



Devon Energy
Thistle Unit 77H
Plan #1
Lea County, NM

HOBBS OCD
AUG 10 2016
RECEIVED



DESIGN TARGET DETAILS					
Name	TVD	+N/-S	+E/-W	Northing	Easting
SHL (TU 77H)	0.00	0.00	0.00	472522.03	775308.32
PBHL (TU 77H)	10603.00	-7624.51	55.90	464897.52	775364.22

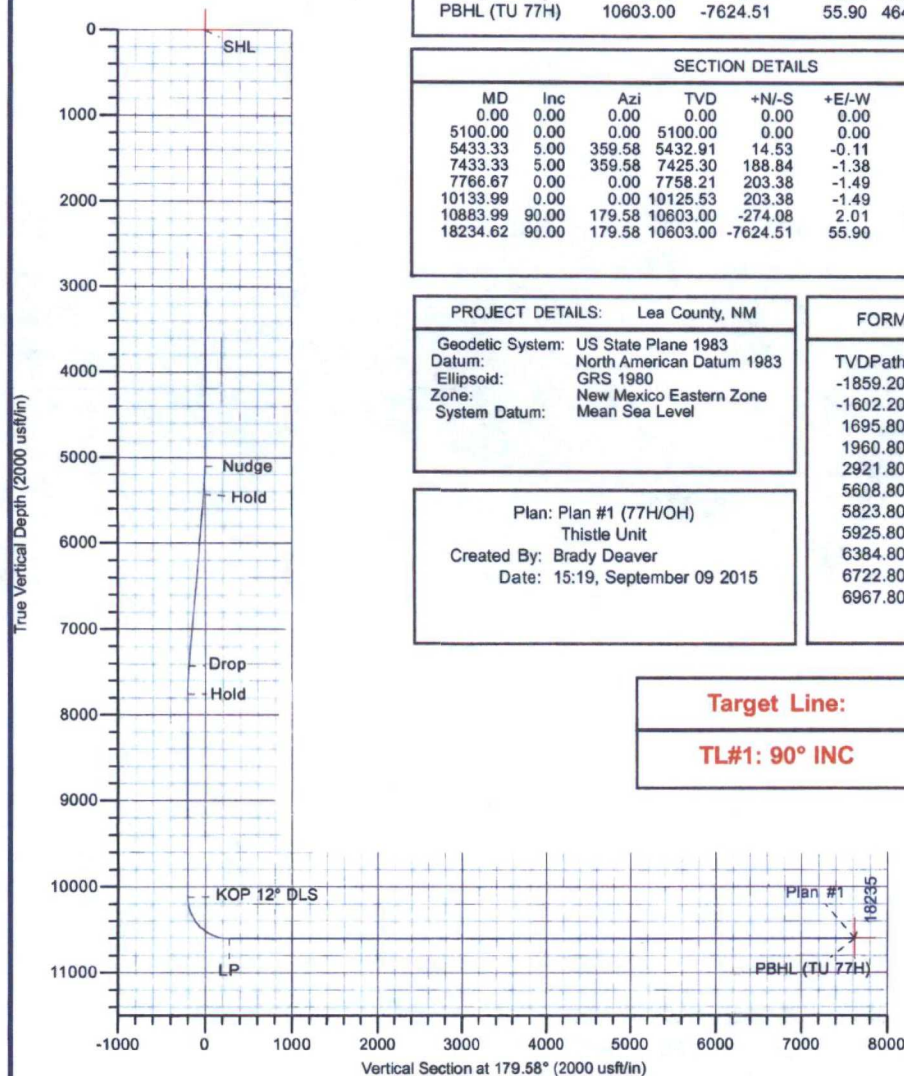
SECTION DETAILS									
MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VFace	VFace
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5100.00	0.00	0.00	5100.00	0.00	0.00	0.00	0.00	0.00	0.00
5433.33	5.00	359.58	5432.91	14.53	-0.11	1.50	359.58	-14.54	
7433.33	5.00	359.58	7425.30	188.84	-1.38	0.00	0.00	-188.85	
7766.67	0.00	0.00	7758.21	203.38	-1.49	1.50	180.00	-203.38	
10133.99	0.00	0.00	10125.53	203.38	-1.49	0.00	0.00	-203.38	
10883.99	90.00	179.58	10603.00	-274.08	2.01	12.00	179.58	274.08	
18234.62	90.00	179.58	10603.00	-7624.51	55.90	0.00	0.00	7624.71	

PROJECT DETAILS:		Lea County, NM
Geodetic System:	US State Plane 1983	
Datum:	North American Datum 1983	
Ellipsoid:	GRS 1980	
Zone:	New Mexico Eastern Zone	
System Datum:	Mean Sea Level	

FORMATION TOP DETAILS		
TVDPath	MDPath	Formation
-1859.20	1393.00	Rustler
-1602.20	1650.00	Top Salt
1695.80	4948.00	Base Salt
1960.80	5213.02	Delaware
2921.80	6177.25	Cherry Cyn
5608.80	8869.46	Lwr Brushy
5823.80	9084.46	Bone Spring
5925.80	9186.46	Mid Leonard
6384.80	9645.46	Lnd B
6722.80	9983.46	Lnd C
6967.80	10229.08	1st BS SS

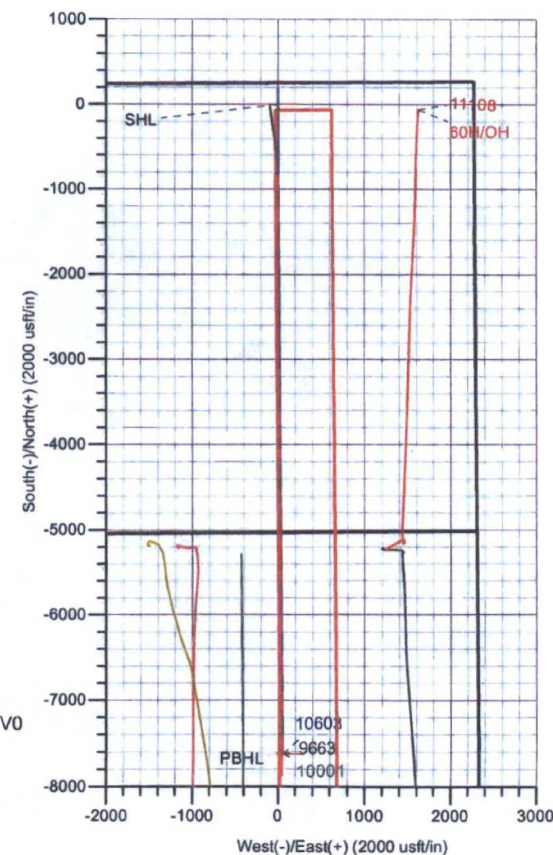
Plan: Plan #1 (77H/OH)
Thistle Unit
Created By: Brady Deaver
Date: 15:19, September 09 2015

Target Line:
TL#1: 90° INC



Azimuths to Grid North
True North: -0.41°
Magnetic North: 6.84°

Magnetic Field
Strength: 48237.4snT
Dip Angle: 60.21°
Date: 9/9/2015
Model: BGGM2015



LEGEND

- 122H, OH, Plan #1 V0
- 52H, 52H OH, 52H OH V0
- 107H, OH, Plan #1 V0
- 54H, OH, OH V0
- 82H, OH, Plan #1 V0
- 60H, OH, OH V0
- 18H, OH, OH V0
- Plan #1

DEVON ENERGY

Lea County, NM (NAD-83)

Thistle Unit

77H

OH

Plan: Plan #1

Standard Planning Report

09 September, 2015

HOBBS OCD
AUG 10 2016
RECEIVED

LEAM Drilling Systems LLC

Planning Report

Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well 77H
Company:	DEVON ENERGY	TVD Reference:	3727.4' GL + 23.5' RKB @ 3750.90usft (Original Well Elev)
Project:	Lea County, NM (NAD-83)	MD Reference:	3727.4' GL + 23.5' RKB @ 3750.90usft (Original Well Elev)
Site:	Thistle Unit	North Reference:	Grid
Well:	77H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1		

Project	Lea County, NM (NAD-83)		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Eastern Zone		

Site	Thistle Unit		
Site Position:		Northing:	468,026.90 usft
From:	Map	Easting:	780,722.56 usft
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "
		Latitude:	32° 17' 3.494 N
		Longitude:	103° 33' 31.335 W
		Grid Convergence:	0.41 °

Well	77H		
Well Position	+N/-S	4,495.13 usft	Northing:
	+E/-W	-5,414.24 usft	Easting:
Position Uncertainty	0.00 usft	Wellhead Elevation:	3,750.90 usft
		Latitude:	32° 17' 48.356 N
		Longitude:	103° 34' 34.032 W
		Ground Level:	3,727.40 usft

Wellbore	OH		
Magnetics	Model Name	Sample Date	Declination (°)
	BGGM2015	9/9/2015	7.24
			Dip Angle (°)
			60.21
			Field Strength (nT)
			48,237

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)
	0.00	0.00	0.00
			Direction (°)
			179.58

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	
5,100.00	0.00	0.00	5,100.00	0.00	0.00	0.00	0.00	0.00	0.00	
5,433.33	5.00	359.58	5,432.91	14.53	-0.11	1.50	1.50	0.00	359.58	
7,433.33	5.00	359.58	7,425.30	188.84	-1.38	0.00	0.00	0.00	0.00	
7,766.67	0.00	0.00	7,758.21	203.38	-1.49	1.50	-1.50	0.00	180.00	
10,133.99	0.00	0.00	10,125.53	203.38	-1.49	0.00	0.00	0.00	0.00	
10,883.99	90.00	179.58	10,603.00	-274.08	2.01	12.00	12.00	23.94	179.58	
18,234.62	90.00	179.58	10,603.00	-7,624.51	55.90	0.00	0.00	0.00	0.00	PBHL (TU 77H)

LEAM Drilling Systems LLC

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Project:	Lea County, NM (NAD-83)	MD Reference:	3727.4' GL + 23.5' RKB @ 3750.90usft (Original Well Elev)
Site:	Thistle Unit	North Reference:	Grid
Well:	77H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1		

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 (TU 77H)									
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
1,393.00	0.00	0.00	1,393.00	0.00	0.00	0.00	0.00	0.00	0.00
Rustler									
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
1,650.00	0.00	0.00	1,650.00	0.00	0.00	0.00	0.00	0.00	0.00
Top Salt									
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
4,400.00	0.00	0.00	4,400.00	0.00	0.00	0.00	0.00	0.00	0.00
4,500.00	0.00	0.00	4,500.00	0.00	0.00	0.00	0.00	0.00	0.00
4,600.00	0.00	0.00	4,600.00	0.00	0.00	0.00	0.00	0.00	0.00

LEAM Drilling Systems LLC

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Well:	77H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1		

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)
4,700.00	0.00	0.00	4,700.00	0.00	0.00	0.00	0.00	0.00	0.00
4,800.00	0.00	0.00	4,800.00	0.00	0.00	0.00	0.00	0.00	0.00
4,900.00	0.00	0.00	4,900.00	0.00	0.00	0.00	0.00	0.00	0.00
4,948.00	0.00	0.00	4,948.00	0.00	0.00	0.00	0.00	0.00	0.00
Base Salt									
5,000.00	0.00	0.00	5,000.00	0.00	0.00	0.00	0.00	0.00	0.00
5,100.00	0.00	0.00	5,100.00	0.00	0.00	0.00	0.00	0.00	0.00
Nudge									
5,200.00	1.50	359.58	5,199.99	1.31	-0.01	-1.31	1.50	1.50	0.00
5,213.02	1.70	359.58	5,213.00	1.67	-0.01	-1.67	1.50	1.50	0.00
Delaware									
5,300.00	3.00	359.58	5,299.91	5.23	-0.04	-5.23	1.50	1.50	0.00
5,400.00	4.50	359.58	5,399.69	11.77	-0.09	-11.77	1.50	1.50	0.00
5,433.33	5.00	359.58	5,432.91	14.53	-0.11	-14.54	1.50	1.50	0.00
Hold									
5,500.00	5.00	359.58	5,499.32	20.35	-0.15	-20.35	0.00	0.00	0.00
5,600.00	5.00	359.58	5,598.94	29.06	-0.21	-29.06	0.00	0.00	0.00
5,700.00	5.00	359.58	5,698.56	37.78	-0.28	-37.78	0.00	0.00	0.00
5,800.00	5.00	359.58	5,798.18	46.49	-0.34	-46.49	0.00	0.00	0.00
5,900.00	5.00	359.58	5,897.80	55.21	-0.40	-55.21	0.00	0.00	0.00
6,000.00	5.00	359.58	5,997.42	63.92	-0.47	-63.92	0.00	0.00	0.00
6,100.00	5.00	359.58	6,097.04	72.64	-0.53	-72.64	0.00	0.00	0.00
6,177.25	5.00	359.58	6,174.00	79.37	-0.58	-79.37	0.00	0.00	0.00
Cherry Cyn									
6,200.00	5.00	359.58	6,196.66	81.35	-0.60	-81.35	0.00	0.00	0.00
6,300.00	5.00	359.58	6,296.28	90.07	-0.66	-90.07	0.00	0.00	0.00
6,400.00	5.00	359.58	6,395.90	98.78	-0.72	-98.79	0.00	0.00	0.00
6,500.00	5.00	359.58	6,495.52	107.50	-0.79	-107.50	0.00	0.00	0.00
6,600.00	5.00	359.58	6,595.14	116.21	-0.85	-116.22	0.00	0.00	0.00
6,700.00	5.00	359.58	6,694.76	124.93	-0.92	-124.93	0.00	0.00	0.00
6,800.00	5.00	359.58	6,794.38	133.64	-0.98	-133.65	0.00	0.00	0.00
6,900.00	5.00	359.58	6,894.00	142.36	-1.04	-142.36	0.00	0.00	0.00
7,000.00	5.00	359.58	6,993.62	151.08	-1.11	-151.08	0.00	0.00	0.00
7,100.00	5.00	359.58	7,093.24	159.79	-1.17	-159.79	0.00	0.00	0.00
7,200.00	5.00	359.58	7,192.85	168.51	-1.24	-168.51	0.00	0.00	0.00
7,300.00	5.00	359.58	7,292.47	177.22	-1.30	-177.23	0.00	0.00	0.00
7,400.00	5.00	359.58	7,392.09	185.94	-1.36	-185.94	0.00	0.00	0.00
7,433.33	5.00	359.58	7,425.30	188.84	-1.38	-188.85	0.00	0.00	0.00
Drop									
7,500.00	4.00	359.58	7,491.76	194.07	-1.42	-194.08	1.50	-1.50	0.00
7,600.00	2.50	359.58	7,591.60	199.74	-1.46	-199.75	1.50	-1.50	0.00
7,700.00	1.00	359.58	7,691.55	202.79	-1.49	-202.80	1.50	-1.50	0.00
7,766.67	0.00	0.00	7,758.21	203.38	-1.49	-203.38	1.50	-1.50	0.00
Hold									
7,800.00	0.00	0.00	7,791.54	203.38	-1.49	-203.38	0.00	0.00	0.00
7,900.00	0.00	0.00	7,891.54	203.38	-1.49	-203.38	0.00	0.00	0.00
8,000.00	0.00	0.00	7,991.54	203.38	-1.49	-203.38	0.00	0.00	0.00
8,100.00	0.00	0.00	8,091.54	203.38	-1.49	-203.38	0.00	0.00	0.00
8,200.00	0.00	0.00	8,191.54	203.38	-1.49	-203.38	0.00	0.00	0.00
8,300.00	0.00	0.00	8,291.54	203.38	-1.49	-203.38	0.00	0.00	0.00
8,400.00	0.00	0.00	8,391.54	203.38	-1.49	-203.38	0.00	0.00	0.00

LEAM Drilling Systems LLC

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Design:	Plan #1		

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)
8,500.00	0.00	0.00	8,491.54	203.38	-1.49	-203.38	0.00	0.00	0.00
8,600.00	0.00	0.00	8,591.54	203.38	-1.49	-203.38	0.00	0.00	0.00
8,700.00	0.00	0.00	8,691.54	203.38	-1.49	-203.38	0.00	0.00	0.00
8,800.00	0.00	0.00	8,791.54	203.38	-1.49	-203.38	0.00	0.00	0.00
8,869.46	0.00	0.00	8,861.00	203.38	-1.49	-203.38	0.00	0.00	0.00
Lwr Brushy									
8,900.00	0.00	0.00	8,891.54	203.38	-1.49	-203.38	0.00	0.00	0.00
9,000.00	0.00	0.00	8,991.54	203.38	-1.49	-203.38	0.00	0.00	0.00
9,084.46	0.00	0.00	9,076.00	203.38	-1.49	-203.38	0.00	0.00	0.00
Bone Spring									
9,100.00	0.00	0.00	9,091.54	203.38	-1.49	-203.38	0.00	0.00	0.00
9,186.46	0.00	0.00	9,178.00	203.38	-1.49	-203.38	0.00	0.00	0.00
Mid Leonard									
9,200.00	0.00	0.00	9,191.54	203.38	-1.49	-203.38	0.00	0.00	0.00
9,300.00	0.00	0.00	9,291.54	203.38	-1.49	-203.38	0.00	0.00	0.00
9,400.00	0.00	0.00	9,391.54	203.38	-1.49	-203.38	0.00	0.00	0.00
9,500.00	0.00	0.00	9,491.54	203.38	-1.49	-203.38	0.00	0.00	0.00
9,600.00	0.00	0.00	9,591.54	203.38	-1.49	-203.38	0.00	0.00	0.00
9,645.46	0.00	0.00	9,637.00	203.38	-1.49	-203.38	0.00	0.00	0.00
Lnd B									
9,700.00	0.00	0.00	9,691.54	203.38	-1.49	-203.38	0.00	0.00	0.00
9,800.00	0.00	0.00	9,791.54	203.38	-1.49	-203.38	0.00	0.00	0.00
9,900.00	0.00	0.00	9,891.54	203.38	-1.49	-203.38	0.00	0.00	0.00
9,983.46	0.00	0.00	9,975.00	203.38	-1.49	-203.38	0.00	0.00	0.00
Lnd C									
10,000.00	0.00	0.00	9,991.54	203.38	-1.49	-203.38	0.00	0.00	0.00
10,100.00	0.00	0.00	10,091.54	203.38	-1.49	-203.38	0.00	0.00	0.00
10,133.99	0.00	0.00	10,125.53	203.38	-1.49	-203.38	0.00	0.00	0.00
KOP 12" DLS									
10,150.00	1.92	179.58	10,141.54	203.11	-1.49	-203.11	12.00	12.00	0.00
10,175.00	4.92	179.58	10,166.49	201.62	-1.48	-201.62	12.00	12.00	0.00
10,200.00	7.92	179.58	10,191.33	198.82	-1.46	-198.83	12.00	12.00	0.00
10,225.00	10.92	179.58	10,215.99	194.73	-1.43	-194.73	12.00	12.00	0.00
10,229.08	11.41	179.58	10,220.00	193.94	-1.42	-193.94	12.00	12.00	0.00
1st BS SS									
10,250.00	13.92	179.58	10,240.41	189.35	-1.39	-189.36	12.00	12.00	0.00
10,275.00	16.92	179.58	10,264.50	182.70	-1.34	-182.71	12.00	12.00	0.00
10,300.00	19.92	179.58	10,288.22	174.81	-1.28	-174.81	12.00	12.00	0.00
10,325.00	22.92	179.58	10,311.49	165.68	-1.21	-165.68	12.00	12.00	0.00
10,350.00	25.92	179.58	10,334.25	155.34	-1.14	-155.35	12.00	12.00	0.00
10,375.00	28.92	179.58	10,356.44	143.83	-1.05	-143.83	12.00	12.00	0.00
10,400.00	31.92	179.58	10,377.99	131.17	-0.96	-131.18	12.00	12.00	0.00
10,425.00	34.92	179.58	10,398.86	117.40	-0.86	-117.41	12.00	12.00	0.00
10,450.00	37.92	179.58	10,418.97	102.56	-0.75	-102.57	12.00	12.00	0.00
10,475.00	40.92	179.58	10,438.28	86.69	-0.64	-86.69	12.00	12.00	0.00
10,500.00	43.92	179.58	10,456.74	69.83	-0.51	-69.83	12.00	12.00	0.00
10,525.00	46.92	179.58	10,474.28	52.02	-0.38	-52.02	12.00	12.00	0.00
10,550.00	49.92	179.58	10,490.87	33.32	-0.24	-33.33	12.00	12.00	0.00
10,575.00	52.92	179.58	10,506.46	13.78	-0.10	-13.78	12.00	12.00	0.00
10,600.00	55.92	179.58	10,521.00	-6.55	0.05	6.55	12.00	12.00	0.00
10,625.00	58.92	179.58	10,534.46	-27.61	0.20	27.61	12.00	12.00	0.00

