11,851.36	8,949.98	53.28	53.20	-90.00	2,686.77	-257.21	660.05	554.00	106.05	6.224	
11,700.00	8,949.98	11,951.36	8,949.98	54.98	54.90	-90.00	2,786.77	-257.22	660.04	550.58	109.46	6.030	
11,800.00	8,949.98	12,051.36	8,949.99	56.68	56.61	-90.00	2,886.77	-257.22	660.04	547.15	112.89	5.847	
11,900.00	8,949.99	12,151.36	8,949.99	58.40	58.33	-90.00	2,986.77	-257.22	660.04	543.70	116.33	5.674	
12,000.00	8,949.99	12,251.36	8,949.99	60.12	60.06	-90.00	3,086.77	-257.22	660.03	540.25	119.79	5.510	
12,100.00	8,949.99	12,351.36	8,949.99	61.84	61.79	-90.00	3,186.77	-257.23	660.03	536.78	123.25	5.355	
12,200.00	8,949.99	12,451.36	8,949.99	63.57	63.52	-90.00	3,286.77	-257.23	660.03	533.30	126.73	5.208	
12,300.00	8,949.99	12,551.36	8,949.99	65.31	65.26	-90.00	3,386.77	-257.23	660.02	529.81	130.22	5.069	
12,400.00	8,949.99	12,651.36	8,949.99	67.05	67.01	-90.00	3,486.77	-257.23	660.02	526.31	133.71	4.936	
12,500.00	8,949.99	12,751.36	8,949.99	68.80	68.76	-90.00	3,586.77	-257.23	660.02	522.80	137.22	4.810	
12,600.00	8,949.99	12,851.36	8,949.99	70.55	70.51	-90.00	3,686.77	-257.24	660.01	519.28	140.73	4.690	
12,700.00	8,949.99	12,951.36	8,950.00	72.30	72.27	-90.00	3,786.77	-257.24	660.01	515.76	144.25	4.576	
12,800.00	8,950.00	13,051.36	8,950.00	74.06	74.03	-90.00	3,886.77	-257.24	660.01	512.23	147.77	4.466	
12,900.00	8,950.00	13,151.36	8,950.00	75.82	75.79	-90.00	3,986.77	-257.24	660.00	508.70	151.30	4.362	
13,000.00	8,950.00	13,251.36	8,950.00	77.58	77.56	-90.00	4,086.77	-257.25	660.00	505.16	154.84	4.262	
13,100.00	8,950.00	13,351.36	8,950.00	79.35	79.33	-90.00	4,186.77	-257.25	660.00	501.61	158.38	4.167	
13,174.17	8,950.00	13,425.53	8,950.00	80.66	80.64	-90.00	4,260.94	-257.25	659.99	498.98	161.01	4.099	
13,205.29	8,950.00	13,452.65	8,950.00	81.21	81.12	-90.00	4,288.06	-257.25	660.00	497.96	162.05	4.073	

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 320H (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:	320H (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				Separation Factor	Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Between Centres (usft)		Between Ellipses (usft)	Minimum Separation (usft)					
0.00	0.00	0.00	0.00	0.00	0.00	126.60	-134.04	180.50	224.83					
100.00	100.00	100.00	100.00	0.08	0.08	126.60	-134.04	180.50	224.83	224.67	0.16	1,428.975		
200.00	200.00	200.00	200.00	0.30	0.30	126.60	-134.04	180.50	224.83	224.22	0.61	370.475		
300.00	300.00	300.00	300.00	0.53	0.53	126.60	-134.04	180.50	224.83	223.77	1.06	212.826		
400.00	400.00	400.00	400.00	0.75	0.75	126.60	-134.04	180.50	224.83	223.32	1.51	149.296		
500.00	500.00	500.00	500.00	0.98	0.98	126.60	-134.04	180.50	224.83	222.87	1.96	114.975		
600.00	600.00	600.00	600.00	1.20	1.20	126.60	-134.04	180.50	224.83	222.42	2.40	93.484		
700.00	700.00	700.00	700.00	1.43	1.43	126.60	-134.04	180.50	224.83	221.98	2.85	78.763		
800.00	800.00	800.00	800.00	1.65	1.65	126.60	-134.04	180.50	224.83	221.53	3.30	68.047		
900.00	900.00	900.00	900.00	1.88	1.88	126.60	-134.04	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	-134.04	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	-134.04	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	-134.04	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	-134.04	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	-134.04	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	-134.04	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	-134.04	180.50	224.83	217.93	6.90	32.583		
1,700.00	1,700.00	1,700.00	1,700.00	3.67	3.67	126.60	-134.04	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	-134.04	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	-134.04	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	-134.04	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	-134.04	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	-134.04	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	-134.04	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	-134.04	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	-134.04	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	-134.04	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	-134.04	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	-134.04	180.50	224.83	212.54	12.29	18.287		
2,900.00	2,900.00	2,900.00	2,900.00	6.37	6.37	126.60	-134.04	180.50	224.83	212.09	12.74	17.642		
3,000.00	3,000.00	3,000.00	3,000.00	6.60	6.60	126.60	-134.04	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	-134.04	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	-134.04	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	-134.04	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	-134.04	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	-134.04	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	-134.04	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	-134.04	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	-134.04	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	-134.04	180.50	224.83	207.59	17.24	13.042		
4,000.00	4,000.00	4,000.00	4,000.00	8.84	8.84	126.60	-134.04	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	-134.04	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	-134.04	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	-134.04	180.50	224.83	205.79	19.04	11.810 CC		
4,400.00	4,400.00	4,395.61	4,395.60	9.72	9.72	12.46	-134.34	181.44	224.95	205.52	19.44	11.574 ES		
4,500.00	4,499.96	4,491.20	4,491.15	9.91	9.90	12.36	-135.24	184.26	225.33	205.54	19.79	11.384		
4,600.00	4,599.86	4,586.78	4,586.60	10.10	10.08	12.18	-136.75	188.96	225.96	205.81	20.15	11.215		
4,700.00	4,699.68	4,682.34	4,681.91	10.29	10.27	11.94	-138.85	195.53	226.84	206.34	20.50	11.066		
4,800.00	4,799.37	4,777.87	4,777.02	10.49	10.46	11.62	-141.55	203.97	227.98	207.13	20.85	10.935		
4,900.00	4,898.90	4,873.36	4,871.89	10.69	10.66	11.25	-144.85	214.27	229.38	208.19	21.19	10.823		
5,000.00	4,998.26	4,968.80	4,966.47	10.89	10.86	10.81	-148.74	226.43	231.05	209.51	21.54	10.727		
5,100.00	5,097.40	5,064.18	5,060.72	11.11	11.08	10.31	-153.22	240.43	232.99	211.11	21.88	10.648		

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 320H (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:	320H (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		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)					
5,122.90	5,120.07	5,086.01	5,082.24	11.16	11.13	10.19	-154.33	243.89	233.47	211.51	21.96	10.632	
5,200.00	5,196.38	5,159.49	5,154.56	11.33	11.30	9.74	-158.28	256.26	235.71	213.45	22.26	10.589	
5,300.00	5,295.35	5,254.62	5,247.88	11.56	11.54	9.06	-163.93	273.89	240.40	217.75	22.65	10.612	
5,400.00	5,394.32	5,351.05	5,342.08	11.80	11.80	8.29	-170.21	293.53	247.01	223.96	23.05	10.715	
5,500.00	5,493.29	5,450.74	5,439.36	12.04	12.08	7.51	-176.85	314.27	254.13	230.67	23.46	10.831	
5,600.00	5,592.26	5,550.43	5,536.84	12.28	12.37	6.77	-183.49	335.01	261.30	237.42	23.88	10.943	
5,700.00	5,691.23	5,650.12	5,633.92	12.53	12.67	6.07	-190.12	355.75	268.50	244.21	24.30	11.051	
5,800.00	5,790.20	5,749.80	5,731.20	12.79	12.98	5.40	-196.76	376.49	275.75	251.03	24.72	11.156	
5,900.00	5,889.17	5,849.49	5,828.48	13.05	13.30	4.77	-203.40	397.23	283.03	257.88	25.14	11.257	
6,000.00	5,988.14	5,949.18	5,925.76	13.31	13.62	4.17	-210.04	417.97	290.34	264.77	25.57	11.355	
6,100.00	6,087.11	6,048.87	6,023.04	13.58	13.96	3.61	-216.67	438.71	297.68	271.68	26.00	11.449	
6,200.00	6,186.08	6,148.56	6,120.32	13.85	14.30	3.06	-223.31	459.45	305.05	278.61	26.43	11.540	
6,300.00	6,285.05	6,248.24	6,217.60	14.12	14.65	2.55	-229.95	480.19	312.44	285.57	26.87	11.628	
6,400.00	6,384.02	6,347.93	6,314.88	14.40	15.01	2.06	-236.59	500.93	319.86	292.55	27.31	11.713	
6,500.00	6,483.00	6,447.62	6,412.16	14.68	15.37	1.59	-243.22	521.67	327.30	299.55	27.75	11.795	
6,600.00	6,581.97	6,547.31	6,509.44	14.96	15.73	1.14	-249.86	542.41	334.77	306.57	28.19	11.874	
6,700.00	6,680.94	6,646.99	6,606.72	15.24	16.11	0.71	-256.50	563.15	342.25	313.61	28.64	11.950	
6,800.00	6,779.91	6,746.68	6,704.00	15.53	16.48	0.30	-263.14	583.89	349.75	320.66	29.09	12.023	
6,900.00	6,878.88	6,846.37	6,801.28	15.82	16.86	-0.10	-269.77	604.63	357.27	327.73	29.54	12.094	
7,000.00	6,977.85	6,946.06	6,898.56	16.11	17.25	-0.47	-276.41	625.37	364.80	334.81	29.99	12.162	
7,100.00	7,076.82	7,045.74	6,995.84	16.41	17.64	-0.84	-283.05	646.11	372.35	341.90	30.45	12.228	
7,200.00	7,175.79	7,145.43	7,093.12	16.70	18.03	-1.18	-289.69	666.85	379.91	349.00	30.91	12.292	
7,300.00	7,274.76	7,245.12	7,190.40	17.00	18.42	-1.52	-296.32	687.59	387.49	356.12	31.37	12.353	
7,383.03	7,356.93	7,327.89	7,271.17	17.25	18.76	-1.79	-301.83	704.81	393.79	362.04	31.75	12.403	
7,400.00	7,373.73	7,344.80	7,287.68	17.30	18.82	-1.84	-302.96	708.33	395.10	363.27	31.83	12.411	
7,500.00	7,472.66	7,444.40	7,384.86	17.55	19.23	-2.15	-309.59	729.05	403.87	371.55	32.32	12.495	
7,600.00	7,572.21	7,543.82	7,481.89	17.80	19.63	-2.43	-316.21	749.73	414.38	381.58	32.80	12.634	
7,700.00	7,671.73	7,643.05	7,578.72	18.04	20.03	-2.69	-322.82	770.38	426.63	393.36	33.27	12.825	
7,800.00	7,771.42	7,742.05	7,675.33	18.26	20.44	-2.93	-329.41	790.97	440.62	406.89	33.72	13.066	
7,900.00	7,871.22	7,840.79	7,771.69	18.48	20.85	-3.14	-335.98	811.52	456.34	422.17	34.17	13.355	
8,000.00	7,971.12	7,939.25	7,867.76	18.69	21.26	-3.32	-342.54	832.00	473.78	439.17	34.61	13.690	
8,100.00	8,071.08	8,037.39	7,963.53	18.89	21.67	-3.49	-349.07	852.42	492.94	457.90	35.03	14.071	
8,205.92	8,177.00	8,140.96	8,064.60	19.09	22.10	-3.65	-355.97	873.97	515.09	479.63	35.46	14.525	
8,300.00	8,271.08	8,232.76	8,154.19	19.26	22.49	-3.80	-362.08	893.07	535.62	499.74	35.88	14.929	
8,405.92	8,377.00	8,336.13	8,255.06	19.47	22.93	-3.95	-368.96	914.57	558.74	522.38	36.36	15.368	
8,450.00	8,421.03	8,378.99	8,296.88	19.56	23.11	-4.09	-371.82	923.49	568.92	532.42	36.50	15.587	
8,500.00	8,470.66	8,427.01	8,343.74	19.65	23.31	-4.23	-375.02	933.48	581.82	545.18	36.64	15.879	
8,550.00	8,519.56	8,497.03	8,412.17	19.72	23.58	-4.35	-376.41	948.07	595.40	558.60	36.81	16.177	
8,600.00	8,567.39	8,574.91	8,487.84	19.79	23.84	-4.46	-368.01	964.20	608.12	571.15	36.97	16.450	
8,650.00	8,613.76	8,655.43	8,564.14	19.85	24.07	-4.56	-348.38	980.47	619.71	582.59	37.12	16.693	
8,700.00	8,658.33	8,737.94	8,638.76	19.90	24.27	-4.65	-317.14	996.38	629.99	592.70	37.29	16.895	
8,750.00	8,700.77	8,821.63	8,709.17	19.94	24.43	-4.74	-274.60	1,011.39	638.81	601.33	37.48	17.046	
8,800.00	8,740.73	8,905.55	8,772.92	19.98	24.57	-4.82	-221.88	1,024.98	646.10	608.40	37.70	17.136	
8,850.00	8,777.93	8,988.69	8,828.01	20.02	24.69	-4.89	-160.81	1,036.72	651.86	613.87	38.00	17.156	
8,900.00	8,812.08	9,070.15	8,873.04	20.07	24.80	-4.95	-93.70	1,046.32	656.13	617.76	38.37	17.102	
8,950.00	8,842.92	9,149.16	8,907.41	20.11	24.91	-5.00	-23.01	1,053.65	659.01	620.22	38.79	16.990	
9,000.00	8,870.21	9,225.15	8,931.20	20.17	25.04	-5.04	48.93	1,058.72	660.64	621.33	39.31	16.808	
9,050.00	8,893.75	9,297.80	8,945.05	20.25	25.20	-5.06	120.13	1,061.68	661.17	621.28	39.89	16.577	
9,100.00	8,913.35	9,366.96	8,949.96	20.35	25.38	-5.07	189.07	1,062.72	660.76	620.23	40.53	16.304	
9,150.00	8,928.87	9,416.60	8,950.00	20.50	25.55	-5.07	238.70	1,062.73	660.09	619.00	41.10	16.062	
9,200.00	8,940.19	9,465.28	8,950.00	20.70	25.74	-5.04	287.39	1,062.73	659.83	618.13	41.70	15.823	
9,250.00	8,947.23	9,514.77	8,950.00	20.95	25.97	-5.00	336.87	1,062.73	659.77	617.42	42.35	15.578	

