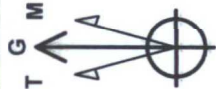
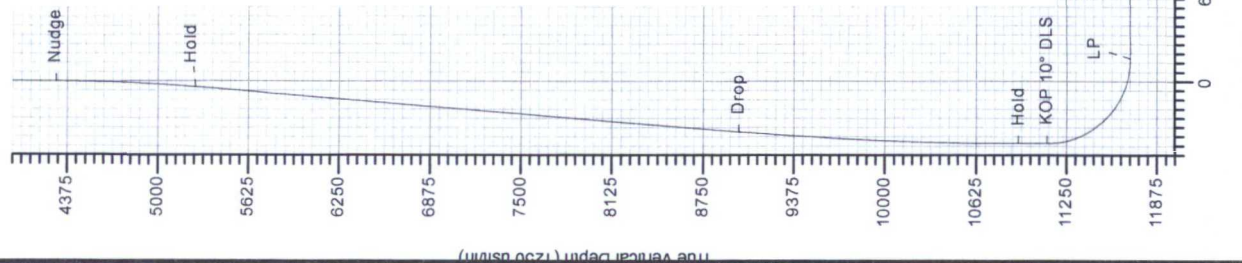




Project: Lea County, NM (NAD-83)
Site: Cotton Draw Unit
Well: 313H (SIMOPS)
Wellbore: OH
Design: Plan #1



Azimuths to Grid North
True North: -0.33°
Magnetic North: 6.95°
Strength: 48100.9nT
Dip Angle: 60.03°
Date: 12/16/2015
Model: BGGM2015



DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting
SHL (CDU 313H)	0.00	0.00	0.00	414818.35	734340.37
PBHL (CDU 313H)	11680.00	4479.45	772.07	419297.80	735112.44

SECTION DETAILS

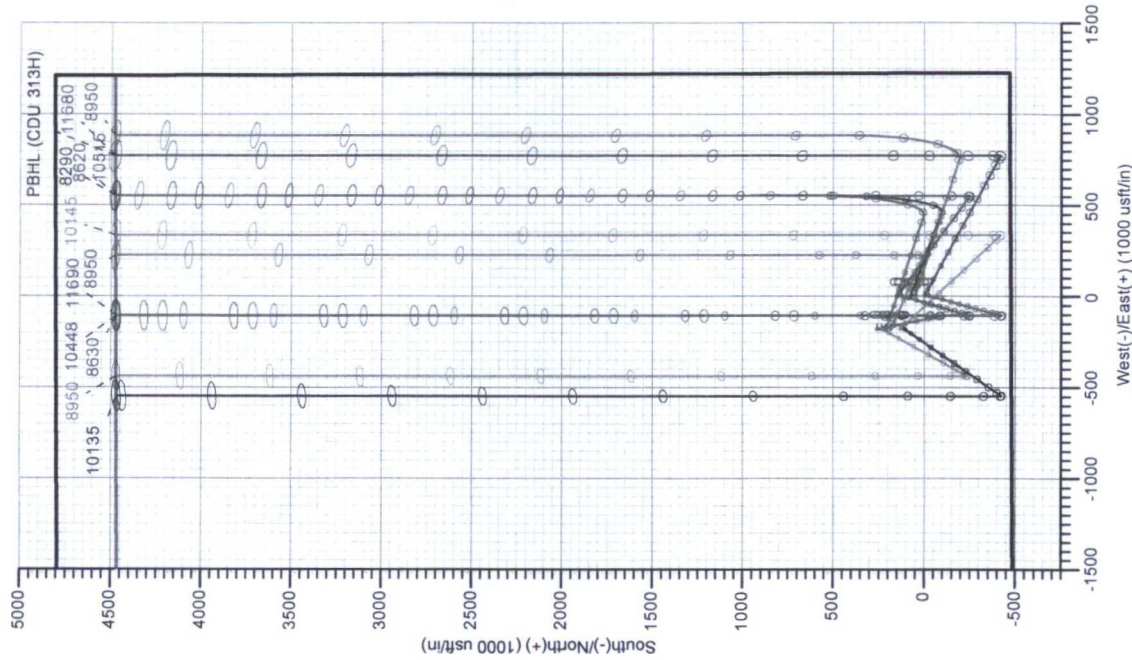
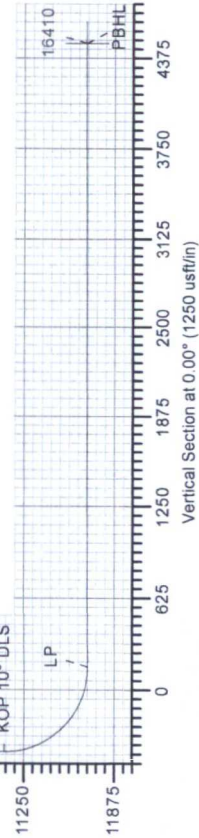
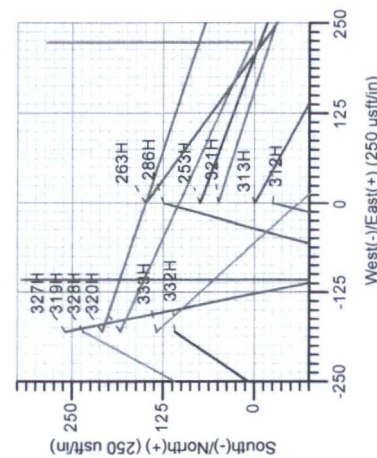
MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSecl
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4300.00	0.00	0.00	4300.00	0.00	0.00	0.00	0.00	0.00
5264.71	9.65	118.47	5260.16	-38.63	71.22	1.00	118.47	-38.63
9054.86	9.65	118.47	8996.71	-341.43	629.55	0.00	0.00	-341.43
10984.29	0.00	0.00	10917.04	-418.69	772.00	0.50	180.00	-418.69
11184.29	0.00	0.00	11117.04	-418.69	772.00	0.00	0.00	-418.69
12085.62	90.13	0.00	11690.00	155.59	772.01	10.00	0.00	155.59
16409.48	90.13	0.00	11680.00	4479.45	772.07	0.00	0.00	4479.45

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

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

LEGEND

- ✱ 327H (SIMOPS), OH, Plan #1 V0
- △ 320H (SIMOPS), OH, Plan #1 V0
- 253H (SIMOPS), OH, Plan #1 V0
- ⊢ 312H (SIMOPS), OH, Plan #1 V0
- ⊢ 286H (SIMOPS), OH, Plan #1 V0
- 263H (SIMOPS), OH, Plan #1 V0
- 321H (SIMOPS), OH, Plan #1 V0
- 333H (SIMOPS), OH, Plan #1 V0
- ◇ 319H (SIMOPS), OH, Plan #1 V0
- ✱ 332H (SIMOPS), OH, Plan #1 V0
- △ 328H (SIMOPS), OH, Plan #1 V0
- Plan #1





DEVON ENERGY

Lea County, NM (NAD-83)
Cotton Draw Unit
313H (SIMOPS)

OH

Plan: Plan #1

Standard Planning Report

17 December, 2015



Database: EDM 5000.1 Single User Db
Company: DEVON ENERGY
Project: Lea County, NM (NAD-83)
Site: Cotton Draw Unit
Well: 313H (SIMOPS)
Wellbore: OH
Design: Plan #1

Local Co-ordinate Reference: Well 313H (SIMOPS)
TVD Reference: 3431.4' GE + 30' KB @ 3461.40usft
MD Reference: 3431.4' GE + 30' KB @ 3461.40usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature

Project Lea County, NM (NAD-83)

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

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 313H (SIMOPS)

Well Position +N/-S 676.10 usft Northing: 414,818.35 usft Latitude: 32° 8' 19.963 N
 +E/-W 372.94 usft Easting: 734,340.37 usft Longitude: 103° 42' 35.219 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	
5,264.72	9.65	118.47	5,260.16	-38.63	71.22	1.00	1.00	0.00	118.47	
9,054.86	9.65	118.47	8,996.71	-341.43	629.55	0.00	0.00	0.00	0.00	
10,984.29	0.00	0.00	10,917.04	-418.69	772.00	0.50	-0.50	0.00	180.00	
11,184.29	0.00	0.00	11,117.04	-418.69	772.00	0.00	0.00	0.00	0.00	
12,085.62	90.13	0.00	11,690.00	155.59	772.01	10.00	10.00	0.00	0.00	
16,409.48	90.13	0.00	11,680.00	4,479.45	772.07	0.00	0.00	0.00	0.00	PBHL (CDU 313H)



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: 313H (SIMOPS)
Wellbore: OH
Design: Plan #1

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

Well 313H (SIMOPS)
3431.4' GE + 30' KB @ 3461.40usft
3431.4' GE + 30' KB @ 3461.40usft
Grid
Minimum Curvature

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SHL (CDU 313H)									
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	118.47	4,400.00	-0.42	0.77	-0.42	1.00	1.00	0.00
4,500.00	2.00	118.47	4,499.96	-1.66	3.07	-1.66	1.00	1.00	0.00
4,600.00	3.00	118.47	4,599.86	-3.74	6.90	-3.74	1.00	1.00	0.00
4,700.00	4.00	118.47	4,699.68	-6.65	12.27	-6.65	1.00	1.00	0.00
4,800.00	5.00	118.47	4,799.37	-10.39	19.17	-10.39	1.00	1.00	0.00
4,900.00	6.00	118.47	4,898.90	-14.96	27.59	-14.96	1.00	1.00	0.00
5,000.00	7.00	118.47	4,998.26	-20.36	37.54	-20.36	1.00	1.00	0.00
5,100.00	8.00	118.47	5,097.40	-26.58	49.02	-26.58	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: 313H (SIMOPS)
Wellbore: OH
Design: Plan #1

Local Co-ordinate Reference: Well 313H (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)
5,200.00	9.00	118.47	5,196.30	-33.63	62.01	-33.63	1.00	1.00	0.00
5,264.72	9.65	118.47	5,260.16	-38.63	71.22	-38.63	1.00	1.00	0.00
Hold									
5,300.00	9.65	118.47	5,294.95	-41.45	76.42	-41.45	0.00	0.00	0.00
5,400.00	9.65	118.47	5,393.54	-49.44	91.15	-49.44	0.00	0.00	0.00
5,500.00	9.65	118.47	5,492.12	-57.43	105.88	-57.43	0.00	0.00	0.00
5,600.00	9.65	118.47	5,590.71	-65.42	120.62	-65.42	0.00	0.00	0.00
5,700.00	9.65	118.47	5,689.29	-73.40	135.35	-73.40	0.00	0.00	0.00
5,800.00	9.65	118.47	5,787.88	-81.39	150.08	-81.39	0.00	0.00	0.00
5,900.00	9.65	118.47	5,886.46	-89.38	164.81	-89.38	0.00	0.00	0.00
6,000.00	9.65	118.47	5,985.05	-97.37	179.54	-97.37	0.00	0.00	0.00
6,100.00	9.65	118.47	6,083.64	-105.36	194.27	-105.36	0.00	0.00	0.00
6,200.00	9.65	118.47	6,182.22	-113.35	209.00	-113.35	0.00	0.00	0.00
6,300.00	9.65	118.47	6,280.81	-121.34	223.73	-121.34	0.00	0.00	0.00
6,400.00	9.65	118.47	6,379.39	-129.33	238.46	-129.33	0.00	0.00	0.00
6,500.00	9.65	118.47	6,477.98	-137.32	253.19	-137.32	0.00	0.00	0.00
6,600.00	9.65	118.47	6,576.57	-145.31	267.93	-145.31	0.00	0.00	0.00
6,700.00	9.65	118.47	6,675.15	-153.30	282.66	-153.30	0.00	0.00	0.00
6,800.00	9.65	118.47	6,773.74	-161.29	297.39	-161.29	0.00	0.00	0.00
6,900.00	9.65	118.47	6,872.32	-169.28	312.12	-169.28	0.00	0.00	0.00
7,000.00	9.65	118.47	6,970.91	-177.26	326.85	-177.26	0.00	0.00	0.00
7,100.00	9.65	118.47	7,069.49	-185.25	341.58	-185.25	0.00	0.00	0.00
7,200.00	9.65	118.47	7,168.08	-193.24	356.31	-193.24	0.00	0.00	0.00
7,300.00	9.65	118.47	7,266.67	-201.23	371.04	-201.23	0.00	0.00	0.00
7,400.00	9.65	118.47	7,365.25	-209.22	385.77	-209.22	0.00	0.00	0.00
7,500.00	9.65	118.47	7,463.84	-217.21	400.50	-217.21	0.00	0.00	0.00
7,600.00	9.65	118.47	7,562.42	-225.20	415.24	-225.20	0.00	0.00	0.00
7,700.00	9.65	118.47	7,661.01	-233.19	429.97	-233.19	0.00	0.00	0.00
7,800.00	9.65	118.47	7,759.60	-241.18	444.70	-241.18	0.00	0.00	0.00
7,900.00	9.65	118.47	7,858.18	-249.17	459.43	-249.17	0.00	0.00	0.00
8,000.00	9.65	118.47	7,956.77	-257.16	474.16	-257.16	0.00	0.00	0.00
8,100.00	9.65	118.47	8,055.35	-265.15	488.89	-265.15	0.00	0.00	0.00
8,200.00	9.65	118.47	8,153.94	-273.14	503.62	-273.14	0.00	0.00	0.00
8,300.00	9.65	118.47	8,252.52	-281.13	518.35	-281.13	0.00	0.00	0.00
8,400.00	9.65	118.47	8,351.11	-289.11	533.08	-289.11	0.00	0.00	0.00
8,500.00	9.65	118.47	8,449.70	-297.10	547.81	-297.10	0.00	0.00	0.00
8,600.00	9.65	118.47	8,548.28	-305.09	562.55	-305.09	0.00	0.00	0.00
8,700.00	9.65	118.47	8,646.87	-313.08	577.28	-313.08	0.00	0.00	0.00
8,800.00	9.65	118.47	8,745.45	-321.07	592.01	-321.07	0.00	0.00	0.00
8,900.00	9.65	118.47	8,844.04	-329.06	606.74	-329.06	0.00	0.00	0.00
9,000.00	9.65	118.47	8,942.63	-337.05	621.47	-337.05	0.00	0.00	0.00
9,054.86	9.65	118.47	8,996.71	-341.43	629.55	-341.43	0.00	0.00	0.00
Drop									
9,100.00	9.42	118.47	9,041.23	-345.00	636.12	-345.00	0.50	-0.50	0.00
9,200.00	8.92	118.47	9,139.95	-352.60	650.13	-352.60	0.50	-0.50	0.00
9,300.00	8.42	118.47	9,238.80	-359.78	663.39	-359.78	0.50	-0.50	0.00
9,400.00	7.92	118.47	9,337.79	-366.56	675.88	-366.56	0.50	-0.50	0.00
9,500.00	7.42	118.47	9,436.89	-372.92	687.62	-372.92	0.50	-0.50	0.00
9,600.00	6.92	118.47	9,536.11	-378.88	698.59	-378.88	0.50	-0.50	0.00
9,700.00	6.42	118.47	9,635.43	-384.42	708.80	-384.42	0.50	-0.50	0.00
9,800.00	5.92	118.47	9,734.85	-389.54	718.25	-389.54	0.50	-0.50	0.00
9,900.00	5.42	118.47	9,834.36	-394.25	726.94	-394.25	0.50	-0.50	0.00
10,000.00	4.92	118.47	9,933.96	-398.55	734.86	-398.55	0.50	-0.50	0.00
10,100.00	4.42	118.47	10,033.62	-402.43	742.02	-402.43	0.50	-0.50	0.00

Database: EDM 5000.1 Single User Db
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 Site: Cotton Draw Unit
 Well: 313H (SIMOPS)
 Wellbore: OH
 Design: Plan #1

Local Co-ordinate Reference: Well 313H (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)
10,200.00	3.92	118.47	10,133.36	-405.90	748.42	-405.90	0.50	-0.50	0.00
10,300.00	3.42	118.47	10,233.15	-408.95	754.05	-408.95	0.50	-0.50	0.00
10,400.00	2.92	118.47	10,333.00	-411.59	758.91	-411.59	0.50	-0.50	0.00
10,500.00	2.42	118.47	10,432.89	-413.81	763.01	-413.81	0.50	-0.50	0.00
10,600.00	1.92	118.47	10,532.82	-415.62	766.34	-415.62	0.50	-0.50	0.00
10,700.00	1.42	118.47	10,632.78	-417.01	768.90	-417.01	0.50	-0.50	0.00
10,800.00	0.92	118.47	10,732.75	-417.98	770.70	-417.98	0.50	-0.50	0.00
10,900.00	0.42	118.47	10,832.75	-418.54	771.73	-418.54	0.50	-0.50	0.00
10,984.29	0.00	0.00	10,917.04	-418.69	772.00	-418.69	0.50	-0.50	0.00
Hold									
11,000.00	0.00	0.00	10,932.75	-418.69	772.00	-418.69	0.00	0.00	0.00
11,100.00	0.00	0.00	11,032.75	-418.69	772.00	-418.69	0.00	0.00	0.00
11,184.29	0.00	0.00	11,117.04	-418.69	772.00	-418.69	0.00	0.00	0.00
KOP 10° DLS									
11,200.00	1.57	0.00	11,132.74	-418.47	772.00	-418.47	10.00	10.00	0.00
11,250.00	6.57	0.00	11,182.60	-414.93	772.00	-414.93	10.00	10.00	0.00
11,300.00	11.57	0.00	11,231.96	-407.05	772.00	-407.05	10.00	10.00	0.00
11,350.00	16.57	0.00	11,280.45	-394.89	772.00	-394.89	10.00	10.00	0.00
11,400.00	21.57	0.00	11,327.69	-378.56	772.00	-378.56	10.00	10.00	0.00
11,450.00	26.57	0.00	11,373.32	-358.18	772.00	-358.18	10.00	10.00	0.00
11,500.00	31.57	0.00	11,417.01	-333.89	772.00	-333.89	10.00	10.00	0.00
11,550.00	36.57	0.00	11,458.42	-305.89	772.00	-305.89	10.00	10.00	0.00
11,600.00	41.57	0.00	11,497.22	-274.38	772.00	-274.38	10.00	10.00	0.00
11,650.00	46.57	0.00	11,533.13	-239.62	772.00	-239.62	10.00	10.00	0.00
11,700.00	51.57	0.00	11,565.88	-201.85	772.00	-201.85	10.00	10.00	0.00
11,750.00	56.57	0.00	11,595.21	-161.38	772.00	-161.38	10.00	10.00	0.00
11,800.00	61.57	0.00	11,620.90	-118.50	772.00	-118.50	10.00	10.00	0.00
11,850.00	66.57	0.00	11,642.76	-73.55	772.00	-73.55	10.00	10.00	0.00
11,900.00	71.57	0.00	11,660.61	-26.86	772.01	-26.86	10.00	10.00	0.00
11,950.00	76.57	0.00	11,674.33	21.20	772.01	21.20	10.00	10.00	0.00
12,000.00	81.57	0.00	11,683.81	70.28	772.01	70.28	10.00	10.00	0.00
12,050.00	86.57	0.00	11,688.97	119.99	772.01	119.99	10.00	10.00	0.00
12,085.62	90.13	0.00	11,690.00	155.59	772.01	155.59	10.00	10.00	0.00
LP									
12,100.00	90.13	0.00	11,689.96	169.97	772.01	169.97	0.00	0.00	0.00
12,200.00	90.13	0.00	11,689.73	269.97	772.01	269.97	0.00	0.00	0.00
12,300.00	90.13	0.00	11,689.50	369.97	772.01	369.97	0.00	0.00	0.00
12,400.00	90.13	0.00	11,689.27	469.97	772.01	469.97	0.00	0.00	0.00
12,500.00	90.13	0.00	11,689.04	569.97	772.01	569.97	0.00	0.00	0.00
12,600.00	90.13	0.00	11,688.81	669.97	772.02	669.97	0.00	0.00	0.00
12,700.00	90.13	0.00	11,688.58	769.97	772.02	769.97	0.00	0.00	0.00
12,800.00	90.13	0.00	11,688.34	869.97	772.02	869.97	0.00	0.00	0.00
12,900.00	90.13	0.00	11,688.11	969.97	772.02	969.97	0.00	0.00	0.00
13,000.00	90.13	0.00	11,687.88	1,069.97	772.02	1,069.97	0.00	0.00	0.00
13,100.00	90.13	0.00	11,687.65	1,169.97	772.02	1,169.97	0.00	0.00	0.00
13,200.00	90.13	0.00	11,687.42	1,269.97	772.02	1,269.97	0.00	0.00	0.00
13,300.00	90.13	0.00	11,687.19	1,369.97	772.03	1,369.97	0.00	0.00	0.00
13,400.00	90.13	0.00	11,686.96	1,469.97	772.03	1,469.97	0.00	0.00	0.00
13,500.00	90.13	0.00	11,686.73	1,569.97	772.03	1,569.97	0.00	0.00	0.00
13,600.00	90.13	0.00	11,686.50	1,669.97	772.03	1,669.97	0.00	0.00	0.00
13,700.00	90.13	0.00	11,686.26	1,769.97	772.03	1,769.97	0.00	0.00	0.00
13,800.00	90.13	0.00	11,686.03	1,869.97	772.03	1,869.97	0.00	0.00	0.00
13,900.00	90.13	0.00	11,685.80	1,969.97	772.03	1,969.97	0.00	0.00	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: 313H (SIMOPS)
Wellbore: OH
Design: Plan #1

Local Co-ordinate Reference: Well 313H (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)
14,000.00	90.13	0.00	11,685.57	2,069.97	772.03	2,069.97	0.00	0.00	0.00
14,100.00	90.13	0.00	11,685.34	2,169.97	772.04	2,169.97	0.00	0.00	0.00
14,200.00	90.13	0.00	11,685.11	2,269.97	772.04	2,269.97	0.00	0.00	0.00
14,300.00	90.13	0.00	11,684.88	2,369.97	772.04	2,369.97	0.00	0.00	0.00
14,400.00	90.13	0.00	11,684.65	2,469.97	772.04	2,469.97	0.00	0.00	0.00
14,500.00	90.13	0.00	11,684.41	2,569.97	772.04	2,569.97	0.00	0.00	0.00
14,600.00	90.13	0.00	11,684.18	2,669.97	772.04	2,669.97	0.00	0.00	0.00
14,700.00	90.13	0.00	11,683.95	2,769.97	772.04	2,769.97	0.00	0.00	0.00
14,800.00	90.13	0.00	11,683.72	2,869.97	772.05	2,869.97	0.00	0.00	0.00
14,900.00	90.13	0.00	11,683.49	2,969.97	772.05	2,969.97	0.00	0.00	0.00
15,000.00	90.13	0.00	11,683.26	3,069.97	772.05	3,069.97	0.00	0.00	0.00
15,100.00	90.13	0.00	11,683.03	3,169.97	772.05	3,169.97	0.00	0.00	0.00
15,200.00	90.13	0.00	11,682.80	3,269.97	772.05	3,269.97	0.00	0.00	0.00
15,300.00	90.13	0.00	11,682.57	3,369.97	772.05	3,369.97	0.00	0.00	0.00
15,400.00	90.13	0.00	11,682.33	3,469.97	772.05	3,469.97	0.00	0.00	0.00
15,500.00	90.13	0.00	11,682.10	3,569.96	772.06	3,569.96	0.00	0.00	0.00
15,600.00	90.13	0.00	11,681.87	3,669.96	772.06	3,669.96	0.00	0.00	0.00
15,700.00	90.13	0.00	11,681.64	3,769.96	772.06	3,769.96	0.00	0.00	0.00
15,800.00	90.13	0.00	11,681.41	3,869.96	772.06	3,869.96	0.00	0.00	0.00
15,900.00	90.13	0.00	11,681.18	3,969.96	772.06	3,969.96	0.00	0.00	0.00
16,000.00	90.13	0.00	11,680.95	4,069.96	772.06	4,069.96	0.00	0.00	0.00
16,100.00	90.13	0.00	11,680.72	4,169.96	772.06	4,169.96	0.00	0.00	0.00
16,200.00	90.13	0.00	11,680.48	4,269.96	772.07	4,269.96	0.00	0.00	0.00
16,300.00	90.13	0.00	11,680.25	4,369.96	772.07	4,369.96	0.00	0.00	0.00
16,409.48	90.13	0.00	11,680.00	4,479.45	772.07	4,479.45	0.00	0.00	0.00

TD - PBHL (CDU 313H)

Design Targets

Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
- hit/miss target									
- Shape									
SHL (CDU 313H)	0.00	0.00	0.00	0.00	0.00	414,818.35	734,340.37	32° 8' 19.963 N	103° 42' 35.219 W
- plan hits target center									
- Point									
PBHL (CDU 313H)	0.00	0.00	11,680.00	4,479.45	772.07	419,297.80	735,112.44	32° 9' 4.245 N	103° 42' 25.937 W
- plan hits target center									
- Point									

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
4,300.00	4,300.00	0.00	0.00	Nudge
5,264.72	5,260.16	-38.63	71.22	Hold
9,054.86	8,996.71	-341.43	629.55	Drop
10,984.29	10,917.04	-418.69	772.00	Hold
11,184.29	11,117.04	-418.69	772.00	KOP 10° DLS
12,085.62	11,690.00	155.59	772.01	LP
16,409.48	11,680.00	4,479.45	772.07	TD



DEVON ENERGY

Lea County, NM (NAD-83)
Cotton Draw Unit
313H (SIMOPS)

OH
Plan #1

Anticollision Report

17 December, 2015





LEAM Drilling Systems LLC

Anticollision Report



Company:	DEVON ENERGY	Local Co-ordinate Reference:	Well 313H (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:	313H (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	16,409.48	Plan #1 (OH)	LEAM MWD-ADJ	MWD - Standard	

Summary						
Site Name	Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
Cotton Draw Unit						
253H (SIMOPS) - OH - Plan #1	4,300.00	4,300.00	74.98	55.94	3.939	CC
253H (SIMOPS) - OH - Plan #1	4,500.00	4,500.92	75.43	55.61	3.806	ES
253H (SIMOPS) - OH - Plan #1	5,000.00	5,003.15	80.54	58.78	3.701	SF
263H (SIMOPS) - OH - Plan #1	4,300.00	4,300.00	149.97	130.93	7.878	CC
263H (SIMOPS) - OH - Plan #1	8,803.36	8,826.57	155.49	116.91	4.030	ES
263H (SIMOPS) - OH - Plan #1	8,900.00	8,920.68	156.29	117.29	4.008	SF
286H (SIMOPS) - OH - Plan #1	4,881.80	4,890.24	116.10	94.95	5.490	CC
286H (SIMOPS) - OH - Plan #1	4,900.00	4,908.31	116.14	94.93	5.476	ES
286H (SIMOPS) - OH - Plan #1	5,000.00	5,007.50	117.91	96.36	5.471	SF
312H (SIMOPS) - OH - Plan #1	4,300.00	4,300.00	24.99	5.95	1.313	Level 3, CC, ES
312H (SIMOPS) - OH - Plan #1	4,400.00	4,399.57	25.43	5.99	1.308	Level 3, SF
319H (SIMOPS) - OH - Plan #1	4,200.00	4,200.00	295.74	277.15	15.910	CC
319H (SIMOPS) - OH - Plan #1	4,300.00	4,300.00	295.74	276.70	15.534	ES
319H (SIMOPS) - OH - Plan #1	4,800.00	4,808.49	308.23	287.40	14.795	SF
320H (SIMOPS) - OH - Plan #1	5,099.96	5,134.30	257.08	235.07	11.681	CC
320H (SIMOPS) - OH - Plan #1	5,100.00	5,134.34	257.08	235.07	11.681	ES
320H (SIMOPS) - OH - Plan #1	7,500.00	7,526.11	322.18	289.59	9.886	SF
321H (SIMOPS) - OH - Plan #1	4,300.00	4,300.00	49.99	30.95	2.626	CC
321H (SIMOPS) - OH - Plan #1	4,500.00	4,500.65	50.34	30.52	2.540	ES
321H (SIMOPS) - OH - Plan #1	4,700.00	4,701.20	51.52	30.94	2.503	SF
327H (SIMOPS) - OH - Plan #1	4,879.32	4,909.00	314.86	293.73	14.903	CC
327H (SIMOPS) - OH - Plan #1	5,000.00	5,034.98	315.09	293.54	14.625	ES
327H (SIMOPS) - OH - Plan #1	5,200.00	5,233.69	320.09	297.88	14.409	SF
328H (SIMOPS) - OH - Plan #1	6,022.08	6,065.31	256.98	230.57	9.729	CC
328H (SIMOPS) - OH - Plan #1	7,000.00	7,042.38	260.18	228.05	8.098	ES
328H (SIMOPS) - OH - Plan #1	8,100.00	8,126.36	272.43	232.79	6.873	SF
332H (SIMOPS) - OH - Plan #1	4,300.00	4,300.00	210.83	191.79	11.074	CC, ES
332H (SIMOPS) - OH - Plan #1	4,500.00	4,499.42	214.56	194.78	10.846	SF
333H (SIMOPS) - OH - Plan #1	5,830.39	5,869.45	221.63	196.80	8.928	CC
333H (SIMOPS) - OH - Plan #1	6,100.00	6,138.59	222.21	196.15	8.527	ES
333H (SIMOPS) - OH - Plan #1	8,400.00	8,433.08	269.49	229.23	6.694	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 313H (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:	313H (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 Tooface (")	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	-0.18	74.98	-0.24	74.98					
100.00	100.00	100.00	100.00	0.08	0.08	-0.18	74.98	-0.24	74.98	74.82	0.16	476.561		
200.00	200.00	200.00	200.00	0.30	0.30	-0.18	74.98	-0.24	74.98	74.37	0.61	123.553		
300.00	300.00	300.00	300.00	0.53	0.53	-0.18	74.98	-0.24	74.98	73.92	1.06	70.977		
400.00	400.00	400.00	400.00	0.75	0.75	-0.18	74.98	-0.24	74.98	73.47	1.51	49.790		
500.00	500.00	500.00	500.00	0.98	0.98	-0.18	74.98	-0.24	74.98	73.02	1.96	38.344		
600.00	600.00	600.00	600.00	1.20	1.20	-0.18	74.98	-0.24	74.98	72.58	2.40	31.177		
700.00	700.00	700.00	700.00	1.43	1.43	-0.18	74.98	-0.24	74.98	72.13	2.85	26.267		
800.00	800.00	800.00	800.00	1.65	1.65	-0.18	74.98	-0.24	74.98	71.68	3.30	22.693		
900.00	900.00	900.00	900.00	1.88	1.88	-0.18	74.98	-0.24	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	-0.24	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	-0.24	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	-0.24	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	-0.24	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	-0.24	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	-0.24	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	-0.24	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	-0.24	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	-0.24	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	-0.24	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	-0.24	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	-0.24	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	-0.24	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	-0.24	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	-0.24	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	-0.24	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	-0.24	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	-0.24	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	-0.24	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	-0.24	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	-0.24	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	-0.24	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	-0.24	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	-0.24	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	-0.24	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	-0.24	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	-0.24	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	-0.24	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	-0.24	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	-0.24	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	-0.24	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	-0.24	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	-0.24	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	-0.24	74.98	55.94	19.04	3.939 CC		
4,400.00	4,400.00	4,400.46	4,400.45	9.72	9.73	-118.61	74.68	0.59	75.09	55.65	19.45	3.861		
4,500.00	4,499.96	4,500.92	4,500.87	9.91	9.91	-118.48	73.76	3.07	75.43	55.61	19.82	3.806 ES		
4,600.00	4,599.86	4,601.37	4,601.23	10.09	10.11	-118.27	72.24	7.20	76.00	55.80	20.19	3.764		
4,700.00	4,699.68	4,701.82	4,701.49	10.28	10.30	-117.97	70.11	12.98	76.79	56.22	20.57	3.733		
4,800.00	4,799.37	4,802.27	4,801.63	10.48	10.50	-117.60	67.37	20.40	77.81	56.85	20.96	3.712		
4,900.00	4,898.90	4,902.71	4,901.60	10.68	10.70	-117.16	64.03	29.48	79.06	57.71	21.35	3.702		
5,000.00	4,998.26	5,003.15	5,001.38	10.88	10.91	-116.66	60.08	40.19	80.54	58.78	21.76	3.701 SF		
5,100.00	5,097.40	5,103.58	5,100.94	11.09	11.13	-116.10	55.52	52.55	82.26	60.08	22.18	3.709		

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 313H (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:	313H (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		
5,200.00	5,196.30	5,204.00	5,200.25	11.32	11.36	-115.49	50.37	66.54	84.21	61.60	22.61	3.724		
5,264.72	5,260.16	5,268.90	5,264.29	11.47	11.51	-115.10	46.73	76.42	85.61	62.70	22.91	3.737		
5,300.00	5,294.95	5,304.17	5,299.08	11.55	11.60	-114.95	44.71	81.89	86.43	63.36	23.07	3.746		
5,400.00	5,393.54	5,404.14	5,397.68	11.79	11.84	-114.54	39.00	97.39	88.75	65.20	23.55	3.768		
5,500.00	5,492.12	5,504.12	5,496.28	12.04	12.09	-114.16	33.29	112.89	91.08	67.03	24.04	3.788		
5,600.00	5,590.71	5,604.09	5,594.87	12.30	12.35	-113.79	27.57	128.39	93.41	68.86	24.55	3.805		
5,700.00	5,689.29	5,704.06	5,693.47	12.56	12.61	-113.44	21.86	143.89	95.74	70.67	25.07	3.819		
5,800.00	5,787.88	5,804.03	5,792.07	12.83	12.88	-113.11	16.15	159.39	98.07	72.48	25.59	3.832		
5,900.00	5,886.46	5,904.00	5,890.66	13.10	13.16	-112.79	10.44	174.89	100.41	74.28	26.13	3.842		
6,000.00	5,985.05	6,003.97	5,989.26	13.38	13.44	-112.49	4.72	190.39	102.76	76.07	26.68	3.851		
6,100.00	6,083.64	6,103.94	6,087.86	13.67	13.72	-112.20	-0.99	205.89	105.10	77.86	27.24	3.858		
6,200.00	6,182.22	6,203.91	6,186.45	13.95	14.01	-111.92	-6.70	221.39	107.45	79.64	27.81	3.864		
6,300.00	6,280.81	6,303.88	6,285.05	14.25	14.30	-111.66	-12.42	236.89	109.80	81.41	28.39	3.868		
6,400.00	6,379.39	6,403.86	6,383.65	14.55	14.60	-111.40	-18.13	252.39	112.15	83.18	28.97	3.871		
6,500.00	6,477.98	6,503.83	6,482.24	14.85	14.90	-111.16	-23.84	267.89	114.50	84.94	29.56	3.873		
6,600.00	6,576.57	6,603.80	6,580.84	15.15	15.21	-110.92	-29.55	283.39	116.86	86.70	30.16	3.874		
6,700.00	6,675.15	6,703.77	6,679.44	15.46	15.51	-110.70	-35.27	298.89	119.22	88.45	30.77	3.875		
6,800.00	6,773.74	6,803.74	6,778.04	15.78	15.83	-110.48	-40.98	314.39	121.58	90.20	31.38	3.874		
6,900.00	6,872.32	6,903.71	6,876.63	16.09	16.14	-110.28	-46.69	329.89	123.94	91.94	32.00	3.873		
7,000.00	6,970.91	7,003.68	6,975.23	16.41	16.46	-110.08	-52.40	345.38	126.30	93.68	32.62	3.872		
7,100.00	7,069.49	7,103.65	7,073.83	16.73	16.77	-109.88	-58.12	360.88	128.67	95.41	33.25	3.869		
7,200.00	7,168.08	7,203.62	7,172.42	17.05	17.10	-109.70	-63.83	376.38	131.03	97.15	33.89	3.867		
7,300.00	7,266.67	7,303.60	7,271.02	17.38	17.42	-109.52	-69.54	391.88	133.40	98.87	34.53	3.864		
7,400.00	7,365.25	7,403.57	7,369.62	17.71	17.75	-109.35	-75.25	407.38	135.77	100.60	35.17	3.860		
7,500.00	7,463.84	7,503.54	7,468.21	18.04	18.07	-109.18	-80.97	422.88	138.14	102.32	35.82	3.856		
7,600.00	7,562.42	7,603.51	7,566.81	18.37	18.40	-109.02	-86.68	438.38	140.51	104.04	36.47	3.852		
7,700.00	7,661.01	7,703.48	7,665.41	18.71	18.74	-108.86	-92.39	453.88	142.88	105.75	37.13	3.848		
7,800.00	7,759.60	7,788.57	7,749.40	19.04	19.00	-108.92	-94.27	467.09	148.95	111.23	37.72	3.949		
7,900.00	7,858.18	7,865.71	7,825.06	19.38	19.21	-109.55	-85.64	478.98	167.99	129.75	38.24	4.393		
8,000.00	7,956.77	7,937.73	7,894.09	19.72	19.38	-110.44	-68.36	489.83	199.54	160.82	38.73	5.152		
8,100.00	8,055.35	8,000.00	7,951.64	20.06	19.51	-111.28	-46.47	498.88	242.24	203.06	39.17	6.184		
8,200.00	8,153.94	8,061.30	8,005.67	20.40	19.63	-112.08	-18.86	507.37	294.37	254.77	39.60	7.433		
8,300.00	8,252.52	8,112.38	8,048.26	20.75	19.71	-112.69	8.50	514.07	354.44	314.43	40.01	8.859		
8,400.00	8,351.11	8,150.00	8,078.00	21.09	19.78	-113.10	31.05	518.74	421.07	380.68	40.39	10.425		
8,500.00	8,449.70	8,200.00	8,115.15	21.44	19.85	-113.59	63.99	524.58	492.80	452.01	40.78	12.083		
8,600.00	8,548.28	8,229.37	8,135.60	21.79	19.90	-113.85	84.82	527.80	568.81	527.67	41.14	13.825		
8,700.00	8,646.87	8,250.00	8,149.31	22.14	19.93	-114.02	100.07	529.96	648.46	606.96	41.50	15.625		
8,800.00	8,745.45	8,284.52	8,171.03	22.49	19.99	-114.29	126.68	533.37	730.67	688.81	41.86	17.454		
8,900.00	8,844.04	8,300.00	8,180.24	22.84	20.01	-114.40	139.03	534.82	815.42	773.21	42.21	19.318		
9,000.00	8,942.63	8,327.18	8,195.61	23.19	20.06	-114.58	161.31	537.23	901.94	859.37	42.57	21.189		
9,054.86	8,996.71	8,350.00	8,207.70	23.39	20.10	-114.73	180.58	539.13	950.37	907.61	42.77	22.222		
9,100.00	9,041.23	8,350.00	8,207.70	23.53	20.10	-115.11	180.58	539.13	990.15	947.26	42.89	23.084		
9,200.00	9,139.95	8,350.00	8,207.70	23.82	20.10	-116.02	180.58	539.13	1,079.67	1,036.53	43.14	25.027		
9,300.00	9,238.80	8,375.39	8,220.25	24.10	20.15	-117.02	202.56	541.11	1,169.89	1,126.49	43.40	26.954		
9,400.00	9,337.79	8,400.00	8,231.48	24.38	20.21	-117.99	224.39	542.87	1,261.28	1,217.62	43.66	28.887		
9,500.00	9,436.89	8,400.00	8,231.48	24.65	20.21	-119.01	224.39	542.87	1,353.05	1,309.17	43.89	30.832		
9,600.00	9,536.11	8,400.00	8,231.48	24.92	20.21	-120.08	224.39	542.87	1,445.77	1,401.67	44.10	32.787		
9,700.00	9,635.43	8,421.65	8,240.58	25.17	20.26	-121.05	243.97	544.30	1,538.68	1,494.35	44.33	34.709		
9,800.00	9,734.85	8,431.02	8,244.30	25.43	20.28	-122.11	252.56	544.89	1,632.21	1,587.67	44.54	36.645		
9,900.00	9,834.36	8,450.00	8,251.39	25.67	20.34	-123.07	270.12	546.00	1,726.25	1,681.48	44.76	38.563		
10,000.00	9,933.96	8,450.00	8,251.39	25.91	20.34	-124.23	270.12	546.00	1,820.39	1,775.45	44.94	40.507		
10,100.00	10,033.62	8,450.00	8,251.39	26.14	20.34	-125.43	270.12	546.00	1,914.97	1,869.86	45.11	42.456		

