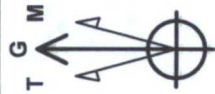




Project: Lea County, NM (NAD-83)
 Site: Cotton Draw Unit
 Well: 321H (SIMOPS)
 Wellbore: OH
 Design: Plan #1



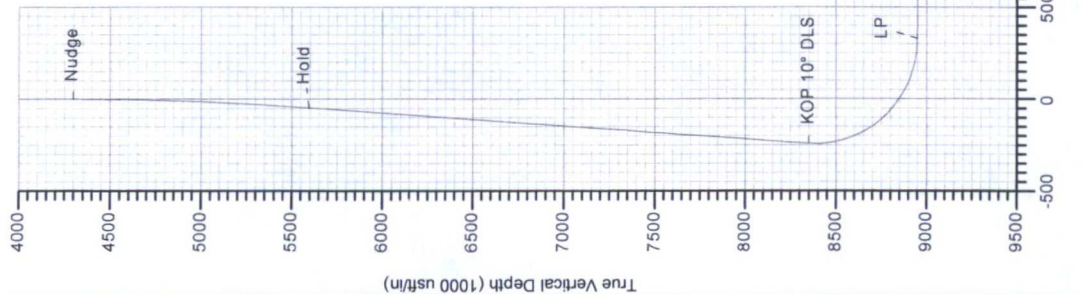
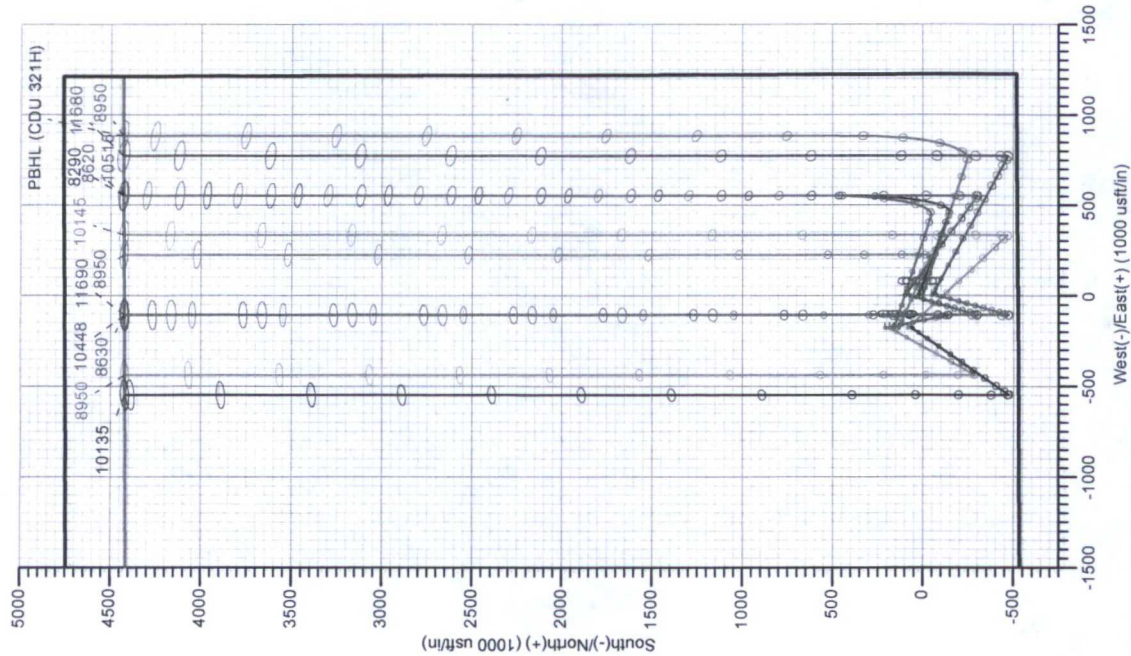
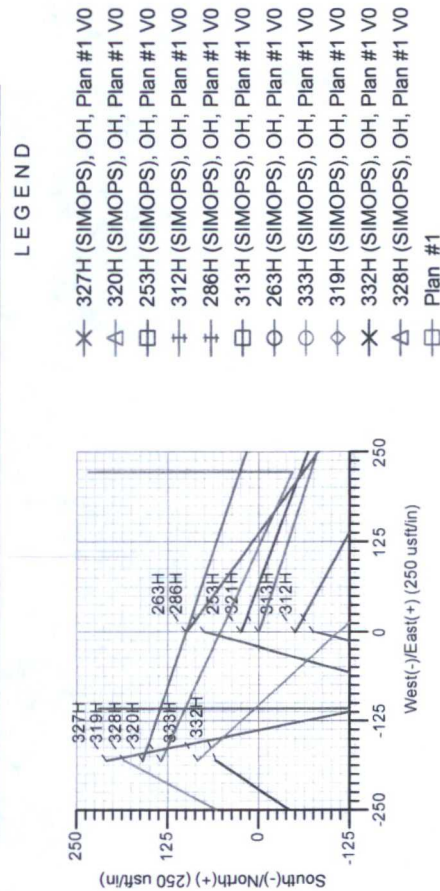
Azimuths to Grid North
 True North: -0.33°
 Magnetic North: 6.95°
 Magnetic Field
 Strength: 48101.0snT
 Dip Angle: 60.03°
 Date: 12/16/2015
 Model: BGGM2015



DESIGN TARGET DETAILS				
Name	TVD	+N/-S	+E/-W	Northing
SHL (CDU 321H)	0.00	0.00	0.00	414868.34
PBHL (CDU 321H)	8950.00	4430.12	882.23	419298.46

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
5606.45	13.06	107.84	5595.16	-45.44
8436.32	13.06	107.84	8351.78	-241.46
9376.03	90.00	0.00	8950.00	330.12
13476.03	90.00	0.00	8950.00	4430.12

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				





DEVON ENERGY

Lea County, NM (NAD-83)

Cotton Draw Unit

321H (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 321H (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:	321H (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	321H (SIMOPS)					
Well Position	+N/-S	726.09 usft	Northing:	414,868.34 usft	Latitude:	32° 8' 20.457 N
	+E/-W	372.78 usft	Easting:	734,340.21 usft	Longitude:	103° 42' 35.218 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	
5,606.45	13.06	107.84	5,595.16	-45.44	141.17	1.00	1.00	0.00	107.84	
8,436.32	13.06	107.84	8,351.78	-241.46	750.08	0.00	0.00	0.00	0.00	
9,376.03	90.00	0.00	8,950.00	330.12	882.23	10.00	8.19	-11.48	-107.41	
13,476.03	90.00	0.00	8,950.00	4,430.12	882.23	0.00	0.00	0.00	0.00	PBHL (CDU 321H)



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: 321H (SIMOPS)
Wellbore: OH
Design: Plan #1

Local Co-ordinate Reference: Well 321H (SIMOPS)
TVD Reference: 3431.4' GE + 30' KB @ 3461.40usft
MD Reference: 3431.4' GE + 30' KB @ 3461.40usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SHL (CDU 321H)									
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	107.84	4,400.00	-0.27	0.83	-0.27	1.00	1.00	0.00
4,500.00	2.00	107.84	4,499.96	-1.07	3.32	-1.07	1.00	1.00	0.00
4,600.00	3.00	107.84	4,599.86	-2.41	7.47	-2.41	1.00	1.00	0.00
4,700.00	4.00	107.84	4,699.68	-4.28	13.29	-4.28	1.00	1.00	0.00
4,800.00	5.00	107.84	4,799.37	-6.68	20.75	-6.68	1.00	1.00	0.00
4,900.00	6.00	107.84	4,898.90	-9.62	29.88	-9.62	1.00	1.00	0.00
5,000.00	7.00	107.84	4,998.26	-13.09	40.65	-13.09	1.00	1.00	0.00
5,100.00	8.00	107.84	5,097.40	-17.09	53.08	-17.09	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: 321H (SIMOPS)
Wellbore: OH
Design: Plan #1

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

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
5,200.00	9.00	107.84	5,196.30	-21.62	67.15	-21.62	1.00	1.00	0.00
5,300.00	10.00	107.84	5,294.93	-26.67	82.86	-26.67	1.00	1.00	0.00
5,400.00	11.00	107.84	5,393.26	-32.26	100.20	-32.26	1.00	1.00	0.00
5,500.00	12.00	107.84	5,491.25	-38.37	119.18	-38.37	1.00	1.00	0.00
5,606.45	13.06	107.84	5,595.16	-45.44	141.17	-45.44	1.00	1.00	0.00
Hold									
5,700.00	13.06	107.84	5,686.29	-51.92	161.30	-51.92	0.00	0.00	0.00
5,800.00	13.06	107.84	5,783.70	-58.85	182.82	-58.85	0.00	0.00	0.00
5,900.00	13.06	107.84	5,881.11	-65.78	204.33	-65.78	0.00	0.00	0.00
6,000.00	13.06	107.84	5,978.52	-72.70	225.85	-72.70	0.00	0.00	0.00
6,100.00	13.06	107.84	6,075.93	-79.63	247.37	-79.63	0.00	0.00	0.00
6,200.00	13.06	107.84	6,173.35	-86.56	268.89	-86.56	0.00	0.00	0.00
6,300.00	13.06	107.84	6,270.76	-93.48	290.40	-93.48	0.00	0.00	0.00
6,400.00	13.06	107.84	6,368.17	-100.41	311.92	-100.41	0.00	0.00	0.00
6,500.00	13.06	107.84	6,465.58	-107.34	333.44	-107.34	0.00	0.00	0.00
6,600.00	13.06	107.84	6,562.99	-114.26	354.96	-114.26	0.00	0.00	0.00
6,700.00	13.06	107.84	6,660.40	-121.19	376.47	-121.19	0.00	0.00	0.00
6,800.00	13.06	107.84	6,757.81	-128.12	397.99	-128.12	0.00	0.00	0.00
6,900.00	13.06	107.84	6,855.23	-135.04	419.51	-135.04	0.00	0.00	0.00
7,000.00	13.06	107.84	6,952.64	-141.97	441.03	-141.97	0.00	0.00	0.00
7,100.00	13.06	107.84	7,050.05	-148.90	462.54	-148.90	0.00	0.00	0.00
7,200.00	13.06	107.84	7,147.46	-155.82	484.06	-155.82	0.00	0.00	0.00
7,300.00	13.06	107.84	7,244.87	-162.75	505.58	-162.75	0.00	0.00	0.00
7,400.00	13.06	107.84	7,342.28	-169.68	527.10	-169.68	0.00	0.00	0.00
7,500.00	13.06	107.84	7,439.70	-176.60	548.61	-176.60	0.00	0.00	0.00
7,600.00	13.06	107.84	7,537.11	-183.53	570.13	-183.53	0.00	0.00	0.00
7,700.00	13.06	107.84	7,634.52	-190.46	591.65	-190.46	0.00	0.00	0.00
7,800.00	13.06	107.84	7,731.93	-197.38	613.17	-197.38	0.00	0.00	0.00
7,900.00	13.06	107.84	7,829.34	-204.31	634.68	-204.31	0.00	0.00	0.00
8,000.00	13.06	107.84	7,926.75	-211.24	656.20	-211.24	0.00	0.00	0.00
8,100.00	13.06	107.84	8,024.17	-218.16	677.72	-218.16	0.00	0.00	0.00
8,200.00	13.06	107.84	8,121.58	-225.09	699.24	-225.09	0.00	0.00	0.00
8,300.00	13.06	107.84	8,218.99	-232.02	720.75	-232.02	0.00	0.00	0.00
8,400.00	13.06	107.84	8,316.40	-238.94	742.27	-238.94	0.00	0.00	0.00
8,436.32	13.06	107.84	8,351.78	-241.46	750.08	-241.46	0.00	0.00	0.00
KOP 10° DLS									
8,450.00	12.72	101.90	8,365.12	-242.24	753.03	-242.24	10.00	-2.51	-43.41
8,500.00	12.68	79.02	8,413.92	-242.33	763.81	-242.33	10.00	-0.08	-45.77
8,550.00	14.46	58.96	8,462.55	-238.07	774.55	-238.07	10.00	3.55	-40.12
8,600.00	17.50	44.46	8,510.63	-229.47	785.17	-229.47	10.00	6.09	-29.00
8,650.00	21.28	34.54	8,557.80	-216.63	795.59	-216.63	10.00	7.56	-19.83
8,700.00	25.47	27.63	8,603.70	-199.61	805.73	-199.61	10.00	8.37	-13.83
8,750.00	29.89	22.60	8,647.97	-178.57	815.51	-178.57	10.00	8.85	-10.06
8,800.00	34.46	18.77	8,690.28	-153.66	824.86	-153.66	10.00	9.14	-7.64
8,850.00	39.13	15.76	8,730.31	-125.06	833.70	-125.06	10.00	9.33	-6.04
8,900.00	43.85	13.29	8,767.76	-93.00	841.97	-93.00	10.00	9.45	-4.93
8,950.00	48.62	11.22	8,802.33	-57.72	849.61	-57.72	10.00	9.54	-4.14
9,000.00	53.43	9.43	8,833.77	-19.49	856.55	-19.49	10.00	9.61	-3.58
9,050.00	58.26	7.85	8,861.84	21.40	862.75	21.40	10.00	9.65	-3.15
9,100.00	63.10	6.43	8,886.32	64.64	868.16	64.64	10.00	9.69	-2.84
9,150.00	67.96	5.13	8,907.03	109.91	872.73	109.91	10.00	9.71	-2.61
9,200.00	72.82	3.91	8,923.80	156.85	876.44	156.85	10.00	9.73	-2.43
9,250.00	77.70	2.76	8,936.52	205.10	879.25	205.10	10.00	9.75	-2.31
9,300.00	82.58	1.65	8,945.08	254.31	881.14	254.31	10.00	9.76	-2.22



LEAM Drilling Systems LLC

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

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
9,350.00	87.46	0.56	8,949.42	304.10	882.10	304.10	10.00	9.76	-2.17
9,376.03	90.00	0.00	8,950.00	330.12	882.23	330.12	10.00	9.76	-2.16
LP									
9,400.00	90.00	0.00	8,950.00	354.09	882.23	354.09	0.00	0.00	0.00
9,500.00	90.00	0.00	8,950.00	454.09	882.23	454.09	0.00	0.00	0.00
9,600.00	90.00	0.00	8,950.00	554.09	882.23	554.09	0.00	0.00	0.00
9,700.00	90.00	0.00	8,950.00	654.09	882.23	654.09	0.00	0.00	0.00
9,800.00	90.00	0.00	8,950.00	754.09	882.23	754.09	0.00	0.00	0.00
9,900.00	90.00	0.00	8,950.00	854.09	882.23	854.09	0.00	0.00	0.00
10,000.00	90.00	0.00	8,950.00	954.09	882.23	954.09	0.00	0.00	0.00
10,100.00	90.00	0.00	8,950.00	1,054.09	882.23	1,054.09	0.00	0.00	0.00
10,200.00	90.00	0.00	8,950.00	1,154.09	882.23	1,154.09	0.00	0.00	0.00
10,300.00	90.00	0.00	8,950.00	1,254.09	882.23	1,254.09	0.00	0.00	0.00
10,400.00	90.00	0.00	8,950.00	1,354.09	882.23	1,354.09	0.00	0.00	0.00
10,500.00	90.00	0.00	8,950.00	1,454.09	882.23	1,454.09	0.00	0.00	0.00
10,600.00	90.00	0.00	8,950.00	1,554.09	882.23	1,554.09	0.00	0.00	0.00
10,700.00	90.00	0.00	8,950.00	1,654.09	882.23	1,654.09	0.00	0.00	0.00
10,800.00	90.00	0.00	8,950.00	1,754.09	882.23	1,754.09	0.00	0.00	0.00
10,900.00	90.00	0.00	8,950.00	1,854.09	882.23	1,854.09	0.00	0.00	0.00
11,000.00	90.00	0.00	8,950.00	1,954.09	882.23	1,954.09	0.00	0.00	0.00
11,100.00	90.00	0.00	8,950.00	2,054.09	882.23	2,054.09	0.00	0.00	0.00
11,200.00	90.00	0.00	8,950.00	2,154.09	882.23	2,154.09	0.00	0.00	0.00
11,300.00	90.00	0.00	8,950.00	2,254.09	882.23	2,254.09	0.00	0.00	0.00
11,400.00	90.00	0.00	8,950.00	2,354.09	882.23	2,354.09	0.00	0.00	0.00
11,500.00	90.00	0.00	8,950.00	2,454.09	882.23	2,454.09	0.00	0.00	0.00
11,600.00	90.00	0.00	8,950.00	2,554.09	882.23	2,554.09	0.00	0.00	0.00
11,700.00	90.00	0.00	8,950.00	2,654.09	882.23	2,654.09	0.00	0.00	0.00
11,800.00	90.00	0.00	8,950.00	2,754.09	882.23	2,754.09	0.00	0.00	0.00
11,900.00	90.00	0.00	8,950.00	2,854.09	882.23	2,854.09	0.00	0.00	0.00
12,000.00	90.00	0.00	8,950.00	2,954.09	882.23	2,954.09	0.00	0.00	0.00
12,100.00	90.00	0.00	8,950.00	3,054.09	882.23	3,054.09	0.00	0.00	0.00
12,200.00	90.00	0.00	8,950.00	3,154.09	882.23	3,154.09	0.00	0.00	0.00
12,300.00	90.00	0.00	8,950.00	3,254.09	882.23	3,254.09	0.00	0.00	0.00
12,400.00	90.00	0.00	8,950.00	3,354.09	882.23	3,354.09	0.00	0.00	0.00
12,500.00	90.00	0.00	8,950.00	3,454.09	882.23	3,454.09	0.00	0.00	0.00
12,600.00	90.00	0.00	8,950.00	3,554.09	882.23	3,554.09	0.00	0.00	0.00
12,700.00	90.00	0.00	8,950.00	3,654.09	882.23	3,654.09	0.00	0.00	0.00
12,800.00	90.00	0.00	8,950.00	3,754.09	882.23	3,754.09	0.00	0.00	0.00
12,900.00	90.00	0.00	8,950.00	3,854.09	882.23	3,854.09	0.00	0.00	0.00
13,000.00	90.00	0.00	8,950.00	3,954.09	882.23	3,954.09	0.00	0.00	0.00
13,100.00	90.00	0.00	8,950.00	4,054.09	882.23	4,054.09	0.00	0.00	0.00
13,200.00	90.00	0.00	8,950.00	4,154.09	882.23	4,154.09	0.00	0.00	0.00
13,300.00	90.00	0.00	8,950.00	4,254.09	882.23	4,254.09	0.00	0.00	0.00
13,400.00	90.00	0.00	8,950.00	4,354.09	882.23	4,354.09	0.00	0.00	0.00
13,476.03	90.00	0.00	8,950.00	4,430.12	882.23	4,430.12	0.00	0.00	0.00

TD - PBHL (CDU 321H)



LEAM Drilling Systems LLC

Planning Report



Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well 321H (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:	321H (SIMOPS)	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1		

Design Targets

Target Name	Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
- hit/miss target	(°)	(°)	(usft)	(usft)	(usft)	(usft)	(usft)		
- Shape									
SHL (CDU 321H)	0.00	0.00	0.00	0.00	0.00	414,868.34	734,340.21	32° 8' 20.457 N	103° 42' 35.218 W
- plan hits target center									
- Point									
PBHL (CDU 321H)	0.00	0.00	8,950.00	4,430.12	882.23	419,298.46	735,222.43	32° 9' 4.245 N	103° 42' 24.657 W
- plan hits target center									
- Point									

Plan Annotations

Measured Depth	Vertical Depth	Local Coordinates		Comment
(usft)	(usft)	+N/-S (usft)	+E/-W (usft)	
4,300.00	4,300.00	0.00	0.00	Nudge
5,606.45	5,595.16	-45.44	141.17	Hold
8,436.32	8,351.78	-241.46	750.08	KOP 10° DLS
9,376.03	8,950.00	330.12	882.23	LP
13,476.03	8,950.00	4,430.12	882.23	TD



DEVON ENERGY

Lea County, NM (NAD-83)
Cotton Draw Unit
321H (SIMOPS)

OH
Plan #1

Anticollision Report

17 December, 2015



Company:	DEVON ENERGY	Local Co-ordinate Reference:	Well 321H (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:	321H (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	13,476.03	Plan #1 (OH)	LEAM MWD-ADJ	MWD - Standard	

Summary						
Site Name	Reference	Offset	Distance		Separation	Warning
	Measured	Measured	Between	Between		
Offset Well - Wellbore - Design	Depth	Depth	Centres	Ellipses	Factor	
	(usft)	(usft)	(usft)	(usft)		
Cotton Draw Unit						
253H (SIMOPS) - OH - Plan #1	5,342.97	5,344.39	21.56	-1.74	0.925	Level 1, CC
253H (SIMOPS) - OH - Plan #1	5,400.00	5,401.41	21.71	-1.83	0.922	Level 1, ES, SF
263H (SIMOPS) - OH - Plan #1	4,300.00	4,300.00	99.98	80.94	5.252	CC
263H (SIMOPS) - OH - Plan #1	4,400.00	4,400.00	100.25	80.79	5.150	ES
263H (SIMOPS) - OH - Plan #1	4,600.00	4,599.86	102.68	82.39	5.060	SF
286H (SIMOPS) - OH - Plan #1	4,823.61	4,827.87	66.20	45.24	3.159	CC, ES, SF
312H (SIMOPS) - OH - Plan #1	4,300.00	4,300.00	74.98	55.94	3.939	CC, ES
312H (SIMOPS) - OH - Plan #1	4,400.00	4,398.74	75.55	56.11	3.887	SF
313H (SIMOPS) - OH - Plan #1	4,300.00	4,300.00	49.99	30.95	2.626	CC
313H (SIMOPS) - OH - Plan #1	4,400.00	4,399.58	50.14	30.69	2.578	ES
313H (SIMOPS) - OH - Plan #1	4,600.00	4,598.74	51.31	31.12	2.541	SF
319H (SIMOPS) - OH - Plan #1	4,300.00	4,300.00	257.88	238.85	13.546	CC, ES
319H (SIMOPS) - OH - Plan #1	13,476.03	13,452.65	1,320.01	1,155.24	8.011	SF
320H (SIMOPS) - OH - Plan #1	5,145.57	5,176.94	220.92	198.74	9.959	CC, ES
320H (SIMOPS) - OH - Plan #1	13,476.03	13,205.29	660.00	495.27	4.006	SF
327H (SIMOPS) - OH - Plan #1	4,702.67	4,719.80	275.93	255.40	13.445	CC
327H (SIMOPS) - OH - Plan #1	4,800.00	4,820.89	276.04	255.18	13.229	ES
327H (SIMOPS) - OH - Plan #1	13,476.03	12,975.20	1,040.44	883.84	6.644	SF
328H (SIMOPS) - OH - Plan #1	5,419.33	5,460.39	212.00	188.67	9.088	CC, ES
328H (SIMOPS) - OH - Plan #1	13,476.03	12,930.36	466.69	343.75	3.796	SF
332H (SIMOPS) - OH - Plan #1	4,300.00	4,300.00	189.71	170.67	9.965	CC, ES
332H (SIMOPS) - OH - Plan #1	4,500.00	4,497.98	194.21	174.42	9.815	SF
333H (SIMOPS) - OH - Plan #1	4,300.00	4,300.00	198.98	179.94	10.452	CC
333H (SIMOPS) - OH - Plan #1	4,700.00	4,713.15	199.60	179.08	9.728	ES
333H (SIMOPS) - OH - Plan #1	5,400.00	5,431.58	210.28	187.29	9.147	SF

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	
0.00	0.00	0.00	0.00	0.00	0.00	-0.18	24.99	-0.08	24.99					
100.00	100.00	100.00	100.00	0.08	0.08	-0.18	24.99	-0.08	24.99	24.83	0.16	158.832		
200.00	200.00	200.00	200.00	0.30	0.30	-0.18	24.99	-0.08	24.99	24.38	0.61	41.179		

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 321H (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:	321H (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)						
300.00	300.00	300.00	300.00	0.53	0.53	-0.18	24.99	-0.08	24.99	23.93	1.06	23.656		
400.00	400.00	400.00	400.00	0.75	0.75	-0.18	24.99	-0.08	24.99	23.48	1.51	16.594		
500.00	500.00	500.00	500.00	0.98	0.98	-0.18	24.99	-0.08	24.99	23.03	1.96	12.780		
600.00	600.00	600.00	600.00	1.20	1.20	-0.18	24.99	-0.08	24.99	22.59	2.40	10.391		
700.00	700.00	700.00	700.00	1.43	1.43	-0.18	24.99	-0.08	24.99	22.14	2.85	8.755		
800.00	800.00	800.00	800.00	1.65	1.65	-0.18	24.99	-0.08	24.99	21.69	3.30	7.563		
900.00	900.00	900.00	900.00	1.88	1.88	-0.18	24.99	-0.08	24.99	21.24	3.75	6.658		
1,000.00	1,000.00	1,000.00	1,000.00	2.10	2.10	-0.18	24.99	-0.08	24.99	20.79	4.20	5.946		
1,100.00	1,100.00	1,100.00	1,100.00	2.33	2.33	-0.18	24.99	-0.08	24.99	20.34	4.65	5.371		
1,200.00	1,200.00	1,200.00	1,200.00	2.55	2.55	-0.18	24.99	-0.08	24.99	19.89	5.10	4.898		
1,300.00	1,300.00	1,300.00	1,300.00	2.78	2.78	-0.18	24.99	-0.08	24.99	19.44	5.55	4.501		
1,400.00	1,400.00	1,400.00	1,400.00	3.00	3.00	-0.18	24.99	-0.08	24.99	18.99	6.00	4.164		
1,500.00	1,500.00	1,500.00	1,500.00	3.23	3.23	-0.18	24.99	-0.08	24.99	18.54	6.45	3.874		
1,600.00	1,600.00	1,600.00	1,600.00	3.45	3.45	-0.18	24.99	-0.08	24.99	18.09	6.90	3.622		
1,700.00	1,700.00	1,700.00	1,700.00	3.67	3.67	-0.18	24.99	-0.08	24.99	17.64	7.35	3.400		
1,800.00	1,800.00	1,800.00	1,800.00	3.90	3.90	-0.18	24.99	-0.08	24.99	17.19	7.80	3.204		
1,900.00	1,900.00	1,900.00	1,900.00	4.12	4.12	-0.18	24.99	-0.08	24.99	16.74	8.25	3.030		
2,000.00	2,000.00	2,000.00	2,000.00	4.35	4.35	-0.18	24.99	-0.08	24.99	16.29	8.70	2.873		
2,100.00	2,100.00	2,100.00	2,100.00	4.57	4.57	-0.18	24.99	-0.08	24.99	15.84	9.15	2.732		
2,200.00	2,200.00	2,200.00	2,200.00	4.80	4.80	-0.18	24.99	-0.08	24.99	15.39	9.60	2.604		
2,300.00	2,300.00	2,300.00	2,300.00	5.02	5.02	-0.18	24.99	-0.08	24.99	14.94	10.05	2.487		
2,400.00	2,400.00	2,400.00	2,400.00	5.25	5.25	-0.18	24.99	-0.08	24.99	14.49	10.50	2.381		
2,500.00	2,500.00	2,500.00	2,500.00	5.47	5.47	-0.18	24.99	-0.08	24.99	14.04	10.95	2.283		
2,600.00	2,600.00	2,600.00	2,600.00	5.70	5.70	-0.18	24.99	-0.08	24.99	13.59	11.40	2.193		
2,700.00	2,700.00	2,700.00	2,700.00	5.92	5.92	-0.18	24.99	-0.08	24.99	13.14	11.85	2.110		
2,800.00	2,800.00	2,800.00	2,800.00	6.15	6.15	-0.18	24.99	-0.08	24.99	12.70	12.29	2.033		
2,900.00	2,900.00	2,900.00	2,900.00	6.37	6.37	-0.18	24.99	-0.08	24.99	12.25	12.74	1.961		
3,000.00	3,000.00	3,000.00	3,000.00	6.60	6.60	-0.18	24.99	-0.08	24.99	11.80	13.19	1.894		
3,100.00	3,100.00	3,100.00	3,100.00	6.82	6.82	-0.18	24.99	-0.08	24.99	11.35	13.64	1.832		
3,200.00	3,200.00	3,200.00	3,200.00	7.05	7.05	-0.18	24.99	-0.08	24.99	10.90	14.09	1.773		
3,300.00	3,300.00	3,300.00	3,300.00	7.27	7.27	-0.18	24.99	-0.08	24.99	10.45	14.54	1.718		
3,400.00	3,400.00	3,400.00	3,400.00	7.50	7.50	-0.18	24.99	-0.08	24.99	10.00	14.99	1.667		
3,500.00	3,500.00	3,500.00	3,500.00	7.72	7.72	-0.18	24.99	-0.08	24.99	9.55	15.44	1.618		
3,600.00	3,600.00	3,600.00	3,600.00	7.95	7.95	-0.18	24.99	-0.08	24.99	9.10	15.89	1.573		
3,700.00	3,700.00	3,700.00	3,700.00	8.17	8.17	-0.18	24.99	-0.08	24.99	8.65	16.34	1.529		
3,800.00	3,800.00	3,800.00	3,800.00	8.40	8.40	-0.18	24.99	-0.08	24.99	8.20	16.79	1.488	Level 3	
3,900.00	3,900.00	3,900.00	3,900.00	8.62	8.62	-0.18	24.99	-0.08	24.99	7.75	17.24	1.450	Level 3	
4,000.00	4,000.00	4,000.00	4,000.00	8.84	8.84	-0.18	24.99	-0.08	24.99	7.30	17.69	1.413	Level 3	
4,100.00	4,100.00	4,100.00	4,100.00	9.07	9.07	-0.18	24.99	-0.08	24.99	6.85	18.14	1.378	Level 3	
4,200.00	4,200.00	4,200.00	4,200.00	9.29	9.29	-0.18	24.99	-0.08	24.99	6.40	18.59	1.344	Level 3	
4,300.00	4,300.00	4,300.00	4,300.00	9.52	9.52	-0.18	24.99	-0.08	24.99	5.95	19.04	1.313	Level 3	
4,400.00	4,400.00	4,400.15	4,400.15	9.72	9.72	-108.05	24.69	0.74	24.96	5.51	19.45	1.283	Level 3	
4,500.00	4,499.96	4,500.30	4,500.26	9.91	9.91	-108.13	23.78	3.20	24.85	5.03	19.83	1.253	Level 3	
4,600.00	4,599.86	4,600.46	4,600.32	10.11	10.10	-108.25	22.27	7.31	24.68	4.47	20.21	1.221	Level 2	
4,700.00	4,699.88	4,700.61	4,700.28	10.30	10.30	-108.44	20.15	13.06	24.43	3.84	20.59	1.187	Level 2	
4,800.00	4,799.37	4,800.76	4,800.12	10.50	10.50	-108.67	17.43	20.44	24.12	3.14	20.99	1.149	Level 2	
4,900.00	4,898.90	4,900.91	4,899.81	10.70	10.70	-108.97	14.10	29.46	23.74	2.35	21.39	1.110	Level 2	
5,000.00	4,998.26	5,001.06	4,999.31	10.91	10.91	-109.34	10.18	40.11	23.29	1.49	21.80	1.068	Level 2	
5,100.00	5,097.40	5,101.21	5,098.60	11.13	11.13	-109.78	5.65	52.40	22.78	0.55	22.22	1.025	Level 2	
5,200.00	5,196.30	5,201.36	5,197.64	11.36	11.35	-110.30	0.52	66.31	22.19	-0.47	22.66	0.979	Level 1	
5,300.00	5,294.93	5,301.43	5,296.37	11.60	11.59	-111.45	-5.12	81.62	21.63	-1.48	23.11	0.936	Level 1	
5,342.97	5,337.22	5,344.39	5,338.75	11.70	11.69	-113.06	-7.58	88.28	21.56	-1.74	23.31	0.925	Level 1, 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 321H (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:	321H (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
5,400.00	5,393.26	5,401.41	5,394.98	11.85	11.83	-116.39	-10.84	97.12	21.71	-1.83	23.54	0.922	Level 1, ES, SF
5,500.00	5,491.25	5,501.34	5,493.54	12.11	12.08	-124.99	-16.55	112.62	22.90	-1.01	23.91	0.958	Level 1
5,606.45	5,595.16	5,607.64	5,598.38	12.41	12.36	-136.10	-22.62	129.10	26.02	1.81	24.21	1.075	Level 2
5,700.00	5,686.29	5,701.01	5,690.46	12.69	12.60	-144.68	-27.96	143.57	30.10	5.62	24.48	1.230	Level 2
5,800.00	5,783.70	5,800.81	5,788.89	13.00	12.87	-151.49	-33.66	159.05	35.02	10.22	24.81	1.412	Level 3
5,900.00	5,881.11	5,900.62	5,887.33	13.31	13.15	-156.56	-39.36	174.52	40.31	15.15	25.16	1.602	
6,000.00	5,978.52	6,000.42	5,985.76	13.64	13.43	-160.44	-45.06	190.00	45.85	20.31	25.54	1.795	
6,100.00	6,075.93	6,100.23	6,084.19	13.98	13.71	-163.48	-50.77	205.47	51.54	25.61	25.94	1.987	
6,200.00	6,173.35	6,200.03	6,182.62	14.32	14.00	-165.90	-56.47	220.94	57.36	31.01	26.34	2.177	
6,300.00	6,270.76	6,299.84	6,281.06	14.67	14.29	-167.88	-62.17	236.42	63.25	36.49	26.76	2.363	
6,400.00	6,368.17	6,399.64	6,379.49	15.03	14.59	-169.51	-67.88	251.89	69.21	42.02	27.19	2.546	
6,500.00	6,465.58	6,499.44	6,477.92	15.40	14.89	-170.89	-73.58	267.37	75.21	47.59	27.62	2.723	
6,600.00	6,562.99	6,599.25	6,576.36	15.77	15.19	-172.06	-79.28	282.84	81.26	53.20	28.06	2.896	
6,700.00	6,660.40	6,699.05	6,674.79	16.15	15.50	-173.07	-84.99	298.31	87.33	58.82	28.50	3.064	
6,800.00	6,757.81	6,798.86	6,773.22	16.53	15.81	-173.95	-90.69	313.79	93.42	64.47	28.95	3.227	
6,900.00	6,855.23	6,898.66	6,871.65	16.92	16.12	-174.72	-96.39	329.26	99.54	70.13	29.41	3.385	
7,000.00	6,952.64	6,998.47	6,970.09	17.31	16.44	-175.40	-102.10	344.74	105.67	75.81	29.86	3.539	
7,100.00	7,050.05	7,098.27	7,068.52	17.70	16.76	-176.01	-107.80	360.21	111.81	81.49	30.32	3.688	
7,200.00	7,147.46	7,198.08	7,166.95	18.10	17.08	-176.55	-113.50	375.68	117.97	87.18	30.78	3.832	
7,300.00	7,244.87	7,297.88	7,265.38	18.51	17.40	-177.04	-119.20	391.16	124.13	92.88	31.25	3.973	
7,400.00	7,342.28	7,397.68	7,363.82	18.92	17.73	-177.49	-124.91	406.63	130.30	98.59	31.72	4.109	
7,500.00	7,439.70	7,497.49	7,462.25	19.33	18.05	-177.89	-130.61	422.11	136.48	104.30	32.19	4.241	
7,600.00	7,537.11	7,597.29	7,560.88	19.74	18.38	-178.26	-136.31	437.58	142.67	110.01	32.66	4.369	
7,700.00	7,634.52	7,697.10	7,659.11	20.16	18.71	-178.60	-142.02	453.05	148.86	115.73	33.13	4.493	
7,800.00	7,731.93	7,791.33	7,752.12	20.58	19.01	-177.75	-144.13	467.67	156.24	122.64	33.60	4.650	
7,900.00	7,829.34	7,879.61	7,838.54	21.00	19.25	-172.81	-132.98	481.26	169.44	135.32	34.12	4.966	
8,000.00	7,926.75	7,960.91	7,915.78	21.42	19.43	-165.67	-110.94	493.40	191.52	156.64	34.88	5.491	
8,100.00	8,024.17	8,033.23	7,981.29	21.85	19.58	-158.41	-82.22	503.70	224.95	189.06	35.89	6.268	
8,200.00	8,121.58	8,100.00	8,038.16	22.28	19.69	-151.80	-48.47	512.64	270.13	233.09	37.03	7.294	
8,300.00	8,218.99	8,150.00	8,078.00	22.71	19.78	-147.22	-18.94	518.90	325.61	287.58	38.03	8.562	
8,400.00	8,316.40	8,200.00	8,115.15	23.14	19.85	-143.08	14.00	524.74	389.61	350.58	39.03	9.983	
8,436.32	8,351.78	8,210.76	8,122.76	23.30	19.87	-142.25	21.50	525.94	414.53	375.24	39.29	10.549	
8,450.00	8,365.12	8,216.24	8,126.58	23.36	19.88	-135.31	25.38	526.54	424.05	384.49	39.56	10.719	
8,500.00	8,413.92	8,236.50	8,140.40	23.54	19.91	-109.28	40.05	528.71	458.06	417.73	40.34	11.355	
8,550.00	8,462.55	8,250.00	8,149.31	23.72	19.93	-87.04	50.08	530.12	490.81	450.08	40.74	12.049	
8,600.00	8,510.63	8,277.98	8,167.03	23.88	19.98	-70.33	71.55	532.90	521.84	480.90	40.94	12.746	
8,650.00	8,557.80	8,300.00	8,180.24	24.02	20.01	-58.91	89.04	534.98	551.28	510.53	40.75	13.529	
8,700.00	8,603.70	8,320.42	8,191.89	24.15	20.05	-50.90	105.72	536.81	578.90	538.66	40.25	14.383	
8,750.00	8,647.97	8,350.00	8,207.70	24.27	20.10	-44.92	130.59	539.29	604.74	565.21	39.53	15.299	
8,800.00	8,690.28	8,363.60	8,214.54	24.37	20.13	-40.64	142.29	540.37	628.37	589.89	38.48	16.330	
8,850.00	8,730.31	8,385.40	8,224.92	24.46	20.17	-37.26	161.38	542.00	650.04	612.80	37.24	17.456	
8,900.00	8,767.76	8,400.00	8,231.48	24.55	20.21	-34.66	174.40	543.03	669.67	633.89	35.78	18.714	
8,950.00	8,802.33	8,429.32	8,243.63	24.62	20.28	-32.51	201.00	544.94	686.95	652.73	34.22	20.074	
9,000.00	8,833.77	8,450.00	8,251.39	24.69	20.34	-30.86	220.13	546.16	702.09	669.56	32.53	21.585	
9,050.00	8,861.84	8,473.57	8,259.40	24.76	20.40	-29.53	242.27	547.42	714.95	684.17	30.78	23.229	
9,100.00	8,886.32	8,500.00	8,267.29	24.84	20.49	-28.48	267.46	548.66	725.54	696.49	29.04	24.980	
9,150.00	8,907.03	8,518.05	8,272.02	24.91	20.55	-27.70	284.86	549.41	733.74	706.39	27.35	26.828	
9,200.00	8,923.80	8,550.00	8,279.06	24.99	20.68	-27.11	316.00	550.51	739.77	713.91	25.86	28.609	
9,250.00	8,936.52	8,550.00	8,279.06	25.09	20.68	-26.73	316.00	550.51	743.39	718.90	24.48	30.364	
9,300.00	8,945.08	8,584.99	8,284.78	25.20	20.83	-26.52	350.50	551.41	744.29	720.72	23.57	31.582	
9,350.00	8,949.42	8,600.00	8,286.60	25.33	20.91	-26.47	365.40	551.70	743.14	720.17	22.97	32.348	
9,376.03	8,950.00	8,618.94	8,288.34	25.41	21.00	-26.53	384.25	551.97	741.48	718.59	22.89	32.398	