LEAM Drilling Systems LLC

Planning Report

Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well 77H
Company:	DEVON ENERGY	TVD Reference:	3727.4' GL + 23.5' RKB @ 3750.90usft (Original Well Elev)
Project:	Lea County, NM (NAD-83)	MD Reference:	3727.4' GL + 23.5' RKB @ 3750.90usft (Original Well Elev)
Site:	Thistle Unit	North Reference:	Grid
Well:	77H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1		

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)
10,650.00	61.92	179.58	10,546.80	-49.35	0.36	49.35	12.00	12.00	0.00
10,675.00	64.92	179.58	10,557.98	-71.70	0.53	71.71	12.00	12.00	0.00
10,700.00	67.92	179.58	10,567.98	-94.61	0.69	94.62	12.00	12.00	0.00
10,725.00	70.92	179.58	10,576.77	-118.01	0.87	118.02	12.00	12.00	0.00
10,750.00	73.92	179.58	10,584.32	-141.84	1.04	141.85	12.00	12.00	0.00
10,775.00	76.92	179.58	10,590.61	-166.04	1.22	166.04	12.00	12.00	0.00
10,800.00	79.92	179.58	10,595.63	-190.52	1.40	190.53	12.00	12.00	0.00
10,825.00	82.92	179.58	10,599.36	-215.24	1.58	215.25	12.00	12.00	0.00
10,850.00	85.92	179.58	10,601.79	-240.12	1.76	240.13	12.00	12.00	0.00
10,875.00	88.92	179.58	10,602.91	-265.09	1.94	265.10	12.00	12.00	0.00
10,883.99	90.00	179.58	10,603.00	-274.08	2.01	274.08	12.00	12.00	0.00
LP									
10,900.00	90.00	179.58	10,603.00	-290.09	2.13	290.10	0.00	0.00	0.00
11,000.00	90.00	179.58	10,603.00	-390.09	2.86	390.10	0.00	0.00	0.00
11,100.00	90.00	179.58	10,603.00	-490.08	3.59	490.10	0.00	0.00	0.00
11,200.00	90.00	179.58	10,603.00	-590.08	4.33	590.10	0.00	0.00	0.00
11,300.00	90.00	179.58	10,603.00	-690.08	5.06	690.10	0.00	0.00	0.00
11,400.00	90.00	179.58	10,603.00	-790.08	5.79	790.10	0.00	0.00	0.00
11,500.00	90.00	179.58	10,603.00	-890.07	6.53	890.10	0.00	0.00	0.00
11,600.00	90.00	179.58	10,603.00	-990.07	7.26	990.10	0.00	0.00	0.00
11,700.00	90.00	179.58	10,603.00	-1,090.07	7.99	1,090.10	0.00	0.00	0.00
11,800.00	90.00	179.58	10,603.00	-1,190.06	8.73	1,190.10	0.00	0.00	0.00
11,900.00	90.00	179.58	10,603.00	-1,290.06	9.46	1,290.10	0.00	0.00	0.00
12,000.00	90.00	179.58	10,603.00	-1,390.06	10.19	1,390.10	0.00	0.00	0.00
12,100.00	90.00	179.58	10,603.00	-1,490.06	10.92	1,490.10	0.00	0.00	0.00
12,200.00	90.00	179.58	10,603.00	-1,590.05	11.66	1,590.10	0.00	0.00	0.00
12,300.00	90.00	179.58	10,603.00	-1,690.05	12.39	1,690.10	0.00	0.00	0.00
12,400.00	90.00	179.58	10,603.00	-1,790.05	13.12	1,790.10	0.00	0.00	0.00
12,500.00	90.00	179.58	10,603.00	-1,890.05	13.86	1,890.10	0.00	0.00	0.00
12,600.00	90.00	179.58	10,603.00	-1,990.04	14.59	1,990.10	0.00	0.00	0.00
12,700.00	90.00	179.58	10,603.00	-2,090.04	15.32	2,090.10	0.00	0.00	0.00
12,800.00	90.00	179.58	10,603.00	-2,190.04	16.06	2,190.10	0.00	0.00	0.00
12,900.00	90.00	179.58	10,603.00	-2,290.03	16.79	2,290.10	0.00	0.00	0.00
13,000.00	90.00	179.58	10,603.00	-2,390.03	17.52	2,390.10	0.00	0.00	0.00
13,100.00	90.00	179.58	10,603.00	-2,490.03	18.26	2,490.10	0.00	0.00	0.00
13,200.00	90.00	179.58	10,603.00	-2,590.03	18.99	2,590.10	0.00	0.00	0.00
13,300.00	90.00	179.58	10,603.00	-2,690.02	19.72	2,690.10	0.00	0.00	0.00
13,400.00	90.00	179.58	10,603.00	-2,790.02	20.46	2,790.10	0.00	0.00	0.00
13,500.00	90.00	179.58	10,603.00	-2,890.02	21.19	2,890.10	0.00	0.00	0.00
13,600.00	90.00	179.58	10,603.00	-2,990.02	21.92	2,990.10	0.00	0.00	0.00
13,700.00	90.00	179.58	10,603.00	-3,090.01	22.65	3,090.10	0.00	0.00	0.00
13,800.00	90.00	179.58	10,603.00	-3,190.01	23.39	3,190.10	0.00	0.00	0.00
13,900.00	90.00	179.58	10,603.00	-3,290.01	24.12	3,290.10	0.00	0.00	0.00
14,000.00	90.00	179.58	10,603.00	-3,390.01	24.85	3,390.10	0.00	0.00	0.00
14,100.00	90.00	179.58	10,603.00	-3,490.00	25.59	3,490.10	0.00	0.00	0.00
14,200.00	90.00	179.58	10,603.00	-3,590.00	26.32	3,590.10	0.00	0.00	0.00
14,300.00	90.00	179.58	10,603.00	-3,690.00	27.05	3,690.10	0.00	0.00	0.00
14,400.00	90.00	179.58	10,603.00	-3,789.99	27.79	3,790.10	0.00	0.00	0.00
14,500.00	90.00	179.58	10,603.00	-3,889.99	28.52	3,890.10	0.00	0.00	0.00
14,600.00	90.00	179.58	10,603.00	-3,989.99	29.25	3,990.10	0.00	0.00	0.00
14,700.00	90.00	179.58	10,603.00	-4,089.99	29.99	4,090.10	0.00	0.00	0.00
14,800.00	90.00	179.58	10,603.00	-4,189.98	30.72	4,190.10	0.00	0.00	0.00

LEAM Drilling Systems LLC

Planning Report

Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well 77H
Company:	DEVON ENERGY	TVD Reference:	3727.4' GL + 23.5' RKB @ 3750.90usft (Original Well Elev)
Project:	Lea County, NM (NAD-83)	MD Reference:	3727.4' GL + 23.5' RKB @ 3750.90usft (Original Well Elev)
Site:	Thistle Unit	North Reference:	Grid
Well:	77H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1		

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)	
14,900.00	90.00	179.58	10,603.00	-4,289.98	31.45	4,290.10	0.00	0.00	0.00	
15,000.00	90.00	179.58	10,603.00	-4,389.98	32.19	4,390.10	0.00	0.00	0.00	
15,100.00	90.00	179.58	10,603.00	-4,489.98	32.92	4,490.10	0.00	0.00	0.00	
15,200.00	90.00	179.58	10,603.00	-4,589.97	33.65	4,590.10	0.00	0.00	0.00	
15,300.00	90.00	179.58	10,603.00	-4,689.97	34.39	4,690.10	0.00	0.00	0.00	
15,400.00	90.00	179.58	10,603.00	-4,789.97	35.12	4,790.10	0.00	0.00	0.00	
15,500.00	90.00	179.58	10,603.00	-4,889.97	35.85	4,890.10	0.00	0.00	0.00	
15,600.00	90.00	179.58	10,603.00	-4,989.96	36.58	4,990.10	0.00	0.00	0.00	
15,700.00	90.00	179.58	10,603.00	-5,089.96	37.32	5,090.10	0.00	0.00	0.00	
15,800.00	90.00	179.58	10,603.00	-5,189.96	38.05	5,190.10	0.00	0.00	0.00	
15,900.00	90.00	179.58	10,603.00	-5,289.95	38.78	5,290.10	0.00	0.00	0.00	
16,000.00	90.00	179.58	10,603.00	-5,389.95	39.52	5,390.10	0.00	0.00	0.00	
16,100.00	90.00	179.58	10,603.00	-5,489.95	40.25	5,490.10	0.00	0.00	0.00	
16,200.00	90.00	179.58	10,603.00	-5,589.95	40.98	5,590.10	0.00	0.00	0.00	
16,300.00	90.00	179.58	10,603.00	-5,689.94	41.72	5,690.10	0.00	0.00	0.00	
16,400.00	90.00	179.58	10,603.00	-5,789.94	42.45	5,790.10	0.00	0.00	0.00	
16,500.00	90.00	179.58	10,603.00	-5,889.94	43.18	5,890.10	0.00	0.00	0.00	
16,600.00	90.00	179.58	10,603.00	-5,989.94	43.92	5,990.10	0.00	0.00	0.00	
16,700.00	90.00	179.58	10,603.00	-6,089.93	44.65	6,090.10	0.00	0.00	0.00	
16,800.00	90.00	179.58	10,603.00	-6,189.93	45.38	6,190.10	0.00	0.00	0.00	
16,900.00	90.00	179.58	10,603.00	-6,289.93	46.12	6,290.10	0.00	0.00	0.00	
17,000.00	90.00	179.58	10,603.00	-6,389.92	46.85	6,390.10	0.00	0.00	0.00	
17,100.00	90.00	179.58	10,603.00	-6,489.92	47.58	6,490.10	0.00	0.00	0.00	
17,200.00	90.00	179.58	10,603.00	-6,589.92	48.31	6,590.10	0.00	0.00	0.00	
17,300.00	90.00	179.58	10,603.00	-6,689.92	49.05	6,690.10	0.00	0.00	0.00	
17,400.00	90.00	179.58	10,603.00	-6,789.91	49.78	6,790.10	0.00	0.00	0.00	
17,500.00	90.00	179.58	10,603.00	-6,889.91	50.51	6,890.10	0.00	0.00	0.00	
17,600.00	90.00	179.58	10,603.00	-6,989.91	51.25	6,990.10	0.00	0.00	0.00	
17,700.00	90.00	179.58	10,603.00	-7,089.91	51.98	7,090.10	0.00	0.00	0.00	
17,800.00	90.00	179.58	10,603.00	-7,189.90	52.71	7,190.10	0.00	0.00	0.00	
17,900.00	90.00	179.58	10,603.00	-7,289.90	53.45	7,290.10	0.00	0.00	0.00	
18,000.00	90.00	179.58	10,603.00	-7,389.90	54.18	7,390.10	0.00	0.00	0.00	
18,100.00	90.00	179.58	10,603.00	-7,489.90	54.91	7,490.10	0.00	0.00	0.00	
18,200.00	90.00	179.58	10,603.00	-7,589.89	55.65	7,590.10	0.00	0.00	0.00	
18,234.62	90.00	179.58	10,603.00	-7,624.51	55.90	7,624.72	0.00	0.00	0.00	
TD - PBHL (TU 77H)										

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 (TU 77H)	0.00	0.00	0.00	0.00	0.00	472,522.03	775,308.32	32° 17' 48.356 N	103° 34' 34.032 W	
- plan hits target center										
- Point										
PBHL (TU 77H)	0.00	0.00	10,603.00	-7,624.51	55.90	464,897.52	775,364.22	32° 16' 32.907 N	103° 34' 34.008 W	
- plan hits target center										
- Point										

LEAM Drilling Systems LLC

Planning Report

Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well 77H
Company:	DEVON ENERGY	TVD Reference:	3727.4' GL + 23.5' RKB @ 3750.90usft (Original Well Elev)
Project:	Lea County, NM (NAD-83)	MD Reference:	3727.4' GL + 23.5' RKB @ 3750.90usft (Original Well Elev)
Site:	Thistle Unit	North Reference:	Grid
Well:	77H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1		

Formations						
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)	
1,393.00	1,393.00	Rustler		0.00		
1,650.00	1,650.00	Top Salt		0.00		
4,948.00	4,948.00	Base Salt		0.00		
5,213.02	5,213.00	Delaware		0.00		
6,177.25	6,174.00	Cherry Cyn		0.00		
8,869.46	8,861.00	Lwr Brushy		0.00		
9,084.46	9,076.00	Bone Spring		0.00		
9,186.46	9,178.00	Mid Leonard		0.00		
9,645.46	9,637.00	Lnd B		0.00		
9,983.46	9,975.00	Lnd C		0.00		
10,229.08	10,220.00	1st BS SS		0.00		

Plan Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates			
		+N/-S (usft)	+E/-W (usft)	Comment	
5,100.00	5,100.00	0.00	0.00	Nudge	
5,433.33	5,432.91	14.53	-0.11	Hold	
7,433.33	7,425.30	188.84	-1.38	Drop	
7,766.67	7,758.21	203.38	-1.49	Hold	
10,133.99	10,125.53	203.38	-1.49	KOP 12" DLS	
10,883.99	10,603.00	-274.08	2.01	LP	
18,234.62	10,603.00	-7,624.51	55.90	TD	

DEVON ENERGY

Lea County, NM (NAD-83)

Thistle Unit

77H

OH

Plan #1

Anticollision Report

09 September, 2015

LEAM Drilling Systems LLC

Anticollision Report

Company:	DEVON ENERGY	Local Co-ordinate Reference:	Well 77H
Project:	Lea County, NM (NAD-83)	TVD Reference:	3727.4' GL + 23.5' RKB @ 3750.90usft (Original Well Elev)
Reference Site:	Thistle Unit	MD Reference:	3727.4' GL + 23.5' RKB @ 3750.90usft (Original Well Elev)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	77H	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
Depth Range:	0.00 to 11,000.00usft
Results Limited by:	Maximum center-center distance of 9,999.98 usft
Warning Levels Evaluated at:	2.00 Sigma
Error Model:	ISCWSA
Scan Method:	Closest Approach 3D
Error Surface:	Elliptical Conic
Casing Method:	Not applied

Survey Tool Program	Date	9/9/2015
From (usft)	To (usft)	Survey (Wellbore)
0.00	18,234.30	Plan #1 (OH)
Tool Name	Description	
LEAM MWD-ADJ	MWD - Standard	

Summary

Site Name	Reference	Offset	Distance		Separation	Warning
	Measured Depth (usft)	Measured Depth (usft)	Between Centres (usft)	Between Ellipses (usft)		
Offset Well - Wellbore - Design						
Thistle Unit						
107H - OH - Plan #1	5,447.32	5,447.70	42.66	18.54	1.769	CC, ES
107H - OH - Plan #1	5,500.00	5,500.14	42.94	18.61	1.765	SF
122H - OH - Plan #1	5,132.00	5,131.09	99.98	77.19	4.387	CC
122H - OH - Plan #1	5,300.00	5,299.01	100.11	76.57	4.252	ES
122H - OH - Plan #1	5,500.00	5,498.42	102.01	77.58	4.175	SF
52H - 52H OH - 52H OH	10,775.00	10,476.37	5,166.15	5,130.60	145.307	SF
52H - 52H OH - 52H OH	10,900.00	10,489.81	5,044.69	5,017.54	185.843	CC, ES
54H - OH - OH	10,900.00	10,514.99	5,182.67	5,139.40	119.780	CC, ES, SF
60H - OH - OH	10,650.00	15,982.12	1,712.52	1,612.60	17.138	SF
60H - OH - OH	10,900.00	15,753.28	1,682.47	1,585.24	17.304	CC, ES
82H - OH - Plan #1	10,900.00	10,526.00	5,006.70	4,959.44	105.932	CC, ES, SF
Thistle Unit (Offsets)						
18H - OH - OH	5,074.91	5,032.96	5,343.12	5,323.18	267.873	CC
18H - OH - OH	5,100.00	5,053.17	5,343.14	5,323.10	266.647	ES
18H - OH - OH	10,225.00	8,552.00	5,823.21	5,785.83	155.769	SF

Offset Design												Offset Site Error:	0.00 usft
Thistle Unit - 107H - OH - Plan #1												Offset Well Error:	0.00 usft
Survey Program: 0-LEAM MWD-ADJ													
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
0.00	0.00	0.00	0.00	0.00	0.00	-90.34	-0.30	-50.00	50.01				
100.00	100.00	99.30	99.30	0.09	0.09	-90.34	-0.30	-50.00	50.00	49.83	0.17	291.815	
200.00	200.00	199.30	199.30	0.31	0.31	-90.34	-0.30	-50.00	50.00	49.38	0.62	80.659	
300.00	300.00	299.30	299.30	0.54	0.53	-90.34	-0.30	-50.00	50.00	48.93	1.07	46.754	
400.00	400.00	399.30	399.30	0.76	0.76	-90.34	-0.30	-50.00	50.00	48.48	1.52	32.918	
500.00	500.00	499.30	499.30	0.99	0.98	-90.34	-0.30	-50.00	50.00	48.03	1.97	25.400	
600.00	600.00	599.30	599.30	1.21	1.21	-90.34	-0.30	-50.00	50.00	47.58	2.42	20.678	
700.00	700.00	699.30	699.30	1.43	1.43	-90.34	-0.30	-50.00	50.00	47.13	2.87	17.437	
800.00	800.00	799.30	799.30	1.66	1.66	-90.34	-0.30	-50.00	50.00	46.68	3.32	15.074	
900.00	900.00	899.30	899.30	1.88	1.88	-90.34	-0.30	-50.00	50.00	46.23	3.77	13.275	
1,000.00	1,000.00	999.30	999.30	2.11	2.11	-90.34	-0.30	-50.00	50.00	45.78	4.22	11.859	