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 313H (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:	313H (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
10,200.00	10,133.36	8,450.00	8,251.39	26.37	20.34	-126.65	270.12	546.00	2,009.92	1,964.66	45.26	44.410	
10,300.00	10,233.15	8,450.00	8,251.39	26.59	20.34	-127.90	270.12	546.00	2,105.18	2,059.78	45.40	46.368	
10,400.00	10,333.00	8,475.50	8,260.01	26.80	20.41	-128.69	294.08	547.36	2,200.00	2,154.39	45.62	48.229	
10,500.00	10,432.89	8,500.00	8,267.29	27.00	20.49	-129.48	317.45	548.50	2,295.77	2,249.94	45.83	50.094	
10,600.00	10,532.82	8,500.00	8,267.29	27.20	20.49	-130.69	317.45	548.50	2,391.12	2,345.16	45.96	52.029	
10,700.00	10,632.78	8,500.00	8,267.29	27.39	20.49	-131.90	317.45	548.50	2,486.67	2,440.59	46.08	53.967	
10,800.00	10,732.75	8,500.00	8,267.29	27.58	20.49	-133.12	317.45	548.50	2,582.39	2,536.20	46.19	55.909	
10,900.00	10,832.75	8,500.00	8,267.29	27.75	20.49	-134.34	317.45	548.50	2,678.26	2,631.96	46.29	57.853	
10,984.29	10,917.04	8,500.00	8,267.29	27.89	20.49	-16.89	317.45	548.50	2,759.17	2,712.80	46.37	59.499	
11,000.00	10,932.75	8,500.00	8,267.29	27.92	20.49	-16.89	317.45	548.50	2,774.26	2,727.85	46.40	59.787	
11,100.00	11,032.75	8,500.00	8,267.29	28.10	20.49	-16.89	317.45	548.50	2,870.47	2,823.87	46.59	61.605	
11,184.29	11,117.04	8,500.00	8,267.29	28.25	20.49	-16.89	317.45	548.50	2,951.76	2,905.01	46.76	63.129	
11,200.00	11,132.74	8,500.00	8,267.29	28.28	20.49	-15.35	317.45	548.50	2,966.87	2,920.02	46.86	63.317	
11,250.00	11,182.60	8,500.00	8,267.29	28.36	20.49	-11.89	317.45	548.50	3,014.19	2,967.28	46.91	64.253	
11,300.00	11,231.96	8,521.44	8,272.85	28.41	20.56	-9.55	338.13	549.38	3,059.61	3,012.93	46.67	65.552	
11,350.00	11,280.45	8,525.11	8,273.72	28.46	20.58	-8.10	341.69	549.51	3,103.62	3,057.53	46.09	67.335	
11,400.00	11,327.69	8,550.00	8,279.06	28.48	20.68	-6.97	365.99	550.35	3,146.05	3,100.76	45.28	69.472	
11,450.00	11,373.32	8,550.00	8,279.06	28.49	20.68	-6.23	365.99	550.35	3,185.60	3,141.41	44.18	72.098	
11,500.00	11,417.01	8,550.00	8,279.06	28.49	20.68	-5.65	365.99	550.35	3,222.69	3,179.82	42.87	75.179	
11,550.00	11,458.42	8,550.00	8,279.06	28.47	20.68	-5.20	365.99	550.35	3,257.13	3,215.77	41.36	78.751	
11,600.00	11,497.22	8,550.00	8,279.06	28.44	20.68	-4.85	365.99	550.35	3,288.74	3,249.04	39.69	82.851	
11,650.00	11,533.13	8,550.00	8,279.06	28.40	20.68	-4.58	365.99	550.35	3,317.36	3,279.46	37.91	87.508	
11,700.00	11,565.88	8,550.00	8,279.06	28.36	20.68	-4.33	365.99	550.35	3,342.87	3,306.82	36.05	92.733	
11,750.00	11,595.21	8,550.00	8,279.06	28.32	20.68	-4.15	365.99	550.35	3,365.13	3,330.97	34.16	98.501	
11,800.00	11,620.90	8,575.82	8,283.48	28.27	20.79	-3.98	391.42	551.05	3,383.37	3,351.00	32.37	104.508	
11,850.00	11,642.76	8,600.00	8,286.60	28.23	20.91	-3.85	415.39	551.54	3,398.75	3,368.05	30.70	110.714	
11,900.00	11,660.61	8,600.00	8,286.60	28.20	20.91	-3.78	415.39	551.54	3,410.01	3,380.86	29.15	116.962	
11,950.00	11,674.33	8,600.00	8,286.60	28.17	20.91	-3.72	415.39	551.54	3,417.71	3,389.82	27.89	122.561	
12,000.00	11,683.81	8,600.00	8,286.60	28.17	20.91	-3.70	415.39	551.54	3,421.80	3,394.82	26.98	126.831	
12,050.00	11,688.97	8,600.00	8,286.60	28.18	20.91	-3.70	415.39	551.54	3,422.28	3,395.77	26.51	129.083	
12,085.62	11,690.00	8,600.00	8,286.60	28.21	20.91	-3.71	415.39	551.54	3,420.41	3,393.94	26.48	129.187	
12,100.00	11,689.96	8,600.00	8,286.60	28.23	20.91	-3.71	415.39	551.54	3,419.32	3,392.82	26.50	129.029	
12,200.00	11,689.73	8,650.00	8,289.86	28.41	21.17	-3.70	465.26	552.05	3,412.57	3,385.75	26.83	127.202	
12,300.00	11,689.50	8,650.00	8,289.86	28.75	21.17	-3.70	465.26	552.05	3,408.08	3,381.04	27.04	126.043	
12,400.00	11,689.27	8,662.85	8,290.00	29.23	21.25	-3.70	478.11	552.07	3,406.39	3,379.07	27.32	124.701	
12,500.00	11,689.04	8,754.71	8,290.00	29.85	21.86	-3.70	569.97	552.07	3,406.15	3,378.26	27.89	122.127	
12,600.00	11,688.81	8,854.71	8,290.00	30.58	22.67	-3.70	669.97	552.07	3,405.92	3,377.36	28.55	119.280	
12,700.00	11,688.58	8,954.71	8,290.00	31.42	23.60	-3.70	769.97	552.07	3,405.69	3,376.40	29.28	116.304	
12,800.00	11,688.34	9,054.71	8,290.00	32.34	24.64	-3.70	869.97	552.07	3,405.45	3,375.38	30.07	113.249	
12,900.00	11,688.11	9,154.71	8,290.00	33.35	25.77	-3.70	969.97	552.07	3,405.22	3,374.31	30.91	110.160	
13,000.00	11,687.88	9,254.71	8,290.00	34.42	26.97	-3.70	1,069.97	552.07	3,404.99	3,373.19	31.80	107.071	
13,100.00	11,687.65	9,354.71	8,290.00	35.55	28.25	-3.70	1,169.97	552.07	3,404.76	3,372.03	32.73	104.011	
13,200.00	11,687.42	9,454.71	8,290.00	36.74	29.58	-3.70	1,269.97	552.07	3,404.53	3,370.82	33.71	101.002	
13,300.00	11,687.19	9,554.71	8,290.00	37.99	30.96	-3.70	1,369.97	552.07	3,404.30	3,369.59	34.72	98.061	
13,400.00	11,686.96	9,654.71	8,290.00	39.27	32.39	-3.70	1,469.97	552.07	3,404.07	3,368.31	35.76	95.199	
13,500.00	11,686.73	9,754.71	8,290.00	40.60	33.86	-3.71	1,569.97	552.07	3,403.84	3,367.01	36.83	92.426	
13,600.00	11,686.50	9,854.71	8,290.00	41.97	35.36	-3.71	1,669.97	552.07	3,403.61	3,365.68	37.93	89.745	
13,700.00	11,686.26	9,954.71	8,290.00	43.37	36.88	-3.71	1,769.97	552.07	3,403.38	3,364.33	39.05	87.161	
13,800.00	11,686.03	10,054.71	8,290.00	44.80	38.44	-3.71	1,869.97	552.07	3,403.15	3,362.96	40.19	84.674	
13,900.00	11,685.80	10,154.71	8,290.00	46.25	40.02	-3.71	1,969.97	552.07	3,402.92	3,361.56	41.36	82.283	
14,000.00	11,685.57	10,254.71	8,290.00	47.74	41.61	-3.71	2,069.97	552.07	3,402.69	3,360.15	42.54	79.989	
14,100.00	11,685.34	10,354.71	8,290.00	49.24	43.23	-3.71	2,169.97	552.07	3,402.46	3,358.72	43.74	77.787	

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



LEAM Drilling Systems LLC

Anticollision Report



Company: DEVON ENERGY
Project: Lea County, NM (NAD-83)
Reference Site: Cotton Draw Unit
Site Error: 0.00 usft
Reference Well: 313H (SIMOPS)
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Plan #1

Local Co-ordinate Reference: Well 313H (SIMOPS)
TVD Reference: 3431.4' GE + 30' KB @ 3461.40usft
MD Reference: 3431.4' GE + 30' KB @ 3461.40usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at 2.00 sigma
Database: EDM 5000.1 Single User Db
Offset TVD Reference: Offset Datum

Offset Design Cotton Draw Unit - 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)	
14,200.00	11,685.11	10,454.71	8,290.00	50.77	44.86	-3.71	2,269.97	552.07	3,402.23	3,357.27	44.96	75.677
14,300.00	11,684.88	10,554.71	8,290.00	52.31	46.51	-3.71	2,369.97	552.07	3,402.00	3,355.81	46.19	73.654
14,400.00	11,684.65	10,654.71	8,290.00	53.88	48.17	-3.71	2,469.97	552.07	3,401.77	3,354.33	47.43	71.716
14,500.00	11,684.41	10,754.71	8,290.00	55.45	49.84	-3.71	2,569.97	552.07	3,401.53	3,352.84	48.69	69.859
14,600.00	11,684.18	10,854.71	8,290.00	57.05	51.52	-3.71	2,669.97	552.07	3,401.30	3,351.34	49.96	68.080
14,700.00	11,683.95	10,954.70	8,290.00	58.65	53.21	-3.71	2,769.97	552.07	3,401.07	3,349.83	51.24	66.375
14,800.00	11,683.72	11,054.70	8,290.00	60.27	54.91	-3.71	2,869.97	552.07	3,400.84	3,348.31	52.53	64.741
14,900.00	11,683.49	11,154.70	8,290.00	61.90	56.62	-3.71	2,969.97	552.07	3,400.61	3,346.78	53.83	63.174
15,000.00	11,683.26	11,254.70	8,290.00	63.55	58.33	-3.71	3,069.97	552.07	3,400.38	3,345.24	55.14	61.671
15,100.00	11,683.03	11,354.70	8,290.00	65.20	60.05	-3.71	3,169.97	552.07	3,400.15	3,343.70	56.45	60.229
15,200.00	11,682.80	11,454.70	8,290.00	66.86	61.78	-3.71	3,269.97	552.07	3,399.92	3,342.14	57.78	58.845
15,300.00	11,682.57	11,554.70	8,290.00	68.52	63.51	-3.71	3,369.97	552.07	3,399.69	3,340.58	59.11	57.516
15,400.00	11,682.33	11,654.70	8,290.00	70.20	65.25	-3.71	3,469.97	552.07	3,399.46	3,339.01	60.45	56.239
15,500.00	11,682.10	11,754.70	8,290.00	71.88	66.99	-3.71	3,569.96	552.07	3,399.23	3,337.44	61.79	55.012
15,600.00	11,681.87	11,854.70	8,290.00	73.58	68.74	-3.71	3,669.96	552.07	3,399.00	3,335.86	63.14	53.832
15,700.00	11,681.64	11,954.70	8,290.00	75.27	70.49	-3.71	3,769.96	552.07	3,398.77	3,334.27	64.50	52.697
15,800.00	11,681.41	12,054.70	8,290.00	76.97	72.25	-3.71	3,869.96	552.07	3,398.54	3,332.68	65.86	51.605
15,900.00	11,681.18	12,154.70	8,290.00	78.68	74.01	-3.71	3,969.96	552.07	3,398.31	3,331.08	67.22	50.553
16,000.00	11,680.95	12,254.70	8,290.00	80.40	75.77	-3.71	4,069.96	552.07	3,398.08	3,329.48	68.59	49.540
16,100.00	11,680.72	12,354.70	8,290.00	82.11	77.53	-3.71	4,169.96	552.07	3,397.84	3,327.88	69.97	48.564
16,200.00	11,680.48	12,454.70	8,290.00	83.84	79.30	-3.71	4,269.96	552.07	3,397.61	3,326.27	71.35	47.622
16,300.00	11,680.25	12,554.70	8,290.00	85.56	81.07	-3.71	4,369.96	552.07	3,397.38	3,324.66	72.73	46.714
16,409.48	11,680.00	12,662.85	8,290.00	87.46	82.99	-3.71	4,478.11	552.07	3,397.13	3,322.90	74.24	45.761
16,410.43	11,680.00	12,662.85	8,290.00	87.52	82.99	-3.71	4,478.11	552.07	3,397.13	3,322.89	74.24	45.759



LEAM Drilling Systems LLC
Anticollision Report



Company:	DEVON ENERGY	Local Co-ordinate Reference:	Well 313H (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:	313H (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	5,201.80	5,201.76	11.32	11.48	-136.47	147.89	2.41	191.13	168.50	22.63	8.447		
5,264.72	5,260.16	5,267.86	5,267.76	11.47	11.60	-138.13	146.30	4.60	196.71	173.86	22.85	8.607		
5,300.00	5,294.95	5,303.93	5,303.79	11.55	11.66	-139.00	145.24	6.06	199.71	176.72	22.99	8.687		
5,400.00	5,393.54	5,406.43	5,406.09	11.79	11.86	-141.16	141.52	11.20	207.40	184.02	23.38	8.871		
5,500.00	5,492.12	5,509.29	5,508.62	12.04	12.05	-142.92	136.70	17.85	213.80	190.02	23.78	8.991		
5,600.00	5,590.71	5,612.44	5,611.27	12.30	12.25	-144.36	130.79	26.02	218.79	194.61	24.18	9.048		
5,700.00	5,689.29	5,715.81	5,713.95	12.56	12.46	-145.51	123.78	35.70	222.31	197.71	24.59	9.039		
5,800.00	5,787.88	5,819.34	5,816.55	12.83	12.67	-146.42	115.67	46.90	224.28	199.27	25.01	8.967		
5,900.00	5,886.46	5,922.96	5,918.97	13.10	12.90	-147.11	106.47	59.61	224.68	199.24	25.44	8.832		
6,000.00	5,985.05	6,026.60	6,021.12	13.38	13.13	-147.59	96.18	73.83	223.47	197.60	25.87	8.638		
6,100.00	6,083.64	6,127.88	6,120.67	13.67	13.37	-147.91	85.29	88.88	220.97	194.66	26.31	8.399		
6,200.00	6,182.22	6,227.84	6,218.91	13.95	13.62	-148.22	74.46	103.82	218.36	191.62	26.75	8.164		
6,300.00	6,280.81	6,327.79	6,317.16	14.25	13.87	-148.54	63.64	118.77	215.77	188.58	27.19	7.936		
6,400.00	6,379.39	6,427.75	6,415.40	14.55	14.14	-148.87	52.82	133.72	213.18	185.55	27.63	7.714		
6,500.00	6,477.98	6,527.71	6,513.64	14.85	14.40	-149.20	42.00	148.67	210.60	182.52	28.08	7.499		
6,600.00	6,576.57	6,627.67	6,611.88	15.15	14.68	-149.54	31.18	163.62	208.02	179.49	28.53	7.291		
6,700.00	6,675.15	6,727.63	6,710.12	15.46	14.96	-149.90	20.35	178.56	205.46	176.47	28.99	7.088		
6,800.00	6,773.74	6,827.59	6,808.36	15.78	15.25	-150.25	9.53	193.51	202.90	173.46	29.44	6.891		
6,900.00	6,872.32	6,927.55	6,906.60	16.09	15.54	-150.62	-1.29	208.46	200.35	170.45	29.90	6.701		
7,000.00	6,970.91	7,027.51	7,004.84	16.41	15.84	-151.00	-12.11	223.41	197.81	167.45	30.36	6.516		
7,100.00	7,069.49	7,127.47	7,103.08	16.73	16.14	-151.39	-22.93	238.35	195.27	164.45	30.82	6.336		
7,200.00	7,168.08	7,227.43	7,201.32	17.05	16.45	-151.79	-33.76	253.30	192.75	161.47	31.28	6.162		
7,300.00	7,266.67	7,327.39	7,299.56	17.38	16.76	-152.20	-44.58	268.25	190.23	158.49	31.74	5.993		
7,400.00	7,365.25	7,427.34	7,397.80	17.71	17.08	-152.62	-55.40	283.20	187.73	155.53	32.20	5.830		
7,500.00	7,463.84	7,527.30	7,496.04	18.04	17.40	-153.05	-66.22	298.15	185.24	152.57	32.67	5.671		
7,600.00	7,562.42	7,627.26	7,594.29	18.37	17.72	-153.49	-77.04	313.09	182.75	149.62	33.13	5.517		
7,700.00	7,661.01	7,727.22	7,692.53	18.71	18.05	-153.95	-87.87	328.04	180.28	146.69	33.59	5.367		
7,800.00	7,759.60	7,827.18	7,790.77	19.04	18.38	-154.42	-98.69	342.99	177.82	143.77	34.05	5.222		
7,900.00	7,858.18	7,927.14	7,889.01	19.38	18.72	-154.90	-109.51	357.94	175.37	140.86	34.51	5.082		
8,000.00	7,956.77	8,027.10	7,987.25	19.72	19.05	-155.39	-120.33	372.89	172.94	137.97	34.97	4.945		
8,100.00	8,055.35	8,127.06	8,085.49	20.06	19.39	-155.90	-131.15	387.83	170.51	135.08	35.43	4.813		
8,200.00	8,153.94	8,227.02	8,183.73	20.40	19.73	-156.42	-141.98	402.78	168.10	132.22	35.89	4.684		
8,300.00	8,252.52	8,326.98	8,281.97	20.75	20.08	-156.96	-152.80	417.73	165.71	129.37	36.34	4.560		
8,400.00	8,351.11	8,426.93	8,380.21	21.09	20.43	-157.52	-163.62	432.68	163.33	126.53	36.80	4.439		
8,500.00	8,449.70	8,526.89	8,478.45	21.44	20.78	-158.09	-174.44	447.62	160.97	123.72	37.25	4.321		
8,600.00	8,548.28	8,626.85	8,576.69	21.79	21.13	-158.67	-185.26	462.57	158.62	120.92	37.70	4.207		
8,700.00	8,646.87	8,725.90	8,674.06	22.14	21.46	-159.28	-196.03	477.50	156.39	118.25	38.15	4.100		
8,800.00	8,745.45	8,823.30	8,770.03	22.49	21.75	-160.00	-206.86	492.44	154.19	116.92	38.57	4.031		
8,900.00	8,844.04	8,922.68	8,866.25	22.84	22.03	-160.86	-217.68	507.38	152.00	115.61	38.99	4.008 SF		
9,000.00	8,942.63	9,021.99	8,962.65	23.19	22.30	-161.82	-228.50	513.64	150.00	114.30	39.40	4.030		
9,054.86	8,996.71	9,071.32	9,015.57	23.39	22.44	-162.38	-226.11	518.98	150.88	121.26	39.62	4.061		
9,100.00	9,041.23	9,115.17	9,059.13	23.53	22.56	-162.84	-229.07	523.08	152.91	123.10	39.81	4.092		
9,200.00	9,139.95	9,212.23	9,155.67	23.82	22.80	-163.83	-234.94	531.19	168.05	127.83	40.21	4.179		
9,300.00	9,238.80	9,309.15	9,252.23	24.10	23.03	-164.77	-239.84	537.96	174.07	133.45	40.62	4.286		
9,400.00	9,337.79	9,405.90	9,348.74	24.38	23.25	-165.64	-243.78	543.39	180.96	139.95	41.02	4.412		
9,500.00	9,436.89	9,502.47	9,445.18	24.65	23.46	-166.44	-246.75	547.51	188.73	147.31	41.42	4.556		
9,600.00	9,536.11	9,600.00	9,542.64	24.92	23.66	-167.17	-248.79	550.32	197.35	155.53	41.83	4.718		
9,700.00	9,635.43	9,694.98	9,637.61	25.17	23.84	-167.82	-249.84	551.77	206.82	164.59	42.22	4.898		
9,800.00	9,734.85	9,792.23	9,734.85	25.43	24.01	-168.41	-250.03	552.03	217.01	174.39	42.62	5.092		
9,900.00	9,834.36	9,891.74	9,834.36	25.67	24.19	-168.92	-250.03	552.03	226.70	183.67	43.03	5.268		
10,000.00	9,933.96	9,983.93	9,926.54	25.91	24.36	-169.18	-249.32	552.03	236.12	192.68	43.43	5.436		

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 313H (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:	313H (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)				
10,100.00	10,033.62	10,061.30	10,003.33	26.14	24.47	-167.85	-240.28	552.03	251.61	207.75	43.86	5.737		
10,200.00	10,133.36	10,134.37	10,074.10	26.37	24.53	-165.15	-222.33	552.03	275.28	230.93	44.35	6.207		
10,300.00	10,233.15	10,200.00	10,135.27	26.59	24.55	-161.93	-198.64	552.03	307.61	262.72	44.89	6.853		
10,400.00	10,333.00	10,261.77	10,190.01	26.80	24.55	-158.55	-170.09	552.03	348.66	303.19	45.47	7.668		
10,500.00	10,432.89	10,315.23	10,234.68	27.00	24.53	-155.57	-140.75	552.03	397.95	351.90	46.05	8.642		
10,600.00	10,532.82	10,362.24	10,271.55	27.20	24.51	-153.03	-111.61	552.03	454.55	407.96	46.59	9.757		
10,700.00	10,632.78	10,400.00	10,299.35	27.39	24.48	-151.12	-86.07	552.03	517.42	470.37	47.05	10.996		
10,800.00	10,732.75	10,450.00	10,333.47	27.58	24.44	-148.71	-49.54	552.03	585.65	538.05	47.61	12.302		
10,900.00	10,832.75	10,471.22	10,346.97	27.75	24.42	-147.91	-33.16	552.03	657.85	609.93	47.93	13.727		
10,984.29	10,917.04	10,500.00	10,364.28	27.89	24.40	-28.30	-10.18	552.03	721.67	673.42	48.26	14.954		
11,000.00	10,932.75	10,500.00	10,364.28	27.92	24.40	-28.30	-10.18	552.03	733.77	685.49	48.29	15.196		
11,100.00	11,032.75	10,523.78	10,377.70	28.10	24.37	-27.19	9.46	552.03	812.88	764.22	48.66	16.705		
11,184.29	11,117.04	10,550.00	10,391.54	28.25	24.35	-26.03	31.72	552.03	881.82	832.82	49.01	17.994		
11,200.00	11,132.74	10,550.00	10,391.54	28.28	24.35	-25.07	31.72	552.03	894.68	845.58	49.09	18.223		
11,250.00	11,182.60	10,550.00	10,391.54	28.36	24.35	-22.38	31.72	552.03	934.70	885.51	49.19	19.001		
11,300.00	11,231.96	10,568.57	10,400.71	28.41	24.33	-19.76	47.87	552.03	972.78	923.69	49.09	19.818		
11,350.00	11,280.45	10,581.06	10,406.59	28.46	24.32	-17.82	58.88	552.03	1,008.92	960.27	48.65	20.737		
11,400.00	11,327.69	10,600.00	10,415.04	28.48	24.30	-16.18	75.83	552.03	1,042.97	995.01	47.96	21.746		
11,450.00	11,373.32	10,600.00	10,415.04	28.49	24.30	-15.07	75.83	552.03	1,074.74	1,027.77	46.97	22.880		
11,500.00	11,417.01	10,621.63	10,423.99	28.49	24.28	-13.95	95.52	552.03	1,104.02	1,058.21	45.81	24.098		
11,550.00	11,458.42	10,650.00	10,434.61	28.47	24.26	-12.99	121.83	552.03	1,131.16	1,086.68	44.47	25.436		
11,600.00	11,497.22	10,650.00	10,434.61	28.44	24.26	-12.39	121.83	552.03	1,155.21	1,112.28	42.93	26.909		
11,650.00	11,533.13	10,650.00	10,434.61	28.40	24.26	-11.87	121.83	552.03	1,177.20	1,135.91	41.29	28.513		
11,700.00	11,565.88	10,680.81	10,444.64	28.36	24.24	-11.33	150.95	552.03	1,195.84	1,156.21	39.64	30.171		
11,750.00	11,595.21	10,700.00	10,450.09	28.32	24.23	-10.94	169.35	552.03	1,212.05	1,174.08	37.97	31.923		
11,800.00	11,620.90	10,700.00	10,450.09	28.27	24.23	-10.68	169.35	552.03	1,225.58	1,189.24	36.34	33.725		
11,850.00	11,642.76	10,727.44	10,456.81	28.23	24.21	-10.43	195.96	552.03	1,235.92	1,201.02	34.89	35.419		
11,900.00	11,660.61	10,750.00	10,461.38	28.20	24.21	-10.26	218.05	552.03	1,243.60	1,209.95	33.65	36.958		
11,950.00	11,674.33	10,750.00	10,461.38	28.17	24.21	-10.18	218.05	552.03	1,248.36	1,215.70	32.65	38.231		
12,000.00	11,683.81	10,774.95	10,465.41	28.17	24.21	-10.14	242.66	552.03	1,250.04	1,218.00	32.04	39.010		
12,050.00	11,688.97	10,800.00	10,468.37	28.18	24.21	-10.16	267.54	552.03	1,249.01	1,217.18	31.82	39.247		
12,085.62	11,690.00	10,800.00	10,468.37	28.21	24.21	-10.21	267.54	552.03	1,246.31	1,214.42	31.88	39.088		
12,100.00	11,689.96	10,800.00	10,468.37	28.23	24.21	-10.21	267.54	552.03	1,245.06	1,213.16	31.91	39.023		
12,200.00	11,689.73	10,849.42	10,471.03	28.41	24.25	-10.23	316.87	552.03	1,239.29	1,207.13	32.16	38.533		
12,300.00	11,689.50	10,915.39	10,471.72	28.75	24.38	-10.24	382.84	552.04	1,237.55	1,205.06	32.50	38.084		
12,400.00	11,689.27	11,015.39	10,472.78	29.23	24.76	-10.25	482.83	552.04	1,236.29	1,203.33	32.96	37.509		
12,500.00	11,689.04	11,115.38	10,473.84	29.85	25.34	-10.26	582.82	552.04	1,235.02	1,201.53	33.49	36.874		
12,600.00	11,688.81	11,215.37	10,474.89	30.58	26.05	-10.27	682.80	552.04	1,233.75	1,199.66	34.09	36.188		
12,700.00	11,688.58	11,315.36	10,475.95	31.42	26.88	-10.28	782.79	552.04	1,232.48	1,197.73	34.75	35.462		
12,800.00	11,688.34	11,415.35	10,477.01	32.34	27.81	-10.29	882.77	552.04	1,231.22	1,195.74	35.48	34.706		
12,900.00	11,688.11	11,515.35	10,478.06	33.35	28.83	-10.30	982.76	552.04	1,229.95	1,193.70	36.25	33.927		
13,000.00	11,687.88	11,615.34	10,479.12	34.42	29.92	-10.31	1,082.75	552.04	1,228.68	1,191.60	37.08	33.135		
13,100.00	11,687.65	11,715.33	10,480.18	35.55	31.07	-10.33	1,182.73	552.04	1,227.42	1,189.46	37.96	32.336		
13,200.00	11,687.42	11,815.32	10,481.23	36.74	32.29	-10.34	1,282.72	552.04	1,226.15	1,187.27	38.88	31.537		
13,300.00	11,687.19	11,915.31	10,482.29	37.99	33.56	-10.35	1,382.71	552.04	1,224.88	1,185.04	39.84	30.742		
13,400.00	11,686.96	12,015.30	10,483.35	39.27	34.88	-10.36	1,482.69	552.05	1,223.62	1,182.77	40.85	29.955		
13,500.00	11,686.73	12,115.30	10,484.40	40.60	36.25	-10.37	1,582.68	552.05	1,222.35	1,180.46	41.89	29.181		
13,600.00	11,686.50	12,215.29	10,485.46	41.97	37.65	-10.38	1,682.66	552.05	1,221.08	1,178.12	42.96	28.423		
13,700.00	11,686.26	12,315.28	10,486.52	43.37	39.08	-10.39	1,782.65	552.05	1,219.82	1,175.75	44.07	27.681		
13,800.00	11,686.03	12,415.27	10,487.57	44.80	40.55	-10.40	1,882.64	552.05	1,218.55	1,173.35	45.20	26.959		
13,900.00	11,685.80	12,515.26	10,488.63	46.25	42.05	-10.41	1,982.62	552.05	1,217.28	1,170.92	46.36	26.257		
14,000.00	11,685.57	12,615.25	10,489.69	47.74	43.57	-10.42	2,082.61	552.05	1,216.02	1,168.47	47.55	25.575		

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 313H (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:	313H (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							
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
14,100.00	11,685.34	12,715.25	10,490.74	49.24	45.11	-10.43	2,182.59	552.05	1,214.75	1,165.99	48.76	24.915	
14,200.00	11,685.11	12,815.24	10,491.80	50.77	46.67	-10.45	2,282.58	552.05	1,213.48	1,163.50	49.99	24.276	
14,300.00	11,684.88	12,915.23	10,492.86	52.31	48.25	-10.46	2,382.57	552.05	1,212.22	1,160.98	51.24	23.659	
14,400.00	11,684.65	13,015.22	10,493.91	53.88	49.85	-10.47	2,482.55	552.05	1,210.95	1,158.44	52.51	23.063	
14,500.00	11,684.41	13,115.21	10,494.97	55.45	51.46	-10.48	2,582.54	552.05	1,209.68	1,155.89	53.79	22.488	
14,600.00	11,684.18	13,215.20	10,496.03	57.05	53.09	-10.49	2,682.53	552.06	1,208.42	1,153.32	55.10	21.933	
14,700.00	11,683.95	13,315.20	10,497.08	58.65	54.73	-10.50	2,782.51	552.06	1,207.15	1,150.74	56.41	21.398	
14,800.00	11,683.72	13,415.19	10,498.14	60.27	56.38	-10.51	2,882.50	552.06	1,205.88	1,148.14	57.75	20.883	
14,900.00	11,683.49	13,515.18	10,499.20	61.90	58.04	-10.52	2,982.48	552.06	1,204.62	1,145.53	59.09	20.386	
15,000.00	11,683.26	13,615.17	10,500.25	63.55	59.71	-10.53	3,082.47	552.06	1,203.35	1,142.90	60.45	19.907	
15,100.00	11,683.03	13,715.16	10,501.31	65.20	61.39	-10.55	3,182.46	552.06	1,202.09	1,140.27	61.82	19.445	
15,200.00	11,682.80	13,815.15	10,502.36	66.86	63.07	-10.56	3,282.44	552.06	1,200.82	1,137.62	63.20	19.001	
15,300.00	11,682.57	13,915.15	10,503.42	68.52	64.77	-10.57	3,382.43	552.06	1,199.55	1,134.97	64.59	18.572	
15,400.00	11,682.33	14,015.14	10,504.48	70.20	66.47	-10.58	3,482.41	552.06	1,198.29	1,132.30	65.99	18.159	
15,500.00	11,682.10	14,115.13	10,505.53	71.88	68.18	-10.59	3,582.40	552.06	1,197.02	1,129.62	67.40	17.760	
15,600.00	11,681.87	14,215.12	10,506.59	73.58	69.89	-10.60	3,682.39	552.06	1,195.76	1,126.94	68.82	17.376	
15,700.00	11,681.64	14,315.11	10,507.65	75.27	71.61	-10.61	3,782.37	552.07	1,194.49	1,124.25	70.24	17.005	
15,800.00	11,681.41	14,415.10	10,508.70	76.97	73.34	-10.63	3,882.36	552.07	1,193.23	1,121.55	71.68	16.647	
15,900.00	11,681.18	14,515.10	10,509.76	78.68	75.06	-10.64	3,982.34	552.07	1,191.96	1,118.84	73.12	16.302	
16,000.00	11,680.95	14,615.09	10,510.82	80.40	76.80	-10.65	4,082.33	552.07	1,190.69	1,116.13	74.57	15.968	
16,100.00	11,680.72	14,715.08	10,511.87	82.11	78.54	-10.66	4,182.32	552.07	1,189.43	1,113.41	76.02	15.646	
16,200.00	11,680.48	14,815.07	10,512.93	83.84	80.28	-10.67	4,282.30	552.07	1,188.16	1,110.68	77.48	15.335	
16,300.00	11,680.25	14,915.06	10,513.99	85.56	82.02	-10.68	4,382.29	552.07	1,186.90	1,107.95	78.95	15.034	
16,409.48	11,680.00	15,011.76	10,515.01	87.46	83.73	-10.69	4,478.98	552.07	1,185.58	1,105.15	80.43	14.741	
16,410.43	11,680.00	15,011.76	10,515.01	87.52	83.73	-10.69	4,478.98	552.07	1,185.58	1,105.15	80.43	14.740	



LEAM Drilling Systems LLC
Anticollision Report



Company:	DEVON ENERGY	Local Co-ordinate Reference:	Well 313H (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:	313H (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	124.97	-0.39	124.97					
100.00	100.00	100.00	100.00	0.08	0.08	-0.18	124.97	-0.39	124.97	124.81	0.16	794.289		
200.00	200.00	200.00	200.00	0.30	0.30	-0.18	124.97	-0.39	124.97	124.36	0.61	205.927		
300.00	300.00	300.00	300.00	0.53	0.53	-0.18	124.97	-0.39	124.97	123.91	1.06	118.299		
400.00	400.00	400.00	400.00	0.75	0.75	-0.18	124.97	-0.39	124.97	123.46	1.51	82.986		
500.00	500.00	500.00	500.00	0.98	0.98	-0.18	124.97	-0.39	124.97	123.02	1.96	63.908		
600.00	600.00	600.00	600.00	1.20	1.20	-0.18	124.97	-0.39	124.97	122.57	2.40	51.963		
700.00	700.00	700.00	700.00	1.43	1.43	-0.18	124.97	-0.39	124.97	122.12	2.85	43.780		
800.00	800.00	800.00	800.00	1.65	1.65	-0.18	124.97	-0.39	124.97	121.67	3.30	37.823		
900.00	900.00	900.00	900.00	1.88	1.88	-0.18	124.97	-0.39	124.97	121.22	3.75	33.294		
1,000.00	1,000.00	1,000.00	1,000.00	2.10	2.10	-0.18	124.97	-0.39	124.97	120.77	4.20	29.733		
1,100.00	1,100.00	1,100.00	1,100.00	2.33	2.33	-0.18	124.97	-0.39	124.97	120.32	4.65	26.860		
1,200.00	1,200.00	1,200.00	1,200.00	2.55	2.55	-0.18	124.97	-0.39	124.97	119.87	5.10	24.494		
1,300.00	1,300.00	1,300.00	1,300.00	2.78	2.78	-0.18	124.97	-0.39	124.97	119.42	5.55	22.510		
1,400.00	1,400.00	1,400.00	1,400.00	3.00	3.00	-0.18	124.97	-0.39	124.97	118.97	6.00	20.824		
1,500.00	1,500.00	1,500.00	1,500.00	3.23	3.23	-0.18	124.97	-0.39	124.97	118.52	6.45	19.373		
1,600.00	1,600.00	1,600.00	1,600.00	3.45	3.45	-0.18	124.97	-0.39	124.97	118.07	6.90	18.111		
1,700.00	1,700.00	1,700.00	1,700.00	3.67	3.67	-0.18	124.97	-0.39	124.97	117.62	7.35	17.003		
1,800.00	1,800.00	1,800.00	1,800.00	3.90	3.90	-0.18	124.97	-0.39	124.97	117.17	7.80	16.023		
1,900.00	1,900.00	1,900.00	1,900.00	4.12	4.12	-0.18	124.97	-0.39	124.97	116.72	8.25	15.150		
2,000.00	2,000.00	2,000.00	2,000.00	4.35	4.35	-0.18	124.97	-0.39	124.97	116.27	8.70	14.367		
2,100.00	2,100.00	2,100.00	2,100.00	4.57	4.57	-0.18	124.97	-0.39	124.97	115.82	9.15	13.661		
2,200.00	2,200.00	2,200.00	2,200.00	4.80	4.80	-0.18	124.97	-0.39	124.97	115.37	9.60	13.021		
2,300.00	2,300.00	2,300.00	2,300.00	5.02	5.02	-0.18	124.97	-0.39	124.97	114.92	10.05	12.439		
2,400.00	2,400.00	2,400.00	2,400.00	5.25	5.25	-0.18	124.97	-0.39	124.97	114.47	10.50	11.906		
2,500.00	2,500.00	2,500.00	2,500.00	5.47	5.47	-0.18	124.97	-0.39	124.97	114.02	10.95	11.417		
2,600.00	2,600.00	2,600.00	2,600.00	5.70	5.70	-0.18	124.97	-0.39	124.97	113.57	11.40	10.967		
2,700.00	2,700.00	2,700.00	2,700.00	5.92	5.92	-0.18	124.97	-0.39	124.97	113.13	11.85	10.550		
2,800.00	2,800.00	2,800.00	2,800.00	6.15	6.15	-0.18	124.97	-0.39	124.97	112.68	12.29	10.165		
2,900.00	2,900.00	2,900.00	2,900.00	6.37	6.37	-0.18	124.97	-0.39	124.97	112.23	12.74	9.806		
3,000.00	3,000.00	3,000.00	3,000.00	6.60	6.60	-0.18	124.97	-0.39	124.97	111.78	13.19	9.472		
3,100.00	3,100.00	3,100.00	3,100.00	6.82	6.82	-0.18	124.97	-0.39	124.97	111.33	13.64	9.180		
3,200.00	3,200.00	3,200.00	3,200.00	7.05	7.05	-0.18	124.97	-0.39	124.97	110.88	14.09	8.868		
3,300.00	3,300.00	3,300.00	3,300.00	7.27	7.27	-0.18	124.97	-0.39	124.97	110.43	14.54	8.594		
3,400.00	3,400.00	3,400.00	3,400.00	7.50	7.50	-0.18	124.97	-0.39	124.97	109.98	14.99	8.336		
3,500.00	3,500.00	3,500.00	3,500.00	7.72	7.72	-0.18	124.97	-0.39	124.97	109.53	15.44	8.093		
3,600.00	3,600.00	3,600.00	3,600.00	7.95	7.95	-0.18	124.97	-0.39	124.97	109.08	15.89	7.864		
3,700.00	3,700.00	3,700.00	3,700.00	8.17	8.17	-0.18	124.97	-0.39	124.97	108.63	16.34	7.648		
3,800.00	3,800.00	3,800.00	3,800.00	8.40	8.40	-0.18	124.97	-0.39	124.97	108.18	16.79	7.443		
3,900.00	3,900.00	3,900.00	3,900.00	8.62	8.62	-0.18	124.97	-0.39	124.97	107.73	17.24	7.249		
4,000.00	4,000.00	4,000.00	4,000.00	8.84	8.84	-0.18	124.97	-0.39	124.97	107.28	17.69	7.065		
4,100.00	4,100.00	4,100.00	4,100.00	9.07	9.07	-0.18	124.97	-0.39	124.97	106.83	18.14	6.890		
4,200.00	4,200.00	4,200.00	4,200.00	9.29	9.29	-0.18	124.97	-0.39	124.97	106.38	18.59	6.723		
4,300.00	4,300.00	4,300.00	4,300.00	9.52	9.52	-0.18	124.97	-0.39	124.97	105.93	19.04	6.564		
4,400.00	4,400.00	4,402.13	4,402.12	9.72	9.72	-119.13	124.10	-0.64	124.54	105.10	19.44	6.406		
4,500.00	4,499.96	4,504.18	4,504.13	9.91	9.89	-120.59	121.47	-1.39	123.29	103.49	19.79	6.228		
4,600.00	4,599.86	4,606.08	4,605.93	10.09	10.07	-123.08	117.11	-2.65	121.39	101.24	20.15	6.024		
4,700.00	4,699.68	4,707.75	4,707.41	10.28	10.24	-126.67	111.03	-4.39	119.11	98.60	20.51	5.808		
4,800.00	4,799.37	4,808.97	4,808.30	10.48	10.42	-131.44	103.26	-6.63	116.89	96.03	20.86	5.603		
4,881.80	4,880.80	4,890.24	4,889.26	10.64	10.57	-135.97	96.45	-8.58	116.10	94.95	21.15	5.490 CC		
4,900.00	4,898.90	4,908.31	4,907.26	10.68	10.60	-137.03	94.94	-9.02	116.14	94.93	21.21	5.476 ES		
5,000.00	4,998.26	5,007.50	5,006.08	10.88	10.78	-143.13	86.63	-11.40	117.91	96.36	21.55	5.471 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 313H (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:	313H (SIMOPS)	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.1 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design Cotton Draw Unit - 286H (SIMOPS) - OH - Plan #1												Offset Site Error:	0.00 usft
Survey Program: 0-LEAM MWD-ADJ												Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis		Distance							
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
5,100.00	5,097.40	5,106.51	5,104.71	11.09	10.97	-149.38	78.33	-13.79	122.50	100.61	21.88	5.598	
5,200.00	5,196.30	5,205.31	5,203.14	11.32	11.16	-155.42	70.06	-16.17	130.03	107.82	22.21	5.855	
5,264.72	5,260.16	5,269.13	5,266.71	11.47	11.28	-159.08	64.71	-17.70	136.49	114.07	22.42	6.089	
5,300.00	5,294.95	5,303.89	5,301.34	11.55	11.35	-160.97	61.80	-18.54	140.42	117.87	22.55	6.228	
5,400.00	5,393.54	5,402.42	5,399.49	11.79	11.55	-165.79	53.54	-20.91	152.31	129.39	22.92	6.644	
5,500.00	5,492.12	5,500.94	5,497.64	12.04	11.75	-169.90	45.29	-23.28	165.12	141.81	23.31	7.083	
5,600.00	5,590.71	5,599.47	5,595.79	12.30	11.95	-173.40	37.03	-25.65	178.65	154.94	23.71	7.536	
5,700.00	5,689.29	5,697.99	5,693.94	12.56	12.16	-176.41	28.78	-28.02	192.75	168.64	24.11	7.995	
5,800.00	5,787.88	5,796.52	5,792.09	12.83	12.36	-179.01	20.52	-30.39	207.30	182.78	24.52	8.455	
5,900.00	5,886.46	5,895.04	5,890.24	13.10	12.57	-178.74	12.27	-32.77	222.22	197.29	24.94	8.911	
6,000.00	5,985.05	5,993.57	5,988.39	13.38	12.79	-176.77	4.01	-35.14	237.44	212.08	25.36	9.363	
6,100.00	6,083.64	6,092.09	6,088.54	13.67	13.00	-175.04	-4.24	-37.51	252.89	227.10	25.79	9.806	
6,200.00	6,182.22	6,190.62	6,184.69	13.95	13.22	-173.51	-12.50	-39.88	268.55	242.33	26.22	10.241	
6,300.00	6,280.81	6,289.14	6,282.84	14.25	13.44	-172.14	-20.75	-42.25	284.38	257.71	26.66	10.666	
6,400.00	6,379.39	6,387.67	6,380.99	14.55	13.66	-170.92	-29.01	-44.62	300.34	273.23	27.11	11.080	
6,500.00	6,477.98	6,486.20	6,479.14	14.85	13.88	-169.83	-37.26	-46.99	316.43	288.87	27.56	11.483	
6,600.00	6,576.57	6,584.72	6,577.29	15.15	14.11	-168.84	-45.52	-49.37	332.61	304.61	28.01	11.876	
6,700.00	6,675.15	6,683.25	6,675.44	15.46	14.33	-167.94	-53.77	-51.74	348.89	320.43	28.47	12.257	
6,800.00	6,773.74	6,781.77	6,773.59	15.78	14.56	-167.12	-62.03	-54.11	365.24	336.32	28.93	12.627	
6,900.00	6,872.32	6,880.30	6,871.74	16.09	14.79	-166.37	-70.28	-56.48	381.66	352.27	29.39	12.986	
7,000.00	6,970.91	6,978.82	6,969.89	16.41	15.02	-165.68	-78.53	-58.85	398.14	368.28	29.86	13.334	
7,100.00	7,069.49	7,077.35	7,068.04	16.73	15.25	-165.05	-86.79	-61.22	414.67	384.34	30.33	13.672	
7,200.00	7,168.08	7,175.87	7,166.19	17.05	15.49	-164.47	-95.04	-63.59	431.24	400.44	30.80	14.000	
7,300.00	7,266.67	7,274.40	7,264.34	17.38	15.72	-163.93	-103.30	-65.97	447.85	416.57	31.28	14.317	
7,400.00	7,365.25	7,372.92	7,362.49	17.71	15.96	-163.43	-111.55	-68.34	464.50	432.74	31.76	14.625	
7,500.00	7,463.84	7,471.45	7,460.65	18.04	16.20	-162.96	-119.81	-70.71	481.18	448.94	32.24	14.924	
7,600.00	7,562.42	7,569.97	7,558.80	18.37	16.44	-162.52	-128.06	-73.08	497.90	465.17	32.73	15.213	
7,700.00	7,661.01	7,668.50	7,656.95	18.71	16.67	-162.12	-136.32	-75.45	514.63	481.42	33.22	15.493	
7,800.00	7,759.60	7,767.03	7,755.10	19.04	16.92	-161.73	-144.57	-77.82	531.39	497.69	33.71	15.765	
7,900.00	7,858.18	7,865.55	7,853.25	19.38	17.16	-161.38	-152.83	-80.19	548.18	513.98	34.20	16.029	
8,000.00	7,956.77	7,964.08	7,951.40	19.72	17.40	-161.04	-161.08	-82.57	564.98	530.29	34.69	16.285	
8,100.00	8,055.35	8,062.60	8,049.55	20.06	17.64	-160.72	-169.34	-84.94	581.80	546.61	35.19	16.533	
8,200.00	8,153.94	8,161.13	8,147.70	20.40	17.89	-160.42	-177.59	-87.31	598.64	562.95	35.69	16.773	
8,300.00	8,252.52	8,259.65	8,245.85	20.75	18.13	-160.14	-185.85	-89.68	615.49	579.30	36.19	17.007	
8,400.00	8,351.11	8,358.18	8,344.00	21.09	18.38	-159.87	-194.10	-92.05	632.35	595.66	36.69	17.234	
8,500.00	8,449.70	8,456.70	8,442.15	21.44	18.63	-159.62	-202.36	-94.42	649.23	612.03	37.20	17.454	
8,600.00	8,548.28	8,555.55	8,540.62	21.79	18.87	-159.38	-210.57	-96.78	666.11	628.41	37.70	17.669	
8,700.00	8,646.87	8,654.92	8,639.68	22.14	19.10	-159.21	-218.16	-98.96	682.90	644.71	38.19	17.881	
8,800.00	8,745.45	8,754.36	8,738.87	22.49	19.33	-159.12	-224.92	-100.90	699.58	660.90	38.68	18.088	
8,900.00	8,844.04	8,853.85	8,838.17	22.84	19.56	-159.11	-230.86	-102.61	716.14	676.98	39.15	18.290	
9,000.00	8,942.63	8,953.38	8,937.56	23.19	19.78	-159.17	-235.97	-104.08	732.57	692.94	39.63	18.486	
9,054.86	8,996.71	9,007.99	8,992.11	23.39	19.90	-159.22	-238.42	-104.78	741.54	701.65	39.89	18.592	
9,100.00	9,041.23	9,052.94	9,037.02	23.53	19.99	-159.29	-240.25	-105.31	748.80	708.70	40.10	18.673	
9,200.00	9,139.95	9,152.63	9,136.64	23.82	20.21	-159.48	-243.70	-106.30	764.24	723.67	40.56	18.841	
9,300.00	9,238.80	9,252.44	9,236.42	24.10	20.42	-159.69	-246.33	-107.05	778.75	737.74	41.02	18.986	
9,400.00	9,337.79	9,352.37	9,336.32	24.38	20.62	-159.94	-248.12	-107.57	792.35	750.89	41.46	19.111	
9,500.00	9,436.89	9,452.38	9,436.33	24.65	20.83	-160.22	-249.07	-107.84	805.04	763.14	41.90	19.214	
9,600.00	9,536.11	9,552.16	9,536.11	24.92	21.03	-160.53	-249.24	-107.89	816.83	774.51	42.33	19.299	
9,700.00	9,635.43	9,651.48	9,635.43	25.17	21.22	-160.81	-249.24	-107.89	827.80	785.05	42.75	19.364	
9,800.00	9,734.85	9,750.90	9,734.85	25.43	21.42	-161.07	-249.24	-107.89	837.97	794.80	43.17	19.410	
9,900.00	9,834.36	9,850.41	9,834.36	25.67	21.62	-161.30	-249.24	-107.89	847.33	803.74	43.59	19.438	
10,000.00	9,933.96	9,940.47	9,924.39	25.91	21.80	-161.57	-248.09	-107.89	856.13	812.15	43.98	19.466	