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 321H (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:	321H (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							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		
9,400.00	8,950.00	8,629.65	8,289.05	25.48	21.06	-26.54	394.94	552.08	739.95	716.95	23.00	32.177		
9,500.00	8,950.00	8,688.82	8,290.00	25.89	21.41	-26.56	454.09	552.23	737.90	714.36	23.55	31.339		
9,600.00	8,950.00	8,788.82	8,290.00	26.44	22.12	-26.56	554.09	552.23	737.90	713.52	24.38	30.270		
9,700.00	8,950.00	8,888.82	8,290.00	27.12	22.97	-26.56	654.09	552.23	737.90	712.55	25.35	29.105		
9,800.00	8,950.00	8,988.82	8,290.00	27.92	23.94	-26.56	754.09	552.23	737.90	711.44	26.46	27.889		
9,900.00	8,950.00	9,088.82	8,290.00	28.84	25.01	-26.56	854.09	552.23	737.90	710.22	27.68	26.659		
10,000.00	8,950.00	9,188.82	8,290.00	29.85	26.17	-26.56	954.09	552.23	737.90	708.90	29.00	25.445		
10,100.00	8,950.00	9,288.82	8,290.00	30.95	27.40	-26.56	1,054.09	552.23	737.90	707.49	30.41	24.267		
10,200.00	8,950.00	9,388.82	8,290.00	32.12	28.69	-26.56	1,154.09	552.23	737.90	706.01	31.89	23.138		
10,300.00	8,950.00	9,488.82	8,290.00	33.35	30.05	-26.56	1,254.09	552.23	737.90	704.46	33.44	22.066		
10,400.00	8,950.00	9,588.82	8,290.00	34.64	31.44	-26.56	1,354.09	552.23	737.90	702.85	35.05	21.055		
10,500.00	8,950.00	9,688.82	8,290.00	35.98	32.89	-26.56	1,454.09	552.23	737.90	701.20	36.70	20.106		
10,600.00	8,950.00	9,788.82	8,290.00	37.36	34.36	-26.56	1,554.09	552.23	737.90	699.50	38.40	19.217		
10,700.00	8,950.00	9,888.82	8,290.00	38.78	35.87	-26.56	1,654.09	552.23	737.90	697.77	40.13	18.386		
10,800.00	8,950.00	9,988.82	8,290.00	40.23	37.41	-26.56	1,754.09	552.23	737.90	696.00	41.90	17.610		
10,900.00	8,950.00	10,088.82	8,290.00	41.72	38.97	-26.56	1,854.09	552.23	737.90	694.20	43.70	16.886		
11,000.00	8,950.00	10,188.82	8,290.00	43.23	40.56	-26.56	1,954.09	552.23	737.90	692.38	45.52	16.210		
11,100.00	8,950.00	10,288.82	8,290.00	44.76	42.16	-26.56	2,054.09	552.23	737.90	690.53	47.37	15.579		
11,200.00	8,950.00	10,388.82	8,290.00	46.32	43.78	-26.56	2,154.09	552.23	737.90	688.67	49.23	14.989		
11,300.00	8,950.00	10,488.82	8,290.00	47.89	45.42	-26.56	2,254.09	552.23	737.90	686.79	51.11	14.436		
11,400.00	8,950.00	10,588.82	8,290.00	49.49	47.07	-26.56	2,354.09	552.23	737.90	684.89	53.01	13.919		
11,500.00	8,950.00	10,688.82	8,290.00	51.10	48.73	-26.56	2,454.09	552.23	737.90	682.98	54.93	13.435		
11,600.00	8,950.00	10,788.82	8,290.00	52.72	50.41	-26.56	2,554.09	552.23	737.90	681.05	56.85	12.980		
11,700.00	8,950.00	10,888.82	8,290.00	54.35	52.09	-26.56	2,654.09	552.23	737.90	679.11	58.79	12.552		
11,800.00	8,950.00	10,988.82	8,290.00	56.00	53.79	-26.56	2,754.09	552.23	737.90	677.17	60.74	12.149		
11,900.00	8,950.00	11,088.82	8,290.00	57.66	55.49	-26.56	2,854.09	552.23	737.90	675.21	62.69	11.770		
12,000.00	8,950.00	11,188.82	8,290.00	59.33	57.20	-26.56	2,954.09	552.23	737.90	673.24	64.66	11.412		
12,100.00	8,950.00	11,288.82	8,290.00	61.01	58.92	-26.56	3,054.09	552.23	737.90	671.27	66.63	11.074		
12,200.00	8,950.00	11,388.82	8,290.00	62.69	60.64	-26.56	3,154.09	552.23	737.90	669.29	68.61	10.755		
12,300.00	8,950.00	11,488.82	8,290.00	64.39	62.37	-26.56	3,254.09	552.23	737.90	667.30	70.60	10.452		
12,400.00	8,950.00	11,588.82	8,290.00	66.09	64.11	-26.56	3,354.09	552.23	737.90	665.31	72.59	10.165		
12,500.00	8,950.00	11,688.82	8,290.00	67.79	65.85	-26.56	3,454.09	552.23	737.90	663.31	74.59	9.893		
12,600.00	8,950.00	11,788.82	8,290.00	69.51	67.59	-26.56	3,554.09	552.23	737.90	661.30	76.60	9.634		
12,700.00	8,950.00	11,888.82	8,290.00	71.22	69.34	-26.56	3,654.09	552.23	737.90	659.30	78.60	9.388		
12,800.00	8,950.00	11,988.82	8,290.00	72.95	71.09	-26.56	3,754.09	552.23	737.90	657.28	80.62	9.153		
12,900.00	8,950.00	12,088.82	8,290.00	74.68	72.85	-26.56	3,854.09	552.23	737.90	655.27	82.63	8.930		
13,000.00	8,950.00	12,188.82	8,290.00	76.41	74.61	-26.56	3,954.09	552.23	737.90	653.25	84.66	8.717		
13,100.00	8,950.00	12,288.82	8,290.00	78.15	76.37	-26.56	4,054.09	552.23	737.90	651.22	86.68	8.513		
13,200.00	8,950.00	12,388.82	8,290.00	79.89	78.14	-26.56	4,154.09	552.23	737.90	649.19	88.71	8.318		
13,300.00	8,950.00	12,488.82	8,290.00	81.64	79.90	-26.56	4,254.09	552.23	737.90	647.16	90.74	8.132		
13,400.00	8,950.00	12,588.82	8,290.00	83.38	81.67	-26.56	4,354.09	552.23	737.90	645.13	92.77	7.954		
13,450.00	8,950.00	12,638.82	8,290.00	84.26	82.56	-26.56	4,404.09	552.23	737.90	644.11	93.79	7.868		
13,476.03	8,950.00	12,662.85	8,290.00	84.72	82.99	-26.56	4,428.12	552.23	737.90	643.60	94.30	7.825		

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 321H (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:	321H (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)						
0.00	0.00	0.00	0.00	0.00	0.00	-0.18	99.98	-0.31	99.98					
100.00	100.00	100.00	100.00	0.08	0.08	-0.18	99.98	-0.31	99.98	99.82	0.16	635.457		
200.00	200.00	200.00	200.00	0.30	0.30	-0.18	99.98	-0.31	99.98	99.37	0.61	164.748		
300.00	300.00	300.00	300.00	0.53	0.53	-0.18	99.98	-0.31	99.98	98.92	1.06	94.643		
400.00	400.00	400.00	400.00	0.75	0.75	-0.18	99.98	-0.31	99.98	98.47	1.51	66.391		
500.00	500.00	500.00	500.00	0.98	0.98	-0.18	99.98	-0.31	99.98	98.03	1.96	51.129		
600.00	600.00	600.00	600.00	1.20	1.20	-0.18	99.98	-0.31	99.98	97.58	2.40	41.572		
700.00	700.00	700.00	700.00	1.43	1.43	-0.18	99.98	-0.31	99.98	97.13	2.85	35.025		
800.00	800.00	800.00	800.00	1.65	1.65	-0.18	99.98	-0.31	99.98	96.68	3.30	30.260		
900.00	900.00	900.00	900.00	1.88	1.88	-0.18	99.98	-0.31	99.98	96.23	3.75	26.636		
1,000.00	1,000.00	1,000.00	1,000.00	2.10	2.10	-0.18	99.98	-0.31	99.98	95.78	4.20	23.787		
1,100.00	1,100.00	1,100.00	1,100.00	2.33	2.33	-0.18	99.98	-0.31	99.98	95.33	4.65	21.489		
1,200.00	1,200.00	1,200.00	1,200.00	2.55	2.55	-0.18	99.98	-0.31	99.98	94.88	5.10	19.596		
1,300.00	1,300.00	1,300.00	1,300.00	2.78	2.78	-0.18	99.98	-0.31	99.98	94.43	5.55	18.009		
1,400.00	1,400.00	1,400.00	1,400.00	3.00	3.00	-0.18	99.98	-0.31	99.98	93.98	6.00	16.660		
1,500.00	1,500.00	1,500.00	1,500.00	3.23	3.23	-0.18	99.98	-0.31	99.98	93.53	6.45	15.499		
1,600.00	1,600.00	1,600.00	1,600.00	3.45	3.45	-0.18	99.98	-0.31	99.98	93.08	6.90	14.489		
1,700.00	1,700.00	1,700.00	1,700.00	3.67	3.67	-0.18	99.98	-0.31	99.98	92.63	7.35	13.603		
1,800.00	1,800.00	1,800.00	1,800.00	3.90	3.90	-0.18	99.98	-0.31	99.98	92.18	7.80	12.819		
1,900.00	1,900.00	1,900.00	1,900.00	4.12	4.12	-0.18	99.98	-0.31	99.98	91.73	8.25	12.120		
2,000.00	2,000.00	2,000.00	2,000.00	4.35	4.35	-0.18	99.98	-0.31	99.98	91.28	8.70	11.494		
2,100.00	2,100.00	2,100.00	2,100.00	4.57	4.57	-0.18	99.98	-0.31	99.98	90.83	9.15	10.929		
2,200.00	2,200.00	2,200.00	2,200.00	4.80	4.80	-0.18	99.98	-0.31	99.98	90.38	9.60	10.417		
2,300.00	2,300.00	2,300.00	2,300.00	5.02	5.02	-0.18	99.98	-0.31	99.98	89.93	10.05	9.951		
2,400.00	2,400.00	2,400.00	2,400.00	5.25	5.25	-0.18	99.98	-0.31	99.98	89.48	10.50	9.525		
2,500.00	2,500.00	2,500.00	2,500.00	5.47	5.47	-0.18	99.98	-0.31	99.98	89.03	10.95	9.134		
2,600.00	2,600.00	2,600.00	2,600.00	5.70	5.70	-0.18	99.98	-0.31	99.98	88.58	11.40	8.774		
2,700.00	2,700.00	2,700.00	2,700.00	5.92	5.92	-0.18	99.98	-0.31	99.98	88.14	11.85	8.441		
2,800.00	2,800.00	2,800.00	2,800.00	6.15	6.15	-0.18	99.98	-0.31	99.98	87.69	12.29	8.132		
2,900.00	2,900.00	2,900.00	2,900.00	6.37	6.37	-0.18	99.98	-0.31	99.98	87.24	12.74	7.845		
3,000.00	3,000.00	3,000.00	3,000.00	6.60	6.60	-0.18	99.98	-0.31	99.98	86.79	13.19	7.578		
3,100.00	3,100.00	3,100.00	3,100.00	6.82	6.82	-0.18	99.98	-0.31	99.98	86.34	13.64	7.328		
3,200.00	3,200.00	3,200.00	3,200.00	7.05	7.05	-0.18	99.98	-0.31	99.98	85.89	14.09	7.094		
3,300.00	3,300.00	3,300.00	3,300.00	7.27	7.27	-0.18	99.98	-0.31	99.98	85.44	14.54	6.875		
3,400.00	3,400.00	3,400.00	3,400.00	7.50	7.50	-0.18	99.98	-0.31	99.98	84.99	14.99	6.669		
3,500.00	3,500.00	3,500.00	3,500.00	7.72	7.72	-0.18	99.98	-0.31	99.98	84.54	15.44	6.475		
3,600.00	3,600.00	3,600.00	3,600.00	7.95	7.95	-0.18	99.98	-0.31	99.98	84.09	15.89	6.292		
3,700.00	3,700.00	3,700.00	3,700.00	8.17	8.17	-0.18	99.98	-0.31	99.98	83.64	16.34	6.119		
3,800.00	3,800.00	3,800.00	3,800.00	8.40	8.40	-0.18	99.98	-0.31	99.98	83.19	16.79	5.955		
3,900.00	3,900.00	3,900.00	3,900.00	8.62	8.62	-0.18	99.98	-0.31	99.98	82.74	17.24	5.799		
4,000.00	4,000.00	4,000.00	4,000.00	8.84	8.84	-0.18	99.98	-0.31	99.98	82.29	17.69	5.652		
4,100.00	4,100.00	4,100.00	4,100.00	9.07	9.07	-0.18	99.98	-0.31	99.98	81.84	18.14	5.512		
4,200.00	4,200.00	4,200.00	4,200.00	9.29	9.29	-0.18	99.98	-0.31	99.98	81.39	18.59	5.379		
4,300.00	4,300.00	4,300.00	4,300.00	9.52	9.52	-0.18	99.98	-0.31	99.98	80.94	19.04	5.252 CC		
4,400.00	4,400.00	4,400.00	4,400.00	9.72	9.74	-108.49	99.98	-0.31	100.25	80.79	19.47	5.150 ES		
4,500.00	4,499.96	4,499.96	4,499.96	9.91	9.97	-109.89	99.98	-0.31	101.11	81.23	19.88	5.086		
4,600.00	4,599.86	4,599.86	4,599.86	10.11	10.19	-112.16	99.98	-0.31	102.68	82.39	20.29	5.060 SF		
4,700.00	4,699.68	4,699.68	4,699.68	10.30	10.42	-115.22	99.98	-0.31	105.14	84.43	20.71	5.077		
4,800.00	4,799.37	4,799.37	4,799.37	10.50	10.64	-118.92	99.98	-0.31	108.72	87.60	21.12	5.147		
4,900.00	4,898.90	4,898.90	4,898.90	10.70	10.86	-123.10	99.98	-0.31	113.68	92.15	21.53	5.280		
5,000.00	4,998.26	4,998.26	4,998.26	10.91	11.09	-127.55	99.98	-0.31	120.26	98.32	21.93	5.483		
5,100.00	5,097.40	5,099.33	5,099.33	11.13	11.29	-131.98	99.48	0.39	127.93	105.62	22.31	5.734		

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 321H (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:	321H (SIMOPS)	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.1 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design Cotton Draw Unit - 263H (SIMOPS) - OH - Plan #1													Offset Site Error:	0.00 usft
Survey Program: 0-LEAM MWD-ADJ													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
5,200.00	5,196.30	5,200.63	5,200.59	11.36	11.48	-136.08	97.92	2.54	135.95	113.29	22.66	5.999		
5,300.00	5,294.93	5,302.13	5,301.99	11.60	11.66	-139.89	95.31	6.14	144.27	121.27	23.00	6.272		
5,400.00	5,393.26	5,403.81	5,403.47	11.85	11.85	-143.47	91.64	11.21	152.89	129.55	23.34	6.550		
5,500.00	5,491.25	5,505.67	5,505.02	12.11	12.04	-146.82	86.90	17.75	161.77	138.10	23.67	6.834		
5,606.45	5,595.16	5,614.31	5,613.13	12.41	12.25	-150.20	80.69	26.34	171.52	147.50	24.01	7.143		
5,700.00	5,686.29	5,710.03	5,708.22	12.69	12.45	-152.94	74.21	35.28	179.64	155.27	24.37	7.371		
5,800.00	5,783.70	5,812.69	5,809.96	13.00	12.66	-155.55	66.24	46.30	187.01	162.25	24.76	7.553		
5,900.00	5,881.11	5,915.62	5,911.73	13.31	12.88	-157.92	57.17	58.82	192.94	167.78	25.16	7.669		
6,000.00	5,978.52	6,018.77	6,013.41	13.64	13.11	-160.12	47.01	72.86	197.37	171.81	25.56	7.723		
6,100.00	6,075.93	6,120.02	6,112.96	13.98	13.35	-162.18	36.15	87.86	200.54	174.58	25.96	7.726		
6,200.00	6,173.35	6,219.73	6,210.95	14.32	13.60	-164.15	25.35	102.77	203.79	177.43	26.36	7.731		
6,300.00	6,270.76	6,319.43	6,308.94	14.67	13.85	-166.06	14.56	117.68	207.28	180.51	26.77	7.744		
6,400.00	6,368.17	6,419.14	6,406.93	15.03	14.11	-167.90	3.76	132.59	210.98	183.80	27.18	7.763		
6,500.00	6,465.58	6,518.84	6,504.92	15.40	14.38	-169.67	-7.03	147.50	214.90	187.30	27.60	7.787		
6,600.00	6,562.99	6,618.55	6,602.91	15.77	14.65	-171.38	-17.83	162.41	219.01	190.99	28.02	7.816		
6,700.00	6,660.40	6,718.25	6,700.90	16.15	14.93	-173.03	-28.62	177.32	223.32	194.87	28.45	7.849		
6,800.00	6,757.81	6,817.96	6,798.89	16.53	15.22	-174.61	-39.42	192.23	227.80	198.91	28.89	7.885		
6,900.00	6,855.23	6,917.66	6,896.88	16.92	15.51	-176.13	-50.21	207.14	232.45	203.11	29.34	7.923		
7,000.00	6,952.64	7,017.37	6,994.88	17.31	15.81	-177.59	-61.00	222.05	237.25	207.46	29.79	7.963		
7,100.00	7,050.05	7,117.07	7,092.87	17.70	16.11	-178.99	-71.80	236.96	242.21	211.95	30.26	8.004		
7,200.00	7,147.46	7,216.78	7,190.86	18.10	16.42	-179.67	-82.59	251.87	247.30	216.57	30.74	8.046		
7,300.00	7,244.87	7,316.48	7,288.85	18.51	16.73	-178.38	-93.39	266.78	252.53	221.31	31.22	8.089		
7,400.00	7,342.28	7,416.19	7,386.84	18.92	17.04	-177.14	-104.18	281.69	257.87	226.16	31.71	8.131		
7,500.00	7,439.70	7,515.89	7,484.83	19.33	17.36	-175.95	-114.98	296.60	263.34	231.12	32.22	8.174		
7,600.00	7,537.11	7,615.60	7,582.82	19.74	17.69	-174.81	-125.77	311.51	268.91	236.17	32.73	8.216		
7,700.00	7,634.52	7,715.30	7,680.81	20.16	18.01	-173.72	-136.57	326.42	274.58	241.32	33.25	8.257		
7,800.00	7,731.93	7,815.01	7,778.80	20.58	18.34	-172.68	-147.36	341.33	280.35	246.56	33.79	8.297		
7,900.00	7,829.34	7,914.71	7,876.79	21.00	18.67	-171.67	-158.16	356.24	286.20	251.87	34.33	8.337		
8,000.00	7,926.75	8,014.42	7,974.78	21.42	19.01	-170.71	-168.95	371.15	292.15	257.26	34.88	8.375		
8,100.00	8,024.17	8,114.12	8,072.78	21.85	19.35	-169.78	-179.74	386.06	298.17	262.73	35.44	8.413		
8,200.00	8,121.58	8,213.83	8,170.77	22.28	19.69	-168.89	-190.54	400.97	304.26	268.25	36.01	8.449		
8,300.00	8,218.99	8,313.53	8,268.76	22.71	20.03	-168.04	-201.33	415.88	310.43	273.84	36.59	8.484		
8,400.00	8,316.40	8,413.23	8,366.75	23.14	20.38	-167.22	-212.13	430.79	316.66	279.49	37.17	8.518		
8,436.32	8,351.78	8,449.44	8,402.33	23.30	20.51	-166.93	-216.05	436.20	318.94	281.55	37.39	8.530		
8,450.00	8,365.12	8,463.08	8,415.74	23.36	20.55	-172.67	-217.52	438.24	319.79	282.32	37.47	8.534		
8,500.00	8,413.92	8,512.67	8,464.47	23.54	20.73	-165.68	-222.89	445.66	322.73	284.92	37.81	8.536		
8,550.00	8,462.55	8,561.61	8,512.57	23.72	20.90	-147.57	-228.19	452.98	325.59	287.42	38.17	8.530		
8,600.00	8,510.63	8,609.52	8,559.66	23.88	21.07	-135.65	-233.38	460.14	328.73	290.18	38.55	8.527		
8,650.00	8,557.80	8,656.04	8,605.38	24.02	21.23	-128.79	-238.41	467.10	332.64	293.72	38.92	8.547		
8,700.00	8,603.70	8,700.00	8,648.59	24.15	21.39	-125.18	-243.17	473.67	337.90	298.68	39.23	8.614		
8,750.00	8,647.97	8,741.47	8,689.38	24.27	21.51	-123.50	-247.54	479.70	345.31	305.88	39.44	8.756		
8,800.00	8,690.28	8,780.38	8,727.71	24.37	21.63	-122.90	-251.48	485.14	355.49	315.97	39.52	8.995		
8,850.00	8,730.31	8,816.90	8,763.72	24.46	21.73	-122.82	-255.04	490.06	368.91	329.44	39.47	9.346		
8,900.00	8,767.76	8,850.77	8,797.15	24.55	21.83	-122.86	-258.22	494.45	385.91	346.60	39.31	9.817		
8,950.00	8,802.33	8,881.73	8,827.74	24.62	21.92	-122.73	-261.03	498.33	406.66	367.58	39.08	10.405		
9,000.00	8,833.77	8,909.55	8,855.24	24.69	22.00	-122.20	-263.47	501.70	431.17	392.31	38.86	11.096		
9,050.00	8,861.84	8,933.99	8,879.43	24.76	22.07	-121.08	-265.54	504.57	459.28	420.56	38.72	11.860		
9,100.00	8,886.32	8,954.86	8,900.09	24.84	22.13	-119.20	-267.27	506.96	490.74	451.96	38.78	12.654		
9,150.00	8,907.03	8,971.97	8,917.03	24.91	22.17	-116.39	-268.65	508.86	525.18	486.09	39.09	13.435		
9,200.00	8,923.80	8,985.14	8,930.08	24.99	22.21	-112.47	-269.70	510.31	562.17	522.50	39.67	14.172		
9,250.00	8,936.52	8,994.22	8,939.08	25.09	22.24	-107.32	-270.41	511.29	601.26	560.83	40.43	14.873		
9,300.00	8,945.08	8,999.10	8,943.92	25.20	22.25	-100.88	-270.78	511.81	641.98	600.82	41.16	15.597		

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 321H (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:	321H (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 (°)	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)				
9,350.00	8,949.42	8,999.86	8,944.48	25.33	22.25	-93.25	-270.83	511.87	683.84	642.29	41.55	16.457		
9,376.03	8,950.00	8,998.23	8,943.06	25.41	22.25	-88.93	-270.72	511.72	705.93	664.41	41.52	17.002		
9,400.00	8,950.00	8,996.35	8,941.20	25.48	22.24	-88.64	-270.57	511.52	726.43	684.80	41.63	17.448		
9,500.00	8,950.00	8,988.43	8,933.35	25.89	22.22	-87.43	-269.96	510.66	813.99	771.82	42.17	19.302		
9,600.00	8,950.00	8,980.35	8,925.34	26.44	22.20	-86.21	-269.32	509.79	904.06	861.24	42.82	21.115		
9,700.00	8,950.00	8,972.09	8,917.16	27.12	22.17	-84.97	-268.66	508.88	995.96	952.41	43.56	22.867		
9,800.00	8,950.00	8,963.66	8,908.80	27.92	22.15	-83.72	-267.99	507.94	1,089.23	1,044.86	44.37	24.546		
9,900.00	8,950.00	8,955.04	8,900.27	28.84	22.13	-82.45	-267.29	506.98	1,183.54	1,138.28	45.26	26.149		
10,000.00	8,950.00	8,946.24	8,891.55	29.85	22.10	-81.17	-266.56	505.98	1,278.66	1,232.46	46.20	27.675		
10,100.00	8,950.00	8,937.24	8,882.65	30.95	22.08	-79.88	-265.82	504.95	1,374.42	1,327.23	47.19	29.126		
10,200.00	8,950.00	8,928.04	8,873.54	32.12	22.05	-78.58	-265.04	503.88	1,470.69	1,422.49	48.21	30.509		
10,300.00	8,950.00	11,820.50	10,481.29	33.35	32.36	-167.84	1,237.91	552.20	1,566.53	1,530.19	36.34	43.107		
10,400.00	8,950.00	11,920.50	10,482.34	34.64	33.63	-167.85	1,337.90	552.20	1,567.56	1,530.04	37.52	41.778		
10,500.00	8,950.00	12,020.49	10,483.40	35.98	34.95	-167.85	1,437.89	552.21	1,568.60	1,529.86	38.73	40.497		
10,600.00	8,950.00	12,120.49	10,484.46	37.36	36.32	-167.86	1,537.88	552.21	1,569.63	1,529.65	39.97	39.265		
10,700.00	8,950.00	12,220.48	10,485.51	38.78	37.72	-167.87	1,637.87	552.21	1,570.66	1,529.42	41.24	38.084		
10,800.00	8,950.00	12,320.47	10,486.57	40.23	39.16	-167.88	1,737.86	552.21	1,571.69	1,529.16	42.53	36.953		
10,900.00	8,950.00	12,420.47	10,487.63	41.72	40.63	-167.89	1,837.84	552.21	1,572.73	1,528.88	43.84	35.870		
11,000.00	8,950.00	12,520.46	10,488.68	43.23	42.12	-167.89	1,937.83	552.21	1,573.76	1,528.58	45.18	34.835		
11,100.00	8,950.00	12,620.46	10,489.74	44.76	43.65	-167.90	2,037.82	552.21	1,574.79	1,528.27	46.53	33.847		
11,200.00	8,950.00	12,720.45	10,490.80	46.32	45.19	-167.91	2,137.81	552.21	1,575.83	1,527.93	47.89	32.903		
11,300.00	8,950.00	12,820.45	10,491.85	47.89	46.75	-167.92	2,237.80	552.21	1,576.86	1,527.59	49.27	32.001		
11,400.00	8,950.00	12,920.44	10,492.91	49.49	48.33	-167.93	2,337.79	552.21	1,577.89	1,527.22	50.67	31.141		
11,500.00	8,950.00	13,020.44	10,493.97	51.10	49.93	-167.93	2,437.78	552.21	1,578.93	1,526.85	52.08	30.319		
11,600.00	8,950.00	13,120.43	10,495.02	52.72	51.55	-167.94	2,537.77	552.21	1,579.96	1,526.46	53.50	29.534		
11,700.00	8,950.00	13,220.42	10,496.08	54.35	53.17	-167.95	2,637.75	552.22	1,580.99	1,526.07	54.93	28.783		
11,800.00	8,950.00	13,320.42	10,497.14	56.00	54.81	-167.96	2,737.74	552.22	1,582.03	1,525.66	56.37	28.066		
11,900.00	8,950.00	13,420.41	10,498.19	57.66	56.46	-167.97	2,837.73	552.22	1,583.06	1,525.24	57.82	27.381		
12,000.00	8,950.00	13,520.41	10,499.25	59.33	58.12	-167.98	2,937.72	552.22	1,584.09	1,524.82	59.27	26.725		
12,100.00	8,950.00	13,620.40	10,500.31	61.01	59.79	-167.98	3,037.71	552.22	1,585.13	1,524.39	60.74	26.097		
12,200.00	8,950.00	13,720.40	10,501.36	62.69	61.47	-167.99	3,137.70	552.22	1,586.16	1,523.95	62.21	25.496		
12,300.00	8,950.00	13,820.39	10,502.42	64.39	63.16	-168.00	3,237.69	552.22	1,587.19	1,523.50	63.69	24.920		
12,400.00	8,950.00	13,920.38	10,503.48	66.09	64.86	-168.01	3,337.68	552.22	1,588.23	1,523.05	65.18	24.368		
12,500.00	8,950.00	14,020.38	10,504.53	67.79	66.56	-168.01	3,437.67	552.22	1,589.26	1,522.59	66.67	23.839		
12,600.00	8,950.00	14,120.37	10,505.59	69.51	68.27	-168.02	3,537.65	552.22	1,590.29	1,522.13	68.16	23.330		
12,700.00	8,950.00	14,220.37	10,506.65	71.22	69.98	-168.03	3,637.64	552.22	1,591.33	1,521.66	69.67	22.842		
12,800.00	8,950.00	14,320.36	10,507.70	72.95	71.70	-168.04	3,737.63	552.23	1,592.36	1,521.19	71.17	22.373		
12,900.00	8,950.00	14,420.36	10,508.76	74.68	73.43	-168.05	3,837.62	552.23	1,593.39	1,520.71	72.68	21.923		
13,000.00	8,950.00	14,520.35	10,509.82	76.41	75.16	-168.05	3,937.61	552.23	1,594.43	1,520.23	74.20	21.489		
13,100.00	8,950.00	14,620.35	10,510.87	78.15	76.89	-168.06	4,037.60	552.23	1,595.46	1,519.75	75.72	21.072		
13,200.00	8,950.00	14,720.34	10,511.93	79.89	78.63	-168.07	4,137.59	552.23	1,596.49	1,519.26	77.24	20.670		
13,300.00	8,950.00	14,820.33	10,512.99	81.64	80.37	-168.08	4,237.58	552.23	1,597.53	1,518.77	78.76	20.283		
13,400.00	8,950.00	14,920.33	10,514.04	83.38	82.12	-168.09	4,337.56	552.23	1,598.56	1,518.27	80.29	19.910		
13,476.03	8,950.00	14,996.36	10,514.85	84.72	83.45	-168.09	4,413.59	552.23	1,599.35	1,517.89	81.45	19.635		