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 320H (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:	320H (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		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)						
9,277.17	8,949.24	9,541.86	8,950.00	21.11	26.11	90.07	363.96	1,062.73	659.76	617.02	42.74	15.436		
9,300.00	8,949.93	9,564.68	8,950.00	21.25	26.24	90.01	386.79	1,062.73	659.76	616.70	43.07	15.320		
9,305.92	8,949.96	9,570.60	8,950.00	21.28	26.27	90.00	392.70	1,062.73	659.76	616.61	43.15	15.290		
9,400.00	8,949.96	9,664.68	8,950.00	21.94	26.88	90.00	486.79	1,062.73	659.77	615.13	44.64	14.779		
9,500.00	8,949.96	9,764.68	8,950.00	22.77	27.64	90.00	586.79	1,062.73	659.78	613.32	46.45	14.204		
9,600.00	8,949.96	9,864.68	8,950.00	23.72	28.52	90.00	686.79	1,062.73	659.78	611.31	48.47	13.612		
9,700.00	8,949.96	9,964.68	8,950.00	24.76	29.51	90.00	786.79	1,062.73	659.79	609.11	50.67	13.020		
9,800.00	8,949.96	10,064.68	8,950.00	25.89	30.58	90.00	886.79	1,062.73	659.79	606.76	53.04	12.440		
9,900.00	8,949.96	10,164.68	8,950.00	27.10	31.72	90.00	986.79	1,062.73	659.80	604.26	55.54	11.879		
10,000.00	8,949.97	10,264.68	8,950.00	28.37	32.94	90.00	1,086.79	1,062.73	659.81	601.64	58.17	11.343		
10,100.00	8,949.97	10,364.68	8,950.00	29.70	34.21	90.00	1,186.79	1,062.73	659.81	598.91	60.90	10.834		
10,200.00	8,949.97	10,464.68	8,950.00	31.08	35.53	90.00	1,286.79	1,062.73	659.82	596.09	63.73	10.353		
10,300.00	8,949.97	10,564.68	8,950.00	32.50	36.90	90.00	1,386.79	1,062.73	659.82	593.19	66.64	9.902		
10,400.00	8,949.97	10,664.68	8,950.00	33.96	38.31	90.00	1,486.79	1,062.73	659.83	590.21	69.61	9.478		
10,500.00	8,949.97	10,764.68	8,950.00	35.46	39.75	90.00	1,586.79	1,062.73	659.83	587.18	72.65	9.082		
10,600.00	8,949.97	10,864.68	8,950.00	36.98	41.23	90.00	1,686.79	1,062.73	659.84	584.09	75.75	8.711		
10,700.00	8,949.97	10,964.68	8,950.00	38.53	42.73	90.00	1,786.79	1,062.73	659.85	580.96	78.89	8.364		
10,800.00	8,949.97	11,064.68	8,950.00	40.11	44.26	90.00	1,886.79	1,062.73	659.85	577.78	82.07	8.040		
10,900.00	8,949.98	11,164.68	8,950.00	41.70	45.81	90.00	1,986.79	1,062.73	659.86	574.56	85.30	7.736		
11,000.00	8,949.98	11,264.68	8,950.00	43.31	47.38	90.00	2,086.79	1,062.73	659.86	571.31	88.55	7.452		
11,100.00	8,949.98	11,364.68	8,950.00	44.94	48.96	90.00	2,186.79	1,062.73	659.87	568.03	91.84	7.185		
11,200.00	8,949.98	11,464.68	8,950.00	46.59	50.57	90.00	2,286.79	1,062.73	659.87	564.72	95.15	6.935		
11,300.00	8,949.98	11,564.68	8,950.00	48.24	52.18	90.00	2,386.79	1,062.73	659.88	561.39	98.49	6.700		
11,400.00	8,949.98	11,664.68	8,950.00	49.91	53.82	90.00	2,486.79	1,062.73	659.89	558.04	101.85	6.479		
11,500.00	8,949.98	11,764.68	8,950.00	51.59	55.46	90.00	2,586.79	1,062.73	659.89	554.66	105.23	6.271		
11,600.00	8,949.98	11,864.68	8,950.00	53.28	57.11	90.00	2,686.79	1,062.73	659.90	551.27	108.62	6.075		
11,700.00	8,949.98	11,964.68	8,950.00	54.98	58.78	90.00	2,786.79	1,062.73	659.90	547.87	112.04	5.890		
11,800.00	8,949.98	12,064.68	8,950.00	56.68	60.45	90.00	2,886.79	1,062.73	659.91	544.45	115.46	5.715		
11,900.00	8,949.99	12,164.68	8,950.00	58.40	62.14	90.00	2,986.79	1,062.73	659.92	541.01	118.91	5.550		
12,000.00	8,949.99	12,264.68	8,950.00	60.12	63.83	90.00	3,086.79	1,062.73	659.92	537.56	122.36	5.393		
12,100.00	8,949.99	12,364.68	8,950.00	61.84	65.53	90.00	3,186.79	1,062.73	659.93	534.10	125.82	5.245		
12,200.00	8,949.99	12,464.68	8,950.00	63.57	67.23	90.00	3,286.79	1,062.73	659.93	530.63	129.30	5.104		
12,300.00	8,949.99	12,564.68	8,950.00	65.31	68.94	90.00	3,386.79	1,062.73	659.94	527.15	132.78	4.970		
12,400.00	8,949.99	12,664.68	8,950.00	67.05	70.66	90.00	3,486.79	1,062.73	659.94	523.67	136.28	4.843		
12,500.00	8,949.99	12,764.68	8,950.00	68.80	72.38	90.00	3,586.79	1,062.73	659.95	520.17	139.78	4.721		
12,600.00	8,949.99	12,864.68	8,950.00	70.55	74.11	90.00	3,686.79	1,062.73	659.96	516.67	143.29	4.606		
12,700.00	8,949.99	12,964.68	8,950.00	72.30	75.84	90.00	3,786.79	1,062.73	659.96	513.16	146.81	4.495		
12,800.00	8,950.00	13,064.68	8,950.00	74.06	77.58	90.00	3,886.79	1,062.73	659.97	509.64	150.33	4.390		
12,900.00	8,950.00	13,164.68	8,950.00	75.82	79.32	90.00	3,986.79	1,062.73	659.97	506.11	153.86	4.289		
13,000.00	8,950.00	13,264.68	8,950.00	77.58	81.06	90.00	4,086.79	1,062.73	659.98	502.59	157.39	4.193		
13,100.00	8,950.00	13,364.68	8,950.00	79.35	82.81	90.00	4,186.79	1,062.73	659.99	499.05	160.93	4.101		
13,205.29	8,950.00	13,469.97	8,950.00	81.21	84.65	90.00	4,292.07	1,062.73	659.99	495.32	164.67	4.008 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 320H (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:	320H (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 (°)	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)				
0.00	0.00	0.00	0.00	0.00	0.00	-0.16	75.00	-0.21	75.00					
100.00	100.00	100.00	100.00	0.08	0.08	-0.16	75.00	-0.21	75.00	74.84	0.16	476.687		
200.00	200.00	200.00	200.00	0.30	0.30	-0.16	75.00	-0.21	75.00	74.39	0.61	123.586		
300.00	300.00	300.00	300.00	0.53	0.53	-0.16	75.00	-0.21	75.00	73.94	1.06	70.996		
400.00	400.00	400.00	400.00	0.75	0.75	-0.16	75.00	-0.21	75.00	73.49	1.51	49.803		
500.00	500.00	500.00	500.00	0.98	0.98	-0.16	75.00	-0.21	75.00	73.04	1.96	38.354		
600.00	600.00	600.00	600.00	1.20	1.20	-0.16	75.00	-0.21	75.00	72.60	2.40	31.185		
700.00	700.00	700.00	700.00	1.43	1.43	-0.16	75.00	-0.21	75.00	72.15	2.85	26.274		
800.00	800.00	800.00	800.00	1.65	1.65	-0.16	75.00	-0.21	75.00	71.70	3.30	22.699		
900.00	900.00	900.00	900.00	1.88	1.88	-0.16	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	-0.16	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	-0.16	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	-0.16	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	-0.16	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	-0.16	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	-0.16	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	-0.16	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	-0.16	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	-0.16	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	-0.16	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	-0.16	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	-0.16	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	-0.16	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	-0.16	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	-0.16	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	-0.16	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	-0.16	75.00	-0.21	75.00	63.60	11.40	6.581		
2,700.00	2,700.00	2,700.00	2,700.00	5.92	5.92	-0.16	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	-0.16	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	-0.16	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	-0.16	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	-0.16	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	-0.16	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	-0.16	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	-0.16	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	-0.16	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	-0.16	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	-0.16	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	-0.16	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	-0.16	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	-0.16	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	-0.16	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	-0.16	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	-0.16	75.00	-0.21	75.00	55.96	19.04	3.940		
4,400.00	4,400.00	4,401.29	4,401.29	9.72	9.72	-114.75	74.12	-0.03	74.50	55.06	19.44	3.832		
4,500.00	4,499.96	4,502.55	4,502.50	9.91	9.89	-116.25	71.49	0.51	73.01	53.22	19.79	3.688		
4,600.00	4,599.86	4,603.72	4,603.58	10.10	10.06	-118.89	67.12	1.41	70.66	50.50	20.15	3.506		
4,700.00	4,699.68	4,704.78	4,704.44	10.29	10.24	-122.86	61.00	2.66	67.62	47.11	20.51	3.297		
4,800.00	4,799.37	4,805.68	4,805.02	10.49	10.41	-128.47	53.16	4.28	64.24	43.38	20.87	3.079		
4,900.00	4,898.90	4,906.38	4,905.25	10.69	10.60	-136.04	43.60	6.24	61.03	39.82	21.21	2.877		
5,000.00	4,998.26	5,006.86	5,005.07	10.89	10.78	-145.79	32.34	8.55	58.74	37.20	21.54	2.727		
5,051.09	5,048.94	5,057.84	5,055.64	11.00	10.88	-151.52	26.04	9.85	58.29	36.59	21.70	2.686 CC, ES, 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 320H (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:	320H (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	5,106.40	5,103.80	11.11	10.97	-157.19	19.99	11.09	58.77	36.91	21.86	2.689		
5,122.90	5,120.07	5,129.12	5,126.34	11.16	11.02	-159.85	17.16	11.68	59.32	37.40	21.93	2.706		
5,200.00	5,196.38	5,205.63	5,202.23	11.33	11.17	-168.38	7.62	13.64	62.25	40.04	22.21	2.803		
5,300.00	5,295.35	5,304.86	5,300.65	11.56	11.38	-178.07	-4.74	16.18	67.88	45.29	22.59	3.005		
5,400.00	5,394.32	5,404.09	5,399.07	11.80	11.59	-173.89	-17.11	18.72	75.16	52.15	23.01	3.267		
5,500.00	5,493.29	5,503.32	5,497.50	12.04	11.80	-167.36	-29.47	21.26	83.64	60.20	23.44	3.569		
5,600.00	5,592.26	5,602.55	5,595.92	12.28	12.02	-162.09	-41.84	23.80	93.01	69.12	23.89	3.894		
5,700.00	5,691.23	5,701.77	5,694.34	12.53	12.24	-157.80	-54.20	26.34	103.02	78.67	24.35	4.232		
5,800.00	5,790.20	5,801.00	5,792.77	12.79	12.47	-154.28	-66.57	28.89	113.50	88.68	24.81	4.574		
5,900.00	5,889.17	5,900.23	5,891.19	13.05	12.71	-151.37	-78.93	31.43	124.33	99.04	25.29	4.916		
6,000.00	5,988.14	5,999.46	5,989.61	13.31	12.94	-148.92	-91.30	33.97	135.43	109.66	25.77	5.255		
6,100.00	6,087.11	6,098.69	6,088.03	13.58	13.18	-146.85	-103.66	36.51	146.74	120.47	26.26	5.587		
6,200.00	6,186.08	6,197.92	6,186.46	13.85	13.43	-145.07	-116.03	39.05	158.21	131.45	26.76	5.912		
6,300.00	6,285.05	6,297.15	6,284.88	14.12	13.67	-143.54	-128.39	41.60	169.81	142.55	27.26	6.229		
6,400.00	6,384.02	6,396.38	6,383.30	14.40	13.92	-142.20	-140.76	44.14	181.51	153.75	27.77	6.537		
6,500.00	6,483.00	6,495.61	6,481.73	14.68	14.18	-141.03	-153.12	46.68	193.30	165.02	28.28	6.836		
6,600.00	6,581.97	6,594.84	6,580.15	14.96	14.43	-139.99	-165.49	49.22	205.16	176.37	28.79	7.126		
6,700.00	6,680.94	6,694.07	6,678.57	15.24	14.69	-139.06	-177.85	51.76	217.08	187.77	29.31	7.406		
6,800.00	6,779.91	6,793.30	6,776.99	15.53	14.95	-138.23	-190.22	54.30	229.05	199.22	29.84	7.677		
6,900.00	6,878.88	6,892.52	6,875.42	15.82	15.21	-137.49	-202.58	56.85	241.07	210.70	30.36	7.939		
7,000.00	6,977.85	6,991.75	6,973.84	16.11	15.48	-136.81	-214.95	59.39	253.12	222.22	30.90	8.192		
7,100.00	7,076.82	7,090.98	7,072.26	16.41	15.75	-136.20	-227.32	61.93	265.20	233.77	31.43	8.437		
7,200.00	7,175.79	7,190.51	7,171.01	16.70	16.01	-135.67	-239.56	64.45	277.28	245.32	31.97	8.674		
7,300.00	7,274.76	7,290.52	7,270.39	17.00	16.27	-135.47	-250.44	66.68	289.17	256.68	32.49	8.900		
7,383.03	7,356.93	7,373.61	7,353.10	17.25	16.48	-135.57	-258.18	68.28	298.85	265.94	32.91	9.080		
7,400.00	7,373.73	7,390.60	7,370.03	17.30	16.52	-135.63	-259.62	68.57	300.79	267.79	33.00	9.115		
7,500.00	7,472.86	7,490.79	7,469.92	17.55	16.76	-136.01	-267.11	70.11	311.35	277.86	33.49	9.297		
7,600.00	7,572.21	7,591.11	7,570.07	17.80	16.99	-136.45	-272.89	71.30	320.43	286.47	33.96	9.435		
7,700.00	7,671.73	7,691.52	7,670.39	18.04	17.22	-136.96	-276.95	72.13	328.03	293.61	34.42	9.532		
7,800.00	7,771.42	7,791.99	7,770.83	18.26	17.43	-137.53	-279.30	72.62	334.16	299.31	34.85	9.589		
7,900.00	7,871.22	7,892.38	7,871.22	18.48	17.63	-138.16	-279.93	72.75	338.84	303.59	35.25	9.611		
8,000.00	7,971.12	7,992.28	7,971.12	18.69	17.83	-138.68	-279.93	72.75	342.18	306.53	35.65	9.597		
8,100.00	8,071.08	8,095.22	8,074.06	18.89	18.04	-139.04	-279.68	72.75	344.17	308.12	36.05	9.546		
8,205.92	8,177.00	8,220.43	8,197.82	19.09	18.20	-103.96	-262.36	72.75	340.94	304.60	36.34	9.382		
8,300.00	8,271.08	8,321.54	8,293.13	19.26	18.24	-98.40	-229.01	72.75	334.56	298.15	36.42	9.187		
8,405.92	8,377.00	8,418.80	8,377.92	19.47	18.23	-90.24	-181.62	72.75	330.26	293.85	36.41	9.071		
8,408.87	8,379.95	8,421.24	8,379.95	19.48	18.23	-90.00	-180.24	72.75	330.25	293.85	36.41	9.071		
8,450.00	8,421.03	8,454.82	8,407.11	19.56	18.22	-86.69	-160.52	72.75	331.04	294.64	36.40	9.095		
8,500.00	8,470.66	8,494.37	8,437.56	19.65	18.21	-82.72	-135.29	72.75	333.99	297.61	36.38	9.181		
8,550.00	8,519.56	8,532.72	8,465.35	19.72	18.20	-78.83	-108.88	72.75	338.90	302.55	36.34	9.325		
8,600.00	8,567.39	8,570.05	8,490.66	19.79	18.19	-75.08	-81.44	72.75	345.46	309.18	36.28	9.521		
8,650.00	8,613.76	8,606.51	8,513.59	19.85	18.20	-71.49	-53.10	72.75	353.37	317.19	36.17	9.769		
8,700.00	8,658.33	8,642.21	8,534.26	19.90	18.21	-68.10	-24.00	72.75	362.29	326.29	36.00	10.064		
8,750.00	8,700.77	8,677.26	8,552.74	19.94	18.23	-64.94	5.77	72.75	371.93	336.19	35.74	10.407		
8,800.00	8,740.73	8,711.74	8,569.12	19.98	18.26	-62.02	36.11	72.75	382.00	346.61	35.39	10.795		
8,850.00	8,777.93	8,750.00	8,585.13	20.02	18.31	-59.13	70.85	72.75	392.28	357.35	34.93	11.231		
8,900.00	8,812.08	8,779.30	8,595.79	20.07	18.37	-56.91	98.14	72.75	402.44	368.01	34.43	11.688		
8,950.00	8,842.92	8,812.49	8,606.17	20.11	18.45	-54.74	129.66	72.75	412.39	378.53	33.86	12.179		
9,000.00	8,870.21	8,850.00	8,615.68	20.17	18.55	-52.64	165.94	72.75	421.95	388.71	33.24	12.695		
9,050.00	8,893.75	8,877.97	8,621.22	20.25	18.65	-51.09	193.35	72.75	430.86	398.20	32.66	13.192		
9,100.00	8,913.35	8,910.34	8,625.95	20.35	18.77	-49.60	225.37	72.75	439.11	407.00	32.11	13.674		
9,150.00	8,928.87	8,950.00	8,629.27	20.50	18.94	-48.16	264.88	72.75	446.66	415.03	31.63	14.123		