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 313H (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:	313H (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		
10,100.00	10,033.62	10,017.46	10,000.67	26.14	21.91	162.37	-238.06	-107.89	866.29	822.01	44.28	19.565		
10,200.00	10,133.36	10,089.93	10,070.64	26.37	21.97	163.70	-219.37	-107.89	878.63	834.12	44.50	19.743		
10,300.00	10,233.15	10,150.00	10,126.47	26.59	22.00	165.19	-197.28	-107.89	893.94	849.25	44.69	20.004		
10,400.00	10,333.00	10,215.89	10,184.68	26.80	22.00	167.19	-166.48	-107.89	912.92	868.08	44.84	20.361		
10,500.00	10,432.89	10,268.64	10,228.49	27.00	22.00	169.04	-137.13	-107.89	936.37	891.39	44.98	20.816		
10,600.00	10,532.82	10,315.01	10,264.63	27.20	22.00	170.81	-108.10	-107.89	964.76	919.63	45.13	21.375		
10,700.00	10,632.78	10,350.00	10,290.28	27.39	21.99	172.23	-84.31	-107.89	998.37	953.08	45.30	22.040		
10,800.00	10,732.75	10,400.00	10,324.32	27.58	21.99	174.34	-47.70	-107.89	1,037.23	991.78	45.45	22.821		
10,900.00	10,832.75	10,422.53	10,338.58	27.75	21.99	175.33	-30.27	-107.89	1,081.06	1,035.43	45.63	23.691		
10,984.29	10,917.04	10,450.00	10,355.03	27.89	21.99	-64.99	-8.27	-107.89	1,121.84	1,076.06	45.78	24.507		
11,000.00	10,932.75	10,450.00	10,355.03	27.92	21.99	-64.99	-8.27	-107.89	1,129.79	1,083.98	45.81	24.664		
11,100.00	11,032.75	10,474.44	10,368.76	28.10	22.00	-63.92	11.95	-107.89	1,183.44	1,137.43	46.01	25.721		
11,184.29	11,117.04	10,500.00	10,382.18	28.25	22.00	-62.79	33.70	-107.89	1,232.43	1,186.24	46.18	26.685		
11,200.00	11,132.74	10,500.00	10,382.18	28.28	22.00	-61.76	33.70	-107.89	1,241.78	1,195.58	46.20	26.879		
11,250.00	11,182.60	10,500.00	10,382.18	28.36	22.00	-58.59	33.70	-107.89	1,271.28	1,225.06	46.21	27.509		
11,300.00	11,231.96	10,518.74	10,391.40	28.41	22.01	-54.99	50.01	-107.89	1,299.86	1,253.70	46.16	28.159		
11,350.00	11,280.45	10,531.12	10,397.20	28.46	22.02	-51.95	60.95	-107.89	1,327.45	1,281.45	46.00	28.857		
11,400.00	11,327.89	10,550.00	10,405.58	28.48	22.04	-49.05	77.87	-107.89	1,353.82	1,308.11	45.71	29.618		
11,450.00	11,373.32	10,550.00	10,405.58	28.49	22.04	-46.92	77.87	-107.89	1,378.72	1,333.44	45.28	30.451		
11,500.00	11,417.01	10,571.37	10,414.39	28.49	22.06	-44.60	97.34	-107.89	1,401.93	1,357.23	44.70	31.363		
11,550.00	11,458.42	10,600.00	10,425.04	28.47	22.09	-42.48	123.91	-107.89	1,423.66	1,379.67	43.99	32.365		
11,600.00	11,497.22	10,600.00	10,425.04	28.44	22.09	-41.08	123.91	-107.89	1,443.06	1,399.88	43.18	33.422		
11,650.00	11,533.13	10,600.00	10,425.04	28.40	22.09	-39.84	123.91	-107.89	1,460.90	1,418.62	42.29	34.546		
11,700.00	11,565.88	10,630.17	10,434.81	28.36	22.15	-38.50	152.45	-107.89	1,476.17	1,434.82	41.34	35.705		
11,750.00	11,595.21	10,650.00	10,440.41	28.32	22.19	-37.49	171.47	-107.89	1,489.49	1,449.08	40.40	36.865		
11,800.00	11,620.90	10,650.00	10,440.41	28.27	22.19	-36.80	171.47	-107.89	1,500.62	1,461.11	39.51	37.981		
11,850.00	11,642.76	10,676.53	10,446.86	28.23	22.25	-36.14	197.20	-107.89	1,509.20	1,470.49	38.71	38.988		
11,900.00	11,660.61	10,700.00	10,451.58	28.20	22.31	-35.69	220.19	-107.89	1,515.59	1,477.54	38.06	39.823		
11,950.00	11,674.33	10,700.00	10,451.58	28.17	22.31	-35.46	220.19	-107.89	1,519.52	1,481.97	37.56	40.461		
12,000.00	11,683.81	10,723.77	10,455.39	28.17	22.38	-35.35	243.65	-107.89	1,520.95	1,483.66	37.30	40.777		
12,050.00	11,688.97	10,750.00	10,458.46	28.18	22.46	-35.42	269.70	-107.89	1,520.13	1,482.85	37.29	40.770		
12,085.62	11,690.00	10,750.00	10,458.46	28.21	22.46	-35.55	269.70	-107.89	1,517.87	1,480.50	37.37	40.614		
12,100.00	11,689.96	10,750.00	10,458.46	28.23	22.46	-35.55	269.70	-107.89	1,516.83	1,479.44	37.39	40.566		
12,200.00	11,689.73	10,800.00	10,460.99	28.41	22.65	-35.61	319.62	-107.89	1,512.12	1,474.40	37.72	40.091		
12,263.73	11,689.58	10,810.23	10,460.99	28.61	22.69	-35.61	329.84	-107.89	1,511.19	1,473.28	37.90	39.868		
12,300.00	11,689.50	10,846.50	10,460.88	28.75	22.86	-35.61	366.12	-107.89	1,511.21	1,473.10	38.11	39.653		
12,400.00	11,689.27	10,946.50	10,460.56	29.23	23.39	-35.61	466.12	-107.89	1,511.28	1,472.50	38.78	38.968		
12,500.00	11,689.04	11,046.50	10,460.25	29.85	24.04	-35.61	566.12	-107.90	1,511.35	1,471.76	39.59	38.172		
12,600.00	11,688.81	11,146.50	10,459.94	30.58	24.81	-35.60	666.11	-107.90	1,511.42	1,470.88	40.53	37.288		
12,700.00	11,688.58	11,246.50	10,459.62	31.42	25.69	-35.60	766.11	-107.90	1,511.48	1,469.89	41.60	36.337		
12,800.00	11,688.34	11,346.50	10,459.31	32.34	26.66	-35.60	866.11	-107.90	1,511.55	1,468.78	42.77	35.339		
12,900.00	11,688.11	11,446.50	10,459.00	33.35	27.71	-35.60	966.11	-107.90	1,511.62	1,467.57	44.05	34.315		
13,000.00	11,687.88	11,546.50	10,458.68	34.42	28.85	-35.60	1,066.11	-107.90	1,511.69	1,466.26	45.43	33.278		
13,100.00	11,687.65	11,646.50	10,458.37	35.55	30.05	-35.60	1,166.11	-107.90	1,511.76	1,464.87	46.89	32.244		
13,200.00	11,687.42	11,746.50	10,458.06	36.74	31.31	-35.59	1,266.11	-107.90	1,511.82	1,463.40	48.42	31.220		
13,300.00	11,687.19	11,846.50	10,457.74	37.99	32.63	-35.59	1,366.11	-107.90	1,511.89	1,461.86	50.03	30.217		
13,400.00	11,686.96	11,946.50	10,457.43	39.27	33.99	-35.59	1,466.11	-107.90	1,511.96	1,460.25	51.71	29.240		
13,500.00	11,686.73	12,046.50	10,457.12	40.60	35.40	-35.59	1,566.11	-107.90	1,512.03	1,458.59	53.44	28.293		
13,600.00	11,686.50	12,146.50	10,456.80	41.97	36.84	-35.59	1,666.11	-107.90	1,512.10	1,456.87	55.23	27.380		
13,700.00	11,686.26	12,246.50	10,456.49	43.37	38.32	-35.58	1,766.11	-107.90	1,512.17	1,455.10	57.06	26.501		
13,800.00	11,686.03	12,346.50	10,456.18	44.80	39.82	-35.58	1,866.11	-107.90	1,512.23	1,453.30	58.94	25.658		
13,900.00	11,685.80	12,446.50	10,455.86	46.25	41.35	-35.58	1,966.11	-107.90	1,512.30	1,451.45	60.85	24.851		

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



LEAM Drilling Systems LLC

Anticollision Report



Company: DEVON ENERGY
Project: Lea County, NM (NAD-83)
Reference Site: Cotton Draw Unit
Site Error: 0.00 usft
Reference Well: 313H (SIMOPS)
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Plan #1

Local Co-ordinate Reference: Well 313H (SIMOPS)
TVD Reference: 3431.4' GE + 30' KB @ 3461.40usft
MD Reference: 3431.4' GE + 30' KB @ 3461.40usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at 2.00 sigma
Database: EDM 5000.1 Single User Db
Offset TVD Reference: Offset Datum

Offset Design Cotton Draw Unit - 286H (SIMOPS) - OH - Plan #1													Offset Site Error: 0.00 usft
Survey Program: 0-LEAM MWD-ADJ													Offset Well Error: 0.00 usft
Reference		Offset		Semi Major Axis		Distance							
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
14,000.00	11,685.57	12,546.50	10,455.55	47.74	42.90	-35.58	2,066.11	-107.90	1,512.37	1,449.56	62.81	24.080	
14,100.00	11,685.34	12,646.50	10,455.24	49.24	44.48	-35.58	2,166.11	-107.91	1,512.44	1,447.65	64.79	23.343	
14,200.00	11,685.11	12,746.50	10,454.92	50.77	46.07	-35.58	2,266.11	-107.91	1,512.51	1,445.70	66.81	22.640	
14,300.00	11,684.88	12,846.50	10,454.61	52.31	47.68	-35.57	2,366.11	-107.91	1,512.57	1,443.73	68.85	21.970	
14,400.00	11,684.65	12,946.50	10,454.29	53.88	49.31	-35.57	2,466.11	-107.91	1,512.64	1,441.73	70.91	21.331	
14,500.00	11,684.41	13,046.50	10,453.98	55.45	50.94	-35.57	2,566.10	-107.91	1,512.71	1,439.71	73.00	20.721	
14,600.00	11,684.18	13,146.50	10,453.67	57.05	52.60	-35.57	2,666.10	-107.91	1,512.78	1,437.67	75.11	20.140	
14,700.00	11,683.95	13,246.50	10,453.35	58.65	54.26	-35.57	2,766.10	-107.91	1,512.85	1,435.61	77.24	19.586	
14,800.00	11,683.72	13,346.50	10,453.04	60.27	55.93	-35.57	2,866.10	-107.91	1,512.91	1,433.53	79.39	19.057	
14,900.00	11,683.49	13,446.50	10,452.73	61.90	57.61	-35.56	2,966.10	-107.91	1,512.98	1,431.43	81.55	18.553	
15,000.00	11,683.26	13,546.50	10,452.41	63.55	59.30	-35.56	3,066.10	-107.91	1,513.05	1,429.32	83.73	18.071	
15,100.00	11,683.03	13,646.50	10,452.10	65.20	61.00	-35.56	3,166.10	-107.91	1,513.12	1,427.20	85.92	17.611	
15,200.00	11,682.80	13,746.50	10,451.79	66.86	62.71	-35.56	3,266.10	-107.91	1,513.19	1,425.07	88.12	17.172	
15,300.00	11,682.57	13,846.50	10,451.47	68.52	64.42	-35.56	3,366.10	-107.91	1,513.26	1,422.92	90.33	16.752	
15,400.00	11,682.33	13,946.50	10,451.16	70.20	66.14	-35.55	3,466.10	-107.91	1,513.32	1,420.76	92.56	16.350	
15,500.00	11,682.10	14,046.50	10,450.85	71.88	67.86	-35.55	3,566.10	-107.91	1,513.39	1,418.60	94.80	15.965	
15,600.00	11,681.87	14,146.50	10,450.53	73.58	69.59	-35.55	3,666.10	-107.91	1,513.46	1,416.42	97.04	15.596	
15,700.00	11,681.64	14,246.50	10,450.22	75.27	71.33	-35.55	3,766.10	-107.92	1,513.53	1,414.23	99.30	15.243	
15,800.00	11,681.41	14,346.50	10,449.91	76.97	73.07	-35.55	3,866.10	-107.92	1,513.60	1,412.04	101.56	14.904	
15,900.00	11,681.18	14,446.50	10,449.59	78.68	74.81	-35.55	3,966.10	-107.92	1,513.66	1,409.84	103.83	14.579	
16,000.00	11,680.95	14,546.50	10,449.28	80.40	76.56	-35.54	4,066.10	-107.92	1,513.73	1,407.63	106.10	14.266	
16,100.00	11,680.72	14,646.50	10,448.97	82.11	78.31	-35.54	4,166.10	-107.92	1,513.80	1,405.41	108.39	13.967	
16,200.00	11,680.48	14,746.50	10,448.65	83.84	80.06	-35.54	4,266.10	-107.92	1,513.87	1,403.19	110.68	13.678	
16,300.00	11,680.25	14,846.50	10,448.34	85.56	81.82	-35.54	4,366.10	-107.92	1,513.94	1,400.96	112.97	13.401	
16,409.48	11,680.00	14,954.50	10,448.00	87.46	83.72	-35.54	4,474.10	-107.92	1,514.01	1,398.54	115.48	13.111	
16,410.43	11,680.00	14,954.50	10,448.00	87.52	83.72	-35.54	4,474.10	-107.92	1,514.01	1,398.53	115.48	13.110	

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



LEAM Drilling Systems LLC
Anticollision Report



Company:	DEVON ENERGY	Local Co-ordinate Reference:	Well 313H (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:	313H (SIMOPS)	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.1 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design Cotton Draw Unit - 312H (SIMOPS) - OH - Plan #1													Offset Site Error: 0.00 usft
Survey Program: 0-LEAM MWD-ADJ													Offset Well Error: 0.00 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Distance		Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)					
0.00	0.00	0.00	0.00	0.00	0.00	179.84	-24.99	0.07	24.99				
100.00	100.00	100.00	100.00	0.08	0.08	179.84	-24.99	0.07	24.99	24.83	0.16	158.832	
200.00	200.00	200.00	200.00	0.30	0.30	179.84	-24.99	0.07	24.99	24.38	0.61	41.179	
300.00	300.00	300.00	300.00	0.53	0.53	179.84	-24.99	0.07	24.99	23.93	1.06	23.656	
400.00	400.00	400.00	400.00	0.75	0.75	179.84	-24.99	0.07	24.99	23.48	1.51	16.594	
500.00	500.00	500.00	500.00	0.98	0.98	179.84	-24.99	0.07	24.99	23.03	1.96	12.780	
600.00	600.00	600.00	600.00	1.20	1.20	179.84	-24.99	0.07	24.99	22.59	2.40	10.391	
700.00	700.00	700.00	700.00	1.43	1.43	179.84	-24.99	0.07	24.99	22.14	2.85	8.755	
800.00	800.00	800.00	800.00	1.65	1.65	179.84	-24.99	0.07	24.99	21.69	3.30	7.563	
900.00	900.00	900.00	900.00	1.88	1.88	179.84	-24.99	0.07	24.99	21.24	3.75	6.658	
1,000.00	1,000.00	1,000.00	1,000.00	2.10	2.10	179.84	-24.99	0.07	24.99	20.79	4.20	5.946	
1,100.00	1,100.00	1,100.00	1,100.00	2.33	2.33	179.84	-24.99	0.07	24.99	20.34	4.65	5.371	
1,200.00	1,200.00	1,200.00	1,200.00	2.55	2.55	179.84	-24.99	0.07	24.99	19.89	5.10	4.898	
1,300.00	1,300.00	1,300.00	1,300.00	2.78	2.78	179.84	-24.99	0.07	24.99	19.44	5.55	4.501	
1,400.00	1,400.00	1,400.00	1,400.00	3.00	3.00	179.84	-24.99	0.07	24.99	18.99	6.00	4.164	
1,500.00	1,500.00	1,500.00	1,500.00	3.23	3.23	179.84	-24.99	0.07	24.99	18.54	6.45	3.874	
1,600.00	1,600.00	1,600.00	1,600.00	3.45	3.45	179.84	-24.99	0.07	24.99	18.09	6.90	3.622	
1,700.00	1,700.00	1,700.00	1,700.00	3.67	3.67	179.84	-24.99	0.07	24.99	17.64	7.35	3.400	
1,800.00	1,800.00	1,800.00	1,800.00	3.90	3.90	179.84	-24.99	0.07	24.99	17.19	7.80	3.204	
1,900.00	1,900.00	1,900.00	1,900.00	4.12	4.12	179.84	-24.99	0.07	24.99	16.74	8.25	3.030	
2,000.00	2,000.00	2,000.00	2,000.00	4.35	4.35	179.84	-24.99	0.07	24.99	16.29	8.70	2.873	
2,100.00	2,100.00	2,100.00	2,100.00	4.57	4.57	179.84	-24.99	0.07	24.99	15.84	9.15	2.732	
2,200.00	2,200.00	2,200.00	2,200.00	4.80	4.80	179.84	-24.99	0.07	24.99	15.39	9.60	2.604	
2,300.00	2,300.00	2,300.00	2,300.00	5.02	5.02	179.84	-24.99	0.07	24.99	14.94	10.05	2.487	
2,400.00	2,400.00	2,400.00	2,400.00	5.25	5.25	179.84	-24.99	0.07	24.99	14.49	10.50	2.381	
2,500.00	2,500.00	2,500.00	2,500.00	5.47	5.47	179.84	-24.99	0.07	24.99	14.04	10.95	2.283	
2,600.00	2,600.00	2,600.00	2,600.00	5.70	5.70	179.84	-24.99	0.07	24.99	13.59	11.40	2.193	
2,700.00	2,700.00	2,700.00	2,700.00	5.92	5.92	179.84	-24.99	0.07	24.99	13.14	11.85	2.110	
2,800.00	2,800.00	2,800.00	2,800.00	6.15	6.15	179.84	-24.99	0.07	24.99	12.70	12.29	2.033	
2,900.00	2,900.00	2,900.00	2,900.00	6.37	6.37	179.84	-24.99	0.07	24.99	12.25	12.74	1.961	
3,000.00	3,000.00	3,000.00	3,000.00	6.60	6.60	179.84	-24.99	0.07	24.99	11.80	13.19	1.894	
3,100.00	3,100.00	3,100.00	3,100.00	6.82	6.82	179.84	-24.99	0.07	24.99	11.35	13.64	1.832	
3,200.00	3,200.00	3,200.00	3,200.00	7.05	7.05	179.84	-24.99	0.07	24.99	10.90	14.09	1.773	
3,300.00	3,300.00	3,300.00	3,300.00	7.27	7.27	179.84	-24.99	0.07	24.99	10.45	14.54	1.718	
3,400.00	3,400.00	3,400.00	3,400.00	7.50	7.50	179.84	-24.99	0.07	24.99	10.00	14.99	1.667	
3,500.00	3,500.00	3,500.00	3,500.00	7.72	7.72	179.84	-24.99	0.07	24.99	9.55	15.44	1.618	
3,600.00	3,600.00	3,600.00	3,600.00	7.95	7.95	179.84	-24.99	0.07	24.99	9.10	15.89	1.573	
3,700.00	3,700.00	3,700.00	3,700.00	8.17	8.17	179.84	-24.99	0.07	24.99	8.65	16.34	1.529	
3,800.00	3,800.00	3,800.00	3,800.00	8.40	8.40	179.84	-24.99	0.07	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	179.84	-24.99	0.07	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	179.84	-24.99	0.07	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	179.84	-24.99	0.07	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	179.84	-24.99	0.07	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	179.84	-24.99	0.07	24.99	5.95	19.04	1.313 Level 3, CC, ES	
4,400.00	4,400.00	4,399.57	4,399.56	9.72	9.71	63.60	-25.82	-0.16	25.43	5.99	19.44	1.308 Level 3, SF	
4,500.00	4,499.96	4,499.07	4,499.03	9.91	9.88	69.80	-28.33	-0.84	26.96	7.18	19.79	1.363 Level 3	
4,600.00	4,599.86	4,598.43	4,598.30	10.09	10.05	78.53	-32.49	-1.97	30.12	9.98	20.14	1.495 Level 3	
4,700.00	4,699.68	4,697.58	4,697.26	10.28	10.22	87.81	-38.30	-3.54	35.46	14.95	20.51	1.729	
4,800.00	4,799.37	4,796.46	4,795.84	10.48	10.40	96.08	-45.73	-5.56	43.28	22.40	20.87	2.073	
4,900.00	4,898.90	4,895.49	4,894.45	10.68	10.58	102.90	-54.53	-7.95	53.37	32.13	21.24	2.513	
5,000.00	4,998.26	4,994.66	4,993.18	10.88	10.76	108.90	-63.46	-10.37	64.65	43.04	21.61	2.992	
5,100.00	5,097.40	5,093.65	5,091.74	11.09	10.95	114.24	-72.38	-12.80	77.14	55.16	21.98	3.510	

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



LEAM Drilling Systems LLC

Anticollision Report



Company: DEVON ENERGY
Project: Lea County, NM (NAD-83)
Reference Site: Cotton Draw Unit
Site Error: 0.00 usft
Reference Well: 313H (SIMOPS)
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Plan #1

Local Co-ordinate Reference: Well 313H (SIMOPS)
TVD Reference: 3431.4' GE + 30' KB @ 3461.40usft
MD Reference: 3431.4' GE + 30' KB @ 3461.40usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at 2.00 sigma
Database: EDM 5000.1 Single User Db
Offset TVD Reference: Offset Datum

Offset Design Cotton Draw Unit - 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	5,192.43	5,190.09	11.32	11.14	119.00	-81.28	-15.21	90.95	68.61	22.35	4.070	
5,264.72	5,260.16	5,256.24	5,253.62	11.47	11.26	121.81	-87.03	-16.77	100.65	78.06	22.59	4.456	
5,300.00	5,294.95	5,291.00	5,288.23	11.55	11.33	123.25	-90.17	-17.62	106.13	83.41	22.72	4.671	
5,400.00	5,393.54	5,389.51	5,386.31	11.79	11.53	126.83	-99.04	-20.03	121.97	98.85	23.12	5.276	
5,500.00	5,492.12	5,488.03	5,484.40	12.04	11.73	129.23	-107.92	-22.44	138.12	114.60	23.52	5.872	
5,600.00	5,590.71	5,586.54	5,582.48	12.30	11.93	131.28	-116.80	-24.85	154.50	130.56	23.94	6.455	
5,700.00	5,689.29	5,685.06	5,680.57	12.56	12.14	132.94	-125.67	-27.26	171.03	146.67	24.36	7.022	
5,800.00	5,787.88	5,783.57	5,778.65	12.83	12.35	134.30	-134.55	-29.67	187.67	162.89	24.79	7.572	
5,900.00	5,886.46	5,882.09	5,876.74	13.10	12.56	135.45	-143.43	-32.08	204.41	179.18	25.22	8.104	
6,000.00	5,985.05	5,980.60	5,974.82	13.38	12.78	136.42	-152.30	-34.49	221.21	195.54	25.66	8.620	
6,100.00	6,083.64	6,079.12	6,072.90	13.67	12.99	137.25	-161.18	-36.90	238.06	211.95	26.11	9.118	
6,200.00	6,182.22	6,177.63	6,170.99	13.95	13.21	137.97	-170.06	-39.31	254.95	228.39	26.56	9.598	
6,300.00	6,280.81	6,276.15	6,269.07	14.25	13.44	138.61	-178.93	-41.72	271.88	244.86	27.02	10.063	
6,400.00	6,379.39	6,374.66	6,367.16	14.55	13.66	139.16	-187.81	-44.13	288.84	261.36	27.48	10.511	
6,500.00	6,477.98	6,473.18	6,465.24	14.85	13.89	139.66	-196.69	-46.54	305.82	277.88	27.95	10.943	
6,600.00	6,576.57	6,571.69	6,563.33	15.15	14.12	140.10	-205.57	-48.95	322.83	294.41	28.42	11.360	
6,700.00	6,675.15	6,670.20	6,661.41	15.46	14.35	140.50	-214.44	-51.36	339.85	310.95	28.89	11.763	
6,800.00	6,773.74	6,768.72	6,759.50	15.78	14.58	140.87	-223.32	-53.77	356.88	327.51	29.37	12.152	
6,900.00	6,872.32	6,867.23	6,857.58	16.09	14.81	141.20	-232.20	-56.18	373.93	344.08	29.85	12.527	
7,000.00	6,970.91	6,965.75	6,955.66	16.41	15.05	141.50	-241.07	-58.59	390.98	360.65	30.33	12.889	
7,100.00	7,069.49	7,064.26	7,053.75	16.73	15.28	141.77	-249.95	-61.00	408.05	377.23	30.82	13.239	
7,200.00	7,168.08	7,162.78	7,151.83	17.05	15.52	142.02	-258.83	-63.41	425.13	393.81	31.31	13.577	
7,300.00	7,266.67	7,261.29	7,249.92	17.38	15.76	142.26	-267.70	-65.82	442.21	410.40	31.81	13.903	
7,400.00	7,365.25	7,359.81	7,348.00	17.71	16.00	142.47	-276.58	-68.23	459.30	426.99	32.30	14.219	
7,500.00	7,463.84	7,458.32	7,446.09	18.04	16.24	142.67	-285.46	-70.64	476.39	443.59	32.80	14.524	
7,600.00	7,562.42	7,556.84	7,544.17	18.37	16.49	142.86	-294.33	-73.05	493.49	460.19	33.30	14.819	
7,700.00	7,661.01	7,655.35	7,642.25	18.71	16.73	143.03	-303.21	-75.46	510.60	476.79	33.81	15.104	
7,800.00	7,759.60	7,753.87	7,740.34	19.04	16.98	143.20	-312.09	-77.87	527.71	493.40	34.31	15.380	
7,900.00	7,858.18	7,852.38	7,838.42	19.38	17.22	143.35	-320.96	-80.28	544.82	510.00	34.82	15.647	
8,000.00	7,956.77	7,950.90	7,936.51	19.72	17.47	143.49	-329.84	-82.69	561.94	526.61	35.33	15.906	
8,100.00	8,055.35	8,049.41	8,034.59	20.06	17.72	143.63	-338.72	-85.10	579.06	543.22	35.84	16.156	
8,200.00	8,153.94	8,147.93	8,132.68	20.40	17.97	143.76	-347.60	-87.51	596.18	559.83	36.35	16.399	
8,300.00	8,252.52	8,246.44	8,230.76	20.75	18.22	143.88	-356.47	-89.92	613.31	576.44	36.87	16.634	
8,400.00	8,351.11	8,344.96	8,328.85	21.09	18.47	143.99	-365.35	-92.33	630.43	593.05	37.39	16.862	
8,500.00	8,449.70	8,443.47	8,426.93	21.44	18.72	144.10	-374.23	-94.74	647.56	609.66	37.91	17.083	
8,600.00	8,548.28	8,544.10	8,527.16	21.79	18.97	144.23	-382.90	-97.09	664.54	626.13	38.42	17.297	
8,700.00	8,646.87	8,644.88	8,627.61	22.14	19.20	144.44	-390.73	-99.22	681.21	642.28	38.92	17.502	
8,800.00	8,745.45	8,745.73	8,728.20	22.49	19.44	144.70	-397.71	-101.11	697.56	658.14	39.42	17.695	
8,900.00	8,844.04	8,846.63	8,828.90	22.84	19.66	145.01	-403.84	-102.78	713.61	673.69	39.91	17.880	
9,000.00	8,942.63	8,947.57	8,929.69	23.19	19.89	145.38	-409.12	-104.21	729.36	688.97	40.40	18.055	
9,054.86	8,996.71	9,002.95	8,985.01	23.39	20.01	145.60	-411.65	-104.90	737.89	697.23	40.66	18.147	
9,100.00	9,041.23	9,048.53	9,030.55	23.53	20.11	145.81	-413.54	-105.41	744.77	703.89	40.88	18.219	
9,200.00	9,139.95	9,149.62	9,131.57	23.82	20.33	146.28	-417.10	-106.38	759.30	717.97	41.33	18.370	
9,300.00	9,238.80	9,250.83	9,232.74	24.10	20.54	146.75	-419.81	-107.11	772.86	731.08	41.78	18.498	
9,400.00	9,337.79	9,352.15	9,334.05	24.38	20.75	147.23	-421.66	-107.62	785.44	743.22	42.22	18.603	
9,500.00	9,436.89	9,453.56	9,435.45	24.65	20.96	147.73	-422.64	-107.88	797.05	754.40	42.65	18.687	
9,600.00	9,536.11	9,554.23	9,536.11	24.92	21.16	148.22	-422.82	-107.93	807.72	764.84	43.07	18.752	
9,700.00	9,635.43	9,653.55	9,635.43	25.17	21.35	148.67	-422.82	-107.93	817.63	774.15	43.49	18.801	
9,800.00	9,734.85	9,752.97	9,734.85	25.43	21.55	149.09	-422.82	-107.93	826.85	782.95	43.90	18.834	
9,900.00	9,834.36	9,852.48	9,834.36	25.67	21.75	149.45	-422.82	-107.93	835.36	791.04	44.32	18.850	
10,000.00	9,933.96	9,952.07	9,933.96	25.91	21.95	149.79	-422.82	-107.93	843.14	798.42	44.73	18.851	
10,100.00	10,033.62	10,051.74	10,033.62	26.14	22.15	150.08	-422.82	-107.93	850.20	805.06	45.14	18.836	

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 313H (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:	313H (SIMOPS)	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.1 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design Cotton Draw Unit - 312H (SIMOPS) - OH - Plan #1													Offset Site Error:	0.00 usft
Survey Program: 0-LEAM MWD-ADJ													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	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)				
10,200.00	10,133.36	10,151.47	10,133.36	26.37	22.35	150.34	-422.82	-107.93	856.51	810.97	45.54	18.806		
10,300.00	10,233.15	10,251.27	10,233.15	26.59	22.55	150.56	-422.82	-107.93	862.09	816.14	45.95	18.762		
10,400.00	10,333.00	10,351.11	10,333.00	26.80	22.75	150.75	-422.82	-107.93	866.91	820.56	46.35	18.703		
10,500.00	10,432.89	10,451.01	10,432.89	27.00	22.96	150.91	-422.82	-107.93	870.98	824.23	46.75	18.630		
10,600.00	10,532.82	10,550.93	10,532.82	27.20	23.16	151.04	-422.82	-107.93	874.30	827.15	47.15	18.543		
10,700.00	10,632.78	10,650.89	10,632.78	27.39	23.36	151.14	-422.82	-107.93	876.85	829.30	47.55	18.442		
10,800.00	10,732.75	10,750.87	10,732.75	27.58	23.57	151.21	-422.82	-107.93	878.64	830.70	47.94	18.328		
10,900.00	10,832.75	10,850.86	10,832.75	27.75	23.77	151.25	-422.82	-107.93	879.67	831.34	48.33	18.201		
10,984.29	10,917.04	10,935.15	10,917.04	27.89	23.94	-90.27	-422.82	-107.93	879.94	831.28	48.66	18.084		
11,000.00	10,932.75	10,950.86	10,932.75	27.92	23.98	-90.27	-422.82	-107.93	879.94	831.22	48.72	18.061		
11,100.00	11,032.75	11,050.86	11,032.75	28.10	24.18	-90.27	-422.82	-107.93	879.94	830.82	49.12	17.912		
11,184.29	11,117.04	11,135.15	11,117.04	28.25	24.35	-90.27	-422.82	-107.93	879.94	830.47	49.47	17.789		
11,200.00	11,132.74	11,150.97	11,132.86	28.28	24.39	-90.27	-422.60	-107.93	879.94	830.41	49.53	17.767		
11,250.00	11,182.60	11,201.34	11,183.08	28.36	24.47	-90.27	-419.00	-107.93	879.94	830.24	49.70	17.706		
11,300.00	11,231.96	11,251.70	11,232.78	28.41	24.54	-90.26	-411.01	-107.93	879.94	830.11	49.83	17.660		
11,350.00	11,280.45	11,302.05	11,281.58	28.46	24.59	-90.26	-398.68	-107.93	879.94	830.02	49.92	17.628		
11,400.00	11,327.69	11,352.39	11,329.11	28.48	24.62	-90.25	-382.13	-107.93	879.94	829.96	49.97	17.608		
11,450.00	11,373.32	11,402.72	11,374.99	28.49	24.64	-90.24	-361.47	-107.93	879.94	829.94	50.00	17.599		
11,500.00	11,417.01	11,453.04	11,418.86	28.49	24.65	-90.23	-336.88	-107.93	879.94	829.93	50.00	17.597		
11,550.00	11,458.42	11,503.34	11,460.40	28.47	24.65	-90.22	-308.54	-107.93	879.94	829.95	49.99	17.602		
11,600.00	11,497.22	11,553.62	11,499.28	28.44	24.64	-90.20	-276.68	-107.93	879.94	829.97	49.97	17.609		
11,650.00	11,533.13	11,603.88	11,535.20	28.40	24.63	-90.18	-241.55	-107.93	879.94	829.99	49.95	17.617		
11,700.00	11,565.88	11,654.11	11,567.89	28.36	24.63	-90.17	-203.43	-107.93	879.94	830.00	49.94	17.620		
11,750.00	11,595.21	11,704.32	11,597.11	28.32	24.63	-90.15	-162.61	-107.93	879.94	829.99	49.95	17.618		
11,800.00	11,620.90	11,754.51	11,622.63	28.27	24.64	-90.13	-119.42	-107.93	879.94	829.96	49.98	17.606		
11,850.00	11,642.76	11,804.66	11,644.26	28.23	24.67	-90.11	-74.19	-107.93	879.94	829.89	50.05	17.582		
11,877.11	11,652.95	11,831.85	11,654.30	28.21	24.70	-90.09	-48.93	-107.93	879.94	829.83	50.10	17.562		
11,900.00	11,660.61	11,854.79	11,661.84	28.20	24.73	-90.08	-27.26	-107.93	879.94	829.78	50.15	17.545		
11,950.00	11,674.33	11,904.89	11,675.25	28.17	24.81	-90.06	20.99	-107.93	879.94	829.63	50.30	17.492		
12,000.00	11,683.81	11,954.95	11,684.39	28.17	24.92	-90.04	70.20	-107.93	879.94	829.43	50.50	17.424		
12,050.00	11,688.97	12,004.99	11,689.20	28.18	25.05	-90.02	119.98	-107.93	879.94	829.19	50.75	17.340		
12,085.62	11,690.00	12,040.61	11,690.00	28.21	25.17	-90.00	155.59	-107.93	879.94	828.98	50.95	17.270		
12,100.00	11,689.96	12,054.99	11,690.00	28.23	25.22	-90.00	169.98	-107.93	879.94	828.89	51.05	17.238		
12,200.00	11,689.73	12,154.99	11,690.00	28.41	25.65	-90.02	269.98	-107.93	879.94	828.11	51.83	16.979		
12,300.00	11,689.50	12,254.99	11,690.00	28.75	26.18	-90.03	369.98	-107.93	879.94	827.10	52.84	16.654		
12,400.00	11,689.27	12,354.99	11,690.00	29.23	26.83	-90.05	469.97	-107.93	879.94	825.87	54.08	16.272		
12,500.00	11,689.04	12,454.99	11,690.00	29.85	27.59	-90.06	569.97	-107.93	879.94	824.41	55.53	15.847		
12,600.00	11,688.81	12,554.99	11,690.00	30.58	28.44	-90.08	669.97	-107.93	879.94	822.77	57.18	15.389		
12,700.00	11,688.58	12,654.99	11,690.00	31.42	29.38	-90.09	769.97	-107.93	879.95	820.94	59.01	14.912		
12,800.00	11,688.34	12,754.99	11,690.00	32.34	30.40	-90.11	869.97	-107.93	879.95	818.94	61.00	14.425		
12,900.00	11,688.11	12,854.99	11,690.00	33.35	31.49	-90.12	969.97	-107.93	879.95	816.80	63.15	13.935		
13,000.00	11,687.88	12,954.99	11,690.00	34.42	32.65	-90.14	1,069.97	-107.93	879.95	814.53	65.42	13.450		
13,100.00	11,687.65	13,054.99	11,690.00	35.55	33.87	-90.15	1,169.97	-107.93	879.95	812.13	67.82	12.975		
13,200.00	11,687.42	13,154.99	11,690.00	36.74	35.14	-90.17	1,269.97	-107.93	879.95	809.63	70.33	12.512		
13,300.00	11,687.19	13,254.99	11,690.00	37.99	36.46	-90.18	1,369.97	-107.93	879.96	807.02	72.93	12.066		
13,400.00	11,686.96	13,354.99	11,690.00	39.27	37.82	-90.20	1,469.97	-107.93	879.96	804.34	75.62	11.636		
13,500.00	11,686.73	13,454.99	11,690.00	40.60	39.22	-90.21	1,569.97	-107.93	879.96	801.57	78.39	11.225		
13,600.00	11,686.50	13,554.99	11,690.00	41.97	40.65	-90.23	1,669.97	-107.93	879.96	798.73	81.23	10.833		
13,700.00	11,686.26	13,654.99	11,690.00	43.37	42.11	-90.24	1,769.97	-107.93	879.96	795.83	84.13	10.460		
13,800.00	11,686.03	13,754.99	11,690.00	44.80	43.60	-90.26	1,869.97	-107.93	879.97	792.88	87.09	10.104		
13,900.00	11,685.80	13,854.99	11,690.00	46.25	45.12	-90.27	1,969.97	-107.92	879.97	789.87	90.10	9.767		
14,000.00	11,685.57	13,954.99	11,690.00	47.74	46.65	-90.29	2,069.97	-107.92	879.97	786.82	93.15	9.446		