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 321H (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:	321H (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	-0.18	74.98	-0.23	74.98				
100.00	100.00	100.00	100.00	0.08	0.08	-0.18	74.98	-0.23	74.98	74.82	0.16	476.561	
200.00	200.00	200.00	200.00	0.30	0.30	-0.18	74.98	-0.23	74.98	74.37	0.61	123.553	
300.00	300.00	300.00	300.00	0.53	0.53	-0.18	74.98	-0.23	74.98	73.92	1.06	70.977	
400.00	400.00	400.00	400.00	0.75	0.75	-0.18	74.98	-0.23	74.98	73.47	1.51	49.790	
500.00	500.00	500.00	500.00	0.98	0.98	-0.18	74.98	-0.23	74.98	73.02	1.96	38.344	
600.00	600.00	600.00	600.00	1.20	1.20	-0.18	74.98	-0.23	74.98	72.58	2.40	31.177	
700.00	700.00	700.00	700.00	1.43	1.43	-0.18	74.98	-0.23	74.98	72.13	2.85	26.267	
800.00	800.00	800.00	800.00	1.65	1.65	-0.18	74.98	-0.23	74.98	71.68	3.30	22.693	
900.00	900.00	900.00	900.00	1.88	1.88	-0.18	74.98	-0.23	74.98	71.23	3.75	19.976	
1,000.00	1,000.00	1,000.00	1,000.00	2.10	2.10	-0.18	74.98	-0.23	74.98	70.78	4.20	17.839	
1,100.00	1,100.00	1,100.00	1,100.00	2.33	2.33	-0.18	74.98	-0.23	74.98	70.33	4.65	16.116	
1,200.00	1,200.00	1,200.00	1,200.00	2.55	2.55	-0.18	74.98	-0.23	74.98	69.88	5.10	14.696	
1,300.00	1,300.00	1,300.00	1,300.00	2.78	2.78	-0.18	74.98	-0.23	74.98	69.43	5.55	13.506	
1,400.00	1,400.00	1,400.00	1,400.00	3.00	3.00	-0.18	74.98	-0.23	74.98	68.98	6.00	12.494	
1,500.00	1,500.00	1,500.00	1,500.00	3.23	3.23	-0.18	74.98	-0.23	74.98	68.53	6.45	11.623	
1,600.00	1,600.00	1,600.00	1,600.00	3.45	3.45	-0.18	74.98	-0.23	74.98	68.08	6.90	10.866	
1,700.00	1,700.00	1,700.00	1,700.00	3.67	3.67	-0.18	74.98	-0.23	74.98	67.63	7.35	10.202	
1,800.00	1,800.00	1,800.00	1,800.00	3.90	3.90	-0.18	74.98	-0.23	74.98	67.18	7.80	9.614	
1,900.00	1,900.00	1,900.00	1,900.00	4.12	4.12	-0.18	74.98	-0.23	74.98	66.73	8.25	9.090	
2,000.00	2,000.00	2,000.00	2,000.00	4.35	4.35	-0.18	74.98	-0.23	74.98	66.28	8.70	8.620	
2,100.00	2,100.00	2,100.00	2,100.00	4.57	4.57	-0.18	74.98	-0.23	74.98	65.83	9.15	8.196	
2,200.00	2,200.00	2,200.00	2,200.00	4.80	4.80	-0.18	74.98	-0.23	74.98	65.38	9.60	7.812	
2,300.00	2,300.00	2,300.00	2,300.00	5.02	5.02	-0.18	74.98	-0.23	74.98	64.93	10.05	7.463	
2,400.00	2,400.00	2,400.00	2,400.00	5.25	5.25	-0.18	74.98	-0.23	74.98	64.48	10.50	7.143	
2,500.00	2,500.00	2,500.00	2,500.00	5.47	5.47	-0.18	74.98	-0.23	74.98	64.03	10.95	6.850	
2,600.00	2,600.00	2,600.00	2,600.00	5.70	5.70	-0.18	74.98	-0.23	74.98	63.58	11.40	6.580	
2,700.00	2,700.00	2,700.00	2,700.00	5.92	5.92	-0.18	74.98	-0.23	74.98	63.14	11.85	6.330	
2,800.00	2,800.00	2,800.00	2,800.00	6.15	6.15	-0.18	74.98	-0.23	74.98	62.69	12.29	6.099	
2,900.00	2,900.00	2,900.00	2,900.00	6.37	6.37	-0.18	74.98	-0.23	74.98	62.24	12.74	5.883	
3,000.00	3,000.00	3,000.00	3,000.00	6.60	6.60	-0.18	74.98	-0.23	74.98	61.79	13.19	5.683	
3,100.00	3,100.00	3,100.00	3,100.00	6.82	6.82	-0.18	74.98	-0.23	74.98	61.34	13.64	5.496	
3,200.00	3,200.00	3,200.00	3,200.00	7.05	7.05	-0.18	74.98	-0.23	74.98	60.89	14.09	5.320	
3,300.00	3,300.00	3,300.00	3,300.00	7.27	7.27	-0.18	74.98	-0.23	74.98	60.44	14.54	5.156	
3,400.00	3,400.00	3,400.00	3,400.00	7.50	7.50	-0.18	74.98	-0.23	74.98	59.99	14.99	5.001	
3,500.00	3,500.00	3,500.00	3,500.00	7.72	7.72	-0.18	74.98	-0.23	74.98	59.54	15.44	4.856	
3,600.00	3,600.00	3,600.00	3,600.00	7.95	7.95	-0.18	74.98	-0.23	74.98	59.09	15.89	4.718	
3,700.00	3,700.00	3,700.00	3,700.00	8.17	8.17	-0.18	74.98	-0.23	74.98	58.64	16.34	4.589	
3,800.00	3,800.00	3,800.00	3,800.00	8.40	8.40	-0.18	74.98	-0.23	74.98	58.19	16.79	4.466	
3,900.00	3,900.00	3,900.00	3,900.00	8.62	8.62	-0.18	74.98	-0.23	74.98	57.74	17.24	4.349	
4,000.00	4,000.00	4,000.00	4,000.00	8.84	8.84	-0.18	74.98	-0.23	74.98	57.29	17.69	4.239	
4,100.00	4,100.00	4,100.00	4,100.00	9.07	9.07	-0.18	74.98	-0.23	74.98	56.84	18.14	4.134	
4,200.00	4,200.00	4,200.00	4,200.00	9.29	9.29	-0.18	74.98	-0.23	74.98	56.39	18.59	4.034	
4,300.00	4,300.00	4,300.00	4,300.00	9.52	9.52	-0.18	74.98	-0.23	74.98	55.94	19.04	3.939	
4,400.00	4,400.00	4,401.26	4,401.25	9.72	9.72	-108.86	74.12	-0.48	74.41	54.97	19.44	3.827	
4,500.00	4,499.96	4,502.42	4,502.38	9.91	9.89	-111.47	71.54	-1.22	72.80	52.99	19.80	3.676	
4,600.00	4,599.86	4,603.41	4,603.27	10.11	10.06	-116.05	67.26	-2.45	70.45	50.29	20.16	3.494	
4,700.00	4,699.68	4,704.12	4,703.79	10.30	10.24	-122.89	61.29	-4.16	67.97	47.45	20.52	3.312	
4,800.00	4,799.37	4,804.44	4,803.79	10.50	10.41	-132.18	53.65	-6.36	66.29	45.42	20.87	3.176	
4,823.61	4,822.89	4,827.87	4,827.13	10.55	10.46	-134.66	51.69	-6.92	66.20	45.24	20.96	3.159 CC, ES, SF	
4,900.00	4,898.90	4,903.62	4,902.59	10.70	10.59	-142.99	45.34	-8.74	67.27	46.06	21.21	3.171	
5,000.00	4,998.26	5,002.63	5,001.23	10.91	10.77	-153.73	37.05	-11.13	72.13	50.59	21.54	3.349	

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 321H (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:	321H (SIMOPS)	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.1 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design Cotton Draw Unit - 286H (SIMOPS) - OH - Plan #1													Offset Site Error: 0.00 usft	
Survey Program: 0-LEAM MWD-ADJ													Offset Well Error: 0.00 usft	
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)				
5,100.00	5,097.40	5,101.43	5,099.65	11.13	10.96	-163.20	28.77	-13.50	80.88	59.02	21.86	3.700		
5,200.00	5,196.30	5,200.00	5,197.84	11.36	11.15	-170.85	20.51	-15.88	93.11	70.93	22.18	4.198		
5,300.00	5,294.93	5,298.30	5,295.76	11.60	11.34	-176.73	12.28	-18.24	108.35	85.84	22.51	4.814		
5,400.00	5,393.26	5,396.30	5,393.39	11.85	11.54	178.87	4.06	-20.80	126.15	103.31	22.84	5.524		
5,500.00	5,491.25	5,493.97	5,490.69	12.11	11.73	175.60	-4.12	-22.95	146.20	123.04	23.17	6.311		
5,606.45	5,595.16	5,597.55	5,593.88	12.41	11.95	173.05	-12.80	-25.45	169.79	146.27	23.52	7.219		
5,700.00	5,686.29	5,688.39	5,684.37	12.69	12.14	171.39	-20.41	-27.63	191.55	167.64	23.91	8.012		
5,800.00	5,783.70	5,785.49	5,781.11	13.00	12.34	169.98	-28.54	-29.97	214.95	190.62	24.33	8.834		
5,900.00	5,881.11	5,882.60	5,877.84	13.31	12.55	168.85	-36.68	-32.31	238.44	213.68	24.76	9.630		
6,000.00	5,978.52	5,979.70	5,974.57	13.64	12.76	167.92	-44.81	-34.64	262.01	236.82	25.20	10.399		
6,100.00	6,075.93	6,076.80	6,071.31	13.98	12.97	167.15	-52.95	-36.98	285.64	260.00	25.64	11.141		
6,200.00	6,173.35	6,173.91	6,168.04	14.32	13.18	166.49	-61.09	-39.32	309.30	283.22	26.08	11.858		
6,300.00	6,270.76	6,271.01	6,264.77	14.67	13.40	165.93	-69.22	-41.66	333.00	306.46	26.53	12.550		
6,400.00	6,368.17	6,368.11	6,361.51	15.03	13.61	165.44	-77.36	-43.99	356.72	329.73	26.99	13.218		
6,500.00	6,465.58	6,465.22	6,458.24	15.40	13.83	165.01	-85.49	-46.33	380.47	353.02	27.45	13.861		
6,600.00	6,562.99	6,562.32	6,554.98	15.77	14.05	164.64	-93.63	-48.67	404.23	376.32	27.91	14.482		
6,700.00	6,660.40	6,659.42	6,651.71	16.15	14.28	164.30	-101.76	-51.00	428.01	399.63	28.38	15.082		
6,800.00	6,757.81	6,756.52	6,748.44	16.53	14.50	164.00	-109.90	-53.34	451.80	422.95	28.85	15.660		
6,900.00	6,855.23	6,853.63	6,845.18	16.92	14.73	163.73	-118.04	-55.68	475.60	446.27	29.33	16.217		
7,000.00	6,952.64	6,950.73	6,941.91	17.31	14.96	163.49	-126.17	-58.02	499.41	469.60	29.81	16.755		
7,100.00	7,050.05	7,047.83	7,038.64	17.70	15.18	163.26	-134.31	-60.35	523.22	492.93	30.29	17.275		
7,200.00	7,147.46	7,144.94	7,135.38	18.10	15.41	163.06	-142.44	-62.69	547.05	516.27	30.77	17.776		
7,300.00	7,244.87	7,242.04	7,232.11	18.51	15.65	162.87	-150.58	-65.03	570.88	539.61	31.26	18.261		
7,400.00	7,342.28	7,339.14	7,328.84	18.92	15.88	162.70	-158.71	-67.36	594.71	562.96	31.75	18.728		
7,500.00	7,439.70	7,436.25	7,425.58	19.33	16.11	162.55	-166.85	-69.70	618.55	586.30	32.25	19.180		
7,600.00	7,537.11	7,533.35	7,522.31	19.74	16.35	162.40	-174.99	-72.04	642.40	609.65	32.75	19.617		
7,700.00	7,634.52	7,630.45	7,619.04	20.16	16.58	162.26	-183.12	-74.38	666.24	633.00	33.25	20.040		
7,800.00	7,731.93	7,727.56	7,715.78	20.58	16.82	162.14	-191.26	-76.71	690.09	656.35	33.75	20.448		
7,900.00	7,829.34	7,824.66	7,812.51	21.00	17.06	162.02	-199.39	-79.05	713.95	679.69	34.25	20.843		
8,000.00	7,926.75	7,921.76	7,909.25	21.42	17.30	161.91	-207.53	-81.39	737.80	703.04	34.76	21.225		
8,100.00	8,024.17	8,018.87	8,005.98	21.85	17.54	161.81	-215.66	-83.72	761.66	726.39	35.27	21.595		
8,200.00	8,121.58	8,115.97	8,102.71	22.28	17.78	161.71	-223.80	-86.06	785.52	749.74	35.78	21.954		
8,300.00	8,218.99	8,213.07	8,199.45	22.71	18.02	161.62	-231.94	-88.40	809.39	773.09	36.29	22.301		
8,400.00	8,316.40	8,310.18	8,296.18	23.14	18.26	161.53	-240.07	-90.74	833.25	796.44	36.81	22.637		
8,436.32	8,351.78	8,345.44	8,331.31	23.30	18.35	161.50	-243.03	-91.58	841.92	804.92	37.00	22.756		
8,450.00	8,365.12	8,358.72	8,344.54	23.36	18.38	161.61	-244.14	-91.90	845.19	808.14	37.05	22.813		
8,500.00	8,413.92	8,407.09	8,392.73	23.54	18.50	-169.09	-248.19	-93.07	857.16	819.92	37.24	23.015		
8,550.00	8,462.55	8,454.92	8,440.37	23.72	18.62	-148.89	-252.20	-94.22	869.17	831.72	37.45	23.210		
8,600.00	8,510.63	8,501.84	8,487.12	23.88	18.74	-134.50	-256.13	-95.35	881.24	843.59	37.65	23.405		
8,650.00	8,557.80	8,548.32	8,533.42	24.02	18.85	-124.92	-259.98	-96.45	893.43	855.58	37.85	23.605		
8,700.00	8,603.70	8,593.67	8,578.62	24.15	18.96	-118.51	-263.57	-97.49	905.83	867.79	38.04	23.814		
8,750.00	8,647.97	8,637.25	8,622.06	24.27	19.06	-114.10	-266.86	-98.43	918.56	880.35	38.21	24.040		
8,800.00	8,690.28	8,678.73	8,663.43	24.37	19.16	-110.95	-269.84	-99.29	931.81	893.44	38.37	24.284		
8,850.00	8,730.31	8,717.84	8,702.44	24.46	19.25	-108.61	-272.52	-100.06	945.74	907.22	38.52	24.549		
8,900.00	8,767.76	8,754.28	8,738.79	24.55	19.33	-106.77	-274.90	-100.74	960.54	921.86	38.68	24.834		
8,950.00	8,802.33	8,787.77	8,772.21	24.62	19.41	-105.20	-276.99	-101.34	976.37	937.53	38.84	25.138		
9,000.00	8,833.77	8,818.05	8,802.43	24.69	19.48	-103.74	-278.80	-101.86	993.37	954.35	39.02	25.457		
9,050.00	8,861.84	8,844.87	8,829.21	24.76	19.54	-102.27	-280.34	-102.30	1,011.66	972.43	39.23	25.787		
9,100.00	8,886.32	8,868.01	8,852.30	24.84	19.59	-100.68	-281.62	-102.67	1,031.30	991.82	39.47	26.127		
9,150.00	8,907.03	8,887.24	8,871.50	24.91	19.63	-98.89	-282.65	-102.97	1,052.31	1,012.57	39.74	26.478		
9,200.00	8,923.80	8,902.37	8,886.62	24.99	19.66	-96.86	-283.44	-103.19	1,074.67	1,034.64	40.03	26.848		
9,250.00	8,936.52	8,913.25	8,897.48	25.09	19.69	-94.54	-284.00	-103.35	1,098.29	1,057.99	40.30	27.252		

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 321H (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:	321H (SIMOPS)	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.1 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design Cotton Draw Unit - 286H (SIMOPS) - OH - Plan #1													Offset Site Error: 0.00 usft	
Survey Program: 0-LEAM MWD-ADJ													Offset Well Error: 0.00 usft	
Reference		Offset		Semi Major Axis			Distance					Warning		
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)		Separation Factor	
9,300.00	8,945.08	8,919.74	8,903.96	25.20	19.70	-91.92	-284.32	-103.45	1,123.05	1,082.52	40.53	27.711		
9,350.00	8,949.42	8,921.72	8,905.93	25.33	19.71	-89.01	-284.42	-103.48	1,148.74	1,108.08	40.66	28.251		
9,376.03	8,950.00	8,920.93	8,905.15	25.41	19.71	-87.39	-284.38	-103.46	1,162.42	1,121.73	40.68	28.572		
9,400.00	8,950.00	8,919.64	8,903.86	25.48	19.70	-87.32	-284.32	-103.45	1,175.26	1,134.45	40.81	28.797		
9,500.00	8,950.00	8,914.17	8,898.40	25.89	19.69	-87.00	-284.04	-103.37	1,232.44	1,191.01	41.42	29.755		
9,600.00	8,950.00	8,908.60	8,892.83	26.44	19.68	-86.68	-283.76	-103.29	1,294.80	1,252.64	42.15	30.715		
9,700.00	8,950.00	8,902.92	8,887.17	27.12	19.67	-86.35	-283.47	-103.20	1,361.63	1,318.63	43.00	31.664		
9,800.00	8,950.00	8,897.14	8,881.40	27.92	19.65	-86.02	-283.17	-103.12	1,432.31	1,388.36	43.95	32.588		
9,900.00	8,950.00	8,891.25	8,875.51	28.84	19.64	-85.68	-282.86	-103.03	1,506.30	1,461.31	44.99	33.481		
10,000.00	8,950.00	8,885.25	8,869.52	29.85	19.63	-85.33	-282.55	-102.94	1,583.13	1,537.02	46.11	34.337		
10,100.00	8,950.00	8,879.13	8,863.41	30.95	19.61	-84.98	-282.22	-102.84	1,662.41	1,615.12	47.29	35.155		
10,200.00	8,950.00	8,872.89	8,857.18	32.12	19.60	-84.62	-281.89	-102.75	1,743.80	1,695.27	48.53	35.933		
10,300.00	8,950.00	11,789.19	10,457.92	33.35	31.87	-146.71	1,258.81	-107.74	1,803.85	1,758.43	45.43	39.711		
10,400.00	8,950.00	11,889.19	10,457.61	34.64	33.20	-146.71	1,358.81	-107.74	1,803.59	1,756.44	47.15	38.249		
10,500.00	8,950.00	11,989.19	10,457.30	35.98	34.59	-146.70	1,458.81	-107.74	1,803.33	1,754.39	48.94	36.851		
10,600.00	8,950.00	12,089.19	10,456.98	37.36	36.01	-146.70	1,558.81	-107.74	1,803.07	1,752.30	50.76	35.519		
10,700.00	8,950.00	12,189.19	10,456.67	38.78	37.46	-146.69	1,658.81	-107.74	1,802.81	1,750.17	52.63	34.252		
10,800.00	8,950.00	12,289.18	10,456.36	40.23	38.95	-146.69	1,758.81	-107.74	1,802.55	1,748.00	54.54	33.048		
10,900.00	8,950.00	12,389.18	10,456.04	41.72	40.47	-146.68	1,858.80	-107.74	1,802.28	1,745.80	56.49	31.907		
11,000.00	8,950.00	12,489.18	10,455.73	43.23	42.01	-146.68	1,958.80	-107.74	1,802.02	1,743.56	58.46	30.826		
11,100.00	8,950.00	12,589.18	10,455.41	44.76	43.57	-146.67	2,058.80	-107.74	1,801.76	1,741.30	60.46	29.801		
11,200.00	8,950.00	12,689.18	10,455.10	46.32	45.15	-146.67	2,158.80	-107.75	1,801.50	1,739.01	62.49	28.830		
11,300.00	8,950.00	12,789.18	10,454.79	47.89	46.76	-146.66	2,258.80	-107.75	1,801.24	1,736.70	64.54	27.911		
11,400.00	8,950.00	12,889.18	10,454.47	49.49	48.37	-146.65	2,358.80	-107.75	1,800.98	1,734.37	66.61	27.039		
11,500.00	8,950.00	12,989.18	10,454.16	51.10	50.00	-146.65	2,458.80	-107.75	1,800.71	1,732.02	68.70	26.213		
11,600.00	8,950.00	13,089.18	10,453.85	52.72	51.65	-146.64	2,558.80	-107.75	1,800.45	1,729.65	70.80	25.429		
11,700.00	8,950.00	13,189.18	10,453.53	54.35	53.30	-146.64	2,658.80	-107.75	1,800.19	1,727.27	72.92	24.686		
11,800.00	8,950.00	13,289.18	10,453.22	56.00	54.97	-146.63	2,758.80	-107.75	1,799.93	1,724.87	75.06	23.979		
11,900.00	8,950.00	13,389.18	10,452.91	57.66	56.65	-146.63	2,858.80	-107.75	1,799.67	1,722.46	77.21	23.308		
12,000.00	8,950.00	13,489.18	10,452.59	59.33	58.33	-146.62	2,958.79	-107.75	1,799.41	1,720.03	79.37	22.670		
12,100.00	8,950.00	13,589.18	10,452.28	61.01	60.03	-146.62	3,058.79	-107.75	1,799.15	1,717.60	81.55	22.062		
12,200.00	8,950.00	13,689.18	10,451.97	62.69	61.73	-146.61	3,158.79	-107.75	1,798.88	1,715.15	83.73	21.483		
12,300.00	8,950.00	13,789.18	10,451.65	64.39	63.44	-146.60	3,258.79	-107.75	1,798.62	1,712.69	85.93	20.932		
12,400.00	8,950.00	13,889.18	10,451.34	66.09	65.15	-146.60	3,358.79	-107.75	1,798.36	1,710.23	88.13	20.405		
12,500.00	8,950.00	13,989.18	10,451.03	67.79	66.87	-146.59	3,458.79	-107.75	1,798.10	1,707.76	90.34	19.903		
12,600.00	8,950.00	14,089.18	10,450.71	69.51	68.60	-146.59	3,558.79	-107.75	1,797.84	1,705.27	92.56	19.423		
12,700.00	8,950.00	14,189.18	10,450.40	71.22	70.33	-146.58	3,658.79	-107.75	1,797.58	1,702.79	94.79	18.963		
12,800.00	8,950.00	14,289.18	10,450.09	72.95	72.07	-146.58	3,758.79	-107.76	1,797.32	1,700.29	97.03	18.524		
12,900.00	8,950.00	14,389.17	10,449.77	74.68	73.81	-146.57	3,858.79	-107.76	1,797.05	1,697.79	99.27	18.103		
13,000.00	8,950.00	14,489.17	10,449.46	76.41	75.55	-146.57	3,958.78	-107.76	1,796.79	1,695.28	101.51	17.700		
13,100.00	8,950.00	14,589.17	10,449.15	78.15	77.30	-146.56	4,058.78	-107.76	1,796.53	1,692.77	103.77	17.313		
13,200.00	8,950.00	14,689.17	10,448.83	79.89	79.05	-146.56	4,158.78	-107.76	1,796.27	1,690.25	106.02	16.942		
13,300.00	8,950.00	14,789.17	10,448.52	81.64	80.81	-146.55	4,258.78	-107.76	1,796.01	1,687.72	108.29	16.586		
13,400.00	8,950.00	14,889.17	10,448.21	83.38	82.57	-146.54	4,358.78	-107.76	1,795.75	1,685.19	110.55	16.243		
13,467.35	8,950.00	14,954.50	10,448.00	84.56	83.72	-146.54	4,424.11	-107.76	1,795.57	1,683.51	112.06	16.023		
13,476.03	8,950.00	14,954.50	10,448.00	84.72	83.72	-146.54	4,424.11	-107.76	1,795.58	1,683.42	112.16	16.009		

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 321H (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:	321H (SIMOPS)	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.1 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design Cotton Draw Unit - 312H (SIMOPS) - OH - Plan #1													Offset Site Error:	0.00 usft
Survey Program: 0-LEAM MWD-ADJ													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
0.00	0.00	0.00	0.00	0.00	0.00	179.82	-74.98	0.23	74.98					
100.00	100.00	100.00	100.00	0.08	0.08	179.82	-74.98	0.23	74.98	74.82	0.16	476.561		
200.00	200.00	200.00	200.00	0.30	0.30	179.82	-74.98	0.23	74.98	74.37	0.61	123.553		
300.00	300.00	300.00	300.00	0.53	0.53	179.82	-74.98	0.23	74.98	73.92	1.06	70.977		
400.00	400.00	400.00	400.00	0.75	0.75	179.82	-74.98	0.23	74.98	73.47	1.51	49.790		
500.00	500.00	500.00	500.00	0.98	0.98	179.82	-74.98	0.23	74.98	73.02	1.96	38.344		
600.00	600.00	600.00	600.00	1.20	1.20	179.82	-74.98	0.23	74.98	72.58	2.40	31.177		
700.00	700.00	700.00	700.00	1.43	1.43	179.82	-74.98	0.23	74.98	72.13	2.85	26.267		
800.00	800.00	800.00	800.00	1.65	1.65	179.82	-74.98	0.23	74.98	71.68	3.30	22.693		
900.00	900.00	900.00	900.00	1.88	1.88	179.82	-74.98	0.23	74.98	71.23	3.75	19.976		
1,000.00	1,000.00	1,000.00	1,000.00	2.10	2.10	179.82	-74.98	0.23	74.98	70.78	4.20	17.839		
1,100.00	1,100.00	1,100.00	1,100.00	2.33	2.33	179.82	-74.98	0.23	74.98	70.33	4.65	16.116		
1,200.00	1,200.00	1,200.00	1,200.00	2.55	2.55	179.82	-74.98	0.23	74.98	69.88	5.10	14.696		
1,300.00	1,300.00	1,300.00	1,300.00	2.78	2.78	179.82	-74.98	0.23	74.98	69.43	5.55	13.506		
1,400.00	1,400.00	1,400.00	1,400.00	3.00	3.00	179.82	-74.98	0.23	74.98	68.98	6.00	12.494		
1,500.00	1,500.00	1,500.00	1,500.00	3.23	3.23	179.82	-74.98	0.23	74.98	68.53	6.45	11.623		
1,600.00	1,600.00	1,600.00	1,600.00	3.45	3.45	179.82	-74.98	0.23	74.98	68.08	6.90	10.866		
1,700.00	1,700.00	1,700.00	1,700.00	3.67	3.67	179.82	-74.98	0.23	74.98	67.63	7.35	10.202		
1,800.00	1,800.00	1,800.00	1,800.00	3.90	3.90	179.82	-74.98	0.23	74.98	67.18	7.80	9.614		
1,900.00	1,900.00	1,900.00	1,900.00	4.12	4.12	179.82	-74.98	0.23	74.98	66.73	8.25	9.090		
2,000.00	2,000.00	2,000.00	2,000.00	4.35	4.35	179.82	-74.98	0.23	74.98	66.28	8.70	8.620		
2,100.00	2,100.00	2,100.00	2,100.00	4.57	4.57	179.82	-74.98	0.23	74.98	65.83	9.15	8.196		
2,200.00	2,200.00	2,200.00	2,200.00	4.80	4.80	179.82	-74.98	0.23	74.98	65.38	9.60	7.812		
2,300.00	2,300.00	2,300.00	2,300.00	5.02	5.02	179.82	-74.98	0.23	74.98	64.93	10.05	7.463		
2,400.00	2,400.00	2,400.00	2,400.00	5.25	5.25	179.82	-74.98	0.23	74.98	64.48	10.50	7.143		
2,500.00	2,500.00	2,500.00	2,500.00	5.47	5.47	179.82	-74.98	0.23	74.98	64.03	10.95	6.850		
2,600.00	2,600.00	2,600.00	2,600.00	5.70	5.70	179.82	-74.98	0.23	74.98	63.58	11.40	6.580		
2,700.00	2,700.00	2,700.00	2,700.00	5.92	5.92	179.82	-74.98	0.23	74.98	63.14	11.85	6.330		
2,800.00	2,800.00	2,800.00	2,800.00	6.15	6.15	179.82	-74.98	0.23	74.98	62.69	12.29	6.099		
2,900.00	2,900.00	2,900.00	2,900.00	6.37	6.37	179.82	-74.98	0.23	74.98	62.24	12.74	5.883		
3,000.00	3,000.00	3,000.00	3,000.00	6.60	6.60	179.82	-74.98	0.23	74.98	61.79	13.19	5.683		
3,100.00	3,100.00	3,100.00	3,100.00	6.82	6.82	179.82	-74.98	0.23	74.98	61.34	13.64	5.496		
3,200.00	3,200.00	3,200.00	3,200.00	7.05	7.05	179.82	-74.98	0.23	74.98	60.89	14.09	5.320		
3,300.00	3,300.00	3,300.00	3,300.00	7.27	7.27	179.82	-74.98	0.23	74.98	60.44	14.54	5.156		
3,400.00	3,400.00	3,400.00	3,400.00	7.50	7.50	179.82	-74.98	0.23	74.98	59.99	14.99	5.001		
3,500.00	3,500.00	3,500.00	3,500.00	7.72	7.72	179.82	-74.98	0.23	74.98	59.54	15.44	4.856		
3,600.00	3,600.00	3,600.00	3,600.00	7.95	7.95	179.82	-74.98	0.23	74.98	59.09	15.89	4.718		
3,700.00	3,700.00	3,700.00	3,700.00	8.17	8.17	179.82	-74.98	0.23	74.98	58.64	16.34	4.589		
3,800.00	3,800.00	3,800.00	3,800.00	8.40	8.40	179.82	-74.98	0.23	74.98	58.19	16.79	4.466		
3,900.00	3,900.00	3,900.00	3,900.00	8.62	8.62	179.82	-74.98	0.23	74.98	57.74	17.24	4.349		
4,000.00	4,000.00	4,000.00	4,000.00	8.84	8.84	179.82	-74.98	0.23	74.98	57.29	17.69	4.239		
4,100.00	4,100.00	4,100.00	4,100.00	9.07	9.07	179.82	-74.98	0.23	74.98	56.84	18.14	4.134		
4,200.00	4,200.00	4,200.00	4,200.00	9.29	9.29	179.82	-74.98	0.23	74.98	56.39	18.59	4.034		
4,300.00	4,300.00	4,300.00	4,300.00	9.52	9.52	179.82	-74.98	0.23	74.98	55.94	19.04	3.939 CC, ES		
4,400.00	4,400.00	4,398.74	4,398.73	9.72	9.71	72.77	-75.80	0.01	75.55	56.11	19.44	3.887 SF		
4,500.00	4,499.96	4,497.40	4,497.36	9.91	9.88	75.05	-78.26	-0.66	77.34	57.55	19.79	3.907		
4,600.00	4,599.86	4,595.88	4,595.75	10.11	10.05	78.62	-82.35	-1.77	80.58	60.43	20.15	3.999		
4,700.00	4,699.68	4,694.12	4,693.81	10.30	10.22	83.11	-88.06	-3.32	85.61	65.09	20.52	4.172		
4,800.00	4,799.37	4,792.02	4,791.41	10.50	10.39	88.11	-95.35	-5.30	92.76	71.88	20.89	4.441		
4,900.00	4,898.90	4,890.45	4,889.43	10.70	10.57	93.26	-104.06	-7.67	102.08	80.81	21.27	4.800		
5,000.00	4,998.26	4,989.42	4,987.97	10.91	10.75	98.38	-112.98	-10.09	112.51	90.87	21.65	5.197		
5,100.00	5,097.40	5,088.19	5,086.31	11.13	10.93	103.36	-121.88	-12.50	124.12	102.09	22.03	5.633		

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 321H (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:	321H (SIMOPS)	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.1 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design Cotton Draw Unit - 312H (SIMOPS) - OH - Plan #1												Offset Site Error:	0.00 usft
Survey Program: 0-LEAM MWD-ADJ												Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis		Distance							
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
5,200.00	5,196.30	5,186.72	5,184.41	11.36	11.12	108.13	-130.76	-14.91	137.07	114.65	22.42	6.113	
5,300.00	5,294.93	5,284.99	5,282.25	11.60	11.32	112.63	-139.62	-17.32	151.50	128.69	22.81	6.642	
5,400.00	5,393.26	5,382.96	5,379.79	11.85	11.51	116.83	-148.44	-19.71	167.51	144.32	23.20	7.221	
5,500.00	5,491.25	5,480.81	5,477.02	12.11	11.71	120.72	-157.24	-22.10	185.19	161.60	23.59	7.852	
5,606.45	5,595.16	5,584.18	5,580.13	12.41	11.93	124.51	-166.57	-24.64	205.89	181.89	24.00	8.580	
5,700.00	5,686.29	5,674.99	5,670.55	12.69	12.12	127.56	-174.76	-26.86	225.25	200.87	24.39	9.237	
5,800.00	5,783.70	5,772.08	5,767.21	13.00	12.32	130.29	-183.51	-29.23	246.53	221.72	24.81	9.937	
5,900.00	5,881.11	5,869.16	5,863.87	13.31	12.53	132.59	-192.25	-31.61	268.26	243.01	25.24	10.627	
6,000.00	5,978.52	5,966.25	5,960.53	13.64	12.75	134.55	-201.00	-33.98	290.34	264.66	25.68	11.305	
6,100.00	6,075.93	6,063.33	6,057.19	13.98	12.96	136.22	-209.75	-36.36	312.70	286.57	26.13	11.967	
6,200.00	6,173.35	6,160.41	6,153.85	14.32	13.18	137.68	-218.50	-38.73	335.29	308.70	26.59	12.611	
6,300.00	6,270.76	6,257.50	6,250.51	14.67	13.39	138.95	-227.24	-41.11	358.05	331.00	27.05	13.238	
6,400.00	6,368.17	6,354.58	6,347.17	15.03	13.62	140.07	-235.99	-43.48	380.96	353.45	27.51	13.847	
6,500.00	6,465.58	6,451.67	6,443.83	15.40	13.84	141.07	-244.74	-45.86	404.00	376.02	27.98	14.437	
6,600.00	6,562.99	6,548.75	6,540.49	15.77	14.06	141.95	-253.49	-48.23	427.14	398.68	28.46	15.008	
6,700.00	6,660.40	6,645.83	6,637.15	16.15	14.29	142.75	-262.24	-50.60	450.37	421.43	28.94	15.561	
6,800.00	6,757.81	6,742.92	6,733.81	16.53	14.52	143.47	-270.98	-52.98	473.67	444.24	29.43	16.096	
6,900.00	6,855.23	6,840.00	6,830.46	16.92	14.75	144.12	-279.73	-55.35	497.03	467.12	29.92	16.614	
7,000.00	6,952.64	6,937.08	6,927.12	17.31	14.98	144.71	-288.48	-57.73	520.45	490.05	30.41	17.115	
7,100.00	7,050.05	7,034.17	7,023.78	17.70	15.21	145.25	-297.23	-60.10	543.92	513.02	30.91	17.600	
7,200.00	7,147.46	7,131.25	7,120.44	18.10	15.45	145.75	-305.98	-62.48	567.43	536.03	31.41	18.068	
7,300.00	7,244.87	7,228.34	7,217.10	18.51	15.68	146.21	-314.72	-64.85	590.98	559.07	31.91	18.521	
7,400.00	7,342.28	7,325.42	7,313.76	18.92	15.92	146.63	-323.47	-67.23	614.56	582.15	32.41	18.960	
7,500.00	7,439.70	7,422.50	7,410.42	19.33	16.16	147.02	-332.22	-69.60	638.17	605.25	32.92	19.384	
7,600.00	7,537.11	7,519.59	7,507.08	19.74	16.40	147.38	-340.97	-71.98	661.81	628.38	33.43	19.794	
7,700.00	7,634.52	7,616.67	7,603.74	20.16	16.64	147.72	-349.72	-74.35	685.47	651.52	33.95	20.192	
7,800.00	7,731.93	7,713.76	7,700.40	20.58	16.88	148.04	-358.46	-76.73	709.15	674.69	34.46	20.576	
7,900.00	7,829.34	7,810.84	7,797.06	21.00	17.12	148.33	-367.21	-79.10	732.85	697.87	34.98	20.948	
8,000.00	7,926.75	7,907.92	7,893.72	21.42	17.36	148.61	-375.96	-81.48	756.57	721.06	35.50	21.309	
8,100.00	8,024.17	8,005.01	7,990.38	21.85	17.61	148.87	-384.71	-83.85	780.30	744.27	36.03	21.658	
8,200.00	8,121.58	8,102.09	8,087.04	22.28	17.85	149.11	-393.46	-86.23	804.05	767.49	36.55	21.997	
8,300.00	8,218.99	8,199.17	8,183.70	22.71	18.10	149.34	-402.20	-88.60	827.81	790.73	37.08	22.325	
8,400.00	8,316.40	8,296.26	8,280.36	23.14	18.35	149.56	-410.95	-90.98	851.58	813.97	37.61	22.643	
8,436.32	8,351.78	8,331.52	8,315.46	23.30	18.44	149.64	-414.13	-91.84	860.21	822.41	37.80	22.756	
8,450.00	8,365.12	8,344.80	8,328.69	23.36	18.47	155.77	-415.32	-92.16	863.50	825.68	37.83	22.828	
8,500.00	8,413.92	8,393.13	8,376.81	23.54	18.59	179.27	-419.68	-93.35	876.10	838.20	37.90	23.115	
8,550.00	8,462.55	8,440.90	8,424.37	23.72	18.72	-160.25	-423.98	-94.52	889.55	851.58	37.97	23.428	
8,600.00	8,510.63	8,489.32	8,472.59	23.88	18.84	-145.50	-428.27	-95.68	903.81	865.78	38.03	23.764	
8,650.00	8,557.80	8,536.78	8,519.86	24.02	18.95	-135.49	-432.28	-96.77	918.83	880.75	38.09	24.126	
8,700.00	8,603.70	8,582.75	8,565.67	24.15	19.06	-128.57	-435.99	-97.77	934.69	896.55	38.13	24.511	
8,750.00	8,647.97	8,626.90	8,609.69	24.27	19.16	-123.60	-439.38	-98.70	951.45	913.27	38.18	24.922	
8,800.00	8,690.28	8,668.95	8,651.61	24.37	19.26	-119.85	-442.46	-99.53	969.22	931.00	38.23	25.354	
8,850.00	8,730.31	8,708.57	8,691.13	24.46	19.35	-116.85	-445.22	-100.28	988.11	949.82	38.29	25.806	
8,900.00	8,767.76	8,745.49	8,727.96	24.55	19.43	-114.31	-447.68	-100.95	1,008.21	969.83	38.38	26.269	
8,950.00	8,802.33	8,779.42	8,761.82	24.62	19.51	-112.00	-449.84	-101.53	1,029.60	991.08	38.51	26.734	
9,000.00	8,833.77	8,810.09	8,792.43	24.69	19.58	-109.77	-451.71	-102.04	1,052.34	1,013.64	38.70	27.193	
9,050.00	8,861.84	8,837.26	8,819.54	24.76	19.64	-107.49	-453.30	-102.47	1,076.47	1,037.52	38.95	27.637	
9,100.00	8,886.32	8,860.68	8,842.93	24.84	19.70	-105.06	-454.61	-102.83	1,101.97	1,062.70	39.27	28.064	
9,150.00	8,907.03	8,880.14	8,862.36	24.91	19.74	-102.41	-455.68	-103.12	1,128.79	1,089.16	39.63	28.482	
9,200.00	8,923.80	8,895.45	8,877.65	24.99	19.77	-99.49	-456.49	-103.34	1,156.84	1,116.82	40.02	28.909	
9,250.00	8,936.52	8,906.44	8,888.62	25.09	19.80	-96.26	-457.06	-103.49	1,185.98	1,145.60	40.37	29.375	
9,300.00	8,945.08	8,912.97	8,895.14	25.20	19.81	-92.74	-457.39	-103.58	1,216.02	1,175.37	40.65	29.918	