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 320H (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:	320H (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		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)						
9,200.00	8,940.19	8,978.15	8,829.96	20.70	19.07	-47.18	293.02	72.75	453.13	421.84	31.29	14.481		
9,250.00	8,947.23	9,022.01	8,829.96	20.95	19.32	-46.28	336.88	72.75	457.94	426.79	31.15	14.700		
9,300.00	8,949.93	9,071.92	8,829.96	21.25	19.62	-45.90	386.79	72.75	459.81	428.48	31.34	14.674		
9,305.92	8,949.96	9,077.83	8,829.96	21.28	19.66	-45.90	392.70	72.75	459.83	428.45	31.38	14.654		
9,400.00	8,949.96	9,171.92	8,829.96	21.94	20.33	-45.90	486.79	72.75	459.83	427.45	32.38	14.200		
9,500.00	8,949.96	9,271.92	8,829.96	22.77	21.17	-45.90	586.79	72.75	459.82	426.18	33.64	13.667		
9,600.00	8,949.96	9,371.92	8,829.96	23.72	22.14	-45.90	686.79	72.75	459.82	424.73	35.09	13.105		
9,700.00	8,949.96	9,471.92	8,829.96	24.76	23.20	-45.90	786.79	72.75	459.82	423.13	36.69	12.533		
9,800.00	8,949.96	9,571.92	8,829.96	25.89	24.36	-45.90	886.79	72.75	459.81	421.38	38.43	11.965		
9,900.00	8,949.96	9,671.92	8,829.97	27.10	25.59	-45.90	986.79	72.75	459.81	419.51	40.29	11.411		
10,000.00	8,949.97	9,771.92	8,829.97	28.37	26.90	-45.90	1,086.79	72.75	459.80	417.54	42.26	10.880		
10,100.00	8,949.97	9,871.92	8,829.97	29.70	28.26	-45.90	1,186.79	72.75	459.80	415.48	44.32	10.374		
10,200.00	8,949.97	9,971.92	8,829.97	31.08	29.67	-45.90	1,286.79	72.75	459.79	413.33	46.46	9.896		
10,300.00	8,949.97	10,071.92	8,829.97	32.50	31.12	-45.90	1,386.79	72.75	459.79	411.12	48.67	9.447		
10,400.00	8,949.97	10,171.92	8,829.97	33.96	32.61	-45.90	1,486.79	72.75	459.79	408.85	50.94	9.027		
10,500.00	8,949.97	10,271.92	8,829.97	35.46	34.14	-45.89	1,586.79	72.75	459.78	406.53	53.26	8.633		
10,600.00	8,949.97	10,371.92	8,829.97	36.98	35.69	-45.89	1,686.79	72.75	459.78	404.16	55.62	8.266		
10,700.00	8,949.97	10,471.92	8,829.97	38.53	37.27	-45.89	1,786.79	72.75	459.77	401.75	58.03	7.923		
10,800.00	8,949.97	10,571.92	8,829.97	40.11	38.87	-45.89	1,886.79	72.75	459.77	399.30	60.47	7.603		
10,900.00	8,949.98	10,671.92	8,829.98	41.70	40.49	-45.89	1,986.79	72.75	459.77	396.82	62.94	7.305		
11,000.00	8,949.98	10,771.92	8,829.98	43.31	42.12	-45.89	2,086.79	72.75	459.76	394.32	65.44	7.026		
11,100.00	8,949.98	10,871.92	8,829.98	44.94	43.77	-45.89	2,186.79	72.75	459.76	391.79	67.97	6.765		
11,200.00	8,949.98	10,971.92	8,829.98	46.59	45.44	-45.89	2,286.79	72.75	459.75	389.24	70.51	6.520		
11,300.00	8,949.98	11,071.92	8,829.98	48.24	47.11	-45.89	2,386.79	72.75	459.75	386.67	73.08	6.291		
11,400.00	8,949.98	11,171.92	8,829.98	49.91	48.80	-45.89	2,486.79	72.75	459.75	384.08	75.66	6.076		
11,500.00	8,949.98	11,271.92	8,829.98	51.59	50.50	-45.89	2,586.79	72.75	459.74	381.48	78.26	5.874		
11,600.00	8,949.98	11,371.92	8,829.98	53.28	52.20	-45.89	2,686.79	72.75	459.74	378.86	80.88	5.685		
11,700.00	8,949.98	11,471.92	8,829.98	54.98	53.92	-45.89	2,786.79	72.75	459.73	376.23	83.50	5.506		
11,800.00	8,949.98	11,571.92	8,829.99	56.68	55.64	-45.89	2,886.79	72.75	459.73	373.59	86.14	5.337		
11,900.00	8,949.99	11,671.92	8,829.99	58.40	57.37	-45.89	2,986.79	72.75	459.72	370.93	88.79	5.178		
12,000.00	8,949.99	11,771.92	8,829.99	60.12	59.10	-45.89	3,086.79	72.75	459.72	368.27	91.45	5.027		
12,100.00	8,949.99	11,871.92	8,829.99	61.84	60.84	-45.89	3,186.79	72.75	459.72	365.60	94.12	4.885		
12,200.00	8,949.99	11,971.92	8,829.99	63.57	62.58	-45.89	3,286.79	72.74	459.71	362.92	96.79	4.749		
12,300.00	8,949.99	12,071.92	8,829.99	65.31	64.33	-45.89	3,386.79	72.74	459.71	360.23	99.48	4.621		
12,400.00	8,949.99	12,171.92	8,829.99	67.05	66.08	-45.89	3,486.79	72.74	459.70	357.54	102.17	4.499		
12,500.00	8,949.99	12,271.92	8,829.99	68.80	67.84	-45.88	3,586.79	72.74	459.70	354.83	104.87	4.384		
12,600.00	8,949.99	12,371.92	8,829.99	70.55	69.60	-45.88	3,686.79	72.74	459.70	352.13	107.57	4.274		
12,700.00	8,949.99	12,471.92	8,829.99	72.30	71.37	-45.88	3,786.79	72.74	459.69	349.41	110.28	4.169		
12,800.00	8,950.00	12,571.92	8,830.00	74.06	73.13	-45.88	3,886.79	72.74	459.69	346.70	112.99	4.068		
12,900.00	8,950.00	12,671.92	8,830.00	75.82	74.90	-45.88	3,986.79	72.74	459.68	343.97	115.71	3.973		
13,000.00	8,950.00	12,771.92	8,830.00	77.58	76.67	-45.88	4,086.79	72.74	459.68	341.25	118.43	3.881		
13,100.00	8,950.00	12,871.92	8,830.00	79.35	78.45	-45.88	4,186.79	72.74	459.67	338.52	121.16	3.794		
13,175.06	8,950.00	12,946.98	8,830.00	80.68	79.78	-45.88	4,261.85	72.74	459.67	336.46	123.21	3.731		
13,205.29	8,950.00	12,975.20	8,830.00	81.21	80.29	-45.88	4,290.07	72.74	459.68	335.67	124.01	3.707		