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 313H (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:	313H (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		
14,100.00	11,685.34	14,054.99	11,690.00	49.24	48.21	-90.30	2,169.97	-107.92	879.97	783.72	96.25	9.142		
14,200.00	11,685.11	14,154.99	11,690.00	50.77	49.79	-90.32	2,269.97	-107.92	879.98	780.59	99.39	8.854		
14,300.00	11,684.88	14,254.99	11,690.00	52.31	51.38	-90.33	2,369.97	-107.92	879.98	777.42	102.56	8.580		
14,400.00	11,684.65	14,354.99	11,690.00	53.88	52.99	-90.35	2,469.97	-107.92	879.98	774.22	105.76	8.321		
14,500.00	11,684.41	14,454.99	11,690.00	55.45	54.61	-90.36	2,569.97	-107.92	879.98	771.00	108.99	8.074		
14,600.00	11,684.18	14,554.99	11,690.00	57.05	56.24	-90.38	2,669.97	-107.92	879.99	767.74	112.24	7.840		
14,700.00	11,683.95	14,654.99	11,690.00	58.65	57.89	-90.39	2,769.97	-107.92	879.99	764.47	115.52	7.618		
14,800.00	11,683.72	14,754.99	11,690.00	60.27	59.54	-90.41	2,869.97	-107.92	879.99	761.17	118.82	7.406		
14,900.00	11,683.49	14,854.99	11,690.00	61.90	61.21	-90.42	2,969.97	-107.92	879.99	757.85	122.14	7.205		
15,000.00	11,683.26	14,954.99	11,690.00	63.55	62.89	-90.44	3,069.97	-107.92	880.00	754.51	125.48	7.013		
15,100.00	11,683.03	15,054.98	11,690.00	65.20	64.57	-90.45	3,169.97	-107.92	880.00	751.16	128.84	6.830		
15,200.00	11,682.80	15,154.98	11,690.00	66.86	66.26	-90.47	3,269.97	-107.92	880.00	747.79	132.21	6.656		
15,300.00	11,682.57	15,254.98	11,690.00	68.52	67.96	-90.48	3,369.97	-107.92	880.01	744.40	135.60	6.490		
15,400.00	11,682.33	15,354.98	11,690.00	70.20	69.66	-90.50	3,469.97	-107.92	880.01	741.01	139.00	6.331		
15,500.00	11,682.10	15,454.98	11,690.00	71.88	71.37	-90.51	3,569.97	-107.92	880.01	737.60	142.42	6.179		
15,600.00	11,681.87	15,554.98	11,690.00	73.58	73.09	-90.53	3,669.97	-107.92	880.02	734.17	145.84	6.034		
15,700.00	11,681.64	15,654.98	11,690.00	75.27	74.81	-90.54	3,769.97	-107.92	880.02	730.74	149.28	5.895		
15,800.00	11,681.41	15,754.98	11,690.00	76.97	76.54	-90.56	3,869.97	-107.92	880.02	727.30	152.72	5.762		
15,900.00	11,681.18	15,854.98	11,690.00	78.68	78.27	-90.57	3,969.97	-107.92	880.03	723.85	156.18	5.635		
16,000.00	11,680.95	15,954.98	11,690.00	80.40	80.00	-90.59	4,069.97	-107.92	880.03	720.39	159.64	5.512		
16,100.00	11,680.72	16,054.98	11,690.00	82.11	81.74	-90.60	4,169.97	-107.92	880.03	716.92	163.12	5.395		
16,200.00	11,680.48	16,154.98	11,690.00	83.84	83.48	-90.62	4,269.96	-107.92	880.04	713.44	166.60	5.282		
16,300.00	11,680.25	16,254.98	11,690.00	85.56	85.23	-90.63	4,369.96	-107.92	880.04	709.96	170.08	5.174		
16,365.19	11,680.10	16,320.17	11,690.00	86.69	86.37	-90.64	4,435.15	-107.92	880.04	707.68	172.36	5.106		
16,409.48	11,680.00	16,359.12	11,690.00	87.46	87.05	-90.65	4,474.10	-107.92	880.06	706.24	173.82	5.063		
16,410.43	11,680.00	16,359.12	11,690.00	87.52	87.05	-90.65	4,474.10	-107.92	880.07	706.24	173.83	5.063		

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 313H (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:	313H (SIMOPS)	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.1 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design Cotton Draw Unit - 319H (SIMOPS) - OH - Plan #1													Offset Site Error:	0.00 usft
Survey Program: 0-LEAM MWD-ADJ													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Distance		Minimum Separation (usft)	Separation Factor	Warning			
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)						
0.00	0.00	0.00	0.00	0.00	0.00	-37.69	234.03	-180.81	295.74					
100.00	100.00	100.00	100.00	0.08	0.08	-37.69	234.03	-180.81	295.74	0.16	1,879.655			
200.00	200.00	200.00	200.00	0.30	0.30	-37.69	234.03	-180.81	295.74	0.61	487.319			
300.00	300.00	300.00	300.00	0.53	0.53	-37.69	234.03	-180.81	295.74	1.06	279.949			
400.00	400.00	400.00	400.00	0.75	0.75	-37.69	234.03	-180.81	295.74	1.51	196.382			
500.00	500.00	500.00	500.00	0.98	0.98	-37.69	234.03	-180.81	295.74	1.96	151.237			
600.00	600.00	600.00	600.00	1.20	1.20	-37.69	234.03	-180.81	295.74	2.40	122.968			
700.00	700.00	700.00	700.00	1.43	1.43	-37.69	234.03	-180.81	295.74	2.85	103.603			
800.00	800.00	800.00	800.00	1.65	1.65	-37.69	234.03	-180.81	295.74	3.30	89.508			
900.00	900.00	900.00	900.00	1.88	1.88	-37.69	234.03	-180.81	295.74	3.75	78.788			
1,000.00	1,000.00	1,000.00	1,000.00	2.10	2.10	-37.69	234.03	-180.81	295.74	4.20	70.362			
1,100.00	1,100.00	1,100.00	1,100.00	2.33	2.33	-37.69	234.03	-180.81	295.74	4.65	63.563			
1,200.00	1,200.00	1,200.00	1,200.00	2.55	2.55	-37.69	234.03	-180.81	295.74	5.10	57.963			
1,300.00	1,300.00	1,300.00	1,300.00	2.78	2.78	-37.69	234.03	-180.81	295.74	5.55	53.270			
1,400.00	1,400.00	1,400.00	1,400.00	3.00	3.00	-37.69	234.03	-180.81	295.74	6.00	49.279			
1,500.00	1,500.00	1,500.00	1,500.00	3.23	3.23	-37.69	234.03	-180.81	295.74	6.45	45.845			
1,600.00	1,600.00	1,600.00	1,600.00	3.45	3.45	-37.69	234.03	-180.81	295.74	6.90	42.859			
1,700.00	1,700.00	1,700.00	1,700.00	3.67	3.67	-37.69	234.03	-180.81	295.74	7.35	40.237			
1,800.00	1,800.00	1,800.00	1,800.00	3.90	3.90	-37.69	234.03	-180.81	295.74	7.80	37.918			
1,900.00	1,900.00	1,900.00	1,900.00	4.12	4.12	-37.69	234.03	-180.81	295.74	8.25	35.852			
2,000.00	2,000.00	2,000.00	2,000.00	4.35	4.35	-37.69	234.03	-180.81	295.74	8.70	33.999			
2,100.00	2,100.00	2,100.00	2,100.00	4.57	4.57	-37.69	234.03	-180.81	295.74	9.15	32.328			
2,200.00	2,200.00	2,200.00	2,200.00	4.80	4.80	-37.69	234.03	-180.81	295.74	9.60	30.814			
2,300.00	2,300.00	2,300.00	2,300.00	5.02	5.02	-37.69	234.03	-180.81	295.74	10.05	29.435			
2,400.00	2,400.00	2,400.00	2,400.00	5.25	5.25	-37.69	234.03	-180.81	295.74	10.50	28.175			
2,500.00	2,500.00	2,500.00	2,500.00	5.47	5.47	-37.69	234.03	-180.81	295.74	10.95	27.018			
2,600.00	2,600.00	2,600.00	2,600.00	5.70	5.70	-37.69	234.03	-180.81	295.74	11.40	25.952			
2,700.00	2,700.00	2,700.00	2,700.00	5.92	5.92	-37.69	234.03	-180.81	295.74	11.85	24.967			
2,800.00	2,800.00	2,800.00	2,800.00	6.15	6.15	-37.69	234.03	-180.81	295.74	12.29	24.054			
2,900.00	2,900.00	2,900.00	2,900.00	6.37	6.37	-37.69	234.03	-180.81	295.74	12.74	23.206			
3,000.00	3,000.00	3,000.00	3,000.00	6.60	6.60	-37.69	234.03	-180.81	295.74	13.19	22.415			
3,100.00	3,100.00	3,100.00	3,100.00	6.82	6.82	-37.69	234.03	-180.81	295.74	13.64	21.676			
3,200.00	3,200.00	3,200.00	3,200.00	7.05	7.05	-37.69	234.03	-180.81	295.74	14.09	20.985			
3,300.00	3,300.00	3,300.00	3,300.00	7.27	7.27	-37.69	234.03	-180.81	295.74	14.54	20.336			
3,400.00	3,400.00	3,400.00	3,400.00	7.50	7.50	-37.69	234.03	-180.81	295.74	14.99	19.727			
3,500.00	3,500.00	3,500.00	3,500.00	7.72	7.72	-37.69	234.03	-180.81	295.74	15.44	19.152			
3,600.00	3,600.00	3,600.00	3,600.00	7.95	7.95	-37.69	234.03	-180.81	295.74	15.89	18.610			
3,700.00	3,700.00	3,700.00	3,700.00	8.17	8.17	-37.69	234.03	-180.81	295.74	16.34	18.098			
3,800.00	3,800.00	3,800.00	3,800.00	8.40	8.40	-37.69	234.03	-180.81	295.74	16.79	17.614			
3,900.00	3,900.00	3,900.00	3,900.00	8.62	8.62	-37.69	234.03	-180.81	295.74	17.24	17.155			
4,000.00	4,000.00	4,000.00	4,000.00	8.84	8.84	-37.69	234.03	-180.81	295.74	17.69	16.719			
4,100.00	4,100.00	4,100.00	4,100.00	9.07	9.07	-37.69	234.03	-180.81	295.74	18.14	16.304			
4,200.00	4,200.00	4,200.00	4,200.00	9.29	9.29	-37.69	234.03	-180.81	295.74	18.59	15.910 CC			
4,300.00	4,300.00	4,300.00	4,300.00	9.52	9.52	-37.69	234.03	-180.81	295.74	19.04	15.534 ES			
4,400.00	4,400.00	4,402.08	4,402.08	9.72	9.72	-156.39	233.23	-181.25	296.18	19.44	15.236			
4,500.00	4,499.96	4,504.07	4,504.03	9.91	9.90	-157.07	230.85	-182.56	297.55	19.79	15.035			
4,600.00	4,599.86	4,605.86	4,605.72	10.09	10.07	-158.19	226.88	-184.74	299.92	20.14	14.892			
4,700.00	4,699.68	4,707.37	4,707.03	10.28	10.25	-159.73	221.35	-187.79	303.42	20.49	14.810			
4,800.00	4,799.37	4,808.49	4,807.83	10.48	10.43	-161.63	214.28	-191.69	308.23	20.83	14.795 SF			
4,900.00	4,898.90	4,909.14	4,908.00	10.68	10.62	-163.87	205.69	-196.41	314.56	21.18	14.854			
5,000.00	4,998.26	5,009.23	5,007.42	10.88	10.81	-166.38	195.63	-201.96	322.64	21.52	14.992			
5,100.00	5,097.40	5,108.67	5,105.99	11.09	11.01	-169.09	184.12	-208.29	332.68	21.86	15.217			

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 313H (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:	313H (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	5,207.38	5,203.59	11.32	11.21	-171.96	171.23	-215.40	344.92	322.72	22.21	15.533		
5,264.72	5,260.16	5,270.82	5,266.18	11.47	11.35	-173.86	162.16	-220.39	354.11	331.68	22.43	15.787		
5,300.00	5,294.95	5,305.28	5,300.13	11.55	11.43	-174.90	156.98	-223.24	359.44	336.87	22.57	15.923		
5,400.00	5,393.54	5,402.49	5,395.71	11.79	11.65	-177.86	141.44	-231.80	375.15	352.16	22.99	16.318		
5,500.00	5,492.12	5,499.31	5,490.82	12.04	11.88	-179.36	125.56	-240.55	391.79	368.37	23.42	16.731		
5,600.00	5,590.71	5,596.13	5,585.93	12.30	12.12	-176.81	109.68	-249.29	409.28	385.43	23.86	17.156		
5,700.00	5,689.29	5,692.95	5,681.03	12.56	12.37	-174.46	93.80	-258.04	427.53	403.22	24.31	17.588		
5,800.00	5,787.88	5,789.78	5,776.14	12.83	12.63	-172.30	77.92	-266.79	446.42	421.66	24.77	18.024		
5,900.00	5,886.46	5,886.60	5,871.25	13.10	12.90	-170.32	62.04	-275.53	465.90	440.66	25.24	18.461		
6,000.00	5,985.05	5,983.42	5,966.36	13.38	13.17	-168.49	46.16	-284.28	485.88	460.16	25.72	18.895		
6,100.00	6,083.64	6,080.24	6,061.47	13.67	13.44	-166.81	30.28	-293.03	506.31	480.11	26.20	19.324		
6,200.00	6,182.22	6,177.06	6,156.58	13.95	13.73	-165.25	14.39	-301.77	527.13	500.44	26.70	19.746		
6,300.00	6,280.81	6,273.88	6,251.69	14.25	14.02	-163.81	-1.49	-310.52	548.30	521.11	27.20	20.161		
6,400.00	6,379.39	6,370.71	6,346.80	14.55	14.31	-162.48	-17.37	-319.27	569.79	542.09	27.70	20.567		
6,500.00	6,477.98	6,467.53	6,441.91	14.85	14.61	-161.24	-33.25	-328.01	591.55	563.33	28.22	20.964		
6,600.00	6,576.57	6,564.35	6,537.01	15.15	14.91	-160.09	-49.13	-336.76	613.56	584.82	28.74	21.350		
6,700.00	6,675.15	6,661.17	6,632.12	15.46	15.22	-159.02	-65.01	-345.51	635.79	606.53	29.26	21.726		
6,800.00	6,773.74	6,757.99	6,727.23	15.78	15.54	-158.02	-80.89	-354.25	658.23	628.43	29.79	22.092		
6,900.00	6,872.32	6,854.81	6,822.34	16.09	15.85	-157.09	-96.78	-363.00	680.84	650.51	30.33	22.447		
7,000.00	6,970.91	6,951.64	6,917.45	16.41	16.17	-156.22	-112.66	-371.75	703.61	672.74	30.87	22.791		
7,100.00	7,069.49	7,048.46	7,012.56	16.73	16.50	-155.40	-128.54	-380.49	726.53	695.12	31.42	23.125		
7,200.00	7,168.08	7,145.50	7,107.88	17.05	16.82	-154.62	-144.45	-389.26	749.59	717.62	31.97	23.449		
7,300.00	7,266.67	7,248.45	7,209.19	17.38	17.14	-153.92	-160.48	-398.09	772.35	739.83	32.52	23.752		
7,400.00	7,365.25	7,352.04	7,311.45	17.71	17.45	-153.38	-175.00	-406.09	794.42	761.36	33.06	24.031		
7,500.00	7,463.84	7,456.22	7,414.57	18.04	17.74	-152.99	-187.97	-413.23	815.74	782.15	33.59	24.283		
7,600.00	7,562.42	7,560.91	7,518.45	18.37	18.03	-152.74	-199.34	-419.49	836.28	802.16	34.12	24.508		
7,700.00	7,661.01	7,666.05	7,623.00	18.71	18.30	-152.61	-209.08	-424.86	856.01	821.36	34.64	24.708		
7,800.00	7,759.60	7,771.57	7,728.11	19.04	18.57	-152.61	-217.17	-429.31	874.90	839.75	35.16	24.886		
7,900.00	7,858.18	7,877.40	7,833.69	19.38	18.82	-152.72	-223.58	-432.84	892.97	857.31	35.66	25.043		
8,000.00	7,956.77	7,983.47	7,939.62	19.72	19.05	-152.93	-228.29	-435.43	910.21	874.06	36.15	25.180		
8,100.00	8,055.35	8,089.71	8,045.80	20.06	19.28	-153.25	-231.28	-437.08	926.64	890.01	36.63	25.300		
8,200.00	8,153.94	8,196.04	8,152.12	20.40	19.49	-153.66	-232.55	-437.78	942.28	905.19	37.09	25.404		
8,300.00	8,252.52	8,296.44	8,252.52	20.75	19.67	-154.11	-232.60	-437.81	957.39	919.86	37.53	25.509		
8,400.00	8,351.11	8,395.03	8,351.11	21.09	19.86	-154.54	-232.60	-437.81	972.53	934.56	37.97	25.611		
8,500.00	8,449.70	8,485.98	8,441.92	21.44	20.01	-155.14	-228.91	-437.81	988.01	949.64	38.37	25.749		
8,600.00	8,548.28	8,589.53	8,523.95	21.79	20.07	-156.37	-213.43	-437.81	1,004.84	966.17	38.66	25.989		
8,700.00	8,646.87	8,650.00	8,600.03	22.14	20.07	-158.14	-187.41	-437.81	1,023.91	985.03	38.87	26.339		
8,800.00	8,745.45	8,712.11	8,655.82	22.49	20.03	-159.86	-160.18	-437.81	1,046.16	1,007.12	39.04	26.797		
8,900.00	8,844.04	8,769.94	8,704.83	22.84	19.97	-161.70	-129.55	-437.81	1,072.50	1,033.32	39.18	27.373		
9,000.00	8,942.63	8,819.52	8,744.22	23.19	19.90	-163.45	-99.45	-437.81	1,103.58	1,064.26	39.32	28.067		
9,054.86	8,996.71	8,850.00	8,767.08	23.39	19.86	-164.58	-79.30	-437.81	1,122.81	1,083.43	39.38	28.510		
9,100.00	9,041.23	8,861.94	8,775.74	23.53	19.84	-165.06	-71.09	-437.81	1,139.67	1,100.19	39.48	28.870		
9,200.00	9,139.95	8,900.00	8,802.18	23.82	19.78	-166.61	-43.71	-437.81	1,160.31	1,140.67	39.64	29.778		
9,300.00	9,238.80	8,930.00	8,821.69	24.10	19.74	-167.86	-20.93	-437.81	1,225.33	1,185.52	39.82	30.775		
9,400.00	9,337.79	8,950.00	8,834.03	24.38	19.71	-168.74	-5.19	-437.81	1,274.63	1,234.61	40.02	31.852		
9,500.00	9,436.89	8,981.51	8,852.34	24.65	19.66	-170.09	20.46	-437.81	1,327.80	1,287.61	40.19	33.036		
9,600.00	9,536.11	9,000.00	8,862.41	24.92	19.63	-170.91	35.96	-437.81	1,384.69	1,344.30	40.39	34.280		
9,700.00	9,635.43	9,021.52	8,873.50	25.17	19.60	-171.86	54.40	-437.81	1,444.93	1,404.34	40.59	35.598		
9,800.00	9,734.85	9,050.00	8,887.09	25.43	19.56	-173.09	79.42	-437.81	1,508.35	1,467.58	40.77	36.994		
9,900.00	9,834.36	9,050.00	8,887.09	25.67	19.56	-173.14	79.42	-437.81	1,574.28	1,533.27	41.00	38.394		
10,000.00	9,933.96	9,067.03	8,894.62	25.91	19.54	-173.89	94.69	-437.81	1,642.77	1,601.56	41.20	39.869		
10,100.00	10,033.62	9,079.41	8,899.81	26.14	19.52	-174.44	105.94	-437.82	1,713.47	1,672.06	41.41	41.378		

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 313H (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:	313H (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	
10,200.00	10,133.36	9,100.00	8,907.89	26.37	19.49	175.32	124.87	-437.82	1,786.23	1,744.63	41.60	42.936		
10,300.00	10,233.15	9,100.00	8,907.89	26.59	19.49	175.37	124.87	-437.82	1,860.60	1,818.78	41.82	44.492		
10,400.00	10,333.00	9,100.00	8,907.89	26.80	19.49	175.41	124.87	-437.82	1,936.72	1,894.68	42.03	46.078		
10,500.00	10,432.89	9,119.46	8,914.91	27.00	19.47	176.22	143.03	-437.82	2,014.03	1,971.81	42.22	47.702		
10,600.00	10,532.82	9,127.67	8,917.68	27.20	19.46	176.58	150.75	-437.82	2,092.71	2,050.29	42.42	49.334		
10,700.00	10,632.78	9,150.00	8,924.65	27.39	19.43	177.46	171.96	-437.82	2,172.73	2,130.12	42.60	51.000		
10,800.00	10,732.75	9,150.00	8,924.65	27.58	19.43	177.49	171.96	-437.82	2,253.39	2,210.59	42.80	52.647		
10,900.00	10,832.75	9,150.00	8,924.65	27.75	19.43	177.52	171.96	-437.82	2,335.06	2,292.06	43.00	54.307		
10,984.29	10,917.04	9,150.00	8,924.65	27.89	19.43	-63.98	171.96	-437.82	2,404.61	2,361.45	43.16	55.717		
11,000.00	10,932.75	9,150.00	8,924.65	27.92	19.43	-63.98	171.96	-437.82	2,417.64	2,374.45	43.19	55.979		
11,100.00	11,032.75	9,150.00	8,924.65	28.10	19.43	-63.98	171.96	-437.82	2,501.32	2,457.92	43.40	57.639		
11,184.29	11,117.04	9,150.00	8,924.65	28.25	19.43	-63.98	171.96	-437.82	2,572.76	2,529.19	43.57	59.048		
11,200.00	11,132.74	9,150.00	8,924.65	28.28	19.43	-61.73	171.96	-437.82	2,586.10	2,542.51	43.59	59.321		
11,250.00	11,182.60	9,170.24	8,930.26	28.36	19.41	-54.59	191.41	-437.82	2,627.61	2,583.95	43.67	60.173		
11,300.00	11,231.96	9,174.21	8,931.28	28.41	19.40	-49.01	195.25	-437.82	2,668.25	2,624.58	43.67	61.104		
11,350.00	11,280.45	9,178.81	8,932.42	28.46	19.40	-44.31	199.70	-437.82	2,707.47	2,663.97	43.51	62.232		
11,400.00	11,327.69	9,200.00	8,937.25	28.48	19.38	-40.12	220.33	-437.82	2,745.28	2,702.15	43.13	63.651		
11,450.00	11,373.32	9,200.00	8,937.25	28.49	19.38	-36.97	220.33	-437.82	2,780.79	2,738.24	42.55	65.354		
11,500.00	11,417.01	9,200.00	8,937.25	28.49	19.38	-34.35	220.33	-437.82	2,814.26	2,772.50	41.76	67.385		
11,550.00	11,458.42	9,200.00	8,937.25	28.47	19.38	-32.15	220.33	-437.82	2,845.50	2,804.70	40.80	69.749		
11,600.00	11,497.22	9,200.00	8,937.25	28.44	19.38	-30.32	220.33	-437.82	2,874.35	2,834.67	39.68	72.441		
11,650.00	11,533.13	9,200.00	8,937.25	28.40	19.38	-28.79	220.33	-437.82	2,900.67	2,862.22	38.45	75.439		
11,700.00	11,565.88	9,224.42	8,941.85	28.36	19.36	-27.41	244.31	-437.82	2,923.74	2,886.60	37.15	78.710		
11,750.00	11,595.21	9,250.00	8,945.57	28.32	19.36	-26.29	269.62	-437.82	2,944.49	2,908.64	35.85	82.133		
11,800.00	11,620.90	9,250.00	8,945.57	28.27	19.36	-25.49	269.62	-437.82	2,961.70	2,927.10	34.61	85.584		
11,850.00	11,642.76	9,250.00	8,945.57	28.23	19.36	-24.86	269.62	-437.82	2,975.94	2,942.48	33.47	88.922		
11,900.00	11,660.61	9,250.00	8,945.57	28.20	19.36	-24.38	269.62	-437.82	2,987.14	2,954.65	32.49	91.931		
11,950.00	11,674.33	9,250.00	8,945.57	28.17	19.36	-24.04	269.62	-437.82	2,995.25	2,963.50	31.74	94.362		
12,000.00	11,683.81	9,274.22	8,948.06	28.17	19.41	-23.83	293.71	-437.82	2,999.66	2,968.34	31.32	95.788		
12,050.00	11,688.97	9,300.00	8,949.58	28.18	19.48	-23.77	319.44	-437.82	3,001.29	2,970.08	31.21	96.152		
12,085.62	11,690.00	9,300.00	8,949.58	28.21	19.48	-23.82	319.44	-437.82	3,000.07	2,968.78	31.29	95.866		
12,100.00	11,689.96	9,300.00	8,949.58	28.23	19.48	-23.82	319.44	-437.82	2,999.29	2,967.98	31.31	95.785		
12,200.00	11,689.73	9,308.74	8,949.83	28.41	19.51	-23.83	328.18	-437.82	2,995.69	2,964.19	31.49	95.118		
12,300.00	11,689.50	9,350.53	8,949.96	28.75	19.68	-23.83	369.97	-437.82	2,994.79	2,962.96	31.84	94.069		
12,400.00	11,689.27	9,450.53	8,949.96	29.23	20.18	-23.83	469.97	-437.82	2,994.58	2,962.13	32.45	92.270		
12,500.00	11,689.04	9,550.53	8,949.96	29.85	20.80	-23.83	569.97	-437.83	2,994.37	2,961.19	33.18	90.245		
12,600.00	11,688.81	9,650.53	8,949.96	30.58	21.55	-23.83	669.97	-437.83	2,994.16	2,960.15	34.01	88.038		
12,700.00	11,688.58	9,750.53	8,949.96	31.42	22.42	-23.83	769.97	-437.83	2,993.95	2,959.02	34.93	85.702		
12,800.00	11,688.34	9,850.53	8,949.96	32.34	23.39	-23.84	869.97	-437.83	2,993.74	2,957.79	35.95	83.283		
12,900.00	11,688.11	9,950.53	8,949.96	33.35	24.45	-23.84	969.97	-437.83	2,993.53	2,956.49	37.04	80.822		
13,000.00	11,687.88	10,050.53	8,949.97	34.42	25.60	-23.84	1,069.97	-437.84	2,993.32	2,955.11	38.20	78.352		
13,100.00	11,687.65	10,150.53	8,949.97	35.55	26.83	-23.84	1,169.97	-437.84	2,993.11	2,953.67	39.43	75.902		
13,200.00	11,687.42	10,250.53	8,949.97	36.74	28.12	-23.84	1,269.97	-437.84	2,992.90	2,952.17	40.72	73.491		
13,300.00	11,687.19	10,350.53	8,949.97	37.99	29.46	-23.85	1,369.97	-437.84	2,992.68	2,950.62	42.07	71.137		
13,400.00	11,686.96	10,450.53	8,949.97	39.27	30.86	-23.85	1,469.97	-437.85	2,992.47	2,949.01	43.46	68.850		
13,500.00	11,686.73	10,550.53	8,949.97	40.60	32.29	-23.85	1,569.97	-437.85	2,992.26	2,947.36	44.90	66.640		
13,600.00	11,686.50	10,650.53	8,949.97	41.97	33.77	-23.85	1,669.97	-437.85	2,992.05	2,945.67	46.38	64.510		
13,700.00	11,686.26	10,750.53	8,949.97	43.37	35.27	-23.85	1,769.97	-437.85	2,991.84	2,943.94	47.90	62.463		
13,800.00	11,686.03	10,850.53	8,949.97	44.80	36.81	-23.86	1,869.97	-437.86	2,991.63	2,942.18	49.45	60.502		
13,900.00	11,685.80	10,950.53	8,949.97	46.25	38.37	-23.86	1,969.97	-437.86	2,991.42	2,940.39	51.03	58.624		
14,000.00	11,685.57	11,050.53	8,949.98	47.74	39.95	-23.86	2,069.97	-437.86	2,991.21	2,938.57	52.63	56.829		
14,100.00	11,685.34	11,150.53	8,949.98	49.24	41.56	-23.86	2,169.97	-437.86	2,991.00	2,936.73	54.27	55.115		

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 313H (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:	313H (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		
14,200.00	11,685.11	11,250.53	8,949.98	50.77	43.18	-23.86	2,269.97	-437.86	2,990.79	2,934.86	55.92	53.479		
14,300.00	11,684.88	11,350.53	8,949.98	52.31	44.81	-23.86	2,369.97	-437.87	2,990.58	2,932.97	57.60	51.918		
14,400.00	11,684.65	11,450.53	8,949.98	53.88	46.47	-23.87	2,469.97	-437.87	2,990.36	2,931.07	59.30	50.429		
14,500.00	11,684.41	11,550.53	8,949.98	55.45	48.13	-23.87	2,569.97	-437.87	2,990.15	2,929.14	61.01	49.008		
14,600.00	11,684.18	11,650.53	8,949.98	57.05	49.80	-23.87	2,669.97	-437.87	2,989.94	2,927.20	62.74	47.652		
14,700.00	11,683.95	11,750.53	8,949.98	58.65	51.49	-23.87	2,769.97	-437.88	2,989.73	2,925.24	64.49	46.359		
14,800.00	11,683.72	11,850.53	8,949.98	60.27	53.18	-23.87	2,869.97	-437.88	2,989.52	2,923.27	66.25	45.124		
14,900.00	11,683.49	11,950.53	8,949.98	61.90	54.89	-23.88	2,969.97	-437.88	2,989.31	2,921.29	68.03	43.944		
15,000.00	11,683.26	12,050.53	8,949.99	63.55	56.60	-23.88	3,069.97	-437.88	2,989.10	2,919.29	69.81	42.817		
15,100.00	11,683.03	12,150.53	8,949.99	65.20	58.32	-23.88	3,169.97	-437.89	2,988.89	2,917.28	71.61	41.740		
15,200.00	11,682.80	12,250.53	8,949.99	66.86	60.04	-23.88	3,269.97	-437.89	2,988.68	2,915.26	73.41	40.710		
15,300.00	11,682.57	12,350.53	8,949.99	68.52	61.77	-23.88	3,369.97	-437.89	2,988.47	2,913.24	75.23	39.724		
15,400.00	11,682.33	12,450.53	8,949.99	70.20	63.51	-23.88	3,469.97	-437.89	2,988.26	2,911.20	77.06	38.780		
15,500.00	11,682.10	12,550.53	8,949.99	71.88	65.25	-23.89	3,569.96	-437.89	2,988.05	2,909.15	78.89	37.876		
15,600.00	11,681.87	12,650.53	8,949.99	73.58	66.99	-23.89	3,669.96	-437.90	2,987.83	2,907.10	80.73	37.009		
15,700.00	11,681.64	12,750.53	8,949.99	75.27	68.74	-23.89	3,769.96	-437.90	2,987.62	2,905.04	82.58	36.178		
15,800.00	11,681.41	12,850.52	8,949.99	76.97	70.50	-23.89	3,869.96	-437.90	2,987.41	2,902.98	84.44	35.380		
15,900.00	11,681.18	12,950.52	8,950.00	78.68	72.25	-23.89	3,969.96	-437.90	2,987.20	2,900.90	86.30	34.614		
16,000.00	11,680.95	13,050.52	8,950.00	80.40	74.01	-23.90	4,069.96	-437.91	2,986.99	2,898.82	88.17	33.879		
16,100.00	11,680.72	13,150.52	8,950.00	82.11	75.78	-23.90	4,169.96	-437.91	2,986.78	2,896.74	90.04	33.171		
16,200.00	11,680.48	13,250.52	8,950.00	83.84	77.54	-23.90	4,269.96	-437.91	2,986.57	2,894.65	91.92	32.491		
16,300.00	11,680.25	13,350.52	8,950.00	85.56	79.31	-23.90	4,369.96	-437.91	2,986.36	2,892.55	93.81	31.836		
16,408.43	11,680.00	13,452.65	8,950.00	87.44	81.12	-23.90	4,472.09	-437.92	2,986.14	2,890.34	95.79	31.173		
16,409.48	11,680.00	13,452.65	8,950.00	87.46	81.12	-23.90	4,472.09	-437.92	2,986.14	2,890.33	95.80	31.170		
16,410.43	11,680.00	13,452.65	8,950.00	87.52	81.12	-23.90	4,472.09	-437.92	2,986.14	2,890.33	95.81	31.168		