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 77H
Project:	Lea County, NM (NAD-83)	TVD Reference:	3727.4' GL + 23.5' RKB @ 3750.90usft (Original Well Elev)
Reference Site:	Thistle Unit	MD Reference:	3727.4' GL + 23.5' RKB @ 3750.90usft (Original Well Elev)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	77H	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 Thistle Unit - 107H - OH - Plan #1													Offset Site Error:	0.00 usft
Survey Program: 0-LEAM MWD-ADJ													Offset Well Error:	0.00 usft
Reference	Offset	Semi Major Axis		Distance		Minimum		Separation		Warning				
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
1,100.00	1,100.00	1,099.30	1,099.30	2.33	2.33	-90.34	-0.30	-50.00	50.00	45.34	4.67	10.717		
1,200.00	1,200.00	1,199.30	1,199.30	2.56	2.56	-90.34	-0.30	-50.00	50.00	44.89	5.12	9.775		
1,300.00	1,300.00	1,299.30	1,299.30	2.78	2.78	-90.34	-0.30	-50.00	50.00	44.44	5.56	8.985		
1,400.00	1,400.00	1,399.30	1,399.30	3.01	3.01	-90.34	-0.30	-50.00	50.00	43.99	6.01	8.314		
1,500.00	1,500.00	1,499.30	1,499.30	3.23	3.23	-90.34	-0.30	-50.00	50.00	43.54	6.46	7.736		
1,600.00	1,600.00	1,599.30	1,599.30	3.46	3.46	-90.34	-0.30	-50.00	50.00	43.09	6.91	7.233		
1,700.00	1,700.00	1,699.30	1,699.30	3.68	3.68	-90.34	-0.30	-50.00	50.00	42.64	7.36	6.791		
1,800.00	1,800.00	1,799.30	1,799.30	3.91	3.91	-90.34	-0.30	-50.00	50.00	42.19	7.81	6.400		
1,900.00	1,900.00	1,899.30	1,899.30	4.13	4.13	-90.34	-0.30	-50.00	50.00	41.74	8.26	6.052		
2,000.00	2,000.00	1,999.30	1,999.30	4.36	4.35	-90.34	-0.30	-50.00	50.00	41.29	8.71	5.740		
2,100.00	2,100.00	2,099.30	2,099.30	4.58	4.58	-90.34	-0.30	-50.00	50.00	40.84	9.16	5.458		
2,200.00	2,200.00	2,199.30	2,199.30	4.81	4.80	-90.34	-0.30	-50.00	50.00	40.39	9.61	5.203		
2,300.00	2,300.00	2,299.30	2,299.30	5.03	5.03	-90.34	-0.30	-50.00	50.00	39.94	10.06	4.970		
2,400.00	2,400.00	2,399.30	2,399.30	5.26	5.25	-90.34	-0.30	-50.00	50.00	39.49	10.51	4.758		
2,500.00	2,500.00	2,499.30	2,499.30	5.48	5.48	-90.34	-0.30	-50.00	50.00	39.04	10.96	4.562		
2,600.00	2,600.00	2,599.30	2,599.30	5.71	5.70	-90.34	-0.30	-50.00	50.00	38.59	11.41	4.383		
2,700.00	2,700.00	2,699.30	2,699.30	5.93	5.93	-90.34	-0.30	-50.00	50.00	38.14	11.86	4.217		
2,800.00	2,800.00	2,799.30	2,799.30	6.15	6.15	-90.34	-0.30	-50.00	50.00	37.69	12.31	4.063		
2,900.00	2,900.00	2,899.30	2,899.30	6.38	6.38	-90.34	-0.30	-50.00	50.00	37.24	12.76	3.919		
3,000.00	3,000.00	2,999.30	2,999.30	6.60	6.60	-90.34	-0.30	-50.00	50.00	36.79	13.21	3.786		
3,100.00	3,100.00	3,099.30	3,099.30	6.83	6.83	-90.34	-0.30	-50.00	50.00	36.34	13.66	3.661		
3,200.00	3,200.00	3,199.30	3,199.30	7.05	7.05	-90.34	-0.30	-50.00	50.00	35.90	14.11	3.545		
3,300.00	3,300.00	3,299.30	3,299.30	7.28	7.28	-90.34	-0.30	-50.00	50.00	35.45	14.56	3.435		
3,400.00	3,400.00	3,399.30	3,399.30	7.50	7.50	-90.34	-0.30	-50.00	50.00	35.00	15.00	3.332		
3,500.00	3,500.00	3,499.30	3,499.30	7.73	7.73	-90.34	-0.30	-50.00	50.00	34.55	15.45	3.235		
3,600.00	3,600.00	3,599.30	3,599.30	7.95	7.95	-90.34	-0.30	-50.00	50.00	34.10	15.90	3.144		
3,700.00	3,700.00	3,699.30	3,699.30	8.18	8.18	-90.34	-0.30	-50.00	50.00	33.65	16.35	3.057		
3,800.00	3,800.00	3,799.30	3,799.30	8.40	8.40	-90.34	-0.30	-50.00	50.00	33.20	16.80	2.976		
3,900.00	3,900.00	3,899.30	3,899.30	8.63	8.63	-90.34	-0.30	-50.00	50.00	32.75	17.25	2.898		
4,000.00	4,000.00	3,999.30	3,999.30	8.85	8.85	-90.34	-0.30	-50.00	50.00	32.30	17.70	2.825		
4,100.00	4,100.00	4,099.30	4,099.30	9.08	9.08	-90.34	-0.30	-50.00	50.00	31.85	18.15	2.755		
4,200.00	4,200.00	4,199.30	4,199.30	9.30	9.30	-90.34	-0.30	-50.00	50.00	31.40	18.60	2.688		
4,300.00	4,300.00	4,299.30	4,299.30	9.53	9.52	-90.34	-0.30	-50.00	50.00	30.95	19.05	2.625		
4,400.00	4,400.00	4,399.30	4,399.30	9.75	9.75	-90.34	-0.30	-50.00	50.00	30.50	19.50	2.564		
4,500.00	4,500.00	4,499.30	4,499.30	9.98	9.97	-90.34	-0.30	-50.00	50.00	30.05	19.95	2.506		
4,600.00	4,600.00	4,599.30	4,599.30	10.20	10.20	-90.34	-0.30	-50.00	50.00	29.60	20.40	2.451		
4,700.00	4,700.00	4,699.30	4,699.30	10.43	10.42	-90.34	-0.30	-50.00	50.00	29.15	20.85	2.398		
4,800.00	4,800.00	4,799.30	4,799.30	10.65	10.65	-90.34	-0.30	-50.00	50.00	28.70	21.30	2.348		
4,900.00	4,900.00	4,899.30	4,899.30	10.87	10.87	-90.34	-0.30	-50.00	50.00	28.25	21.75	2.299		
5,000.00	5,000.00	4,999.30	4,999.30	11.10	11.10	-90.34	-0.30	-50.00	50.00	27.80	22.20	2.253		
5,100.00	5,100.00	5,099.30	5,099.30	11.32	11.32	-90.34	-0.30	-50.00	50.00	27.35	22.65	2.208		
5,200.00	5,199.99	5,200.99	5,200.97	11.55	11.54	-91.54	-0.30	-48.22	48.27	25.18	23.08	2.091		
5,300.00	5,299.91	5,300.85	5,300.77	11.77	11.74	-96.73	-0.30	-44.74	45.07	21.56	23.50	1.917		
5,400.00	5,399.89	5,400.57	5,400.43	12.00	11.93	-106.02	-0.30	-41.25	42.93	19.01	23.92	1.795		
5,433.33	5,432.91	5,433.77	5,433.61	12.07	12.00	-110.02	-0.30	-40.10	42.66	18.62	24.05	1.774		
5,447.32	5,446.85	5,447.70	5,447.53	12.11	12.03	-111.78	-0.30	-39.61	42.66	18.54	24.11	1.769 CC, ES		
5,500.00	5,499.32	5,500.14	5,499.94	12.22	12.13	-118.37	-0.30	-37.78	42.94	18.61	24.33	1.765 SF		
5,600.00	5,598.94	5,599.70	5,599.43	12.45	12.33	-130.31	-0.30	-34.31	45.01	20.27	24.74	1.819		
5,700.00	5,698.58	5,699.25	5,698.93	12.67	12.54	-140.80	-0.30	-30.83	48.83	23.68	25.15	1.941		
5,800.00	5,798.18	5,798.81	5,798.43	12.90	12.74	-149.53	-0.30	-27.36	54.04	28.47	25.57	2.113		

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 77H
Project:	Lea County, NM (NAD-83)	TVD Reference:	3727.4' GL + 23.5' RKB @ 3750.90usft (Original Well Elev)
Reference Site:	Thistle Unit	MD Reference:	3727.4' GL + 23.5' RKB @ 3750.90usft (Original Well Elev)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	77H	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 Thistle Unit - 107H - 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)					
5,900.00	5,897.80	5,898.37	5,897.92	13.13	12.94	-158.80	-0.30	-23.88	60.27	34.28	26.00	2.319			
6,000.00	5,997.42	5,997.92	5,997.42	13.36	13.15	-162.28	-0.30	-20.41	67.25	40.83	26.42	2.545			
6,100.00	6,097.04	6,097.48	6,096.91	13.59	13.35	-166.87	-0.30	-16.93	74.76	47.91	26.85	2.784			
6,200.00	6,196.66	6,197.04	6,196.41	13.83	13.56	-170.80	-0.30	-13.46	82.66	55.38	27.28	3.030			
6,300.00	6,296.28	6,296.59	6,295.90	14.06	13.77	-173.67	-0.30	-9.98	90.85	63.14	27.71	3.278			
6,400.00	6,395.90	6,396.15	6,395.40	14.30	13.98	-176.22	-0.30	-6.51	99.25	71.11	28.14	3.526			
6,500.00	6,495.52	6,495.71	6,494.90	14.54	14.19	-178.38	-0.30	-3.04	107.82	79.24	28.58	3.773			
6,600.00	6,595.14	6,595.28	6,594.44	14.78	14.39	-179.63	-0.30	-0.75	116.51	87.51	29.01	4.017			
6,700.00	6,694.76	6,694.90	6,694.06	15.02	14.58	-179.74	-0.30	-0.56	125.23	95.80	29.43	4.255			
6,800.00	6,794.38	6,794.52	6,793.68	15.26	14.80	-179.76	-0.30	-0.56	133.95	104.07	29.88	4.483			
6,900.00	6,894.00	6,894.14	6,893.30	15.50	15.02	-179.77	-0.30	-0.56	142.66	112.33	30.33	4.704			
7,000.00	6,993.62	6,993.75	6,992.92	15.74	15.25	-179.79	-0.30	-0.56	151.38	120.60	30.78	4.919			
7,100.00	7,093.24	7,093.37	7,092.54	15.99	15.47	-179.80	-0.30	-0.56	160.09	128.87	31.23	5.127			
7,200.00	7,192.85	7,192.99	7,192.15	16.23	15.69	-179.81	-0.30	-0.56	168.81	137.13	31.68	5.329			
7,300.00	7,292.47	7,292.61	7,291.77	16.48	15.91	-179.82	-0.30	-0.56	177.52	145.40	32.13	5.526			
7,400.00	7,392.09	7,392.23	7,391.39	16.72	16.14	-179.83	-0.30	-0.56	186.24	153.66	32.58	5.717			
7,433.33	7,425.30	7,425.44	7,424.80	16.81	16.21	-179.83	-0.30	-0.56	189.14	156.42	32.73	5.779			
7,500.00	7,491.76	7,491.90	7,491.06	16.95	16.36	-179.83	-0.30	-0.56	194.37	161.33	33.04	5.883			
7,600.00	7,591.60	7,591.74	7,590.90	17.14	16.58	-179.84	-0.30	-0.56	200.04	166.58	33.47	5.977			
7,700.00	7,691.55	7,691.69	7,690.85	17.31	16.81	-179.84	-0.30	-0.56	203.10	169.22	33.87	5.996			
7,766.67	7,758.21	7,758.35	7,757.51	17.43	16.95	179.74	-0.30	-0.56	203.68	169.54	34.13	5.967			
7,800.00	7,791.54	7,791.68	7,790.84	17.49	17.03	179.74	-0.30	-0.56	203.68	169.40	34.27	5.943			
7,900.00	7,891.54	7,891.68	7,890.84	17.71	17.25	179.74	-0.30	-0.56	203.68	168.96	34.72	5.866			
8,000.00	7,991.54	7,991.68	7,990.84	17.93	17.48	179.74	-0.30	-0.56	203.68	168.51	35.17	5.791			
8,100.00	8,091.54	8,091.68	8,090.84	18.15	17.70	179.74	-0.30	-0.56	203.68	168.06	35.62	5.719			
8,200.00	8,191.54	8,191.68	8,190.84	18.37	17.92	179.74	-0.30	-0.56	203.68	167.61	36.06	5.648			
8,300.00	8,291.54	8,291.68	8,290.84	18.59	18.15	179.74	-0.30	-0.56	203.68	167.17	36.51	5.579			
8,400.00	8,391.54	8,391.68	8,390.84	18.81	18.37	179.74	-0.30	-0.56	203.68	166.72	36.96	5.511			
8,500.00	8,491.54	8,491.68	8,490.84	19.03	18.59	179.74	-0.30	-0.56	203.68	166.27	37.41	5.445			
8,600.00	8,591.54	8,591.68	8,590.84	19.25	18.82	179.74	-0.30	-0.56	203.68	165.82	37.85	5.381			
8,700.00	8,691.54	8,691.68	8,690.84	19.47	19.04	179.74	-0.30	-0.56	203.68	165.38	38.30	5.318			
8,800.00	8,791.54	8,791.68	8,790.84	19.69	19.27	179.74	-0.30	-0.56	203.68	164.93	38.75	5.256			
8,900.00	8,891.54	8,891.68	8,890.84	19.91	19.49	179.74	-0.30	-0.56	203.68	164.48	39.20	5.196			
9,000.00	8,991.54	8,991.68	8,990.84	20.13	19.71	179.74	-0.30	-0.56	203.68	164.03	39.64	5.138			
9,100.00	9,091.54	9,091.68	9,090.84	20.36	19.94	179.74	-0.30	-0.56	203.68	163.59	40.09	5.080			
9,200.00	9,191.54	9,191.68	9,190.84	20.58	20.16	179.74	-0.30	-0.56	203.68	163.14	40.54	5.024			
9,300.00	9,291.54	9,291.68	9,290.84	20.80	20.38	179.74	-0.30	-0.56	203.68	162.69	40.99	4.969			
9,400.00	9,391.54	9,391.68	9,390.84	21.02	20.61	179.74	-0.30	-0.56	203.68	162.24	41.44	4.915			
9,500.00	9,491.54	9,491.68	9,490.84	21.24	20.83	179.74	-0.30	-0.56	203.68	161.79	41.88	4.863			
9,600.00	9,591.54	9,571.10	9,570.18	21.46	20.99	179.74	-2.68	-0.54	207.10	164.83	42.26	4.900			
9,700.00	9,691.54	9,639.04	9,637.07	21.68	21.11	179.73	-14.24	-0.46	224.16	181.56	42.61	5.261			
9,800.00	9,791.54	9,700.00	9,695.16	21.90	21.22	179.72	-32.60	-0.32	254.64	211.70	42.94	5.930			
9,900.00	9,891.54	9,780.05	9,749.84	22.13	21.32	179.70	-57.77	-0.13	296.88	253.61	43.27	6.862			
10,000.00	9,991.54	9,810.98	9,793.04	22.35	21.42	179.69	-84.32	0.06	349.14	305.57	43.57	8.013			
10,100.00	10,091.54	9,850.00	9,824.28	22.57	21.49	179.68	-107.73	0.24	409.69	365.84	43.85	9.342			
10,133.99	10,125.53	9,875.00	9,843.23	22.64	21.54	179.68	-124.03	0.36	431.85	387.89	43.97	9.823			
10,150.00	10,141.54	9,875.00	9,843.23	22.68	21.54	0.09	-124.03	0.36	442.26	396.29	43.97	10.059			
10,175.00	10,166.49	9,885.34	9,850.81	22.71	21.56	0.09	-131.05	0.41	458.13	414.23	43.91	10.434			
10,200.00	10,191.33	9,900.00	9,861.30	22.75	21.59	0.08	-141.29	0.49	473.44	429.67	43.77	10.817			
10,225.00	10,215.99	9,900.00	9,861.30	22.78	21.59	0.08	-141.29	0.49	488.08	444.56	43.52	11.214			
10,250.00	10,240.41	9,915.63	9,872.13	22.81	21.63	0.07	-152.56	0.57	502.02	458.80	43.22	11.616			