LEAM Drilling Systems LLC
Anticollision Report



Company:	DEVON ENERGY	Local Co-ordinate Reference:	Well 320H (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:	320H (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 - 328H (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	-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	12.28	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	4,400.18	4,400.17	9.72	9.73	-113.55	24.64	1.04	24.99	5.55	19.45	1.285 Level 3	
4,450.39	4,450.37	4,450.65	4,450.62	9.82	9.82	-112.65	24.18	2.43	24.99	5.35	19.64	1.273 Level 3, CC	
4,500.00	4,499.96	4,500.34	4,500.27	9.91	9.91	-111.42	23.54	4.36	25.00	5.17	19.82	1.261 Level 3	
4,600.00	4,599.86	4,600.47	4,600.23	10.10	10.11	-107.88	21.72	9.89	25.08	4.87	20.20	1.241 Level 2	
4,700.00	4,699.68	4,700.55	4,699.97	10.29	10.31	-102.99	19.17	17.63	25.35	4.76	20.59	1.231 Level 2, ES, SF	
4,800.00	4,799.37	4,800.55	4,799.42	10.49	10.51	-96.92	15.90	27.56	25.96	4.97	20.99	1.237 Level 2	
4,900.00	4,898.90	4,900.47	4,898.52	10.69	10.72	-89.99	11.92	39.67	27.08	5.68	21.40	1.265 Level 3	
5,000.00	4,998.26	5,000.28	4,997.19	10.89	10.94	-82.63	7.22	53.95	28.86	7.04	21.82	1.323 Level 3	

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



LEAM Drilling Systems LLC
Anticollision Report



Company: DEVON ENERGY
Project: Lea County, NM (NAD-83)
Reference Site: Cotton Draw Unit
Site Error: 0.00 usft
Reference Well: 320H (SIMOPS)
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Plan #1

Local Co-ordinate Reference: Well 320H (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 - 328H (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
5,100.00	5,097.40	5,100.00	5,095.40	11.11	11.17	-75.32	1.81	70.39	31.43	9.18	22.25	1.413	Level 3
5,122.90	5,120.07	5,122.78	5,117.77	11.16	11.23	-73.70	0.47	74.45	32.13	9.79	22.34	1.438	Level 3
5,200.00	5,196.38	5,199.73	5,193.27	11.33	11.42	-68.35	-4.18	88.57	34.83	12.16	22.67	1.536	
5,300.00	5,295.35	5,299.58	5,291.24	11.56	11.87	-62.54	-10.22	106.92	38.72	15.62	23.10	1.676	
5,400.00	5,394.32	5,399.44	5,389.20	11.80	11.94	-57.82	-16.26	125.27	42.93	19.41	23.53	1.825	
5,500.00	5,493.29	5,499.29	5,487.17	12.04	12.21	-53.97	-22.30	143.62	47.39	23.43	23.96	1.978	
5,600.00	5,592.26	5,599.15	5,585.14	12.28	12.50	-50.80	-28.34	161.98	52.02	27.62	24.40	2.132	
5,700.00	5,691.23	5,699.00	5,683.11	12.53	12.79	-48.14	-34.38	180.33	56.78	31.94	24.84	2.286	
5,800.00	5,790.20	5,798.86	5,781.08	12.79	13.09	-45.91	-40.42	198.68	61.65	36.36	25.28	2.438	
5,900.00	5,889.17	5,898.71	5,879.04	13.05	13.39	-44.00	-46.46	217.04	66.59	40.86	25.73	2.588	
6,000.00	5,988.14	5,998.57	5,977.01	13.31	13.70	-42.36	-52.51	235.39	71.60	45.42	26.18	2.734	
6,100.00	6,087.11	6,098.42	6,074.98	13.58	14.02	-40.93	-58.55	253.74	76.66	50.02	26.64	2.878	
6,200.00	6,186.08	6,198.28	6,172.95	13.85	14.34	-39.68	-64.59	272.10	81.76	54.66	27.10	3.017	
6,300.00	6,285.05	6,298.13	6,270.91	14.12	14.67	-38.58	-70.63	290.45	86.90	59.33	27.56	3.153	
6,400.00	6,384.02	6,397.99	6,368.88	14.40	15.00	-37.60	-76.67	308.80	92.06	64.03	28.03	3.285	
6,500.00	6,483.00	6,497.84	6,466.85	14.68	15.34	-36.72	-82.71	327.16	97.25	68.75	28.50	3.413	
6,600.00	6,581.97	6,597.70	6,564.82	14.96	15.68	-35.94	-88.75	345.51	102.46	73.49	28.97	3.537	
6,700.00	6,680.94	6,697.55	6,662.78	15.24	16.03	-35.23	-94.79	363.86	107.69	78.24	29.44	3.657	
6,800.00	6,779.91	6,797.41	6,760.75	15.53	16.37	-34.58	-100.83	382.22	112.93	83.01	29.92	3.774	
6,900.00	6,878.88	6,897.26	6,858.72	15.82	16.73	-34.00	-106.88	400.57	118.18	87.78	30.40	3.888	
7,000.00	6,977.85	6,997.11	6,956.69	16.11	17.08	-33.46	-112.92	418.92	123.45	92.57	30.88	3.998	
7,100.00	7,076.82	7,096.97	7,054.66	16.41	17.44	-32.97	-118.96	437.27	128.72	97.36	31.36	4.104	
7,200.00	7,175.79	7,196.82	7,152.62	16.70	17.80	-32.51	-125.00	455.63	134.01	102.16	31.85	4.207	
7,300.00	7,274.76	7,296.68	7,250.59	17.00	18.17	-32.09	-131.04	473.98	139.30	106.96	32.34	4.308	
7,383.03	7,356.93	7,379.59	7,331.93	17.25	18.47	-31.77	-136.06	489.22	143.70	110.95	32.74	4.389	
7,400.00	7,373.73	7,396.53	7,348.56	17.30	18.53	-31.70	-137.08	492.33	144.62	111.79	32.83	4.405	
7,500.00	7,472.86	7,496.32	7,446.46	17.55	18.90	-31.14	-143.12	510.67	150.92	117.61	33.31	4.531	
7,600.00	7,572.21	7,595.99	7,544.24	17.80	19.27	-30.32	-149.15	528.99	158.74	124.98	33.76	4.702	
7,700.00	7,671.73	7,695.50	7,641.87	18.04	19.64	-29.29	-155.17	547.28	168.11	133.92	34.19	4.917	
7,800.00	7,771.42	7,794.83	7,739.32	18.26	20.02	-28.11	-161.18	565.54	179.06	144.46	34.59	5.176	
7,900.00	7,871.22	7,893.94	7,836.56	18.48	20.39	-26.84	-167.17	583.76	191.62	156.64	34.98	5.478	
8,000.00	7,971.12	7,992.81	7,933.57	18.69	20.76	-25.53	-173.16	601.93	205.84	170.48	35.35	5.822	
8,100.00	8,071.08	8,091.41	8,030.30	18.89	21.14	-24.21	-179.12	620.05	221.73	186.01	35.72	6.208	
8,205.92	8,177.00	8,195.35	8,132.29	19.09	21.48	-23.09	-176.49	639.16	240.39	204.21	36.18	6.644	
8,300.00	8,271.08	8,284.19	8,217.90	19.26	21.73	-22.08	-159.42	655.21	258.60	221.84	36.76	7.035	
8,405.92	8,377.00	8,375.72	8,302.28	19.47	21.94	-21.17	-127.99	671.04	283.12	245.60	37.53	7.545	
8,450.00	8,421.03	8,411.11	8,333.42	19.56	22.02	-20.26	-112.22	676.88	295.10	257.15	37.95	7.776	
8,500.00	8,470.66	8,450.00	8,366.46	19.65	22.09	-19.35	-92.68	683.08	309.32	270.96	38.36	8.064	
8,550.00	8,519.56	8,489.05	8,398.25	19.72	22.16	-18.44	-70.81	689.04	323.88	285.24	38.84	8.382	
8,600.00	8,567.39	8,527.00	8,427.66	19.79	22.22	-17.53	-47.50	694.57	338.49	299.72	38.77	8.731	
8,650.00	8,613.76	8,564.39	8,455.10	19.85	22.28	-16.62	-22.64	699.72	352.90	314.17	38.73	9.112	
8,700.00	8,658.33	8,600.00	8,479.71	19.90	22.34	-15.71	2.68	704.34	366.91	328.40	38.51	9.527	
8,750.00	8,700.77	8,637.79	8,504.07	19.94	22.39	-14.80	31.20	708.92	380.33	342.20	38.13	9.974	
8,800.00	8,740.73	8,673.93	8,525.59	19.98	22.44	-13.89	59.94	712.97	393.01	355.42	37.59	10.454	
8,850.00	8,777.93	8,709.77	8,545.13	20.02	22.50	-12.98	89.75	716.65	404.83	367.83	37.00	10.940	
8,900.00	8,812.08	8,750.00	8,564.83	20.07	22.57	-12.07	124.62	720.35	415.71	379.43	36.28	11.458	
8,950.00	8,842.92	8,780.71	8,578.23	20.11	22.62	-11.16	152.13	722.88	425.47	389.89	35.58	11.958	
9,000.00	8,870.21	8,815.88	8,591.76	20.17	22.69	-10.25	184.49	725.43	434.11	399.22	34.90	12.440	
9,050.00	8,893.75	8,850.00	8,603.00	20.25	22.77	-9.34	216.63	727.55	441.56	407.26	34.30	12.874	
9,100.00	8,913.35	8,885.81	8,612.76	20.35	22.86	-8.43	251.03	729.40	447.75	413.90	33.86	13.225	
9,150.00	8,928.87	8,920.61	8,620.20	20.50	22.95	-7.52	285.00	730.81	452.65	419.04	33.61	13.468	
9,200.00	8,940.19	8,950.00	8,624.89	20.70	23.05	-6.61	313.99	731.70	456.27	422.69	33.58	13.587	