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 313H (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:	313H (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	-44.47	184.03	-180.66	257.89					
100.00	100.00	100.00	100.00	0.08	0.08	-44.47	184.03	-180.66	257.89	257.73	0.16	1,639.090		
200.00	200.00	200.00	200.00	0.30	0.30	-44.47	184.03	-180.66	257.89	257.28	0.61	424.950		
300.00	300.00	300.00	300.00	0.53	0.53	-44.47	184.03	-180.66	257.89	256.83	1.06	244.120		
400.00	400.00	400.00	400.00	0.75	0.75	-44.47	184.03	-180.66	257.89	256.38	1.51	171.248		
500.00	500.00	500.00	500.00	0.98	0.98	-44.47	184.03	-180.66	257.89	255.93	1.96	131.881		
600.00	600.00	600.00	600.00	1.20	1.20	-44.47	184.03	-180.66	257.89	255.48	2.40	107.230		
700.00	700.00	700.00	700.00	1.43	1.43	-44.47	184.03	-180.66	257.89	255.03	2.85	90.344		
800.00	800.00	800.00	800.00	1.65	1.65	-44.47	184.03	-180.66	257.89	254.58	3.30	78.052		
900.00	900.00	900.00	900.00	1.88	1.88	-44.47	184.03	-180.66	257.89	254.14	3.75	68.704		
1,000.00	1,000.00	1,000.00	1,000.00	2.10	2.10	-44.47	184.03	-180.66	257.89	253.69	4.20	61.356		
1,100.00	1,100.00	1,100.00	1,100.00	2.33	2.33	-44.47	184.03	-180.66	257.89	253.24	4.65	55.428		
1,200.00	1,200.00	1,200.00	1,200.00	2.55	2.55	-44.47	184.03	-180.66	257.89	252.79	5.10	50.545		
1,300.00	1,300.00	1,300.00	1,300.00	2.78	2.78	-44.47	184.03	-180.66	257.89	252.34	5.55	46.452		
1,400.00	1,400.00	1,400.00	1,400.00	3.00	3.00	-44.47	184.03	-180.66	257.89	251.89	6.00	42.972		
1,500.00	1,500.00	1,500.00	1,500.00	3.23	3.23	-44.47	184.03	-180.66	257.89	251.44	6.45	39.978		
1,600.00	1,600.00	1,600.00	1,600.00	3.45	3.45	-44.47	184.03	-180.66	257.89	250.99	6.90	37.373		
1,700.00	1,700.00	1,700.00	1,700.00	3.67	3.67	-44.47	184.03	-180.66	257.89	250.54	7.35	35.088		
1,800.00	1,800.00	1,800.00	1,800.00	3.90	3.90	-44.47	184.03	-180.66	257.89	250.09	7.80	33.065		
1,900.00	1,900.00	1,900.00	1,900.00	4.12	4.12	-44.47	184.03	-180.66	257.89	249.64	8.25	31.263		
2,000.00	2,000.00	2,000.00	2,000.00	4.35	4.35	-44.47	184.03	-180.66	257.89	249.19	8.70	29.648		
2,100.00	2,100.00	2,100.00	2,100.00	4.57	4.57	-44.47	184.03	-180.66	257.89	248.74	9.15	28.191		
2,200.00	2,200.00	2,200.00	2,200.00	4.80	4.80	-44.47	184.03	-180.66	257.89	248.29	9.60	26.870		
2,300.00	2,300.00	2,300.00	2,300.00	5.02	5.02	-44.47	184.03	-180.66	257.89	247.84	10.05	25.668		
2,400.00	2,400.00	2,400.00	2,400.00	5.25	5.25	-44.47	184.03	-180.66	257.89	247.39	10.50	24.569		
2,500.00	2,500.00	2,500.00	2,500.00	5.47	5.47	-44.47	184.03	-180.66	257.89	246.94	10.95	23.560		
2,600.00	2,600.00	2,600.00	2,600.00	5.70	5.70	-44.47	184.03	-180.66	257.89	246.49	11.40	22.630		
2,700.00	2,700.00	2,700.00	2,700.00	5.92	5.92	-44.47	184.03	-180.66	257.89	246.04	11.85	21.772		
2,800.00	2,800.00	2,800.00	2,800.00	6.15	6.15	-44.47	184.03	-180.66	257.89	245.59	12.29	20.976		
2,900.00	2,900.00	2,900.00	2,900.00	6.37	6.37	-44.47	184.03	-180.66	257.89	245.14	12.74	20.236		
3,000.00	3,000.00	3,000.00	3,000.00	6.60	6.60	-44.47	184.03	-180.66	257.89	244.69	13.19	19.546		
3,100.00	3,100.00	3,100.00	3,100.00	6.82	6.82	-44.47	184.03	-180.66	257.89	244.25	13.64	18.902		
3,200.00	3,200.00	3,200.00	3,200.00	7.05	7.05	-44.47	184.03	-180.66	257.89	243.80	14.09	18.299		
3,300.00	3,300.00	3,300.00	3,300.00	7.27	7.27	-44.47	184.03	-180.66	257.89	243.35	14.54	17.734		
3,400.00	3,400.00	3,400.00	3,400.00	7.50	7.50	-44.47	184.03	-180.66	257.89	242.90	14.99	17.202		
3,500.00	3,500.00	3,500.00	3,500.00	7.72	7.72	-44.47	184.03	-180.66	257.89	242.45	15.44	16.701		
3,600.00	3,600.00	3,600.00	3,600.00	7.95	7.95	-44.47	184.03	-180.66	257.89	242.00	15.89	16.229		
3,700.00	3,700.00	3,700.00	3,700.00	8.17	8.17	-44.47	184.03	-180.66	257.89	241.55	16.34	15.782		
3,800.00	3,800.00	3,800.00	3,800.00	8.40	8.40	-44.47	184.03	-180.66	257.89	241.10	16.79	15.360		
3,900.00	3,900.00	3,900.00	3,900.00	8.62	8.62	-44.47	184.03	-180.66	257.89	240.65	17.24	14.959		
4,000.00	4,000.00	4,000.00	4,000.00	8.84	8.84	-44.47	184.03	-180.66	257.89	240.20	17.69	14.579		
4,100.00	4,100.00	4,100.00	4,100.00	9.07	9.07	-44.47	184.03	-180.66	257.89	239.75	18.14	14.218		
4,200.00	4,200.00	4,200.00	4,200.00	9.29	9.29	-44.47	184.03	-180.66	257.89	239.30	18.59	13.874		
4,300.00	4,300.00	4,300.00	4,300.00	9.52	9.52	-44.47	184.03	-180.66	257.89	238.85	19.04	13.546		
4,400.00	4,400.00	4,404.37	4,404.37	9.72	9.73	-162.93	183.64	-179.80	257.88	238.42	19.45	13.258		
4,500.00	4,499.96	4,508.74	4,508.70	9.91	9.93	-162.87	182.48	-177.19	257.83	238.02	19.82	13.009		
4,600.00	4,599.86	4,613.11	4,612.96	10.09	10.12	-162.78	180.54	-172.86	257.77	237.58	20.19	12.769		
4,700.00	4,699.68	4,717.47	4,717.10	10.28	10.32	-162.66	177.82	-166.79	257.67	237.12	20.55	12.537		
4,800.00	4,799.37	4,821.83	4,821.11	10.48	10.53	-162.50	174.33	-158.99	257.56	236.64	20.92	12.313		
4,900.00	4,898.90	4,926.17	4,924.93	10.68	10.74	-162.30	170.07	-149.46	257.42	236.13	21.28	12.096		
5,000.00	4,998.26	5,030.51	5,028.53	10.88	10.96	-162.07	165.04	-138.21	257.25	235.61	21.65	11.885		
5,099.96	5,097.37	5,134.30	5,131.35	11.09	11.19	-161.81	159.28	-125.32	257.08	235.07	22.01	11.681 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 313H (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:	313H (SIMOPS)	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.1 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design Cotton Draw Unit - 320H (SIMOPS) - OH - Plan #1													Offset Site Error:	0.00 usft
Survey Program: 0-LEAM MWD-ADJ													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
5,100.00	5,097.40	5,134.34	5,131.39	11.09	11.19	-161.81	159.28	-125.32	257.08	235.07	22.01	11.681 ES		
5,200.00	5,196.30	5,234.33	5,230.35	11.32	11.41	-161.61	153.43	-112.25	257.91	235.55	22.36	11.532		
5,264.72	5,260.16	5,299.03	5,294.39	11.47	11.56	-161.55	149.65	-103.80	259.33	236.74	22.59	11.478		
5,300.00	5,294.95	5,334.30	5,329.30	11.55	11.64	-161.53	147.59	-99.19	260.30	237.56	22.74	11.448		
5,400.00	5,393.54	5,434.26	5,428.23	11.79	11.88	-161.47	141.75	-86.13	263.03	239.88	23.15	11.362		
5,500.00	5,492.12	5,534.22	5,527.16	12.04	12.12	-161.42	135.91	-73.07	265.76	242.20	23.57	11.277		
5,600.00	5,590.71	5,634.18	5,626.09	12.30	12.37	-161.37	130.06	-60.01	268.50	244.51	23.99	11.193		
5,700.00	5,689.29	5,734.15	5,725.03	12.56	12.62	-161.33	124.22	-46.95	271.23	246.82	24.41	11.109		
5,800.00	5,787.88	5,834.11	5,823.96	12.83	12.88	-161.28	118.38	-33.89	273.96	249.12	24.84	11.027		
5,900.00	5,886.46	5,934.07	5,922.89	13.10	13.14	-161.23	112.54	-20.83	276.70	251.42	25.28	10.946		
6,000.00	5,985.05	6,034.03	6,021.83	13.38	13.40	-161.18	106.70	-7.77	279.43	253.71	25.72	10.866		
6,100.00	6,083.64	6,134.00	6,120.76	13.67	13.67	-161.14	100.86	5.29	282.16	256.01	26.16	10.787		
6,200.00	6,182.22	6,233.96	6,219.69	13.95	13.94	-161.10	95.02	18.35	284.90	258.30	26.60	10.709		
6,300.00	6,280.81	6,333.92	6,318.63	14.25	14.21	-161.05	89.17	31.41	287.63	260.58	27.05	10.633		
6,400.00	6,379.39	6,433.88	6,417.56	14.55	14.49	-161.01	83.33	44.47	290.37	262.87	27.50	10.558		
6,500.00	6,477.98	6,533.85	6,516.49	14.85	14.77	-160.97	77.49	57.53	293.10	265.15	27.96	10.484		
6,600.00	6,576.57	6,633.81	6,615.43	15.15	15.05	-160.93	71.65	70.60	295.84	267.42	28.41	10.412		
6,700.00	6,675.15	6,733.77	6,714.36	15.46	15.34	-160.89	65.81	83.66	298.57	269.70	28.87	10.341		
6,800.00	6,773.74	6,833.73	6,813.29	15.78	15.63	-160.85	59.97	96.72	301.31	271.97	29.34	10.271		
6,900.00	6,872.32	6,933.70	6,912.23	16.09	15.92	-160.81	54.12	109.78	304.04	274.24	29.80	10.203		
7,000.00	6,970.91	7,033.66	7,011.16	16.41	16.21	-160.77	48.28	122.84	306.78	276.51	30.27	10.136		
7,100.00	7,069.49	7,133.62	7,110.09	16.73	16.51	-160.73	42.44	135.90	309.51	278.78	30.74	10.070		
7,200.00	7,168.08	7,233.58	7,209.03	17.05	16.80	-160.70	36.60	148.96	312.25	281.04	31.21	10.005		
7,300.00	7,266.67	7,333.55	7,307.96	17.38	17.10	-160.66	30.76	162.02	314.98	283.30	31.68	9.942		
7,400.00	7,365.25	7,431.07	7,404.50	17.71	17.38	-160.64	25.14	174.58	317.91	285.77	32.14	9.890		
7,500.00	7,463.84	7,526.11	7,498.78	18.04	17.62	-160.72	20.23	185.56	322.18	289.59	32.59	9.886 SF		
7,600.00	7,562.42	7,621.00	7,593.10	18.37	17.85	-160.91	15.96	195.10	327.96	294.93	33.03	9.930		
7,700.00	7,661.01	7,715.69	7,687.36	18.71	18.07	-161.19	12.34	203.20	335.26	301.80	33.46	10.020		
7,800.00	7,759.60	7,810.11	7,781.51	19.04	18.29	-161.57	9.36	209.86	344.09	310.21	33.88	10.155		
7,900.00	7,858.18	7,904.23	7,875.45	19.38	18.49	-162.02	7.02	215.09	354.45	320.15	34.30	10.333		
8,000.00	7,956.77	8,000.00	7,971.12	19.72	18.69	-162.55	5.29	218.96	366.35	331.63	34.72	10.553		
8,100.00	8,055.35	8,091.35	8,062.44	20.06	18.88	-163.11	4.25	221.29	379.78	344.66	35.12	10.815		
8,200.00	8,153.94	8,184.26	8,155.34	20.40	19.05	-163.71	3.80	222.30	394.76	359.25	35.51	11.116		
8,300.00	8,252.52	8,281.45	8,252.52	20.75	19.23	-164.36	3.78	222.34	410.85	374.93	35.92	11.439		
8,400.00	8,351.11	8,380.03	8,351.11	21.09	19.42	-164.96	3.78	222.34	427.03	390.69	36.34	11.752		
8,500.00	8,449.70	8,480.00	8,421.03	21.44	19.56	-165.20	5.47	222.34	445.32	408.60	36.72	12.128		
8,600.00	8,548.28	8,515.84	8,486.24	21.79	19.67	-164.74	14.29	222.33	470.74	433.61	37.13	12.678		
8,700.00	8,646.87	8,574.64	8,543.29	22.14	19.75	-163.80	28.44	222.33	503.34	465.78	37.56	13.402		
8,800.00	8,745.45	8,629.05	8,594.53	22.49	19.82	-162.56	46.68	222.33	542.84	504.85	38.00	14.286		
8,900.00	8,844.04	8,678.68	8,639.57	22.84	19.87	-161.19	67.49	222.33	588.92	550.47	38.45	15.318		
9,000.00	8,942.63	8,723.49	8,678.55	23.19	19.92	-159.80	89.56	222.33	641.12	602.22	38.90	16.482		
9,054.86	8,996.71	8,750.00	8,700.77	23.39	19.94	-158.94	104.03	222.33	672.20	633.03	39.16	17.164		
9,100.00	9,041.23	8,763.69	8,711.97	23.53	19.95	-158.54	111.90	222.33	698.85	659.50	39.35	17.760		
9,200.00	9,139.95	8,800.00	8,740.73	23.82	19.98	-157.44	134.04	222.33	761.06	721.28	39.78	19.132		
9,300.00	9,238.80	8,832.12	8,764.97	24.10	20.01	-156.48	155.12	222.33	827.15	786.96	40.19	20.580		
9,400.00	9,337.79	8,850.00	8,777.93	24.38	20.02	-156.05	167.43	222.33	896.83	856.30	40.52	22.131		
9,500.00	9,436.89	8,900.00	8,812.08	24.65	20.07	-154.48	203.93	222.32	969.35	928.32	41.03	23.623		
9,600.00	9,536.11	8,900.00	8,812.08	24.92	20.07	-154.73	203.93	222.32	1,044.37	1,003.11	41.26	25.313		
9,700.00	9,635.43	8,932.20	8,832.33	25.17	20.09	-153.85	228.96	222.32	1,121.54	1,079.86	41.68	26.908		
9,800.00	9,734.85	8,950.00	8,842.92	25.43	20.11	-153.51	243.27	222.32	1,200.81	1,158.83	41.98	28.605		
9,900.00	9,834.36	8,969.17	8,853.81	25.67	20.13	-153.14	259.04	222.32	1,281.76	1,239.47	42.29	30.309		
10,000.00	9,933.96	9,000.00	8,870.21	25.91	20.17	-152.41	285.14	222.32	1,364.44	1,321.76	42.68	31.967		

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 313H (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:	313H (SIMOPS)	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.1 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design Cotton Draw Unit - 320H (SIMOPS) - OH - Plan #1													Offset Site Error:	0.00 usft
Survey Program: 0-LEAM MWD-ADJ													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N-S (usft)	Offset Wellbore Centre +E-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
10,100.00	10,033.62	9,000.00	8,870.21	26.14	20.17	-152.75	285.14	222.32	1,447.89	1,405.01	42.88	33.767		
10,200.00	10,133.36	9,000.00	8,870.21	26.37	20.17	-153.12	285.14	222.32	1,532.93	1,489.86	43.07	35.593		
10,300.00	10,233.15	9,026.21	8,883.03	26.59	20.20	-152.61	308.01	222.32	1,618.52	1,575.11	43.41	37.288		
10,400.00	10,333.00	9,050.00	8,893.75	26.80	20.25	-152.22	329.24	222.32	1,705.35	1,661.62	43.73	38.998		
10,500.00	10,432.89	9,050.00	8,893.75	27.00	20.25	-152.63	329.24	222.32	1,792.61	1,748.70	43.90	40.831		
10,600.00	10,532.82	9,050.00	8,893.75	27.20	20.25	-153.06	329.24	222.32	1,880.78	1,836.71	44.07	42.675		
10,700.00	10,632.78	9,050.00	8,893.75	27.39	20.25	-153.49	329.24	222.32	1,969.74	1,925.50	44.24	44.527		
10,800.00	10,732.75	9,077.00	8,904.83	27.58	20.30	-153.06	353.85	222.32	2,058.58	2,014.03	44.56	46.202		
10,900.00	10,832.75	9,100.00	8,913.35	27.75	20.35	-152.78	375.22	222.31	2,148.49	2,103.64	44.85	47.905		
10,984.29	10,917.04	9,100.00	8,913.35	27.89	20.35	-34.70	375.22	222.31	2,224.24	2,179.26	44.97	49.457		
11,000.00	10,932.75	9,100.00	8,913.35	27.92	20.35	-34.70	375.22	222.31	2,238.39	2,193.39	45.00	49.739		
11,100.00	11,032.75	9,100.00	8,913.35	28.10	20.35	-34.70	375.22	222.31	2,329.01	2,283.81	45.20	51.522		
11,184.29	11,117.04	9,100.00	8,913.35	28.25	20.35	-34.70	375.22	222.31	2,405.97	2,360.60	45.37	53.025		
11,200.00	11,132.74	9,100.00	8,913.35	28.28	20.35	-32.76	375.22	222.31	2,420.29	2,374.79	45.50	53.190		
11,250.00	11,182.80	9,100.00	8,913.35	28.36	20.35	-27.75	375.22	222.31	2,464.95	2,419.24	45.72	53.920		
11,300.00	11,231.96	9,100.00	8,913.35	28.41	20.35	-24.06	375.22	222.31	2,508.00	2,462.38	45.82	54.976		
11,350.00	11,280.45	9,120.89	8,920.34	28.46	20.41	-21.03	394.90	222.31	2,548.73	2,503.44	45.29	56.271		
11,400.00	11,327.69	9,126.52	8,922.10	28.48	20.43	-18.87	400.25	222.31	2,587.58	2,542.95	44.63	57.975		
11,450.00	11,373.32	9,150.00	8,928.87	28.49	20.50	-17.06	422.73	222.31	2,624.37	2,580.61	43.76	59.966		
11,500.00	11,417.01	9,150.00	8,928.87	28.49	20.50	-15.76	422.73	222.31	2,658.10	2,615.48	42.61	62.381		
11,550.00	11,458.42	9,150.00	8,928.87	28.47	20.50	-14.72	422.73	222.31	2,689.17	2,647.90	41.27	65.163		
11,600.00	11,497.22	9,150.00	8,928.87	28.44	20.50	-13.87	422.73	222.31	2,717.45	2,677.68	39.77	68.328		
11,650.00	11,533.13	9,150.00	8,928.87	28.40	20.50	-13.18	422.73	222.31	2,742.82	2,704.66	38.16	71.880		
11,700.00	11,565.88	9,150.00	8,928.87	28.36	20.50	-12.63	422.73	222.31	2,765.16	2,728.68	36.48	75.807		
11,750.00	11,595.21	9,176.74	8,935.46	28.32	20.60	-12.14	448.65	222.31	2,783.63	2,748.80	34.83	79.913		
11,800.00	11,620.90	9,200.00	8,940.19	28.27	20.70	-11.77	471.42	222.31	2,799.35	2,766.11	33.24	84.227		
11,850.00	11,642.76	9,200.00	8,940.19	28.23	20.70	-11.52	471.42	222.31	2,811.23	2,779.53	31.69	88.697		
11,900.00	11,660.61	9,200.00	8,940.19	28.20	20.70	-11.35	471.42	222.31	2,819.77	2,789.44	30.34	92.947		
11,950.00	11,674.33	9,200.00	8,940.19	28.17	20.70	-11.25	471.42	222.31	2,824.95	2,795.72	29.24	96.616		
12,000.00	11,683.81	9,200.00	8,940.19	28.17	20.70	-11.21	471.42	222.31	2,826.75	2,798.28	28.47	99.290		
12,050.00	11,688.97	9,227.40	8,944.59	28.18	20.83	-11.26	498.46	222.31	2,824.37	2,796.22	28.15	100.324		
12,085.62	11,690.00	9,250.00	8,947.23	28.21	20.95	-11.34	520.90	222.31	2,821.06	2,792.88	28.18	100.098		
12,100.00	11,689.96	9,250.00	8,947.23	28.23	20.95	-11.34	520.90	222.31	2,819.20	2,791.00	28.20	99.959		
12,200.00	11,689.73	9,250.00	8,947.23	28.41	20.95	-11.34	520.90	222.31	2,808.28	2,779.92	28.37	98.999		
12,300.00	11,689.50	9,250.00	8,947.23	28.75	20.95	-11.34	520.90	222.31	2,800.89	2,772.33	28.56	98.056		
12,400.00	11,689.27	9,300.00	8,949.93	29.23	21.25	-11.35	570.82	222.30	2,795.77	2,766.85	28.92	96.678		
12,500.00	11,689.04	9,305.92	8,949.96	29.85	21.28	-11.35	576.73	222.30	2,793.71	2,764.51	29.20	95.689		
12,600.00	11,688.81	9,399.16	8,949.96	30.58	21.94	-11.35	669.97	222.30	2,793.47	2,763.72	29.75	93.888		
12,700.00	11,688.58	9,499.16	8,949.96	31.42	22.77	-11.35	769.97	222.29	2,793.24	2,762.84	30.41	91.859		
12,800.00	11,688.34	9,599.15	8,949.96	32.34	23.71	-11.35	869.97	222.29	2,793.02	2,761.88	31.14	89.702		
12,900.00	11,688.11	9,699.15	8,949.96	33.35	24.75	-11.35	969.97	222.28	2,792.79	2,760.86	31.93	87.456		
13,000.00	11,687.88	9,799.15	8,949.96	34.42	25.88	-11.35	1,069.97	222.27	2,792.57	2,759.77	32.79	85.156		
13,100.00	11,687.65	9,899.15	8,949.96	35.55	27.09	-11.35	1,169.97	222.27	2,792.34	2,758.63	33.71	82.833		
13,200.00	11,687.42	9,999.15	8,949.97	36.74	28.36	-11.36	1,269.97	222.26	2,792.11	2,757.43	34.68	80.512		
13,300.00	11,687.19	10,099.15	8,949.97	37.99	29.69	-11.36	1,369.97	222.26	2,791.89	2,756.19	35.70	78.214		
13,400.00	11,686.96	10,199.15	8,949.97	39.27	31.07	-11.36	1,469.97	222.25	2,791.66	2,754.91	36.75	75.954		
13,500.00	11,686.73	10,299.15	8,949.97	40.60	32.49	-11.36	1,569.97	222.24	2,791.43	2,753.58	37.85	73.744		
13,600.00	11,686.50	10,399.15	8,949.97	41.97	33.95	-11.36	1,669.97	222.24	2,791.21	2,752.22	38.99	71.593		
13,700.00	11,686.26	10,499.15	8,949.97	43.37	35.44	-11.36	1,769.97	222.23	2,790.98	2,750.83	40.15	69.509		
13,800.00	11,686.03	10,599.15	8,949.97	44.80	36.97	-11.36	1,869.97	222.23	2,790.76	2,749.41	41.35	67.493		
13,900.00	11,685.80	10,699.15	8,949.97	46.25	38.52	-11.36	1,969.97	222.22	2,790.53	2,747.96	42.57	65.550		
14,000.00	11,685.57	10,799.15	8,949.97	47.74	40.09	-11.36	2,069.97	222.22	2,790.30	2,746.48	43.82	63.679		

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 313H (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:	313H (SIMOPS)	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.1 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design Cotton Draw Unit - 320H (SIMOPS) - OH - Plan #1												Offset Site Error:	0.00 usft
Survey Program: 0-LEAM MWD-ADJ												Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	
14,100.00	11,685.34	10,899.15	8,949.98	49.24	41.69	-11.37	2,169.97	222.21	2,790.08	2,744.99	45.09	61.881	
14,200.00	11,685.11	10,999.15	8,949.98	50.77	43.30	-11.37	2,269.97	222.20	2,789.85	2,743.47	46.38	60.155	
14,300.00	11,684.88	11,099.15	8,949.98	52.31	44.93	-11.37	2,369.97	222.20	2,789.62	2,741.94	47.69	58.499	
14,400.00	11,684.65	11,199.15	8,949.98	53.88	46.57	-11.37	2,469.97	222.19	2,789.40	2,740.38	49.01	56.911	
14,500.00	11,684.41	11,299.15	8,949.98	55.45	48.23	-11.37	2,569.97	222.19	2,789.17	2,738.82	50.36	55.389	
14,600.00	11,684.18	11,399.15	8,949.98	57.05	49.90	-11.37	2,669.96	222.18	2,788.95	2,737.23	51.71	53.931	
14,700.00	11,683.95	11,499.15	8,949.98	58.65	51.58	-11.37	2,769.96	222.17	2,788.72	2,735.64	53.08	52.534	
14,800.00	11,683.72	11,599.15	8,949.98	60.27	53.27	-11.37	2,869.96	222.17	2,788.49	2,734.03	54.47	51.196	
14,900.00	11,683.49	11,699.15	8,949.98	61.90	54.96	-11.37	2,969.96	222.16	2,788.27	2,732.40	55.86	49.913	
15,000.00	11,683.26	11,799.15	8,949.98	63.55	56.67	-11.38	3,069.96	222.16	2,788.04	2,730.77	57.27	48.684	
15,100.00	11,683.03	11,899.15	8,949.99	65.20	58.38	-11.38	3,169.96	222.15	2,787.81	2,729.13	58.68	47.505	
15,200.00	11,682.80	11,999.15	8,949.99	66.86	60.10	-11.38	3,269.96	222.15	2,787.59	2,727.48	60.11	46.374	
15,300.00	11,682.57	12,099.15	8,949.99	68.52	61.83	-11.38	3,369.96	222.14	2,787.36	2,725.82	61.55	45.290	
15,400.00	11,682.33	12,199.15	8,949.99	70.20	63.56	-11.38	3,469.96	222.13	2,787.13	2,724.15	62.99	44.249	
15,500.00	11,682.10	12,299.15	8,949.99	71.88	65.30	-11.38	3,569.96	222.13	2,786.91	2,722.47	64.44	43.249	
15,600.00	11,681.87	12,399.15	8,949.99	73.58	67.04	-11.38	3,669.96	222.12	2,786.68	2,720.79	65.90	42.289	
15,700.00	11,681.64	12,499.15	8,949.99	75.27	68.78	-11.38	3,769.96	222.12	2,786.46	2,719.10	67.36	41.367	
15,800.00	11,681.41	12,599.15	8,949.99	76.97	70.53	-11.38	3,869.96	222.11	2,786.23	2,717.40	68.83	40.480	
15,900.00	11,681.18	12,699.15	8,949.99	78.68	72.29	-11.38	3,969.96	222.11	2,786.00	2,715.70	70.31	39.626	
16,000.00	11,680.95	12,799.15	8,950.00	80.40	74.04	-11.39	4,069.96	222.10	2,785.78	2,713.99	71.79	38.805	
16,100.00	11,680.72	12,899.15	8,950.00	82.11	75.81	-11.39	4,169.96	222.09	2,785.55	2,712.27	73.28	38.015	
16,200.00	11,680.48	12,999.15	8,950.00	83.84	77.57	-11.39	4,269.96	222.09	2,785.32	2,710.56	74.77	37.253	
16,300.00	11,680.25	13,099.15	8,950.00	85.56	79.34	-11.39	4,369.96	222.08	2,785.10	2,708.83	76.26	36.519	
16,409.48	11,680.00	13,205.29	8,950.00	87.46	81.21	-11.39	4,476.10	222.08	2,784.85	2,706.97	77.88	35.757	
16,410.43	11,680.00	13,205.29	8,950.00	87.52	81.21	-11.39	4,476.10	222.08	2,784.85	2,706.96	77.89	35.755	



LEAM Drilling Systems LLC
Anticollision Report



Company:	DEVON ENERGY	Local Co-ordinate Reference:	Well 313H (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:	313H (SIMOPS)	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.1 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design Cotton Draw Unit - 321H (SIMOPS) - OH - Plan #1													Offset Site Error:	0.00 usft
Survey Program: 0-LEAM MWD-ADJ													Offset Well Error:	0.00 usft
Reference	Offset	Semi Major Axis		Distance		Minimum		Separation		Warning				
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
0.00	0.00	0.00	0.00	0.00	0.00	-0.18	49.99	-0.16	49.99					
100.00	100.00	100.00	100.00	0.08	0.08	-0.18	49.99	-0.16	49.99	49.83	0.16	317.728		
200.00	200.00	200.00	200.00	0.30	0.30	-0.18	49.99	-0.16	49.99	49.38	0.61	82.374		
300.00	300.00	300.00	300.00	0.53	0.53	-0.18	49.99	-0.16	49.99	48.93	1.06	47.321		
400.00	400.00	400.00	400.00	0.75	0.75	-0.18	49.99	-0.16	49.99	48.48	1.51	33.196		
500.00	500.00	500.00	500.00	0.98	0.98	-0.18	49.99	-0.16	49.99	48.03	1.96	25.564		
600.00	600.00	600.00	600.00	1.20	1.20	-0.18	49.99	-0.16	49.99	47.59	2.40	20.786		
700.00	700.00	700.00	700.00	1.43	1.43	-0.18	49.99	-0.16	49.99	47.14	2.85	17.513		
800.00	800.00	800.00	800.00	1.65	1.65	-0.18	49.99	-0.16	49.99	46.69	3.30	15.130		
900.00	900.00	900.00	900.00	1.88	1.88	-0.18	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	-0.18	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	-0.18	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	-0.18	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	-0.18	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	-0.18	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	-0.18	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	-0.18	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	-0.18	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	-0.18	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	-0.18	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	-0.18	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	-0.18	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	-0.18	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	-0.18	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	-0.18	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	-0.18	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	-0.18	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	-0.18	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	-0.18	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	-0.18	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	-0.18	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	-0.18	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	-0.18	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	-0.18	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	-0.18	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	-0.18	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	-0.18	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	-0.18	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	-0.18	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	-0.18	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	-0.18	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	-0.18	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	-0.18	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	-0.18	49.99	-0.16	49.99	30.95	19.04	2.626 CC		
4,400.00	4,400.00	4,400.33	4,400.32	9.72	9.73	-118.35	49.66	0.88	50.08	30.63	19.45	2.575		
4,500.00	4,499.96	4,500.65	4,500.59	9.91	9.92	-117.44	48.67	3.98	50.34	30.52	19.82	2.540 ES		
4,600.00	4,599.86	4,600.94	4,600.73	10.09	10.11	-115.95	47.01	9.15	50.81	30.61	20.20	2.516		
4,700.00	4,699.68	4,701.20	4,700.69	10.28	10.31	-113.91	44.70	16.38	51.52	30.94	20.58	2.503 SF		
4,800.00	4,799.37	4,801.40	4,800.42	10.48	10.51	-111.38	41.72	25.67	52.53	31.56	20.98	2.505		
4,900.00	4,898.90	4,901.54	4,899.85	10.68	10.72	-108.42	38.10	37.00	53.90	32.51	21.38	2.521		
5,000.00	4,998.26	5,001.60	4,998.92	10.88	10.93	-105.13	33.82	50.37	55.68	33.88	21.81	2.554		
5,100.00	5,097.40	5,101.57	5,097.57	11.09	11.16	-101.60	28.90	65.75	57.95	35.70	22.25	2.605		

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



LEAM Drilling Systems LLC
Anticollision Report



Company: DEVON ENERGY
Project: Lea County, NM (NAD-83)
Reference Site: Cotton Draw Unit
Site Error: 0.00 usft
Reference Well: 313H (SIMOPS)
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Plan #1

Local Co-ordinate Reference: Well 313H (SIMOPS)
TVD Reference: 3431.4' GE + 30' KB @ 3461.40usft
MD Reference: 3431.4' GE + 30' KB @ 3461.40usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at 2.00 sigma
Database: EDM 5000.1 Single User Db
Offset TVD Reference: Offset Datum

Offset Design Cotton Draw Unit - 321H (SIMOPS) - OH - Plan #1													Offset Site Error: 0.00 usft
Survey Program: 0-LEAM MWD-ADJ													Offset Well Error: 0.00 usft
Reference		Offset		Semi Major Axis		Distance							
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
5,200.00	5,196.30	5,201.44	5,195.76	11.32	11.40	-97.93	23.33	83.15	60.76	38.04	22.71	2.675	
5,264.72	5,260.16	5,266.01	5,259.02	11.47	11.57	-95.54	19.39	95.46	62.89	39.85	23.03	2.730	
5,300.00	5,294.95	5,301.19	5,293.41	11.55	11.66	-94.16	17.13	102.53	64.15	40.94	23.21	2.764	
5,400.00	5,393.54	5,400.97	5,390.78	11.79	11.93	-89.91	10.49	123.25	68.04	44.33	23.71	2.869	
5,500.00	5,492.12	5,500.77	5,488.17	12.04	12.22	-86.10	3.85	144.01	72.28	48.05	24.23	2.983	
5,600.00	5,590.71	5,600.57	5,585.56	12.30	12.52	-82.73	-2.80	164.78	76.80	52.04	24.76	3.102	
5,700.00	5,689.29	5,700.37	5,682.96	12.56	12.82	-79.75	-9.44	185.54	81.55	56.27	25.29	3.225	
5,800.00	5,787.88	5,800.17	5,780.35	12.83	13.14	-77.10	-16.09	206.31	86.51	60.68	25.83	3.350	
5,900.00	5,886.46	5,899.97	5,877.74	13.10	13.46	-74.73	-22.73	227.07	91.62	65.26	26.37	3.475	
6,000.00	5,985.05	5,999.78	5,975.13	13.38	13.79	-72.63	-29.38	247.83	96.88	69.97	26.92	3.599	
6,100.00	6,083.64	6,099.58	6,072.52	13.67	14.13	-70.74	-36.02	268.60	102.25	74.79	27.47	3.723	
6,200.00	6,182.22	6,199.38	6,169.91	13.95	14.48	-69.04	-42.67	289.36	107.73	79.71	28.02	3.844	
6,300.00	6,280.81	6,299.18	6,267.30	14.25	14.83	-67.50	-49.31	310.12	113.29	84.71	28.58	3.964	
6,400.00	6,379.39	6,398.98	6,364.70	14.55	15.19	-66.12	-55.96	330.89	118.92	89.78	29.14	4.081	
6,500.00	6,477.98	6,498.78	6,462.09	14.85	15.55	-64.85	-62.60	351.65	124.62	94.91	29.71	4.195	
6,600.00	6,576.57	6,598.59	6,559.48	15.15	15.92	-63.70	-69.25	372.41	130.37	100.09	30.28	4.306	
6,700.00	6,675.15	6,698.39	6,656.87	15.46	16.30	-62.65	-75.89	393.18	136.17	105.32	30.85	4.414	
6,800.00	6,773.74	6,798.19	6,754.26	15.78	16.68	-61.68	-82.54	413.94	142.01	110.59	31.42	4.519	
6,900.00	6,872.32	6,897.99	6,851.65	16.09	17.06	-60.79	-89.18	434.70	147.88	115.89	32.00	4.622	
7,000.00	6,970.91	6,997.79	6,949.04	16.41	17.45	-59.96	-95.83	455.47	153.80	121.22	32.58	4.721	
7,100.00	7,069.49	7,097.59	7,046.44	16.73	17.84	-59.20	-102.47	476.23	159.74	126.58	33.16	4.817	
7,200.00	7,168.08	7,197.40	7,143.83	17.05	18.23	-58.49	-109.12	497.00	165.70	131.96	33.74	4.911	
7,300.00	7,266.67	7,297.20	7,241.22	17.38	18.63	-57.83	-115.76	517.76	171.69	137.37	34.33	5.002	
7,400.00	7,365.25	7,397.00	7,338.61	17.71	19.03	-57.22	-122.41	538.52	177.71	142.79	34.92	5.089	
7,500.00	7,463.84	7,496.80	7,436.00	18.04	19.44	-56.65	-129.05	559.29	183.74	148.23	35.51	5.175	
7,600.00	7,562.42	7,596.60	7,533.39	18.37	19.84	-56.11	-135.70	580.05	189.78	153.68	36.10	5.257	
7,700.00	7,661.01	7,696.40	7,630.78	18.71	20.25	-55.61	-142.34	600.81	195.85	159.15	36.69	5.337	
7,800.00	7,759.60	7,796.21	7,728.18	19.04	20.66	-55.13	-148.99	621.58	201.92	164.63	37.29	5.415	
7,900.00	7,858.18	7,896.01	7,825.57	19.38	21.08	-54.69	-155.63	642.34	208.01	170.13	37.89	5.490	
8,000.00	7,956.77	7,995.81	7,922.96	19.72	21.49	-54.27	-162.28	663.10	214.12	175.63	38.49	5.563	
8,100.00	8,055.35	8,095.61	8,020.35	20.06	21.91	-53.87	-168.92	683.87	220.23	181.14	39.09	5.634	
8,200.00	8,153.94	8,195.41	8,117.74	20.40	22.33	-53.49	-175.57	704.63	226.35	186.66	39.69	5.703	
8,300.00	8,252.52	8,295.21	8,215.13	20.75	22.75	-53.14	-182.21	725.40	232.48	192.19	40.29	5.770	
8,400.00	8,351.11	8,395.02	8,312.52	21.09	23.17	-52.80	-188.86	746.16	238.63	197.73	40.90	5.834	
8,500.00	8,449.70	8,495.78	8,401.18	21.44	23.54	-52.97	-192.72	765.06	245.86	204.34	41.52	5.922	
8,600.00	8,548.28	8,597.99	8,481.17	21.79	23.81	-55.36	-185.15	782.11	259.04	216.71	42.33	6.119	
8,700.00	8,646.87	8,644.74	8,554.18	22.14	24.04	-59.33	-167.59	797.68	279.89	236.60	43.29	6.466	
8,800.00	8,745.45	8,714.14	8,617.70	22.49	24.21	-63.90	-143.24	811.22	309.84	265.59	44.24	7.003	
8,900.00	8,844.04	8,775.48	8,671.09	22.84	24.34	-68.32	-115.33	822.60	349.56	304.44	45.12	7.747	
9,000.00	8,942.63	8,828.90	8,714.98	23.19	24.44	-72.23	-86.38	831.96	398.70	352.82	45.88	8.689	
9,054.86	8,996.71	8,850.00	8,731.56	23.39	24.48	-73.76	-73.82	835.50	429.35	383.12	46.23	9.288	
9,100.00	9,041.23	8,875.12	8,750.68	23.53	24.52	-75.70	-58.07	839.57	456.22	409.68	46.54	9.802	
9,200.00	9,139.95	8,915.11	8,779.69	23.82	24.58	-78.80	-31.25	845.76	520.88	473.79	47.09	11.062	
9,300.00	9,238.80	8,950.00	8,803.45	24.10	24.64	-81.47	-6.22	850.82	591.33	543.77	47.57	12.432	
9,400.00	9,337.79	8,980.05	8,822.69	24.38	24.68	-83.78	16.49	854.92	666.42	618.44	47.98	13.889	
9,500.00	9,436.89	9,000.00	8,834.81	24.65	24.70	-85.50	32.13	857.51	745.28	696.92	48.36	15.411	
9,600.00	9,536.11	9,029.85	8,851.93	24.92	24.74	-87.72	56.30	861.16	826.99	778.27	48.73	16.972	
9,700.00	9,635.43	9,050.00	8,862.78	25.17	24.77	-89.43	73.13	863.47	911.19	862.11	49.07	18.568	
9,800.00	9,734.85	9,068.94	8,872.44	25.43	24.80	-91.09	89.28	865.53	997.35	947.99	49.37	20.203	
9,900.00	9,834.36	9,100.00	8,887.15	25.67	24.84	-93.20	116.46	868.67	1,085.42	1,035.71	49.71	21.837	
10,000.00	9,933.96	9,100.00	8,887.15	25.91	24.84	-94.17	116.46	868.67	1,174.29	1,124.29	49.99	23.489	
10,100.00	10,033.62	9,100.00	8,887.15	26.14	24.84	-95.23	116.46	868.67	1,264.79	1,214.52	50.27	25.158	

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 313H (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:	313H (SIMOPS)	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.1 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design Cotton Draw Unit - 321H (SIMOPS) - OH - Plan #1													Offset Site Error:	0.00 usft
Survey Program: 0-LEAM MWD-ADJ													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Distance						Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
10,200.00	10,133.36	9,126.15	8,998.39	26.37	24.88	-97.16	139.94	871.06	1,355.78	1,305.19	50.58	26.804		
10,300.00	10,233.15	9,150.00	8,907.73	26.59	24.92	-98.96	161.80	873.05	1,447.99	1,397.20	50.79	28.510		
10,400.00	10,333.00	9,150.00	8,907.73	26.80	24.92	-100.17	161.80	873.05	1,540.52	1,489.48	51.04	30.184		
10,500.00	10,432.89	9,150.00	8,907.73	27.00	24.92	-101.45	161.80	873.05	1,633.88	1,582.60	51.27	31.865		
10,600.00	10,532.82	9,150.00	8,907.73	27.20	24.92	-102.80	161.80	873.05	1,727.92	1,676.43	51.50	33.553		
10,700.00	10,632.78	9,174.41	8,916.35	27.39	24.95	-104.61	184.55	874.89	1,821.88	1,770.18	51.70	35.242		
10,800.00	10,732.75	9,200.00	8,924.36	27.58	25.00	-106.36	208.80	876.60	1,916.86	1,864.98	51.87	36.953		
10,900.00	10,832.75	9,200.00	8,924.36	27.75	25.00	-107.78	208.80	876.60	2,011.59	1,959.53	52.06	38.641		
10,984.29	10,917.04	9,200.00	8,924.36	27.89	25.00	9.46	208.80	876.60	2,091.75	2,039.56	52.20	40.072		
11,000.00	10,932.75	9,200.00	8,924.36	27.92	25.00	9.46	208.80	876.60	2,106.72	2,054.50	52.23	40.338		
11,100.00	11,032.75	9,200.00	8,924.36	28.10	25.00	9.46	208.80	876.60	2,202.26	2,149.85	52.41	42.020		
11,184.29	11,117.04	9,200.00	8,924.36	28.25	25.00	9.46	208.80	876.60	2,283.09	2,230.53	52.56	43.435		
11,200.00	11,132.74	9,200.00	8,924.36	28.28	25.00	8.65	208.80	876.60	2,298.12	2,245.55	52.57	43.712		
11,250.00	11,182.60	9,200.00	8,924.36	28.36	25.00	6.79	208.80	876.60	2,345.13	2,292.73	52.39	44.760		
11,300.00	11,231.96	9,200.00	8,924.36	28.41	25.00	5.60	208.80	876.60	2,390.65	2,338.74	51.91	46.055		
11,350.00	11,280.45	9,220.79	8,930.09	28.46	25.03	4.77	228.74	877.82	2,433.99	2,382.85	51.14	47.595		
11,400.00	11,327.69	9,226.17	8,931.46	28.48	25.04	4.18	233.94	878.11	2,475.55	2,425.45	50.09	49.417		
11,450.00	11,373.32	9,250.00	8,936.93	28.49	25.09	3.74	257.10	879.28	2,515.17	2,466.37	48.80	51.536		
11,500.00	11,417.01	9,250.00	8,936.93	28.49	25.09	3.41	257.10	879.28	2,551.78	2,504.51	47.27	53.982		
11,550.00	11,458.42	9,250.00	8,936.93	28.47	25.09	3.14	257.10	879.28	2,585.80	2,540.26	45.53	56.791		
11,600.00	11,497.22	9,250.00	8,936.93	28.44	25.09	2.93	257.10	879.28	2,617.07	2,573.45	43.62	59.996		
11,650.00	11,533.13	9,250.00	8,936.93	28.40	25.09	2.76	257.10	879.28	2,645.47	2,603.89	41.58	63.625		
11,700.00	11,565.88	9,250.00	8,936.93	28.36	25.09	2.62	257.10	879.28	2,670.86	2,631.41	39.46	67.694		
11,750.00	11,595.21	9,276.05	8,941.83	28.32	25.15	2.52	282.66	880.33	2,692.45	2,655.11	37.35	72.095		
11,800.00	11,620.90	9,300.00	8,945.34	28.27	25.20	2.44	306.34	881.07	2,711.28	2,675.99	35.29	76.827		
11,850.00	11,642.76	9,300.00	8,945.34	28.23	25.20	2.38	306.34	881.07	2,726.22	2,692.89	33.33	81.795		
11,900.00	11,660.61	9,300.00	8,945.34	28.20	25.20	2.33	306.34	881.07	2,737.82	2,706.23	31.59	86.668		
11,950.00	11,674.33	9,300.00	8,945.34	28.17	25.20	2.30	306.34	881.07	2,746.02	2,715.85	30.17	91.012		
12,000.00	11,683.81	9,300.00	8,945.34	28.17	25.20	2.28	306.34	881.07	2,750.79	2,721.61	29.18	94.265		
12,050.00	11,688.97	9,327.92	8,948.19	28.18	25.27	2.28	334.10	881.68	2,751.32	2,722.52	28.80	95.548		
12,085.62	11,690.00	9,350.00	8,949.51	28.21	25.33	2.30	356.14	881.96	2,750.01	2,721.14	28.88	95.229		
12,100.00	11,689.96	9,350.00	8,949.51	28.23	25.33	2.30	356.14	881.96	2,748.97	2,720.06	28.90	95.104		
12,200.00	11,689.73	9,350.00	8,949.51	28.41	25.33	2.30	356.14	881.96	2,743.78	2,714.67	29.11	94.260		
12,300.00	11,689.50	9,373.98	8,950.00	28.75	25.41	2.30	380.11	882.07	2,741.73	2,712.31	29.42	93.200		
12,400.00	11,689.27	9,463.84	8,950.00	29.23	25.73	2.30	469.97	882.07	2,741.48	2,711.49	29.99	91.417		
12,500.00	11,689.04	9,563.84	8,950.00	29.85	26.23	2.30	569.97	882.07	2,741.25	2,710.60	30.65	89.437		
12,600.00	11,688.81	9,663.84	8,950.00	30.58	26.87	2.30	669.97	882.07	2,741.02	2,709.65	31.37	87.382		
12,700.00	11,688.58	9,763.84	8,950.00	31.42	27.64	2.30	769.97	882.07	2,740.79	2,708.65	32.14	85.279		
12,800.00	11,688.34	9,863.84	8,950.00	32.34	28.52	2.30	869.97	882.07	2,740.56	2,707.60	32.96	83.153		
12,900.00	11,688.11	9,963.84	8,950.00	33.35	29.50	2.30	969.97	882.07	2,740.32	2,706.50	33.82	81.022		
13,000.00	11,687.88	10,063.84	8,950.00	34.42	30.57	2.30	1,069.97	882.07	2,740.09	2,705.37	34.73	78.904		
13,100.00	11,687.65	10,163.84	8,950.00	35.55	31.71	2.30	1,169.97	882.07	2,739.86	2,704.19	35.67	76.813		
13,200.00	11,687.42	10,263.84	8,950.00	36.74	32.93	2.30	1,269.97	882.07	2,739.63	2,702.98	36.65	74.759		
13,300.00	11,687.19	10,363.84	8,950.00	37.99	34.20	2.30	1,369.97	882.07	2,739.40	2,701.74	37.65	72.750		
13,400.00	11,686.96	10,463.84	8,950.00	39.27	35.52	2.30	1,469.97	882.07	2,739.17	2,700.48	38.69	70.793		
13,500.00	11,686.73	10,563.84	8,950.00	40.60	36.89	2.30	1,569.97	882.07	2,738.94	2,699.18	39.76	68.891		
13,600.00	11,686.50	10,663.83	8,950.00	41.97	38.30	2.30	1,669.97	882.07	2,738.71	2,697.86	40.85	67.048		
13,700.00	11,686.26	10,763.83	8,950.00	43.37	39.74	2.30	1,769.97	882.07	2,738.48	2,696.52	41.96	65.265		
13,800.00	11,686.03	10,863.83	8,950.00	44.80	41.22	2.30	1,869.97	882.07	2,738.24	2,695.15	43.09	63.544		
13,900.00	11,685.80	10,963.83	8,950.00	46.25	42.72	2.30	1,969.97	882.07	2,738.01	2,693.77	44.24	61.883		
14,000.00	11,685.57	11,063.83	8,950.00	47.74	44.24	2.30	2,069.97	882.07	2,737.78	2,692.37	45.42	60.283		
14,100.00	11,685.34	11,163.83	8,950.00	49.24	45.79	2.30	2,169.97	882.07	2,737.55	2,690.95	46.60	58.743		