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 77H
Project:	Lea County, NM (NAD-83)	TVD Reference:	3727.4' GL + 23.5' RKB @ 3750.90usft (Original Well Elev)
Reference Site:	Thistle Unit	MD Reference:	3727.4' GL + 23.5' RKB @ 3750.90usft (Original Well Elev)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	77H	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 Thistle Unit - 107H - 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)			
10,275.00	10,264.50	9,825.00	9,878.45	22.83	21.85	0.07	-159.48	0.62	515.36	472.54	42.82	12.035	
10,300.00	10,288.22	9,936.16	9,885.79	22.85	21.88	0.07	-167.89	0.68	528.05	485.89	42.35	12.468	
10,325.00	10,311.49	9,950.00	9,894.62	22.87	21.72	0.07	-178.55	0.76	540.09	498.28	41.81	12.918	
10,350.00	10,334.25	9,958.90	9,898.90	22.89	21.74	0.06	-183.96	0.80	551.40	510.22	41.19	13.388	
10,375.00	10,358.44	9,967.34	9,905.23	22.90	21.77	0.06	-192.25	0.86	562.06	521.56	40.50	13.878	
10,400.00	10,377.99	9,975.00	9,909.77	22.92	21.80	0.06	-198.43	0.91	572.04	532.29	39.75	14.392	
10,425.00	10,398.86	9,988.34	9,917.42	22.93	21.84	0.06	-209.35	0.99	581.28	542.34	38.94	14.926	
10,450.00	10,418.97	10,000.00	9,923.85	22.95	21.88	0.06	-219.08	1.06	589.84	551.75	38.09	15.486	
10,475.00	10,438.28	10,009.47	9,928.90	22.98	21.91	0.05	-227.09	1.12	597.87	560.49	37.18	16.073	
10,500.00	10,456.74	10,025.00	9,936.84	23.01	21.96	0.05	-240.44	1.22	604.84	568.59	36.25	16.684	
10,525.00	10,474.28	10,025.00	9,936.84	23.03	21.96	0.05	-240.44	1.22	611.25	575.98	35.27	17.330	
10,550.00	10,490.87	10,041.36	9,944.73	23.05	22.02	0.05	-254.76	1.33	616.85	582.56	34.29	17.988	
10,575.00	10,506.46	10,050.00	9,948.69	23.08	22.06	0.05	-262.44	1.38	621.79	588.49	33.30	18.675	
10,600.00	10,521.00	10,062.71	9,954.27	23.10	22.11	0.05	-273.86	1.47	625.98	593.67	32.31	19.376	
10,625.00	10,534.46	10,075.00	9,959.38	23.12	22.16	0.05	-285.04	1.55	629.43	598.10	31.33	20.089	
10,650.00	10,546.80	10,084.11	9,962.98	23.14	22.20	0.05	-293.41	1.61	632.14	601.76	30.38	20.806	
10,675.00	10,557.98	10,100.00	9,968.87	23.18	22.27	0.05	-308.17	1.72	634.15	604.67	29.48	21.508	
10,700.00	10,567.98	10,100.00	9,968.87	23.23	22.27	0.05	-308.17	1.72	635.38	606.76	28.62	22.198	
10,725.00	10,576.77	10,116.26	9,974.38	23.28	22.35	0.05	-323.47	1.83	635.80	607.94	27.86	22.823	
10,750.00	10,584.32	10,125.00	9,977.13	23.34	22.39	0.05	-331.76	1.90	635.53	608.36	27.17	23.389	
10,775.00	10,590.61	10,137.71	9,980.85	23.41	22.45	0.05	-343.91	1.99	634.50	607.90	26.60	23.855	
10,800.00	10,595.63	10,150.00	9,984.15	23.49	22.51	0.05	-355.75	2.07	632.73	606.59	26.14	24.203	
10,825.00	10,599.36	10,159.13	9,986.40	23.57	22.56	0.05	-364.60	2.14	630.21	604.40	25.82	24.412	
10,850.00	10,601.79	10,175.00	9,989.90	23.66	22.64	0.05	-380.08	2.25	627.01	601.37	25.64	24.455	
10,875.00	10,602.91	10,175.00	9,989.90	23.75	22.64	0.05	-380.08	2.25	623.01	597.43	25.59	24.350	
10,883.99	10,603.00	10,184.35	9,991.72	23.79	22.70	0.05	-389.25	2.32	621.34	595.72	25.62	24.254	
10,900.00	10,603.00	10,191.21	9,992.95	23.86	22.73	0.05	-396.00	2.37	618.48	592.83	25.65	24.110	

LEAM Drilling Systems LLC

Anticollision Report

Company:	DEVON ENERGY	Local Co-ordinate Reference:	Well 77H
Project:	Lea County, NM (NAD-83)	TVD Reference:	3727.4' GL + 23.5' RKB @ 3750.90usft (Original Well Elev)
Reference Site:	Thistle Unit	MD Reference:	3727.4' GL + 23.5' RKB @ 3750.90usft (Original Well Elev)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	77H	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 Thistle Unit - 122H - OH - Plan #1													Offset Site Error:	0.00 usft
Survey Program: 0-LEAM MWD-ADJ													Offset Well Error:	0.00 usft
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference	Offset	Semi Major Axis (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
0.00	0.00	0.00	0.00	0.00	0.00	0.00	-90.37	-0.65	-99.98	99.99				
100.00	100.00	99.10	99.10	0.09	0.09	0.09	-90.37	-0.65	-99.98	99.98	99.81	0.17	584.102	
200.00	200.00	199.10	199.10	0.31	0.31	0.31	-90.37	-0.65	-99.98	99.98	99.36	0.62	161.403	
300.00	300.00	299.10	299.10	0.54	0.53	0.54	-90.37	-0.65	-99.98	99.98	98.91	1.07	93.530	
400.00	400.00	399.10	399.10	0.76	0.76	0.76	-90.37	-0.65	-99.98	99.98	98.46	1.52	65.842	
500.00	500.00	499.10	499.10	0.99	0.98	0.99	-90.37	-0.65	-99.98	99.98	98.01	1.97	50.803	
600.00	600.00	599.10	599.10	1.21	1.21	1.21	-90.37	-0.65	-99.98	99.98	97.56	2.42	41.356	
700.00	700.00	699.10	699.10	1.43	1.43	1.43	-90.37	-0.65	-99.98	99.98	97.11	2.87	34.872	
800.00	800.00	799.10	799.10	1.66	1.66	1.66	-90.37	-0.65	-99.98	99.98	96.67	3.32	30.148	
900.00	900.00	899.10	899.10	1.88	1.88	1.88	-90.37	-0.65	-99.98	99.98	96.22	3.77	26.547	
1,000.00	1,000.00	999.10	999.10	2.11	2.11	2.11	-90.37	-0.65	-99.98	99.98	95.77	4.22	23.717	
1,100.00	1,100.00	1,099.10	1,099.10	2.33	2.33	2.33	-90.37	-0.65	-99.98	99.98	95.32	4.67	21.431	
1,200.00	1,200.00	1,199.10	1,199.10	2.56	2.56	2.56	-90.37	-0.65	-99.98	99.98	94.87	5.11	19.548	
1,300.00	1,300.00	1,299.10	1,299.10	2.78	2.78	2.78	-90.37	-0.65	-99.98	99.98	94.42	5.56	17.968	
1,400.00	1,400.00	1,399.10	1,399.10	3.01	3.01	3.01	-90.37	-0.65	-99.98	99.98	93.97	6.01	16.625	
1,500.00	1,500.00	1,499.10	1,499.10	3.23	3.23	3.23	-90.37	-0.65	-99.98	99.98	93.52	6.46	15.469	
1,600.00	1,600.00	1,599.10	1,599.10	3.46	3.46	3.46	-90.37	-0.65	-99.98	99.98	93.07	6.91	14.463	
1,700.00	1,700.00	1,699.10	1,699.10	3.68	3.68	3.68	-90.37	-0.65	-99.98	99.98	92.62	7.36	13.580	
1,800.00	1,800.00	1,799.10	1,799.10	3.91	3.90	3.90	-90.37	-0.65	-99.98	99.98	92.17	7.81	12.799	
1,900.00	1,900.00	1,899.10	1,899.10	4.13	4.13	4.13	-90.37	-0.65	-99.98	99.98	91.72	8.26	12.102	
2,000.00	2,000.00	1,999.10	1,999.10	4.36	4.35	4.35	-90.37	-0.65	-99.98	99.98	91.27	8.71	11.478	
2,100.00	2,100.00	2,099.10	2,099.10	4.58	4.58	4.58	-90.37	-0.65	-99.98	99.98	90.82	9.16	10.914	
2,200.00	2,200.00	2,199.10	2,199.10	4.81	4.80	4.80	-90.37	-0.65	-99.98	99.98	90.37	9.61	10.404	
2,300.00	2,300.00	2,299.10	2,299.10	5.03	5.03	5.03	-90.37	-0.65	-99.98	99.98	89.92	10.06	9.939	
2,400.00	2,400.00	2,399.10	2,399.10	5.26	5.25	5.25	-90.37	-0.65	-99.98	99.98	89.47	10.51	9.514	
2,500.00	2,500.00	2,499.10	2,499.10	5.48	5.48	5.48	-90.37	-0.65	-99.98	99.98	89.02	10.96	9.124	
2,600.00	2,600.00	2,599.10	2,599.10	5.71	5.70	5.70	-90.37	-0.65	-99.98	99.98	88.57	11.41	8.764	
2,700.00	2,700.00	2,699.10	2,699.10	5.93	5.93	5.93	-90.37	-0.65	-99.98	99.98	88.12	11.86	8.432	
2,800.00	2,800.00	2,799.10	2,799.10	6.15	6.15	6.15	-90.37	-0.65	-99.98	99.98	87.67	12.31	8.124	
2,900.00	2,900.00	2,899.10	2,899.10	6.38	6.38	6.38	-90.37	-0.65	-99.98	99.98	87.23	12.76	7.838	
3,000.00	3,000.00	2,999.10	2,999.10	6.60	6.60	6.60	-90.37	-0.65	-99.98	99.98	86.78	13.21	7.571	
3,100.00	3,100.00	3,099.10	3,099.10	6.83	6.83	6.83	-90.37	-0.65	-99.98	99.98	86.33	13.66	7.322	
3,200.00	3,200.00	3,199.10	3,199.10	7.05	7.05	7.05	-90.37	-0.65	-99.98	99.98	85.88	14.11	7.088	
3,300.00	3,300.00	3,299.10	3,299.10	7.28	7.28	7.28	-90.37	-0.65	-99.98	99.98	85.43	14.55	6.869	
3,400.00	3,400.00	3,399.10	3,399.10	7.50	7.50	7.50	-90.37	-0.65	-99.98	99.98	84.98	15.00	6.663	
3,500.00	3,500.00	3,499.10	3,499.10	7.73	7.73	7.73	-90.37	-0.65	-99.98	99.98	84.53	15.45	6.470	
3,600.00	3,600.00	3,599.10	3,599.10	7.95	7.95	7.95	-90.37	-0.65	-99.98	99.98	84.08	15.90	6.287	
3,700.00	3,700.00	3,699.10	3,699.10	8.18	8.18	8.18	-90.37	-0.65	-99.98	99.98	83.63	16.35	6.114	
3,800.00	3,800.00	3,799.10	3,799.10	8.40	8.40	8.40	-90.37	-0.65	-99.98	99.98	83.18	16.80	5.950	
3,900.00	3,900.00	3,899.10	3,899.10	8.63	8.63	8.63	-90.37	-0.65	-99.98	99.98	82.73	17.25	5.795	
4,000.00	4,000.00	3,999.10	3,999.10	8.85	8.85	8.85	-90.37	-0.65	-99.98	99.98	82.28	17.70	5.648	
4,100.00	4,100.00	4,099.10	4,099.10	9.08	9.07	9.07	-90.37	-0.65	-99.98	99.98	81.83	18.15	5.508	
4,200.00	4,200.00	4,199.10	4,199.10	9.30	9.30	9.30	-90.37	-0.65	-99.98	99.98	81.38	18.60	5.375	
4,300.00	4,300.00	4,299.10	4,299.10	9.53	9.52	9.52	-90.37	-0.65	-99.98	99.98	80.93	19.05	5.248	
4,400.00	4,400.00	4,399.10	4,399.10	9.75	9.75	9.75	-90.37	-0.65	-99.98	99.98	80.48	19.50	5.127	
4,500.00	4,500.00	4,499.10	4,499.10	9.98	9.97	9.97	-90.37	-0.65	-99.98	99.98	80.03	19.95	5.012	
4,600.00	4,600.00	4,599.10	4,599.10	10.20	10.20	10.20	-90.37	-0.65	-99.98	99.98	79.58	20.40	4.901	
4,700.00	4,700.00	4,699.10	4,699.10	10.43	10.42	10.42	-90.37	-0.65	-99.98	99.98	79.13	20.85	4.796	
4,800.00	4,800.00	4,799.10	4,799.10	10.65	10.65	10.65	-90.37	-0.65	-99.98	99.98	78.68	21.30	4.694	
4,900.00	4,900.00	4,899.10	4,899.10	10.87	10.87	10.87	-90.37	-0.65	-99.98	99.98	78.23	21.75	4.597	
5,000.00	5,000.00	4,999.10	4,999.10	11.10	11.10	11.10	-90.37	-0.65	-99.98	99.98	77.79	22.20	4.504	

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: Thistle Unit
Site Error: 0.00 usft
Reference Well: 77H
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Plan #1

Local Co-ordinate Reference: Well 77H
TVD Reference: 3727.4' GL + 23.5' RKB @ 3750.90usft (Original Well Elev)
MD Reference: 3727.4' GL + 23.5' RKB @ 3750.90usft (Original Well Elev)
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 Thistle Unit - 122H - OH - Plan #1													Offset Site Error: 0.00 usft
Survey Program: 0-LEAM MWD-ADJ													Offset Well Error: 0.00 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N-S (usft)	+E-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
5,100.00	5,100.00	5,099.10	5,099.10	11.32	11.32	-90.37	-0.65	-99.98	99.98	77.34	22.65	4.415	
5,132.00	5,131.99	5,131.09	5,131.09	11.40	11.39	-90.03	-0.65	-99.98	99.98	77.19	22.79	4.387	CC
5,200.00	5,199.99	5,199.09	5,199.09	11.55	11.55	-90.70	-0.65	-99.98	99.99	76.89	23.10	4.329	
5,300.00	5,299.91	5,299.01	5,299.01	11.77	11.77	-92.95	-0.65	-99.98	100.11	76.57	23.54	4.252	ES
5,400.00	5,399.69	5,398.79	5,398.79	12.00	12.00	-96.65	-0.65	-99.98	100.66	76.67	23.99	4.196	
5,433.33	5,432.91	5,432.01	5,432.01	12.07	12.07	-98.19	-0.65	-99.98	101.02	76.88	24.14	4.185	
5,500.00	5,499.32	5,498.42	5,498.42	12.22	12.22	-101.41	-0.65	-99.98	102.01	77.58	24.43	4.175	SF
5,600.00	5,598.94	5,598.04	5,598.04	12.45	12.44	-106.11	-0.65	-99.98	104.10	79.22	24.88	4.184	
5,700.00	5,698.56	5,697.66	5,697.66	12.67	12.67	-110.58	-0.65	-99.98	106.85	81.52	25.33	4.219	
5,800.00	5,798.18	5,797.28	5,797.28	12.90	12.89	-114.82	-0.65	-99.98	110.23	84.45	25.77	4.277	
5,900.00	5,897.80	5,896.90	5,896.90	13.13	13.12	-118.78	-0.65	-99.98	114.17	87.95	26.22	4.354	
6,000.00	5,997.42	5,996.52	5,996.52	13.36	13.34	-122.46	-0.65	-99.98	118.63	91.95	26.67	4.448	
6,100.00	6,097.04	6,096.14	6,096.14	13.59	13.56	-125.86	-0.65	-99.98	123.53	96.41	27.12	4.555	
6,200.00	6,196.66	6,195.76	6,195.76	13.83	13.79	-129.00	-0.65	-99.98	128.85	101.28	27.57	4.673	
6,300.00	6,296.28	6,295.38	6,295.38	14.06	14.01	-131.88	-0.65	-99.98	134.51	106.49	28.02	4.800	
6,400.00	6,395.90	6,395.00	6,395.00	14.30	14.23	-134.52	-0.65	-99.98	140.49	112.02	28.47	4.935	
6,500.00	6,495.52	6,494.62	6,494.62	14.54	14.46	-136.94	-0.65	-99.98	146.75	117.83	28.92	5.074	
6,600.00	6,595.14	6,594.24	6,594.24	14.78	14.68	-139.17	-0.65	-99.98	153.24	123.87	29.37	5.217	
6,700.00	6,694.76	6,693.86	6,693.86	15.02	14.91	-141.20	-0.65	-99.98	159.95	130.13	29.82	5.363	
6,800.00	6,794.38	6,793.48	6,793.48	15.26	15.13	-143.08	-0.65	-99.98	166.84	136.57	30.27	5.511	
6,900.00	6,894.00	6,893.10	6,893.10	15.50	15.35	-144.80	-0.65	-99.98	173.90	143.17	30.73	5.660	
7,000.00	6,993.62	6,992.72	6,992.72	15.74	15.58	-146.39	-0.65	-99.98	181.10	149.92	31.18	5.809	
7,100.00	7,093.24	7,092.34	7,092.34	15.99	15.80	-147.85	-0.65	-99.98	188.43	156.80	31.63	5.958	
7,200.00	7,192.85	7,191.95	7,191.95	16.23	16.03	-149.21	-0.65	-99.98	195.87	163.79	32.08	6.106	
7,300.00	7,292.47	7,291.57	7,291.57	16.48	16.25	-150.47	-0.65	-99.98	203.41	170.88	32.53	6.253	
7,400.00	7,392.09	7,391.19	7,391.19	16.72	16.47	-151.63	-0.65	-99.98	211.04	178.06	32.98	6.399	
7,433.33	7,425.30	7,424.40	7,424.40	16.81	16.55	-152.00	-0.65	-99.98	213.81	180.47	33.13	6.447	
7,500.00	7,491.76	7,490.86	7,490.86	16.95	16.70	-152.88	-0.65	-99.98	218.24	184.80	33.44	6.526	
7,600.00	7,591.60	7,590.70	7,590.70	17.14	16.92	-153.38	-0.65	-99.98	223.30	189.44	33.86	6.594	
7,700.00	7,691.55	7,690.65	7,690.65	17.31	17.15	-153.74	-0.65	-99.98	226.03	191.76	34.27	6.596	
7,766.67	7,758.21	7,757.31	7,757.31	17.43	17.30	-154.23	-0.65	-99.98	226.55	192.02	34.53	6.561	
7,800.00	7,791.54	7,790.64	7,790.64	17.49	17.37	-154.23	-0.65	-99.98	226.55	191.88	34.67	6.534	
7,900.00	7,891.54	7,890.64	7,890.64	17.71	17.60	-154.23	-0.65	-99.98	226.55	191.44	35.12	6.451	
8,000.00	7,991.54	7,990.64	7,990.64	17.93	17.82	-154.23	-0.65	-99.98	226.55	190.99	35.57	6.370	
8,100.00	8,091.54	8,090.64	8,090.64	18.15	18.05	-154.23	-0.65	-99.98	226.55	190.54	36.01	6.291	
8,200.00	8,191.54	8,190.64	8,190.64	18.37	18.27	-154.23	-0.65	-99.98	226.55	190.09	36.46	6.213	
8,300.00	8,291.54	8,290.64	8,290.64	18.59	18.50	-154.23	-0.65	-99.98	226.55	189.64	36.91	6.138	
8,400.00	8,391.54	8,390.64	8,390.64	18.81	18.72	-154.23	-0.65	-99.98	226.55	189.20	37.36	6.064	
8,500.00	8,491.54	8,490.64	8,490.64	19.03	18.95	-154.23	-0.65	-99.98	226.55	188.75	37.81	5.993	
8,600.00	8,591.54	8,590.64	8,590.64	19.25	19.17	-154.23	-0.65	-99.98	226.55	188.30	38.25	5.922	
8,700.00	8,691.54	8,690.64	8,690.64	19.47	19.39	-154.23	-0.65	-99.98	226.55	187.85	38.70	5.854	
8,800.00	8,791.54	8,790.64	8,790.64	19.69	19.62	-154.23	-0.65	-99.98	226.55	187.40	39.15	5.787	
8,900.00	8,891.54	8,890.64	8,890.64	19.91	19.84	-154.23	-0.65	-99.98	226.55	186.96	39.60	5.721	
9,000.00	8,991.54	8,990.64	8,990.64	20.13	20.07	-154.23	-0.65	-99.98	226.55	186.51	40.05	5.657	
9,100.00	9,091.54	9,090.64	9,090.64	20.36	20.29	-154.23	-0.65	-99.98	226.55	186.06	40.49	5.595	
9,164.50	9,156.04	9,155.14	9,155.14	20.50	20.44	-154.23	-0.65	-99.98	226.55	185.77	40.78	5.555	
9,200.00	9,191.54	9,188.92	9,188.92	20.58	20.51	-154.23	-0.67	-99.98	226.58	185.64	40.94	5.535	
9,300.00	9,291.54	9,260.05	9,259.73	20.80	20.64	-155.06	-6.55	-99.13	233.57	192.29	41.28	5.658	
9,400.00	9,391.54	9,325.00	9,322.98	21.02	20.75	-156.93	-20.95	-97.05	253.05	211.44	41.61	6.081	
9,500.00	9,491.54	9,390.42	9,384.10	21.24	20.86	-159.54	-43.91	-93.75	284.63	242.69	41.94	6.767	