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 320H (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:	320H (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 - 328H (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		
9,250.00	8,947.23	8,990.04	8,628.92	20.95	23.19	45.98	353.81	732.47	458.45	424.59	33.86	13.539		
9,300.00	8,949.93	9,024.71	8,630.20	21.25	23.33	45.89	388.45	732.73	459.32	424.92	34.40	13.353		
9,305.92	8,949.96	9,030.36	8,630.21	21.28	23.35	45.88	394.09	732.74	459.33	424.85	34.49	13.319		
9,317.36	8,949.96	9,039.57	8,630.19	21.36	23.39	45.88	403.31	732.74	459.35	424.74	34.61	13.272		
9,400.00	8,949.96	9,122.21	8,629.97	21.94	23.81	45.86	485.95	732.74	459.51	423.89	35.62	12.902		
9,500.00	8,949.96	9,222.21	8,629.71	22.77	24.45	45.84	585.95	732.74	459.69	422.71	36.99	12.429		
9,600.00	8,949.96	9,322.21	8,629.45	23.72	25.24	45.82	685.95	732.74	459.88	421.37	38.51	11.941		
9,700.00	8,949.96	9,422.21	8,629.18	24.76	26.14	45.79	785.95	732.74	460.07	419.89	40.18	11.451		
9,800.00	8,949.96	9,522.21	8,628.92	25.89	27.15	45.77	885.94	732.74	460.25	418.29	41.96	10.969		
9,900.00	8,949.96	9,622.21	8,628.66	27.10	28.25	45.75	985.94	732.74	460.44	416.59	43.85	10.500		
10,000.00	8,949.97	9,722.21	8,628.40	28.37	29.43	45.73	1,085.94	732.74	460.63	414.79	45.84	10.050		
10,100.00	8,949.97	9,822.21	8,628.14	29.70	30.67	45.70	1,185.94	732.74	460.82	412.92	47.90	9.620		
10,200.00	8,949.97	9,922.21	8,627.88	31.08	31.97	45.68	1,285.94	732.74	461.01	410.97	50.04	9.214		
10,300.00	8,949.97	10,022.21	8,627.61	32.50	33.33	45.66	1,385.94	732.74	461.19	408.96	52.23	8.830		
10,400.00	8,949.97	10,122.21	8,627.35	33.96	34.72	45.63	1,485.94	732.74	461.38	406.90	54.48	8.468		
10,500.00	8,949.97	10,222.21	8,627.09	35.46	36.16	45.61	1,585.94	732.74	461.57	404.79	56.78	8.129		
10,600.00	8,949.97	10,322.21	8,626.83	36.98	37.63	45.59	1,685.94	732.74	461.76	402.64	59.12	7.810		
10,700.00	8,949.97	10,422.21	8,626.57	38.53	39.13	45.57	1,785.94	732.74	461.95	400.45	61.50	7.511		
10,800.00	8,949.97	10,522.21	8,626.30	40.11	40.65	45.54	1,885.94	732.74	462.13	398.23	63.91	7.231		
10,900.00	8,949.98	10,622.21	8,626.04	41.70	42.21	45.52	1,985.94	732.74	462.32	395.98	66.35	6.968		
11,000.00	8,949.98	10,722.20	8,625.78	43.31	43.78	45.50	2,085.94	732.74	462.51	393.70	68.81	6.722		
11,100.00	8,949.98	10,822.20	8,625.52	44.94	45.37	45.47	2,185.94	732.74	462.70	391.41	71.29	6.490		
11,200.00	8,949.98	10,922.20	8,625.26	46.59	46.98	45.45	2,285.94	732.74	462.89	389.09	73.80	6.272		
11,300.00	8,949.98	11,022.20	8,625.00	48.24	48.60	45.43	2,385.93	732.74	463.08	386.75	76.32	6.067		
11,400.00	8,949.98	11,122.20	8,624.73	49.91	50.24	45.41	2,485.93	732.74	463.26	384.40	78.86	5.874		
11,500.00	8,949.98	11,222.20	8,624.47	51.59	51.89	45.38	2,585.93	732.74	463.45	382.04	81.42	5.692		
11,600.00	8,949.98	11,322.20	8,624.21	53.28	53.55	45.36	2,685.93	732.74	463.64	379.66	83.98	5.521		
11,700.00	8,949.98	11,422.20	8,623.95	54.98	55.22	45.34	2,785.93	732.74	463.83	377.27	86.56	5.358		
11,800.00	8,949.98	11,522.20	8,623.69	56.68	56.90	45.32	2,885.93	732.74	464.02	374.87	89.15	5.205		
11,900.00	8,949.99	11,622.20	8,623.42	58.40	58.59	45.29	2,985.93	732.74	464.21	372.46	91.75	5.060		
12,000.00	8,949.99	11,722.20	8,623.16	60.12	60.29	45.27	3,085.93	732.74	464.40	370.04	94.36	4.922		
12,100.00	8,949.99	11,822.20	8,622.90	61.84	62.00	45.25	3,185.93	732.74	464.59	367.62	96.97	4.791		
12,200.00	8,949.99	11,922.20	8,622.64	63.57	63.71	45.23	3,285.93	732.74	464.78	365.18	99.59	4.667		
12,300.00	8,949.99	12,022.20	8,622.38	65.31	65.43	45.20	3,385.93	732.74	464.97	362.74	102.22	4.549		
12,400.00	8,949.99	12,122.20	8,622.12	67.05	67.15	45.18	3,485.93	732.74	465.16	360.30	104.86	4.436		
12,500.00	8,949.99	12,222.20	8,621.85	68.80	68.88	45.16	3,585.93	732.74	465.34	357.85	107.49	4.329		
12,600.00	8,949.99	12,322.20	8,621.59	70.55	70.62	45.14	3,685.93	732.74	465.53	355.40	110.14	4.227		
12,700.00	8,949.99	12,422.20	8,621.33	72.30	72.36	45.11	3,785.92	732.74	465.72	352.94	112.79	4.129		
12,800.00	8,950.00	12,522.20	8,621.07	74.06	74.10	45.09	3,885.92	732.74	465.91	350.48	115.44	4.036		
12,900.00	8,950.00	12,622.20	8,620.81	75.82	75.85	45.07	3,985.92	732.74	466.10	348.01	118.09	3.947		
13,000.00	8,950.00	12,722.20	8,620.55	77.58	77.60	45.05	4,085.92	732.74	466.29	345.54	120.75	3.862		
13,100.00	8,950.00	12,822.20	8,620.28	79.35	79.35	45.02	4,185.92	732.74	466.48	343.07	123.41	3.780		
13,205.29	8,950.00	12,927.49	8,620.01	81.21	81.20	45.00	4,291.21	732.74	466.68	340.47	126.22	3.697		

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 320H (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:	320H (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
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	4,398.92	4,398.91	9.72	9.71	86.70	-75.70	-0.27	75.36	55.92	19.44	3.877 ES	
4,500.00	4,499.96	4,497.73	4,497.69	9.91	9.89	69.54	-77.81	-1.72	76.57	56.78	19.79	3.868 SF	
4,600.00	4,599.86	4,596.34	4,596.20	10.10	10.06	74.03	-81.30	-4.14	79.00	58.84	20.16	3.919	
4,700.00	4,699.68	4,694.63	4,694.31	10.29	10.24	79.79	-86.18	-7.51	83.16	62.64	20.52	4.052	
4,800.00	4,799.37	4,792.50	4,791.89	10.49	10.41	86.29	-92.41	-11.81	89.63	68.74	20.90	4.290	
4,900.00	4,898.90	4,889.86	4,888.81	10.69	10.59	92.93	-99.96	-17.02	98.91	77.64	21.27	4.650	
5,000.00	4,998.26	4,986.60	4,984.96	10.89	10.78	99.21	-108.81	-23.14	111.29	89.64	21.65	5.141	
5,100.00	5,097.40	5,082.63	5,080.20	11.11	10.97	104.82	-118.91	-30.11	126.90	104.87	22.03	5.761	

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 320H (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:	320H (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 (°)	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)				
5,122.90	5,120.07	5,104.51	5,101.87	11.16	11.01	105.99	-121.40	-31.83	130.93	108.82	22.11	5.921		
5,200.00	5,196.38	5,177.95	5,174.52	11.33	11.17	109.59	-130.24	-37.94	145.55	123.15	22.41	6.496		
5,300.00	5,295.35	5,275.33	5,270.75	11.56	11.38	113.34	-142.49	-46.39	165.84	143.04	22.80	7.274		
5,400.00	5,394.32	5,372.74	5,367.02	11.80	11.59	116.27	-154.74	-54.85	186.67	163.47	23.20	8.046		
5,500.00	5,493.29	5,470.14	5,463.28	12.04	11.82	118.61	-166.99	-63.32	207.87	184.27	23.61	8.806		
5,600.00	5,592.26	5,567.55	5,559.54	12.28	12.04	120.51	-179.24	-71.78	229.35	205.33	24.02	9.548		
5,700.00	5,691.23	5,664.96	5,655.80	12.53	12.28	122.09	-191.50	-80.24	251.02	226.58	24.44	10.270		
5,800.00	5,790.20	5,762.37	5,752.07	12.79	12.52	123.42	-203.75	-88.70	272.86	247.98	24.87	10.970		
5,900.00	5,889.17	5,859.77	5,848.33	13.05	12.77	124.56	-216.00	-97.16	294.80	269.50	25.31	11.649		
6,000.00	5,988.14	5,957.18	5,944.59	13.31	13.02	125.53	-228.25	-105.62	316.85	291.10	25.75	12.305		
6,100.00	6,087.11	6,054.59	6,040.85	13.58	13.27	126.38	-240.50	-114.08	338.97	312.77	26.20	12.939		
6,200.00	6,186.08	6,152.00	6,137.12	13.85	13.53	127.12	-252.76	-122.55	361.15	334.50	26.65	13.551		
6,300.00	6,285.05	6,249.40	6,233.38	14.12	13.79	127.78	-265.01	-131.01	383.39	356.28	27.11	14.142		
6,400.00	6,384.02	6,346.81	6,329.64	14.40	14.06	128.37	-277.26	-139.47	405.66	378.09	27.57	14.713		
6,500.00	6,483.00	6,444.22	6,425.90	14.68	14.33	128.90	-289.51	-147.93	427.98	399.94	28.04	15.263		
6,600.00	6,581.97	6,541.63	6,522.17	14.96	14.61	129.37	-301.76	-156.39	450.32	421.81	28.51	15.794		
6,700.00	6,680.94	6,639.03	6,618.43	15.24	14.89	129.80	-314.02	-164.85	472.69	443.70	28.99	16.306		
6,800.00	6,779.91	6,736.44	6,714.69	15.53	15.17	130.19	-326.27	-173.31	495.09	465.62	29.47	16.800		
6,900.00	6,878.88	6,833.85	6,810.96	15.82	15.45	130.54	-338.52	-181.77	517.50	487.55	29.95	17.276		
7,000.00	6,977.85	6,931.25	6,907.22	16.11	15.74	130.87	-350.77	-190.24	539.93	509.49	30.44	17.736		
7,100.00	7,076.82	7,028.66	7,003.48	16.41	16.03	131.17	-363.02	-198.70	562.38	531.45	30.93	18.180		
7,200.00	7,175.79	7,126.07	7,099.74	16.70	16.32	131.45	-375.27	-207.16	584.84	553.41	31.43	18.609		
7,300.00	7,274.76	7,223.48	7,196.01	17.00	16.61	131.71	-387.53	-215.62	607.31	575.39	31.93	19.022		
7,383.03	7,356.93	7,304.35	7,275.93	17.25	16.86	131.91	-397.70	-222.64	625.98	593.64	32.34	19.355		
7,400.00	7,373.73	7,320.89	7,292.27	17.30	16.91	131.97	-399.78	-224.08	629.78	597.35	32.43	19.420		
7,500.00	7,472.66	7,418.49	7,388.72	17.55	17.21	132.28	-412.05	-232.56	651.50	618.58	32.93	19.786		
7,600.00	7,572.21	7,516.34	7,485.43	17.80	17.51	132.46	-424.36	-241.06	672.09	638.66	33.42	20.109		
7,700.00	7,671.73	7,614.43	7,582.37	18.04	17.81	132.52	-436.70	-249.58	691.51	657.60	33.91	20.393		
7,800.00	7,771.42	7,712.72	7,679.50	18.26	18.12	132.47	-449.06	-258.12	709.79	675.40	34.39	20.639		
7,900.00	7,871.22	7,811.18	7,776.80	18.48	18.43	132.31	-461.45	-266.67	726.91	692.05	34.86	20.850		
8,000.00	7,971.12	7,909.78	7,874.24	18.69	18.74	132.06	-473.85	-275.23	742.90	707.58	35.33	21.029		
8,100.00	8,071.08	8,008.49	7,971.79	18.89	19.05	131.72	-486.27	-283.81	757.78	722.00	35.78	21.178		
8,205.92	8,177.00	8,113.13	8,075.21	19.09	19.39	-114.64	-499.43	-292.90	772.34	736.09	36.25	21.308		
8,300.00	8,271.08	8,206.11	8,167.09	19.26	19.68	-115.17	-511.12	-300.97	784.77	748.12	36.66	21.408		
8,405.92	8,377.00	8,310.78	8,270.54	19.47	20.02	-115.76	-524.29	-310.07	798.85	761.72	37.13	21.512		
8,450.00	8,421.03	8,354.09	8,313.33	19.56	20.16	-115.49	-529.73	-313.83	805.46	768.16	37.31	21.591		
8,500.00	8,470.66	8,402.37	8,361.04	19.65	20.32	-115.27	-535.81	-318.02	814.77	777.32	37.45	21.758		
8,550.00	8,519.56	8,449.41	8,407.53	19.72	20.47	-115.10	-541.72	-322.11	826.04	788.51	37.53	22.009		
8,600.00	8,567.39	8,494.84	8,452.43	19.79	20.61	-114.92	-547.44	-326.06	839.36	801.79	37.57	22.341		
8,650.00	8,613.76	8,539.78	8,496.84	19.85	20.76	-114.74	-553.08	-329.95	854.81	817.23	37.57	22.751		
8,700.00	8,658.33	8,587.72	8,544.26	19.90	20.90	-114.64	-558.88	-333.95	872.25	834.70	37.55	23.229		
8,750.00	8,700.77	8,633.17	8,589.28	19.94	21.03	-114.43	-564.07	-337.54	891.70	854.19	37.51	23.771		
8,800.00	8,740.73	8,675.82	8,631.55	19.98	21.14	-114.02	-568.67	-340.72	913.27	875.78	37.49	24.360		
8,850.00	8,777.93	8,715.34	8,670.77	20.02	21.25	-113.35	-572.70	-343.50	937.01	899.50	37.51	24.978		
8,900.00	8,812.08	8,751.42	8,706.60	20.07	21.34	-112.34	-576.19	-345.91	962.97	925.35	37.62	25.597		
8,950.00	8,842.92	8,783.76	8,738.74	20.11	21.42	-110.90	-579.16	-347.96	991.13	953.29	37.84	26.190		
9,000.00	8,870.21	8,812.05	8,766.87	20.17	21.49	-108.95	-581.64	-349.67	1,021.43	983.22	38.21	26.731		
9,050.00	8,893.75	8,836.02	8,790.71	20.25	21.55	-106.40	-583.65	-351.06	1,053.77	1,015.04	38.73	27.210		
9,100.00	8,913.35	8,855.38	8,809.97	20.35	21.60	-103.14	-585.21	-352.14	1,087.97	1,048.60	39.37	27.636		
9,150.00	8,928.87	8,869.88	8,824.41	20.50	21.64	-99.10	-586.34	-352.92	1,123.83	1,083.77	40.06	28.053		
9,200.00	8,940.19	8,879.29	8,833.78	20.70	21.66	-94.24	-587.06	-353.42	1,161.08	1,120.40	40.68	28.542		
9,250.00	8,947.23	8,883.40	8,837.87	20.95	21.67	-88.58	-587.37	-353.63	1,199.43	1,158.38	41.06	29.213		