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 321H (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:	321H (SIMOPS)	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.1 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design Cotton Draw Unit - 312H (SIMOPS) - OH - Plan #1													Offset Site Error: 0.00 usft	
Survey Program: 0-LEAM MWD-ADJ													Offset Well Error: 0.00 usft	
Reference		Offset		Semi Major Axis			Distance						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		
9,350.00	8,949.42	8,914.93	8,897.09	25.33	19.82	-88.94	-457.49	-103.61	1,246.75	1,205.98	40.77	30.580		
9,376.03	8,950.00	8,914.11	8,896.27	25.41	19.82	-86.88	-457.45	-103.60	1,262.94	1,222.18	40.76	30.984		
9,400.00	8,950.00	8,912.77	8,894.94	25.48	19.81	-86.80	-457.38	-103.58	1,278.02	1,237.13	40.89	31.256		
9,500.00	8,950.00	8,907.11	8,889.29	25.89	19.80	-86.48	-457.09	-103.50	1,343.73	1,302.24	41.49	32.385		
9,600.00	8,950.00	8,901.35	8,883.53	26.44	19.79	-86.14	-456.80	-103.42	1,413.44	1,371.22	42.22	33.476		
9,700.00	8,950.00	8,895.47	8,877.66	27.12	19.77	-85.80	-456.49	-103.34	1,486.59	1,443.53	43.07	34.519		
9,800.00	8,950.00	8,889.48	8,871.68	27.92	19.76	-85.46	-456.17	-103.25	1,562.70	1,518.69	44.01	35.507		
9,900.00	8,950.00	8,883.38	8,865.59	28.84	19.75	-85.10	-455.85	-103.17	1,641.36	1,596.32	45.04	36.439		
10,000.00	8,950.00	8,877.16	8,859.38	29.85	19.73	-84.74	-455.51	-103.07	1,722.21	1,676.06	46.15	37.314		
10,100.00	8,950.00	8,870.81	8,853.04	30.95	19.72	-84.38	-455.17	-102.98	1,804.97	1,757.64	47.33	38.135		
10,200.00	8,950.00	8,864.34	8,846.58	32.12	19.70	-84.01	-454.82	-102.89	1,889.37	1,840.80	48.57	38.903		
10,300.00	8,950.00	8,857.73	8,839.98	33.35	19.69	-83.63	-454.45	-102.79	1,975.21	1,925.36	49.85	39.622		
10,400.00	8,950.00	8,850.99	8,833.26	34.64	19.67	-83.24	-454.07	-102.68	2,062.31	2,011.14	51.18	40.297		
10,500.00	8,950.00	8,844.12	8,826.39	35.98	19.66	-82.85	-453.69	-102.58	2,150.52	2,097.98	52.54	40.930		
10,600.00	8,950.00	8,837.10	8,819.38	37.36	19.64	-82.44	-453.29	-102.47	2,239.70	2,185.76	53.94	41.526		
10,700.00	8,950.00	8,829.93	8,812.23	38.78	19.63	-82.03	-452.87	-102.36	2,329.74	2,274.38	55.35	42.087		
10,800.00	8,950.00	8,822.61	8,804.92	40.23	19.61	-81.62	-452.45	-102.24	2,420.54	2,363.75	56.80	42.618		
10,900.00	8,950.00	8,815.13	8,797.46	41.72	19.59	-81.19	-452.01	-102.12	2,512.03	2,453.77	58.26	43.121		
11,000.00	8,950.00	8,807.49	8,789.83	43.23	19.58	-80.76	-451.55	-102.00	2,604.13	2,544.40	59.73	43.599		
11,100.00	8,950.00	8,799.68	8,782.04	44.76	19.56	-80.31	-451.08	-101.87	2,696.77	2,635.55	61.21	44.054		
11,200.00	8,950.00	8,791.70	8,774.08	46.32	19.54	-79.86	-450.60	-101.74	2,789.90	2,727.19	62.71	44.490		
11,300.00	8,950.00	8,783.54	8,765.93	47.89	19.52	-79.40	-450.10	-101.60	2,883.47	2,819.27	64.21	44.908		
11,400.00	8,950.00	14,289.10	11,690.00	49.49	51.92	-160.13	2,354.09	-107.76	2,913.36	2,855.20	58.17	50.087		
11,500.00	8,950.00	14,389.10	11,690.00	51.10	53.54	-160.13	2,454.09	-107.76	2,913.36	2,853.61	59.75	48.758		
11,600.00	8,950.00	14,489.10	11,690.00	52.72	55.16	-160.13	2,554.09	-107.76	2,913.36	2,852.01	61.35	47.486		
11,700.00	8,950.00	14,589.10	11,690.00	54.35	56.80	-160.13	2,654.09	-107.76	2,913.36	2,850.39	62.97	46.268		
11,800.00	8,950.00	14,689.10	11,690.00	56.00	58.45	-160.13	2,754.09	-107.76	2,913.36	2,848.77	64.59	45.103		
11,900.00	8,950.00	14,789.10	11,690.00	57.66	60.11	-160.13	2,854.09	-107.76	2,913.36	2,847.13	66.23	43.987		
12,000.00	8,950.00	14,889.10	11,690.00	59.33	61.78	-160.13	2,954.09	-107.76	2,913.36	2,845.48	67.88	42.917		
12,100.00	8,950.00	14,989.10	11,690.00	61.01	63.46	-160.13	3,054.09	-107.76	2,913.36	2,843.82	69.54	41.893		
12,200.00	8,950.00	15,089.10	11,690.00	62.69	65.14	-160.13	3,154.09	-107.76	2,913.36	2,842.15	71.21	40.910		
12,300.00	8,950.00	15,189.10	11,690.00	64.39	66.84	-160.13	3,254.09	-107.76	2,913.36	2,840.47	72.89	39.968		
12,400.00	8,950.00	15,289.10	11,690.00	66.09	68.54	-160.13	3,354.09	-107.76	2,913.36	2,838.78	74.58	39.064		
12,500.00	8,950.00	15,389.10	11,690.00	67.79	70.24	-160.13	3,454.09	-107.76	2,913.36	2,837.09	76.27	38.196		
12,600.00	8,950.00	15,489.10	11,690.00	69.51	71.96	-160.13	3,554.09	-107.76	2,913.36	2,835.38	77.98	37.362		
12,700.00	8,950.00	15,589.10	11,690.00	71.22	73.67	-160.13	3,654.09	-107.76	2,913.36	2,833.68	79.69	36.560		
12,800.00	8,950.00	15,689.10	11,690.00	72.95	75.40	-160.13	3,754.09	-107.76	2,913.36	2,831.96	81.40	35.790		
12,900.00	8,950.00	15,789.10	11,690.00	74.68	77.13	-160.13	3,854.09	-107.76	2,913.36	2,830.24	83.12	35.049		
13,000.00	8,950.00	15,889.10	11,690.00	76.41	78.86	-160.13	3,954.09	-107.76	2,913.36	2,828.51	84.85	34.335		
13,100.00	8,950.00	15,989.10	11,690.00	78.15	80.59	-160.13	4,054.09	-107.76	2,913.36	2,826.78	86.58	33.648		
13,200.00	8,950.00	16,089.10	11,690.00	79.89	82.34	-160.13	4,154.09	-107.76	2,913.36	2,825.04	88.32	32.986		
13,300.00	8,950.00	16,189.10	11,690.00	81.64	84.08	-160.13	4,254.09	-107.76	2,913.36	2,823.30	90.06	32.348		
13,400.00	8,950.00	16,289.10	11,690.00	83.38	85.83	-160.13	4,354.09	-107.76	2,913.36	2,821.55	91.81	31.733		
13,453.56	8,950.00	16,342.65	11,690.00	84.32	86.76	-160.13	4,407.65	-107.76	2,913.36	2,820.61	92.75	31.412		
13,476.03	8,950.00	16,359.12	11,690.00	84.72	87.05	-160.13	4,424.11	-107.76	2,913.37	2,820.28	93.09	31.297		

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

Company:	DEVON ENERGY	Local Co-ordinate Reference:	Well 321H (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:	321H (SIMOPS)	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.1 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design Cotton Draw Unit - 313H (SIMOPS) - OH - Plan #1													Offset Site Error:	0.00 usft
Survey Program: 0-LEAM MWD-ADJ													Offset Well Error:	0.00 usft
Reference	Offset	Semi Major Axis		Distance		Warning								
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
0.00	0.00	0.00	0.00	0.00	0.00	179.82	-49.99	0.16	49.99					
100.00	100.00	100.00	100.00	0.08	0.08	179.82	-49.99	0.16	49.99	49.83	0.16	317.728		
200.00	200.00	200.00	200.00	0.30	0.30	179.82	-49.99	0.16	49.99	49.38	0.61	82.374		
300.00	300.00	300.00	300.00	0.53	0.53	179.82	-49.99	0.16	49.99	48.93	1.06	47.321		
400.00	400.00	400.00	400.00	0.75	0.75	179.82	-49.99	0.16	49.99	48.48	1.51	33.196		
500.00	500.00	500.00	500.00	0.98	0.98	179.82	-49.99	0.16	49.99	48.03	1.96	25.564		
600.00	600.00	600.00	600.00	1.20	1.20	179.82	-49.99	0.16	49.99	47.59	2.40	20.786		
700.00	700.00	700.00	700.00	1.43	1.43	179.82	-49.99	0.16	49.99	47.14	2.85	17.513		
800.00	800.00	800.00	800.00	1.65	1.65	179.82	-49.99	0.16	49.99	46.69	3.30	15.130		
900.00	900.00	900.00	900.00	1.88	1.88	179.82	-49.99	0.16	49.99	46.24	3.75	13.318		
1,000.00	1,000.00	1,000.00	1,000.00	2.10	2.10	179.82	-49.99	0.16	49.99	45.79	4.20	11.894		
1,100.00	1,100.00	1,100.00	1,100.00	2.33	2.33	179.82	-49.99	0.16	49.99	45.34	4.65	10.744		
1,200.00	1,200.00	1,200.00	1,200.00	2.55	2.55	179.82	-49.99	0.16	49.99	44.89	5.10	9.798		
1,300.00	1,300.00	1,300.00	1,300.00	2.78	2.78	179.82	-49.99	0.16	49.99	44.44	5.55	9.004		
1,400.00	1,400.00	1,400.00	1,400.00	3.00	3.00	179.82	-49.99	0.16	49.99	43.99	6.00	8.330		
1,500.00	1,500.00	1,500.00	1,500.00	3.23	3.23	179.82	-49.99	0.16	49.99	43.54	6.45	7.749		
1,600.00	1,600.00	1,600.00	1,600.00	3.45	3.45	179.82	-49.99	0.16	49.99	43.09	6.90	7.245		
1,700.00	1,700.00	1,700.00	1,700.00	3.67	3.67	179.82	-49.99	0.16	49.99	42.64	7.35	6.802		
1,800.00	1,800.00	1,800.00	1,800.00	3.90	3.90	179.82	-49.99	0.16	49.99	42.19	7.80	6.410		
1,900.00	1,900.00	1,900.00	1,900.00	4.12	4.12	179.82	-49.99	0.16	49.99	41.74	8.25	6.060		
2,000.00	2,000.00	2,000.00	2,000.00	4.35	4.35	179.82	-49.99	0.16	49.99	41.29	8.70	5.747		
2,100.00	2,100.00	2,100.00	2,100.00	4.57	4.57	179.82	-49.99	0.16	49.99	40.84	9.15	5.465		
2,200.00	2,200.00	2,200.00	2,200.00	4.80	4.80	179.82	-49.99	0.16	49.99	40.39	9.60	5.209		
2,300.00	2,300.00	2,300.00	2,300.00	5.02	5.02	179.82	-49.99	0.16	49.99	39.94	10.05	4.976		
2,400.00	2,400.00	2,400.00	2,400.00	5.25	5.25	179.82	-49.99	0.16	49.99	39.49	10.50	4.763		
2,500.00	2,500.00	2,500.00	2,500.00	5.47	5.47	179.82	-49.99	0.16	49.99	39.04	10.95	4.567		
2,600.00	2,600.00	2,600.00	2,600.00	5.70	5.70	179.82	-49.99	0.16	49.99	38.59	11.40	4.387		
2,700.00	2,700.00	2,700.00	2,700.00	5.92	5.92	179.82	-49.99	0.16	49.99	38.15	11.85	4.220		
2,800.00	2,800.00	2,800.00	2,800.00	6.15	6.15	179.82	-49.99	0.16	49.99	37.70	12.29	4.066		
2,900.00	2,900.00	2,900.00	2,900.00	6.37	6.37	179.82	-49.99	0.16	49.99	37.25	12.74	3.923		
3,000.00	3,000.00	3,000.00	3,000.00	6.60	6.60	179.82	-49.99	0.16	49.99	36.80	13.19	3.789		
3,100.00	3,100.00	3,100.00	3,100.00	6.82	6.82	179.82	-49.99	0.16	49.99	36.35	13.64	3.664		
3,200.00	3,200.00	3,200.00	3,200.00	7.05	7.05	179.82	-49.99	0.16	49.99	35.90	14.09	3.547		
3,300.00	3,300.00	3,300.00	3,300.00	7.27	7.27	179.82	-49.99	0.16	49.99	35.45	14.54	3.438		
3,400.00	3,400.00	3,400.00	3,400.00	7.50	7.50	179.82	-49.99	0.16	49.99	35.00	14.99	3.334		
3,500.00	3,500.00	3,500.00	3,500.00	7.72	7.72	179.82	-49.99	0.16	49.99	34.55	15.44	3.237		
3,600.00	3,600.00	3,600.00	3,600.00	7.95	7.95	179.82	-49.99	0.16	49.99	34.10	15.89	3.146		
3,700.00	3,700.00	3,700.00	3,700.00	8.17	8.17	179.82	-49.99	0.16	49.99	33.65	16.34	3.059		
3,800.00	3,800.00	3,800.00	3,800.00	8.40	8.40	179.82	-49.99	0.16	49.99	33.20	16.79	2.977		
3,900.00	3,900.00	3,900.00	3,900.00	8.62	8.62	179.82	-49.99	0.16	49.99	32.75	17.24	2.900		
4,000.00	4,000.00	4,000.00	4,000.00	8.84	8.84	179.82	-49.99	0.16	49.99	32.30	17.69	2.826		
4,100.00	4,100.00	4,100.00	4,100.00	9.07	9.07	179.82	-49.99	0.16	49.99	31.85	18.14	2.756		
4,200.00	4,200.00	4,200.00	4,200.00	9.29	9.29	179.82	-49.99	0.16	49.99	31.40	18.59	2.689		
4,300.00	4,300.00	4,300.00	4,300.00	9.52	9.52	179.82	-49.99	0.16	49.99	30.95	19.04	2.626 CC		
4,400.00	4,400.00	4,399.58	4,399.58	9.72	9.72	72.05	-50.40	0.92	50.14	30.69	19.45	2.578 ES		
4,500.00	4,499.96	4,499.16	4,499.12	9.91	9.90	72.27	-51.64	3.20	50.58	30.76	19.82	2.552		
4,600.00	4,599.86	4,598.74	4,598.61	10.11	10.09	72.63	-53.70	7.00	51.31	31.12	20.19	2.541 SF		
4,700.00	4,699.68	4,698.32	4,698.00	10.30	10.28	73.12	-56.59	12.33	52.35	31.77	20.58	2.544		
4,800.00	4,799.37	4,797.89	4,797.26	10.50	10.47	73.72	-60.30	19.16	53.68	32.71	20.97	2.560		
4,900.00	4,898.90	4,897.45	4,896.37	10.70	10.67	74.42	-64.83	27.52	55.32	33.95	21.36	2.589		
5,000.00	4,998.26	4,997.00	4,995.28	10.91	10.88	75.19	-70.18	37.38	57.26	35.49	21.78	2.630		
5,100.00	5,097.40	5,096.55	5,093.98	11.13	11.09	76.01	-76.34	48.75	59.51	37.31	22.20	2.681		

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 321H (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:	321H (SIMOPS)	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.1 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design Cotton Draw Unit - 313H (SIMOPS) - OH - Plan #1													Offset Site Error: 0.00 usft	
Survey Program: 0-LEAM MWD-ADJ													Offset Well Error: 0.00 usft	
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
5,200.00	5,196.30	5,196.08	5,192.43	11.36	11.31	76.87	-83.33	61.63	62.08	39.44	22.64	2.742		
5,300.00	5,294.93	5,295.73	5,290.74	11.60	11.54	77.82	-91.10	75.95	64.93	41.82	23.11	2.810		
5,400.00	5,393.26	5,395.67	5,389.26	11.85	11.78	79.81	-99.08	90.68	67.62	44.02	23.60	2.865		
5,500.00	5,491.25	5,495.56	5,487.74	12.11	12.03	83.06	-107.06	105.39	70.15	46.03	24.12	2.909		
5,606.45	5,595.16	5,601.81	5,592.49	12.41	12.30	87.75	-115.55	121.04	72.99	48.28	24.70	2.954		
5,700.00	5,686.29	5,695.13	5,684.49	12.69	12.55	92.24	-123.00	134.79	75.89	50.66	25.23	3.008		
5,800.00	5,783.70	5,794.88	5,782.83	13.00	12.81	96.64	-130.97	149.48	79.46	53.66	25.80	3.080		
5,900.00	5,881.11	5,894.64	5,881.18	13.31	13.09	100.65	-138.94	164.18	83.46	57.10	26.36	3.166		
6,000.00	5,978.52	5,994.40	5,979.53	13.64	13.37	104.27	-146.91	178.87	87.84	60.90	26.93	3.261		
6,100.00	6,075.93	6,094.16	6,077.87	13.98	13.65	107.55	-154.88	193.57	92.53	65.03	27.50	3.365		
6,200.00	6,173.35	6,193.91	6,176.22	14.32	13.94	110.49	-162.85	208.26	97.49	69.42	28.07	3.473		
6,300.00	6,270.76	6,293.67	6,274.57	14.67	14.23	113.15	-170.82	222.96	102.69	74.05	28.63	3.586		
6,400.00	6,368.17	6,393.43	6,372.91	15.03	14.53	115.55	-178.79	237.65	108.08	78.88	29.20	3.701		
6,500.00	6,465.58	6,493.18	6,471.26	15.40	14.83	117.71	-186.76	252.35	113.65	83.88	29.77	3.818		
6,600.00	6,562.99	6,592.94	6,569.61	15.77	15.13	119.67	-194.73	267.05	119.36	89.03	30.34	3.935		
6,700.00	6,660.40	6,692.70	6,667.95	16.15	15.44	121.45	-202.70	281.74	125.20	94.30	30.91	4.051		
6,800.00	6,757.81	6,792.46	6,766.30	16.53	15.75	123.07	-210.67	296.44	131.15	99.68	31.48	4.167		
6,900.00	6,855.23	6,892.21	6,864.65	16.92	16.07	124.55	-218.64	311.13	137.20	105.15	32.05	4.281		
7,000.00	6,952.64	6,991.97	6,962.99	17.31	16.38	125.91	-226.61	325.83	143.33	110.71	32.62	4.394		
7,100.00	7,050.05	7,091.73	7,061.34	17.70	16.70	127.15	-234.58	340.52	149.53	116.34	33.19	4.505		
7,200.00	7,147.46	7,191.48	7,159.68	18.10	17.03	128.29	-242.55	355.22	155.80	122.03	33.77	4.614		
7,300.00	7,244.87	7,291.24	7,258.03	18.51	17.35	129.34	-250.52	369.91	162.12	127.77	34.35	4.720		
7,400.00	7,342.28	7,391.00	7,356.38	18.92	17.68	130.32	-258.49	384.61	168.49	133.57	34.92	4.825		
7,500.00	7,439.70	7,490.76	7,454.72	19.33	18.01	131.22	-266.46	399.30	174.91	139.41	35.50	4.927		
7,600.00	7,537.11	7,590.51	7,553.07	19.74	18.34	132.06	-274.43	414.00	181.37	145.29	36.09	5.026		
7,700.00	7,634.52	7,690.27	7,651.42	20.16	18.67	132.84	-282.40	428.69	187.87	151.20	36.67	5.123		
7,800.00	7,731.93	7,790.03	7,749.76	20.58	19.01	133.57	-290.37	443.39	194.40	157.14	37.25	5.218		
7,900.00	7,829.34	7,889.78	7,848.11	21.00	19.34	134.25	-298.34	458.08	200.95	163.11	37.84	5.311		
8,000.00	7,926.75	7,989.54	7,946.46	21.42	19.68	134.89	-306.31	472.78	207.54	169.11	38.43	5.401		
8,100.00	8,024.17	8,089.30	8,044.80	21.85	20.02	135.49	-314.28	487.47	214.14	175.13	39.01	5.489		
8,200.00	8,121.58	8,189.06	8,143.15	22.28	20.37	136.05	-322.25	502.17	220.77	181.17	39.60	5.574		
8,300.00	8,218.99	8,288.81	8,241.50	22.71	20.71	136.58	-330.22	516.86	227.42	187.23	40.20	5.658		
8,400.00	8,316.40	8,388.57	8,339.84	23.14	21.05	137.08	-338.19	531.56	234.09	193.30	40.79	5.739		
8,436.32	8,351.78	8,424.80	8,375.56	23.30	21.18	137.26	-341.09	536.90	236.52	195.51	41.00	5.768		
8,450.00	8,365.12	8,438.45	8,389.01	23.36	21.23	143.17	-342.18	538.91	237.50	196.46	41.04	5.787		
8,500.00	8,413.92	8,488.16	8,438.02	23.54	21.40	165.45	-346.15	546.23	242.28	201.10	41.18	5.884		
8,550.00	8,462.55	8,537.34	8,486.51	23.72	21.57	-175.80	-350.08	553.47	248.99	207.69	41.30	6.029		
8,600.00	8,510.63	8,585.62	8,534.11	23.88	21.74	-163.17	-353.93	560.59	257.84	216.47	41.37	6.232		
8,650.00	8,557.80	8,632.63	8,580.45	24.02	21.90	-155.53	-357.69	567.51	269.13	227.80	41.34	6.511		
8,700.00	8,603.70	8,678.01	8,625.19	24.15	22.06	-151.07	-361.32	574.20	283.23	242.08	41.15	6.884		
8,750.00	8,647.97	8,721.41	8,667.98	24.27	22.21	-148.51	-364.78	580.59	300.44	259.67	40.77	7.370		
8,800.00	8,690.28	8,762.52	8,708.50	24.37	22.36	-146.98	-368.07	586.65	321.01	280.82	40.19	7.988		
8,850.00	8,730.31	8,801.00	8,746.44	24.46	22.49	-145.93	-371.14	592.31	345.08	305.65	39.43	8.752		
8,900.00	8,767.76	8,836.57	8,781.51	24.55	22.62	-144.98	-373.98	597.55	372.66	334.12	38.54	9.669		
8,950.00	8,802.33	8,868.96	8,813.44	24.62	22.73	-143.82	-376.57	602.33	403.65	366.04	37.61	10.731		
9,000.00	8,833.77	8,897.93	8,842.00	24.69	22.83	-142.23	-378.89	606.59	437.85	401.09	36.76	11.910		
9,050.00	8,861.84	8,923.24	8,866.95	24.76	22.92	-139.96	-380.91	610.32	474.98	438.83	36.15	13.141		
9,100.00	8,886.32	8,944.72	8,888.13	24.84	23.00	-136.73	-382.62	613.49	514.70	478.75	35.94	14.321		
9,150.00	8,907.03	8,962.19	8,905.35	24.91	23.06	-132.19	-384.02	616.06	556.64	520.31	36.34	15.320		
9,200.00	8,923.80	8,975.53	8,918.50	24.99	23.11	-125.89	-385.09	618.02	600.41	562.97	37.44	16.037		
9,250.00	8,936.52	8,984.62	8,927.46	25.09	23.14	-117.36	-385.81	619.36	645.60	606.47	39.14	16.495		
9,300.00	8,945.08	8,989.41	8,932.19	25.20	23.15	-106.30	-386.19	620.07	691.79	650.92	40.87	16.928		

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 321H (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:	321H (SIMOPS)	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.1 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design Cotton Draw Unit - 313H (SIMOPS) - OH - Plan #1													Offset Site Error:	0.00 usft
Survey Program: 0-LEAM MWD-ADJ													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
9,350.00	8,949.42	8,989.85	8,932.62	25.33	23.16	-93.13	-386.23	620.13	738.55	696.93	41.62	17.744		
9,376.03	8,950.00	8,988.36	8,931.15	25.41	23.15	-85.89	-386.11	619.91	762.99	721.65	41.34	18.458		
9,400.00	8,950.00	8,986.45	8,929.27	25.48	23.14	-85.49	-385.96	619.63	785.53	744.10	41.43	18.961		
9,500.00	8,950.00	8,978.46	8,921.39	25.89	23.12	-83.81	-385.32	618.46	880.34	838.48	41.86	21.031		
9,600.00	8,950.00	8,970.47	8,913.51	26.44	23.09	-82.16	-384.68	617.28	976.13	933.74	42.39	23.028		
9,700.00	8,950.00	8,962.48	8,905.64	27.12	23.06	-80.54	-384.04	616.10	1,072.62	1,029.62	43.00	24.944		
9,800.00	8,950.00	8,954.49	8,897.76	27.92	23.03	-78.94	-383.40	614.93	1,169.65	1,125.96	43.69	26.773		
9,900.00	8,950.00	8,946.50	8,889.88	28.84	23.00	-77.38	-382.77	613.75	1,267.09	1,222.65	44.44	28.515		
10,000.00	8,950.00	8,938.51	8,882.01	29.85	22.97	-75.85	-382.13	612.57	1,364.85	1,319.62	45.23	30.172		
10,100.00	8,950.00	8,930.52	8,874.13	30.95	22.95	-74.35	-381.49	611.39	1,462.87	1,416.80	46.07	31.750		
10,200.00	8,950.00	8,922.53	8,866.25	32.12	22.92	-72.89	-380.85	610.22	1,561.10	1,514.16	46.95	33.253		
10,300.00	8,950.00	8,914.54	8,858.38	33.35	22.89	-71.46	-380.21	609.04	1,659.51	1,611.67	47.84	34.687		
10,400.00	8,950.00	8,906.56	8,850.50	34.64	22.86	-70.07	-379.57	607.86	1,758.06	1,709.30	48.76	36.059		
10,500.00	8,950.00	8,898.57	8,842.63	35.98	22.83	-68.71	-378.94	606.69	1,856.73	1,807.05	49.68	37.373		
10,600.00	8,950.00	8,890.58	8,834.75	37.36	22.81	-67.39	-378.30	605.51	1,955.50	1,904.89	50.61	38.637		
10,700.00	8,950.00	8,882.59	8,826.87	38.78	22.78	-66.10	-377.66	604.33	2,054.36	2,002.81	51.55	39.853		
10,800.00	8,950.00	8,874.60	8,819.00	40.23	22.75	-64.85	-377.02	603.16	2,153.30	2,100.81	52.48	41.028		
10,900.00	8,950.00	8,866.61	8,811.12	41.72	22.72	-63.64	-376.38	601.98	2,252.30	2,198.88	53.42	42.164		
11,000.00	8,950.00	8,858.62	8,803.24	43.23	22.69	-62.46	-375.75	600.80	2,351.35	2,297.01	54.35	43.266		
11,100.00	8,950.00	8,850.63	8,795.37	44.76	22.67	-61.31	-375.11	599.63	2,450.46	2,395.19	55.27	44.337		
11,200.00	8,950.00	8,842.64	8,787.49	46.32	22.64	-60.20	-374.47	598.45	2,549.62	2,493.43	56.18	45.380		
11,300.00	8,950.00	8,834.65	8,779.62	47.89	22.61	-59.12	-373.83	597.27	2,648.81	2,591.72	57.09	46.396		
11,400.00	8,950.00	14,340.44	11,684.78	49.49	52.94	-177.70	2,360.41	772.20	2,737.00	2,687.52	49.48	55.315		
11,500.00	8,950.00	14,440.44	11,684.55	51.10	54.51	-177.70	2,460.41	772.20	2,736.77	2,686.06	50.71	53.964		
11,600.00	8,950.00	14,540.44	11,684.32	52.72	56.10	-177.70	2,560.41	772.20	2,736.54	2,684.58	51.96	52.665		
11,700.00	8,950.00	14,640.44	11,684.09	54.35	57.70	-177.70	2,660.41	772.20	2,736.31	2,683.09	53.22	51.416		
11,800.00	8,950.00	14,740.44	11,683.86	56.00	59.31	-177.70	2,760.41	772.21	2,736.08	2,681.59	54.49	50.215		
11,900.00	8,950.00	14,840.44	11,683.63	57.66	60.93	-177.70	2,860.41	772.21	2,735.85	2,680.08	55.77	49.060		
12,000.00	8,950.00	14,940.43	11,683.40	59.33	62.57	-177.70	2,960.41	772.21	2,735.62	2,678.56	57.05	47.949		
12,100.00	8,950.00	15,040.43	11,683.17	61.01	64.21	-177.69	3,060.41	772.21	2,735.39	2,677.04	58.35	46.880		
12,200.00	8,950.00	15,140.43	11,682.93	62.69	65.87	-177.69	3,160.41	772.21	2,735.15	2,675.50	59.65	45.852		
12,300.00	8,950.00	15,240.43	11,682.70	64.39	67.53	-177.69	3,260.41	772.21	2,734.92	2,673.96	60.96	44.862		
12,400.00	8,950.00	15,340.43	11,682.47	66.09	69.20	-177.69	3,360.41	772.21	2,734.69	2,672.41	62.28	43.909		
12,500.00	8,950.00	15,440.43	11,682.24	67.79	70.88	-177.69	3,460.41	772.22	2,734.46	2,670.86	63.61	42.991		
12,600.00	8,950.00	15,540.43	11,682.01	69.51	72.57	-177.69	3,560.41	772.22	2,734.23	2,669.29	64.94	42.106		
12,700.00	8,950.00	15,640.43	11,681.78	71.22	74.26	-177.69	3,660.41	772.22	2,734.00	2,667.73	66.27	41.253		
12,800.00	8,950.00	15,740.43	11,681.55	72.95	75.96	-177.69	3,760.41	772.22	2,733.77	2,666.15	67.62	40.431		
12,900.00	8,950.00	15,840.43	11,681.32	74.68	77.67	-177.69	3,860.41	772.22	2,733.54	2,664.57	68.96	39.638		
13,000.00	8,950.00	15,940.43	11,681.08	76.41	79.38	-177.69	3,960.41	772.22	2,733.31	2,662.99	70.32	38.872		
13,100.00	8,950.00	16,040.43	11,680.85	78.15	81.09	-177.69	4,060.41	772.22	2,733.08	2,661.40	71.67	38.133		
13,200.00	8,950.00	16,140.43	11,680.62	79.89	82.81	-177.69	4,160.40	772.22	2,732.84	2,659.81	73.03	37.419		
13,300.00	8,950.00	16,240.43	11,680.39	81.64	84.54	-177.69	4,260.40	772.23	2,732.61	2,658.21	74.40	36.729		
13,400.00	8,950.00	16,340.43	11,680.16	83.38	86.26	-177.69	4,360.40	772.23	2,732.38	2,656.61	75.77	36.062		
13,476.03	8,950.00	16,410.43	11,680.00	84.72	87.52	-177.69	4,430.40	772.23	2,732.21	2,655.44	76.78	35.587		