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 77H
Project:	Lea County, NM (NAD-83)	TVD Reference:	3727.4' GL + 23.5' RKB @ 3750.90usft (Original Well Elev)
Reference Site:	Thistle Unit	MD Reference:	3727.4' GL + 23.5' RKB @ 3750.90usft (Original Well Elev)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	77H	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 Thistle Unit - 122H - OH - Plan #1													Offset Site Error: 0.00 usft	
Survey Program: 0-LEAM MWD-ADJ													Offset Well Error: 0.00 usft	
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
9,600.00	9,591.54	9,450.00	9,436.53	21.46	20.95	-162.22	-71.83	-89.72	327.52	285.27	42.25	7.751		
9,700.00	9,691.54	9,500.00	9,477.55	21.68	21.04	-164.50	-100.10	-85.65	380.25	337.70	42.55	8.936		
9,800.00	9,791.54	9,537.30	9,506.08	21.90	21.12	-166.14	-123.87	-82.22	441.12	398.29	42.83	10.299		
9,900.00	9,891.54	9,575.00	9,532.91	22.13	21.21	-167.72	-150.06	-78.45	508.74	465.63	43.11	11.802		
10,000.00	9,991.54	9,600.00	9,549.52	22.35	21.28	-168.70	-168.55	-75.79	581.75	538.39	43.36	13.415		
10,100.00	10,091.54	9,625.00	9,565.13	22.57	21.35	-169.84	-187.87	-73.00	659.05	615.43	43.62	15.109		
10,133.99	10,125.53	9,640.46	9,574.27	22.64	21.40	-170.20	-200.22	-71.22	686.04	642.33	43.71	15.994		
10,150.00	10,141.54	9,650.00	9,579.70	22.68	21.43	9.48	-207.98	-70.10	698.82	655.10	43.73	15.982		
10,175.00	10,166.49	9,650.00	9,579.70	22.71	21.43	8.89	-207.98	-70.10	718.16	674.50	43.65	16.451		
10,200.00	10,191.33	9,650.00	9,579.70	22.75	21.43	8.37	-207.98	-70.10	737.02	693.52	43.50	16.944		
10,225.00	10,215.99	9,663.62	9,587.18	22.78	21.48	7.60	-219.24	-68.48	755.08	711.81	43.27	17.450		
10,250.00	10,240.41	9,675.00	9,593.18	22.81	21.52	6.99	-228.81	-67.10	772.60	729.64	42.96	17.985		
10,275.00	10,264.50	9,675.00	9,593.18	22.83	21.52	6.67	-228.81	-67.10	789.39	746.84	42.55	18.551		
10,300.00	10,288.22	9,684.42	9,597.98	22.85	21.55	6.22	-236.84	-65.94	805.50	763.42	42.08	19.144		
10,325.00	10,311.49	9,691.63	9,601.54	22.87	21.58	5.85	-243.05	-65.05	820.90	779.38	41.52	19.771		
10,350.00	10,334.25	9,700.00	9,605.55	22.89	21.61	5.51	-250.32	-64.00	835.59	794.69	40.89	20.433		
10,375.00	10,356.44	9,700.00	9,605.55	22.90	21.61	5.32	-250.32	-64.00	849.59	809.40	40.19	21.139		
10,400.00	10,377.99	9,713.95	9,611.95	22.92	21.67	4.97	-262.59	-62.23	862.70	823.26	39.44	21.874		
10,425.00	10,398.88	9,725.00	9,616.76	22.93	21.72	4.68	-272.43	-60.82	875.12	836.50	38.62	22.658		
10,450.00	10,418.97	9,725.00	9,616.76	22.95	21.72	4.56	-272.43	-60.82	886.75	849.01	37.74	23.494		
10,475.00	10,438.28	9,737.11	9,621.76	22.98	21.77	4.31	-283.34	-59.24	897.55	860.72	36.83	24.371		
10,500.00	10,456.74	9,750.00	9,626.78	23.01	21.83	4.08	-295.09	-57.55	907.60	871.72	35.88	25.296		
10,525.00	10,474.28	9,750.00	9,626.78	23.03	21.83	3.99	-295.09	-57.55	916.78	881.89	34.89	26.280		
10,550.00	10,490.87	9,760.89	9,630.78	23.05	21.88	3.81	-305.13	-56.10	925.14	891.26	33.88	27.305		
10,575.00	10,506.46	9,775.00	9,635.60	23.08	21.95	3.62	-318.25	-54.21	932.74	899.87	32.87	28.375		
10,600.00	10,521.90	9,775.00	9,635.60	23.10	21.95	3.57	-318.25	-54.21	939.39	907.54	31.85	29.497		
10,625.00	10,534.46	9,785.13	9,638.82	23.12	22.00	3.43	-327.75	-52.84	945.23	914.39	30.85	30.644		
10,650.00	10,546.80	9,800.00	9,643.17	23.14	22.07	3.27	-341.82	-50.82	950.30	920.42	29.88	31.806		
10,675.00	10,557.98	9,800.00	9,643.17	23.18	22.07	3.24	-341.82	-50.82	954.37	925.44	28.93	32.984		
10,700.00	10,567.98	9,809.65	9,645.76	23.23	22.13	3.14	-351.03	-49.49	957.65	929.59	28.06	34.130		
10,725.00	10,576.77	9,825.00	9,649.49	23.28	22.21	3.00	-365.76	-47.37	960.14	932.88	27.26	35.217		
10,750.00	10,584.32	9,825.00	9,649.49	23.34	22.21	2.99	-365.76	-47.37	961.61	935.07	26.54	36.233		
10,775.00	10,590.61	9,834.33	9,651.53	23.41	22.26	2.91	-374.77	-46.07	962.29	936.35	25.93	37.105		
10,800.00	10,595.63	9,850.00	9,654.54	23.49	22.35	2.79	-389.99	-43.87	962.18	936.72	25.46	37.795		
10,825.00	10,599.36	9,850.00	9,654.54	23.57	22.35	2.79	-389.99	-43.87	961.03	935.93	25.10	38.293		
10,850.00	10,601.79	9,859.01	9,656.04	23.66	22.41	2.73	-398.79	-42.61	959.10	934.21	24.89	38.529		
10,875.00	10,602.91	9,875.00	9,658.30	23.75	22.51	2.63	-414.45	-40.35	956.40	931.55	24.85	38.487		
10,883.99	10,603.00	9,875.00	9,658.30	23.79	22.51	2.63	-414.45	-40.35	955.12	930.26	24.87	38.412		
10,900.00	10,603.00	9,875.00	9,658.30	23.86	22.51	2.63	-414.45	-40.35	952.90	928.01	24.89	38.284		

LEAM Drilling Systems LLC

Anticollision Report

Company: DEVON ENERGY
Project: Lea County, NM (NAD-83)

Reference Site: Thistle Unit

Site Error: 0.00 usft

Reference Well: 77H

Well Error: 0.00 usft

Reference Wellbore: OH

Reference Design: Plan #1

Local Co-ordinate Reference:

TVD Reference: 3727.4' GL + 23.5' RKB @ 3750.90usft
(Original Well Elev)

MD Reference: 3727.4' GL + 23.5' RKB @ 3750.90usft
(Original Well Elev)

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 Thistle Unit - 52H - 52H OH - 52H OH													Offset Site Error: 0.00 usft
Survey Program: 125- VES GyroFlex V2, 10603-LEAM MWD+HDGM, 15720-Project													Offset Well Error: 0.00 usft
Reference	Offset	Semi Major Axis		Distance		Minimum Separation		Warning					
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	
0.00	0.00	0.00	0.00	0.00	0.00	-167.42	-5,213.38	-1,163.76	5,341.83				
100.00	100.00	117.96	117.95	0.09	0.10	-167.42	-5,212.87	-1,163.20	5,341.37	5,341.19	0.18	N/A	
200.00	200.00	219.25	219.24	0.31	0.20	-167.43	-5,211.99	-1,161.97	5,340.25	5,339.75	0.51	N/A	
300.00	300.00	313.21	313.19	0.54	0.27	-167.44	-5,211.26	-1,160.86	5,339.23	5,338.44	0.79	6,719.371	
400.00	400.00	420.29	420.26	0.76	0.33	-167.45	-5,210.41	-1,159.61	5,338.21	5,337.13	1.08	4,945.719	
500.00	500.00	501.13	501.09	0.99	0.37	-167.46	-5,209.79	-1,158.54	5,337.20	5,335.86	1.34	3,970.298	
600.00	600.00	595.09	595.04	1.21	0.42	-167.47	-5,209.30	-1,157.65	5,336.48	5,334.87	1.61	3,311.750	
700.00	700.00	686.34	686.29	1.43	0.45	-167.48	-5,209.18	-1,157.23	5,336.17	5,334.31	1.86	2,864.371	
800.00	800.00	788.21	788.15	1.66	0.51	-167.48	-5,209.10	-1,156.45	5,335.99	5,333.86	2.13	2,504.374	
900.00	900.00	861.88	861.82	1.88	0.55	-167.49	-5,208.83	-1,155.82	5,335.56	5,333.17	2.39	2,233.048	
1,000.00	1,000.00	976.75	976.69	2.11	0.59	-167.49	-5,208.60	-1,155.38	5,335.23	5,332.58	2.65	2,015.206	
1,100.00	1,100.00	1,067.90	1,067.84	2.33	0.61	-167.49	-5,208.31	-1,155.89	5,335.04	5,332.14	2.90	1,839.397	
1,200.00	1,200.00	1,175.33	1,175.26	2.56	0.63	-167.48	-5,207.95	-1,156.58	5,334.85	5,331.69	3.16	1,689.645	
1,300.00	1,300.00	1,287.92	1,287.86	2.78	0.66	-167.48	-5,207.52	-1,156.82	5,334.53	5,331.11	3.42	1,560.224	
1,400.00	1,400.00	1,399.42	1,399.34	3.01	0.68	-167.47	-5,206.59	-1,157.55	5,333.85	5,330.17	3.68	1,450.134	
1,500.00	1,500.00	1,500.70	1,500.71	3.23	0.71	-167.45	-5,205.57	-1,158.94	5,333.16	5,329.23	3.93	1,356.789	
1,600.00	1,600.00	1,595.27	1,595.17	3.46	0.73	-167.43	-5,204.56	-1,160.36	5,332.44	5,328.26	4.18	1,275.826	
1,700.00	1,700.00	1,697.40	1,697.48	3.68	0.75	-167.41	-5,203.58	-1,161.91	5,331.84	5,327.41	4.43	1,203.606	
1,800.00	1,800.00	1,799.46	1,799.33	3.91	0.77	-167.40	-5,202.58	-1,163.10	5,331.14	5,326.46	4.68	1,139.004	
1,900.00	1,900.00	1,884.98	1,884.84	4.13	0.79	-167.38	-5,201.80	-1,164.27	5,330.55	5,325.62	4.93	1,082.290	
2,000.00	2,000.00	1,986.16	1,986.00	4.36	0.82	-167.36	-5,201.00	-1,166.02	5,330.16	5,324.99	5.17	1,030.650	
2,100.00	2,100.00	2,095.57	2,095.39	4.58	0.84	-167.34	-5,200.02	-1,167.70	5,329.62	5,324.20	5.42	983.244	
2,200.00	2,200.00	2,173.02	2,172.84	4.81	0.86	-167.33	-5,199.44	-1,168.74	5,329.19	5,323.53	5.66	941.332	
2,300.00	2,300.00	2,282.08	2,281.87	5.03	0.89	-167.31	-5,198.83	-1,170.35	5,328.96	5,323.07	5.91	902.235	
2,400.00	2,400.00	2,375.35	2,375.13	5.26	0.91	-167.30	-5,198.17	-1,171.93	5,328.65	5,322.51	6.15	866.632	
2,500.00	2,500.00	2,483.81	2,483.58	5.48	0.94	-167.28	-5,197.44	-1,173.48	5,328.31	5,321.92	6.39	833.301	
2,600.00	2,600.00	2,571.02	2,570.78	5.71	0.96	-167.26	-5,196.95	-1,174.53	5,328.03	5,321.39	6.64	802.977	
2,700.00	2,700.00	2,672.66	2,672.41	5.93	0.99	-167.25	-5,196.43	-1,175.98	5,327.84	5,320.97	6.88	774.682	
2,800.00	2,800.00	2,784.36	2,784.10	6.15	1.02	-167.23	-5,195.76	-1,177.67	5,327.60	5,320.48	7.12	747.994	
2,900.00	2,900.00	2,902.72	2,902.45	6.38	1.06	-167.22	-5,194.74	-1,178.43	5,326.89	5,319.51	7.38	722.251	
3,000.00	3,000.00	3,004.97	3,004.70	6.60	1.09	-167.21	-5,193.89	-1,178.70	5,326.13	5,318.50	7.63	698.218	
3,100.00	3,100.00	3,134.77	3,134.49	6.83	1.12	-167.22	-5,192.61	-1,178.24	5,325.10	5,317.21	7.89	674.868	
3,200.00	3,200.00	3,233.14	3,232.84	7.05	1.15	-167.22	-5,191.44	-1,177.41	5,323.76	5,315.61	8.14	653.719	
3,300.00	3,300.00	3,340.92	3,340.61	7.28	1.17	-167.23	-5,190.10	-1,176.49	5,322.36	5,313.96	8.40	633.616	
3,400.00	3,400.00	3,448.27	3,447.95	7.50	1.20	-167.24	-5,188.60	-1,175.43	5,320.77	5,312.12	8.66	614.663	
3,500.00	3,500.00	3,551.73	3,551.39	7.73	1.23	-167.24	-5,187.03	-1,174.82	5,319.16	5,310.25	8.91	596.819	
3,600.00	3,600.00	3,643.76	3,643.41	7.95	1.25	-167.24	-5,185.57	-1,174.11	5,317.46	5,308.30	9.17	580.170	
3,700.00	3,700.00	3,720.44	3,720.08	8.18	1.27	-167.25	-5,184.68	-1,173.54	5,316.16	5,306.74	9.41	564.750	
3,800.00	3,800.00	3,801.43	3,801.07	8.40	1.29	-167.25	-5,184.01	-1,173.15	5,315.24	5,305.58	9.66	550.082	
3,900.00	3,900.00	3,887.64	3,887.28	8.63	1.32	-167.25	-5,183.52	-1,173.01	5,314.65	5,304.73	9.91	536.069	
4,000.00	4,000.00	3,969.81	3,969.45	8.85	1.35	-167.25	-5,182.79	-1,172.76	5,313.95	5,303.78	10.17	522.398	
4,100.00	4,100.00	4,071.61	4,071.24	9.08	1.37	-167.26	-5,182.61	-1,171.98	5,313.48	5,303.06	10.41	510.252	
4,149.34	4,149.34	4,111.53	4,111.14	9.19	1.37	-167.27	-5,182.77	-1,171.04	5,313.42	5,302.89	10.53	504.633	
4,200.00	4,200.00	4,149.27	4,148.86	9.30	1.37	-167.28	-5,183.15	-1,169.55	5,313.48	5,302.83	10.65	499.028	
4,300.00	4,300.00	4,259.53	4,258.86	9.53	1.38	-167.36	-5,184.94	-1,162.41	5,313.85	5,302.76	10.88	488.169	
4,400.00	4,400.00	4,337.00	4,336.09	9.75	1.38	-167.43	-5,186.45	-1,156.39	5,313.87	5,302.75	11.12	477.923	
4,500.00	4,500.00	4,422.02	4,420.85	9.98	1.39	-167.50	-5,188.41	-1,150.17	5,314.52	5,303.17	11.35	468.166	
4,600.00	4,600.00	4,517.84	4,516.37	10.20	1.39	-167.58	-5,190.81	-1,143.00	5,315.36	5,303.77	11.59	458.752	
4,700.00	4,700.00	4,589.74	4,588.04	10.43	1.40	-167.64	-5,192.77	-1,137.55	5,316.42	5,304.60	11.82	449.852	
4,800.00	4,800.00	4,659.59	4,657.96	10.65	1.40	-167.70	-5,195.12	-1,132.45	5,318.13	5,306.08	12.05	441.386	
4,900.00	4,900.00	4,803.63	4,801.38	10.87	1.41	-167.80	-5,199.69	-1,123.96	5,320.12	5,307.83	12.28	433.115	