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 320H (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:	320H (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		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)		
9,300.00	8,949.93	8,882.03	8,836.51	21.25	21.67	-82.22	-587.27	-353.56	1,238.54	1,197.52		41.02	30.193		
9,305.92	8,949.96	8,881.50	8,835.98	21.28	21.67	-81.43	-587.23	-353.54	1,243.20	1,202.22		40.98	30.335		
9,400.00	8,949.96	8,872.27	8,826.79	21.94	21.64	-80.75	-586.53	-353.05	1,318.61	1,277.05		41.56	31.728		
9,500.00	8,949.96	8,862.10	8,816.67	22.77	21.62	-80.00	-585.74	-352.50	1,401.18	1,358.89		42.28	33.137		
9,600.00	8,949.96	11,229.22	10,134.97	23.72	27.26	-146.98	686.78	-367.28	1,413.32	1,377.84		35.48	39.836		
9,700.00	8,949.96	11,329.22	10,134.97	24.76	28.36	-146.98	786.78	-367.28	1,413.32	1,376.47		36.85	38.357		
9,800.00	8,949.96	11,429.22	10,134.97	25.89	29.53	-146.98	886.78	-367.27	1,413.32	1,375.01		38.31	36.893		
9,900.00	8,949.96	11,529.22	10,134.97	27.10	30.77	-146.98	986.78	-367.27	1,413.31	1,373.46		39.86	35.461		
10,000.00	8,949.97	11,629.22	10,134.97	28.37	32.06	-146.98	1,086.78	-367.27	1,413.31	1,371.83		41.48	34.075		
10,100.00	8,949.97	11,729.22	10,134.97	29.70	33.40	-146.98	1,186.78	-367.27	1,413.30	1,370.14		43.16	32.742		
10,200.00	8,949.97	11,829.22	10,134.97	31.08	34.78	-146.98	1,286.78	-367.27	1,413.30	1,368.39		44.91	31.469		
10,300.00	8,949.97	11,929.22	10,134.97	32.50	36.20	-146.98	1,386.78	-367.27	1,413.30	1,366.59		46.71	30.257		
10,400.00	8,949.97	12,029.22	10,134.97	33.96	37.66	-146.98	1,486.78	-367.27	1,413.29	1,364.74		48.55	29.107		
10,500.00	8,949.97	12,129.22	10,134.97	35.46	39.14	-146.98	1,586.78	-367.27	1,413.29	1,362.85		50.44	28.019		
10,600.00	8,949.97	12,229.22	10,134.97	36.98	40.66	-146.98	1,686.78	-367.27	1,413.29	1,360.92		52.36	26.990		
10,700.00	8,949.97	12,329.22	10,134.98	38.53	42.20	-146.98	1,786.78	-367.27	1,413.28	1,358.96		54.32	26.018		
10,800.00	8,949.97	12,429.22	10,134.98	40.11	43.76	-146.98	1,886.78	-367.27	1,413.28	1,356.97		56.30	25.101		
10,900.00	8,949.98	12,529.22	10,134.98	41.70	45.34	-146.98	1,986.78	-367.27	1,413.28	1,354.96		58.32	24.235		
11,000.00	8,949.98	12,629.22	10,134.98	43.31	46.93	-146.98	2,086.78	-367.27	1,413.27	1,352.92		60.35	23.417		
11,100.00	8,949.98	12,729.22	10,134.98	44.94	48.55	-146.98	2,186.78	-367.26	1,413.27	1,350.86		62.41	22.646		
11,200.00	8,949.98	12,829.22	10,134.98	46.59	50.18	-146.98	2,286.78	-367.26	1,413.26	1,348.78		64.48	21.916		
11,300.00	8,949.98	12,929.22	10,134.98	48.24	51.82	-146.98	2,386.78	-367.26	1,413.26	1,346.68		66.58	21.227		
11,400.00	8,949.98	13,029.22	10,134.98	49.91	53.47	-146.98	2,486.78	-367.26	1,413.26	1,344.57		68.69	20.575		
11,500.00	8,949.98	13,129.22	10,134.98	51.59	55.13	-146.98	2,586.78	-367.26	1,413.25	1,342.44		70.81	19.958		
11,600.00	8,949.98	13,229.22	10,134.98	53.28	56.81	-146.98	2,686.78	-367.26	1,413.25	1,340.30		72.95	19.373		
11,700.00	8,949.98	13,329.22	10,134.99	54.98	58.49	-146.98	2,786.78	-367.26	1,413.25	1,338.15		75.10	18.818		
11,800.00	8,949.98	13,429.22	10,134.99	56.68	60.18	-146.98	2,886.78	-367.26	1,413.24	1,335.98		77.26	18.292		
11,900.00	8,949.99	13,529.22	10,134.99	58.40	61.88	-146.98	2,986.78	-367.26	1,413.24	1,333.81		79.43	17.792		
12,000.00	8,949.99	13,629.22	10,134.99	60.12	63.59	-146.98	3,086.78	-367.26	1,413.24	1,331.62		81.61	17.317		
12,100.00	8,949.99	13,729.22	10,134.99	61.84	65.30	-146.98	3,186.78	-367.26	1,413.23	1,329.43		83.80	16.864		
12,200.00	8,949.99	13,829.22	10,134.99	63.57	67.02	-146.98	3,286.78	-367.26	1,413.23	1,327.23		86.00	16.434		
12,300.00	8,949.99	13,929.22	10,134.99	65.31	68.74	-146.98	3,386.78	-367.26	1,413.22	1,325.02		88.20	16.023		
12,400.00	8,949.99	14,029.22	10,134.99	67.05	70.47	-146.98	3,486.78	-367.26	1,413.22	1,322.81		90.41	15.631		
12,500.00	8,949.99	14,129.22	10,134.99	68.80	72.21	-146.98	3,586.78	-367.25	1,413.22	1,320.59		92.63	15.257		
12,600.00	8,949.99	14,229.22	10,134.99	70.55	73.95	-146.98	3,686.78	-367.25	1,413.21	1,318.36		94.85	14.899		
12,700.00	8,949.99	14,329.22	10,135.00	72.30	75.69	-146.98	3,786.78	-367.25	1,413.21	1,316.13		97.08	14.557		
12,800.00	8,950.00	14,429.22	10,135.00	74.06	77.44	-146.98	3,886.78	-367.25	1,413.21	1,313.89		99.32	14.229		
12,900.00	8,950.00	14,529.22	10,135.00	75.82	79.19	-146.98	3,986.78	-367.25	1,413.20	1,311.65		101.56	13.916		
13,000.00	8,950.00	14,629.22	10,135.00	77.58	80.94	-146.98	4,086.78	-367.25	1,413.20	1,309.40		103.80	13.615		
13,100.00	8,950.00	14,729.22	10,135.00	79.35	82.70	-146.98	4,186.78	-367.25	1,413.20	1,307.15		106.05	13.326		
13,174.22	8,950.00	14,803.44	10,135.00	80.66	84.00	-146.98	4,261.00	-367.25	1,413.19	1,305.48		107.72	13.119		
13,205.29	8,950.00	14,829.84	10,135.00	81.21	84.47	-146.98	4,287.40	-367.25	1,413.20	1,304.83		108.36	13.041		