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 321H (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:	321H (SIMOPS)	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.1 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design Cotton Draw Unit - 319H (SIMOPS) - OH - Plan #1													Offset Site Error:	0.00 usft
Survey Program: 0-LEAM MWD-ADJ													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Distance		Minimum Separation (usft)	Separation Factor	Warning			
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		Between Centres (usft)	Between Ellipses (usft)						
0.00	0.00	0.00	0.00	0.00	0.00	-44.47	184.04	-180.65	257.88					
100.00	100.00	100.00	100.00	0.08	0.08	-44.47	184.04	-180.65	257.88	0.16	1,639.059			
200.00	200.00	200.00	200.00	0.30	0.30	-44.47	184.04	-180.65	257.88	0.61	424.942			
300.00	300.00	300.00	300.00	0.53	0.53	-44.47	184.04	-180.65	257.88	1.06	244.115			
400.00	400.00	400.00	400.00	0.75	0.75	-44.47	184.04	-180.65	257.88	1.51	171.245			
500.00	500.00	500.00	500.00	0.98	0.98	-44.47	184.04	-180.65	257.88	1.96	131.878			
600.00	600.00	600.00	600.00	1.20	1.20	-44.47	184.04	-180.65	257.88	2.40	107.228			
700.00	700.00	700.00	700.00	1.43	1.43	-44.47	184.04	-180.65	257.88	2.85	90.342			
800.00	800.00	800.00	800.00	1.65	1.65	-44.47	184.04	-180.65	257.88	3.30	78.051			
900.00	900.00	900.00	900.00	1.88	1.88	-44.47	184.04	-180.65	257.88	3.75	68.703			
1,000.00	1,000.00	1,000.00	1,000.00	2.10	2.10	-44.47	184.04	-180.65	257.88	4.20	61.355			
1,100.00	1,100.00	1,100.00	1,100.00	2.33	2.33	-44.47	184.04	-180.65	257.88	4.65	55.427			
1,200.00	1,200.00	1,200.00	1,200.00	2.55	2.55	-44.47	184.04	-180.65	257.88	5.10	50.544			
1,300.00	1,300.00	1,300.00	1,300.00	2.78	2.78	-44.47	184.04	-180.65	257.88	5.55	46.451			
1,400.00	1,400.00	1,400.00	1,400.00	3.00	3.00	-44.47	184.04	-180.65	257.88	6.00	42.972			
1,500.00	1,500.00	1,500.00	1,500.00	3.23	3.23	-44.47	184.04	-180.65	257.88	6.45	39.977			
1,600.00	1,600.00	1,600.00	1,600.00	3.45	3.45	-44.47	184.04	-180.65	257.88	6.90	37.373			
1,700.00	1,700.00	1,700.00	1,700.00	3.67	3.67	-44.47	184.04	-180.65	257.88	7.35	35.087			
1,800.00	1,800.00	1,800.00	1,800.00	3.90	3.90	-44.47	184.04	-180.65	257.88	7.80	33.065			
1,900.00	1,900.00	1,900.00	1,900.00	4.12	4.12	-44.47	184.04	-180.65	257.88	8.25	31.263			
2,000.00	2,000.00	2,000.00	2,000.00	4.35	4.35	-44.47	184.04	-180.65	257.88	8.70	29.647			
2,100.00	2,100.00	2,100.00	2,100.00	4.57	4.57	-44.47	184.04	-180.65	257.88	9.15	28.190			
2,200.00	2,200.00	2,200.00	2,200.00	4.80	4.80	-44.47	184.04	-180.65	257.88	9.60	26.870			
2,300.00	2,300.00	2,300.00	2,300.00	5.02	5.02	-44.47	184.04	-180.65	257.88	10.05	25.668			
2,400.00	2,400.00	2,400.00	2,400.00	5.25	5.25	-44.47	184.04	-180.65	257.88	10.50	24.568			
2,500.00	2,500.00	2,500.00	2,500.00	5.47	5.47	-44.47	184.04	-180.65	257.88	10.95	23.559			
2,600.00	2,600.00	2,600.00	2,600.00	5.70	5.70	-44.47	184.04	-180.65	257.88	11.40	22.630			
2,700.00	2,700.00	2,700.00	2,700.00	5.92	5.92	-44.47	184.04	-180.65	257.88	11.85	21.771			
2,800.00	2,800.00	2,800.00	2,800.00	6.15	6.15	-44.47	184.04	-180.65	257.88	12.29	20.975			
2,900.00	2,900.00	2,900.00	2,900.00	6.37	6.37	-44.47	184.04	-180.65	257.88	12.74	20.235			
3,000.00	3,000.00	3,000.00	3,000.00	6.60	6.60	-44.47	184.04	-180.65	257.88	13.19	19.546			
3,100.00	3,100.00	3,100.00	3,100.00	6.82	6.82	-44.47	184.04	-180.65	257.88	13.64	18.902			
3,200.00	3,200.00	3,200.00	3,200.00	7.05	7.05	-44.47	184.04	-180.65	257.88	14.09	18.299			
3,300.00	3,300.00	3,300.00	3,300.00	7.27	7.27	-44.47	184.04	-180.65	257.88	14.54	17.733			
3,400.00	3,400.00	3,400.00	3,400.00	7.50	7.50	-44.47	184.04	-180.65	257.88	14.99	17.202			
3,500.00	3,500.00	3,500.00	3,500.00	7.72	7.72	-44.47	184.04	-180.65	257.88	15.44	16.701			
3,600.00	3,600.00	3,600.00	3,600.00	7.95	7.95	-44.47	184.04	-180.65	257.88	15.89	16.228			
3,700.00	3,700.00	3,700.00	3,700.00	8.17	8.17	-44.47	184.04	-180.65	257.88	16.34	15.782			
3,800.00	3,800.00	3,800.00	3,800.00	8.40	8.40	-44.47	184.04	-180.65	257.88	16.79	15.359			
3,900.00	3,900.00	3,900.00	3,900.00	8.62	8.62	-44.47	184.04	-180.65	257.88	17.24	14.959			
4,000.00	4,000.00	4,000.00	4,000.00	8.84	8.84	-44.47	184.04	-180.65	257.88	17.69	14.579			
4,100.00	4,100.00	4,100.00	4,100.00	9.07	9.07	-44.47	184.04	-180.65	257.88	18.14	14.217			
4,200.00	4,200.00	4,200.00	4,200.00	9.29	9.29	-44.47	184.04	-180.65	257.88	18.59	13.874			
4,300.00	4,300.00	4,300.00	4,300.00	9.52	9.52	-44.47	184.04	-180.65	257.88	19.04	13.546 CC, ES			
4,400.00	4,400.00	4,401.29	4,401.29	9.72	9.72	-152.59	183.26	-181.08	258.41	19.44	13.292			
4,500.00	4,499.96	4,502.47	4,502.43	9.91	9.89	-153.42	180.91	-182.37	260.01	19.79	13.135			
4,600.00	4,599.86	4,603.43	4,603.28	10.11	10.07	-154.77	177.00	-184.52	262.80	20.15	13.043			
4,700.00	4,699.68	4,704.05	4,703.71	10.30	10.25	-156.61	171.57	-187.52	266.94	20.50	13.022			
4,800.00	4,799.37	4,804.23	4,803.58	10.50	10.43	-158.87	164.62	-191.34	272.67	20.85	13.079			
4,900.00	4,898.90	4,903.86	4,902.74	10.70	10.61	-161.49	156.19	-195.98	280.22	21.19	13.222			
5,000.00	4,998.26	5,002.84	5,001.08	10.91	10.80	-164.38	146.33	-201.42	289.86	21.54	13.458			
5,100.00	5,097.40	5,101.07	5,098.46	11.13	10.99	-167.46	135.07	-207.62	301.85	21.88	13.796			

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 321H (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:	321H (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		
5,200.00	5,196.30	5,198.45	5,194.77	11.36	11.19	-170.64	122.46	-214.56	316.42	294.20	22.22	14.239		
5,300.00	5,294.93	5,294.89	5,289.89	11.60	11.40	-173.83	108.57	-222.21	333.74	311.18	22.56	14.791		
5,400.00	5,393.26	5,390.39	5,383.83	11.85	11.62	-176.96	93.44	-230.55	353.96	331.05	22.91	15.451		
5,500.00	5,491.25	5,485.94	5,477.68	12.11	11.85	-179.88	77.77	-239.18	376.95	353.69	23.26	16.208		
5,606.45	5,595.16	5,587.19	5,577.14	12.41	12.10	177.37	61.16	-248.32	404.22	380.59	23.63	17.105		
5,700.00	5,686.29	5,675.95	5,664.33	12.69	12.33	175.25	46.60	-256.34	429.67	405.62	24.04	17.869		
5,800.00	5,783.70	5,770.83	5,757.53	13.00	12.58	173.25	31.04	-264.91	457.41	432.92	24.50	18.672		
5,900.00	5,881.11	5,865.71	5,850.73	13.31	12.84	171.47	15.47	-273.49	485.63	460.67	24.96	19.458		
6,000.00	5,978.52	5,960.59	5,943.94	13.64	13.10	169.88	-0.09	-282.06	514.24	488.81	25.43	20.223		
6,100.00	6,075.93	6,055.47	6,037.14	13.98	13.37	168.46	-15.65	-290.63	543.18	517.27	25.91	20.965		
6,200.00	6,173.35	6,150.35	6,130.34	14.32	13.65	167.18	-31.21	-299.20	572.39	546.00	26.40	21.685		
6,300.00	6,270.76	6,245.23	6,223.54	14.67	13.93	166.03	-46.78	-307.77	601.85	574.96	26.89	22.381		
6,400.00	6,368.17	6,340.11	6,316.75	15.03	14.22	164.98	-62.34	-316.34	631.51	604.12	27.39	23.053		
6,500.00	6,465.58	6,434.99	6,409.95	15.40	14.51	164.02	-77.90	-324.91	661.35	633.45	27.90	23.701		
6,600.00	6,562.99	6,529.88	6,503.15	15.77	14.81	163.15	-93.47	-333.49	691.35	662.93	28.42	24.326		
6,700.00	6,660.40	6,624.76	6,596.35	16.15	15.11	162.35	-109.03	-342.06	721.48	692.54	28.94	24.927		
6,800.00	6,757.81	6,719.64	6,689.56	16.53	15.41	161.61	-124.59	-350.63	751.73	722.26	29.47	25.506		
6,900.00	6,855.23	6,814.52	6,782.76	16.92	15.72	160.93	-140.16	-359.20	782.09	752.08	30.01	26.063		
7,000.00	6,952.64	6,909.40	6,875.96	17.31	16.03	160.30	-155.72	-367.77	812.54	781.99	30.55	26.598		
7,100.00	7,050.05	7,004.28	6,969.16	17.70	16.35	159.71	-171.28	-376.34	843.07	811.98	31.09	27.113		
7,200.00	7,147.46	7,099.16	7,062.36	18.10	16.67	159.16	-186.85	-384.91	873.68	842.04	31.65	27.608		
7,300.00	7,244.87	7,198.80	7,160.29	18.51	16.99	158.65	-202.94	-393.78	904.22	872.01	32.21	28.073		
7,400.00	7,342.28	7,302.94	7,262.95	18.92	17.30	158.24	-218.31	-402.25	933.99	901.22	32.77	28.502		
7,500.00	7,439.70	7,407.88	7,366.69	19.33	17.61	157.95	-232.15	-409.86	962.86	929.53	33.32	28.893		
7,600.00	7,537.11	7,513.54	7,471.42	19.74	17.90	157.78	-244.39	-416.61	990.79	956.92	33.87	29.249		
7,700.00	7,634.52	7,619.87	7,577.06	20.16	18.18	157.71	-255.00	-422.45	1,017.78	983.36	34.42	29.571		
7,800.00	7,731.93	7,726.80	7,683.49	20.58	18.46	157.75	-263.94	-427.37	1,043.79	1,008.84	34.95	29.863		
7,900.00	7,829.34	7,834.25	7,790.62	21.00	18.72	157.87	-271.17	-431.36	1,068.83	1,033.36	35.48	30.126		
8,000.00	7,926.75	7,942.15	7,898.35	21.42	18.96	158.08	-276.65	-434.38	1,092.91	1,056.91	35.99	30.364		
8,100.00	8,024.17	8,050.44	8,006.55	21.85	19.20	158.38	-280.37	-436.42	1,116.02	1,079.52	36.50	30.579		
8,200.00	8,121.58	8,159.03	8,115.11	22.28	19.41	158.75	-282.30	-437.49	1,138.18	1,101.19	36.99	30.773		
8,300.00	8,218.99	8,262.91	8,218.99	22.71	19.61	159.16	-282.59	-437.65	1,159.50	1,122.05	37.45	30.960		
8,400.00	8,316.40	8,360.32	8,316.40	23.14	19.79	159.55	-282.59	-437.65	1,180.72	1,142.82	37.91	31.148		
8,436.32	8,351.78	8,395.69	8,351.78	23.30	19.86	159.69	-282.59	-437.65	1,188.44	1,150.37	38.07	31.215		
8,450.00	8,365.12	8,409.03	8,365.12	23.36	19.89	165.82	-282.59	-437.65	1,191.36	1,153.24	38.12	31.254		
8,500.00	8,413.92	8,460.56	8,416.61	23.54	19.97	-170.65	-281.22	-437.65	1,202.09	1,163.81	38.28	31.401		
8,550.00	8,462.55	8,512.87	8,468.56	23.72	20.03	-149.96	-275.23	-437.65	1,212.79	1,174.36	38.43	31.562		
8,600.00	8,510.63	8,565.08	8,519.64	23.88	20.07	-134.84	-264.55	-437.65	1,223.36	1,184.81	38.55	31.737		
8,650.00	8,557.80	8,617.18	8,569.44	24.02	20.07	-124.32	-249.30	-437.65	1,233.73	1,195.08	38.65	31.920		
8,700.00	8,603.70	8,669.19	8,617.57	24.15	20.06	-116.85	-229.64	-437.65	1,243.82	1,205.08	38.74	32.108		
8,750.00	8,647.97	8,721.11	8,663.64	24.27	20.02	-111.30	-205.73	-437.65	1,253.55	1,214.74	38.82	32.294		
8,800.00	8,690.28	8,772.95	8,707.30	24.37	19.96	-107.02	-177.81	-437.65	1,262.85	1,223.97	38.89	32.476		
8,850.00	8,730.31	8,824.70	8,748.18	24.46	19.89	-103.61	-146.10	-437.65	1,271.65	1,232.70	38.95	32.649		
8,900.00	8,767.76	8,876.36	8,785.97	24.55	19.82	-100.83	-110.91	-437.65	1,279.88	1,240.86	39.01	32.806		
8,950.00	8,802.33	8,927.93	8,820.38	24.62	19.74	-98.52	-72.53	-437.65	1,287.47	1,248.39	39.08	32.944		
9,000.00	8,833.77	8,979.38	8,851.14	24.69	19.66	-96.59	-31.30	-437.65	1,294.38	1,255.22	39.16	33.054		
9,050.00	8,861.84	9,030.70	8,878.01	24.76	19.59	-94.97	12.40	-437.65	1,300.54	1,261.28	39.26	33.129		
9,100.00	8,886.32	9,081.87	8,900.81	24.84	19.52	-93.62	58.19	-437.66	1,305.91	1,266.53	39.38	33.161		
9,150.00	8,907.03	9,132.87	8,919.37	24.91	19.45	-92.50	105.67	-437.66	1,310.46	1,270.92	39.54	33.143		
9,200.00	8,923.80	9,183.67	8,933.60	24.99	19.39	-91.60	154.42	-437.66	1,314.14	1,274.40	39.74	33.069		
9,250.00	8,936.52	9,234.24	8,943.41	25.09	19.36	-90.89	204.02	-437.66	1,316.93	1,276.94	39.99	32.934		
9,300.00	8,945.08	9,284.57	8,948.81	25.20	19.43	-90.38	254.05	-437.66	1,318.81	1,278.52	40.29	32.734		

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 321H (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:	321H (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)						
9,350.00	8,949.42	9,334.62	8,949.96	25.33	19.61	-90.05	304.07	-437.66	1,319.76	1,279.11	40.65	32.469		
9,376.03	8,950.00	9,360.65	8,949.96	25.41	19.72	-90.00	330.09	-437.66	1,319.89	1,279.03	40.86	32.301		
9,400.00	8,950.00	9,384.61	8,949.96	25.48	19.83	-90.00	354.06	-437.66	1,319.89	1,278.80	41.09	32.123		
9,500.00	8,950.00	9,484.61	8,949.96	25.89	20.37	-90.00	454.06	-437.66	1,319.89	1,277.67	42.22	31.260		
9,600.00	8,950.00	9,584.61	8,949.96	26.44	21.03	-90.00	554.06	-437.67	1,319.89	1,276.26	43.63	30.250		
9,700.00	8,950.00	9,684.61	8,949.96	27.12	21.83	-90.00	654.06	-437.67	1,319.90	1,274.60	45.29	29.140		
9,800.00	8,950.00	9,784.61	8,949.96	27.92	22.73	-90.00	754.06	-437.67	1,319.90	1,272.72	47.18	27.974		
9,900.00	8,950.00	9,884.61	8,949.96	28.84	23.74	-90.00	854.06	-437.67	1,319.90	1,270.63	49.27	26.789		
10,000.00	8,950.00	9,984.61	8,949.96	29.85	24.83	-90.00	954.06	-437.68	1,319.90	1,268.37	51.53	25.613		
10,100.00	8,950.00	10,084.61	8,949.97	30.95	26.01	-90.00	1,054.06	-437.68	1,319.91	1,265.96	53.95	24.466		
10,200.00	8,950.00	10,184.61	8,949.97	32.12	27.26	-90.00	1,154.06	-437.68	1,319.91	1,263.41	56.50	23.362		
10,300.00	8,950.00	10,284.61	8,949.97	33.35	28.57	-90.00	1,254.06	-437.68	1,319.91	1,260.75	59.16	22.309		
10,400.00	8,950.00	10,384.61	8,949.97	34.64	29.93	-90.00	1,354.06	-437.68	1,319.91	1,257.98	61.93	21.313		
10,500.00	8,950.00	10,484.61	8,949.97	35.98	31.34	-90.00	1,454.06	-437.69	1,319.91	1,255.13	64.79	20.373		
10,600.00	8,950.00	10,584.61	8,949.97	37.36	32.79	-90.00	1,554.06	-437.69	1,319.92	1,252.20	67.72	19.491		
10,700.00	8,950.00	10,684.61	8,949.97	38.78	34.27	-90.00	1,654.06	-437.69	1,319.92	1,249.20	70.72	18.664		
10,800.00	8,950.00	10,784.61	8,949.97	40.23	35.79	-90.00	1,754.06	-437.69	1,319.92	1,246.14	73.78	17.890		
10,900.00	8,950.00	10,884.61	8,949.97	41.72	37.34	-90.00	1,854.06	-437.70	1,319.92	1,243.03	76.89	17.167		
11,000.00	8,950.00	10,984.61	8,949.97	43.23	38.91	-90.00	1,954.06	-437.70	1,319.93	1,239.88	80.05	16.490		
11,100.00	8,950.00	11,084.61	8,949.98	44.76	40.50	-90.00	2,054.06	-437.70	1,319.93	1,236.68	83.24	15.856		
11,200.00	8,950.00	11,184.61	8,949.98	46.32	42.11	-90.00	2,154.06	-437.70	1,319.93	1,233.45	86.48	15.263		
11,300.00	8,950.00	11,284.61	8,949.98	47.89	43.73	-90.00	2,254.06	-437.71	1,319.93	1,230.19	89.75	14.708		
11,400.00	8,950.00	11,384.61	8,949.98	49.49	45.38	-90.00	2,354.06	-437.71	1,319.94	1,226.89	93.04	14.187		
11,500.00	8,950.00	11,484.61	8,949.98	51.10	47.03	-90.00	2,454.06	-437.71	1,319.94	1,223.58	96.36	13.698		
11,600.00	8,950.00	11,584.61	8,949.98	52.72	48.70	-90.00	2,554.06	-437.71	1,319.94	1,220.23	99.71	13.238		
11,700.00	8,950.00	11,684.61	8,949.98	54.35	50.38	-90.00	2,654.06	-437.71	1,319.94	1,216.87	103.07	12.806		
11,800.00	8,950.00	11,784.61	8,949.98	56.00	52.07	-90.00	2,754.06	-437.72	1,319.94	1,213.49	106.46	12.399		
11,900.00	8,950.00	11,884.61	8,949.98	57.66	53.76	-90.00	2,854.06	-437.72	1,319.95	1,210.09	109.86	12.015		
12,000.00	8,950.00	11,984.61	8,949.99	59.33	55.47	-90.00	2,954.06	-437.72	1,319.95	1,206.67	113.28	11.652		
12,100.00	8,950.00	12,084.61	8,949.99	61.01	57.18	-90.00	3,054.06	-437.72	1,319.95	1,203.24	116.71	11.310		
12,200.00	8,950.00	12,184.61	8,949.99	62.69	58.90	-90.00	3,154.06	-437.73	1,319.95	1,199.80	120.15	10.985		
12,300.00	8,950.00	12,284.61	8,949.99	64.39	60.63	-90.00	3,254.06	-437.73	1,319.96	1,196.34	123.61	10.678		
12,400.00	8,950.00	12,384.61	8,949.99	66.09	62.36	-90.00	3,354.06	-437.73	1,319.96	1,192.88	127.08	10.387		
12,500.00	8,950.00	12,484.61	8,949.99	67.79	64.10	-90.00	3,454.06	-437.73	1,319.96	1,189.40	130.56	10.110		
12,600.00	8,950.00	12,584.61	8,949.99	69.51	65.84	-90.00	3,554.06	-437.74	1,319.96	1,185.92	134.05	9.847		
12,700.00	8,950.00	12,684.61	8,949.99	71.22	67.59	-90.00	3,654.06	-437.74	1,319.96	1,182.42	137.54	9.597		
12,800.00	8,950.00	12,784.61	8,949.99	72.95	69.34	-90.00	3,754.06	-437.74	1,319.97	1,178.92	141.05	9.358		
12,900.00	8,950.00	12,884.61	8,949.99	74.68	71.09	-90.00	3,854.06	-437.74	1,319.97	1,175.41	144.56	9.131		
13,000.00	8,950.00	12,984.61	8,950.00	76.41	72.85	-90.00	3,954.06	-437.74	1,319.97	1,171.89	148.08	8.914		
13,100.00	8,950.00	13,084.61	8,950.00	78.15	74.61	-90.00	4,054.06	-437.75	1,319.97	1,168.37	151.60	8.707		
13,200.00	8,950.00	13,184.61	8,950.00	79.89	76.38	-90.00	4,154.06	-437.75	1,319.98	1,164.84	155.13	8.509		
13,300.00	8,950.00	13,284.61	8,950.00	81.64	78.15	-90.00	4,254.06	-437.75	1,319.98	1,161.31	158.67	8.319		
13,400.00	8,950.00	13,384.61	8,950.00	83.38	79.92	-90.00	4,354.06	-437.75	1,319.98	1,157.77	162.21	8.137		
13,441.99	8,950.00	13,426.60	8,950.00	84.12	80.66	-90.00	4,396.05	-437.75	1,319.98	1,156.28	163.70	8.063		
13,476.03	8,950.00	13,452.65	8,950.00	84.72	81.12	-90.00	4,422.10	-437.76	1,320.01	1,155.24	164.77	8.011 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 321H (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:	321H (SIMOPS)	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.1 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design Cotton Draw Unit - 320H (SIMOPS) - OH - Plan #1												Offset Site Error:	0.00 usft
Survey Program: 0-LEAM MWD-ADJ												Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Distance		Minimum Separation (usft)	Separation Factor	Warning		
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)					
0.00	0.00	0.00	0.00	0.00	0.00	-53.40	134.04	-180.50	224.83				
100.00	100.00	100.00	100.00	0.08	0.08	-53.40	134.04	-180.50	224.83	0.16	1,428.975		
200.00	200.00	200.00	200.00	0.30	0.30	-53.40	134.04	-180.50	224.83	0.61	370.475		
300.00	300.00	300.00	300.00	0.53	0.53	-53.40	134.04	-180.50	224.83	1.06	212.826		
400.00	400.00	400.00	400.00	0.75	0.75	-53.40	134.04	-180.50	224.83	1.51	149.296		
500.00	500.00	500.00	500.00	0.98	0.98	-53.40	134.04	-180.50	224.83	1.96	114.975		
600.00	600.00	600.00	600.00	1.20	1.20	-53.40	134.04	-180.50	224.83	2.40	93.484		
700.00	700.00	700.00	700.00	1.43	1.43	-53.40	134.04	-180.50	224.83	2.85	78.763		
800.00	800.00	800.00	800.00	1.65	1.65	-53.40	134.04	-180.50	224.83	3.30	68.047		
900.00	900.00	900.00	900.00	1.88	1.88	-53.40	134.04	-180.50	224.83	3.75	59.897		
1,000.00	1,000.00	1,000.00	1,000.00	2.10	2.10	-53.40	134.04	-180.50	224.83	4.20	53.491		
1,100.00	1,100.00	1,100.00	1,100.00	2.33	2.33	-53.40	134.04	-180.50	224.83	4.65	48.323		
1,200.00	1,200.00	1,200.00	1,200.00	2.55	2.55	-53.40	134.04	-180.50	224.83	5.10	44.085		
1,300.00	1,300.00	1,300.00	1,300.00	2.78	2.78	-53.40	134.04	-180.50	224.83	5.55	40.497		
1,400.00	1,400.00	1,400.00	1,400.00	3.00	3.00	-53.40	134.04	-180.50	224.83	6.00	37.464		
1,500.00	1,500.00	1,500.00	1,500.00	3.23	3.23	-53.40	134.04	-180.50	224.83	6.45	34.853		
1,600.00	1,600.00	1,600.00	1,600.00	3.45	3.45	-53.40	134.04	-180.50	224.83	6.90	32.583		
1,700.00	1,700.00	1,700.00	1,700.00	3.67	3.67	-53.40	134.04	-180.50	224.83	7.35	30.590		
1,800.00	1,800.00	1,800.00	1,800.00	3.90	3.90	-53.40	134.04	-180.50	224.83	7.80	28.827		
1,900.00	1,900.00	1,900.00	1,900.00	4.12	4.12	-53.40	134.04	-180.50	224.83	8.25	27.256		
2,000.00	2,000.00	2,000.00	2,000.00	4.35	4.35	-53.40	134.04	-180.50	224.83	8.70	25.847		
2,100.00	2,100.00	2,100.00	2,100.00	4.57	4.57	-53.40	134.04	-180.50	224.83	9.15	24.577		
2,200.00	2,200.00	2,200.00	2,200.00	4.80	4.80	-53.40	134.04	-180.50	224.83	9.60	23.426		
2,300.00	2,300.00	2,300.00	2,300.00	5.02	5.02	-53.40	134.04	-180.50	224.83	10.05	22.378		
2,400.00	2,400.00	2,400.00	2,400.00	5.25	5.25	-53.40	134.04	-180.50	224.83	10.50	21.419		
2,500.00	2,500.00	2,500.00	2,500.00	5.47	5.47	-53.40	134.04	-180.50	224.83	10.95	20.540		
2,600.00	2,600.00	2,600.00	2,600.00	5.70	5.70	-53.40	134.04	-180.50	224.83	11.40	19.729		
2,700.00	2,700.00	2,700.00	2,700.00	5.92	5.92	-53.40	134.04	-180.50	224.83	11.85	18.981		
2,800.00	2,800.00	2,800.00	2,800.00	6.15	6.15	-53.40	134.04	-180.50	224.83	12.29	18.287		
2,900.00	2,900.00	2,900.00	2,900.00	6.37	6.37	-53.40	134.04	-180.50	224.83	12.74	17.642		
3,000.00	3,000.00	3,000.00	3,000.00	6.60	6.60	-53.40	134.04	-180.50	224.83	13.19	17.041		
3,100.00	3,100.00	3,100.00	3,100.00	6.82	6.82	-53.40	134.04	-180.50	224.83	13.64	16.479		
3,200.00	3,200.00	3,200.00	3,200.00	7.05	7.05	-53.40	134.04	-180.50	224.83	14.09	15.953		
3,300.00	3,300.00	3,300.00	3,300.00	7.27	7.27	-53.40	134.04	-180.50	224.83	14.54	15.460		
3,400.00	3,400.00	3,400.00	3,400.00	7.50	7.50	-53.40	134.04	-180.50	224.83	14.99	14.997		
3,500.00	3,500.00	3,500.00	3,500.00	7.72	7.72	-53.40	134.04	-180.50	224.83	15.44	14.560		
3,600.00	3,600.00	3,600.00	3,600.00	7.95	7.95	-53.40	134.04	-180.50	224.83	15.89	14.148		
3,700.00	3,700.00	3,700.00	3,700.00	8.17	8.17	-53.40	134.04	-180.50	224.83	16.34	13.759		
3,800.00	3,800.00	3,800.00	3,800.00	8.40	8.40	-53.40	134.04	-180.50	224.83	16.79	13.391		
3,900.00	3,900.00	3,900.00	3,900.00	8.62	8.62	-53.40	134.04	-180.50	224.83	17.24	13.042		
4,000.00	4,000.00	4,000.00	4,000.00	8.84	8.84	-53.40	134.04	-180.50	224.83	17.69	12.710		
4,100.00	4,100.00	4,100.00	4,100.00	9.07	9.07	-53.40	134.04	-180.50	224.83	18.14	12.395		
4,200.00	4,200.00	4,200.00	4,200.00	9.29	9.29	-53.40	134.04	-180.50	224.83	18.59	12.095		
4,300.00	4,300.00	4,300.00	4,300.00	9.52	9.52	-53.40	134.04	-180.50	224.83	19.04	11.810		
4,400.00	4,400.00	4,403.98	4,403.98	9.72	9.73	-161.27	133.65	-179.64	224.77	19.45	11.555		
4,500.00	4,499.96	4,507.96	4,507.92	9.91	9.92	-161.34	132.50	-177.06	224.59	19.83	11.329		
4,600.00	4,599.86	4,611.94	4,611.79	10.11	10.12	-161.45	130.57	-172.75	224.30	20.20	11.106		
4,700.00	4,699.68	4,715.91	4,715.55	10.30	10.32	-161.61	127.88	-166.73	223.88	20.57	10.886		
4,800.00	4,799.37	4,819.88	4,819.16	10.50	10.53	-161.81	124.42	-158.99	223.35	20.93	10.670		
4,900.00	4,898.90	4,923.83	4,922.60	10.70	10.74	-162.06	120.19	-149.53	222.71	21.30	10.457		
5,000.00	4,998.26	5,027.77	5,025.82	10.91	10.95	-162.36	115.19	-138.37	221.95	21.66	10.247		
5,100.00	5,097.40	5,131.37	5,128.46	11.13	11.18	-162.71	109.46	-125.55	221.10	22.02	10.040		

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 321H (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:	321H (SIMOPS)	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.1 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design Cotton Draw Unit - 320H (SIMOPS) - OH - Plan #1												Offset Site Error:	0.00 usft
Survey Program: 0-LEAM MWD-ADJ												Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis		Distance							
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
5,145.57	5,142.51	5,176.94	5,173.56	11.23	11.28	-162.89	106.80	-119.59	220.92	198.74	22.18	9.959 CC, ES	
5,200.00	5,196.30	5,231.35	5,227.41	11.36	11.40	-163.13	103.62	-112.48	221.17	198.80	22.37	9.885	
5,300.00	5,294.93	5,331.31	5,326.34	11.60	11.64	-163.68	97.77	-99.42	222.93	200.21	22.72	9.811	
5,400.00	5,393.26	5,431.22	5,425.22	11.85	11.87	-164.34	91.94	-86.37	226.40	203.33	23.07	9.813	
5,500.00	5,491.25	5,531.04	5,524.01	12.11	12.11	-165.09	86.10	-73.33	231.57	208.16	23.41	9.891	
5,606.45	5,595.16	5,637.17	5,629.05	12.41	12.38	-165.95	79.90	-59.46	238.98	215.21	23.78	10.052	
5,700.00	5,686.29	5,730.37	5,721.29	12.69	12.61	-166.73	74.45	-47.28	246.38	222.22	24.16	10.196	
5,800.00	5,783.70	5,829.99	5,819.88	13.00	12.87	-167.51	68.63	-34.27	254.34	229.75	24.58	10.346	
5,900.00	5,881.11	5,929.62	5,918.48	13.31	13.12	-168.24	62.81	-21.25	262.34	237.33	25.01	10.491	
6,000.00	5,978.52	6,029.24	6,017.08	13.64	13.39	-168.93	56.99	-8.23	270.38	244.94	25.43	10.631	
6,100.00	6,075.93	6,128.87	6,115.68	13.98	13.65	-169.59	51.17	4.78	278.45	252.59	25.86	10.767	
6,200.00	6,173.35	6,228.49	6,214.28	14.32	13.92	-170.20	45.34	17.80	286.56	260.27	26.29	10.898	
6,300.00	6,270.76	6,328.11	6,312.88	14.67	14.20	-170.78	39.52	30.81	294.71	267.97	26.73	11.025	
6,400.00	6,368.17	6,427.74	6,411.48	15.03	14.47	-171.33	33.70	43.83	302.88	275.71	27.17	11.148	
6,500.00	6,465.58	6,527.36	6,510.08	15.40	14.75	-171.85	27.88	56.85	311.07	283.46	27.61	11.266	
6,600.00	6,562.99	6,626.99	6,608.68	15.77	15.04	-172.34	22.06	69.86	319.29	291.24	28.05	11.381	
6,700.00	6,660.40	6,726.61	6,707.28	16.15	15.32	-172.81	16.24	82.88	327.53	299.03	28.50	11.492	
6,800.00	6,757.81	6,826.24	6,805.88	16.53	15.61	-173.26	10.41	95.90	335.80	306.85	28.95	11.599	
6,900.00	6,855.23	6,925.86	6,904.47	16.92	15.90	-173.68	4.59	108.91	344.08	314.68	29.40	11.702	
7,000.00	6,952.64	7,025.49	7,003.07	17.31	16.19	-174.08	-1.23	121.93	352.38	322.52	29.86	11.802	
7,100.00	7,050.05	7,125.11	7,101.67	17.70	16.48	-174.47	-7.05	134.95	360.70	330.38	30.31	11.899	
7,200.00	7,147.46	7,224.74	7,200.27	18.10	16.78	-174.84	-12.87	147.96	369.03	338.26	30.77	11.992	
7,300.00	7,244.87	7,324.36	7,298.87	18.51	17.07	-175.19	-18.70	160.98	377.38	346.14	31.23	12.082	
7,400.00	7,342.28	7,421.40	7,394.93	18.92	17.35	-175.52	-24.32	173.54	385.88	354.19	31.69	12.177	
7,500.00	7,439.70	7,514.55	7,487.30	19.33	17.59	-175.81	-29.20	184.46	395.73	363.60	32.13	12.318	
7,600.00	7,537.11	7,607.37	7,579.53	19.74	17.82	-176.08	-33.46	193.98	407.20	374.63	32.57	12.504	
7,700.00	7,634.52	7,700.00	7,671.73	20.16	18.04	-176.33	-37.10	202.12	420.28	387.28	33.00	12.734	
7,800.00	7,731.93	7,791.86	7,763.30	20.58	18.25	-176.56	-40.10	208.84	434.97	401.53	33.44	13.007	
7,900.00	7,829.34	7,883.44	7,854.69	21.00	18.45	-176.75	-42.51	214.21	451.24	417.36	33.88	13.320	
8,000.00	7,926.75	7,974.52	7,945.66	21.42	18.64	-176.93	-44.30	218.23	469.09	434.78	34.31	13.672	
8,100.00	8,024.17	8,065.06	8,036.15	21.85	18.82	-177.08	-45.50	220.91	488.49	453.75	34.74	14.061	
8,200.00	8,121.58	8,155.02	8,126.09	22.28	18.99	-177.21	-46.12	222.29	509.44	474.27	35.17	14.486	
8,300.00	8,218.99	8,247.91	8,218.99	22.71	19.17	-177.32	-46.21	222.50	531.77	496.17	35.60	14.937	
8,400.00	8,316.40	8,345.32	8,316.40	23.14	19.35	-177.43	-46.21	222.50	554.36	518.30	36.05	15.377	
8,436.32	8,351.78	8,380.70	8,351.78	23.30	19.42	-177.47	-46.21	222.50	562.56	526.34	36.22	15.533	
8,450.00	8,365.12	8,394.04	8,365.12	23.36	19.45	-177.42	-46.21	222.50	565.59	529.28	36.32	15.573	
8,500.00	8,413.92	8,433.41	8,404.48	23.54	19.53	-178.30	-45.55	222.50	576.05	539.40	36.65	15.716	
8,550.00	8,462.55	8,469.75	8,440.69	23.72	19.59	-178.14	-42.66	222.50	586.03	549.07	36.96	15.858	
8,600.00	8,510.63	8,500.00	8,470.66	23.88	19.65	-173.59	-38.50	222.50	595.55	558.33	37.21	16.004	
8,650.00	8,557.80	8,542.62	8,512.40	24.02	19.71	-103.91	-29.98	222.49	604.43	566.98	37.45	16.138	
8,700.00	8,603.70	8,579.25	8,547.69	24.15	19.76	-97.27	-20.19	222.49	612.78	575.13	37.65	16.278	
8,750.00	8,647.97	8,616.07	8,582.47	24.27	19.81	-92.66	-8.10	222.49	620.50	582.70	37.80	16.414	
8,800.00	8,690.28	8,650.00	8,613.76	24.37	19.85	-89.33	5.00	222.49	627.59	589.66	37.93	16.548	
8,850.00	8,730.31	8,690.51	8,650.03	24.46	19.89	-87.04	23.02	222.49	634.00	595.96	38.04	16.667	
8,900.00	8,767.76	8,728.23	8,682.57	24.55	19.92	-85.39	42.08	222.49	639.73	601.59	38.14	16.773	
8,950.00	8,802.33	8,766.35	8,714.12	24.62	19.96	-84.27	63.46	222.49	644.78	606.54	38.24	16.860	
9,000.00	8,833.77	8,804.93	8,744.53	24.69	19.99	-83.57	87.20	222.49	649.14	610.78	38.36	16.923	
9,050.00	8,861.84	8,844.04	8,773.65	24.76	20.02	-83.22	113.29	222.49	652.81	614.31	38.50	16.956	
9,100.00	8,886.32	8,883.73	8,801.32	24.84	20.05	-83.18	141.73	222.48	655.79	617.11	38.68	16.954	
9,150.00	8,907.03	8,924.06	8,827.35	24.91	20.09	-83.41	172.54	222.48	658.10	619.19	38.91	16.913	
9,200.00	8,923.80	8,965.12	8,851.55	24.99	20.13	-83.89	205.69	222.48	659.75	620.57	39.17	16.841	
9,250.00	8,936.52	9,006.97	8,873.72	25.09	20.18	-84.59	241.17	222.48	660.75	621.25	39.50	16.727	