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 77H
Project:	Lea County, NM (NAD-83)	TVD Reference:	3727.4' GL + 23.5' RKB @ 3750.90usft (Original Well Elev)
Reference Site:	Thistle Unit	MD Reference:	3727.4' GL + 23.5' RKB @ 3750.90usft (Original Well Elev)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	77H	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 Thistle Unit - 52H - 52H OH - 52H OH														Offset Site Error:	0.00 usft
Survey Program: 125- VES GyroFlex V2. 10803-LEAM MWD+HDGM, 15720-Project														Offset Well Error:	0.00 usft
Reference	Offset	Semi Major Axis		Distance		Minimum Separation		Separation Factor		Warning					
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N-S (usft)	+E-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor			
5,000.00	5,000.00	4,995.99	4,993.48	11.10	1.43	-167.91	-5,202.35	-1,114.35	5,320.45	5,307.92	12.53	424.877			
5,100.00	5,100.00	5,096.18	5,093.53	11.32	1.44	-167.96	-5,202.74	-1,109.25	5,319.77	5,307.01	12.77	416.892			
5,122.17	5,122.17	5,114.92	5,112.25	11.37	1.45	-167.56	-5,202.85	-1,108.25	5,319.71	5,306.89	12.82	414.993			
5,200.00	5,199.99	5,176.74	5,173.98	11.55	1.46	-167.59	-5,203.31	-1,104.96	5,320.83	5,307.83	13.00	409.269			
5,300.00	5,299.91	5,280.76	5,277.85	11.77	1.47	-167.85	-5,204.25	-1,099.49	5,324.26	5,311.03	13.23	402.336			
5,400.00	5,399.89	5,387.05	5,384.00	12.00	1.49	-167.70	-5,204.93	-1,093.98	5,330.21	5,316.74	13.47	395.847			
5,433.33	5,432.91	5,418.52	5,415.43	12.07	1.50	-167.72	-5,205.11	-1,092.36	5,332.74	5,319.20	13.54	393.798			
5,500.00	5,499.32	5,486.17	5,483.01	12.22	1.50	-167.76	-5,205.51	-1,089.87	5,338.27	5,324.57	13.70	389.672			
5,600.00	5,598.94	5,573.37	5,570.07	12.45	1.52	-167.84	-5,206.55	-1,084.49	5,346.71	5,332.77	13.94	383.535			
5,700.00	5,698.56	5,680.49	5,687.02	12.67	1.54	-167.93	-5,207.39	-1,078.17	5,354.84	5,340.86	14.19	377.499			
5,800.00	5,798.18	5,777.73	5,774.12	12.90	1.56	-168.00	-5,208.01	-1,073.39	5,362.97	5,348.54	14.43	371.774			
5,900.00	5,897.80	5,886.85	5,883.12	13.13	1.58	-168.06	-5,208.86	-1,069.08	5,371.45	5,356.79	14.66	366.294			
6,000.00	5,997.42	5,993.34	5,989.41	13.36	1.60	-168.16	-5,209.89	-1,061.94	5,379.66	5,364.74	14.91	360.718			
6,100.00	6,097.04	6,113.48	6,109.43	13.59	1.63	-168.24	-5,210.19	-1,058.31	5,387.54	5,372.37	15.16	355.323			
6,200.00	6,196.66	6,200.55	6,196.41	13.83	1.65	-168.30	-5,210.14	-1,052.45	5,395.16	5,379.76	15.41	350.204			
6,300.00	6,296.28	6,291.07	6,286.84	14.06	1.67	-168.36	-5,210.42	-1,048.50	5,403.14	5,387.49	15.65	345.252			
6,400.00	6,395.90	6,426.58	6,422.23	14.30	1.71	-168.45	-5,210.47	-1,042.67	5,410.91	5,395.01	15.90	340.234			
6,500.00	6,495.52	6,527.16	6,522.71	14.54	1.73	-168.51	-5,210.12	-1,038.22	5,418.28	5,402.11	16.15	335.454			
6,600.00	6,595.14	6,627.86	6,623.31	14.78	1.76	-168.57	-5,209.71	-1,033.70	5,425.55	5,409.15	16.40	330.802			
6,700.00	6,694.76	6,716.61	6,711.95	15.02	1.78	-168.63	-5,209.56	-1,029.54	5,433.04	5,416.39	16.65	326.348			
6,800.00	6,794.38	6,839.39	6,834.59	15.26	1.82	-168.72	-5,208.99	-1,023.55	5,440.18	5,423.28	16.90	321.850			
6,900.00	6,894.00	6,955.73	6,950.80	15.50	1.85	-168.79	-5,208.33	-1,018.09	5,447.32	5,430.16	17.16	317.488			
7,000.00	6,993.62	7,048.48	7,043.47	15.74	1.88	-168.85	-5,207.35	-1,014.29	5,454.08	5,436.67	17.41	313.308			
7,100.00	7,093.24	7,128.29	7,123.21	15.99	1.90	-168.89	-5,206.82	-1,010.96	5,461.21	5,443.56	17.66	309.323			
7,200.00	7,192.85	7,214.70	7,209.54	16.23	1.93	-168.95	-5,206.53	-1,007.39	5,468.67	5,450.77	17.90	305.444			
7,300.00	7,292.47	7,316.29	7,311.05	16.48	1.96	-169.01	-5,206.28	-1,003.33	5,476.26	5,458.10	18.16	301.620			
7,400.00	7,392.09	7,449.33	7,443.97	16.72	2.00	-169.09	-5,205.59	-997.67	5,483.55	5,465.13	18.42	297.751			
7,433.33	7,425.30	7,489.21	7,483.81	16.81	2.01	-169.11	-5,205.21	-996.00	5,485.83	5,467.33	18.50	296.486			
7,500.00	7,491.78	7,548.13	7,542.68	16.95	2.03	-169.15	-5,204.56	-993.53	5,489.76	5,471.15	18.61	295.029			
7,600.00	7,591.60	7,622.13	7,616.61	17.14	2.05	-169.20	-5,203.98	-990.42	5,493.83	5,475.09	18.74	293.152			
7,700.00	7,691.55	7,705.00	7,699.41	17.31	2.08	-169.25	-5,203.82	-987.02	5,495.89	5,477.00	18.89	290.923			
7,766.67	7,758.21	7,771.84	7,766.20	17.43	2.10	-169.70	-5,203.72	-984.49	5,495.92	5,476.91	19.01	289.099			
7,800.00	7,791.54	7,808.22	7,802.55	17.49	2.11	-169.71	-5,203.64	-983.17	5,495.63	5,476.55	19.08	288.018			
7,900.00	7,891.54	7,896.29	7,890.57	17.71	2.14	-169.74	-5,203.47	-980.03	5,494.81	5,475.49	19.32	284.466			
8,000.00	7,991.54	8,004.43	7,998.63	17.93	2.17	-169.78	-5,203.44	-976.06	5,494.13	5,474.58	19.55	280.973			
8,100.00	8,091.54	8,095.54	8,089.68	18.15	2.20	-169.82	-5,203.34	-972.63	5,493.36	5,473.57	19.79	277.591			
8,200.00	8,191.54	8,186.02	8,180.10	18.37	2.23	-169.85	-5,203.41	-969.34	5,492.79	5,472.77	20.02	274.310			
8,300.00	8,291.54	8,290.81	8,283.83	18.59	2.26	-169.89	-5,203.38	-965.73	5,492.22	5,471.96	20.26	271.061			
8,400.00	8,391.54	8,383.49	8,377.49	18.81	2.29	-169.91	-5,203.28	-963.47	5,491.62	5,471.13	20.50	267.933			
8,500.00	8,491.54	8,484.21	8,478.18	19.03	2.31	-169.93	-5,203.42	-961.43	5,491.36	5,470.63	20.73	264.920			
8,600.00	8,591.54	8,583.15	8,577.09	19.25	2.34	-169.96	-5,203.83	-958.96	5,491.33	5,470.37	20.96	261.977			
8,651.43	8,642.97	8,610.85	8,604.77	19.36	2.35	-169.97	-5,204.00	-957.89	5,491.30	5,470.22	21.08	260.496			
8,700.00	8,691.54	8,652.45	8,646.36	19.47	2.36	-169.98	-5,204.18	-956.97	5,491.33	5,470.14	21.19	259.120			
8,800.00	8,791.54	8,747.30	8,741.19	19.69	2.39	-170.00	-5,204.72	-955.00	5,491.53	5,470.10	21.42	256.345			
8,900.00	8,891.54	8,824.73	8,818.61	19.91	2.41	-170.02	-5,205.26	-953.61	5,491.91	5,470.26	21.65	253.674			
9,000.00	8,991.54	8,928.29	8,922.15	20.13	2.43	-170.04	-5,206.37	-951.82	5,492.67	5,470.80	21.88	251.082			
9,100.00	9,091.54	9,027.67	9,021.51	20.36	2.46	-170.05	-5,207.14	-950.26	5,493.16	5,471.06	22.10	248.530			
9,200.00	9,191.54	9,108.98	9,102.80	20.58	2.47	-170.07	-5,207.97	-948.95	5,493.90	5,471.57	22.33	246.059			
9,300.00	9,291.54	9,200.96	9,194.77	20.80	2.49	-170.08	-5,209.19	-947.61	5,494.95	5,472.40	22.55	243.672			
9,400.00	9,391.54	9,295.57	9,289.37	21.02	2.50	-170.10	-5,210.40	-946.62	5,496.03	5,473.26	22.77	241.360			

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 77H
Project:	Lea County, NM (NAD-83)	TVD Reference:	3727.4' GL + 23.5' RKB @ 3750.90usft (Original Well Elev)
Reference Site:	Thistle Unit	MD Reference:	3727.4' GL + 23.5' RKB @ 3750.90usft (Original Well Elev)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	77H	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 Thistle Unit - 52H - 52H OH - 52H OH											Offset Site Error:	0.00 usft
Survey Program: 125- VES GyroFlex V2, 10603-LEAM MWD+HDGM, 15720-Project											Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Distance		Minimum Separation (usft)	Separation Factor	Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)				
9,500.00	9,491.54	9,388.77	9,382.56	21.24	2.51	-170.10	-5,211.64	-946.26	5,497.27	5,474.28	22.99	239.126
9,600.00	9,591.54	9,482.31	9,456.09	21.46	2.51	-170.11	-5,212.71	-946.19	5,498.72	5,475.51	23.21	236.939
9,700.00	9,691.54	9,521.29	9,515.05	21.68	2.51	-170.11	-5,213.97	-946.36	5,500.86	5,477.44	23.43	234.812
9,800.00	9,791.54	9,579.54	9,573.28	21.90	2.50	-170.10	-5,215.60	-946.81	5,503.76	5,480.12	23.65	232.755
9,900.00	9,891.54	9,643.39	9,637.08	22.13	2.49	-170.10	-5,217.81	-947.68	5,507.39	5,483.52	23.87	230.768
10,000.00	9,991.54	9,720.29	9,713.91	22.35	2.49	-170.09	-5,220.89	-948.79	5,511.57	5,487.48	24.08	228.846
10,100.00	10,091.54	9,846.58	9,840.10	22.57	2.48	-170.09	-5,225.89	-950.02	5,515.63	5,491.33	24.30	226.978
10,133.99	10,125.53	9,884.96	9,878.45	22.64	2.48	-170.09	-5,227.35	-950.19	5,516.93	5,492.55	24.37	226.342
10,150.00	10,141.54	9,903.62	9,897.10	22.68	2.48	10.32	-5,228.06	-950.23	5,517.27	5,492.79	24.47	225.440
10,175.00	10,166.49	9,934.62	9,928.08	22.71	2.47	10.34	-5,229.21	-950.30	5,518.72	5,491.77	24.94	221.170
10,200.00	10,191.33	9,965.53	9,958.97	22.75	2.47	10.38	-5,230.32	-950.36	5,514.86	5,489.23	25.63	215.199
10,225.00	10,215.99	9,997.67	9,991.09	22.78	2.47	10.46	-5,231.44	-950.42	5,511.69	5,485.30	26.39	208.831
10,250.00	10,240.41	10,036.35	10,029.74	22.81	2.47	10.57	-5,232.70	-950.52	5,507.20	5,480.01	27.19	202.560
10,275.00	10,264.50	10,074.55	10,067.92	22.83	2.47	10.73	-5,233.84	-950.66	5,501.39	5,473.41	27.98	196.620
10,300.00	10,288.22	10,101.19	10,094.56	22.85	2.47	10.91	-5,234.58	-950.80	5,494.29	5,465.55	28.74	191.188
10,325.00	10,311.49	10,123.19	10,116.55	22.87	2.47	11.13	-5,235.18	-950.98	5,485.97	5,458.52	29.46	186.240
10,350.00	10,334.25	10,144.74	10,138.09	22.89	2.47	11.39	-5,235.77	-951.23	5,476.47	5,446.33	30.14	181.726
10,375.00	10,356.44	10,165.78	10,159.12	22.90	2.47	11.70	-5,236.33	-951.53	5,465.79	5,435.02	30.77	177.819
10,400.00	10,377.99	10,190.31	10,183.64	22.92	2.46	12.07	-5,236.98	-951.95	5,453.98	5,422.60	31.37	173.837
10,425.00	10,398.86	10,221.26	10,214.57	22.93	2.46	12.50	-5,237.76	-952.51	5,441.02	5,409.07	31.95	170.297
10,450.00	10,418.97	10,251.08	10,244.38	22.95	2.46	13.01	-5,238.45	-953.06	5,426.96	5,394.48	32.48	167.074
10,475.00	10,438.28	10,282.27	10,275.55	22.98	2.45	13.60	-5,239.11	-953.66	5,411.83	5,378.85	32.98	164.102
10,500.00	10,456.74	10,320.03	10,313.31	23.01	2.44	14.31	-5,239.80	-954.35	5,395.65	5,362.19	33.46	161.265
10,525.00	10,474.28	10,355.78	10,349.04	23.03	2.44	15.13	-5,240.33	-954.98	5,378.46	5,344.57	33.90	158.680
10,550.00	10,490.87	10,377.76	10,371.02	23.05	2.44	16.05	-5,240.61	-955.35	5,360.34	5,328.09	34.25	156.515
10,575.00	10,506.46	10,393.02	10,386.27	23.08	2.44	17.11	-5,240.81	-955.56	5,341.38	5,306.84	34.54	154.642
10,600.00	10,521.00	10,407.30	10,400.55	23.10	2.43	18.35	-5,241.00	-955.72	5,321.63	5,288.84	34.80	152.941
10,625.00	10,534.46	10,420.56	10,413.82	23.12	2.43	19.82	-5,241.19	-955.85	5,301.15	5,266.14	35.02	151.387
10,650.00	10,546.80	10,432.78	10,426.03	23.14	2.43	21.59	-5,241.37	-955.93	5,280.00	5,244.79	35.21	149.957
10,675.00	10,557.98	10,443.90	10,437.15	23.18	2.43	23.72	-5,241.53	-955.99	5,258.22	5,222.84	35.38	148.835
10,700.00	10,567.98	10,453.91	10,447.16	23.23	2.43	26.34	-5,241.69	-956.03	5,235.89	5,200.37	35.52	147.420
10,725.00	10,576.77	10,460.89	10,454.14	23.28	2.43	29.58	-5,241.80	-956.04	5,213.05	5,177.44	35.61	146.380
10,750.00	10,584.32	10,470.12	10,463.37	23.34	2.43	33.72	-5,241.94	-956.06	5,189.79	5,154.13	35.66	145.549
10,775.00	10,590.61	10,476.37	10,469.61	23.41	2.43	39.01	-5,242.04	-956.07	5,166.15	5,130.60	35.55	145.307 SF
10,800.00	10,595.63	10,481.43	10,474.87	23.49	2.43	45.88	-5,242.12	-956.08	5,142.20	5,107.05	35.15	146.287
10,825.00	10,599.36	10,485.29	10,478.53	23.57	2.43	54.84	-5,242.18	-956.09	5,118.02	5,083.88	34.14	149.903
10,850.00	10,601.79	10,487.93	10,481.18	23.66	2.43	66.26	-5,242.23	-956.09	5,093.66	5,061.62	32.04	158.962
10,875.00	10,602.91	10,489.36	10,482.60	23.75	2.43	79.98	-5,242.25	-956.10	5,069.19	5,040.69	28.51	177.829
10,883.99	10,603.00	10,489.57	10,482.82	23.79	2.43	85.29	-5,242.25	-956.10	5,060.38	5,033.30	27.08	186.853
10,900.00	10,603.00	10,489.81	10,483.06	23.86	2.43	85.30	-5,242.26	-956.10	5,044.69	5,017.54	27.14	185.843 CC, 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 77H
Project:	Lea County, NM (NAD-83)	TVD Reference:	3727.4' GL + 23.5' RKB @ 3750.90usft (Original Well Elev)
Reference Site:	Thistle Unit	MD Reference:	3727.4' GL + 23.5' RKB @ 3750.90usft (Original Well Elev)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	77H	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 Thistle Unit - 54H - OH - OH												Offset Site Error:	0.00 usft
Survey Program: 176-MWD-ISCWSA, 1469-LEAM MWD+HDGM, 15627-Project												Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N-S (usft)	+E-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
0.00	0.00	0.00	0.00	0.00	0.00	166.92	-5,217.12	1,212.55	5,356.23				
100.00	100.00	93.24	93.24	0.09	0.09	166.91	-5,216.92	1,212.72	5,356.05	5,355.87	0.18	N/A	
200.00	200.00	226.19	226.18	0.31	0.28	166.90	-5,215.92	1,213.40	5,355.45	5,354.86	0.59	9,109.398	
300.00	300.00	347.28	347.27	0.54	0.54	166.90	-5,214.43	1,213.33	5,354.22	5,353.15	1.07	4,962.804	
400.00	400.00	439.77	439.74	0.76	0.73	166.90	-5,213.22	1,213.24	5,352.93	5,351.44	1.49	3,597.713	
500.00	500.00	522.17	522.14	0.99	0.89	166.90	-5,212.33	1,213.23	5,351.87	5,350.00	1.88	2,853.280	
600.00	600.00	624.17	624.13	1.21	1.11	166.89	-5,211.40	1,213.37	5,351.01	5,348.70	2.31	2,314.491	
700.00	700.00	713.90	713.86	1.43	1.29	166.89	-5,210.59	1,213.51	5,350.18	5,347.45	2.72	1,963.968	
800.00	800.00	795.84	795.81	1.66	1.46	166.89	-5,210.15	1,213.32	5,349.81	5,346.49	3.12	1,715.742	
900.00	900.00	886.63	886.59	1.88	1.66	166.90	-5,209.99	1,212.86	5,349.32	5,345.78	3.54	1,512.523	
1,000.00	1,000.00	984.23	984.19	2.11	1.86	166.90	-5,209.90	1,212.31	5,349.10	5,345.13	3.96	1,349.267	
1,100.00	1,100.00	1,076.72	1,076.67	2.33	2.06	166.91	-5,209.96	1,211.59	5,348.99	5,344.60	4.39	1,219.131	
1,200.00	1,200.00	1,164.57	1,164.52	2.56	2.28	166.92	-5,210.16	1,210.46	5,348.93	5,344.09	4.84	1,105.183	
1,300.00	1,300.00	1,250.37	1,250.31	2.78	2.51	166.93	-5,210.19	1,209.19	5,348.88	5,343.40	5.29	1,011.763	
1,400.00	1,400.00	1,335.16	1,335.09	3.01	2.81	166.95	-5,210.25	1,207.92	5,348.44	5,342.82	5.62	951.796	
1,500.00	1,500.00	1,421.31	1,421.23	3.23	2.71	166.96	-5,210.38	1,206.73	5,348.30	5,342.36	5.94	900.103	
1,600.00	1,600.00	1,509.18	1,509.10	3.46	2.74	166.97	-5,210.44	1,205.56	5,348.11	5,341.91	6.20	862.814	
1,700.00	1,700.00	1,599.86	1,599.78	3.68	2.79	166.98	-5,210.35	1,204.62	5,347.81	5,341.34	6.47	826.638	
1,800.00	1,800.00	1,786.65	1,786.56	3.91	2.84	166.99	-5,210.31	1,203.73	5,347.57	5,340.82	6.75	792.467	
1,900.00	1,900.00	1,880.51	1,880.42	4.13	2.91	167.00	-5,210.34	1,202.91	5,347.40	5,340.35	7.04	759.174	
1,974.41	1,974.41	1,949.41	1,949.31	4.30	2.97	167.00	-5,210.41	1,202.46	5,347.36	5,340.09	7.27	735.610	
2,000.00	2,000.00	1,973.10	1,973.00	4.36	2.99	167.01	-5,210.44	1,202.33	5,347.36	5,340.02	7.35	727.845	
2,100.00	2,100.00	2,070.71	2,070.62	4.58	3.09	167.01	-5,210.60	1,201.95	5,347.44	5,339.77	7.67	697.110	
2,200.00	2,200.00	2,170.97	2,170.87	4.81	3.20	167.01	-5,210.74	1,201.71	5,347.51	5,339.51	8.01	667.950	
2,300.00	2,300.00	2,269.62	2,269.53	5.03	3.32	167.01	-5,210.84	1,201.62	5,347.60	5,339.24	8.35	640.098	
2,400.00	2,400.00	2,367.77	2,367.67	5.26	3.45	167.01	-5,210.96	1,201.65	5,347.72	5,339.01	8.71	614.180	
2,500.00	2,500.00	2,467.22	2,467.13	5.48	3.59	167.01	-5,211.08	1,201.72	5,347.86	5,338.79	9.07	589.924	
2,600.00	2,600.00	2,566.94	2,566.84	5.71	3.72	167.01	-5,211.23	1,201.75	5,348.01	5,338.58	9.42	567.448	
2,700.00	2,700.00	2,668.86	2,668.76	5.93	3.86	167.01	-5,211.38	1,201.72	5,348.14	5,338.35	9.79	546.373	
2,800.00	2,800.00	2,770.97	2,770.87	6.15	4.00	167.02	-5,211.50	1,201.62	5,348.24	5,338.08	10.15	526.729	
2,900.00	2,900.00	2,873.08	2,872.97	6.38	4.15	167.02	-5,211.61	1,201.40	5,348.29	5,337.76	10.53	507.849	
3,000.00	3,000.00	2,973.83	2,973.73	6.60	4.31	167.02	-5,211.72	1,201.02	5,348.31	5,337.40	10.91	490.209	
3,100.00	3,100.00	3,070.05	3,069.96	6.83	4.47	167.03	-5,211.84	1,200.74	5,348.37	5,337.07	11.29	473.551	
3,200.00	3,200.00	3,167.88	3,167.78	7.05	4.63	167.03	-5,211.98	1,200.66	5,348.49	5,336.81	11.66	457.829	
3,300.00	3,300.00	3,270.42	3,270.32	7.28	4.81	167.03	-5,212.11	1,200.59	5,348.60	5,336.52	12.06	442.662	
3,400.00	3,400.00	3,370.87	3,370.77	7.50	4.98	167.03	-5,212.21	1,200.47	5,348.67	5,336.19	12.48	428.514	
3,500.00	3,500.00	3,468.31	3,468.21	7.73	5.15	167.03	-5,212.33	1,200.40	5,348.77	5,335.89	12.88	415.311	
3,600.00	3,600.00	3,564.37	3,564.27	7.95	5.32	167.03	-5,212.49	1,200.37	5,348.93	5,335.65	13.28	402.888	
3,700.00	3,700.00	3,658.82	3,658.72	8.18	5.50	167.03	-5,212.75	1,200.29	5,349.18	5,335.50	13.67	391.178	
3,800.00	3,800.00	3,758.65	3,758.55	8.40	5.68	167.04	-5,213.13	1,200.11	5,349.51	5,335.43	14.08	379.880	
3,900.00	3,900.00	3,865.11	3,865.01	8.63	5.87	167.04	-5,213.45	1,199.88	5,349.76	5,335.25	14.50	368.913	
4,000.00	4,000.00	3,961.30	3,961.20	8.85	6.05	167.04	-5,213.69	1,199.63	5,349.94	5,335.04	14.90	358.954	
4,100.00	4,100.00	4,052.27	4,052.16	9.08	6.22	167.05	-5,214.09	1,199.30	5,350.28	5,334.99	15.30	349.722	
4,200.00	4,200.00	4,142.28	4,142.17	9.30	6.39	167.05	-5,214.65	1,198.93	5,350.80	5,335.10	15.69	340.930	
4,300.00	4,300.00	4,231.62	4,231.51	9.53	6.57	167.06	-5,215.34	1,198.77	5,351.51	5,335.42	16.09	332.561	
4,400.00	4,400.00	4,314.19	4,314.08	9.75	6.73	167.06	-5,216.10	1,198.86	5,352.45	5,335.97	16.48	324.841	
4,500.00	4,500.00	4,399.10	4,398.99	9.98	6.87	167.05	-5,217.02	1,199.47	5,353.82	5,336.97	16.85	317.751	
4,600.00	4,600.00	4,487.00	4,486.86	10.20	7.03	167.04	-5,218.21	1,200.71	5,355.66	5,338.43	17.23	310.888	
4,700.00	4,700.00	4,566.00	4,565.83	10.43	7.22	167.03	-5,219.88	1,202.69	5,357.73	5,340.08	17.64	303.643	
4,800.00	4,800.00	4,673.02	4,672.81	10.65	7.42	167.01	-5,221.51	1,204.70	5,359.66	5,341.58	18.07	296.538	
4,900.00	4,900.00	4,751.00	4,750.76	10.87	7.58	166.99	-5,222.70	1,206.63	5,361.72	5,343.27	18.45	290.607	