LEAM Drilling Systems LLC
Anticollision Report



Company:	DEVON ENERGY	Local Co-ordinate Reference:	Well 320H (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:	320H (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		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	-50.00	0.14	50.00				
100.00	100.00	100.00	100.00	0.08	0.08	179.84	-50.00	0.14	50.00	49.84	0.16	317.792	
200.00	200.00	200.00	200.00	0.30	0.30	179.84	-50.00	0.14	50.00	49.39	0.61	82.391	
300.00	300.00	300.00	300.00	0.53	0.53	179.84	-50.00	0.14	50.00	48.94	1.06	47.331	
400.00	400.00	400.00	400.00	0.75	0.75	179.84	-50.00	0.14	50.00	48.49	1.51	33.202	
500.00	500.00	500.00	500.00	0.98	0.98	179.84	-50.00	0.14	50.00	48.04	1.96	25.570	
600.00	600.00	600.00	600.00	1.20	1.20	179.84	-50.00	0.14	50.00	47.60	2.40	20.790	
700.00	700.00	700.00	700.00	1.43	1.43	179.84	-50.00	0.14	50.00	47.15	2.85	17.516	
800.00	800.00	800.00	800.00	1.65	1.65	179.84	-50.00	0.14	50.00	46.70	3.30	15.133	
900.00	900.00	900.00	900.00	1.88	1.88	179.84	-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	179.84	-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	179.84	-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	179.84	-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	179.84	-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	179.84	-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	179.84	-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	179.84	-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	179.84	-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	179.84	-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	179.84	-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	179.84	-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	179.84	-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	179.84	-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	179.84	-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	179.84	-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	179.84	-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	179.84	-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	179.84	-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	179.84	-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	179.84	-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	179.84	-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	179.84	-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	179.84	-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	179.84	-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	179.84	-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	179.84	-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	179.84	-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	179.84	-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	179.84	-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	179.84	-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	179.84	-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	179.84	-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	179.84	-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	179.84	-50.00	0.14	50.00	30.96	19.04	2.626 CC	
4,400.00	4,400.00	4,399.36	4,399.36	9.72	9.72	65.97	-50.63	0.73	50.28	30.84	19.44	2.586 ES	
4,500.00	4,499.96	4,498.72	4,498.68	9.91	9.89	66.65	-52.52	2.49	51.12	31.32	19.80	2.582 SF	
4,600.00	4,599.86	4,598.06	4,597.92	10.10	10.07	67.74	-55.68	5.42	52.54	32.37	20.16	2.605	
4,700.00	4,699.68	4,697.38	4,697.06	10.29	10.25	69.16	-60.09	9.52	54.55	34.01	20.53	2.656	
4,800.00	4,799.37	4,796.67	4,796.05	10.49	10.44	70.84	-65.76	14.79	57.18	36.27	20.91	2.734	
4,900.00	4,898.90	4,895.93	4,894.85	10.69	10.62	72.68	-72.68	21.22	60.46	39.16	21.30	2.839	
5,000.00	4,998.26	4,995.14	4,993.44	10.89	10.82	74.62	-80.85	28.81	64.41	42.71	21.70	2.968	
5,100.00	5,097.40	5,094.31	5,091.77	11.11	11.02	76.56	-90.27	37.56	69.04	46.92	22.11	3.122	

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 320H (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:	320H (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								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		
5,122.90	5,120.07	5,117.01	5,114.24	11.16	11.07	77.01	-92.60	39.73	70.19	47.98	22.21	3.160		
5,200.00	5,196.38	5,193.43	5,189.81	11.33	11.23	78.12	-100.92	47.47	74.47	51.93	22.54	3.303		
5,300.00	5,295.35	5,292.46	5,287.51	11.56	11.46	78.50	-112.81	58.51	80.90	57.91	22.99	3.519		
5,400.00	5,394.32	5,391.59	5,385.01	11.80	11.69	77.92	-125.90	70.67	88.28	64.83	23.44	3.766		
5,500.00	5,493.29	5,491.29	5,482.99	12.04	11.94	77.21	-139.39	83.22	95.92	72.01	23.91	4.012		
5,600.00	5,592.26	5,590.99	5,580.98	12.28	12.19	76.60	-152.89	95.76	103.58	79.20	24.39	4.248		
5,700.00	5,691.23	5,690.69	5,678.96	12.53	12.45	76.07	-166.38	108.30	111.25	86.38	24.87	4.473		
5,800.00	5,790.20	5,790.39	5,776.94	12.79	12.73	75.62	-179.88	120.84	118.93	93.56	25.37	4.688		
5,900.00	5,889.17	5,890.09	5,874.93	13.05	13.00	75.21	-193.37	133.38	126.62	100.74	25.87	4.894		
6,000.00	5,988.14	5,989.79	5,972.91	13.31	13.29	74.86	-206.87	145.92	134.31	107.92	26.38	5.090		
6,100.00	6,087.11	6,089.49	6,070.90	13.58	13.58	74.54	-220.36	158.46	142.00	115.10	26.90	5.278		
6,200.00	6,186.08	6,189.19	6,168.88	13.85	13.88	74.26	-233.86	171.00	149.70	122.27	27.43	5.457		
6,300.00	6,285.05	6,288.90	6,266.86	14.12	14.18	74.00	-247.35	183.55	157.40	129.44	27.96	5.629		
6,400.00	6,384.02	6,388.60	6,364.85	14.40	14.49	73.77	-260.85	196.09	165.11	136.60	28.50	5.793		
6,500.00	6,483.00	6,488.30	6,462.83	14.68	14.80	73.56	-274.34	208.63	172.81	143.77	29.05	5.949		
6,600.00	6,581.97	6,588.00	6,560.81	14.96	15.12	73.36	-287.84	221.17	180.52	150.93	29.60	6.099		
6,700.00	6,680.94	6,687.70	6,658.80	15.24	15.44	73.18	-301.33	233.71	188.24	158.08	30.15	6.242		
6,800.00	6,779.91	6,787.40	6,756.78	15.53	15.77	73.02	-314.83	246.25	195.95	165.23	30.71	6.380		
6,900.00	6,878.88	6,887.10	6,854.76	15.82	16.10	72.87	-328.32	258.79	203.66	172.38	31.28	6.511		
7,000.00	6,977.85	6,986.80	6,952.75	16.11	16.43	72.73	-341.82	271.34	211.38	179.53	31.85	6.637		
7,100.00	7,076.82	7,086.50	7,050.73	16.41	16.77	72.60	-355.32	283.88	219.10	186.67	32.42	6.757		
7,200.00	7,175.79	7,186.20	7,148.72	16.70	17.11	72.48	-368.81	296.42	226.81	193.81	33.00	6.873		
7,300.00	7,274.76	7,285.90	7,246.70	17.00	17.45	72.36	-382.31	308.96	234.53	200.95	33.58	6.984		
7,383.03	7,356.93	7,368.68	7,328.05	17.25	17.74	72.27	-393.51	319.37	240.94	206.88	34.07	7.072		
7,400.00	7,373.73	7,385.60	7,344.68	17.30	17.80	72.26	-395.80	321.50	242.26	208.10	34.17	7.091		
7,500.00	7,472.66	7,485.26	7,442.63	17.55	18.15	71.99	-409.29	334.04	250.34	215.64	34.70	7.214		
7,600.00	7,572.21	7,584.84	7,540.49	17.80	18.50	71.37	-422.77	346.56	258.98	223.77	35.22	7.354		
7,700.00	7,671.73	7,684.30	7,638.24	18.04	18.85	70.45	-436.23	359.07	268.24	232.54	35.70	7.514		
7,800.00	7,771.42	7,783.62	7,735.84	18.26	19.21	69.27	-449.68	371.57	278.19	242.03	36.16	7.694		
7,900.00	7,871.22	7,882.76	7,833.28	18.48	19.56	67.86	-463.10	384.04	288.91	252.33	36.58	7.898		
8,000.00	7,971.12	7,981.70	7,930.51	18.69	19.92	66.26	-476.49	396.48	300.52	263.54	36.98	8.127		
8,100.00	8,071.08	8,080.40	8,027.52	18.89	20.28	64.52	-489.85	408.90	313.12	275.77	37.34	8.385		
8,205.92	8,177.00	8,184.66	8,129.98	19.09	20.66	176.64	-503.96	422.02	327.66	289.96	37.70	8.692		
8,300.00	8,271.08	8,277.12	8,220.85	19.26	21.00	174.79	-516.47	433.65	341.33	303.33	38.00	8.982		
8,405.92	8,377.00	8,381.76	8,323.68	19.47	21.38	172.87	-530.63	446.80	357.11	318.75	38.36	9.309		
8,450.00	8,421.03	8,427.20	8,368.40	19.56	21.52	172.04	-536.59	452.34	365.23	326.89	38.34	9.525		
8,500.00	8,470.66	8,478.07	8,418.51	19.65	21.68	171.20	-542.96	458.26	378.12	340.02	38.10	9.923		
8,550.00	8,519.56	8,527.90	8,467.68	19.72	21.83	170.47	-548.87	463.75	394.81	357.17	37.64	10.489		
8,600.00	8,567.39	8,576.37	8,515.58	19.79	21.97	169.82	-554.33	468.83	415.17	378.21	36.96	11.233		
8,650.00	8,613.76	8,623.18	8,561.90	19.85	22.10	169.23	-559.32	473.46	439.08	403.00	36.08	12.170		
8,700.00	8,658.33	8,668.01	8,606.30	19.90	22.23	168.68	-563.83	477.66	466.37	431.37	35.01	13.321		
8,750.00	8,700.77	8,710.55	8,648.48	19.94	22.35	168.13	-567.88	481.42	496.90	463.13	33.77	14.713		
8,800.00	8,740.73	8,750.49	8,688.12	19.98	22.45	167.53	-571.48	484.76	530.48	498.08	32.40	16.375		
8,850.00	8,777.93	8,787.54	8,724.92	20.02	22.55	166.82	-574.63	487.69	566.90	535.98	30.92	18.335		
8,900.00	8,812.08	8,821.41	8,758.58	20.07	22.64	165.93	-577.36	490.22	605.96	576.57	29.39	20.615		
8,950.00	8,842.92	8,851.80	8,788.80	20.11	22.71	164.75	-579.68	492.39	647.41	619.51	27.90	23.207		
9,000.00	8,870.21	8,878.46	8,815.33	20.17	22.78	163.11	-581.62	494.19	690.99	664.44	26.54	26.031		
9,050.00	8,893.75	8,901.11	8,837.88	20.25	22.84	160.68	-583.20	495.66	736.41	710.88	25.53	28.843		
9,100.00	8,913.35	8,919.53	8,856.22	20.35	22.88	156.85	-584.44	496.81	783.37	758.15	25.22	31.060		
9,150.00	8,928.87	8,933.49	8,870.13	20.50	22.92	150.15	-585.35	497.65	831.55	805.16	26.39	31.509		
9,200.00	8,940.19	8,942.80	8,879.40	20.70	22.94	136.64	-585.94	498.20	880.60	849.76	30.84	28.554		
9,250.00	8,947.23	8,947.27	8,883.85	20.95	22.95	105.73	-586.22	498.46	930.18	890.28	39.90	23.313		