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 313H (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:	313H (SIMOPS)	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.1 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design Cotton Draw Unit - 321H (SIMOPS) - OH - Plan #1												Offset Site Error:	0.00 usft
Survey Program: 0-LEAM MWD-ADJ												Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis		Distance							
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
14,200.00	11,685.11	11,263.83	8,950.00	50.77	47.36	2.30	2,269.97	882.07	2,737.32	2,689.52	47.80	57.260	
14,300.00	11,684.88	11,363.83	8,950.00	52.31	48.95	2.30	2,369.97	882.07	2,737.09	2,688.07	49.02	55.834	
14,400.00	11,684.65	11,463.83	8,950.00	53.88	50.55	2.30	2,469.97	882.07	2,736.86	2,686.61	50.25	54.463	
14,500.00	11,684.41	11,563.83	8,950.00	55.45	52.17	2.30	2,569.97	882.07	2,736.63	2,685.13	51.49	53.145	
14,600.00	11,684.18	11,663.83	8,950.00	57.05	53.80	2.30	2,669.97	882.07	2,736.40	2,683.65	52.75	51.877	
14,700.00	11,683.95	11,763.83	8,950.00	58.65	55.44	2.30	2,769.97	882.07	2,736.17	2,682.15	54.01	50.658	
14,800.00	11,683.72	11,863.83	8,950.00	60.27	57.10	2.30	2,869.97	882.07	2,735.93	2,680.65	55.29	49.486	
14,900.00	11,683.49	11,963.83	8,950.00	61.90	58.76	2.30	2,969.97	882.07	2,735.70	2,679.13	56.57	48.359	
15,000.00	11,683.26	12,063.83	8,950.00	63.55	60.44	2.31	3,069.97	882.07	2,735.47	2,677.61	57.86	47.275	
15,100.00	11,683.03	12,163.83	8,950.00	65.20	62.12	2.31	3,169.97	882.07	2,735.24	2,676.08	59.16	46.232	
15,200.00	11,682.80	12,263.83	8,950.00	66.86	63.81	2.31	3,269.97	882.07	2,735.01	2,674.54	60.47	45.228	
15,300.00	11,682.57	12,363.83	8,950.00	68.52	65.51	2.31	3,369.97	882.07	2,734.78	2,672.99	61.79	44.261	
15,400.00	11,682.33	12,463.83	8,950.00	70.20	67.22	2.31	3,469.97	882.07	2,734.55	2,671.44	63.11	43.330	
15,500.00	11,682.10	12,563.83	8,950.00	71.88	68.93	2.31	3,569.96	882.07	2,734.32	2,669.88	64.44	42.433	
15,600.00	11,681.87	12,663.83	8,950.00	73.58	70.64	2.31	3,669.96	882.07	2,734.09	2,668.31	65.77	41.569	
15,700.00	11,681.64	12,763.83	8,950.00	75.27	72.37	2.31	3,769.96	882.07	2,733.85	2,666.74	67.11	40.735	
15,800.00	11,681.41	12,863.83	8,950.00	76.97	74.09	2.31	3,869.96	882.07	2,733.62	2,665.17	68.46	39.931	
15,900.00	11,681.18	12,963.83	8,950.00	78.68	75.83	2.31	3,969.96	882.07	2,733.39	2,663.58	69.81	39.155	
16,000.00	11,680.95	13,063.83	8,950.00	80.40	77.56	2.31	4,069.96	882.07	2,733.16	2,662.00	71.16	38.406	
16,100.00	11,680.72	13,163.83	8,950.00	82.11	79.30	2.31	4,169.96	882.07	2,732.93	2,660.41	72.52	37.683	
16,200.00	11,680.48	13,263.83	8,950.00	83.84	81.05	2.31	4,269.96	882.07	2,732.70	2,658.81	73.89	36.984	
16,300.00	11,680.25	13,363.83	8,950.00	85.56	82.79	2.31	4,369.96	882.07	2,732.47	2,657.21	75.26	36.309	
16,409.48	11,680.00	13,473.31	8,950.00	87.46	84.71	2.31	4,479.45	882.07	2,732.22	2,655.46	76.76	35.595	
16,410.43	11,680.00	13,473.98	8,950.00	87.52	84.72	2.31	4,480.11	882.07	2,732.21	2,655.45	76.77	35.592	



LEAM Drilling Systems LLC
Anticollision Report



Company:	DEVON ENERGY	Local Co-ordinate Reference:	Well 313H (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:	313H (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	-34.93	259.03	-180.88	315.93					
100.00	100.00	100.00	100.00	0.08	0.08	-34.93	259.03	-180.88	315.93	315.78	0.16	2,008.007		
200.00	200.00	200.00	200.00	0.30	0.30	-34.93	259.03	-180.88	315.93	315.33	0.61	520.595		
300.00	300.00	300.00	300.00	0.53	0.53	-34.93	259.03	-180.88	315.93	314.88	1.06	299.065		
400.00	400.00	400.00	400.00	0.75	0.75	-34.93	259.03	-180.88	315.93	314.43	1.51	209.792		
500.00	500.00	500.00	500.00	0.98	0.98	-34.93	259.03	-180.88	315.93	313.98	1.96	161.564		
600.00	600.00	600.00	600.00	1.20	1.20	-34.93	259.03	-180.88	315.93	313.53	2.40	131.365		
700.00	700.00	700.00	700.00	1.43	1.43	-34.93	259.03	-180.88	315.93	313.08	2.85	110.678		
800.00	800.00	800.00	800.00	1.65	1.65	-34.93	259.03	-180.88	315.93	312.63	3.30	95.620		
900.00	900.00	900.00	900.00	1.88	1.88	-34.93	259.03	-180.88	315.93	312.18	3.75	84.168		
1,000.00	1,000.00	1,000.00	1,000.00	2.10	2.10	-34.93	259.03	-180.88	315.93	311.73	4.20	75.166		
1,100.00	1,100.00	1,100.00	1,100.00	2.33	2.33	-34.93	259.03	-180.88	315.93	311.28	4.65	67.904		
1,200.00	1,200.00	1,200.00	1,200.00	2.55	2.55	-34.93	259.03	-180.88	315.93	310.83	5.10	61.921		
1,300.00	1,300.00	1,300.00	1,300.00	2.78	2.78	-34.93	259.03	-180.88	315.93	310.38	5.55	56.907		
1,400.00	1,400.00	1,400.00	1,400.00	3.00	3.00	-34.93	259.03	-180.88	315.93	309.93	6.00	52.644		
1,500.00	1,500.00	1,500.00	1,500.00	3.23	3.23	-34.93	259.03	-180.88	315.93	309.48	6.45	48.976		
1,600.00	1,600.00	1,600.00	1,600.00	3.45	3.45	-34.93	259.03	-180.88	315.93	309.03	6.90	45.785		
1,700.00	1,700.00	1,700.00	1,700.00	3.67	3.67	-34.93	259.03	-180.88	315.93	308.58	7.35	42.985		
1,800.00	1,800.00	1,800.00	1,800.00	3.90	3.90	-34.93	259.03	-180.88	315.93	308.13	7.80	40.507		
1,900.00	1,900.00	1,900.00	1,900.00	4.12	4.12	-34.93	259.03	-180.88	315.93	307.68	8.25	38.300		
2,000.00	2,000.00	2,000.00	2,000.00	4.35	4.35	-34.93	259.03	-180.88	315.93	307.23	8.70	36.321		
2,100.00	2,100.00	2,100.00	2,100.00	4.57	4.57	-34.93	259.03	-180.88	315.93	306.78	9.15	34.536		
2,200.00	2,200.00	2,200.00	2,200.00	4.80	4.80	-34.93	259.03	-180.88	315.93	306.34	9.60	32.918		
2,300.00	2,300.00	2,300.00	2,300.00	5.02	5.02	-34.93	259.03	-180.88	315.93	305.89	10.05	31.445		
2,400.00	2,400.00	2,400.00	2,400.00	5.25	5.25	-34.93	259.03	-180.88	315.93	305.44	10.50	30.099		
2,500.00	2,500.00	2,500.00	2,500.00	5.47	5.47	-34.93	259.03	-180.88	315.93	304.99	10.95	28.863		
2,600.00	2,600.00	2,600.00	2,600.00	5.70	5.70	-34.93	259.03	-180.88	315.93	304.54	11.40	27.724		
2,700.00	2,700.00	2,700.00	2,700.00	5.92	5.92	-34.93	259.03	-180.88	315.93	304.09	11.85	26.672		
2,800.00	2,800.00	2,800.00	2,800.00	6.15	6.15	-34.93	259.03	-180.88	315.93	303.64	12.29	25.697		
2,900.00	2,900.00	2,900.00	2,900.00	6.37	6.37	-34.93	259.03	-180.88	315.93	303.19	12.74	24.790		
3,000.00	3,000.00	3,000.00	3,000.00	6.60	6.60	-34.93	259.03	-180.88	315.93	302.74	13.19	23.946		
3,100.00	3,100.00	3,100.00	3,100.00	6.82	6.82	-34.93	259.03	-180.88	315.93	302.29	13.64	23.157		
3,200.00	3,200.00	3,200.00	3,200.00	7.05	7.05	-34.93	259.03	-180.88	315.93	301.84	14.09	22.418		
3,300.00	3,300.00	3,300.00	3,300.00	7.27	7.27	-34.93	259.03	-180.88	315.93	301.39	14.54	21.725		
3,400.00	3,400.00	3,400.00	3,400.00	7.50	7.50	-34.93	259.03	-180.88	315.93	300.94	14.99	21.074		
3,500.00	3,500.00	3,500.00	3,500.00	7.72	7.72	-34.93	259.03	-180.88	315.93	300.49	15.44	20.460		
3,600.00	3,600.00	3,600.00	3,600.00	7.95	7.95	-34.93	259.03	-180.88	315.93	300.04	15.89	19.881		
3,700.00	3,700.00	3,700.00	3,700.00	8.17	8.17	-34.93	259.03	-180.88	315.93	299.59	16.34	19.334		
3,800.00	3,800.00	3,800.00	3,800.00	8.40	8.40	-34.93	259.03	-180.88	315.93	299.14	16.79	18.817		
3,900.00	3,900.00	3,900.00	3,900.00	8.62	8.62	-34.93	259.03	-180.88	315.93	298.69	17.24	18.326		
4,000.00	4,000.00	4,000.00	4,000.00	8.84	8.84	-34.93	259.03	-180.88	315.93	298.24	17.69	17.860		
4,100.00	4,100.00	4,100.00	4,100.00	9.07	9.07	-34.93	259.03	-180.88	315.93	297.79	18.14	17.418		
4,200.00	4,200.00	4,200.00	4,200.00	9.29	9.29	-34.93	259.03	-180.88	315.93	297.34	18.59	16.996		
4,300.00	4,300.00	4,300.00	4,300.00	9.52	9.52	-34.93	259.03	-180.88	315.93	296.90	19.04	16.595		
4,400.00	4,400.00	4,405.33	4,405.32	9.72	9.72	-153.54	258.08	-180.68	315.87	296.43	19.44	16.246		
4,500.00	4,499.96	4,510.62	4,510.57	9.91	9.90	-153.98	255.24	-180.10	315.69	295.90	19.80	15.947		
4,600.00	4,599.86	4,615.83	4,615.67	10.09	10.08	-154.70	250.51	-179.13	315.43	295.29	20.15	15.655		
4,700.00	4,699.68	4,720.93	4,720.55	10.28	10.26	-155.71	243.89	-177.77	315.15	294.65	20.50	15.373		
4,800.00	4,799.37	4,825.88	4,825.14	10.48	10.45	-157.01	235.41	-176.02	314.93	294.08	20.85	15.104		
4,879.32	4,878.34	4,909.00	4,907.85	10.64	10.60	-158.24	227.36	-174.37	314.86	293.73	21.13	14.903 CC		
4,900.00	4,898.90	4,930.64	4,929.37	10.68	10.64	-158.59	225.07	-173.90	314.87	293.67	21.20	14.853		
5,000.00	4,998.26	5,034.98	5,032.96	10.88	10.84	-160.45	212.92	-171.40	315.09	293.54	21.54	14.625 ES		

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



LEAM Drilling Systems LLC

Anticollision Report



Company:	DEVON ENERGY	Local Co-ordinate Reference:	Well 313H (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:	313H (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		
5,100.00	5,097.40	5,134.38	5,131.56	11.09	11.03	-162.38	200.53	-168.85	316.57	294.69	21.88	14.468		
5,200.00	5,196.30	5,233.89	5,230.06	11.32	11.23	-164.38	188.16	-166.31	320.09	297.88	22.21	14.409 SF		
5,264.72	5,260.16	5,297.89	5,293.74	11.47	11.36	-165.68	180.16	-164.67	323.48	301.05	22.43	14.422		
5,300.00	5,294.95	5,332.88	5,328.45	11.55	11.44	-166.39	175.80	-163.77	325.59	303.02	22.57	14.428		
5,400.00	5,393.54	5,432.04	5,426.80	11.79	11.65	-168.36	163.44	-161.23	331.84	308.88	22.96	14.454		
5,500.00	5,492.12	5,531.20	5,525.15	12.04	11.86	-170.26	151.08	-158.89	338.48	315.12	23.36	14.490		
5,600.00	5,590.71	5,630.35	5,623.50	12.30	12.08	-172.08	138.73	-156.15	345.47	321.70	23.77	14.537		
5,700.00	5,689.29	5,729.51	5,721.85	12.56	12.31	-173.82	126.37	-153.61	352.80	328.62	24.18	14.591		
5,800.00	5,787.88	5,828.67	5,820.21	12.83	12.54	-175.50	114.02	-151.07	360.44	335.84	24.60	14.652		
5,900.00	5,886.46	5,927.83	5,918.56	13.10	12.77	-177.10	101.66	-148.53	368.38	343.36	25.03	14.720		
6,000.00	5,985.05	6,026.98	6,016.91	13.38	13.01	-178.64	89.30	-145.99	376.60	351.14	25.46	14.791		
6,100.00	6,083.64	6,126.14	6,115.26	13.67	13.25	-179.89	76.95	-143.45	385.09	359.18	25.90	14.867		
6,200.00	6,182.22	6,225.30	6,213.61	13.95	13.49	-178.48	64.59	-140.91	393.81	367.46	26.35	14.945		
6,300.00	6,280.81	6,324.46	6,311.97	14.25	13.74	-177.13	52.23	-138.37	402.76	375.95	26.81	15.025		
6,400.00	6,379.39	6,423.61	6,410.32	14.55	13.99	-175.85	39.88	-135.83	411.92	384.66	27.27	15.106		
6,500.00	6,477.98	6,522.77	6,508.67	14.85	14.25	-174.62	27.52	-133.29	421.29	393.55	27.74	15.188		
6,600.00	6,576.57	6,621.93	6,607.02	15.15	14.50	-173.44	15.16	-130.75	430.84	402.62	28.21	15.271		
6,700.00	6,675.15	6,721.09	6,705.37	15.46	14.76	-172.31	2.81	-128.21	440.56	411.87	28.69	15.353		
6,800.00	6,773.74	6,820.25	6,803.73	15.78	15.02	-171.23	-9.55	-125.67	450.45	421.26	29.18	15.436		
6,900.00	6,872.32	6,919.40	6,902.08	16.09	15.29	-170.20	-21.90	-123.13	460.48	430.81	29.68	15.517		
7,000.00	6,970.91	7,018.56	7,000.43	16.41	15.55	-169.22	-34.26	-120.59	470.66	440.49	30.18	15.597		
7,100.00	7,069.49	7,117.72	7,098.78	16.73	15.82	-168.27	-46.62	-118.05	480.98	450.29	30.68	15.677		
7,200.00	7,168.08	7,214.21	7,194.53	17.05	16.08	-167.43	-58.26	-115.66	491.60	460.42	31.18	15.767		
7,300.00	7,266.67	7,309.57	7,289.35	17.38	16.32	-166.79	-68.29	-113.59	503.05	471.39	31.67	15.866		
7,400.00	7,365.25	7,404.91	7,384.29	17.71	16.56	-166.33	-76.77	-111.85	515.30	483.16	32.14	16.031		
7,500.00	7,463.84	7,500.00	7,479.12	18.04	16.78	-166.05	-83.68	-110.43	528.32	495.70	32.61	16.200		
7,600.00	7,562.42	7,595.27	7,574.23	18.37	17.00	-165.94	-89.06	-109.32	542.07	509.00	33.07	16.392		
7,700.00	7,661.01	7,690.20	7,669.08	18.71	17.21	-165.97	-92.88	-108.54	556.54	523.03	33.51	16.606		
7,800.00	7,759.60	7,784.89	7,763.74	19.04	17.42	-166.15	-95.16	-108.07	571.75	537.80	33.95	16.842		
7,900.00	7,858.18	7,879.34	7,858.18	19.38	17.60	-166.46	-95.90	-107.92	587.69	553.32	34.36	17.101		
8,000.00	7,956.77	7,977.92	7,956.77	19.72	17.80	-166.83	-95.90	-107.92	604.00	569.21	34.79	17.362		
8,100.00	8,055.35	8,076.51	8,055.35	20.06	18.00	-167.18	-95.90	-107.92	620.34	585.13	35.22	17.616		
8,200.00	8,153.94	8,150.00	8,128.65	20.40	18.12	-167.83	-91.40	-107.92	638.47	602.91	35.56	17.954		
8,300.00	8,252.52	8,222.76	8,200.08	20.75	18.20	-169.23	-77.75	-107.92	660.55	624.72	35.84	18.433		
8,400.00	8,351.11	8,288.16	8,262.33	21.09	18.23	-171.05	-57.84	-107.92	687.21	651.14	36.06	19.055		
8,500.00	8,449.70	8,350.00	8,318.76	21.44	18.24	-173.19	-32.61	-107.92	719.09	682.82	36.27	19.827		
8,600.00	8,548.28	8,400.00	8,362.18	21.79	18.23	-175.16	-7.86	-107.92	756.64	720.17	36.47	20.746		
8,700.00	8,646.87	8,450.00	8,403.28	22.14	18.22	-177.31	20.58	-107.92	800.10	763.42	36.68	21.813		
8,800.00	8,745.45	8,485.96	8,431.24	22.49	18.21	-178.94	43.20	-107.92	849.31	812.41	36.90	23.014		
8,900.00	8,844.04	8,521.30	8,457.26	22.84	18.20	-179.42	67.09	-107.92	904.03	866.89	37.14	24.342		
9,000.00	8,942.63	8,550.00	8,477.29	23.19	18.19	-178.05	87.65	-107.92	963.80	926.42	37.38	25.782		
9,054.86	8,996.71	8,567.60	8,489.05	23.39	18.19	-177.21	100.74	-107.92	998.55	961.03	37.52	26.612		
9,100.00	9,041.23	8,579.46	8,496.75	23.53	18.19	-176.65	109.77	-107.92	1,028.04	990.39	37.65	27.307		
9,200.00	9,139.95	8,600.00	8,509.63	23.82	18.19	-175.70	125.76	-107.92	1,095.80	1,057.89	37.91	28.904		
9,300.00	9,238.80	8,625.13	8,524.60	24.10	18.20	-174.54	145.95	-107.92	1,166.52	1,128.33	38.19	30.548		
9,400.00	9,337.79	8,650.00	8,538.52	24.38	18.21	-173.43	166.55	-107.92	1,239.91	1,201.45	38.46	32.238		
9,500.00	9,436.89	8,650.00	8,538.52	24.65	18.21	-173.49	166.55	-107.92	1,315.67	1,276.97	38.70	33.997		
9,600.00	9,536.11	8,677.59	8,552.91	24.92	18.23	-172.29	190.08	-107.92	1,393.15	1,354.16	38.98	35.736		
9,700.00	9,635.43	8,700.00	8,563.75	25.17	18.25	-171.36	209.70	-107.92	1,472.58	1,433.32	39.26	37.510		
9,800.00	9,734.85	8,700.00	8,563.75	25.43	18.25	-171.47	209.70	-107.92	1,553.42	1,513.94	39.49	39.341		
9,900.00	9,834.36	8,700.00	8,563.75	25.67	18.25	-171.58	209.70	-107.92	1,635.91	1,596.20	39.71	41.197		
10,000.00	9,933.96	8,728.07	8,576.24	25.91	18.28	-170.46	234.83	-107.92	1,718.97	1,678.97	40.00	42.979		

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 313H (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:	313H (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		
10,100.00	10,033.62	8,750.00	8,585.13	26.14	18.31	-169.66	254.88	-107.92	1,803.50	1,763.23	40.26	44.792		
10,200.00	10,133.36	8,750.00	8,585.13	26.37	18.31	-169.80	254.88	-107.92	1,888.64	1,848.16	40.48	46.660		
10,300.00	10,233.15	8,750.00	8,585.13	26.59	18.31	-169.95	254.88	-107.92	1,974.75	1,934.07	40.69	48.537		
10,400.00	10,333.00	8,750.00	8,585.13	26.80	18.31	-170.10	254.88	-107.92	2,061.71	2,020.82	40.89	50.421		
10,500.00	10,432.89	8,772.62	8,593.48	27.00	18.36	-169.35	275.90	-107.92	2,148.87	2,107.71	41.15	52.215		
10,600.00	10,532.82	8,779.89	8,595.99	27.20	18.37	-169.23	282.72	-107.92	2,236.80	2,195.43	41.37	54.067		
10,700.00	10,632.78	8,800.00	8,602.48	27.39	18.41	-168.62	301.76	-107.92	2,325.41	2,283.79	41.62	55.874		
10,800.00	10,732.75	8,800.00	8,602.48	27.58	18.41	-168.81	301.76	-107.92	2,414.14	2,372.33	41.81	57.743		
10,900.00	10,832.75	8,800.00	8,602.48	27.75	18.41	-169.00	301.76	-107.92	2,503.34	2,461.34	41.99	59.611		
10,984.29	10,917.04	8,800.00	8,602.48	27.89	18.41	-50.69	301.76	-107.92	2,578.85	2,536.71	42.15	61.189		
11,000.00	10,932.75	8,800.00	8,602.48	27.92	18.41	-50.69	301.76	-107.92	2,592.96	2,550.78	42.18	61.478		
11,100.00	11,032.75	8,800.00	8,602.48	28.10	18.41	-50.69	301.76	-107.92	2,683.19	2,640.80	42.38	63.307		
11,184.29	11,117.04	8,800.00	8,602.48	28.25	18.41	-50.69	301.76	-107.92	2,759.77	2,717.21	42.56	64.848		
11,200.00	11,132.74	8,800.00	8,602.48	28.28	18.41	-48.11	301.76	-107.92	2,774.03	2,731.40	42.63	65.080		
11,250.00	11,182.60	8,800.00	8,602.48	28.36	18.41	-41.14	301.76	-107.92	2,818.67	2,775.89	42.78	65.881		
11,300.00	11,231.96	8,822.55	8,608.96	28.41	18.47	-35.32	323.36	-107.92	2,861.45	2,818.63	42.82	66.826		
11,350.00	11,280.45	8,826.79	8,610.08	28.46	18.49	-31.18	327.45	-107.92	2,902.91	2,860.35	42.56	68.206		
11,400.00	11,327.69	8,850.00	8,615.68	28.48	18.55	-27.72	349.97	-107.92	2,942.78	2,900.70	42.08	69.933		
11,450.00	11,373.32	8,850.00	8,615.68	28.49	18.55	-25.24	349.97	-107.92	2,979.98	2,938.66	41.32	72.112		
11,500.00	11,417.01	8,850.00	8,615.68	28.49	18.55	-23.24	349.97	-107.92	3,014.85	2,974.50	40.36	74.702		
11,550.00	11,458.42	8,850.00	8,615.68	28.47	18.55	-21.62	349.97	-107.92	3,047.22	3,008.00	39.21	77.711		
11,600.00	11,497.22	8,850.00	8,615.68	28.44	18.55	-20.30	349.97	-107.92	3,076.90	3,038.98	37.92	81.141		
11,650.00	11,533.13	8,850.00	8,615.68	28.40	18.55	-19.22	349.97	-107.92	3,103.77	3,067.25	36.52	84.979		
11,700.00	11,565.88	8,850.00	8,615.68	28.36	18.55	-18.34	349.97	-107.92	3,127.69	3,092.62	35.07	89.190		
11,750.00	11,595.21	8,875.87	8,620.85	28.32	18.64	-17.58	375.32	-107.92	3,147.87	3,114.24	33.64	93.576		
11,800.00	11,620.90	8,900.00	8,624.64	28.27	18.73	-16.98	399.14	-107.92	3,165.41	3,133.14	32.27	98.082		
11,850.00	11,642.76	8,900.00	8,624.64	28.23	18.73	-16.57	399.14	-107.92	3,179.11	3,148.13	30.98	102.609		
11,900.00	11,660.61	8,900.00	8,624.64	28.20	18.73	-16.27	399.14	-107.92	3,189.50	3,159.63	29.87	106.770		
11,950.00	11,674.33	8,900.00	8,624.64	28.17	18.73	-16.07	399.14	-107.92	3,196.52	3,167.52	29.01	110.201		
12,000.00	11,683.81	8,900.00	8,624.64	28.17	18.73	-15.97	399.14	-107.92	3,200.15	3,171.71	28.44	112.519		
12,050.00	11,688.97	8,922.01	8,627.21	28.18	18.82	-15.97	421.00	-107.92	3,199.89	3,171.61	28.28	113.167		
12,085.62	11,690.00	8,927.59	8,627.73	28.21	18.84	-16.03	426.56	-107.92	3,197.68	3,169.33	28.35	112.784		
12,100.00	11,689.96	8,950.00	8,629.27	28.23	18.94	-16.04	448.91	-107.92	3,196.86	3,168.43	28.43	112.440		
12,200.00	11,689.73	8,950.00	8,629.27	28.41	18.94	-16.04	448.91	-107.92	3,189.47	3,160.89	28.59	111.566		
12,300.00	11,689.50	8,950.00	8,629.27	28.75	18.94	-16.04	448.91	-107.92	3,185.21	3,156.42	28.78	110.657		
12,400.00	11,689.27	8,978.15	8,629.96	29.23	19.07	-16.05	477.05	-107.92	3,183.35	3,154.25	29.10	109.396		
12,500.00	11,689.04	9,071.11	8,629.96	29.85	19.62	-16.05	570.00	-107.92	3,183.12	3,153.45	29.67	107.270		
12,600.00	11,688.81	9,171.10	8,629.96	30.58	20.32	-16.05	670.00	-107.92	3,182.90	3,152.54	30.36	104.853		
12,700.00	11,688.58	9,271.10	8,629.96	31.42	21.17	-16.05	770.00	-107.92	3,182.67	3,151.55	31.12	102.257		
12,800.00	11,688.34	9,371.10	8,629.96	32.34	22.13	-16.05	870.00	-107.92	3,182.45	3,150.48	31.97	99.539		
12,900.00	11,688.11	9,471.10	8,629.96	33.35	23.19	-16.05	970.00	-107.92	3,182.23	3,149.34	32.89	96.750		
13,000.00	11,687.88	9,571.10	8,629.96	34.42	24.35	-16.05	1,070.00	-107.92	3,182.01	3,148.13	33.88	93.930		
13,100.00	11,687.65	9,671.10	8,629.97	35.55	25.58	-16.05	1,170.00	-107.92	3,181.78	3,146.86	34.92	91.116		
13,200.00	11,687.42	9,771.10	8,629.97	36.74	26.89	-16.06	1,270.00	-107.92	3,181.56	3,145.54	36.02	88.333		
13,300.00	11,687.19	9,871.10	8,629.97	37.99	28.25	-16.06	1,370.00	-107.92	3,181.34	3,144.17	37.16	85.603		
13,400.00	11,686.96	9,971.10	8,629.97	39.27	29.66	-16.06	1,470.00	-107.92	3,181.11	3,142.76	38.35	82.941		
13,500.00	11,686.73	10,071.10	8,629.97	40.60	31.11	-16.06	1,570.00	-107.92	3,180.89	3,141.31	39.58	80.359		
13,600.00	11,686.50	10,171.10	8,629.97	41.97	32.60	-16.06	1,670.00	-107.92	3,180.67	3,139.82	40.85	77.864		
13,700.00	11,686.26	10,271.10	8,629.97	43.37	34.12	-16.06	1,770.00	-107.92	3,180.45	3,138.30	42.15	75.461		
13,800.00	11,686.03	10,371.10	8,629.97	44.80	35.68	-16.06	1,870.00	-107.92	3,180.22	3,136.75	43.47	73.151		
13,900.00	11,685.80	10,471.10	8,629.97	46.25	37.25	-16.06	1,970.00	-107.92	3,180.00	3,135.17	44.83	70.936		
14,000.00	11,685.57	10,571.10	8,629.97	47.74	38.85	-16.07	2,070.00	-107.92	3,179.78	3,133.57	46.21	68.813		

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 313H (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:	313H (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							
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
14,100.00	11,685.34	10,671.10	8,629.98	49.24	40.47	-16.07	2,170.00	-107.92	3,179.55	3,131.94	47.61	66.783	
14,200.00	11,685.11	10,771.10	8,629.98	50.77	42.11	-16.07	2,270.00	-107.92	3,179.33	3,130.30	49.03	64.841	
14,300.00	11,684.88	10,871.10	8,629.98	52.31	43.76	-16.07	2,370.00	-107.92	3,179.11	3,128.63	50.47	62.985	
14,400.00	11,684.65	10,971.10	8,629.98	53.88	45.42	-16.07	2,470.00	-107.92	3,178.89	3,126.95	51.93	61.211	
14,500.00	11,684.41	11,071.10	8,629.98	55.45	47.10	-16.07	2,570.00	-107.92	3,178.66	3,125.26	53.41	59.517	
14,600.00	11,684.18	11,171.10	8,629.98	57.05	48.79	-16.07	2,670.00	-107.92	3,178.44	3,123.54	54.90	57.898	
14,700.00	11,683.95	11,271.10	8,629.98	58.65	50.48	-16.07	2,770.00	-107.92	3,178.22	3,121.82	56.40	56.351	
14,800.00	11,683.72	11,371.10	8,629.98	60.27	52.19	-16.07	2,870.00	-107.92	3,178.00	3,120.08	57.92	54.873	
14,900.00	11,683.49	11,471.10	8,629.98	61.90	53.90	-16.08	2,970.00	-107.92	3,177.77	3,118.33	59.44	53.459	
15,000.00	11,683.26	11,571.10	8,629.99	63.55	55.62	-16.08	3,070.00	-107.92	3,177.55	3,116.57	60.98	52.107	
15,100.00	11,683.03	11,671.10	8,629.99	65.20	57.35	-16.08	3,170.00	-107.92	3,177.33	3,114.80	62.53	50.814	
15,200.00	11,682.80	11,771.10	8,629.99	66.86	59.09	-16.08	3,270.00	-107.92	3,177.10	3,113.02	64.09	49.575	
15,300.00	11,682.57	11,871.10	8,629.99	68.52	60.82	-16.08	3,370.00	-107.92	3,176.88	3,111.23	65.65	48.389	
15,400.00	11,682.33	11,971.10	8,629.99	70.20	62.57	-16.08	3,470.00	-107.92	3,176.66	3,109.43	67.23	47.253	
15,500.00	11,682.10	12,071.10	8,629.99	71.88	64.32	-16.08	3,570.00	-107.92	3,176.44	3,107.63	68.81	46.164	
15,600.00	11,681.87	12,171.10	8,629.99	73.58	66.07	-16.08	3,670.00	-107.92	3,176.21	3,105.82	70.40	45.119	
15,700.00	11,681.64	12,271.10	8,629.99	75.27	67.83	-16.09	3,770.00	-107.92	3,175.99	3,104.00	71.99	44.116	
15,800.00	11,681.41	12,371.10	8,629.99	76.97	69.59	-16.09	3,870.00	-107.92	3,175.77	3,102.17	73.59	43.152	
15,900.00	11,681.18	12,471.10	8,629.99	78.68	71.35	-16.09	3,970.00	-107.92	3,175.54	3,100.34	75.20	42.227	
16,000.00	11,680.95	12,571.10	8,630.00	80.40	73.12	-16.09	4,070.00	-107.92	3,175.32	3,098.51	76.81	41.338	
16,100.00	11,680.72	12,671.10	8,630.00	82.11	74.89	-16.09	4,170.00	-107.92	3,175.10	3,096.67	78.43	40.482	
16,200.00	11,680.48	12,771.10	8,630.00	83.84	76.66	-16.09	4,269.99	-107.92	3,174.88	3,094.82	80.06	39.658	
16,300.00	11,680.25	12,871.09	8,630.00	85.56	78.44	-16.09	4,369.99	-107.92	3,174.65	3,092.97	81.68	38.865	
16,409.48	11,680.00	12,975.20	8,630.00	87.46	80.29	-16.09	4,474.10	-107.92	3,174.41	3,090.99	83.42	38.051	
16,410.43	11,680.00	12,975.20	8,630.00	87.52	80.29	-16.09	4,474.10	-107.92	3,174.41	3,090.98	83.43	38.049	

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 313H (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:	313H (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)	Offset Wellbore Centre +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	-40.85	209.03	-180.74	276.33					
100.00	100.00	100.00	100.00	0.08	0.08	-40.85	209.03	-180.74	276.33	276.17	0.16	1,756.307		
200.00	200.00	200.00	200.00	0.30	0.30	-40.85	209.03	-180.74	276.33	275.72	0.61	455.339		
300.00	300.00	300.00	300.00	0.53	0.53	-40.85	209.03	-180.74	276.33	275.27	1.06	261.578		
400.00	400.00	400.00	400.00	0.75	0.75	-40.85	209.03	-180.74	276.33	274.83	1.51	183.495		
500.00	500.00	500.00	500.00	0.98	0.98	-40.85	209.03	-180.74	276.33	274.38	1.96	141.312		
600.00	600.00	600.00	600.00	1.20	1.20	-40.85	209.03	-180.74	276.33	273.93	2.40	114.899		
700.00	700.00	700.00	700.00	1.43	1.43	-40.85	209.03	-180.74	276.33	273.48	2.85	96.804		
800.00	800.00	800.00	800.00	1.65	1.65	-40.85	209.03	-180.74	276.33	273.03	3.30	83.634		
900.00	900.00	900.00	900.00	1.88	1.88	-40.85	209.03	-180.74	276.33	272.58	3.75	73.618		
1,000.00	1,000.00	1,000.00	1,000.00	2.10	2.10	-40.85	209.03	-180.74	276.33	272.13	4.20	65.744		
1,100.00	1,100.00	1,100.00	1,100.00	2.33	2.33	-40.85	209.03	-180.74	276.33	271.68	4.65	59.392		
1,200.00	1,200.00	1,200.00	1,200.00	2.55	2.55	-40.85	209.03	-180.74	276.33	271.23	5.10	54.159		
1,300.00	1,300.00	1,300.00	1,300.00	2.78	2.78	-40.85	209.03	-180.74	276.33	270.78	5.55	49.774		
1,400.00	1,400.00	1,400.00	1,400.00	3.00	3.00	-40.85	209.03	-180.74	276.33	270.33	6.00	46.046		
1,500.00	1,500.00	1,500.00	1,500.00	3.23	3.23	-40.85	209.03	-180.74	276.33	269.88	6.45	42.837		
1,600.00	1,600.00	1,600.00	1,600.00	3.45	3.45	-40.85	209.03	-180.74	276.33	269.43	6.90	40.046		
1,700.00	1,700.00	1,700.00	1,700.00	3.67	3.67	-40.85	209.03	-180.74	276.33	268.98	7.35	37.597		
1,800.00	1,800.00	1,800.00	1,800.00	3.90	3.90	-40.85	209.03	-180.74	276.33	268.53	7.80	35.430		
1,900.00	1,900.00	1,900.00	1,900.00	4.12	4.12	-40.85	209.03	-180.74	276.33	268.08	8.25	33.499		
2,000.00	2,000.00	2,000.00	2,000.00	4.35	4.35	-40.85	209.03	-180.74	276.33	267.63	8.70	31.768		
2,100.00	2,100.00	2,100.00	2,100.00	4.57	4.57	-40.85	209.03	-180.74	276.33	267.18	9.15	30.207		
2,200.00	2,200.00	2,200.00	2,200.00	4.80	4.80	-40.85	209.03	-180.74	276.33	266.73	9.60	28.792		
2,300.00	2,300.00	2,300.00	2,300.00	5.02	5.02	-40.85	209.03	-180.74	276.33	266.28	10.05	27.504		
2,400.00	2,400.00	2,400.00	2,400.00	5.25	5.25	-40.85	209.03	-180.74	276.33	265.83	10.50	26.326		
2,500.00	2,500.00	2,500.00	2,500.00	5.47	5.47	-40.85	209.03	-180.74	276.33	265.38	10.95	25.245		
2,600.00	2,600.00	2,600.00	2,600.00	5.70	5.70	-40.85	209.03	-180.74	276.33	264.94	11.40	24.249		
2,700.00	2,700.00	2,700.00	2,700.00	5.92	5.92	-40.85	209.03	-180.74	276.33	264.49	11.85	23.329		
2,800.00	2,800.00	2,800.00	2,800.00	6.15	6.15	-40.85	209.03	-180.74	276.33	264.04	12.29	22.476		
2,900.00	2,900.00	2,900.00	2,900.00	6.37	6.37	-40.85	209.03	-180.74	276.33	263.59	12.74	21.683		
3,000.00	3,000.00	3,000.00	3,000.00	6.60	6.60	-40.85	209.03	-180.74	276.33	263.14	13.19	20.944		
3,100.00	3,100.00	3,100.00	3,100.00	6.82	6.82	-40.85	209.03	-180.74	276.33	262.69	13.64	20.254		
3,200.00	3,200.00	3,200.00	3,200.00	7.05	7.05	-40.85	209.03	-180.74	276.33	262.24	14.09	19.608		
3,300.00	3,300.00	3,300.00	3,300.00	7.27	7.27	-40.85	209.03	-180.74	276.33	261.79	14.54	19.002		
3,400.00	3,400.00	3,400.00	3,400.00	7.50	7.50	-40.85	209.03	-180.74	276.33	261.34	14.99	18.432		
3,500.00	3,500.00	3,500.00	3,500.00	7.72	7.72	-40.85	209.03	-180.74	276.33	260.89	15.44	17.895		
3,600.00	3,600.00	3,600.00	3,600.00	7.95	7.95	-40.85	209.03	-180.74	276.33	260.44	15.89	17.389		
3,700.00	3,700.00	3,700.00	3,700.00	8.17	8.17	-40.85	209.03	-180.74	276.33	259.99	16.34	16.911		
3,800.00	3,800.00	3,800.00	3,800.00	8.40	8.40	-40.85	209.03	-180.74	276.33	259.54	16.79	16.458		
3,900.00	3,900.00	3,900.00	3,900.00	8.62	8.62	-40.85	209.03	-180.74	276.33	259.09	17.24	16.029		
4,000.00	4,000.00	4,000.00	4,000.00	8.84	8.84	-40.85	209.03	-180.74	276.33	258.64	17.69	15.622		
4,100.00	4,100.00	4,100.00	4,100.00	9.07	9.07	-40.85	209.03	-180.74	276.33	258.19	18.14	15.234		
4,200.00	4,200.00	4,200.00	4,200.00	9.29	9.29	-40.85	209.03	-180.74	276.33	257.74	18.59	14.866		
4,300.00	4,300.00	4,300.00	4,300.00	9.52	9.52	-40.85	209.03	-180.74	276.33	257.29	19.04	14.515		
4,400.00	4,400.00	4,405.83	4,405.82	9.72	9.74	-159.25	208.62	-179.50	276.09	256.64	19.46	14.191		
4,500.00	4,499.96	4,511.63	4,511.54	9.91	9.94	-159.04	207.40	-175.79	275.38	255.55	19.83	13.887		
4,600.00	4,599.86	4,617.38	4,617.09	10.09	10.14	-158.68	205.37	-169.62	274.20	253.99	20.21	13.571		
4,700.00	4,699.68	4,723.05	4,722.37	10.28	10.35	-158.18	202.53	-160.99	272.57	251.99	20.58	13.244		
4,800.00	4,799.37	4,828.62	4,827.29	10.48	10.57	-157.53	198.89	-149.92	270.50	249.54	20.95	12.909		
4,900.00	4,898.90	4,934.05	4,931.76	10.68	10.79	-156.72	194.45	-136.43	268.02	246.69	21.33	12.564		
5,000.00	4,998.26	5,039.33	5,035.70	10.88	11.03	-155.75	189.21	-120.53	265.16	243.44	21.72	12.211		
5,100.00	5,097.40	5,144.10	5,138.69	11.09	11.28	-154.61	183.22	-102.32	261.96	239.86	22.10	11.852		