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)

Local Co-ordinate Reference: Well 77H
TVD Reference: 3727.4' GL + 23.5' RKB @ 3750.90usft
(Original Well Elev)

Reference Site: Thistle Unit

MD Reference: 3727.4' GL + 23.5' RKB @ 3750.90usft
(Original Well Elev)

Site Error: 0.00 usft

North Reference: Grid

Reference Well: 77H

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 Thistle Unit - 54H - OH - OH											Offset Site Error:	0.00 usft
Survey Program: 176-MWD-ISCWISA, 1469-LEAM MWD+HDGM, 15627-Project											Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Distance		Minimum Separation (usft)	Separation Factor	Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)				
5,000.00	5,000.00	4,826.57	4,826.28	11.10	7.73	166.97	-5,224.04	1,209.17	5,364.21	5,345.39	18.83	284.932
5,100.00	5,100.00	4,933.19	4,932.80	11.32	7.94	166.93	-5,226.17	1,213.18	5,367.01	5,347.75	19.26	278.649
5,200.00	5,199.99	5,098.41	5,097.98	11.55	8.26	167.31	-5,228.23	1,217.25	5,369.89	5,350.09	19.80	271.226
5,300.00	5,299.91	5,192.09	5,191.81	11.77	8.44	167.28	-5,229.29	1,218.94	5,375.23	5,355.04	20.19	266.256
5,400.00	5,399.89	5,300.71	5,300.21	12.00	8.66	167.26	-5,230.54	1,220.58	5,383.07	5,362.47	20.60	261.366
5,433.33	5,432.91	5,335.31	5,334.81	12.07	8.73	167.25	-5,230.92	1,221.06	5,386.22	5,365.49	20.73	259.878
5,500.00	5,499.32	5,402.00	5,401.48	12.22	8.86	167.26	-5,231.55	1,222.28	5,392.77	5,371.76	21.01	258.708
5,600.00	5,598.94	5,483.33	5,482.77	12.45	9.02	167.25	-5,232.26	1,224.58	5,402.77	5,381.38	21.40	252.513
5,700.00	5,698.56	5,560.24	5,559.81	12.67	9.18	167.23	-5,232.99	1,227.87	5,413.16	5,391.38	21.78	248.566
5,800.00	5,798.18	5,635.69	5,634.92	12.90	9.34	167.20	-5,233.73	1,232.38	5,423.97	5,401.81	22.16	244.790
5,900.00	5,897.80	5,738.06	5,736.98	13.13	9.55	167.14	-5,234.62	1,240.80	5,435.15	5,412.55	22.59	240.563
6,000.00	5,997.42	5,887.50	5,885.89	13.36	9.86	167.05	-5,234.81	1,252.86	5,445.82	5,422.50	23.13	235.482
6,100.00	6,097.04	5,994.60	5,992.88	13.59	10.08	166.98	-5,234.45	1,261.38	5,455.83	5,432.06	23.57	231.464
6,200.00	6,196.66	6,111.10	6,108.81	13.83	10.32	166.91	-5,233.94	1,270.29	5,465.47	5,441.44	24.04	227.392
6,300.00	6,296.28	6,241.61	6,241.00	14.06	10.59	166.84	-5,232.88	1,279.52	5,474.81	5,450.27	24.54	223.136
6,400.00	6,395.90	6,336.69	6,333.87	14.30	10.79	166.80	-5,231.95	1,285.70	5,483.88	5,458.92	24.96	219.718
6,500.00	6,495.52	6,426.38	6,423.31	14.54	10.98	166.75	-5,231.15	1,291.93	5,493.13	5,467.75	25.38	216.478
6,600.00	6,595.14	6,505.72	6,502.46	14.78	11.15	166.71	-5,230.57	1,297.71	5,502.83	5,476.86	25.77	213.498
6,700.00	6,694.76	6,582.48	6,578.99	15.02	11.31	166.66	-5,230.26	1,303.66	5,512.55	5,486.38	26.17	210.661
6,800.00	6,794.38	6,670.36	6,666.58	15.26	11.51	166.61	-5,230.15	1,310.85	5,522.84	5,496.25	26.59	207.734
6,900.00	6,894.00	6,779.91	6,775.77	15.50	11.74	166.54	-5,229.98	1,319.67	5,533.08	5,506.03	27.05	204.541
7,000.00	6,993.62	6,870.92	6,866.50	15.74	11.94	166.49	-5,229.80	1,326.81	5,543.25	5,515.77	27.48	201.742
7,100.00	7,093.24	6,950.28	6,945.81	15.99	12.12	166.44	-5,229.89	1,333.12	5,553.74	5,525.86	27.88	199.216
7,200.00	7,192.85	7,035.36	7,030.41	16.23	12.30	166.39	-5,230.28	1,339.97	5,564.58	5,536.29	28.29	196.685
7,300.00	7,292.47	7,140.71	7,135.44	16.48	12.53	166.33	-5,230.85	1,346.18	5,575.46	5,546.71	28.75	193.923
7,400.00	7,392.09	7,247.57	7,242.01	16.72	12.77	166.28	-5,231.42	1,356.03	5,586.23	5,557.02	29.21	191.229
7,433.33	7,425.30	7,283.78	7,278.13	16.81	12.85	166.26	-5,231.61	1,358.57	5,589.78	5,560.42	29.37	190.343
7,500.00	7,491.76	7,358.27	7,350.45	16.95	13.00	166.25	-5,231.97	1,363.46	5,596.28	5,566.60	29.68	188.527
7,600.00	7,591.60	7,461.26	7,455.21	17.14	13.23	166.22	-5,232.41	1,370.38	5,603.80	5,573.69	30.11	186.100
7,700.00	7,691.55	7,564.69	7,558.38	17.31	13.46	166.17	-5,232.62	1,377.77	5,608.72	5,578.20	30.52	183.771
7,766.67	7,758.21	7,631.74	7,625.24	17.43	13.61	165.71	-5,232.70	1,382.70	5,610.57	5,579.79	30.78	182.268
7,800.00	7,791.54	7,665.09	7,658.52	17.49	13.68	165.69	-5,232.76	1,385.03	5,611.21	5,580.29	30.92	181.472
7,900.00	7,891.54	7,765.22	7,758.43	17.71	13.90	165.63	-5,233.08	1,391.53	5,613.14	5,581.77	31.38	178.969
8,000.00	7,991.54	7,858.51	7,851.55	17.93	14.11	165.57	-5,233.55	1,397.17	5,615.12	5,583.33	31.79	176.628
8,100.00	8,091.54	7,955.00	7,947.87	18.15	14.32	165.52	-5,234.19	1,402.83	5,617.23	5,585.00	32.22	174.316
8,200.00	8,191.54	8,044.17	8,036.90	18.37	14.51	165.47	-5,234.96	1,407.80	5,619.46	5,586.82	32.64	172.154
8,300.00	8,291.54	8,138.57	8,129.17	18.59	14.72	165.43	-5,235.99	1,412.56	5,621.84	5,588.77	33.07	170.015
8,400.00	8,391.54	8,245.60	8,238.08	18.81	14.95	165.38	-5,237.33	1,417.65	5,624.21	5,590.69	33.53	167.762
8,500.00	8,491.54	8,352.67	8,345.04	19.03	15.18	165.34	-5,238.60	1,422.09	5,626.41	5,592.43	33.98	165.586
8,600.00	8,591.54	8,445.18	8,437.48	19.25	15.38	165.31	-5,239.82	1,425.55	5,628.63	5,594.23	34.40	163.623
8,700.00	8,691.54	8,539.86	8,532.09	19.47	15.59	165.28	-5,241.26	1,428.78	5,630.99	5,596.16	34.83	161.690
8,800.00	8,791.54	8,645.94	8,638.11	19.69	15.81	165.25	-5,242.96	1,432.11	5,633.32	5,598.04	35.27	159.697
8,900.00	8,891.54	8,749.98	8,742.09	19.91	16.04	165.23	-5,244.58	1,435.09	5,635.55	5,599.83	35.72	157.773
9,000.00	8,991.54	8,850.77	8,842.84	20.13	16.25	165.21	-5,246.20	1,437.64	5,637.75	5,601.59	36.16	155.928
9,100.00	9,091.54	8,950.87	8,948.90	20.36	16.48	165.19	-5,247.95	1,439.99	5,639.91	5,603.31	36.60	154.084
9,200.00	9,191.54	9,068.22	9,060.22	20.58	16.71	165.17	-5,249.61	1,442.33	5,641.89	5,604.84	37.06	152.240
9,300.00	9,291.54	9,191.07	9,183.03	20.80	16.97	165.15	-5,251.17	1,444.56	5,643.59	5,606.06	37.54	150.343
9,400.00	9,391.54	9,307.43	9,299.38	21.02	17.21	165.14	-5,252.35	1,445.95	5,644.87	5,606.87	38.00	148.536
9,500.00	9,491.54	9,402.38	9,394.32	21.24	17.41	165.14	-5,253.34	1,446.78	5,646.10	5,607.68	38.42	146.938
9,600.00	9,591.54	9,510.03	9,501.96	21.46	17.63	165.13	-5,254.58	1,447.50	5,647.39	5,608.52	38.87	145.261

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 77H
Project:	Lea County, NM (NAD-83)	TVD Reference:	3727.4' GL + 23.5' RKB @ 3750.90usft (Original Well Elev)
Reference Site:	Thistle Unit	MD Reference:	3727.4' GL + 23.5' RKB @ 3750.90usft (Original Well Elev)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	77H	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 Thistle Unit - 54H - OH - OH													Offset Site Error: 0.00 usft
Survey Program: 176-MWD-ISCWSA, 1469-LEAM MWD+HDGM, 15627-Project													Offset Well Error: 0.00 usft
Reference	Offset	Semi Major Axis		Distance		Minimum Separation		Separation Factor		Warning			
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	
9,700.00	9,891.54	9,846.08	9,838.00	21.68	17.91	165.13	-5,255.80	1,448.00	5,848.21	5,808.84	39.38	143.441	
9,800.00	9,791.54	9,734.41	9,726.33	21.90	18.09	165.13	-5,256.08	1,448.16	5,848.79	5,809.00	39.78	141.997	
9,900.00	9,891.54	9,818.58	9,810.49	22.13	18.27	165.13	-5,256.77	1,448.37	5,849.84	5,809.46	40.18	140.619	
10,000.00	9,991.54	9,911.77	9,903.68	22.35	18.46	165.13	-5,257.77	1,448.52	5,850.71	5,810.12	40.59	139.209	
10,100.00	10,091.54	10,009.32	10,001.22	22.57	18.66	165.14	-5,259.02	1,448.11	5,851.84	5,810.83	41.02	137.798	
10,133.99	10,125.53	10,042.22	10,034.12	22.64	18.72	165.14	-5,259.49	1,447.84	5,852.24	5,811.08	41.16	137.328	
10,150.00	10,141.54	10,057.31	10,049.21	22.68	18.76	-14.44	-5,259.71	1,447.69	5,852.17	5,810.97	41.20	137.195	
10,175.00	10,166.49	10,080.86	10,072.75	22.71	18.80	-14.47	-5,260.08	1,447.41	5,851.02	5,809.82	41.20	137.158	
10,200.00	10,191.33	10,104.31	10,096.20	22.75	18.85	-14.55	-5,260.46	1,447.09	5,848.82	5,807.49	41.13	137.320	
10,225.00	10,215.99	10,127.62	10,119.50	22.78	18.90	-14.67	-5,260.86	1,446.72	5,844.97	5,803.97	41.00	137.677	
10,250.00	10,240.41	10,150.72	10,142.59	22.81	18.95	-14.83	-5,261.27	1,446.31	5,840.07	5,799.27	40.80	138.229	
10,275.00	10,264.50	10,173.55	10,165.42	22.83	18.99	-15.03	-5,261.70	1,445.86	5,833.95	5,793.41	40.54	138.971	
10,300.00	10,288.22	10,196.08	10,187.91	22.85	19.04	-15.29	-5,262.14	1,445.38	5,826.82	5,786.40	40.22	139.901	
10,325.00	10,311.49	10,223.00	10,214.84	22.87	19.09	-15.60	-5,262.68	1,444.74	5,818.09	5,778.24	39.85	140.977	
10,350.00	10,334.25	10,237.09	10,228.92	22.89	19.12	-15.95	-5,262.98	1,444.40	5,808.40	5,769.00	39.41	142.325	
10,375.00	10,358.44	10,254.79	10,246.62	22.90	19.16	-16.37	-5,263.36	1,443.98	5,797.59	5,758.67	38.92	143.812	
10,400.00	10,377.99	10,272.02	10,263.84	22.92	19.19	-16.86	-5,263.74	1,443.80	5,785.87	5,747.27	38.40	145.454	
10,425.00	10,398.86	10,288.75	10,280.56	22.93	19.23	-17.43	-5,264.12	1,443.24	5,772.89	5,734.84	37.85	147.232	
10,450.00	10,418.97	10,304.91	10,296.71	22.95	19.26	-18.08	-5,264.49	1,442.91	5,758.88	5,721.40	37.28	149.122	
10,475.00	10,438.28	10,321.49	10,313.29	22.98	19.29	-18.83	-5,264.89	1,442.58	5,743.87	5,706.97	36.69	151.078	
10,500.00	10,456.74	10,342.81	10,334.39	23.01	19.33	-19.71	-5,265.39	1,442.18	5,727.89	5,691.56	36.13	153.008	
10,525.00	10,474.28	10,362.71	10,354.49	23.03	19.37	-20.73	-5,265.85	1,441.79	5,710.77	5,675.20	35.58	154.898	
10,550.00	10,490.87	10,381.76	10,373.52	23.05	19.41	-21.90	-5,266.29	1,441.43	5,692.98	5,657.91	35.06	156.657	
10,575.00	10,506.46	10,399.68	10,391.44	23.08	19.44	-23.27	-5,266.69	1,441.08	5,674.35	5,639.74	34.61	158.180	
10,600.00	10,521.00	10,416.45	10,408.20	23.10	19.48	-24.86	-5,267.06	1,440.76	5,654.94	5,620.70	34.24	159.329	
10,625.00	10,534.46	10,432.00	10,423.75	23.12	19.51	-26.73	-5,267.40	1,440.47	5,634.80	5,600.82	33.98	159.940	
10,650.00	10,546.80	10,446.31	10,438.05	23.14	19.54	-28.94	-5,267.70	1,440.19	5,613.99	5,580.12	33.87	159.824	
10,675.00	10,557.98	10,459.32	10,451.05	23.18	19.56	-31.56	-5,267.98	1,439.95	5,592.58	5,558.61	33.96	158.779	
10,700.00	10,567.98	10,471.01	10,462.74	23.23	19.58	-34.71	-5,268.22	1,439.72	5,570.81	5,536.32	34.29	156.618	
10,725.00	10,576.77	10,481.35	10,473.07	23.28	19.60	-38.50	-5,268.44	1,439.53	5,548.15	5,513.25	34.91	153.208	
10,750.00	10,584.32	10,490.31	10,482.03	23.34	19.62	-43.10	-5,268.62	1,439.36	5,525.27	5,489.42	35.85	148.530	
10,775.00	10,590.81	10,497.86	10,489.58	23.41	19.64	-48.69	-5,268.77	1,439.21	5,502.03	5,464.89	37.14	142.759	
10,800.00	10,595.83	10,504.00	10,495.71	23.49	19.65	-55.45	-5,268.90	1,439.10	5,478.49	5,439.77	38.72	136.324	
10,825.00	10,599.36	10,508.83	10,500.55	23.57	19.66	-63.53	-5,268.99	1,439.00	5,454.72	5,414.28	40.44	129.939	
10,850.00	10,601.79	10,512.35	10,504.06	23.66	19.67	-72.90	-5,269.05	1,438.94	5,430.78	5,388.77	42.00	124.529	
10,875.00	10,602.91	10,514.30	10,506.01	23.75	19.67	-83.23	-5,269.10	1,438.90	5,406.74	5,363.71	43.03	121.006	
10,883.99	10,603.00	10,514.81	10,506.32	23.79	19.67	-87.07	-5,269.11	1,438.90	5,398.09	5,354.89	43.20	120.324	
10,900.00	10,603.00	10,514.99	10,506.70	23.86	19.67	-87.09	-5,269.12	1,438.89	5,382.87	5,339.40	43.27	119.780 CC, ES, SF	