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 320H (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:	320H (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)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
9,300.00	8,949.93	8,946.77	8,883.36	21.25	22.95	59.36	-586.19	498.43	979.91	941.60	38.31	25.578	
9,305.92	8,949.96	8,946.38	8,882.97	21.28	22.95	54.92	-586.16	498.41	985.79	948.65	37.14	26.543	
9,400.00	8,949.96	8,939.47	8,876.08	21.94	22.93	52.13	-585.73	498.01	1,079.25	1,042.36	36.89	29.253	
9,500.00	8,949.96	8,931.91	8,868.55	22.77	22.91	49.27	-585.25	497.56	1,178.66	1,141.99	36.67	32.141	
9,600.00	8,949.96	11,251.30	10,144.97	23.72	27.59	174.75	686.77	512.67	1,200.03	1,173.06	26.97	44.488	
9,700.00	8,949.96	11,351.30	10,144.97	24.76	28.68	174.75	786.77	512.67	1,200.03	1,172.21	27.82	43.135	
9,800.00	8,949.96	11,451.30	10,144.97	25.89	29.83	174.75	886.77	512.67	1,200.03	1,171.31	28.72	41.781	
9,900.00	8,949.96	11,551.30	10,144.97	27.10	31.04	174.75	986.77	512.67	1,200.03	1,170.36	29.67	40.441	
10,000.00	8,949.97	11,651.30	10,144.97	28.37	32.31	174.75	1,086.77	512.68	1,200.03	1,169.36	30.67	39.128	
10,100.00	8,949.97	11,751.30	10,144.97	29.70	33.62	174.75	1,186.77	512.68	1,200.03	1,168.33	31.71	37.848	
10,200.00	8,949.97	11,851.30	10,144.97	31.08	34.98	174.75	1,286.77	512.68	1,200.03	1,167.25	32.78	36.609	
10,300.00	8,949.97	11,951.30	10,144.97	32.50	36.38	174.75	1,386.77	512.68	1,200.03	1,166.15	33.89	35.414	
10,400.00	8,949.97	12,051.30	10,144.97	33.96	37.82	174.75	1,486.77	512.68	1,200.03	1,165.01	35.02	34.265	
10,500.00	8,949.97	12,151.30	10,144.97	35.46	39.29	174.75	1,586.77	512.69	1,200.04	1,163.85	36.19	33.164	
10,600.00	8,949.97	12,251.30	10,144.97	36.98	40.78	174.75	1,686.77	512.69	1,200.04	1,162.66	37.37	32.110	
10,700.00	8,949.97	12,351.30	10,144.98	38.53	42.30	174.75	1,786.77	512.69	1,200.04	1,161.46	38.58	31.104	
10,800.00	8,949.97	12,451.30	10,144.98	40.11	43.85	174.75	1,886.77	512.69	1,200.04	1,160.23	39.81	30.144	
10,900.00	8,949.98	12,551.30	10,144.98	41.70	45.41	174.75	1,986.77	512.69	1,200.04	1,158.98	41.06	29.229	
11,000.00	8,949.98	12,651.30	10,144.98	43.31	47.00	174.75	2,086.77	512.70	1,200.04	1,157.72	42.32	28.356	
11,100.00	8,949.98	12,751.30	10,144.98	44.94	48.60	174.75	2,186.77	512.70	1,200.04	1,156.44	43.60	27.525	
11,200.00	8,949.98	12,851.30	10,144.98	46.59	50.21	174.75	2,286.77	512.70	1,200.04	1,155.15	44.89	26.733	
11,300.00	8,949.98	12,951.30	10,144.98	48.24	51.84	174.75	2,386.77	512.70	1,200.04	1,153.85	46.19	25.978	
11,400.00	8,949.98	13,051.30	10,144.98	49.91	53.48	174.75	2,486.77	512.70	1,200.04	1,152.53	47.51	25.258	
11,500.00	8,949.98	13,151.30	10,144.98	51.59	55.14	174.75	2,586.77	512.71	1,200.04	1,151.20	48.84	24.572	
11,600.00	8,949.98	13,251.30	10,144.98	53.28	56.80	174.75	2,686.77	512.71	1,200.04	1,149.87	50.17	23.918	
11,700.00	8,949.98	13,351.30	10,144.99	54.98	58.47	174.75	2,786.77	512.71	1,200.04	1,148.52	51.52	23.294	
11,800.00	8,949.98	13,451.30	10,144.99	56.68	60.16	174.75	2,886.77	512.71	1,200.04	1,147.17	52.87	22.697	
11,900.00	8,949.99	13,551.30	10,144.99	58.40	61.85	174.75	2,986.77	512.71	1,200.04	1,145.81	54.23	22.128	
12,000.00	8,949.99	13,651.30	10,144.99	60.12	63.54	174.75	3,086.77	512.72	1,200.04	1,144.44	55.60	21.583	
12,100.00	8,949.99	13,751.30	10,144.99	61.84	65.25	174.74	3,186.77	512.72	1,200.05	1,143.07	56.97	21.063	
12,200.00	8,949.99	13,851.30	10,144.99	63.57	66.96	174.74	3,286.77	512.72	1,200.05	1,141.69	58.36	20.564	
12,300.00	8,949.99	13,951.30	10,144.99	65.31	68.68	174.74	3,386.77	512.72	1,200.05	1,140.31	59.74	20.087	
12,400.00	8,949.99	14,051.30	10,144.99	67.05	70.40	174.74	3,486.77	512.72	1,200.05	1,138.91	61.13	19.630	
12,500.00	8,949.99	14,151.30	10,144.99	68.80	72.13	174.74	3,586.77	512.73	1,200.05	1,137.52	62.53	19.192	
12,600.00	8,949.99	14,251.30	10,144.99	70.55	73.86	174.74	3,686.77	512.73	1,200.05	1,136.12	63.93	18.771	
12,700.00	8,949.99	14,351.30	10,145.00	72.30	75.59	174.74	3,786.77	512.73	1,200.05	1,134.71	65.34	18.367	
12,800.00	8,950.00	14,451.30	10,145.00	74.06	77.34	174.74	3,886.77	512.73	1,200.05	1,133.30	66.74	17.980	
12,900.00	8,950.00	14,551.30	10,145.00	75.82	79.08	174.74	3,986.77	512.73	1,200.05	1,131.89	68.16	17.607	
13,000.00	8,950.00	14,651.30	10,145.00	77.58	80.83	174.74	4,086.77	512.73	1,200.05	1,130.48	69.57	17.248	
13,100.00	8,950.00	14,751.30	10,145.00	79.35	82.58	174.74	4,186.77	512.74	1,200.05	1,129.06	70.99	16.903	
13,205.29	8,950.00	14,856.59	10,145.00	81.21	84.43	174.74	4,292.06	512.74	1,200.05	1,127.56	72.49	16.554	

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



LEAM Drilling Systems LLC
Anticollision Report

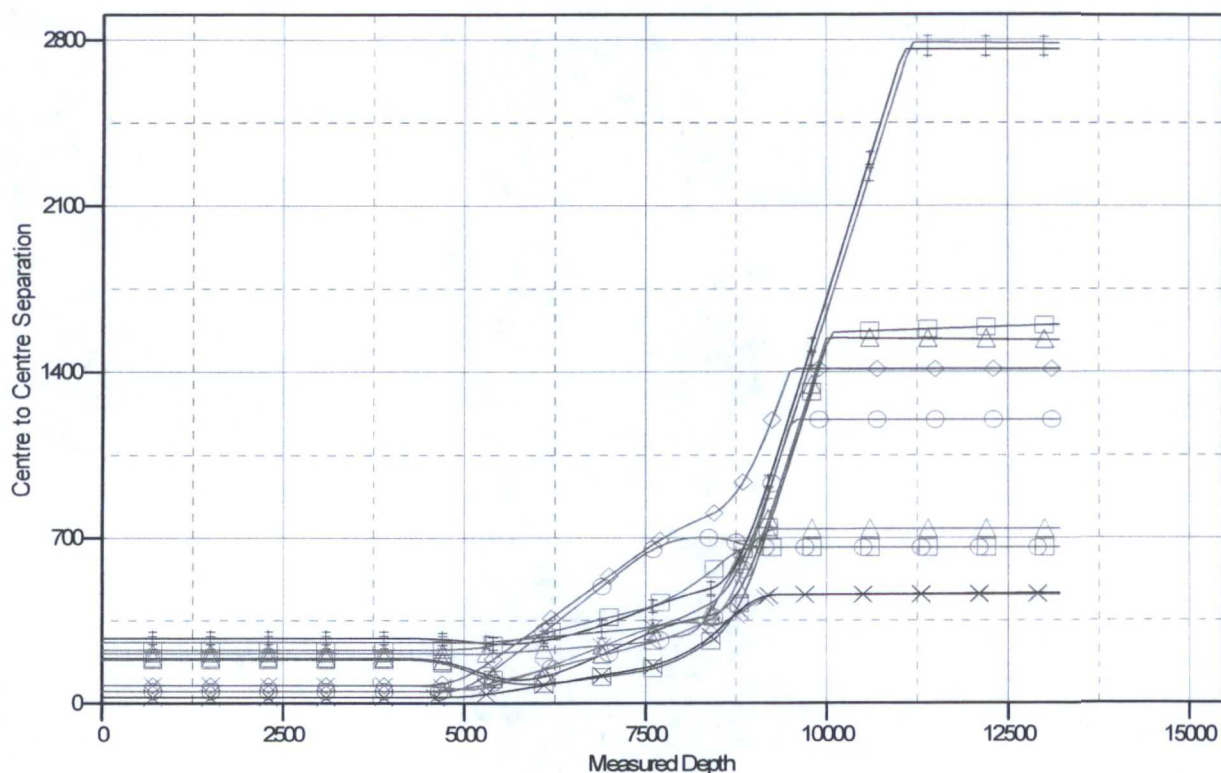


Company:	DEVON ENERGY	Local Co-ordinate Reference:	Well 320H (SIMOPS)
Project:	Lea County, NM (NAD-83)	TVD Reference:	3431.4' GE + 30' KB @ 3461.40usft
Reference Site:	Cotton Draw Unit	MD Reference:	3431.4' GE + 30' KB @ 3461.40usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	320H (SIMOPS)	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: 320H (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	✕ 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	✕ 328H (SIMOPS), OH, Plan #1 V0
✕ 286H (SIMOPS), OH, Plan #1 V0	✕ 333H (SIMOPS), OH, Plan #1 V0	

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



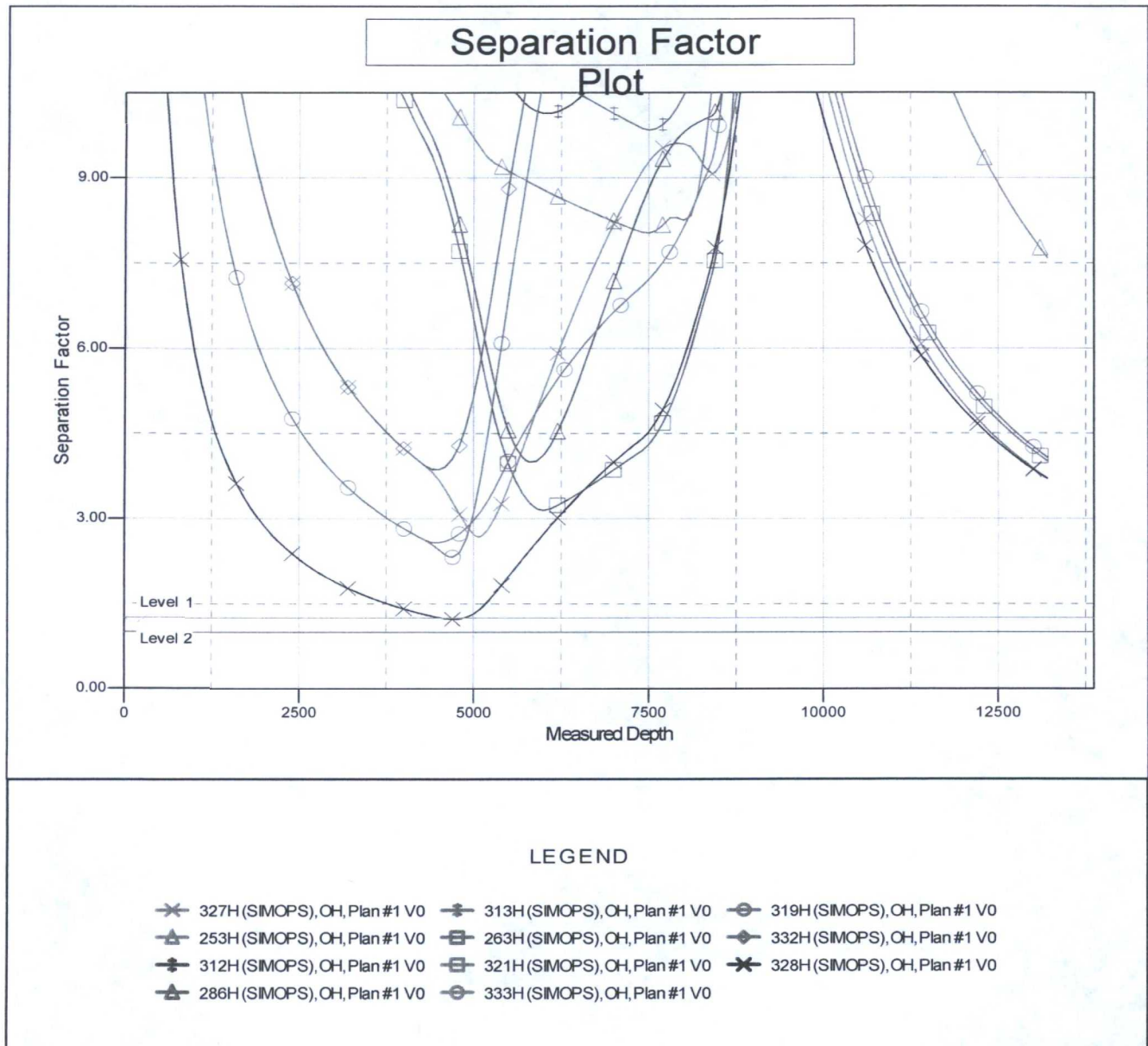
LEAM Drilling Systems LLC
Anticollision Report



Company:	DEVON ENERGY	Local Co-ordinate Reference:	Well 320H (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:	320H (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: 320H (SIMOPS)
Coordinate System is US State Plane 1983, New Mexico Eastern Zone
Grid Convergence at Surface is: 0.33°



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