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 313H (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:	313H (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 (°)	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)				
5,200.00	5,196.30	5,243.94	5,236.65	11.32	11.53	-153.52	177.18	-83.97	259.57	237.08	22.49	11.542		
5,264.72	5,260.16	5,308.59	5,300.08	11.47	11.70	-152.90	173.27	-72.09	258.91	236.16	22.74	11.383		
5,300.00	5,294.95	5,343.85	5,334.67	11.55	11.79	-152.58	171.13	-65.61	258.73	235.83	22.90	11.298		
5,400.00	5,393.54	5,443.76	5,432.69	11.79	12.06	-151.66	165.09	-47.25	258.28	234.93	23.35	11.060		
5,500.00	5,492.12	5,543.67	5,530.72	12.04	12.34	-150.74	159.05	-28.88	257.90	234.08	23.81	10.830		
5,600.00	5,590.71	5,643.59	5,628.74	12.30	12.63	-149.82	153.00	-10.52	257.58	233.29	24.29	10.605		
5,700.00	5,689.29	5,743.50	5,726.77	12.56	12.92	-148.90	146.96	7.85	257.33	232.56	24.77	10.388		
5,800.00	5,787.88	5,843.42	5,824.79	12.83	13.22	-147.98	140.91	26.21	257.15	231.88	25.27	10.176		
5,900.00	5,886.46	5,943.33	5,922.82	13.10	13.53	-147.05	134.87	44.57	257.03	231.25	25.78	9.971		
6,000.00	5,985.05	6,043.24	6,020.84	13.38	13.84	-146.12	128.82	62.94	256.98	230.69	26.30	9.772		
6,022.08	6,006.82	6,065.31	6,042.49	13.44	13.91	-145.92	127.49	66.99	256.98	230.57	26.41	9.729 CC		
6,100.00	6,083.84	6,143.16	6,118.87	13.67	14.16	-145.20	122.78	81.30	257.00	230.17	26.83	9.579		
6,200.00	6,182.22	6,243.07	6,216.89	13.95	14.49	-144.27	116.73	99.67	257.09	229.72	27.37	9.392		
6,300.00	6,280.81	6,342.98	6,314.92	14.25	14.82	-143.35	110.69	118.03	257.24	229.31	27.93	9.211		
6,400.00	6,379.39	6,442.90	6,412.94	14.55	15.15	-142.42	104.64	136.39	257.46	228.97	28.50	9.035		
6,500.00	6,477.98	6,542.81	6,510.97	14.85	15.49	-141.50	98.60	154.76	257.75	228.68	29.07	8.866		
6,600.00	6,576.57	6,642.72	6,608.99	15.15	15.84	-140.58	92.55	173.12	258.10	228.44	29.66	8.701		
6,700.00	6,675.15	6,742.64	6,707.02	15.46	16.18	-139.66	86.51	191.48	258.52	228.26	30.26	8.543		
6,800.00	6,773.74	6,842.55	6,805.04	15.78	16.53	-138.75	80.46	209.85	259.01	228.14	30.87	8.389		
6,900.00	6,872.32	6,942.46	6,903.07	16.09	16.89	-137.84	74.42	228.21	259.56	228.07	31.50	8.241		
7,000.00	6,970.91	7,042.38	7,001.09	16.41	17.24	-136.93	68.37	246.58	260.18	228.05	32.13	8.098 ES		
7,100.00	7,069.49	7,142.29	7,099.12	16.73	17.60	-136.03	62.33	264.94	260.86	228.09	32.77	7.960		
7,200.00	7,168.08	7,242.20	7,197.14	17.05	17.97	-135.14	56.29	283.30	261.61	228.18	33.43	7.827		
7,300.00	7,266.67	7,342.12	7,295.17	17.38	18.33	-134.24	50.24	301.67	262.42	228.33	34.09	7.698		
7,400.00	7,365.25	7,442.03	7,393.20	17.71	18.70	-133.36	44.20	320.03	263.29	228.53	34.76	7.574		
7,500.00	7,463.84	7,541.94	7,491.22	18.04	19.07	-132.48	38.15	338.40	264.23	228.79	35.44	7.455		
7,600.00	7,562.42	7,641.86	7,589.25	18.37	19.44	-131.61	32.11	356.76	265.23	229.09	36.13	7.340		
7,700.00	7,661.01	7,741.77	7,687.27	18.71	19.82	-130.74	26.06	375.12	266.29	229.45	36.83	7.230		
7,800.00	7,759.60	7,841.68	7,785.30	19.04	20.19	-129.88	20.02	393.49	267.41	229.87	37.54	7.123		
7,900.00	7,858.18	7,941.60	7,883.32	19.38	20.57	-129.03	13.97	411.85	268.59	230.33	38.26	7.021		
8,000.00	7,956.77	8,041.51	7,981.35	19.72	20.95	-128.18	7.93	430.21	269.82	230.85	38.98	6.922		
8,100.00	8,055.35	8,126.36	8,064.63	20.06	21.26	-127.44	3.70	445.82	272.43	232.79	39.64	6.873 SF		
8,200.00	8,153.94	8,200.00	8,136.83	20.40	21.50	-126.56	8.10	459.35	285.21	244.94	40.27	7.082		
8,300.00	8,252.52	8,250.00	8,185.27	20.75	21.64	-125.86	16.44	468.43	309.13	268.32	40.82	7.574		
8,400.00	8,351.11	8,317.12	8,248.81	21.09	21.81	-124.87	34.34	480.34	343.32	301.87	41.44	8.284		
8,500.00	8,449.70	8,372.01	8,298.96	21.44	21.94	-124.07	54.51	489.75	386.94	344.93	42.00	9.212		
8,600.00	8,548.28	8,421.66	8,342.51	21.79	22.04	-123.40	76.88	497.92	438.66	396.13	42.53	10.314		
8,700.00	8,646.87	8,466.15	8,379.78	22.14	22.12	-122.84	100.12	504.91	497.30	454.28	43.03	11.558		
8,800.00	8,745.45	8,500.00	8,406.89	22.49	22.18	-122.45	119.74	510.00	561.84	518.37	43.47	12.924		
8,900.00	8,844.04	8,550.00	8,444.74	22.84	22.26	-121.93	151.61	517.11	631.28	587.32	43.97	14.358		
9,000.00	8,942.63	8,572.26	8,460.67	23.19	22.29	-121.72	166.85	520.10	704.60	660.25	44.36	15.885		
9,054.86	8,996.71	8,600.00	8,479.71	23.39	22.34	-121.48	186.71	523.68	746.62	702.00	44.62	16.733		
9,100.00	9,041.23	8,600.00	8,479.71	23.53	22.34	-121.71	186.71	523.68	781.45	736.71	44.74	17.466		
9,200.00	9,139.95	8,624.93	8,495.98	23.82	22.37	-122.03	205.34	526.74	860.93	815.88	45.05	19.109		
9,300.00	9,238.80	8,650.00	8,511.54	24.10	22.41	-122.38	224.78	529.66	942.61	897.25	45.36	20.780		
9,400.00	9,337.79	8,667.41	8,521.84	24.38	22.43	-122.84	238.68	531.60	1,026.12	980.48	45.64	22.483		
9,500.00	9,436.89	8,700.00	8,539.98	24.65	22.49	-123.15	265.53	535.01	1,111.47	1,065.52	45.95	24.188		
9,600.00	9,536.11	8,700.00	8,539.98	24.92	22.49	-123.85	265.53	535.01	1,197.62	1,151.46	46.16	25.944		
9,700.00	9,635.43	8,717.35	8,549.02	25.17	22.51	-124.39	280.24	536.71	1,285.17	1,238.77	46.40	27.695		
9,800.00	9,734.85	8,731.21	8,555.93	25.43	22.53	-124.99	292.18	538.01	1,373.72	1,327.08	46.64	29.456		
9,900.00	9,834.36	8,750.00	8,564.83	25.67	22.57	-125.53	308.65	539.69	1,463.16	1,416.27	46.89	31.202		
10,000.00	9,933.96	8,750.00	8,564.83	25.91	22.57	-126.38	308.65	539.69	1,553.29	1,506.23	47.07	33.002		

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 313H (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:	313H (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)	Offset Wellbore Centre +E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
10,100.00	10,033.62	8,750.00	8,564.83	26.14	22.57	-127.26	308.65	539.69	1,844.36	1,597.13	47.23	34.818		
10,200.00	10,133.36	8,776.72	8,576.57	26.37	22.62	-127.72	332.55	541.90	1,735.38	1,687.90	47.48	36.552		
10,300.00	10,233.15	8,800.00	8,585.89	26.59	22.66	-128.24	353.81	543.66	1,827.44	1,779.72	47.72	38.298		
10,400.00	10,333.00	8,800.00	8,585.89	26.80	22.66	-129.16	353.81	543.66	1,919.52	1,871.66	47.86	40.109		
10,500.00	10,432.89	8,800.00	8,585.89	27.00	22.66	-130.11	353.81	543.66	2,012.15	1,964.16	47.99	41.929		
10,600.00	10,532.82	8,800.00	8,585.89	27.20	22.66	-131.07	353.81	543.66	2,105.26	2,057.15	48.11	43.759		
10,700.00	10,632.78	8,800.00	8,585.89	27.39	22.66	-132.06	353.81	543.66	2,198.78	2,150.55	48.22	45.597		
10,800.00	10,732.75	8,825.24	8,595.03	27.58	22.71	-132.53	377.26	545.38	2,291.95	2,243.51	48.44	47.313		
10,900.00	10,832.75	8,850.00	8,603.00	27.75	22.77	-133.01	400.66	546.89	2,386.08	2,337.42	48.66	49.032		
10,984.29	10,917.04	8,850.00	8,603.00	27.89	22.77	-15.36	400.66	546.89	2,465.11	2,416.37	48.74	50.572		
11,000.00	10,932.75	8,850.00	8,603.00	27.92	22.77	-15.36	400.66	546.89	2,479.86	2,431.09	48.77	50.845		
11,100.00	11,032.75	8,850.00	8,603.00	28.10	22.77	-15.36	400.66	546.89	2,574.04	2,525.07	48.96	52.569		
11,184.29	11,117.04	8,850.00	8,603.00	28.25	22.77	-15.36	400.66	546.89	2,653.75	2,604.62	49.13	54.018		
11,200.00	11,132.74	8,850.00	8,603.00	28.28	22.77	-14.22	400.66	546.89	2,668.57	2,619.35	49.21	54.224		
11,250.00	11,182.60	8,850.00	8,603.00	28.36	22.77	-11.51	400.66	546.89	2,714.81	2,665.57	49.23	55.142		
11,300.00	11,231.96	8,850.00	8,603.00	28.41	22.77	-9.69	400.66	546.89	2,759.44	2,710.52	48.91	56.418		
11,350.00	11,280.45	8,850.00	8,603.00	28.46	22.77	-8.39	400.66	546.89	2,802.19	2,753.91	48.28	58.041		
11,400.00	11,327.69	8,850.00	8,603.00	28.48	22.77	-7.43	400.66	546.89	2,842.84	2,795.48	47.37	60.019		
11,450.00	11,373.32	8,871.13	8,609.02	28.49	22.82	-6.61	420.89	548.02	2,880.71	2,834.47	46.24	62.302		
11,500.00	11,417.01	8,876.91	8,610.53	28.49	22.83	-6.03	426.46	548.31	2,916.25	2,871.40	44.84	65.034		
11,550.00	11,458.42	8,900.00	8,616.04	28.47	22.90	-5.53	448.85	549.35	2,949.29	2,906.01	43.28	68.144		
11,600.00	11,497.22	8,900.00	8,616.04	28.44	22.90	-5.19	448.85	549.35	2,978.90	2,937.41	41.50	71.782		
11,650.00	11,533.13	8,900.00	8,616.04	28.40	22.90	-4.91	448.85	549.35	3,005.50	2,965.91	39.59	75.917		
11,700.00	11,565.88	8,900.00	8,616.04	28.36	22.90	-4.69	448.85	549.35	3,028.96	2,991.36	37.60	80.567		
11,750.00	11,595.21	8,900.00	8,616.04	28.32	22.90	-4.51	448.85	549.35	3,049.17	3,013.60	35.57	85.714		
11,800.00	11,620.90	8,900.00	8,616.04	28.27	22.90	-4.37	448.85	549.35	3,066.05	3,032.46	33.59	91.283		
11,850.00	11,642.76	8,925.76	8,621.13	28.23	22.97	-4.24	474.08	550.32	3,078.85	3,047.07	31.78	96.892		
11,900.00	11,660.61	8,950.00	8,624.89	28.20	23.05	-4.15	498.02	551.04	3,088.68	3,058.51	30.17	102.389		
11,950.00	11,674.33	8,950.00	8,624.89	28.17	23.05	-4.11	498.02	551.04	3,094.39	3,065.60	28.79	107.484		
12,000.00	11,683.81	8,950.00	8,624.89	28.17	23.05	-4.09	498.02	551.04	3,096.57	3,068.77	27.80	111.377		
12,050.00	11,688.97	8,950.00	8,624.89	28.18	23.05	-4.10	498.02	551.04	3,095.21	3,067.92	27.29	113.403		
12,085.62	11,690.00	8,950.00	8,624.89	28.21	23.05	-4.12	498.02	551.04	3,092.08	3,064.82	27.26	113.447		
12,100.00	11,689.96	8,950.00	8,624.89	28.23	23.05	-4.12	498.02	551.04	3,090.49	3,063.21	27.28	113.290		
12,200.00	11,689.73	9,000.00	8,629.50	28.41	23.23	-4.11	547.78	551.92	3,080.69	3,053.09	27.60	111.617		
12,300.00	11,689.50	9,000.00	8,629.50	28.75	23.23	-4.11	547.78	551.92	3,073.05	3,045.24	27.81	110.500		
12,400.00	11,689.27	9,000.00	8,629.50	29.23	23.23	-4.11	547.78	551.92	3,068.66	3,040.61	28.05	109.408		
12,500.00	11,689.04	9,030.36	8,630.21	29.85	23.35	-4.11	578.12	552.07	3,066.74	3,038.33	28.40	107.977		
12,530.58	11,688.97	9,044.78	8,630.17	30.06	23.41	-4.11	592.55	552.07	3,066.70	3,038.17	28.54	107.468		
12,600.00	11,688.81	9,114.20	8,629.99	30.58	23.76	-4.11	661.96	552.07	3,066.72	3,037.76	28.96	105.886		
12,700.00	11,688.58	9,214.20	8,629.73	31.42	24.40	-4.11	761.96	552.07	3,066.75	3,037.12	29.64	103.481		
12,800.00	11,688.34	9,314.20	8,629.47	32.34	25.17	-4.11	861.96	552.07	3,066.79	3,036.41	30.37	100.974		
12,900.00	11,688.11	9,414.20	8,629.21	33.35	26.07	-4.11	961.96	552.07	3,066.82	3,035.65	31.17	98.406		
13,000.00	11,687.88	9,514.20	8,628.94	34.42	27.07	-4.11	1,061.96	552.07	3,066.85	3,034.84	32.01	95.809		
13,100.00	11,687.65	9,614.20	8,628.68	35.55	28.16	-4.11	1,161.96	552.07	3,066.88	3,033.98	32.90	93.212		
13,200.00	11,687.42	9,714.20	8,628.42	36.74	29.33	-4.11	1,261.96	552.07	3,066.91	3,033.07	33.84	90.636		
13,300.00	11,687.19	9,814.20	8,628.16	37.99	30.57	-4.11	1,361.96	552.07	3,066.94	3,032.13	34.81	88.101		
13,400.00	11,686.96	9,914.20	8,627.90	39.27	31.87	-4.11	1,461.96	552.07	3,066.97	3,031.15	35.82	85.618		
13,500.00	11,686.73	10,014.20	8,627.63	40.60	33.22	-4.11	1,561.96	552.07	3,067.00	3,030.14	36.86	83.199		
13,600.00	11,686.50	10,114.20	8,627.37	41.97	34.61	-4.11	1,661.96	552.07	3,067.03	3,029.10	37.93	80.850		
13,700.00	11,686.26	10,214.20	8,627.11	43.37	36.04	-4.11	1,761.96	552.07	3,067.06	3,028.03	39.03	78.576		
13,800.00	11,686.03	10,314.20	8,626.85	44.80	37.51	-4.11	1,861.96	552.07	3,067.09	3,026.94	40.16	76.380		
13,900.00	11,685.80	10,414.20	8,626.59	46.25	39.01	-4.11	1,961.96	552.07	3,067.12	3,025.82	41.30	74.263		

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 313H (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:	313H (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		
14,000.00	11,685.57	10,514.20	8,626.33	47.74	40.53	-4.11	2,061.96	552.07	3,067.15	3,024.69	42.47	72.226		
14,100.00	11,685.34	10,614.20	8,626.06	49.24	42.08	-4.11	2,161.96	552.07	3,067.18	3,023.53	43.65	70.267		
14,200.00	11,685.11	10,714.20	8,625.80	50.77	43.65	-4.11	2,261.96	552.07	3,067.21	3,022.36	44.85	68.384		
14,300.00	11,684.88	10,814.20	8,625.54	52.31	45.24	-4.11	2,361.96	552.07	3,067.25	3,021.17	46.07	66.577		
14,400.00	11,684.65	10,914.20	8,625.28	53.88	46.85	-4.11	2,461.96	552.07	3,067.28	3,019.97	47.30	64.843		
14,500.00	11,684.41	11,014.20	8,625.02	55.45	48.47	-4.11	2,561.96	552.07	3,067.31	3,018.76	48.55	63.179		
14,600.00	11,684.18	11,114.20	8,624.75	57.05	50.11	-4.11	2,661.96	552.07	3,067.34	3,017.53	49.81	61.583		
14,700.00	11,683.95	11,214.20	8,624.49	58.65	51.76	-4.11	2,761.96	552.07	3,067.37	3,016.29	51.08	60.052		
14,800.00	11,683.72	11,314.20	8,624.23	60.27	53.42	-4.11	2,861.96	552.07	3,067.40	3,015.04	52.36	58.583		
14,900.00	11,683.49	11,414.20	8,623.97	61.90	55.09	-4.11	2,961.96	552.07	3,067.43	3,013.78	53.65	57.173		
15,000.00	11,683.26	11,514.20	8,623.71	63.55	56.77	-4.11	3,061.96	552.07	3,067.46	3,012.51	54.95	55.820		
15,100.00	11,683.03	11,614.20	8,623.45	65.20	58.46	-4.11	3,161.96	552.07	3,067.49	3,011.23	56.26	54.521		
15,200.00	11,682.80	11,714.20	8,623.18	66.86	60.16	-4.11	3,261.96	552.07	3,067.52	3,009.94	57.58	53.274		
15,300.00	11,682.57	11,814.20	8,622.92	68.52	61.86	-4.11	3,361.96	552.07	3,067.55	3,008.65	58.91	52.076		
15,400.00	11,682.33	11,914.20	8,622.66	70.20	63.57	-4.11	3,461.95	552.07	3,067.58	3,007.34	60.24	50.924		
15,500.00	11,682.10	12,014.20	8,622.40	71.88	65.29	-4.11	3,561.95	552.07	3,067.61	3,006.03	61.58	49.817		
15,600.00	11,681.87	12,114.20	8,622.14	73.58	67.01	-4.11	3,661.95	552.07	3,067.64	3,004.72	62.92	48.752		
15,700.00	11,681.64	12,214.20	8,621.88	75.27	68.74	-4.11	3,761.95	552.07	3,067.67	3,003.40	64.28	47.727		
15,800.00	11,681.41	12,314.20	8,621.61	76.97	70.48	-4.11	3,861.95	552.07	3,067.70	3,002.07	65.63	46.741		
15,900.00	11,681.18	12,414.20	8,621.35	78.68	72.22	-4.11	3,961.95	552.07	3,067.74	3,000.74	67.00	45.790		
16,000.00	11,680.95	12,514.20	8,621.09	80.40	73.96	-4.11	4,061.95	552.07	3,067.77	2,999.40	68.36	44.875		
16,100.00	11,680.72	12,614.20	8,620.83	82.11	75.71	-4.11	4,161.95	552.07	3,067.80	2,998.06	69.73	43.992		
16,200.00	11,680.48	12,714.20	8,620.57	83.84	77.46	-4.11	4,261.95	552.07	3,067.83	2,996.72	71.11	43.141		
16,300.00	11,680.25	12,814.20	8,620.30	85.56	79.21	-4.11	4,361.95	552.07	3,067.86	2,995.37	72.49	42.320		
16,409.48	11,680.00	12,923.68	8,620.02	87.46	81.13	-4.11	4,471.44	552.07	3,067.89	2,993.88	74.01	41.453		
16,410.43	11,680.00	12,924.63	8,620.02	87.52	81.15	-4.11	4,472.38	552.07	3,067.89	2,993.87	74.02	41.448		



LEAM Drilling Systems LLC
Anticollision Report



Company:	DEVON ENERGY	Local Co-ordinate Reference:	Well 313H (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:	313H (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	-58.86	109.03	-180.45	210.83					
100.00	100.00	100.00	100.00	0.08	0.08	-58.86	109.03	-180.45	210.83	210.67	0.16	1,340.001		
200.00	200.00	200.00	200.00	0.30	0.30	-58.86	109.03	-180.45	210.83	210.22	0.61	347.408		
300.00	300.00	300.00	300.00	0.53	0.53	-58.86	109.03	-180.45	210.83	209.77	1.06	199.575		
400.00	400.00	400.00	400.00	0.75	0.75	-58.86	109.03	-180.45	210.83	209.33	1.51	140.000		
500.00	500.00	500.00	500.00	0.98	0.98	-58.86	109.03	-180.45	210.83	208.88	1.96	107.816		
600.00	600.00	600.00	600.00	1.20	1.20	-58.86	109.03	-180.45	210.83	208.43	2.40	87.664		
700.00	700.00	700.00	700.00	1.43	1.43	-58.86	109.03	-180.45	210.83	207.98	2.85	73.858		
800.00	800.00	800.00	800.00	1.65	1.65	-58.86	109.03	-180.45	210.83	207.53	3.30	63.810		
900.00	900.00	900.00	900.00	1.88	1.88	-58.86	109.03	-180.45	210.83	207.08	3.75	56.168		
1,000.00	1,000.00	1,000.00	1,000.00	2.10	2.10	-58.86	109.03	-180.45	210.83	206.63	4.20	50.161		
1,100.00	1,100.00	1,100.00	1,100.00	2.33	2.33	-58.86	109.03	-180.45	210.83	206.18	4.65	45.314		
1,200.00	1,200.00	1,200.00	1,200.00	2.55	2.55	-58.86	109.03	-180.45	210.83	205.73	5.10	41.322		
1,300.00	1,300.00	1,300.00	1,300.00	2.78	2.78	-58.86	109.03	-180.45	210.83	205.28	5.55	37.976		
1,400.00	1,400.00	1,400.00	1,400.00	3.00	3.00	-58.86	109.03	-180.45	210.83	204.83	6.00	35.131		
1,500.00	1,500.00	1,500.00	1,500.00	3.23	3.23	-58.86	109.03	-180.45	210.83	204.38	6.45	32.683		
1,600.00	1,600.00	1,600.00	1,600.00	3.45	3.45	-58.86	109.03	-180.45	210.83	203.93	6.90	30.554		
1,700.00	1,700.00	1,700.00	1,700.00	3.67	3.67	-58.86	109.03	-180.45	210.83	203.48	7.35	28.685		
1,800.00	1,800.00	1,800.00	1,800.00	3.90	3.90	-58.86	109.03	-180.45	210.83	203.03	7.80	27.032		
1,900.00	1,900.00	1,900.00	1,900.00	4.12	4.12	-58.86	109.03	-180.45	210.83	202.58	8.25	25.559		
2,000.00	2,000.00	2,000.00	2,000.00	4.35	4.35	-58.86	109.03	-180.45	210.83	202.13	8.70	24.238		
2,100.00	2,100.00	2,100.00	2,100.00	4.57	4.57	-58.86	109.03	-180.45	210.83	201.68	9.15	23.047		
2,200.00	2,200.00	2,200.00	2,200.00	4.80	4.80	-58.86	109.03	-180.45	210.83	201.23	9.60	21.967		
2,300.00	2,300.00	2,300.00	2,300.00	5.02	5.02	-58.86	109.03	-180.45	210.83	200.78	10.05	20.984		
2,400.00	2,400.00	2,400.00	2,400.00	5.25	5.25	-58.86	109.03	-180.45	210.83	200.33	10.50	20.086		
2,500.00	2,500.00	2,500.00	2,500.00	5.47	5.47	-58.86	109.03	-180.45	210.83	199.88	10.95	19.261		
2,600.00	2,600.00	2,600.00	2,600.00	5.70	5.70	-58.86	109.03	-180.45	210.83	199.44	11.40	18.501		
2,700.00	2,700.00	2,700.00	2,700.00	5.92	5.92	-58.86	109.03	-180.45	210.83	198.99	11.85	17.799		
2,800.00	2,800.00	2,800.00	2,800.00	6.15	6.15	-58.86	109.03	-180.45	210.83	198.54	12.29	17.148		
2,900.00	2,900.00	2,900.00	2,900.00	6.37	6.37	-58.86	109.03	-180.45	210.83	198.09	12.74	16.543		
3,000.00	3,000.00	3,000.00	3,000.00	6.60	6.60	-58.86	109.03	-180.45	210.83	197.64	13.19	15.980		
3,100.00	3,100.00	3,100.00	3,100.00	6.82	6.82	-58.86	109.03	-180.45	210.83	197.19	13.64	15.453		
3,200.00	3,200.00	3,200.00	3,200.00	7.05	7.05	-58.86	109.03	-180.45	210.83	196.74	14.09	14.960		
3,300.00	3,300.00	3,300.00	3,300.00	7.27	7.27	-58.86	109.03	-180.45	210.83	196.29	14.54	14.498		
3,400.00	3,400.00	3,400.00	3,400.00	7.50	7.50	-58.86	109.03	-180.45	210.83	195.84	14.99	14.063		
3,500.00	3,500.00	3,500.00	3,500.00	7.72	7.72	-58.86	109.03	-180.45	210.83	195.39	15.44	13.654		
3,600.00	3,600.00	3,600.00	3,600.00	7.95	7.95	-58.86	109.03	-180.45	210.83	194.94	15.89	13.267		
3,700.00	3,700.00	3,700.00	3,700.00	8.17	8.17	-58.86	109.03	-180.45	210.83	194.49	16.34	12.902		
3,800.00	3,800.00	3,800.00	3,800.00	8.40	8.40	-58.86	109.03	-180.45	210.83	194.04	16.79	12.557		
3,900.00	3,900.00	3,900.00	3,900.00	8.62	8.62	-58.86	109.03	-180.45	210.83	193.59	17.24	12.229		
4,000.00	4,000.00	4,000.00	4,000.00	8.84	8.84	-58.86	109.03	-180.45	210.83	193.14	17.69	11.919		
4,100.00	4,100.00	4,100.00	4,100.00	9.07	9.07	-58.86	109.03	-180.45	210.83	192.69	18.14	11.623		
4,200.00	4,200.00	4,200.00	4,200.00	9.29	9.29	-58.86	109.03	-180.45	210.83	192.24	18.59	11.342		
4,300.00	4,300.00	4,300.00	4,300.00	9.52	9.52	-58.86	109.03	-180.45	210.83	191.79	19.04	11.074 CC, ES		
4,400.00	4,400.00	4,399.76	4,399.75	9.72	9.72	-177.58	108.31	-180.94	211.76	192.32	19.44	10.895		
4,500.00	4,499.96	4,499.42	4,499.38	9.91	9.89	-178.30	106.17	-182.42	214.56	194.78	19.78	10.846 SF		
4,600.00	4,599.86	4,598.88	4,598.74	10.09	10.06	-179.46	102.82	-184.88	219.30	199.18	20.13	10.897		
4,700.00	4,699.68	4,698.04	4,697.72	10.28	10.24	-179.00	97.66	-188.30	226.08	205.62	20.47	11.047		
4,800.00	4,799.37	4,796.80	4,796.18	10.48	10.42	-177.16	91.32	-192.68	235.02	214.22	20.81	11.296		
4,900.00	4,898.90	4,895.07	4,894.00	10.68	10.60	-175.10	83.83	-197.99	246.24	225.09	21.14	11.646		
5,000.00	4,998.26	4,992.75	4,991.06	10.88	10.79	-172.90	74.61	-204.22	259.85	238.36	21.48	12.096		
5,100.00	5,097.40	5,089.75	5,087.26	11.09	10.98	-170.64	64.31	-211.33	275.94	254.12	21.82	12.646		

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 313H (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:	313H (SIMOPS)	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.1 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design Cotton Draw Unit - 332H (SIMOPS) - OH - Plan #1													Offset Site Error: 0.00 usft
Survey Program: 0-LEAM MWD-ADJ													Offset Well Error: 0.00 usft
Reference		Offset		Semi Major Axis		Distance							
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
5,200.00	5,196.30	5,186.10	5,182.57	11.32	11.18	168.38	52.76	-219.31	294.60	272.44	22.16	13.293	
5,264.72	5,260.16	5,249.04	5,244.77	11.47	11.32	166.99	44.85	-224.77	307.93	285.54	22.39	13.754	
5,300.00	5,294.95	5,283.32	5,278.85	11.55	11.39	166.31	40.54	-227.75	315.45	292.92	22.53	14.000	
5,400.00	5,393.54	5,380.47	5,374.66	11.79	11.61	164.54	28.32	-236.19	336.98	314.04	22.94	14.687	
5,500.00	5,492.12	5,477.62	5,470.67	12.04	11.83	162.98	16.10	-244.63	358.78	335.42	23.36	15.356	
5,600.00	5,590.71	5,574.78	5,566.68	12.30	12.06	161.60	3.88	-253.07	380.81	357.02	23.79	16.005	
5,700.00	5,689.29	5,671.93	5,662.69	12.56	12.30	160.37	-8.34	-261.51	403.03	378.80	24.23	16.634	
5,800.00	5,787.88	5,769.08	5,758.70	12.83	12.54	159.26	-20.56	-269.95	425.41	400.74	24.67	17.242	
5,900.00	5,886.46	5,866.23	5,854.71	13.10	12.78	158.27	-32.78	-278.39	447.92	422.80	25.12	17.829	
6,000.00	5,985.05	5,963.39	5,950.72	13.38	13.03	157.38	-45.00	-286.83	470.55	444.97	25.58	18.395	
6,100.00	6,083.64	6,060.54	6,046.73	13.67	13.29	156.56	-57.22	-295.27	493.28	467.23	26.04	18.940	
6,200.00	6,182.22	6,157.69	6,142.74	13.95	13.55	155.82	-69.44	-303.70	516.09	489.58	26.51	19.466	
6,300.00	6,280.81	6,254.84	6,238.76	14.25	13.81	155.14	-81.66	-312.14	538.99	512.00	26.99	19.971	
6,400.00	6,379.39	6,352.00	6,334.77	14.55	14.08	154.51	-93.88	-320.58	561.94	534.47	27.47	20.458	
6,500.00	6,477.98	6,449.15	6,430.78	14.85	14.35	153.93	-106.10	-329.02	584.96	557.01	27.95	20.926	
6,600.00	6,576.57	6,546.30	6,526.79	15.15	14.62	153.40	-118.32	-337.46	608.03	579.58	28.44	21.376	
6,700.00	6,675.15	6,643.45	6,622.80	15.46	14.90	152.91	-130.54	-345.90	631.14	602.20	28.94	21.810	
6,800.00	6,773.74	6,740.61	6,718.81	15.78	15.18	152.45	-142.76	-354.34	654.30	624.86	29.44	22.226	
6,900.00	6,872.32	6,837.76	6,814.82	16.09	15.46	152.02	-154.98	-362.78	677.49	647.55	29.94	22.627	
7,000.00	6,970.91	6,934.91	6,910.83	16.41	15.75	151.62	-167.20	-371.22	700.72	670.27	30.45	23.013	
7,100.00	7,069.49	7,032.06	7,006.84	16.73	16.04	151.25	-179.42	-379.66	723.98	693.02	30.96	23.384	
7,200.00	7,168.08	7,129.22	7,102.85	17.05	16.33	150.89	-191.64	-388.10	747.26	715.78	31.48	23.741	
7,300.00	7,266.67	7,226.37	7,198.86	17.38	16.62	150.56	-203.86	-396.53	770.57	738.58	31.99	24.084	
7,400.00	7,365.25	7,323.52	7,294.87	17.71	16.92	150.25	-216.08	-404.97	793.90	761.39	32.52	24.415	
7,500.00	7,463.84	7,420.67	7,390.89	18.04	17.21	149.96	-228.30	-413.41	817.26	784.21	33.04	24.734	
7,600.00	7,562.42	7,517.83	7,486.90	18.37	17.51	149.69	-240.52	-421.85	840.63	807.06	33.57	25.041	
7,700.00	7,661.01	7,614.98	7,582.91	18.71	17.81	149.42	-252.74	-430.29	864.02	829.92	34.10	25.337	
7,800.00	7,759.60	7,712.13	7,678.92	19.04	18.12	149.18	-264.96	-438.73	887.42	852.79	34.64	25.622	
7,900.00	7,858.18	7,809.28	7,774.93	19.38	18.42	148.94	-277.18	-447.17	910.84	875.67	35.17	25.897	
8,000.00	7,956.77	7,906.44	7,870.94	19.72	18.73	148.72	-289.40	-455.61	934.28	898.57	35.71	26.162	
8,100.00	8,055.35	8,003.59	7,966.95	20.06	19.04	148.51	-301.62	-464.05	957.72	921.47	36.25	26.418	
8,200.00	8,153.94	8,100.74	8,062.96	20.40	19.35	148.30	-313.84	-472.49	981.18	944.39	36.80	26.665	
8,300.00	8,252.52	8,197.89	8,158.97	20.75	19.66	148.11	-326.06	-480.93	1,004.65	967.31	37.34	26.904	
8,400.00	8,351.11	8,295.05	8,254.98	21.09	19.97	147.93	-338.28	-489.36	1,028.13	990.24	37.89	27.134	
8,500.00	8,449.70	8,392.20	8,350.99	21.44	20.28	147.75	-350.50	-497.80	1,051.62	1,013.18	38.44	27.357	
8,600.00	8,548.28	8,489.35	8,447.00	21.79	20.60	147.58	-362.72	-506.24	1,075.12	1,036.13	38.99	27.572	
8,700.00	8,646.87	8,594.24	8,550.71	22.14	20.92	147.43	-375.61	-515.15	1,098.43	1,058.87	39.56	27.767	
8,800.00	8,745.45	8,705.00	8,660.50	22.49	21.22	147.35	-387.64	-523.45	1,120.67	1,080.56	40.11	27.939	
8,900.00	8,844.04	8,816.36	8,771.16	22.84	21.51	147.36	-397.98	-530.59	1,141.74	1,101.09	40.66	28.083	
9,000.00	8,942.63	8,928.26	8,882.56	23.19	21.78	147.45	-406.58	-536.53	1,161.64	1,120.45	41.19	28.202	
9,054.86	8,996.71	8,989.85	8,943.96	23.39	21.92	147.54	-410.55	-539.27	1,172.05	1,130.57	41.48	28.256	
9,100.00	9,041.23	9,040.63	8,994.62	23.53	22.04	147.65	-413.41	-541.25	1,180.28	1,138.56	41.72	28.292	
9,200.00	9,139.95	9,153.50	9,107.33	23.82	22.28	147.93	-418.45	-544.73	1,197.12	1,154.90	42.22	28.353	
9,300.00	9,238.80	9,266.81	9,220.56	24.10	22.51	148.26	-421.67	-546.96	1,212.06	1,169.35	42.71	28.379	
9,400.00	9,337.79	9,380.45	9,334.19	24.38	22.72	148.63	-423.05	-547.91	1,225.10	1,181.92	43.18	28.371	
9,500.00	9,436.89	9,483.15	9,436.89	24.65	22.91	148.99	-423.11	-547.95	1,236.59	1,192.96	43.62	28.347	
9,600.00	9,536.11	9,582.37	9,536.11	24.92	23.09	149.31	-423.11	-547.95	1,247.32	1,203.27	44.05	28.313	
9,700.00	9,635.43	9,686.52	9,640.02	25.17	23.24	149.66	-417.77	-547.95	1,257.20	1,212.75	44.45	28.283	
9,800.00	9,734.85	9,785.95	9,736.86	25.43	23.29	151.12	-395.78	-547.95	1,266.22	1,221.50	44.71	28.318	
9,900.00	9,834.36	9,874.18	9,818.47	25.67	23.26	152.82	-362.50	-547.95	1,275.38	1,230.51	44.87	28.421	
10,000.00	9,933.96	9,950.00	9,883.83	25.91	23.19	154.68	-324.18	-547.95	1,285.94	1,240.96	44.98	28.587	
10,100.00	10,033.62	10,013.23	9,934.08	26.14	23.10	156.49	-285.86	-547.95	1,299.05	1,253.97	45.07	28.821	