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

Company:	DEVON ENERGY	Local Co-ordinate Reference:	Well 321H (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:	321H (SIMOPS)	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.1 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design Cotton Draw Unit - 320H (SIMOPS) - OH - Plan #1													Offset Site Error:	0.00 usft
Survey Program: 0-LEAM MWD-ADJ													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Distance		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)						
9,300.00	8,945.08	9,050.00	8,893.75	25.20	20.25	-85.52	279.25	222.48	661.13	621.24	39.89	16.575		
9,350.00	8,949.42	9,093.35	8,910.98	25.33	20.34	-86.64	319.02	222.47	660.91	620.59	40.33	16.389		
9,376.03	8,950.00	9,116.49	8,918.93	25.41	20.40	-87.30	340.75	222.47	660.57	619.99	40.58	16.279		
9,400.00	8,950.00	9,138.20	8,925.58	25.48	20.46	-87.88	361.41	222.47	660.25	619.39	40.85	16.161		
9,500.00	8,950.00	9,233.62	8,945.40	25.89	20.87	-89.60	454.64	222.47	659.78	617.67	42.11	15.667		
9,543.93	8,950.00	9,277.19	8,949.24	26.11	21.11	-89.93	498.02	222.46	659.76	617.03	42.74	15.438		
9,600.00	8,950.00	9,333.23	8,949.96	26.44	21.47	-90.00	554.05	222.46	659.77	616.21	43.56	15.148		
9,700.00	8,950.00	9,433.23	8,949.96	27.12	22.21	-90.00	654.05	222.45	659.77	614.56	45.21	14.592		
9,800.00	8,950.00	9,533.23	8,949.96	27.92	23.08	-90.00	754.05	222.45	659.78	612.68	47.10	14.009		
9,900.00	8,950.00	9,633.23	8,949.96	28.84	24.06	-90.00	854.05	222.44	659.78	610.80	49.18	13.416		
10,000.00	8,950.00	9,733.23	8,949.96	29.85	25.13	-90.00	954.05	222.44	659.79	608.35	51.44	12.827		
10,100.00	8,950.00	9,833.23	8,949.96	30.95	26.29	-90.00	1,054.05	222.43	659.80	605.94	53.85	12.252		
10,200.00	8,950.00	9,933.23	8,949.96	32.12	27.52	-90.00	1,154.05	222.43	659.80	603.40	56.40	11.699		
10,300.00	8,950.00	10,033.23	8,949.97	33.35	28.81	-90.00	1,254.05	222.42	659.81	600.74	59.06	11.171		
10,400.00	8,950.00	10,133.23	8,949.97	34.64	30.16	-90.00	1,354.05	222.41	659.81	597.98	61.83	10.672		
10,500.00	8,950.00	10,233.23	8,949.97	35.98	31.55	-90.00	1,454.05	222.41	659.82	595.14	64.88	10.201		
10,600.00	8,950.00	10,333.23	8,949.97	37.36	32.99	-90.00	1,554.05	222.40	659.82	592.21	67.61	9.759		
10,700.00	8,950.00	10,433.23	8,949.97	38.78	34.46	-90.00	1,654.05	222.40	659.83	589.22	70.61	9.344		
10,800.00	8,950.00	10,533.23	8,949.97	40.23	35.96	-90.00	1,754.05	222.39	659.84	586.16	73.67	8.956		
10,900.00	8,950.00	10,633.23	8,949.97	41.72	37.50	-90.00	1,854.05	222.39	659.84	583.06	76.78	8.594		
11,000.00	8,950.00	10,733.23	8,949.97	43.23	39.05	-90.00	1,954.05	222.38	659.85	579.91	79.94	8.254		
11,100.00	8,950.00	10,833.23	8,949.97	44.76	40.64	-90.00	2,054.05	222.37	659.85	576.72	83.14	7.937		
11,200.00	8,950.00	10,933.23	8,949.98	46.32	42.24	-90.00	2,154.05	222.37	659.86	573.49	86.37	7.640		
11,300.00	8,950.00	11,033.23	8,949.98	47.89	43.85	-90.00	2,254.05	222.36	659.87	570.23	89.64	7.361		
11,400.00	8,950.00	11,133.23	8,949.98	49.49	45.49	-90.00	2,354.05	222.36	659.87	566.94	92.93	7.101		
11,500.00	8,950.00	11,233.23	8,949.98	51.10	47.14	-90.00	2,454.05	222.35	659.88	563.62	96.25	6.856		
11,600.00	8,950.00	11,333.23	8,949.98	52.72	48.80	-90.00	2,554.05	222.34	659.88	560.28	99.60	6.625		
11,700.00	8,950.00	11,433.23	8,949.98	54.35	50.47	-90.00	2,654.05	222.34	659.89	556.92	102.96	6.409		
11,800.00	8,950.00	11,533.23	8,949.98	56.00	52.15	-90.00	2,754.05	222.33	659.89	553.54	106.35	6.205		
11,900.00	8,950.00	11,633.23	8,949.98	57.66	53.84	-90.00	2,854.05	222.33	659.90	550.15	109.75	6.013		
12,000.00	8,950.00	11,733.23	8,949.98	59.33	55.54	-90.00	2,954.05	222.32	659.91	546.74	113.17	5.831		
12,100.00	8,950.00	11,833.23	8,949.99	61.01	57.25	-90.00	3,054.05	222.32	659.91	543.31	116.60	5.660		
12,200.00	8,950.00	11,933.23	8,949.99	62.69	58.97	-90.00	3,154.05	222.31	659.92	539.87	120.05	5.497		
12,300.00	8,950.00	12,033.23	8,949.99	64.39	60.69	-90.00	3,254.05	222.30	659.92	536.42	123.50	5.343		
12,400.00	8,950.00	12,133.23	8,949.99	66.09	62.42	-90.00	3,354.05	222.30	659.93	532.96	126.97	5.197		
12,500.00	8,950.00	12,233.23	8,949.99	67.79	64.15	-90.00	3,454.05	222.29	659.93	529.48	130.45	5.059		
12,600.00	8,950.00	12,333.23	8,949.99	69.51	65.89	-90.00	3,554.05	222.29	659.94	526.00	133.94	4.927		
12,700.00	8,950.00	12,433.23	8,949.99	71.22	67.63	-90.00	3,654.05	222.28	659.95	522.51	137.44	4.802		
12,800.00	8,950.00	12,533.23	8,949.99	72.95	69.38	-90.00	3,754.05	222.27	659.95	519.01	140.94	4.682		
12,900.00	8,950.00	12,633.23	8,949.99	74.68	71.13	-90.00	3,854.05	222.27	659.96	515.51	144.45	4.569		
13,000.00	8,950.00	12,733.23	8,950.00	76.41	72.89	-90.00	3,954.05	222.26	659.96	511.99	147.97	4.460		
13,100.00	8,950.00	12,833.23	8,950.00	78.15	74.64	-90.00	4,054.05	222.26	659.97	508.47	151.50	4.356		
13,200.00	8,950.00	12,933.23	8,950.00	79.89	76.41	-90.00	4,154.05	222.25	659.98	504.95	155.03	4.257		
13,300.00	8,950.00	13,033.23	8,950.00	81.64	78.17	-90.00	4,254.05	222.25	659.98	501.42	158.57	4.162		
13,400.00	8,950.00	13,133.23	8,950.00	83.38	79.94	-90.00	4,354.05	222.24	659.99	497.88	162.11	4.071		
13,443.34	8,950.00	13,176.56	8,950.00	84.14	80.71	-90.00	4,397.39	222.24	659.99	496.35	163.64	4.033		
13,476.03	8,950.00	13,205.29	8,950.00	84.72	81.21	-90.00	4,426.11	222.24	660.00	495.27	164.73	4.006 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 321H (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:	321H (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			Distance							Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
0.00	0.00	0.00	0.00	0.00	0.00	-40.84	209.04	-180.72	276.33					
100.00	100.00	100.00	100.00	0.08	0.08	-40.84	209.04	-180.72	276.33	276.17	0.16	1,756.284		
200.00	200.00	200.00	200.00	0.30	0.30	-40.84	209.04	-180.72	276.33	275.72	0.61	455.333		
300.00	300.00	300.00	300.00	0.53	0.53	-40.84	209.04	-180.72	276.33	275.27	1.06	261.574		
400.00	400.00	400.00	400.00	0.75	0.75	-40.84	209.04	-180.72	276.33	274.82	1.51	183.493		
500.00	500.00	500.00	500.00	0.98	0.98	-40.84	209.04	-180.72	276.33	274.37	1.96	141.310		
600.00	600.00	600.00	600.00	1.20	1.20	-40.84	209.04	-180.72	276.33	273.92	2.40	114.897		
700.00	700.00	700.00	700.00	1.43	1.43	-40.84	209.04	-180.72	276.33	273.47	2.85	96.803		
800.00	800.00	800.00	800.00	1.65	1.65	-40.84	209.04	-180.72	276.33	273.02	3.30	83.633		
900.00	900.00	900.00	900.00	1.88	1.88	-40.84	209.04	-180.72	276.33	272.57	3.75	73.617		
1,000.00	1,000.00	1,000.00	1,000.00	2.10	2.10	-40.84	209.04	-180.72	276.33	272.12	4.20	65.743		
1,100.00	1,100.00	1,100.00	1,100.00	2.33	2.33	-40.84	209.04	-180.72	276.33	271.67	4.65	59.391		
1,200.00	1,200.00	1,200.00	1,200.00	2.55	2.55	-40.84	209.04	-180.72	276.33	271.23	5.10	54.159		
1,300.00	1,300.00	1,300.00	1,300.00	2.78	2.78	-40.84	209.04	-180.72	276.33	270.78	5.55	49.773		
1,400.00	1,400.00	1,400.00	1,400.00	3.00	3.00	-40.84	209.04	-180.72	276.33	270.33	6.00	46.045		
1,500.00	1,500.00	1,500.00	1,500.00	3.23	3.23	-40.84	209.04	-180.72	276.33	269.88	6.45	42.836		
1,600.00	1,600.00	1,600.00	1,600.00	3.45	3.45	-40.84	209.04	-180.72	276.33	269.43	6.90	40.046		
1,700.00	1,700.00	1,700.00	1,700.00	3.67	3.67	-40.84	209.04	-180.72	276.33	268.98	7.35	37.596		
1,800.00	1,800.00	1,800.00	1,800.00	3.90	3.90	-40.84	209.04	-180.72	276.33	268.53	7.80	35.429		
1,900.00	1,900.00	1,900.00	1,900.00	4.12	4.12	-40.84	209.04	-180.72	276.33	268.08	8.25	33.499		
2,000.00	2,000.00	2,000.00	2,000.00	4.35	4.35	-40.84	209.04	-180.72	276.33	267.63	8.70	31.767		
2,100.00	2,100.00	2,100.00	2,100.00	4.57	4.57	-40.84	209.04	-180.72	276.33	267.18	9.15	30.206		
2,200.00	2,200.00	2,200.00	2,200.00	4.80	4.80	-40.84	209.04	-180.72	276.33	266.73	9.60	28.792		
2,300.00	2,300.00	2,300.00	2,300.00	5.02	5.02	-40.84	209.04	-180.72	276.33	266.28	10.05	27.503		
2,400.00	2,400.00	2,400.00	2,400.00	5.25	5.25	-40.84	209.04	-180.72	276.33	265.83	10.50	26.325		
2,500.00	2,500.00	2,500.00	2,500.00	5.47	5.47	-40.84	209.04	-180.72	276.33	265.38	10.95	25.244		
2,600.00	2,600.00	2,600.00	2,600.00	5.70	5.70	-40.84	209.04	-180.72	276.33	264.93	11.40	24.249		
2,700.00	2,700.00	2,700.00	2,700.00	5.92	5.92	-40.84	209.04	-180.72	276.33	264.48	11.85	23.328		
2,800.00	2,800.00	2,800.00	2,800.00	6.15	6.15	-40.84	209.04	-180.72	276.33	264.03	12.29	22.475		
2,900.00	2,900.00	2,900.00	2,900.00	6.37	6.37	-40.84	209.04	-180.72	276.33	263.58	12.74	21.683		
3,000.00	3,000.00	3,000.00	3,000.00	6.60	6.60	-40.84	209.04	-180.72	276.33	263.13	13.19	20.944		
3,100.00	3,100.00	3,100.00	3,100.00	6.82	6.82	-40.84	209.04	-180.72	276.33	262.68	13.64	20.254		
3,200.00	3,200.00	3,200.00	3,200.00	7.05	7.05	-40.84	209.04	-180.72	276.33	262.23	14.09	19.608		
3,300.00	3,300.00	3,300.00	3,300.00	7.27	7.27	-40.84	209.04	-180.72	276.33	261.79	14.54	19.002		
3,400.00	3,400.00	3,400.00	3,400.00	7.50	7.50	-40.84	209.04	-180.72	276.33	261.34	14.99	18.432		
3,500.00	3,500.00	3,500.00	3,500.00	7.72	7.72	-40.84	209.04	-180.72	276.33	260.89	15.44	17.895		
3,600.00	3,600.00	3,600.00	3,600.00	7.95	7.95	-40.84	209.04	-180.72	276.33	260.44	15.89	17.389		
3,700.00	3,700.00	3,700.00	3,700.00	8.17	8.17	-40.84	209.04	-180.72	276.33	259.99	16.34	16.911		
3,800.00	3,800.00	3,800.00	3,800.00	8.40	8.40	-40.84	209.04	-180.72	276.33	259.54	16.79	16.458		
3,900.00	3,900.00	3,900.00	3,900.00	8.62	8.62	-40.84	209.04	-180.72	276.33	259.09	17.24	16.029		
4,000.00	4,000.00	4,000.00	4,000.00	8.84	8.84	-40.84	209.04	-180.72	276.33	258.64	17.69	15.621		
4,100.00	4,100.00	4,100.00	4,100.00	9.07	9.07	-40.84	209.04	-180.72	276.33	258.19	18.14	15.234		
4,200.00	4,200.00	4,200.00	4,200.00	9.29	9.29	-40.84	209.04	-180.72	276.33	257.74	18.59	14.866		
4,300.00	4,300.00	4,300.00	4,300.00	9.52	9.52	-40.84	209.04	-180.72	276.33	257.29	19.04	14.515		
4,400.00	4,400.00	4,404.39	4,404.38	9.72	9.72	-148.88	208.11	-180.53	276.28	256.84	19.44	14.209		
4,500.00	4,499.96	4,508.72	4,508.67	9.91	9.90	-149.47	205.32	-179.95	276.15	256.35	19.80	13.946		
4,600.00	4,599.86	4,612.95	4,612.79	10.11	10.08	-150.44	200.67	-179.00	276.01	255.85	20.16	13.692		
4,700.00	4,699.68	4,717.02	4,716.65	10.30	10.26	-151.80	194.18	-177.66	275.93	255.41	20.51	13.451		
4,702.67	4,702.34	4,719.80	4,719.42	10.31	10.26	-151.84	193.98	-177.62	275.93	255.40	20.52	13.445 CC		
4,800.00	4,799.37	4,820.89	4,820.17	10.50	10.44	-153.54	185.86	-175.95	276.04	255.18	20.87	13.229 ES		
4,900.00	4,898.90	4,924.50	4,923.26	10.70	10.63	-155.65	175.74	-173.87	276.52	255.30	21.22	13.033		
5,000.00	4,998.26	5,027.80	5,025.84	10.91	10.82	-158.12	163.82	-171.42	277.55	255.99	21.56	12.871		

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



LEAM Drilling Systems LLC

Anticollision Report



Company:	DEVON ENERGY	Local Co-ordinate Reference:	Well 321H (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:	321H (SIMOPS)	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.1 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design Cotton Draw Unit - 327H (SIMOPS) - OH - Plan #1													Offset Site Error:	0.00 usft
Survey Program: 0-LEAM MWD-ADJ													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Distance		Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)						
5,100.00	5,097.40	5,127.07	5,124.31	11.13	11.02	-160.71	151.45	-168.88	279.99	258.09	21.90	12.782		
5,200.00	5,196.30	5,226.09	5,222.53	11.36	11.21	-163.35	139.11	-166.34	284.68	262.43	22.24	12.798		
5,300.00	5,294.93	5,324.95	5,320.58	11.60	11.42	-165.96	126.79	-163.81	291.64	269.06	22.58	12.916		
5,400.00	5,393.26	5,423.62	5,418.45	11.85	11.63	-168.52	114.50	-161.29	300.91	278.00	22.92	13.131		
5,500.00	5,491.25	5,522.06	5,516.09	12.11	11.84	-170.97	102.23	-158.76	312.47	289.22	23.25	13.439		
5,606.45	5,595.16	5,626.58	5,619.76	12.41	12.07	-173.42	89.21	-156.09	327.26	303.65	23.61	13.862		
5,700.00	5,686.29	5,718.28	5,710.72	12.69	12.28	-175.42	77.78	-153.74	341.57	317.56	24.00	14.231		
5,800.00	5,783.70	5,816.32	5,807.96	13.00	12.51	-177.39	65.56	-151.23	357.28	332.85	24.43	14.624		
5,900.00	5,881.11	5,914.35	5,905.19	13.31	12.74	-179.19	53.35	-148.71	373.38	348.51	24.87	15.013		
6,000.00	5,978.52	6,012.39	6,002.43	13.64	12.97	-179.16	41.13	-146.20	389.81	364.50	25.32	15.397		
6,100.00	6,075.93	6,110.42	6,099.67	13.98	13.21	-177.64	28.91	-143.69	406.54	380.77	25.77	15.774		
6,200.00	6,173.35	6,208.46	6,196.91	14.32	13.45	-176.24	16.70	-141.18	423.52	397.29	26.24	16.142		
6,300.00	6,270.76	6,306.49	6,294.15	14.67	13.70	-174.95	4.48	-138.67	440.74	414.03	26.71	16.501		
6,400.00	6,368.17	6,404.53	6,391.38	15.03	13.94	-173.75	-7.73	-136.16	458.15	430.96	27.19	16.851		
6,500.00	6,465.58	6,502.56	6,488.62	15.40	14.19	-172.65	-19.95	-133.65	475.75	448.07	27.68	17.190		
6,600.00	6,562.99	6,600.59	6,585.86	15.77	14.45	-171.62	-32.17	-131.14	493.51	465.34	28.17	17.519		
6,700.00	6,660.40	6,698.63	6,683.10	16.15	14.70	-170.66	-44.38	-128.62	511.41	482.74	28.67	17.838		
6,800.00	6,757.81	6,796.66	6,780.33	16.53	14.96	-169.77	-56.60	-126.11	529.44	500.26	29.18	18.146		
6,900.00	6,855.23	6,894.70	6,877.57	16.92	15.22	-168.93	-68.82	-123.60	547.59	517.90	29.69	18.443		
7,000.00	6,952.64	6,992.73	6,974.81	17.31	15.48	-168.15	-81.03	-121.09	565.84	535.64	30.21	18.731		
7,100.00	7,050.05	7,090.77	7,072.05	17.70	15.75	-167.42	-93.25	-118.58	584.20	553.46	30.73	19.008		
7,200.00	7,147.46	7,187.59	7,168.11	18.10	16.01	-166.75	-105.18	-116.13	602.68	571.42	31.26	19.280		
7,300.00	7,244.87	7,282.78	7,262.70	18.51	16.25	-166.25	-115.62	-113.98	621.61	589.84	31.77	19.567		
7,400.00	7,342.28	7,377.94	7,357.42	18.92	16.49	-165.92	-124.52	-112.15	641.02	608.75	32.27	19.866		
7,500.00	7,439.70	7,473.02	7,452.20	19.33	16.72	-165.74	-131.87	-110.64	660.89	628.13	32.76	20.177		
7,600.00	7,537.11	7,567.96	7,546.96	19.74	16.94	-165.71	-137.67	-109.45	681.20	647.96	33.23	20.498		
7,700.00	7,634.52	7,662.72	7,641.61	20.16	17.15	-165.80	-141.92	-108.57	701.94	668.24	33.70	20.830		
7,800.00	7,731.93	7,757.24	7,736.09	20.58	17.36	-166.01	-144.64	-108.02	723.12	688.97	34.15	21.175		
7,900.00	7,829.34	7,851.46	7,830.31	21.00	17.55	-166.32	-145.83	-107.77	744.75	710.17	34.59	21.532		
8,000.00	7,926.75	7,947.91	7,926.75	21.42	17.74	-166.71	-145.89	-107.76	766.75	731.73	35.02	21.894		
8,100.00	8,024.17	8,045.32	8,024.17	21.85	17.94	-167.09	-145.89	-107.76	788.79	753.33	35.46	22.245		
8,200.00	8,121.58	8,134.71	8,113.46	22.28	18.10	-167.62	-143.10	-107.76	811.19	775.33	35.86	22.622		
8,300.00	8,218.99	8,216.24	8,193.75	22.71	18.19	-168.86	-129.33	-107.76	835.23	799.07	36.16	23.100		
8,400.00	8,316.40	8,290.96	8,264.94	23.14	18.23	-170.63	-106.82	-107.76	861.77	825.39	36.38	23.685		
8,436.32	8,351.78	8,316.10	8,288.16	23.30	18.24	-171.34	-97.19	-107.76	872.21	835.76	36.46	23.925		
8,450.00	8,365.12	8,325.35	8,296.59	23.36	18.24	-177.82	-93.39	-107.76	876.25	839.76	36.49	24.016		
8,500.00	8,413.92	8,358.82	8,326.57	23.54	18.24	-157.40	-78.51	-107.76	891.12	854.50	36.62	24.335		
8,550.00	8,462.55	8,391.88	8,355.28	23.72	18.23	-135.55	-62.13	-107.76	906.06	869.27	36.78	24.632		
8,600.00	8,510.63	8,424.58	8,382.70	23.88	18.22	-119.39	-44.31	-107.76	920.86	883.89	36.97	24.911		
8,650.00	8,557.80	8,450.00	8,403.28	24.02	18.22	-108.08	-29.41	-107.76	935.40	898.25	37.14	25.183		
8,700.00	8,603.70	8,489.16	8,433.65	24.15	18.21	-99.68	-4.69	-107.76	949.41	912.10	37.31	25.448		
8,750.00	8,647.97	8,521.13	8,457.14	24.27	18.20	-93.45	16.99	-107.76	962.85	925.42	37.44	25.720		
8,800.00	8,690.28	8,550.00	8,477.29	24.37	18.19	-88.64	37.66	-107.76	975.57	938.05	37.52	26.003		
8,850.00	8,730.31	8,584.63	8,500.05	24.46	18.19	-84.75	63.76	-107.76	987.43	949.88	37.55	26.293		
8,900.00	8,767.76	8,616.22	8,519.39	24.55	18.20	-81.63	88.73	-107.76	998.35	960.81	37.54	26.593		
8,950.00	8,802.33	8,650.00	8,538.52	24.62	18.21	-79.07	116.56	-107.76	1,008.23	970.74	37.49	26.894		
9,000.00	8,833.77	8,679.22	8,553.72	24.69	18.23	-77.02	141.51	-107.76	1,016.98	979.57	37.41	27.184		
9,050.00	8,861.84	8,710.66	8,568.64	24.76	18.26	-75.35	169.18	-107.76	1,024.55	987.23	37.32	27.454		
9,100.00	8,886.32	8,750.00	8,585.13	24.84	18.31	-74.02	204.89	-107.76	1,030.92	993.68	37.25	27.678		
9,150.00	8,907.03	8,773.54	8,593.81	24.91	18.36	-73.04	226.77	-107.76	1,035.92	998.74	37.18	27.859		
9,200.00	8,923.80	8,800.00	8,602.48	24.99	18.41	-72.32	251.77	-107.76	1,039.67	1,002.51	37.16	27.978		
9,250.00	8,936.52	8,836.52	8,612.54	25.09	18.51	-71.88	286.87	-107.76	1,042.03	1,004.80	37.24	27.985		

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 321H (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:	321H (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			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	
9,300.00	8,945.08	8,868.08	8,619.42	25.20	18.61	-71.70	317.66	-107.76	1,043.07	1,005.70	37.37	27.910		
9,350.00	8,949.42	8,900.00	8,624.64	25.33	18.73	-71.78	349.15	-107.76	1,042.75	1,005.16	37.59	27.737		
9,376.03	8,950.00	8,916.20	8,626.61	25.41	18.80	-71.91	365.23	-107.76	1,042.06	1,004.31	37.75	27.605		
9,400.00	8,950.00	8,931.44	8,628.05	25.48	18.86	-71.99	380.40	-107.76	1,041.35	1,003.41	37.95	27.442		
9,500.00	8,950.00	9,005.18	8,629.96	25.89	19.22	-72.09	454.09	-107.76	1,040.43	1,001.54	38.89	26.754		
9,600.00	8,950.00	9,105.18	8,629.96	26.44	19.83	-72.09	554.09	-107.76	1,040.43	1,000.25	40.19	25.890		
9,700.00	8,950.00	9,205.18	8,629.96	27.12	20.59	-72.09	654.09	-107.76	1,040.43	998.69	41.74	24.926		
9,800.00	8,950.00	9,305.18	8,629.96	27.92	21.47	-72.09	754.09	-107.76	1,040.43	996.91	43.52	23.906		
9,900.00	8,950.00	9,405.18	8,629.96	28.84	22.47	-72.09	854.09	-107.76	1,040.43	994.93	45.51	22.864		
10,000.00	8,950.00	9,505.18	8,629.96	29.85	23.57	-72.09	954.09	-107.76	1,040.43	992.77	47.67	21.828		
10,100.00	8,950.00	9,605.18	8,629.96	30.95	24.76	-72.09	1,054.09	-107.76	1,040.43	990.45	49.98	20.818		
10,200.00	8,950.00	9,705.18	8,629.97	32.12	26.02	-72.09	1,154.09	-107.76	1,040.43	988.01	52.42	19.846		
10,300.00	8,950.00	9,805.18	8,629.97	33.35	27.34	-72.09	1,254.09	-107.76	1,040.43	985.44	54.99	18.922		
10,400.00	8,950.00	9,905.18	8,629.97	34.64	28.72	-72.09	1,354.09	-107.76	1,040.43	982.78	57.65	18.048		
10,500.00	8,950.00	10,005.18	8,629.97	35.98	30.14	-72.09	1,454.09	-107.76	1,040.43	980.03	60.40	17.227		
10,600.00	8,950.00	10,105.18	8,629.97	37.36	31.61	-72.09	1,554.09	-107.76	1,040.43	977.21	63.22	16.458		
10,700.00	8,950.00	10,205.18	8,629.97	38.78	33.11	-72.09	1,654.09	-107.76	1,040.43	974.32	66.11	15.739		
10,800.00	8,950.00	10,305.18	8,629.97	40.23	34.65	-72.09	1,754.09	-107.76	1,040.43	971.38	69.05	15.067		
10,900.00	8,950.00	10,405.18	8,629.97	41.72	36.21	-72.09	1,854.09	-107.76	1,040.43	968.38	72.05	14.441		
11,000.00	8,950.00	10,505.18	8,629.97	43.23	37.80	-72.09	1,954.09	-107.76	1,040.43	965.34	75.09	13.856		
11,100.00	8,950.00	10,605.18	8,629.98	44.76	39.40	-72.09	2,054.09	-107.76	1,040.43	962.26	78.17	13.310		
11,200.00	8,950.00	10,705.18	8,629.98	46.32	41.03	-72.09	2,154.09	-107.76	1,040.43	959.14	81.28	12.800		
11,300.00	8,950.00	10,805.18	8,629.98	47.89	42.67	-72.09	2,254.09	-107.76	1,040.43	956.00	84.43	12.323		
11,400.00	8,950.00	10,905.18	8,629.98	49.49	44.32	-72.09	2,354.09	-107.76	1,040.43	952.83	87.60	11.877		
11,500.00	8,950.00	11,005.18	8,629.98	51.10	45.99	-72.09	2,454.09	-107.76	1,040.43	949.63	90.80	11.459		
11,600.00	8,950.00	11,105.18	8,629.98	52.72	47.67	-72.09	2,554.09	-107.76	1,040.43	946.41	94.01	11.067		
11,700.00	8,950.00	11,205.18	8,629.98	54.35	49.36	-72.09	2,654.09	-107.76	1,040.43	943.17	97.25	10.698		
11,800.00	8,950.00	11,305.18	8,629.98	56.00	51.06	-72.09	2,754.09	-107.76	1,040.43	939.92	100.51	10.351		
11,900.00	8,950.00	11,405.18	8,629.98	57.66	52.77	-72.09	2,854.09	-107.76	1,040.42	936.64	103.78	10.025		
12,000.00	8,950.00	11,505.18	8,629.98	59.33	54.49	-72.09	2,954.09	-107.76	1,040.42	933.35	107.07	9.717		
12,100.00	8,950.00	11,605.18	8,629.99	61.01	56.21	-72.09	3,054.09	-107.76	1,040.42	930.05	110.37	9.427		
12,200.00	8,950.00	11,705.18	8,629.99	62.69	57.94	-72.09	3,154.09	-107.76	1,040.42	926.74	113.69	9.152		
12,300.00	8,950.00	11,805.18	8,629.99	64.39	59.68	-72.09	3,254.09	-107.76	1,040.42	923.41	117.01	8.892		
12,400.00	8,950.00	11,905.18	8,629.99	66.09	61.42	-72.09	3,354.09	-107.76	1,040.42	920.08	120.34	8.645		
12,500.00	8,950.00	12,005.18	8,629.99	67.79	63.16	-72.09	3,454.09	-107.76	1,040.42	916.73	123.69	8.412		
12,600.00	8,950.00	12,105.18	8,629.99	69.51	64.91	-72.09	3,554.09	-107.76	1,040.42	913.38	127.04	8.190		
12,700.00	8,950.00	12,205.18	8,629.99	71.22	66.67	-72.09	3,654.09	-107.76	1,040.42	910.02	130.40	7.979		
12,800.00	8,950.00	12,305.18	8,629.99	72.95	68.43	-72.09	3,754.09	-107.76	1,040.42	906.65	133.77	7.778		
12,900.00	8,950.00	12,405.18	8,629.99	74.68	70.19	-72.09	3,854.09	-107.76	1,040.42	903.28	137.15	7.586		
13,000.00	8,950.00	12,505.18	8,630.00	76.41	71.95	-72.09	3,954.09	-107.76	1,040.42	899.89	140.53	7.404		
13,100.00	8,950.00	12,605.18	8,630.00	78.15	73.72	-72.09	4,054.09	-107.76	1,040.42	896.50	143.92	7.229		
13,200.00	8,950.00	12,705.18	8,630.00	79.89	75.49	-72.09	4,154.09	-107.76	1,040.42	893.11	147.31	7.063		
13,300.00	8,950.00	12,805.18	8,630.00	81.64	77.26	-72.09	4,254.09	-107.76	1,040.42	889.71	150.71	6.904		
13,400.00	8,950.00	12,905.18	8,630.00	83.38	79.04	-72.09	4,354.09	-107.76	1,040.42	886.31	154.11	6.751		
13,453.57	8,950.00	12,958.76	8,630.00	84.32	79.99	-72.09	4,407.67	-107.76	1,040.42	884.48	155.94	6.672		
13,476.03	8,950.00	12,975.20	8,630.00	84.72	80.29	-72.09	4,424.11	-107.76	1,040.44	883.84	156.60	6.644 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 321H (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:	321H (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		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	-48.63	159.04	-180.58	240.63				
100.00	100.00	100.00	100.00	0.08	0.08	-48.63	159.04	-180.58	240.63	240.47	0.16	1,529.377	
200.00	200.00	200.00	200.00	0.30	0.30	-48.63	159.04	-180.58	240.63	240.02	0.61	396.506	
300.00	300.00	300.00	300.00	0.53	0.53	-48.63	159.04	-180.58	240.63	239.57	1.06	227.780	
400.00	400.00	400.00	400.00	0.75	0.75	-48.63	159.04	-180.58	240.63	239.12	1.51	159.786	
500.00	500.00	500.00	500.00	0.98	0.98	-48.63	159.04	-180.58	240.63	238.67	1.96	123.054	
600.00	600.00	600.00	600.00	1.20	1.20	-48.63	159.04	-180.58	240.63	238.22	2.40	100.053	
700.00	700.00	700.00	700.00	1.43	1.43	-48.63	159.04	-180.58	240.63	237.77	2.85	84.296	
800.00	800.00	800.00	800.00	1.65	1.65	-48.63	159.04	-180.58	240.63	237.32	3.30	72.828	
900.00	900.00	900.00	900.00	1.88	1.88	-48.63	159.04	-180.58	240.63	236.87	3.75	64.106	
1,000.00	1,000.00	1,000.00	1,000.00	2.10	2.10	-48.63	159.04	-180.58	240.63	236.42	4.20	57.249	
1,100.00	1,100.00	1,100.00	1,100.00	2.33	2.33	-48.63	159.04	-180.58	240.63	235.97	4.65	51.718	
1,200.00	1,200.00	1,200.00	1,200.00	2.55	2.55	-48.63	159.04	-180.58	240.63	235.52	5.10	47.161	
1,300.00	1,300.00	1,300.00	1,300.00	2.78	2.78	-48.63	159.04	-180.58	240.63	235.08	5.55	43.343	
1,400.00	1,400.00	1,400.00	1,400.00	3.00	3.00	-48.63	159.04	-180.58	240.63	234.63	6.00	40.096	
1,500.00	1,500.00	1,500.00	1,500.00	3.23	3.23	-48.63	159.04	-180.58	240.63	234.18	6.45	37.302	
1,600.00	1,600.00	1,600.00	1,600.00	3.45	3.45	-48.63	159.04	-180.58	240.63	233.73	6.90	34.872	
1,700.00	1,700.00	1,700.00	1,700.00	3.67	3.67	-48.63	159.04	-180.58	240.63	233.28	7.35	32.739	
1,800.00	1,800.00	1,800.00	1,800.00	3.90	3.90	-48.63	159.04	-180.58	240.63	232.83	7.80	30.852	
1,900.00	1,900.00	1,900.00	1,900.00	4.12	4.12	-48.63	159.04	-180.58	240.63	232.38	8.25	29.171	
2,000.00	2,000.00	2,000.00	2,000.00	4.35	4.35	-48.63	159.04	-180.58	240.63	231.93	8.70	27.663	
2,100.00	2,100.00	2,100.00	2,100.00	4.57	4.57	-48.63	159.04	-180.58	240.63	231.48	9.15	26.304	
2,200.00	2,200.00	2,200.00	2,200.00	4.80	4.80	-48.63	159.04	-180.58	240.63	231.03	9.60	25.072	
2,300.00	2,300.00	2,300.00	2,300.00	5.02	5.02	-48.63	159.04	-180.58	240.63	230.58	10.05	23.950	
2,400.00	2,400.00	2,400.00	2,400.00	5.25	5.25	-48.63	159.04	-180.58	240.63	230.13	10.50	22.924	
2,500.00	2,500.00	2,500.00	2,500.00	5.47	5.47	-48.63	159.04	-180.58	240.63	229.68	10.95	21.983	
2,600.00	2,600.00	2,600.00	2,600.00	5.70	5.70	-48.63	159.04	-180.58	240.63	229.23	11.40	21.116	
2,700.00	2,700.00	2,700.00	2,700.00	5.92	5.92	-48.63	159.04	-180.58	240.63	228.78	11.85	20.314	
2,800.00	2,800.00	2,800.00	2,800.00	6.15	6.15	-48.63	159.04	-180.58	240.63	228.33	12.29	19.572	
2,900.00	2,900.00	2,900.00	2,900.00	6.37	6.37	-48.63	159.04	-180.58	240.63	227.88	12.74	18.881	
3,000.00	3,000.00	3,000.00	3,000.00	6.60	6.60	-48.63	159.04	-180.58	240.63	227.43	13.19	18.238	
3,100.00	3,100.00	3,100.00	3,100.00	6.82	6.82	-48.63	159.04	-180.58	240.63	226.98	13.64	17.637	
3,200.00	3,200.00	3,200.00	3,200.00	7.05	7.05	-48.63	159.04	-180.58	240.63	226.53	14.09	17.074	
3,300.00	3,300.00	3,300.00	3,300.00	7.27	7.27	-48.63	159.04	-180.58	240.63	226.08	14.54	16.547	
3,400.00	3,400.00	3,400.00	3,400.00	7.50	7.50	-48.63	159.04	-180.58	240.63	225.63	14.99	16.050	
3,500.00	3,500.00	3,500.00	3,500.00	7.72	7.72	-48.63	159.04	-180.58	240.63	225.19	15.44	15.583	
3,600.00	3,600.00	3,600.00	3,600.00	7.95	7.95	-48.63	159.04	-180.58	240.63	224.74	15.89	15.142	
3,700.00	3,700.00	3,700.00	3,700.00	8.17	8.17	-48.63	159.04	-180.58	240.63	224.29	16.34	14.726	
3,800.00	3,800.00	3,800.00	3,800.00	8.40	8.40	-48.63	159.04	-180.58	240.63	223.84	16.79	14.332	
3,900.00	3,900.00	3,900.00	3,900.00	8.62	8.62	-48.63	159.04	-180.58	240.63	223.39	17.24	13.958	
4,000.00	4,000.00	4,000.00	4,000.00	8.84	8.84	-48.63	159.04	-180.58	240.63	222.94	17.69	13.603	
4,100.00	4,100.00	4,100.00	4,100.00	9.07	9.07	-48.63	159.04	-180.58	240.63	222.49	18.14	13.266	
4,200.00	4,200.00	4,200.00	4,200.00	9.29	9.29	-48.63	159.04	-180.58	240.63	222.04	18.59	12.945	
4,300.00	4,300.00	4,300.00	4,300.00	9.52	9.52	-48.63	159.04	-180.58	240.63	221.59	19.04	12.639	
4,400.00	4,400.00	4,405.42	4,405.41	9.72	9.74	-156.44	158.64	-179.35	240.30	220.84	19.46	12.350	
4,500.00	4,499.96	4,510.81	4,510.73	9.91	9.94	-156.34	157.42	-175.67	239.32	219.48	19.84	12.065	
4,600.00	4,599.86	4,616.16	4,615.88	10.11	10.14	-156.18	155.41	-169.54	237.69	217.48	20.21	11.758	
4,700.00	4,699.68	4,721.44	4,720.77	10.30	10.35	-155.95	152.59	-160.98	235.42	214.82	20.59	11.432	
4,800.00	4,799.37	4,826.62	4,825.31	10.50	10.56	-155.64	148.97	-149.99	232.50	211.53	20.97	11.088	
4,900.00	4,898.90	4,931.69	4,929.43	10.70	10.79	-155.26	144.56	-136.60	228.95	207.60	21.35	10.725	
5,000.00	4,998.26	5,036.62	5,033.03	10.91	11.02	-154.79	139.37	-120.81	224.77	203.04	21.73	10.345	
5,100.00	5,097.40	5,141.22	5,135.86	11.13	11.27	-154.23	133.40	-102.69	219.98	197.87	22.11	9.949	