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 313H (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:	313H (SIMOPS)	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.1 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design Cotton Draw Unit - 332H (SIMOPS) - OH - Plan #1													Offset Site Error:	0.00 usft
Survey Program: 0-LEAM MWD-ADJ													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)				
10,200.00	10,133.36	10,066.20	9,972.72	26.37	23.01	158.17	-249.64	-547.95	1,315.59	1,270.43	45.17	29.128		
10,300.00	10,233.15	10,110.46	10,002.32	26.59	22.93	159.68	-216.76	-547.95	1,336.19	1,290.92	45.27	29.515		
10,400.00	10,333.00	10,150.00	10,026.55	26.80	22.86	161.10	-185.52	-547.95	1,361.21	1,315.82	45.39	29.992		
10,500.00	10,432.89	10,179.15	10,043.01	27.00	22.81	162.19	-161.46	-547.95	1,390.79	1,345.26	45.52	30.551		
10,600.00	10,532.82	10,200.00	10,054.01	27.20	22.77	163.00	-143.76	-547.95	1,424.96	1,379.28	45.68	31.196		
10,700.00	10,632.78	10,229.30	10,068.38	27.39	22.71	164.14	-118.22	-547.95	1,463.53	1,417.71	45.81	31.946		
10,800.00	10,732.75	10,250.00	10,077.73	27.58	22.67	164.98	-99.76	-547.95	1,506.37	1,460.40	45.96	32.773		
10,900.00	10,832.75	10,267.28	10,085.02	27.75	22.64	165.69	-84.09	-547.95	1,553.22	1,507.09	46.12	33.674		
10,984.29	10,917.04	10,280.85	10,090.34	27.89	22.62	-75.28	-71.83	-547.95	1,595.62	1,549.37	46.26	34.494		
11,000.00	10,932.75	10,282.99	10,091.24	27.92	22.61	-75.19	-69.66	-547.95	1,603.81	1,557.53	46.28	34.652		
11,100.00	11,032.75	10,300.00	10,097.52	28.10	22.58	-74.55	-53.86	-547.95	1,658.31	1,611.86	46.46	35.697		
11,184.29	11,117.04	10,300.00	10,097.52	28.25	22.58	-74.55	-53.86	-547.95	1,707.27	1,660.64	46.63	36.614		
11,200.00	11,132.74	10,300.00	10,097.52	28.28	22.58	-73.43	-53.86	-547.95	1,716.65	1,670.01	46.64	36.806		
11,250.00	11,182.60	10,300.00	10,097.52	28.36	22.58	-69.91	-53.86	-547.95	1,746.43	1,699.76	46.67	37.422		
11,300.00	11,231.96	10,323.84	10,105.53	28.41	22.54	-65.77	-31.41	-547.95	1,775.45	1,728.82	46.62	38.082		
11,350.00	11,280.45	10,332.38	10,108.17	28.46	22.52	-62.39	-23.28	-547.95	1,804.04	1,757.52	46.53	38.772		
11,400.00	11,327.69	10,350.00	10,113.24	28.48	22.49	-59.02	-6.41	-547.95	1,831.84	1,785.52	46.32	39.546		
11,450.00	11,373.32	10,350.00	10,113.24	28.49	22.49	-56.36	-6.41	-547.95	1,858.44	1,812.42	46.03	40.377		
11,500.00	11,417.01	10,350.00	10,113.24	28.49	22.49	-53.93	-6.41	-547.95	1,883.97	1,838.36	45.81	41.309		
11,550.00	11,458.42	10,373.14	10,119.10	28.47	22.45	-51.33	15.97	-547.95	1,907.78	1,862.78	45.01	42.390		
11,600.00	11,497.22	10,400.00	10,124.76	28.44	22.41	-49.00	42.23	-547.95	1,930.33	1,886.05	44.28	43.595		
11,650.00	11,533.13	10,400.00	10,124.76	28.40	22.41	-47.33	42.23	-547.95	1,950.70	1,907.18	43.52	44.821		
11,700.00	11,565.88	10,400.00	10,124.76	28.36	22.41	-45.87	42.23	-547.95	1,969.43	1,926.73	42.70	46.120		
11,750.00	11,595.21	10,421.24	10,128.36	28.32	22.37	-44.40	63.16	-547.95	1,986.03	1,944.21	41.82	47.490		
11,800.00	11,620.90	10,450.00	10,132.00	28.27	22.33	-43.12	91.69	-547.95	2,000.82	1,959.86	40.96	48.852		
11,850.00	11,642.76	10,450.00	10,132.00	28.23	22.33	-42.27	91.69	-547.95	2,012.95	1,972.75	40.20	50.070		
11,900.00	11,660.61	10,450.00	10,132.00	28.20	22.33	-41.58	91.69	-547.95	2,023.11	1,983.57	39.55	51.157		
11,950.00	11,674.33	10,473.41	10,133.90	28.17	22.29	-40.97	115.02	-547.95	2,030.77	1,991.72	39.04	52.014		
12,000.00	11,683.81	10,500.00	10,134.90	28.17	22.26	-40.55	141.59	-547.95	2,036.29	1,997.55	38.74	52.559		
12,050.00	11,688.97	10,500.00	10,134.90	28.18	22.26	-40.37	141.59	-547.95	2,039.09	2,000.47	38.62	52.798		
12,085.62	11,690.00	10,514.03	10,134.96	28.21	22.23	-40.33	155.62	-547.95	2,039.71	2,001.02	38.69	52.715		
12,100.00	11,689.96	10,528.41	10,134.96	28.23	22.20	-40.33	170.00	-547.95	2,039.69	2,000.93	38.76	52.629		
12,200.00	11,689.73	10,628.41	10,134.96	28.41	22.51	-40.33	270.00	-547.95	2,039.51	2,000.25	39.26	51.948		
12,300.00	11,689.50	10,728.41	10,134.96	28.75	23.04	-40.33	370.00	-547.94	2,039.33	1,999.41	39.93	51.076		
12,400.00	11,689.27	10,828.41	10,134.96	29.23	23.68	-40.34	470.00	-547.94	2,039.16	1,998.40	40.75	50.038		
12,500.00	11,689.04	10,928.41	10,134.96	29.85	24.43	-40.34	570.00	-547.94	2,038.98	1,997.26	41.72	48.868		
12,600.00	11,688.81	11,028.41	10,134.96	30.58	25.28	-40.35	670.00	-547.94	2,038.80	1,995.97	42.83	47.598		
12,700.00	11,688.58	11,128.41	10,134.96	31.42	26.22	-40.35	770.00	-547.94	2,038.63	1,994.56	44.07	46.258		
12,800.00	11,688.34	11,228.41	10,134.97	32.34	27.25	-40.36	870.00	-547.94	2,038.45	1,993.03	45.42	44.876		
12,900.00	11,688.11	11,328.41	10,134.97	33.35	28.35	-40.36	970.00	-547.94	2,038.27	1,991.39	46.88	43.474		
13,000.00	11,687.88	11,428.41	10,134.97	34.42	29.52	-40.36	1,070.00	-547.94	2,038.10	1,989.66	48.44	42.073		
13,100.00	11,687.65	11,528.41	10,134.97	35.55	30.76	-40.37	1,170.00	-547.94	2,037.92	1,987.83	50.09	40.687		
13,200.00	11,687.42	11,628.41	10,134.97	36.74	32.05	-40.37	1,270.00	-547.94	2,037.74	1,985.93	51.81	39.328		
13,300.00	11,687.19	11,728.41	10,134.97	37.99	33.39	-40.38	1,370.00	-547.94	2,037.57	1,983.96	53.61	38.006		
13,400.00	11,686.96	11,828.41	10,134.97	39.27	34.77	-40.38	1,470.00	-547.94	2,037.39	1,981.92	55.48	36.726		
13,500.00	11,686.73	11,928.41	10,134.97	40.60	36.19	-40.39	1,570.00	-547.94	2,037.22	1,979.82	57.40	35.493		
13,600.00	11,686.50	12,028.41	10,134.97	41.97	37.65	-40.39	1,669.99	-547.93	2,037.04	1,977.67	59.37	34.309		
13,700.00	11,686.26	12,128.41	10,134.97	43.37	39.13	-40.39	1,769.99	-547.93	2,036.86	1,975.47	61.40	33.175		
13,800.00	11,686.03	12,228.41	10,134.97	44.80	40.64	-40.40	1,869.99	-547.93	2,036.69	1,973.22	63.47	32.091		
13,900.00	11,685.80	12,328.41	10,134.98	46.25	42.18	-40.40	1,969.99	-547.93	2,036.51	1,970.94	65.57	31.057		
14,000.00	11,685.57	12,428.41	10,134.98	47.74	43.74	-40.41	2,069.99	-547.93	2,036.33	1,968.62	67.72	30.072		
14,100.00	11,685.34	12,528.41	10,134.98	49.24	45.32	-40.41	2,169.99	-547.93	2,036.16	1,966.27	69.89	29.133		

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 313H (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:	313H (SIMOPS)	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.1 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design Cotton Draw Unit - 332H (SIMOPS) - OH - Plan #1												Offset Site Error:	0.00 usft
Survey Program: 0-LEAM MWD-ADJ												Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis		Distance							
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
14,200.00	11,685.11	12,628.41	10,134.98	50.77	46.92	-40.42	2,269.99	-547.93	2,035.98	1,963.88	72.10	28.239	
14,300.00	11,684.88	12,728.41	10,134.98	52.31	48.53	-40.42	2,369.99	-547.93	2,035.80	1,961.47	74.33	27.388	
14,400.00	11,684.65	12,828.41	10,134.98	53.88	50.16	-40.42	2,469.99	-547.93	2,035.63	1,959.04	76.59	26.579	
14,500.00	11,684.41	12,928.41	10,134.98	55.45	51.80	-40.43	2,569.99	-547.93	2,035.45	1,956.58	78.87	25.808	
14,600.00	11,684.18	13,028.41	10,134.98	57.05	53.46	-40.43	2,669.99	-547.93	2,035.28	1,954.10	81.17	25.074	
14,700.00	11,683.95	13,128.41	10,134.98	58.65	55.12	-40.44	2,769.99	-547.93	2,035.10	1,951.61	83.49	24.375	
14,800.00	11,683.72	13,228.40	10,134.98	60.27	56.79	-40.44	2,869.99	-547.93	2,034.92	1,949.09	85.83	23.709	
14,900.00	11,683.49	13,328.40	10,134.99	61.90	58.48	-40.44	2,969.99	-547.93	2,034.75	1,946.56	88.18	23.074	
15,000.00	11,683.26	13,428.40	10,134.99	63.55	60.17	-40.45	3,069.99	-547.92	2,034.57	1,944.02	90.55	22.468	
15,100.00	11,683.03	13,528.40	10,134.99	65.20	61.87	-40.45	3,169.99	-547.92	2,034.39	1,941.46	92.94	21.890	
15,200.00	11,682.80	13,628.40	10,134.99	66.86	63.57	-40.46	3,269.99	-547.92	2,034.22	1,938.88	95.33	21.338	
15,300.00	11,682.57	13,728.40	10,134.99	68.52	65.29	-40.46	3,369.99	-547.92	2,034.04	1,936.30	97.74	20.810	
15,400.00	11,682.33	13,828.40	10,134.99	70.20	67.01	-40.47	3,469.99	-547.92	2,033.87	1,933.70	100.16	20.306	
15,500.00	11,682.10	13,928.40	10,134.99	71.88	68.73	-40.47	3,569.99	-547.92	2,033.69	1,931.10	102.59	19.823	
15,600.00	11,681.87	14,028.40	10,134.99	73.58	70.46	-40.47	3,669.99	-547.92	2,033.51	1,928.48	105.03	19.361	
15,700.00	11,681.64	14,128.40	10,134.99	75.27	72.19	-40.48	3,769.99	-547.92	2,033.34	1,925.86	107.48	18.918	
15,800.00	11,681.41	14,228.40	10,134.99	76.97	73.93	-40.48	3,869.99	-547.92	2,033.16	1,923.22	109.94	18.494	
15,900.00	11,681.18	14,328.40	10,135.00	78.68	75.68	-40.49	3,969.99	-547.92	2,032.98	1,920.58	112.40	18.086	
16,000.00	11,680.95	14,428.40	10,135.00	80.40	77.42	-40.49	4,069.99	-547.92	2,032.81	1,917.93	114.88	17.696	
16,100.00	11,680.72	14,528.40	10,135.00	82.11	79.17	-40.50	4,169.99	-547.92	2,032.63	1,915.28	117.36	17.320	
16,200.00	11,680.48	14,628.40	10,135.00	83.84	80.93	-40.50	4,269.99	-547.92	2,032.46	1,912.61	119.84	16.959	
16,300.00	11,680.25	14,728.40	10,135.00	85.56	82.68	-40.50	4,369.99	-547.91	2,032.28	1,909.94	122.34	16.612	
16,391.14	11,680.04	14,819.54	10,135.00	87.14	84.29	-40.51	4,461.13	-547.91	2,032.12	1,907.51	124.61	16.308	
16,409.48	11,680.00	14,829.84	10,135.00	87.46	84.47	-40.51	4,471.43	-547.91	2,032.10	1,907.13	124.97	16.261	
16,410.43	11,680.00	14,829.84	10,135.00	87.52	84.47	-40.51	4,471.43	-547.91	2,032.11	1,907.13	124.98	16.260	



LEAM Drilling Systems LLC

Anticollision Report



Company:	DEVON ENERGY	Local Co-ordinate Reference:	Well 313H (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:	313H (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: D-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	-53.41	134.03	-180.52	224.84				
100.00	100.00	100.00	100.00	0.08	0.08	-53.41	134.03	-180.52	224.84	224.68	0.16	1,429.025	
200.00	200.00	200.00	200.00	0.30	0.30	-53.41	134.03	-180.52	224.84	224.23	0.61	370.488	
300.00	300.00	300.00	300.00	0.53	0.53	-53.41	134.03	-180.52	224.84	223.78	1.06	212.834	
400.00	400.00	400.00	400.00	0.75	0.75	-53.41	134.03	-180.52	224.84	223.33	1.51	149.301	
500.00	500.00	500.00	500.00	0.98	0.98	-53.41	134.03	-180.52	224.84	222.88	1.96	114.979	
600.00	600.00	600.00	600.00	1.20	1.20	-53.41	134.03	-180.52	224.84	222.43	2.40	93.488	
700.00	700.00	700.00	700.00	1.43	1.43	-53.41	134.03	-180.52	224.84	221.98	2.85	78.765	
800.00	800.00	800.00	800.00	1.65	1.65	-53.41	134.03	-180.52	224.84	221.53	3.30	68.049	
900.00	900.00	900.00	900.00	1.88	1.88	-53.41	134.03	-180.52	224.84	221.08	3.75	59.899	
1,000.00	1,000.00	1,000.00	1,000.00	2.10	2.10	-53.41	134.03	-180.52	224.84	220.63	4.20	53.493	
1,100.00	1,100.00	1,100.00	1,100.00	2.33	2.33	-53.41	134.03	-180.52	224.84	220.19	4.65	48.325	
1,200.00	1,200.00	1,200.00	1,200.00	2.55	2.55	-53.41	134.03	-180.52	224.84	219.74	5.10	44.067	
1,300.00	1,300.00	1,300.00	1,300.00	2.78	2.78	-53.41	134.03	-180.52	224.84	219.29	5.55	40.499	
1,400.00	1,400.00	1,400.00	1,400.00	3.00	3.00	-53.41	134.03	-180.52	224.84	218.84	6.00	37.465	
1,500.00	1,500.00	1,500.00	1,500.00	3.23	3.23	-53.41	134.03	-180.52	224.84	218.39	6.45	34.854	
1,600.00	1,600.00	1,600.00	1,600.00	3.45	3.45	-53.41	134.03	-180.52	224.84	217.94	6.90	32.584	
1,700.00	1,700.00	1,700.00	1,700.00	3.67	3.67	-53.41	134.03	-180.52	224.84	217.49	7.35	30.591	
1,800.00	1,800.00	1,800.00	1,800.00	3.90	3.90	-53.41	134.03	-180.52	224.84	217.04	7.80	28.828	
1,900.00	1,900.00	1,900.00	1,900.00	4.12	4.12	-53.41	134.03	-180.52	224.84	216.59	8.25	27.257	
2,000.00	2,000.00	2,000.00	2,000.00	4.35	4.35	-53.41	134.03	-180.52	224.84	216.14	8.70	25.848	
2,100.00	2,100.00	2,100.00	2,100.00	4.57	4.57	-53.41	134.03	-180.52	224.84	215.69	9.15	24.578	
2,200.00	2,200.00	2,200.00	2,200.00	4.80	4.80	-53.41	134.03	-180.52	224.84	215.24	9.60	23.427	
2,300.00	2,300.00	2,300.00	2,300.00	5.02	5.02	-53.41	134.03	-180.52	224.84	214.79	10.05	22.378	
2,400.00	2,400.00	2,400.00	2,400.00	5.25	5.25	-53.41	134.03	-180.52	224.84	214.34	10.50	21.420	
2,500.00	2,500.00	2,500.00	2,500.00	5.47	5.47	-53.41	134.03	-180.52	224.84	213.89	10.95	20.540	
2,600.00	2,600.00	2,600.00	2,600.00	5.70	5.70	-53.41	134.03	-180.52	224.84	213.44	11.40	19.730	
2,700.00	2,700.00	2,700.00	2,700.00	5.92	5.92	-53.41	134.03	-180.52	224.84	212.99	11.85	18.981	
2,800.00	2,800.00	2,800.00	2,800.00	6.15	6.15	-53.41	134.03	-180.52	224.84	212.54	12.29	18.287	
2,900.00	2,900.00	2,900.00	2,900.00	6.37	6.37	-53.41	134.03	-180.52	224.84	212.09	12.74	17.642	
3,000.00	3,000.00	3,000.00	3,000.00	6.60	6.60	-53.41	134.03	-180.52	224.84	211.64	13.19	17.041	
3,100.00	3,100.00	3,100.00	3,100.00	6.82	6.82	-53.41	134.03	-180.52	224.84	211.19	13.64	16.480	
3,200.00	3,200.00	3,200.00	3,200.00	7.05	7.05	-53.41	134.03	-180.52	224.84	210.74	14.09	15.954	
3,300.00	3,300.00	3,300.00	3,300.00	7.27	7.27	-53.41	134.03	-180.52	224.84	210.30	14.54	15.461	
3,400.00	3,400.00	3,400.00	3,400.00	7.50	7.50	-53.41	134.03	-180.52	224.84	209.85	14.99	14.997	
3,500.00	3,500.00	3,500.00	3,500.00	7.72	7.72	-53.41	134.03	-180.52	224.84	209.40	15.44	14.561	
3,600.00	3,600.00	3,600.00	3,600.00	7.95	7.95	-53.41	134.03	-180.52	224.84	208.95	15.89	14.149	
3,700.00	3,700.00	3,700.00	3,700.00	8.17	8.17	-53.41	134.03	-180.52	224.84	208.50	16.34	13.760	
3,800.00	3,800.00	3,800.00	3,800.00	8.40	8.40	-53.41	134.03	-180.52	224.84	208.05	16.79	13.391	
3,900.00	3,900.00	3,900.00	3,900.00	8.62	8.62	-53.41	134.03	-180.52	224.84	207.60	17.24	13.042	
4,000.00	4,000.00	4,000.00	4,000.00	8.84	8.84	-53.41	134.03	-180.52	224.84	207.15	17.69	12.711	
4,100.00	4,100.00	4,100.00	4,100.00	9.07	9.07	-53.41	134.03	-180.52	224.84	206.70	18.14	12.396	
4,200.00	4,200.00	4,200.00	4,200.00	9.29	9.29	-53.41	134.03	-180.52	224.84	206.25	18.59	12.096	
4,300.00	4,300.00	4,300.00	4,300.00	9.52	9.52	-53.41	134.03	-180.52	224.84	205.80	19.04	11.810	
4,400.00	4,400.00	4,404.01	4,404.01	9.72	9.73	-171.96	133.34	-179.88	224.81	205.36	19.44	11.562	
4,500.00	4,499.96	4,508.02	4,507.97	9.91	9.91	-172.19	131.26	-177.95	224.73	204.93	19.80	11.349	
4,600.00	4,599.86	4,612.01	4,611.86	10.09	10.10	-172.57	127.81	-174.74	224.60	204.44	20.16	11.143	
4,700.00	4,699.68	4,715.98	4,715.62	10.28	10.29	-173.11	122.97	-170.25	224.43	203.92	20.51	10.943	
4,800.00	4,799.37	4,819.93	4,819.22	10.48	10.48	-173.80	116.76	-164.47	224.25	203.39	20.86	10.751	
4,900.00	4,898.90	4,923.84	4,922.61	10.68	10.68	-174.64	109.18	-157.42	224.06	202.85	21.21	10.566	
5,000.00	4,998.26	5,027.72	5,025.76	10.88	10.89	-175.64	100.22	-149.10	223.90	202.35	21.55	10.389	
5,100.00	5,097.40	5,131.55	5,128.63	11.09	11.10	-176.79	89.90	-139.52	223.81	201.91	21.90	10.221	

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 313H (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:	313H (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		
5,157.69	5,154.49	5,191.42	5,187.83	11.22	11.23	-177.53	83.34	-133.41	223.79	201.69	22.09	10.129		
5,200.00	5,196.30	5,235.33	5,231.18	11.32	11.33	-178.10	78.23	-128.67	223.80	201.56	22.24	10.064		
5,264.72	5,260.16	5,302.46	5,297.35	11.47	11.48	-179.02	69.95	-120.98	223.86	201.40	22.46	9.967		
5,300.00	5,294.95	5,339.05	5,333.36	11.55	11.56	-179.55	65.20	-116.56	223.81	201.21	22.60	9.903		
5,400.00	5,393.54	5,439.83	5,432.42	11.79	11.81	178.93	51.60	-103.92	223.10	200.10	23.00	9.699		
5,500.00	5,492.12	5,539.65	5,530.52	12.04	12.06	177.41	38.09	-91.37	222.50	199.09	23.41	9.504		
5,600.00	5,590.71	5,639.48	5,628.63	12.30	12.32	175.88	24.58	-78.81	222.05	198.22	23.83	9.319		
5,700.00	5,689.29	5,739.30	5,726.73	12.56	12.59	174.34	11.07	-66.25	221.76	197.51	24.25	9.143		
5,800.00	5,787.88	5,839.12	5,824.83	12.83	12.86	172.81	-2.44	-53.70	221.64	196.95	24.69	8.977		
5,830.39	5,817.83	5,869.45	5,854.64	12.91	12.95	172.34	-6.55	-49.88	221.63	196.80	24.82	8.928 CC		
5,900.00	5,886.46	5,938.94	5,922.94	13.10	13.14	171.27	-15.95	-41.14	221.67	196.53	25.13	8.819		
6,000.00	5,985.05	6,038.77	6,021.04	13.38	13.43	169.74	-29.47	-28.58	221.86	196.27	25.59	8.669		
6,100.00	6,083.64	6,138.59	6,119.14	13.67	13.73	168.21	-42.98	-16.03	222.21	196.15	26.06	8.527 ES		
6,200.00	6,182.22	6,238.41	6,217.25	13.95	14.03	166.68	-56.49	-3.47	222.72	196.18	26.54	8.392		
6,300.00	6,280.81	6,338.23	6,315.35	14.25	14.33	165.16	-70.00	9.09	223.39	196.35	27.03	8.264		
6,400.00	6,379.39	6,438.06	6,413.46	14.55	14.64	163.66	-83.51	21.64	224.21	196.67	27.54	8.142		
6,500.00	6,477.98	6,537.88	6,511.56	14.85	14.96	162.16	-97.03	34.20	225.19	197.13	28.06	8.026		
6,600.00	6,576.57	6,637.70	6,609.66	15.15	15.28	160.68	-110.54	46.76	226.32	197.73	28.59	7.916		
6,700.00	6,675.15	6,737.52	6,707.77	15.46	15.61	159.21	-124.05	59.32	227.60	198.46	29.13	7.812		
6,800.00	6,773.74	6,837.35	6,805.87	15.78	15.93	157.76	-137.56	71.87	229.03	199.33	29.69	7.713		
6,900.00	6,872.32	6,937.17	6,903.97	16.09	16.27	156.33	-151.07	84.43	230.60	200.33	30.27	7.618		
7,000.00	6,970.91	7,036.99	7,002.08	16.41	16.60	154.93	-164.58	96.99	232.31	201.46	30.86	7.529		
7,100.00	7,069.49	7,136.81	7,100.18	16.73	16.94	153.54	-178.10	109.54	234.17	202.71	31.46	7.444		
7,200.00	7,168.08	7,236.64	7,198.28	17.05	17.28	152.17	-191.61	122.10	236.16	204.09	32.07	7.364		
7,300.00	7,266.67	7,336.46	7,296.39	17.38	17.63	150.83	-205.12	134.66	238.28	205.58	32.70	7.287		
7,400.00	7,365.25	7,436.28	7,394.49	17.71	17.98	149.51	-218.63	147.21	240.53	207.19	33.34	7.215		
7,500.00	7,463.84	7,536.10	7,492.59	18.04	18.33	148.22	-232.14	159.77	242.91	208.92	33.99	7.147		
7,600.00	7,562.42	7,635.93	7,590.70	18.37	18.68	146.95	-245.65	172.33	245.40	210.75	34.65	7.082		
7,700.00	7,661.01	7,735.75	7,688.80	18.71	19.04	145.71	-259.17	184.88	248.02	212.69	35.32	7.021		
7,800.00	7,759.60	7,835.57	7,786.90	19.04	19.39	144.50	-272.68	197.44	250.75	214.74	36.01	6.964		
7,900.00	7,858.18	7,935.39	7,885.01	19.38	19.75	143.31	-286.19	210.00	253.59	216.89	36.70	6.910		
8,000.00	7,956.77	8,035.22	7,983.11	19.72	20.11	142.15	-299.70	222.55	256.53	219.13	37.40	6.859		
8,100.00	8,055.35	8,135.04	8,081.22	20.06	20.48	141.01	-313.21	235.11	259.58	221.47	38.12	6.811		
8,200.00	8,153.94	8,234.86	8,179.32	20.40	20.84	139.90	-326.73	247.67	262.73	223.90	38.83	6.765		
8,300.00	8,252.52	8,334.68	8,277.42	20.75	21.21	138.82	-340.24	260.22	265.98	226.42	39.56	6.723		
8,400.00	8,351.11	8,433.08	8,374.18	21.09	21.54	137.84	-353.31	272.38	269.49	229.23	40.26	6.694 SF		
8,500.00	8,449.70	8,530.68	8,470.43	21.44	21.84	137.19	-365.17	283.39	273.83	232.94	40.89	6.696		
8,600.00	8,548.28	8,628.28	8,566.94	21.79	22.12	136.85	-375.81	293.28	279.02	237.53	41.49	6.725		
8,700.00	8,646.87	8,725.82	8,663.62	22.14	22.39	136.82	-385.25	302.05	285.02	242.97	42.05	6.779		
8,800.00	8,745.45	8,823.24	8,760.39	22.49	22.64	137.07	-393.47	309.69	291.83	249.27	42.56	6.857		
8,900.00	8,844.04	8,920.48	8,857.16	22.84	22.89	137.60	-400.47	316.20	299.47	256.44	43.03	6.959		
9,000.00	8,942.63	9,017.49	8,953.85	23.19	23.11	138.36	-406.26	321.58	307.98	264.52	43.46	7.086		
9,054.86	8,996.71	9,070.60	9,006.84	23.39	23.23	138.87	-408.92	324.05	313.03	269.35	43.68	7.167		
9,100.00	9,041.23	9,114.23	9,050.39	23.53	23.33	139.34	-410.83	325.83	317.33	273.49	43.85	7.237		
9,200.00	9,139.95	9,210.73	9,146.77	23.82	23.53	140.44	-414.21	328.96	327.10	282.92	44.17	7.405		
9,300.00	9,238.80	9,306.97	9,242.97	24.10	23.72	141.63	-416.39	330.99	337.21	292.73	44.48	7.582		
9,400.00	9,337.79	9,402.94	9,338.93	24.38	23.89	142.87	-417.38	331.91	347.70	302.95	44.75	7.770		
9,500.00	9,436.89	9,500.90	9,436.89	24.65	24.06	144.16	-417.45	331.98	358.41	313.40	45.01	7.962		
9,600.00	9,536.11	9,600.12	9,536.11	24.92	24.23	145.32	-417.45	331.98	368.64	323.34	45.29	8.139		
9,700.00	9,635.43	9,703.02	9,638.86	25.17	24.39	146.98	-413.54	331.98	377.96	332.48	45.49	8.309		
9,800.00	9,734.85	9,802.37	9,736.03	25.43	24.45	150.82	-393.47	331.98	386.30	341.00	45.29	8.528		
9,900.00	9,834.36	9,891.13	9,818.78	25.67	24.42	156.07	-361.58	331.98	396.62	351.74	44.88	8.838		

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 313H (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:	313H (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	
10,000.00	9,933.96	9,967.57	9,885.37	25.91	24.34	161.74	-324.16	331.98	412.56	368.11	44.45	9.281		
10,100.00	10,033.62	10,032.05	9,937.25	26.14	24.25	167.13	-285.94	331.98	437.03	392.86	44.17	9.894		
10,200.00	10,133.36	10,085.99	9,977.13	26.37	24.16	171.88	-249.65	331.98	471.42	427.37	44.06	10.700		
10,300.00	10,233.15	10,131.12	10,007.75	26.59	24.07	175.91	-216.51	331.98	515.73	471.63	44.09	11.696		
10,400.00	10,333.00	10,169.08	10,031.43	26.80	24.00	179.27	-186.85	331.98	568.96	524.73	44.23	12.863		
10,500.00	10,432.89	10,200.00	10,049.22	27.00	23.94	-178.07	-161.57	331.98	629.77	585.34	44.43	14.174		
10,600.00	10,532.82	10,228.73	10,064.52	27.20	23.87	-175.68	-137.25	331.98	696.75	652.08	44.67	15.597		
10,700.00	10,632.78	10,250.00	10,075.04	27.39	23.83	-174.00	-118.77	331.98	768.70	723.79	44.91	17.115		
10,800.00	10,732.75	10,273.09	10,085.68	27.58	23.78	-172.24	-98.28	331.98	844.62	799.44	45.18	18.694		
10,900.00	10,832.75	10,300.00	10,097.03	27.75	23.72	-170.29	-73.89	331.99	923.82	878.34	45.47	20.316		
10,984.29	10,917.04	10,300.00	10,097.03	27.89	23.72	-51.92	-73.89	331.99	992.43	946.81	45.62	21.755		
11,000.00	10,932.75	10,300.00	10,097.03	27.92	23.72	-51.92	-73.89	331.99	1,005.45	959.80	45.65	22.025		
11,100.00	11,032.75	10,321.42	10,105.24	28.10	23.68	-50.36	-54.10	331.99	1,089.41	1,043.44	45.96	23.701		
11,184.29	11,117.04	10,332.14	10,109.07	28.25	23.65	-49.59	-44.09	331.99	1,161.87	1,115.68	46.20	25.151		
11,200.00	11,132.74	10,350.00	10,115.03	28.28	23.62	-46.40	-27.25	331.99	1,175.76	1,129.38	46.38	25.352		
11,250.00	11,182.60	10,350.00	10,115.03	28.36	23.62	-40.94	-27.25	331.99	1,218.04	1,171.47	46.57	26.155		
11,300.00	11,231.96	10,350.00	10,115.03	28.41	23.62	-36.43	-27.25	331.99	1,259.12	1,212.55	46.57	27.037		
11,350.00	11,280.45	10,350.00	10,115.03	28.46	23.62	-32.73	-27.25	331.99	1,298.83	1,252.51	46.33	28.036		
11,400.00	11,327.69	10,350.00	10,115.03	28.48	23.62	-29.67	-27.25	331.99	1,337.00	1,291.18	45.82	29.178		
11,450.00	11,373.32	10,376.85	10,122.99	28.49	23.56	-26.61	-1.62	331.99	1,372.62	1,327.48	45.14	30.407		
11,500.00	11,417.01	10,400.00	10,128.89	28.49	23.51	-24.26	20.77	331.99	1,406.65	1,362.46	44.19	31.833		
11,550.00	11,458.42	10,400.00	10,128.89	28.47	23.51	-22.65	20.77	331.99	1,438.04	1,395.06	42.98	33.460		
11,600.00	11,497.22	10,400.00	10,128.89	28.44	23.51	-21.30	20.77	331.99	1,467.33	1,425.72	41.81	35.262		
11,650.00	11,533.13	10,422.10	10,133.67	28.40	23.47	-19.98	42.35	331.99	1,493.86	1,453.69	40.17	37.193		
11,700.00	11,565.88	10,450.00	10,138.51	28.36	23.42	-18.88	69.82	331.99	1,518.16	1,479.50	38.66	39.273		
11,750.00	11,595.21	10,450.00	10,138.51	28.32	23.42	-18.14	69.82	331.99	1,539.17	1,502.06	37.11	41.476		
11,800.00	11,620.90	10,450.00	10,138.51	28.27	23.42	-17.53	69.82	331.99	1,557.74	1,522.11	35.63	43.725		
11,850.00	11,642.76	10,472.89	10,141.48	28.23	23.37	-16.95	92.52	331.99	1,573.22	1,538.91	34.30	45.862		
11,900.00	11,660.61	10,500.00	10,143.83	28.20	23.33	-16.50	119.52	331.99	1,586.09	1,552.90	33.19	47.789		
11,950.00	11,674.33	10,500.00	10,143.83	28.17	23.33	-16.23	119.52	331.99	1,595.53	1,563.22	32.31	49.379		
12,000.00	11,683.81	10,500.00	10,143.83	28.17	23.33	-16.04	119.52	331.99	1,602.37	1,570.61	31.76	50.451		
12,050.00	11,688.97	10,536.00	10,144.96	28.18	23.27	-15.91	155.50	331.99	1,605.88	1,574.24	31.64	50.756		
12,085.62	11,690.00	10,536.12	10,144.96	28.21	23.27	-15.90	155.62	331.99	1,606.47	1,574.73	31.74	50.609		
12,100.00	11,689.96	10,550.50	10,144.96	28.23	23.25	-15.90	170.00	331.99	1,606.44	1,574.65	31.79	50.532		
12,200.00	11,689.73	10,650.50	10,144.96	28.41	23.19	-15.90	270.00	331.99	1,606.22	1,574.06	32.16	49.940		
12,300.00	11,689.50	10,750.50	10,144.96	28.75	23.50	-15.90	370.00	331.99	1,606.00	1,573.38	32.62	49.235		
12,400.00	11,689.27	10,850.50	10,144.96	29.23	24.10	-15.90	470.00	332.00	1,605.77	1,572.61	33.16	48.425		
12,500.00	11,689.04	10,950.50	10,144.96	29.85	24.83	-15.91	570.00	332.00	1,605.55	1,571.77	33.78	47.527		
12,600.00	11,688.81	11,050.50	10,144.96	30.58	25.66	-15.91	670.00	332.00	1,605.33	1,570.85	34.48	46.559		
12,700.00	11,688.58	11,150.50	10,144.96	31.42	26.58	-15.91	770.00	332.00	1,605.10	1,569.85	35.25	45.536		
12,800.00	11,688.34	11,250.50	10,144.97	32.34	27.58	-15.91	870.00	332.00	1,604.88	1,568.79	36.08	44.475		
12,900.00	11,688.11	11,350.50	10,144.97	33.35	28.67	-15.92	970.00	332.01	1,604.65	1,567.67	36.98	43.389		
13,000.00	11,687.88	11,450.50	10,144.97	34.42	29.82	-15.92	1,070.00	332.01	1,604.43	1,566.49	37.94	42.290		
13,100.00	11,687.65	11,550.50	10,144.97	35.55	31.03	-15.92	1,169.99	332.01	1,604.21	1,565.26	38.95	41.189		
13,200.00	11,687.42	11,650.50	10,144.97	36.74	32.30	-15.92	1,269.99	332.01	1,603.98	1,563.98	40.01	40.094		
13,300.00	11,687.19	11,750.50	10,144.97	37.99	33.61	-15.92	1,369.99	332.01	1,603.76	1,562.65	41.11	39.013		
13,400.00	11,686.96	11,850.50	10,144.97	39.27	34.97	-15.93	1,469.99	332.02	1,603.54	1,561.28	42.25	37.950		
13,500.00	11,686.73	11,950.50	10,144.97	40.60	36.37	-15.93	1,569.99	332.02	1,603.31	1,559.88	43.44	36.911		
13,600.00	11,686.50	12,050.50	10,144.97	41.97	37.81	-15.93	1,669.99	332.02	1,603.09	1,558.43	44.66	35.898		
13,700.00	11,686.26	12,150.50	10,144.97	43.37	39.28	-15.93	1,769.99	332.02	1,602.87	1,556.96	45.91	34.914		
13,800.00	11,686.03	12,250.50	10,144.97	44.80	40.77	-15.94	1,869.99	332.02	1,602.64	1,555.45	47.19	33.961		
13,900.00	11,685.80	12,350.50	10,144.98	46.25	42.29	-15.94	1,969.99	332.03	1,602.42	1,553.92	48.50	33.039		

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



LEAM Drilling Systems LLC

Anticollision Report



Company:	DEVON ENERGY	Local Co-ordinate Reference:	Well 313H (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:	313H (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	
14,000.00	11,885.57	12,450.50	10,144.98	47.74	43.84	-15.94	2,069.99	332.03	1,602.20	1,552.36	49.84	32.150		
14,100.00	11,885.34	12,550.50	10,144.98	49.24	45.40	-15.94	2,169.99	332.03	1,601.97	1,550.78	51.19	31.292		
14,200.00	11,885.11	12,650.49	10,144.98	50.77	46.98	-15.94	2,269.99	332.03	1,601.75	1,549.18	52.57	30.466		
14,300.00	11,884.88	12,750.49	10,144.98	52.31	48.58	-15.95	2,369.99	332.03	1,601.53	1,547.55	53.98	29.671		
14,400.00	11,884.65	12,850.49	10,144.98	53.88	50.20	-15.95	2,469.99	332.04	1,601.30	1,545.91	55.39	28.907		
14,500.00	11,884.41	12,950.49	10,144.98	55.45	51.83	-15.95	2,569.99	332.04	1,601.08	1,544.25	56.83	28.173		
14,600.00	11,884.18	13,050.49	10,144.98	57.05	53.47	-15.95	2,669.99	332.04	1,600.86	1,542.57	58.28	27.467		
14,700.00	11,883.95	13,150.49	10,144.98	58.65	55.12	-15.96	2,769.99	332.04	1,600.63	1,540.88	59.75	26.788		
14,800.00	11,883.72	13,250.49	10,144.98	60.27	56.79	-15.96	2,869.99	332.04	1,600.41	1,539.18	61.23	26.137		
14,900.00	11,883.49	13,350.49	10,144.99	61.90	58.46	-15.96	2,969.99	332.04	1,600.19	1,537.46	62.73	25.510		
15,000.00	11,883.26	13,450.49	10,144.99	63.55	60.14	-15.96	3,069.99	332.05	1,599.96	1,535.73	64.23	24.909		
15,100.00	11,883.03	13,550.49	10,144.99	65.20	61.83	-15.96	3,169.99	332.05	1,599.74	1,533.99	65.75	24.331		
15,200.00	11,882.80	13,650.49	10,144.99	66.86	63.53	-15.97	3,269.99	332.05	1,599.52	1,532.24	67.28	23.775		
15,300.00	11,882.57	13,750.49	10,144.99	68.52	65.23	-15.97	3,369.99	332.05	1,599.29	1,530.48	68.82	23.240		
15,400.00	11,882.33	13,850.49	10,144.99	70.20	66.94	-15.97	3,469.99	332.05	1,599.07	1,528.71	70.36	22.726		
15,500.00	11,882.10	13,950.49	10,144.99	71.88	68.66	-15.97	3,569.99	332.06	1,598.85	1,526.93	71.92	22.232		
15,600.00	11,881.87	14,050.49	10,144.99	73.58	70.38	-15.98	3,669.99	332.06	1,598.62	1,525.14	73.48	21.756		
15,700.00	11,881.64	14,150.49	10,144.99	75.27	72.11	-15.98	3,769.99	332.06	1,598.40	1,523.35	75.05	21.298		
15,800.00	11,881.41	14,250.49	10,144.99	76.97	73.84	-15.98	3,869.99	332.06	1,598.18	1,521.55	76.63	20.856		
15,900.00	11,881.18	14,350.49	10,145.00	78.68	75.58	-15.98	3,969.99	332.06	1,597.95	1,519.74	78.21	20.431		
16,000.00	11,880.95	14,450.49	10,145.00	80.40	77.32	-15.99	4,069.99	332.07	1,597.73	1,517.93	79.80	20.021		
16,100.00	11,880.72	14,550.49	10,145.00	82.11	79.07	-15.99	4,169.99	332.07	1,597.51	1,516.11	81.40	19.625		
16,200.00	11,880.48	14,650.49	10,145.00	83.84	80.81	-15.99	4,269.99	332.07	1,597.28	1,514.28	83.00	19.244		
16,300.00	11,880.25	14,750.49	10,145.00	85.56	82.57	-15.99	4,369.99	332.07	1,597.06	1,512.45	84.61	18.875		
16,409.48	11,880.00	14,857.28	10,145.00	87.46	84.44	-15.99	4,476.77	332.07	1,596.82	1,510.46	86.35	18.492		
16,410.35	11,880.00	14,857.28	10,145.00	87.52	84.44	-15.99	4,476.77	332.07	1,596.82	1,510.46	86.36	18.491		
16,410.43	11,880.00	14,857.28	10,145.00	87.52	84.44	-15.99	4,476.77	332.07	1,596.82	1,510.46	86.36	18.491		

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

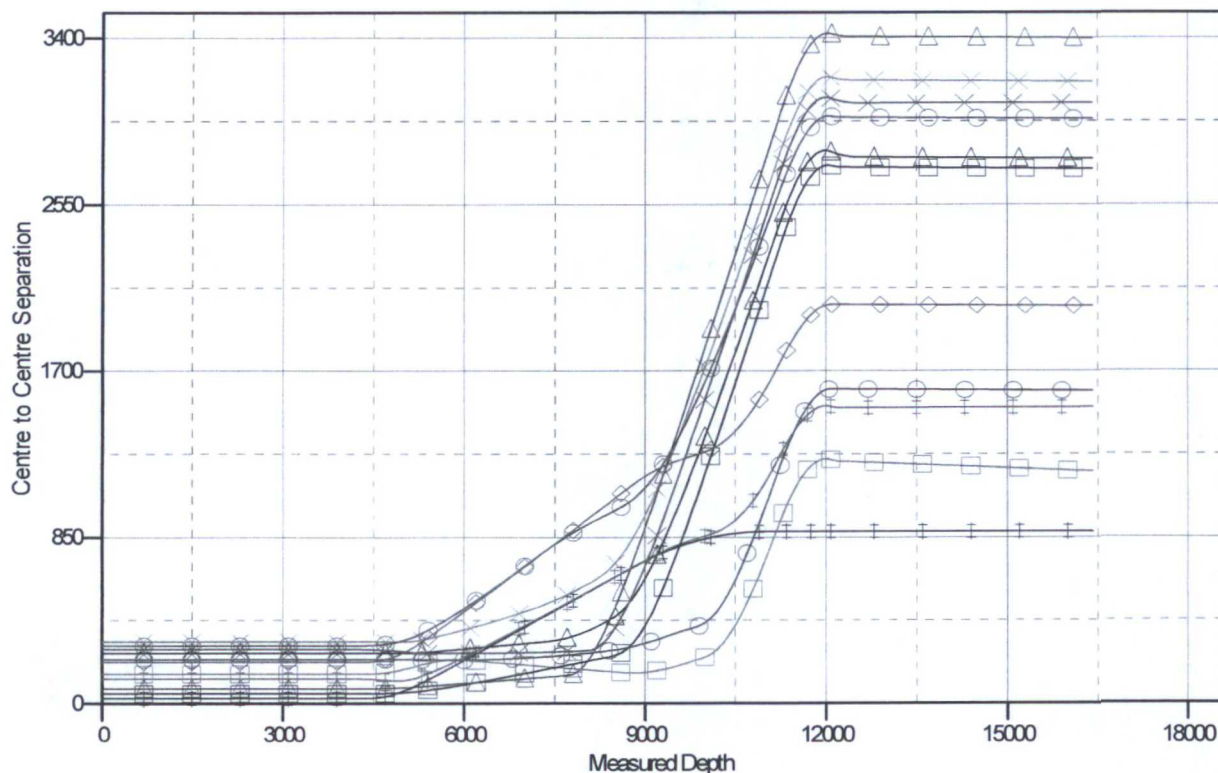
Company: DEVON ENERGY
 Project: Lea County, NM (NAD-83)
 Reference Site: Cotton Draw Unit
 Site Error: 0.00 usft
 Reference Well: 313H (SIMOPS)
 Well Error: 0.00 usft
 Reference Wellbore: OH
 Reference Design: Plan #1

Local Co-ordinate Reference: Well 313H (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: 313H (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	⊖ 263H (SIMOPS), OH, Plan #1 V0	◆ 332H (SIMOPS), OH, Plan #1 V0
▲ 253H (SIMOPS), OH, Plan #1 V0	⊖ 321H (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 313H (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:	313H (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: 313H (SIMOPS)
Coordinate System is US State Plane 1983, New Mexico Eastern Zone
Grid Convergence at Surface is: 0.33°