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 321H (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:	321H (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		
5,200.00	5,196.30	5,241.11	5,233.87	11.36	11.52	-153.74	127.36	-84.33	215.76	193.27	22.49	9.594	9,088 CC, ES	
5,300.00	5,294.93	5,341.06	5,331.94	11.60	11.78	-153.44	121.31	-65.96	213.11	190.24	22.87	9.319		
5,400.00	5,393.26	5,441.06	5,430.04	11.85	12.05	-153.34	115.26	-47.58	212.03	188.78	23.25	9.119		
5,419.33	5,412.23	5,460.39	5,449.01	11.90	12.11	-153.34	114.09	-44.03	212.00	188.67	23.33	9.088		
5,500.00	5,491.25	5,541.05	5,528.15	12.11	12.33	-153.44	109.21	-29.20	212.51	188.87	23.64	8.991		
5,606.45	5,595.16	5,647.47	5,632.56	12.41	12.64	-153.77	102.78	-9.84	214.74	190.69	24.04	8.931		
5,700.00	5,686.29	5,740.97	5,724.28	12.69	12.91	-154.16	97.12	7.54	217.48	193.02	24.47	8.890		
5,800.00	5,783.70	5,840.91	5,822.34	13.00	13.22	-154.56	91.07	25.91	220.43	195.51	24.92	8.846		
5,900.00	5,881.11	5,940.86	5,920.39	13.31	13.52	-154.96	85.03	44.28	223.39	198.01	25.38	8.802		
6,000.00	5,978.52	6,040.80	6,018.45	13.64	13.84	-155.35	78.98	62.65	226.36	200.51	25.84	8.759		
6,100.00	6,075.93	6,140.75	6,116.51	13.98	14.16	-155.72	72.93	81.02	229.33	203.02	26.31	8.717		
6,200.00	6,173.35	6,240.69	6,214.56	14.32	14.48	-156.09	66.89	99.39	232.32	205.54	26.78	8.675		
6,300.00	6,270.76	6,340.64	6,312.62	14.67	14.81	-156.45	60.84	117.76	235.32	208.06	27.26	8.634		
6,400.00	6,368.17	6,440.58	6,410.67	15.03	15.15	-156.79	54.79	136.13	238.32	210.59	27.73	8.594		
6,500.00	6,465.58	6,540.53	6,508.73	15.40	15.49	-157.13	48.75	154.50	241.34	213.12	28.21	8.554		
6,600.00	6,562.99	6,640.47	6,606.78	15.77	15.83	-157.46	42.70	172.87	244.36	215.66	28.70	8.516		
6,700.00	6,660.40	6,740.41	6,704.84	16.15	16.18	-157.79	36.65	191.24	247.39	218.21	29.18	8.478		
6,800.00	6,757.81	6,840.36	6,802.89	16.53	16.53	-158.10	30.61	209.61	250.43	220.76	29.67	8.441		
6,900.00	6,855.23	6,940.30	6,900.95	16.92	16.88	-158.41	24.56	227.98	253.47	223.32	30.16	8.405		
7,000.00	6,952.64	7,040.25	6,999.01	17.31	17.24	-158.71	18.51	246.34	256.53	225.88	30.65	8.371		
7,100.00	7,050.05	7,140.19	7,097.06	17.70	17.60	-159.00	12.47	264.71	259.58	228.45	31.14	8.337		
7,200.00	7,147.46	7,240.14	7,195.12	18.10	17.96	-159.29	6.42	283.08	262.65	231.02	31.63	8.303		
7,300.00	7,244.87	7,340.08	7,293.17	18.51	18.32	-159.57	0.37	301.45	265.72	233.60	32.13	8.271		
7,400.00	7,342.28	7,440.03	7,391.23	18.92	18.69	-159.84	-5.67	319.82	268.80	236.18	32.62	8.240		
7,500.00	7,439.70	7,539.97	7,489.28	19.33	19.06	-160.11	-11.72	338.19	271.89	238.77	33.12	8.209		
7,600.00	7,537.11	7,639.91	7,587.34	19.74	19.43	-160.37	-17.77	356.56	274.98	241.36	33.62	8.179		
7,700.00	7,634.52	7,739.86	7,685.39	20.16	19.81	-160.62	-23.81	374.93	278.07	243.95	34.12	8.150		
7,800.00	7,731.93	7,839.80	7,783.45	20.58	20.19	-160.87	-29.86	393.30	281.17	246.55	34.62	8.122		
7,900.00	7,829.34	7,939.75	7,881.51	21.00	20.56	-161.12	-35.91	411.67	284.28	249.16	35.12	8.095		
8,000.00	7,926.75	8,039.69	7,979.56	21.42	20.94	-161.35	-41.95	430.04	287.39	251.77	35.62	8.068		
8,100.00	8,024.17	8,129.18	8,067.40	21.85	21.27	-161.39	-46.30	446.50	291.32	255.21	36.12	8.066		
8,200.00	8,121.58	8,200.00	8,136.83	22.28	21.50	-160.21	-41.89	459.51	302.10	265.41	36.69	8.234		
8,300.00	8,218.99	8,276.45	8,210.55	22.71	21.71	-157.60	-27.40	473.33	321.18	283.72	37.46	8.573		
8,400.00	8,316.40	8,350.00	8,279.08	23.14	21.89	-154.13	-4.16	486.18	349.42	311.02	38.40	9.099		
8,436.32	8,351.78	8,365.00	8,292.67	23.30	21.92	-153.35	1.67	488.73	361.82	323.15	38.66	9.358		
8,450.00	8,365.12	8,373.28	8,300.10	23.36	21.94	-146.75	5.04	490.12	366.74	327.84	38.89	9.429		
8,500.00	8,413.92	8,400.00	8,323.75	23.54	22.00	-121.87	16.66	494.56	384.32	344.72	39.60	9.705		
8,550.00	8,462.55	8,433.17	8,352.32	23.72	22.06	-99.90	32.62	499.92	401.06	360.88	40.17	9.984		
8,600.00	8,510.63	8,462.79	8,377.03	23.88	22.11	-83.96	48.28	504.56	416.82	376.35	40.47	10.298		
8,650.00	8,557.80	8,500.00	8,406.89	24.02	22.18	-72.71	69.75	510.16	431.57	390.99	40.58	10.634		
8,700.00	8,603.70	8,521.52	8,423.51	24.15	22.21	-65.10	83.05	513.28	444.85	404.51	40.34	11.027		
8,750.00	8,647.97	8,550.00	8,444.74	24.27	22.26	-59.43	101.62	517.27	456.90	416.99	39.91	11.449		
8,800.00	8,690.28	8,579.73	8,465.89	24.37	22.30	-55.18	122.12	521.24	467.53	428.26	39.27	11.905		
8,850.00	8,730.31	8,600.00	8,479.71	24.46	22.34	-52.02	136.72	523.84	476.81	438.42	38.39	12.421		
8,900.00	8,767.76	8,637.58	8,503.93	24.55	22.39	-49.45	165.07	528.39	484.29	446.85	37.44	12.936		
8,950.00	8,802.33	8,666.41	8,521.26	24.62	22.43	-47.53	187.88	531.65	490.33	453.99	36.34	13.494		
9,000.00	8,833.77	8,700.00	8,539.98	24.69	22.49	-46.05	215.54	535.17	494.81	459.66	35.15	14.078		
9,050.00	8,861.84	8,723.96	8,552.35	24.76	22.52	-44.99	235.93	537.50	497.59	463.71	33.88	14.686		
9,100.00	8,886.32	8,750.00	8,564.83	24.84	22.57	-44.24	258.66	539.85	498.78	466.04	32.74	15.233		
9,150.00	8,907.03	8,781.46	8,578.54	24.91	22.62	-43.80	286.86	542.43	498.31	466.62	31.69	15.724		
9,200.00	8,923.80	8,800.00	8,585.89	24.99	22.66	-43.57	303.82	543.82	496.41	465.67	30.74	16.149		
9,250.00	8,936.52	8,839.02	8,599.59	25.09	22.74	-43.71	340.26	546.40	492.52	462.39	30.13	16.347		

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 321H (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:	321H (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		
9,300.00	8,945.08	8,867.86	8,608.13	25.20	22.81	-44.05	367.75	548.02	487.21	457.47	29.74	16.382		
9,350.00	8,949.42	8,900.00	8,616.04	25.33	22.90	-44.69	398.86	549.51	480.35	450.67	29.68	16.182		
9,376.03	8,950.00	8,911.84	8,618.51	25.41	22.93	-45.07	410.43	549.98	476.15	446.40	29.75	16.006		
9,400.00	8,950.00	8,925.79	8,621.13	25.48	22.97	-45.25	424.13	550.48	472.35	442.40	29.95	15.772		
9,500.00	8,950.00	8,985.19	8,628.58	25.89	23.17	-45.78	483.01	551.90	461.80	431.02	30.78	15.001		
9,585.43	8,950.00	9,040.91	8,630.18	26.35	23.39	-45.90	538.68	552.23	459.54	428.03	31.52	14.580		
9,600.00	8,950.00	9,055.48	8,630.14	26.44	23.46	-45.89	553.25	552.23	459.57	427.91	31.66	14.514		
9,700.00	8,950.00	9,155.48	8,629.88	27.12	24.00	-45.87	653.25	552.23	459.75	426.95	32.81	14.015		
9,800.00	8,950.00	9,255.47	8,629.62	27.92	24.70	-45.85	753.25	552.23	459.94	425.81	34.13	13.476		
9,900.00	8,950.00	9,355.47	8,629.36	28.84	25.53	-45.82	853.25	552.23	460.12	424.49	35.63	12.915		
10,000.00	8,950.00	9,455.47	8,629.10	29.85	26.47	-45.80	953.25	552.23	460.30	423.03	37.27	12.349		
10,100.00	8,950.00	9,555.47	8,628.84	30.95	27.51	-45.78	1,053.25	552.23	460.48	421.43	39.05	11.791		
10,200.00	8,950.00	9,655.47	8,628.57	32.12	28.64	-45.75	1,153.25	552.23	460.67	419.72	40.95	11.250		
10,300.00	8,950.00	9,755.47	8,628.31	33.35	29.84	-45.73	1,253.25	552.23	460.85	417.91	42.94	10.733		
10,400.00	8,950.00	9,855.47	8,628.05	34.64	31.10	-45.71	1,353.25	552.23	461.03	416.01	45.02	10.241		
10,500.00	8,950.00	9,955.47	8,627.79	35.98	32.42	-45.68	1,453.25	552.23	461.21	414.05	47.17	9.778		
10,600.00	8,950.00	10,055.47	8,627.53	37.36	33.79	-45.66	1,553.25	552.23	461.40	412.01	49.38	9.343		
10,700.00	8,950.00	10,155.47	8,627.26	38.78	35.20	-45.64	1,653.25	552.23	461.58	409.93	51.65	8.936		
10,800.00	8,950.00	10,255.47	8,627.00	40.23	36.64	-45.61	1,753.24	552.23	461.76	407.79	53.97	8.556		
10,900.00	8,950.00	10,355.47	8,626.74	41.72	38.12	-45.59	1,853.24	552.23	461.95	405.61	56.33	8.201		
11,000.00	8,950.00	10,455.47	8,626.48	43.23	39.63	-45.57	1,953.24	552.23	462.13	403.40	58.73	7.869		
11,100.00	8,950.00	10,555.47	8,626.22	44.76	41.17	-45.54	2,053.24	552.23	462.31	401.16	61.16	7.560		
11,200.00	8,950.00	10,655.47	8,625.96	46.32	42.73	-45.52	2,153.24	552.23	462.50	398.88	63.61	7.270		
11,300.00	8,950.00	10,755.47	8,625.69	47.89	44.31	-45.50	2,253.24	552.23	462.68	396.59	66.09	7.000		
11,400.00	8,950.00	10,855.47	8,625.43	49.49	45.90	-45.48	2,353.24	552.23	462.86	394.27	68.60	6.748		
11,500.00	8,950.00	10,955.47	8,625.17	51.10	47.52	-45.45	2,453.24	552.23	463.05	391.93	71.12	6.511		
11,600.00	8,950.00	11,055.47	8,624.91	52.72	49.14	-45.43	2,553.24	552.23	463.23	389.57	73.66	6.289		
11,700.00	8,950.00	11,155.47	8,624.65	54.35	50.79	-45.41	2,653.24	552.23	463.41	387.20	76.21	6.080		
11,800.00	8,950.00	11,255.47	8,624.39	56.00	52.44	-45.38	2,753.24	552.23	463.60	384.81	78.78	5.884		
11,900.00	8,950.00	11,355.47	8,624.12	57.66	54.11	-45.36	2,853.24	552.23	463.78	382.42	81.36	5.700		
12,000.00	8,950.00	11,455.47	8,623.86	59.33	55.78	-45.34	2,953.24	552.23	463.97	380.01	83.96	5.526		
12,100.00	8,950.00	11,555.47	8,623.60	61.01	57.47	-45.31	3,053.24	552.23	464.15	377.59	86.56	5.362		
12,200.00	8,950.00	11,655.47	8,623.34	62.69	59.16	-45.29	3,153.23	552.23	464.33	375.17	89.17	5.207		
12,300.00	8,950.00	11,755.47	8,623.08	64.39	60.86	-45.27	3,253.23	552.23	464.52	372.73	91.79	5.061		
12,400.00	8,950.00	11,855.47	8,622.81	66.09	62.57	-45.24	3,353.23	552.23	464.70	370.29	94.41	4.922		
12,500.00	8,950.00	11,955.47	8,622.55	67.79	64.28	-45.22	3,453.23	552.23	464.89	367.84	97.04	4.791		
12,600.00	8,950.00	12,055.47	8,622.29	69.51	66.00	-45.20	3,553.23	552.23	465.07	365.39	99.68	4.666		
12,700.00	8,950.00	12,155.46	8,622.03	71.22	67.73	-45.18	3,653.23	552.23	465.26	362.93	102.32	4.547		
12,800.00	8,950.00	12,255.46	8,621.77	72.95	69.46	-45.15	3,753.23	552.23	465.44	360.47	104.97	4.434		
12,900.00	8,950.00	12,355.46	8,621.51	74.68	71.19	-45.13	3,853.23	552.23	465.63	358.00	107.62	4.327		
13,000.00	8,950.00	12,455.46	8,621.24	76.41	72.93	-45.11	3,953.23	552.23	465.81	355.53	110.28	4.224		
13,100.00	8,950.00	12,555.46	8,620.98	78.15	74.68	-45.08	4,053.23	552.23	465.99	353.06	112.93	4.126		
13,200.00	8,950.00	12,655.46	8,620.72	79.89	76.43	-45.06	4,153.23	552.23	466.18	350.58	115.59	4.033		
13,300.00	8,950.00	12,755.46	8,620.46	81.64	78.18	-45.04	4,253.23	552.23	466.36	348.11	118.26	3.944		
13,400.00	8,950.00	12,855.46	8,620.20	83.38	79.93	-45.02	4,353.23	552.23	466.55	345.62	120.93	3.858		
13,476.03	8,950.00	12,930.36	8,620.00	84.72	81.25	-45.00	4,428.12	552.23	466.69	343.75	122.94	3.796 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 321H (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:	321H (SIMOPS)	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.1 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design Cotton Draw Unit - 332H (SIMOPS) - OH - Plan #1												Offset Site Error:	0.00 usft
Survey Program: 0-LEAM MWD-ADJ												Offset Well Error:	0.00 usft
Reference	Offset	Semi Major Axis		Distance		Warning							
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	
0.00	0.00	0.00	0.00	0.00	0.00	-71.87	59.04	-180.29	189.71				
100.00	100.00	100.00	100.00	0.08	0.08	-71.87	59.04	-180.29	189.71	189.55	0.16	1,205.766	
200.00	200.00	200.00	200.00	0.30	0.30	-71.87	59.04	-180.29	189.71	189.10	0.61	312.606	
300.00	300.00	300.00	300.00	0.53	0.53	-71.87	59.04	-180.29	189.71	188.65	1.06	179.582	
400.00	400.00	400.00	400.00	0.75	0.75	-71.87	59.04	-180.29	189.71	188.20	1.51	125.976	
500.00	500.00	500.00	500.00	0.98	0.98	-71.87	59.04	-180.29	189.71	187.76	1.96	97.016	
600.00	600.00	600.00	600.00	1.20	1.20	-71.87	59.04	-180.29	189.71	187.31	2.40	78.882	
700.00	700.00	700.00	700.00	1.43	1.43	-71.87	59.04	-180.29	189.71	186.86	2.85	66.460	
800.00	800.00	800.00	800.00	1.65	1.65	-71.87	59.04	-180.29	189.71	186.41	3.30	57.417	
900.00	900.00	900.00	900.00	1.88	1.88	-71.87	59.04	-180.29	189.71	185.96	3.75	50.541	
1,000.00	1,000.00	1,000.00	1,000.00	2.10	2.10	-71.87	59.04	-180.29	189.71	185.51	4.20	45.136	
1,100.00	1,100.00	1,100.00	1,100.00	2.33	2.33	-71.87	59.04	-180.29	189.71	185.06	4.65	40.775	
1,200.00	1,200.00	1,200.00	1,200.00	2.55	2.55	-71.87	59.04	-180.29	189.71	184.61	5.10	37.182	
1,300.00	1,300.00	1,300.00	1,300.00	2.78	2.78	-71.87	59.04	-180.29	189.71	184.16	5.55	34.172	
1,400.00	1,400.00	1,400.00	1,400.00	3.00	3.00	-71.87	59.04	-180.29	189.71	183.71	6.00	31.612	
1,500.00	1,500.00	1,500.00	1,500.00	3.23	3.23	-71.87	59.04	-180.29	189.71	183.26	6.45	29.409	
1,600.00	1,600.00	1,600.00	1,600.00	3.45	3.45	-71.87	59.04	-180.29	189.71	182.81	6.90	27.493	
1,700.00	1,700.00	1,700.00	1,700.00	3.67	3.67	-71.87	59.04	-180.29	189.71	182.36	7.35	25.812	
1,800.00	1,800.00	1,800.00	1,800.00	3.90	3.90	-71.87	59.04	-180.29	189.71	181.91	7.80	24.324	
1,900.00	1,900.00	1,900.00	1,900.00	4.12	4.12	-71.87	59.04	-180.29	189.71	181.46	8.25	22.998	
2,000.00	2,000.00	2,000.00	2,000.00	4.35	4.35	-71.87	59.04	-180.29	189.71	181.01	8.70	21.810	
2,100.00	2,100.00	2,100.00	2,100.00	4.57	4.57	-71.87	59.04	-180.29	189.71	180.56	9.15	20.738	
2,200.00	2,200.00	2,200.00	2,200.00	4.80	4.80	-71.87	59.04	-180.29	189.71	180.11	9.60	19.767	
2,300.00	2,300.00	2,300.00	2,300.00	5.02	5.02	-71.87	59.04	-180.29	189.71	179.66	10.05	18.882	
2,400.00	2,400.00	2,400.00	2,400.00	5.25	5.25	-71.87	59.04	-180.29	189.71	179.21	10.50	18.074	
2,500.00	2,500.00	2,500.00	2,500.00	5.47	5.47	-71.87	59.04	-180.29	189.71	178.76	10.95	17.331	
2,600.00	2,600.00	2,600.00	2,600.00	5.70	5.70	-71.87	59.04	-180.29	189.71	178.32	11.40	16.648	
2,700.00	2,700.00	2,700.00	2,700.00	5.92	5.92	-71.87	59.04	-180.29	189.71	177.87	11.85	16.016	
2,800.00	2,800.00	2,800.00	2,800.00	6.15	6.15	-71.87	59.04	-180.29	189.71	177.42	12.29	15.430	
2,900.00	2,900.00	2,900.00	2,900.00	6.37	6.37	-71.87	59.04	-180.29	189.71	176.97	12.74	14.886	
3,000.00	3,000.00	3,000.00	3,000.00	6.60	6.60	-71.87	59.04	-180.29	189.71	176.52	13.19	14.379	
3,100.00	3,100.00	3,100.00	3,100.00	6.82	6.82	-71.87	59.04	-180.29	189.71	176.07	13.64	13.905	
3,200.00	3,200.00	3,200.00	3,200.00	7.05	7.05	-71.87	59.04	-180.29	189.71	175.62	14.09	13.462	
3,300.00	3,300.00	3,300.00	3,300.00	7.27	7.27	-71.87	59.04	-180.29	189.71	175.17	14.54	13.045	
3,400.00	3,400.00	3,400.00	3,400.00	7.50	7.50	-71.87	59.04	-180.29	189.71	174.72	14.99	12.654	
3,500.00	3,500.00	3,500.00	3,500.00	7.72	7.72	-71.87	59.04	-180.29	189.71	174.27	15.44	12.286	
3,600.00	3,600.00	3,600.00	3,600.00	7.95	7.95	-71.87	59.04	-180.29	189.71	173.82	15.89	11.938	
3,700.00	3,700.00	3,700.00	3,700.00	8.17	8.17	-71.87	59.04	-180.29	189.71	173.37	16.34	11.610	
3,800.00	3,800.00	3,800.00	3,800.00	8.40	8.40	-71.87	59.04	-180.29	189.71	172.92	16.79	11.299	
3,900.00	3,900.00	3,900.00	3,900.00	8.62	8.62	-71.87	59.04	-180.29	189.71	172.47	17.24	11.004	
4,000.00	4,000.00	4,000.00	4,000.00	8.84	8.84	-71.87	59.04	-180.29	189.71	172.02	17.69	10.725	
4,100.00	4,100.00	4,100.00	4,100.00	9.07	9.07	-71.87	59.04	-180.29	189.71	171.57	18.14	10.459	
4,200.00	4,200.00	4,200.00	4,200.00	9.29	9.29	-71.87	59.04	-180.29	189.71	171.12	18.59	10.206	
4,300.00	4,300.00	4,300.00	4,300.00	9.52	9.52	-71.87	59.04	-180.29	189.71	170.67	19.04	9.965 CC, ES	
4,400.00	4,400.00	4,399.05	4,399.04	9.72	9.72	-179.96	58.34	-180.78	190.83	171.39	19.44	9.818	
4,500.00	4,499.96	4,497.98	4,497.94	9.91	9.99	179.31	56.23	-182.23	194.21	174.42	19.79	9.815 SF	
4,600.00	4,599.86	4,596.69	4,596.56	10.11	10.06	178.16	52.72	-184.65	199.91	179.78	20.13	9.929	
4,700.00	4,699.68	4,695.05	4,694.74	10.30	10.24	176.66	47.84	-188.03	208.01	187.53	20.48	10.158	
4,800.00	4,799.37	4,792.96	4,792.35	10.50	10.41	174.89	41.60	-192.33	216.60	197.78	20.82	10.500	
4,900.00	4,898.90	4,890.30	4,889.26	10.70	10.59	172.95	34.04	-197.55	231.79	210.63	21.16	10.955	
5,000.00	4,998.26	4,986.97	4,985.33	10.91	10.78	170.94	25.19	-203.67	247.64	226.14	21.50	11.519	
5,100.00	5,097.40	5,082.87	5,080.44	11.13	10.97	168.91	15.10	-210.64	266.21	244.38	21.84	12.191	

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 321H (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:	321H (SIMOPS)	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.1 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design Cotton Draw Unit - 332H (SIMOPS) - OH - Plan #1													Offset Site Error:	0.00 usft
Survey Program: 0-LEAM MWD-ADJ													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis		Distance								Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
5,200.00	5,196.30	5,177.90	5,174.47	11.36	11.17	166.93	3.81	-218.44	287.54	265.37	22.18	12.966		
5,300.00	5,294.93	5,274.61	5,270.04	11.60	11.37	165.12	-8.36	-226.84	311.23	288.71	22.52	13.818		
5,400.00	5,393.26	5,370.97	5,365.27	11.85	11.59	163.62	-20.48	-235.21	336.78	313.91	22.87	14.725		
5,500.00	5,491.25	5,466.93	5,460.10	12.11	11.81	162.40	-32.55	-243.54	364.10	340.88	23.22	15.680		
5,606.45	5,595.16	5,568.61	5,560.58	12.41	12.05	161.36	-45.34	-252.37	395.06	371.46	23.60	16.743		
5,700.00	5,686.29	5,657.73	5,648.66	12.69	12.26	160.68	-56.55	-260.12	423.12	399.12	24.00	17.630		
5,800.00	5,783.70	5,753.00	5,742.81	13.00	12.50	160.05	-68.53	-268.39	453.16	428.72	24.44	18.542		
5,900.00	5,881.11	5,848.27	5,836.96	13.31	12.74	159.50	-80.51	-276.67	483.25	458.36	24.89	19.418		
6,000.00	5,978.52	5,943.53	5,931.11	13.64	12.98	159.01	-92.50	-284.94	513.37	488.03	25.34	20.258		
6,100.00	6,075.93	6,038.80	6,025.25	13.98	13.23	158.57	-104.48	-293.22	543.52	517.72	25.80	21.065		
6,200.00	6,173.35	6,134.07	6,119.40	14.32	13.48	158.19	-116.46	-301.49	573.70	547.43	26.27	21.838		
6,300.00	6,270.76	6,229.34	6,213.55	14.67	13.74	157.84	-128.44	-309.77	603.90	577.16	26.74	22.580		
6,400.00	6,368.17	6,324.61	6,307.70	15.03	14.00	157.52	-140.43	-318.04	634.12	606.90	27.22	23.292		
6,500.00	6,465.58	6,419.88	6,401.85	15.40	14.27	157.23	-152.41	-326.32	664.36	636.65	27.71	23.975		
6,600.00	6,562.99	6,515.15	6,496.00	15.77	14.53	156.97	-164.39	-334.59	694.61	666.41	28.20	24.630		
6,700.00	6,660.40	6,610.42	6,590.15	16.15	14.80	156.73	-176.38	-342.87	724.87	696.17	28.70	25.258		
6,800.00	6,757.81	6,705.69	6,684.30	16.53	15.08	156.51	-188.36	-351.15	755.14	725.94	29.20	25.861		
6,900.00	6,855.23	6,800.95	6,778.45	16.92	15.35	156.30	-200.34	-359.42	785.42	755.72	29.71	26.439		
7,000.00	6,952.64	6,896.22	6,872.60	17.31	15.63	156.11	-212.32	-367.70	815.71	785.50	30.22	26.994		
7,100.00	7,050.05	6,991.49	6,966.75	17.70	15.92	155.94	-224.31	-375.97	846.01	815.28	30.73	27.528		
7,200.00	7,147.46	7,086.76	7,060.90	18.10	16.20	155.77	-236.29	-384.25	876.31	845.06	31.25	28.040		
7,300.00	7,244.87	7,182.03	7,155.05	18.51	16.49	155.62	-248.27	-392.52	906.62	874.85	31.78	28.532		
7,400.00	7,342.28	7,277.30	7,249.20	18.92	16.77	155.48	-260.26	-400.80	936.94	904.64	32.30	29.005		
7,500.00	7,439.70	7,372.57	7,343.35	19.33	17.07	155.35	-272.24	-409.07	967.26	934.43	32.83	29.460		
7,600.00	7,537.11	7,467.84	7,437.49	19.74	17.36	155.22	-284.22	-417.35	997.59	964.22	33.37	29.897		
7,700.00	7,634.52	7,563.11	7,531.64	20.16	17.65	155.10	-296.21	-425.63	1,027.92	994.01	33.90	30.318		
7,800.00	7,731.93	7,658.38	7,625.79	20.58	17.95	154.99	-308.19	-433.90	1,058.25	1,023.80	34.45	30.723		
7,900.00	7,829.34	7,753.64	7,719.94	21.00	18.25	154.88	-320.17	-442.18	1,088.59	1,053.60	34.99	31.112		
8,000.00	7,926.75	7,848.91	7,814.09	21.42	18.55	154.79	-332.15	-450.45	1,118.92	1,083.39	35.53	31.488		
8,100.00	8,024.17	7,944.18	7,908.24	21.85	18.85	154.69	-344.14	-458.73	1,149.27	1,113.18	36.08	31.850		
8,200.00	8,121.58	8,039.45	8,002.39	22.28	19.15	154.60	-356.12	-467.00	1,179.61	1,142.98	36.64	32.199		
8,300.00	8,218.99	8,134.72	8,096.54	22.71	19.45	154.52	-368.10	-475.28	1,209.96	1,172.77	37.19	32.535		
8,400.00	8,316.40	8,229.99	8,190.69	23.14	19.76	154.44	-380.09	-483.55	1,240.31	1,202.56	37.75	32.859		
8,436.32	8,351.78	8,264.59	8,224.88	23.30	19.87	154.41	-384.44	-486.56	1,251.33	1,213.38	37.95	32.974		
8,450.00	8,365.12	8,277.61	8,237.75	23.36	19.91	160.61	-386.08	-487.69	1,255.51	1,217.52	37.99	33.048		
8,500.00	8,413.92	8,324.92	8,284.51	23.54	20.07	-175.61	-392.03	-491.80	1,271.11	1,232.97	38.14	33.326		
8,550.00	8,462.55	8,371.51	8,330.55	23.72	20.22	-154.79	-397.89	-495.85	1,287.20	1,248.90	38.30	33.607		
8,600.00	8,510.63	8,417.02	8,375.52	23.88	20.36	-139.66	-403.61	-499.80	1,303.74	1,265.27	38.47	33.890		
8,650.00	8,557.80	8,461.11	8,419.10	24.02	20.51	-129.20	-409.16	-503.63	1,320.72	1,282.07	38.65	34.174		
8,700.00	8,603.70	8,503.45	8,460.94	24.15	20.64	-121.83	-414.48	-507.31	1,338.14	1,299.31	38.83	34.459		
8,750.00	8,647.97	8,546.68	8,503.66	24.27	20.78	-116.45	-419.90	-511.05	1,356.03	1,317.00	39.03	34.740		
8,800.00	8,690.28	8,592.63	8,549.12	24.37	20.92	-112.44	-425.41	-514.86	1,374.27	1,335.02	39.25	35.017		
8,850.00	8,730.31	8,635.99	8,592.06	24.46	21.04	-109.25	-430.34	-518.26	1,392.87	1,353.41	39.46	35.298		
8,900.00	8,767.76	8,676.43	8,632.16	24.55	21.14	-106.59	-434.69	-521.27	1,411.93	1,372.25	39.69	35.576		
8,950.00	8,802.33	8,713.63	8,669.07	24.62	21.24	-104.26	-438.49	-523.89	1,431.52	1,391.59	39.93	35.850		
9,000.00	8,833.77	8,747.25	8,702.45	24.69	21.33	-102.11	-441.76	-526.15	1,451.69	1,411.50	40.19	36.119		
9,050.00	8,861.84	8,776.98	8,731.99	24.76	21.41	-100.03	-444.51	-528.05	1,472.50	1,432.03	40.47	36.384		
9,100.00	8,886.32	8,802.50	8,757.37	24.84	21.47	-97.94	-446.78	-529.61	1,493.97	1,453.21	40.76	36.653		
9,150.00	8,907.03	8,823.53	8,778.28	24.91	21.52	-95.78	-448.57	-530.85	1,516.09	1,475.04	41.04	36.939		
9,200.00	8,923.80	8,839.77	8,794.44	24.99	21.56	-93.51	-449.91	-531.78	1,538.82	1,497.52	41.30	37.257		
9,250.00	8,936.52	8,850.96	8,805.58	25.09	21.59	-91.09	-450.82	-532.40	1,562.09	1,520.58	41.51	37.632		
9,300.00	8,945.08	8,856.89	8,811.48	25.20	21.61	-88.52	-451.29	-532.73	1,585.79	1,544.16	41.63	38.090		

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 321H (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:	321H (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				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)	Minimum Separation (usft)	Separation Factor		
9,350.00	8,949.42	8,857.33	8,811.92	25.33	21.61	-85.80	-451.32	-532.75	1,609.77	1,568.13	41.64	38.655		
9,376.03	8,950.00	8,855.34	8,809.93	25.41	21.60	-84.35	-451.16	-532.64	1,622.31	1,580.71	41.60	38.999		
9,400.00	8,950.00	8,852.78	8,807.39	25.48	21.60	-84.24	-450.96	-532.50	1,633.98	1,592.26	41.72	39.167		
9,500.00	8,950.00	8,841.85	8,796.51	25.89	21.57	-83.81	-450.08	-531.89	1,685.47	1,643.19	42.28	39.861		
9,600.00	8,950.00	8,830.48	8,785.20	26.44	21.54	-83.35	-449.15	-531.25	1,741.14	1,698.17	42.97	40.518		
9,700.00	8,950.00	8,818.64	8,773.42	27.12	21.51	-82.88	-448.16	-530.57	1,800.59	1,756.82	43.77	41.138		
9,800.00	8,950.00	11,162.49	10,134.96	27.92	26.56	-129.65	754.09	-547.78	1,857.17	1,813.23	43.94	42.269		
9,900.00	8,950.00	11,262.49	10,134.97	28.84	27.62	-129.65	854.09	-547.78	1,857.17	1,811.48	45.69	40.649		
10,000.00	8,950.00	11,362.49	10,134.97	29.85	28.74	-129.65	954.09	-547.78	1,857.17	1,809.61	47.56	39.049		
10,100.00	8,950.00	11,462.49	10,134.97	30.95	29.94	-129.65	1,054.09	-547.78	1,857.17	1,807.63	49.54	37.489		
10,200.00	8,950.00	11,562.49	10,134.97	32.12	31.19	-129.65	1,154.09	-547.78	1,857.17	1,805.55	51.61	35.983		
10,300.00	8,950.00	11,662.49	10,134.97	33.35	32.50	-129.65	1,254.09	-547.78	1,857.17	1,803.40	53.77	34.540		
10,400.00	8,950.00	11,762.49	10,134.97	34.64	33.85	-129.65	1,354.09	-547.78	1,857.17	1,801.17	56.00	33.163		
10,500.00	8,950.00	11,862.49	10,134.97	35.98	35.25	-129.65	1,454.09	-547.78	1,857.17	1,798.87	58.30	31.857		
10,600.00	8,950.00	11,962.49	10,134.97	37.36	36.68	-129.65	1,554.09	-547.78	1,857.17	1,796.51	60.65	30.620		
10,700.00	8,950.00	12,062.49	10,134.97	38.78	38.15	-129.65	1,654.09	-547.77	1,857.17	1,794.11	63.06	29.451		
10,800.00	8,950.00	12,162.49	10,134.97	40.23	39.64	-129.65	1,754.09	-547.77	1,857.17	1,791.65	65.51	28.349		
10,900.00	8,950.00	12,262.49	10,134.98	41.72	41.17	-129.65	1,854.09	-547.77	1,857.17	1,789.16	68.01	27.309		
11,000.00	8,950.00	12,362.49	10,134.98	43.23	42.71	-129.65	1,954.09	-547.77	1,857.17	1,786.63	70.54	26.329		
11,100.00	8,950.00	12,462.49	10,134.98	44.76	44.28	-129.65	2,054.09	-547.77	1,857.17	1,784.07	73.10	25.406		
11,200.00	8,950.00	12,562.49	10,134.98	46.32	45.87	-129.65	2,154.09	-547.77	1,857.17	1,781.47	75.69	24.536		
11,300.00	8,950.00	12,662.49	10,134.98	47.89	47.47	-129.65	2,254.09	-547.77	1,857.17	1,778.86	78.31	23.715		
11,400.00	8,950.00	12,762.49	10,134.98	49.49	49.09	-129.65	2,354.09	-547.77	1,857.17	1,776.21	80.95	22.941		
11,500.00	8,950.00	12,862.49	10,134.98	51.10	50.72	-129.65	2,454.09	-547.77	1,857.17	1,773.55	83.62	22.210		
11,600.00	8,950.00	12,962.49	10,134.98	52.72	52.37	-129.65	2,554.09	-547.77	1,857.17	1,770.86	86.30	21.519		
11,700.00	8,950.00	13,062.49	10,134.98	54.35	54.02	-129.65	2,654.09	-547.77	1,857.17	1,768.16	89.01	20.866		
11,800.00	8,950.00	13,162.49	10,134.98	56.00	55.69	-129.65	2,754.09	-547.77	1,857.17	1,765.44	91.73	20.247		
11,900.00	8,950.00	13,262.49	10,134.98	57.66	57.37	-129.65	2,854.09	-547.77	1,857.17	1,762.71	94.46	19.661		
12,000.00	8,950.00	13,362.49	10,134.99	59.33	59.05	-129.65	2,954.09	-547.76	1,857.17	1,759.96	97.21	19.105		
12,100.00	8,950.00	13,462.49	10,134.99	61.01	60.75	-129.65	3,054.09	-547.76	1,857.17	1,757.20	99.97	18.578		
12,200.00	8,950.00	13,562.49	10,134.99	62.69	62.45	-129.65	3,154.09	-547.76	1,857.17	1,754.43	102.74	18.077		
12,300.00	8,950.00	13,662.49	10,134.99	64.39	64.16	-129.65	3,254.09	-547.76	1,857.17	1,751.65	105.52	17.600		
12,400.00	8,950.00	13,762.49	10,134.99	66.09	65.87	-129.65	3,354.09	-547.76	1,857.17	1,748.86	108.31	17.147		
12,500.00	8,950.00	13,862.49	10,134.99	67.79	67.59	-129.65	3,454.09	-547.76	1,857.17	1,746.05	111.11	16.714		
12,600.00	8,950.00	13,962.49	10,134.99	69.51	69.32	-129.65	3,554.09	-547.76	1,857.17	1,743.25	113.92	16.302		
12,700.00	8,950.00	14,062.49	10,134.99	71.22	71.05	-129.65	3,654.09	-547.76	1,857.17	1,740.43	116.74	15.909		
12,800.00	8,950.00	14,162.49	10,134.99	72.95	72.79	-129.65	3,754.09	-547.76	1,857.17	1,737.60	119.56	15.533		
12,900.00	8,950.00	14,262.49	10,134.99	74.68	74.53	-129.65	3,854.09	-547.76	1,857.17	1,734.77	122.39	15.174		
13,000.00	8,950.00	14,362.49	10,135.00	76.41	76.27	-129.65	3,954.09	-547.76	1,857.17	1,731.94	125.23	14.830		
13,100.00	8,950.00	14,462.49	10,135.00	78.15	78.02	-129.65	4,054.09	-547.76	1,857.17	1,729.09	128.07	14.501		
13,200.00	8,950.00	14,562.49	10,135.00	79.89	79.77	-129.65	4,154.09	-547.76	1,857.17	1,726.24	130.92	14.185		
13,300.00	8,950.00	14,662.49	10,135.00	81.64	81.52	-129.65	4,254.09	-547.76	1,857.17	1,723.39	133.78	13.883		
13,400.00	8,950.00	14,762.49	10,135.00	83.38	83.28	-129.65	4,354.09	-547.75	1,857.17	1,720.53	136.63	13.592		
13,441.86	8,950.00	14,804.35	10,135.00	84.12	84.02	-129.65	4,395.95	-547.75	1,857.17	1,719.33	137.83	13.474		
13,476.03	8,950.00	14,829.84	10,135.00	84.72	84.47	-129.65	4,421.44	-547.75	1,857.19	1,718.50	138.69	13.391		

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 321H (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:	321H (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		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)					
0.00	0.00	0.00	0.00	0.00	0.00	-65.02	84.04	-180.36	198.98				
100.00	100.00	100.00	100.00	0.08	0.08	-65.02	84.04	-180.36	198.98	0.16	1,264.677		
200.00	200.00	200.00	200.00	0.30	0.30	-65.02	84.04	-180.36	198.98	0.61	327.880		
300.00	300.00	300.00	300.00	0.53	0.53	-65.02	84.04	-180.36	198.98	1.06	188.356		
400.00	400.00	400.00	400.00	0.75	0.75	-65.02	84.04	-180.36	198.98	1.51	132.131		
500.00	500.00	500.00	500.00	0.98	0.98	-65.02	84.04	-180.36	198.98	1.96	101.756		
600.00	600.00	600.00	600.00	1.20	1.20	-65.02	84.04	-180.36	198.98	2.40	82.736		
700.00	700.00	700.00	700.00	1.43	1.43	-65.02	84.04	-180.36	198.98	2.85	69.707		
800.00	800.00	800.00	800.00	1.65	1.65	-65.02	84.04	-180.36	198.98	3.30	60.223		
900.00	900.00	900.00	900.00	1.88	1.88	-65.02	84.04	-180.36	198.98	3.75	53.011		
1,000.00	1,000.00	1,000.00	1,000.00	2.10	2.10	-65.02	84.04	-180.36	198.98	4.20	47.341		
1,100.00	1,100.00	1,100.00	1,100.00	2.33	2.33	-65.02	84.04	-180.36	198.98	4.65	42.767		
1,200.00	1,200.00	1,200.00	1,200.00	2.55	2.55	-65.02	84.04	-180.36	198.98	5.10	38.999		
1,300.00	1,300.00	1,300.00	1,300.00	2.78	2.78	-65.02	84.04	-180.36	198.98	5.55	35.841		
1,400.00	1,400.00	1,400.00	1,400.00	3.00	3.00	-65.02	84.04	-180.36	198.98	6.00	33.156		
1,500.00	1,500.00	1,500.00	1,500.00	3.23	3.23	-65.02	84.04	-180.36	198.98	6.45	30.846		
1,600.00	1,600.00	1,600.00	1,600.00	3.45	3.45	-65.02	84.04	-180.36	198.98	6.90	28.836		
1,700.00	1,700.00	1,700.00	1,700.00	3.67	3.67	-65.02	84.04	-180.36	198.98	7.35	27.073		
1,800.00	1,800.00	1,800.00	1,800.00	3.90	3.90	-65.02	84.04	-180.36	198.98	7.80	25.512		
1,900.00	1,900.00	1,900.00	1,900.00	4.12	4.12	-65.02	84.04	-180.36	198.98	8.25	24.122		
2,000.00	2,000.00	2,000.00	2,000.00	4.35	4.35	-65.02	84.04	-180.36	198.98	8.70	22.875		
2,100.00	2,100.00	2,100.00	2,100.00	4.57	4.57	-65.02	84.04	-180.36	198.98	9.15	21.751		
2,200.00	2,200.00	2,200.00	2,200.00	4.80	4.80	-65.02	84.04	-180.36	198.98	9.60	20.732		
2,300.00	2,300.00	2,300.00	2,300.00	5.02	5.02	-65.02	84.04	-180.36	198.98	10.05	19.805		
2,400.00	2,400.00	2,400.00	2,400.00	5.25	5.25	-65.02	84.04	-180.36	198.98	10.50	18.957		
2,500.00	2,500.00	2,500.00	2,500.00	5.47	5.47	-65.02	84.04	-180.36	198.98	10.95	18.178		
2,600.00	2,600.00	2,600.00	2,600.00	5.70	5.70	-65.02	84.04	-180.36	198.98	11.40	17.461		
2,700.00	2,700.00	2,700.00	2,700.00	5.92	5.92	-65.02	84.04	-180.36	198.98	11.85	16.798		
2,800.00	2,800.00	2,800.00	2,800.00	6.15	6.15	-65.02	84.04	-180.36	198.98	12.29	16.184		
2,900.00	2,900.00	2,900.00	2,900.00	6.37	6.37	-65.02	84.04	-180.36	198.98	12.74	15.613		
3,000.00	3,000.00	3,000.00	3,000.00	6.60	6.60	-65.02	84.04	-180.36	198.98	13.19	15.081		
3,100.00	3,100.00	3,100.00	3,100.00	6.82	6.82	-65.02	84.04	-180.36	198.98	13.64	14.584		
3,200.00	3,200.00	3,200.00	3,200.00	7.05	7.05	-65.02	84.04	-180.36	198.98	14.09	14.119		
3,300.00	3,300.00	3,300.00	3,300.00	7.27	7.27	-65.02	84.04	-180.36	198.98	14.54	13.683		
3,400.00	3,400.00	3,400.00	3,400.00	7.50	7.50	-65.02	84.04	-180.36	198.98	14.99	13.272		
3,500.00	3,500.00	3,500.00	3,500.00	7.72	7.72	-65.02	84.04	-180.36	198.98	15.44	12.886		
3,600.00	3,600.00	3,600.00	3,600.00	7.95	7.95	-65.02	84.04	-180.36	198.98	15.89	12.522		
3,700.00	3,700.00	3,700.00	3,700.00	8.17	8.17	-65.02	84.04	-180.36	198.98	16.34	12.177		
3,800.00	3,800.00	3,800.00	3,800.00	8.40	8.40	-65.02	84.04	-180.36	198.98	16.79	11.851		
3,900.00	3,900.00	3,900.00	3,900.00	8.62	8.62	-65.02	84.04	-180.36	198.98	17.24	11.542		
4,000.00	4,000.00	4,000.00	4,000.00	8.84	8.84	-65.02	84.04	-180.36	198.98	17.69	11.249		
4,100.00	4,100.00	4,100.00	4,100.00	9.07	9.07	-65.02	84.04	-180.36	198.98	18.14	10.970		
4,200.00	4,200.00	4,200.00	4,200.00	9.29	9.29	-65.02	84.04	-180.36	198.98	18.59	10.705		
4,300.00	4,300.00	4,300.00	4,300.00	9.52	9.52	-65.02	84.04	-180.36	198.98	19.04	10.452 CC		
4,400.00	4,400.00	4,403.32	4,403.32	9.72	9.72	-172.99	83.36	-179.73	199.01	19.45	10.234		
4,500.00	4,499.96	4,506.63	4,506.59	9.91	9.91	-173.39	81.31	-177.83	199.11	19.81	10.053		
4,600.00	4,599.86	4,609.91	4,609.76	10.11	10.09	-174.06	77.90	-174.66	199.30	20.16	9.884		
4,700.00	4,699.68	4,713.15	4,712.79	10.30	10.28	-174.98	73.13	-170.23	199.60	20.52	9.728 ES		
4,800.00	4,799.37	4,816.34	4,815.64	10.50	10.47	-176.17	67.01	-164.53	200.07	20.87	9.586		
4,900.00	4,898.90	4,919.46	4,918.25	10.70	10.67	-177.61	59.53	-157.59	200.75	21.22	9.459		
5,000.00	4,998.26	5,022.50	5,020.59	10.91	10.88	-179.29	50.71	-149.39	201.71	21.57	9.351		
5,100.00	5,097.40	5,125.44	5,122.59	11.13	11.09	178.79	40.56	-139.95	203.02	21.92	9.262		

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 321H (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:	321H (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)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
5,200.00	5,196.30	5,228.28	5,224.23	11.36	11.31	176.66	29.08	-129.28	204.78	182.51	22.27	9.195		
5,300.00	5,294.93	5,331.01	5,325.45	11.60	11.55	174.32	16.27	-117.38	207.06	184.43	22.63	9.151		
5,400.00	5,393.26	5,431.58	5,424.31	11.85	11.79	171.92	2.73	-104.80	210.28	187.29	22.99	9.147 SF		
5,500.00	5,491.25	5,531.10	5,522.12	12.11	12.04	169.69	-10.74	-92.28	215.48	192.13	23.36	9.225		
5,606.45	5,595.16	5,636.95	5,626.14	12.41	12.31	167.52	-25.07	-78.97	223.24	199.48	23.76	9.395		
5,700.00	5,686.29	5,729.92	5,717.51	12.69	12.56	165.81	-37.65	-67.27	231.14	206.94	24.20	9.551		
5,800.00	5,783.70	5,829.29	5,815.18	13.00	12.83	164.10	-51.10	-54.77	239.79	215.11	24.68	9.715		
5,900.00	5,881.11	5,928.67	5,912.84	13.31	13.11	162.52	-64.55	-42.27	248.64	223.46	25.18	9.875		
6,000.00	5,978.52	6,028.05	6,010.51	13.64	13.40	161.04	-78.01	-29.77	257.67	231.98	25.69	10.029		
6,100.00	6,075.93	6,127.43	6,108.18	13.98	13.69	159.66	-91.48	-17.27	266.86	240.64	26.22	10.179		
6,200.00	6,173.35	6,226.81	6,205.84	14.32	13.99	158.38	-104.91	-4.77	276.19	249.43	26.76	10.322		
6,300.00	6,270.76	6,326.19	6,303.51	14.67	14.30	157.18	-118.36	7.73	285.65	258.34	27.31	10.459		
6,400.00	6,368.17	6,425.56	6,401.18	15.03	14.60	156.05	-131.81	20.23	295.22	267.35	27.88	10.590		
6,500.00	6,465.58	6,524.94	6,498.84	15.40	14.92	155.00	-145.26	32.73	304.91	276.45	28.45	10.716		
6,600.00	6,562.99	6,624.32	6,596.51	15.77	15.24	154.01	-158.72	45.24	314.68	285.64	29.04	10.835		
6,700.00	6,660.40	6,723.70	6,694.18	16.15	15.56	153.08	-172.17	57.74	324.55	294.91	29.64	10.948		
6,800.00	6,757.81	6,823.08	6,791.85	16.53	15.89	152.21	-185.62	70.24	334.50	304.24	30.26	11.055		
6,900.00	6,855.23	6,922.46	6,889.51	16.92	16.22	151.39	-199.07	82.74	344.51	313.64	30.88	11.157		
7,000.00	6,952.64	7,021.83	6,987.18	17.31	16.55	150.61	-212.52	95.24	354.60	323.09	31.51	11.254		
7,100.00	7,050.05	7,121.21	7,084.85	17.70	16.89	149.88	-225.97	107.74	364.74	332.60	32.15	11.346		
7,200.00	7,147.46	7,220.59	7,182.51	18.10	17.23	149.19	-239.43	120.24	374.94	342.15	32.80	11.433		
7,300.00	7,244.87	7,319.97	7,280.18	18.51	17.57	148.53	-252.88	132.74	385.20	351.75	33.45	11.515		
7,400.00	7,342.28	7,419.35	7,377.85	18.92	17.92	147.91	-266.33	145.24	395.50	361.38	34.12	11.593		
7,500.00	7,439.70	7,518.73	7,475.51	19.33	18.27	147.31	-279.78	157.74	405.84	371.06	34.79	11.667		
7,600.00	7,537.11	7,618.10	7,573.18	19.74	18.62	146.75	-293.23	170.24	416.23	380.76	35.46	11.736		
7,700.00	7,634.52	7,717.48	7,670.85	20.16	18.97	146.22	-306.68	182.74	426.65	390.50	36.15	11.803		
7,800.00	7,731.93	7,816.86	7,768.52	20.58	19.33	145.71	-320.14	195.25	437.11	400.27	36.84	11.865		
7,900.00	7,829.34	7,916.24	7,866.18	21.00	19.68	145.22	-333.59	207.75	447.60	410.06	37.54	11.925		
8,000.00	7,926.75	8,015.62	7,963.85	21.42	20.04	144.76	-347.04	220.25	458.12	419.88	38.24	11.981		
8,100.00	8,024.17	8,115.00	8,061.52	21.85	20.40	144.32	-360.49	232.75	468.67	429.73	38.94	12.035		
8,200.00	8,121.58	8,214.37	8,159.18	22.28	20.77	143.90	-373.94	245.25	479.24	439.59	39.66	12.085		
8,300.00	8,218.99	8,313.75	8,256.85	22.71	21.13	143.49	-387.39	257.75	489.84	449.47	40.37	12.133		
8,400.00	8,316.40	8,411.67	8,353.11	23.14	21.48	143.13	-400.54	269.97	500.53	459.46	41.07	12.187		
8,436.32	8,351.78	8,446.50	8,387.40	23.30	21.58	143.03	-405.01	274.12	504.54	463.24	41.30	12.216		
8,450.00	8,365.12	8,459.61	8,400.32	23.36	21.62	148.92	-406.64	275.64	506.13	464.79	41.34	12.244		
8,500.00	8,413.92	8,507.25	8,447.30	23.54	21.77	171.49	-412.42	281.01	512.98	471.54	41.43	12.380		
8,550.00	8,462.55	8,554.25	8,493.71	23.72	21.90	-168.98	-417.84	286.04	521.47	479.99	41.48	12.571		
8,600.00	8,510.63	8,600.00	8,538.95	23.88	22.04	-155.19	-422.84	290.69	531.70	490.23	41.47	12.820		
8,650.00	8,557.80	8,645.18	8,593.67	24.02	22.16	-146.11	-427.52	295.04	543.78	502.38	41.40	13.135		
8,700.00	8,603.70	8,688.53	8,626.64	24.15	22.29	-140.07	-431.78	298.99	557.86	516.60	41.26	13.522		
8,750.00	8,647.97	8,730.11	8,667.89	24.27	22.40	-135.88	-435.63	302.57	574.09	533.05	41.04	13.989		
8,800.00	8,690.28	8,769.64	8,707.14	24.37	22.50	-132.80	-439.09	305.79	592.61	551.85	40.76	14.538		
8,850.00	8,730.31	8,806.86	8,744.11	24.46	22.60	-130.34	-442.16	308.65	613.53	573.08	40.45	15.168		
8,900.00	8,767.76	8,841.49	8,778.55	24.55	22.69	-128.16	-444.87	311.16	636.93	596.80	40.13	15.870		
8,950.00	8,802.33	8,873.29	8,810.19	24.62	22.77	-126.02	-447.22	313.34	662.83	622.96	39.87	16.626		
9,000.00	8,833.77	8,902.03	8,838.79	24.69	22.84	-123.73	-449.23	315.21	691.19	651.48	39.71	17.406		
9,050.00	8,861.84	8,927.47	8,864.12	24.76	22.90	-121.10	-450.92	316.78	721.92	682.21	39.72	18.177		
9,100.00	8,886.32	8,949.39	8,885.96	24.84	22.95	-118.01	-452.31	318.08	754.87	714.94	39.93	18.905		
9,150.00	8,907.03	8,967.58	8,904.09	24.91	23.00	-114.32	-453.42	319.11	789.84	749.48	40.36	19.568		
9,200.00	8,923.80	8,981.87	8,918.34	24.99	23.03	-109.92	-454.26	319.89	826.58	785.60	40.98	20.169		
9,250.00	8,936.52	8,992.09	8,928.52	25.09	23.06	-104.73	-454.85	320.44	864.80	823.12	41.67	20.752		
9,300.00	8,945.08	8,998.08	8,934.49	25.20	23.07	-98.76	-455.19	320.75	904.18	861.91	42.27	21.392		

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 321H (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:	321H (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)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
9,350.00	8,949.42	8,999.72	8,936.13	25.33	23.07	-92.14	-455.28	320.84	944.38	901.82	42.56	22.190		
9,376.03	8,950.00	8,998.82	8,935.24	25.41	23.07	-88.49	-455.23	320.79	965.51	922.98	42.53	22.700		
9,400.00	8,950.00	8,997.43	8,933.85	25.48	23.07	-88.35	-455.15	320.72	985.10	942.44	42.66	23.093		
9,500.00	8,950.00	8,991.54	8,927.98	25.89	23.05	-87.76	-454.82	320.41	1,068.76	1,025.51	43.25	24.714		
9,600.00	8,950.00	8,985.49	8,921.94	26.44	23.04	-87.14	-454.47	320.09	1,154.98	1,111.03	43.95	26.278		
9,700.00	8,950.00	8,979.27	8,915.74	27.12	23.03	-86.51	-454.11	319.75	1,243.25	1,198.48	44.77	27.770		
9,800.00	8,950.00	11,184.58	10,144.96	27.92	26.91	-155.28	754.09	332.16	1,315.49	1,279.67	35.82	36.724		
9,900.00	8,950.00	11,284.58	10,144.97	28.84	27.94	-155.28	854.09	332.16	1,315.49	1,278.41	37.08	35.475		
10,000.00	8,950.00	11,384.58	10,144.97	29.85	29.05	-155.28	954.09	332.17	1,315.49	1,277.08	38.41	34.249		
10,100.00	8,950.00	11,484.58	10,144.97	30.95	30.22	-155.28	1,054.09	332.17	1,315.49	1,275.69	39.80	33.056		
10,200.00	8,950.00	11,584.58	10,144.97	32.12	31.45	-155.28	1,154.09	332.17	1,315.49	1,274.25	41.23	31.903		
10,300.00	8,950.00	11,684.58	10,144.97	33.35	32.74	-155.28	1,254.09	332.17	1,315.49	1,272.77	42.72	30.792		
10,400.00	8,950.00	11,784.58	10,144.97	34.64	34.07	-155.28	1,354.09	332.17	1,315.49	1,271.24	44.25	29.728		
10,500.00	8,950.00	11,884.58	10,144.97	35.98	35.44	-155.28	1,454.09	332.18	1,315.49	1,269.67	45.82	28.711		
10,600.00	8,950.00	11,984.58	10,144.97	37.36	36.86	-155.28	1,554.09	332.18	1,315.49	1,268.07	47.42	27.740		
10,700.00	8,950.00	12,084.58	10,144.97	38.78	38.30	-155.28	1,654.09	332.18	1,315.49	1,266.43	49.06	26.816		
10,800.00	8,950.00	12,184.58	10,144.97	40.23	39.78	-155.28	1,754.09	332.18	1,315.49	1,264.77	50.72	25.937		
10,900.00	8,950.00	12,284.58	10,144.98	41.72	41.29	-155.28	1,854.09	332.18	1,315.49	1,263.08	52.41	25.101		
11,000.00	8,950.00	12,384.58	10,144.98	43.23	42.82	-155.28	1,954.09	332.19	1,315.49	1,261.37	54.12	24.307		
11,100.00	8,950.00	12,484.58	10,144.98	44.76	44.37	-155.28	2,054.09	332.19	1,315.49	1,259.64	55.85	23.553		
11,200.00	8,950.00	12,584.58	10,144.98	46.32	45.94	-155.28	2,154.09	332.19	1,315.49	1,257.89	57.60	22.837		
11,300.00	8,950.00	12,684.58	10,144.98	47.89	47.53	-155.28	2,254.09	332.19	1,315.49	1,256.12	59.37	22.156		
11,400.00	8,950.00	12,784.58	10,144.98	49.49	49.13	-155.28	2,354.09	332.19	1,315.49	1,254.33	61.16	21.509		
11,500.00	8,950.00	12,884.58	10,144.98	51.10	50.75	-155.28	2,454.09	332.20	1,315.49	1,252.53	62.96	20.894		
11,600.00	8,950.00	12,984.58	10,144.98	52.72	52.39	-155.28	2,554.09	332.20	1,315.49	1,250.72	64.77	20.309		
11,700.00	8,950.00	13,084.58	10,144.98	54.35	54.03	-155.28	2,654.09	332.20	1,315.49	1,248.89	66.60	19.752		
11,800.00	8,950.00	13,184.58	10,144.98	56.00	55.69	-155.28	2,754.09	332.20	1,315.49	1,247.05	68.44	19.222		
11,900.00	8,950.00	13,284.58	10,144.98	57.66	57.35	-155.28	2,854.09	332.20	1,315.49	1,245.21	70.28	18.717		
12,000.00	8,950.00	13,384.58	10,144.99	59.33	59.03	-155.28	2,954.09	332.21	1,315.49	1,243.35	72.14	18.235		
12,100.00	8,950.00	13,484.58	10,144.99	61.01	60.72	-155.28	3,054.09	332.21	1,315.49	1,241.48	74.01	17.775		
12,200.00	8,950.00	13,584.58	10,144.99	62.69	62.41	-155.28	3,154.09	332.21	1,315.49	1,239.61	75.88	17.336		
12,300.00	8,950.00	13,684.58	10,144.99	64.39	64.11	-155.28	3,254.09	332.21	1,315.49	1,237.72	77.77	16.916		
12,400.00	8,950.00	13,784.58	10,144.99	66.09	65.82	-155.28	3,354.09	332.21	1,315.49	1,235.84	79.66	16.515		
12,500.00	8,950.00	13,884.58	10,144.99	67.79	67.53	-155.29	3,454.09	332.22	1,315.49	1,233.94	81.55	16.131		
12,600.00	8,950.00	13,984.58	10,144.99	69.51	69.25	-155.29	3,554.09	332.22	1,315.49	1,232.04	83.45	15.763		
12,700.00	8,950.00	14,084.58	10,144.99	71.22	70.97	-155.29	3,654.09	332.22	1,315.49	1,230.13	85.36	15.411		
12,800.00	8,950.00	14,184.58	10,144.99	72.95	72.70	-155.29	3,754.09	332.22	1,315.49	1,228.22	87.28	15.073		
12,900.00	8,950.00	14,284.58	10,144.99	74.68	74.43	-155.29	3,854.09	332.22	1,315.49	1,226.30	89.19	14.749		
13,000.00	8,950.00	14,384.58	10,145.00	76.41	76.17	-155.29	3,954.09	332.23	1,315.49	1,224.37	91.12	14.437		
13,100.00	8,950.00	14,484.58	10,145.00	78.15	77.92	-155.29	4,054.09	332.23	1,315.49	1,222.45	93.05	14.138		
13,200.00	8,950.00	14,584.58	10,145.00	79.89	79.66	-155.29	4,154.09	332.23	1,315.49	1,220.51	94.98	13.851		
13,300.00	8,950.00	14,684.58	10,145.00	81.64	81.41	-155.29	4,254.09	332.23	1,315.49	1,218.58	96.91	13.574		
13,400.00	8,950.00	14,784.58	10,145.00	83.38	83.16	-155.29	4,354.09	332.23	1,315.49	1,216.64	98.85	13.308		
13,443.96	8,950.00	14,828.54	10,145.00	84.15	83.93	-155.29	4,398.05	332.23	1,315.49	1,215.78	99.71	13.194		
13,476.03	8,950.00	14,857.28	10,145.00	84.72	84.44	-155.29	4,426.78	332.23	1,315.50	1,215.20	100.30	13.116		

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

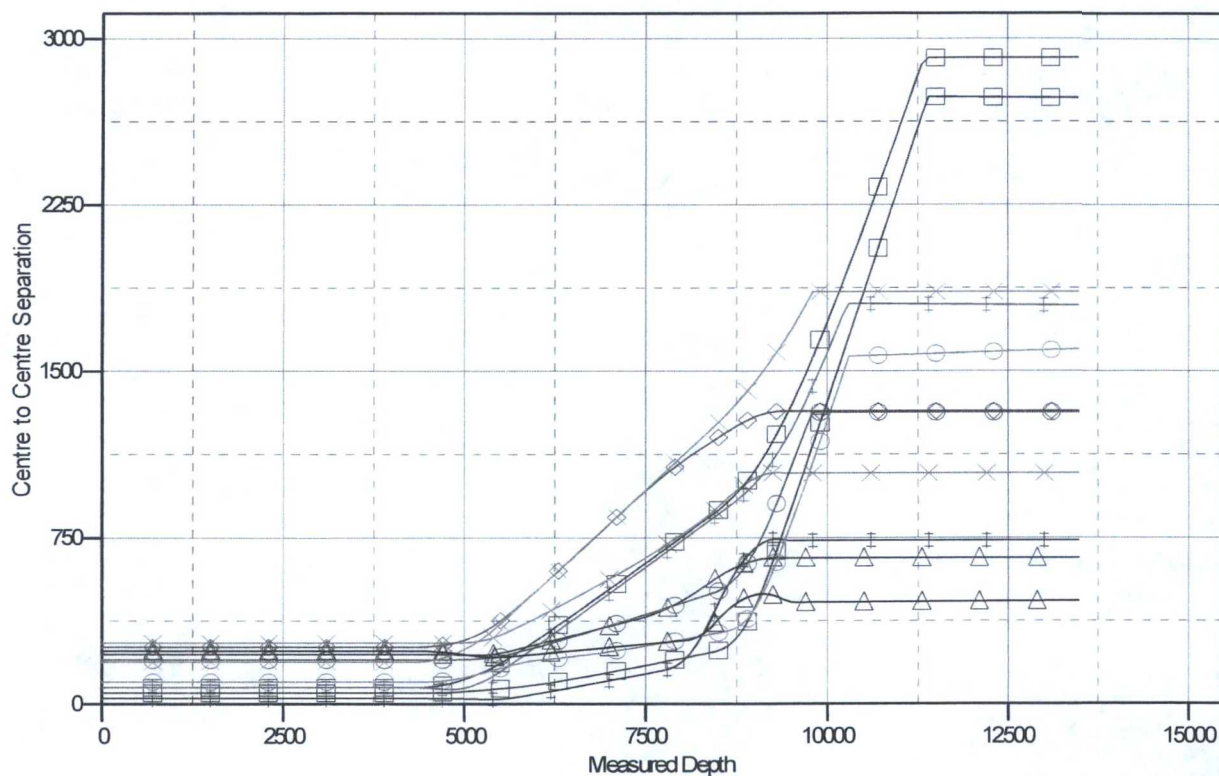
Company: DEVON ENERGY
Project: Lea County, NM (NAD-83)
Reference Site: Cotton Draw Unit
Site Error: 0.00 usft
Reference Well: 321H (SIMOPS)
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Plan #1

Local Co-ordinate Reference: Well 321H (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

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: 321H (SIMOPS)
Coordinate System is US State Plane 1983, New Mexico Eastern Zone
Grid Convergence at Surface is: 0.33°

Ladder Plot



LEGEND

✕ 327H (SIMOPS), OH, Plan #1 V0	✕ 286H (SIMOPS), OH, Plan #1 V0	✕ 319H (SIMOPS), OH, Plan #1 V0
△ 320H (SIMOPS), OH, Plan #1 V0	△ 313H (SIMOPS), OH, Plan #1 V0	△ 332H (SIMOPS), OH, Plan #1 V0
✕ 253H (SIMOPS), OH, Plan #1 V0	✕ 263H (SIMOPS), OH, Plan #1 V0	✕ 328H (SIMOPS), OH, Plan #1 V0
✕ 312H (SIMOPS), OH, Plan #1 V0	✕ 333H (SIMOPS), OH, Plan #1 V0	

Company:	DEVON ENERGY	Local Co-ordinate Reference:	Well 321H (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:	321H (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: 321H (SIMOPS)

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

Grid Convergence at Surface is: 0.33°