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

LEAM Drilling Systems LLC

Anticollision Report

Company:	DEVON ENERGY	Local Co-ordinate Reference:	Well 77H
Project:	Lea County, NM (NAD-83)	TVD Reference:	3727.4' GL + 23.5' RKB @ 3750.90usft (Original Well Elev)
Reference Site:	Thistle Unit	MD Reference:	3727.4' GL + 23.5' RKB @ 3750.90usft (Original Well Elev)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	77H	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 Thistle Unit - 60H - OH - OH													Offset Site Error:	0.00 usft
Survey Program: 154- VES GyroFlex V2, 1527-LEAM MWD+HDGM, 16045-Project													Offset Well Error:	0.00 usft
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	
0.00	0.00	0.00	0.00	0.00	0.00	166.40	-5,216.73	1,262.51	5,367.38					
100.00	100.00	56.22	56.22	0.09	0.04	166.40	-5,216.82	1,262.55	5,367.46	5,367.33	0.13	N/A		
200.00	200.00	130.79	130.79	0.31	0.10	166.39	-5,217.23	1,262.73	5,368.06	5,367.64	0.41	N/A		
300.00	300.00	212.70	212.69	0.54	0.18	166.39	-5,218.01	1,263.09	5,369.08	5,368.37	0.71	7,545.355		
400.00	400.00	332.17	332.16	0.76	0.27	166.40	-5,219.35	1,263.14	5,370.20	5,369.17	1.03	5,233.576		
500.00	500.00	444.18	444.16	0.99	0.33	166.41	-5,220.44	1,261.82	5,370.86	5,369.55	1.31	4,096.329		
600.00	600.00	535.97	535.93	1.21	0.37	166.42	-5,221.30	1,260.83	5,371.52	5,369.94	1.58	3,402.866		
700.00	700.00	645.71	645.66	1.43	0.42	166.44	-5,222.29	1,259.74	5,372.16	5,370.32	1.85	2,904.775		
800.00	800.00	755.91	755.85	1.66	0.47	166.45	-5,222.99	1,259.01	5,372.63	5,370.51	2.12	2,537.832		
900.00	900.00	863.28	863.23	1.88	0.52	166.45	-5,223.37	1,258.70	5,372.90	5,370.52	2.38	2,255.853		
1,000.00	1,000.00	960.84	960.79	2.11	0.56	166.45	-5,223.66	1,258.46	5,373.13	5,370.49	2.64	2,034.238		
1,100.00	1,100.00	1,066.83	1,066.78	2.33	0.60	166.46	-5,224.02	1,258.15	5,373.40	5,370.50	2.90	1,852.346		
1,200.00	1,200.00	1,165.57	1,165.51	2.56	0.64	166.47	-5,224.30	1,257.55	5,373.53	5,370.37	3.15	1,703.996		
1,300.00	1,300.00	1,270.42	1,270.35	2.78	0.68	166.48	-5,224.78	1,256.30	5,373.70	5,370.30	3.41	1,578.120		
1,400.00	1,400.00	1,388.10	1,388.02	3.01	0.72	166.50	-5,225.20	1,254.21	5,373.83	5,369.98	3.65	1,470.559		
1,500.00	1,500.00	1,503.16	1,503.06	3.23	0.75	166.52	-5,225.21	1,252.31	5,373.26	5,369.35	3.91	1,374.783		
1,600.00	1,600.00	1,614.64	1,614.52	3.46	0.85	166.54	-5,224.87	1,250.74	5,372.63	5,368.40	4.23	1,268.727		
1,700.00	1,700.00	1,723.84	1,723.71	3.68	0.96	166.55	-5,224.35	1,249.06	5,371.81	5,367.23	4.58	1,172.579		
1,800.00	1,800.00	1,818.30	1,818.16	3.91	1.10	166.57	-5,223.88	1,247.58	5,370.96	5,366.00	4.95	1,084.220		
1,900.00	1,900.00	1,906.00	1,905.85	4.13	1.23	166.58	-5,223.52	1,246.25	5,370.22	5,364.90	5.32	1,010.359		
2,000.00	2,000.00	1,997.32	1,997.16	4.36	1.39	166.59	-5,223.29	1,245.05	5,369.67	5,363.97	5.71	941.097		
2,100.00	2,100.00	2,095.00	2,094.84	4.58	1.56	166.60	-5,223.26	1,244.12	5,369.42	5,363.31	6.11	879.153		
2,200.00	2,200.00	2,178.00	2,177.84	4.81	1.73	166.61	-5,223.33	1,243.60	5,369.33	5,362.83	6.50	826.193		
2,287.74	2,287.74	2,263.30	2,263.14	5.00	1.89	166.61	-5,223.38	1,243.30	5,369.31	5,362.44	6.87	781.890		
2,300.00	2,300.00	2,275.23	2,275.06	5.03	1.92	166.61	-5,223.39	1,243.27	5,369.31	5,362.39	6.92	776.076		
2,400.00	2,400.00	2,379.49	2,379.32	5.26	2.13	166.61	-5,223.39	1,243.15	5,369.28	5,361.93	7.36	729.706		
2,500.00	2,500.00	2,483.07	2,482.90	5.48	2.34	166.61	-5,223.27	1,243.10	5,369.17	5,361.37	7.80	688.888		
2,597.51	2,597.51	2,573.08	2,572.91	5.70	2.52	166.61	-5,223.21	1,243.08	5,369.10	5,360.90	8.20	655.032		
2,600.00	2,600.00	2,575.37	2,575.21	5.71	2.52	166.61	-5,223.21	1,243.08	5,369.10	5,360.89	8.21	654.217		
2,700.00	2,700.00	2,668.43	2,668.26	5.93	2.71	166.61	-5,223.29	1,243.05	5,369.17	5,360.55	8.62	622.968		
2,800.00	2,800.00	2,772.92	2,772.75	6.15	2.91	166.61	-5,223.41	1,242.97	5,369.26	5,360.21	9.05	593.364		
2,900.00	2,900.00	2,877.01	2,876.84	6.38	3.12	166.62	-5,223.45	1,242.83	5,369.27	5,359.79	9.48	566.377		
3,000.00	3,000.00	2,979.94	2,979.77	6.60	3.33	166.62	-5,223.43	1,242.68	5,369.22	5,359.30	9.91	541.563		
3,100.00	3,100.00	3,076.30	3,076.14	6.83	3.52	166.62	-5,223.38	1,242.55	5,369.14	5,358.80	10.34	519.466		
3,105.90	3,105.90	3,081.47	3,081.30	6.84	3.53	166.62	-5,223.38	1,242.54	5,369.13	5,358.77	10.36	518.269		
3,200.00	3,200.00	3,163.82	3,163.66	7.05	3.70	166.62	-5,223.50	1,242.43	5,369.24	5,358.50	10.74	499.913		
3,300.00	3,300.00	3,257.55	3,257.38	7.28	3.89	166.62	-5,223.84	1,242.30	5,369.56	5,358.40	11.16	481.269		
3,400.00	3,400.00	3,368.35	3,368.18	7.50	4.12	166.63	-5,224.16	1,242.07	5,369.79	5,358.18	11.61	462.608		
3,500.00	3,500.00	3,471.86	3,471.69	7.73	4.33	166.63	-5,224.31	1,241.79	5,369.88	5,357.82	12.05	445.761		
3,600.00	3,600.00	3,569.86	3,569.69	7.95	4.54	166.63	-5,224.43	1,241.63	5,369.95	5,357.48	12.48	430.404		
3,700.00	3,700.00	3,662.77	3,662.60	8.18	4.73	166.63	-5,224.60	1,241.54	5,370.11	5,357.21	12.89	416.461		
3,800.00	3,800.00	3,752.83	3,752.66	8.40	4.91	166.63	-5,224.94	1,241.41	5,370.44	5,357.13	13.31	403.610		
3,900.00	3,900.00	3,857.21	3,857.04	8.63	5.13	166.64	-5,225.45	1,241.25	5,370.88	5,357.14	13.75	390.884		
4,000.00	4,000.00	3,974.20	3,974.03	8.85	5.37	166.64	-5,225.64	1,241.39	5,371.07	5,356.85	14.22	377.843		
4,100.00	4,100.00	4,073.76	4,073.59	9.08	5.58	166.63	-5,225.61	1,241.57	5,371.08	5,356.44	14.65	366.737		
4,200.00	4,200.00	4,171.72	4,171.55	9.30	5.78	166.64	-5,225.69	1,241.45	5,371.14	5,356.06	15.07	356.348		
4,300.00	4,300.00	4,253.02	4,252.84	9.53	5.95	166.64	-5,225.91	1,241.40	5,371.38	5,355.91	15.47	347.317		
4,400.00	4,400.00	4,333.91	4,333.74	9.75	6.11	166.63	-5,226.33	1,241.72	5,371.98	5,356.12	15.86	338.774		
4,500.00	4,500.00	4,415.95	4,415.77	9.98	6.29	166.63	-5,226.96	1,242.43	5,372.92	5,356.67	16.25	330.551		
4,600.00	4,600.00	4,498.61	4,498.42	10.20	6.46	166.62	-5,227.77	1,243.56	5,374.19	5,357.54	16.65	322.679		
4,700.00	4,700.00	4,618.01	4,617.79	10.43	6.72	166.60	-5,228.99	1,245.86	5,375.67	5,358.54	17.13	313.766		

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 77H
Project:	Lea County, NM (NAD-83)	TVD Reference:	3727.4' GL + 23.5' RKB @ 3750.90usft (Original Well Elev)
Reference Site:	Thistle Unit	MD Reference:	3727.4' GL + 23.5' RKB @ 3750.90usft (Original Well Elev)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	77H	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 Thistle Unit - 60H - OH - OH												Offset Site Error: 0.00 usft	
Survey Program: 154- VES GyroFlex V2, 1527-LEAM MWD+HDM, 16045-Project												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
4,800.00	4,800.00	4,765.45	4,765.19	10.85	7.03	166.56	-5,228.84	1,249.37	5,378.04	5,358.37	17.67	304.258	
4,900.00	4,900.00	4,836.00	4,835.70	10.87	7.18	166.54	-5,228.70	1,251.52	5,376.54	5,358.49	18.04	297.980	
5,000.00	5,000.00	5,091.50	5,091.08	11.10	7.71	166.46	-5,225.33	1,258.05	5,375.89	5,357.09	18.80	286.002	
5,100.00	5,100.00	5,163.77	5,163.32	11.32	7.85	166.45	-5,223.63	1,258.92	5,373.91	5,354.74	19.17	280.347	
5,151.32	5,151.32	5,197.49	5,197.03	11.44	7.92	166.87	-5,223.03	1,259.36	5,373.50	5,354.15	19.35	277.671	
5,200.00	5,199.99	5,238.58	5,238.11	11.55	8.01	166.86	-5,222.36	1,259.96	5,373.84	5,354.30	19.54	274.985	
5,300.00	5,299.91	5,328.69	5,328.20	11.77	8.20	166.84	-5,221.02	1,261.54	5,376.63	5,356.69	19.94	269.617	
5,400.00	5,399.89	5,500.68	5,500.02	12.00	8.57	166.78	-5,217.05	1,267.44	5,381.71	5,361.21	20.51	262.437	
5,433.33	5,432.91	5,570.08	5,569.21	12.07	8.72	166.73	-5,214.09	1,271.84	5,383.52	5,362.80	20.72	259.829	
5,500.00	5,499.32	5,646.59	5,645.43	12.22	8.88	166.68	-5,210.24	1,277.54	5,387.08	5,366.05	21.03	256.119	
5,600.00	5,598.94	5,743.18	5,741.81	12.45	9.09	166.61	-5,205.32	1,284.88	5,392.41	5,370.95	21.47	251.194	
5,700.00	5,698.56	5,836.78	5,834.76	12.67	9.29	166.54	-5,200.53	1,292.46	5,397.86	5,375.96	21.90	246.527	
5,800.00	5,798.18	5,923.65	5,921.21	12.90	9.48	166.47	-5,196.13	1,299.88	5,403.47	5,381.15	22.31	242.150	
5,900.00	5,897.80	6,007.00	6,004.16	13.13	9.67	166.41	-5,192.12	1,307.15	5,409.37	5,386.64	22.73	238.007	
6,000.00	5,997.42	16,045.00	11,082.91	13.36	80.87	109.78	-61.62	1,619.65	5,362.23	5,270.62	91.61	58.534	
6,100.00	6,097.04	16,045.00	11,082.91	13.59	80.87	109.78	-61.62	1,619.65	5,267.61	5,175.77	91.84	57.356	
6,200.00	6,196.66	16,045.00	11,082.91	13.83	80.87	109.78	-61.62	1,619.65	5,173.20	5,081.13	92.07	56.185	
6,300.00	6,296.28	16,045.00	11,082.91	14.06	80.87	109.78	-61.62	1,619.65	5,079.01	4,986.70	92.31	55.022	
6,400.00	6,395.90	16,045.00	11,082.91	14.30	80.87	109.78	-61.62	1,619.65	4,985.03	4,892.49	92.54	53.867	
6,500.00	6,495.52	16,045.00	11,082.91	14.54	80.87	109.78	-61.62	1,619.65	4,891.30	4,798.52	92.78	52.719	
6,600.00	6,595.14	16,045.00	11,082.91	14.78	80.87	109.78	-61.62	1,619.65	4,797.82	4,704.80	93.02	51.580	
6,700.00	6,694.76	16,045.00	11,082.91	15.02	80.87	109.78	-61.62	1,619.65	4,704.61	4,611.36	93.26	50.448	
6,800.00	6,794.38	16,045.00	11,082.91	15.26	80.87	109.78	-61.62	1,619.65	4,611.68	4,518.19	93.50	49.325	
6,900.00	6,894.00	16,045.00	11,082.91	15.50	80.87	109.78	-61.62	1,619.65	4,519.06	4,425.32	93.74	48.210	
7,000.00	6,993.62	16,045.00	11,082.91	15.74	80.87	109.78	-61.62	1,619.65	4,426.76	4,332.78	93.98	47.104	
7,100.00	7,093.24	16,045.00	11,082.91	15.99	80.87	109.78	-61.62	1,619.65	4,334.79	4,240.57	94.22	46.007	
7,200.00	7,192.85	16,045.00	11,082.91	16.23	80.87	109.78	-61.62	1,619.65	4,243.20	4,148.73	94.46	44.920	
7,300.00	7,292.47	16,045.00	11,082.91	16.48	80.87	109.78	-61.62	1,619.65	4,151.98	4,057.28	94.71	43.841	
7,400.00	7,392.09	16,045.00	11,082.91	16.72	80.87	109.78	-61.62	1,619.65	4,061.19	3,966.24	94.95	42.772	
7,433.33	7,425.30	16,045.00	11,082.91	16.81	80.87	109.78	-61.62	1,619.65	4,031.02	3,935.99	95.03	42.418	
7,500.00	7,491.76	16,045.00	11,082.91	16.95	80.87	107.78	-61.62	1,619.65	3,970.75	3,874.94	95.81	41.444	
7,600.00	7,591.60	16,045.00	11,082.91	17.14	80.87	104.75	-61.62	1,619.65	3,880.45	3,783.66	96.79	40.091	
7,700.00	7,691.55	16,045.00	11,082.91	17.31	80.87	101.72	-61.62	1,619.65	3,790.35	3,692.78	97.57	38.848	
7,766.67	7,758.21	16,045.00	11,082.91	17.43	80.87	99.28	-61.62	1,619.65	3,730.43	3,632.51	97.92	38.097	
7,800.00	7,791.54	16,045.00	11,082.91	17.49	80.87	99.28	-61.62	1,619.65	3,700.53	3,602.55	97.98	37.767	
7,900.00	7,891.54	16,045.00	11,082.91	17.71	80.87	99.28	-61.62	1,619.65	3,611.19	3,512.99	98.20	36.773	
8,000.00	7,891.54	16,045.00	11,082.91	17.93	80.87	99.28	-61.62	1,619.65	3,522.43	3,424.01	98.42	35.789	
8,100.00	8,091.54	16,045.00	11,082.91	18.15	80.87	99.28	-61.62	1,619.65	3,434.29	3,335.65	98.64	34.815	
8,200.00	8,191.54	16,045.00	11,082.91	18.37	80.87	99.28	-61.62	1,619.65	3,346.81	3,247.95	98.86	33.853	
8,300.00	8,291.54	16,045.00	11,082.91	18.59	80.87	99.28	-61.62	1,619.65	3,260.05	3,160.97	99.08	32.902	
8,400.00	8,391.54	16,045.00	11,082.91	18.81	80.87	99.28	-61.62	1,619.65	3,174.08	3,074.77	99.30	31.963	
8,500.00	8,491.54	16,045.00	11,082.91	19.03	80.87	99.28	-61.62	1,619.65	3,088.94	2,989.42	99.52	31.037	
8,600.00	8,591.54	16,045.00	11,082.91	19.25	80.87	99.28	-61.62	1,619.65	3,004.72	2,904.98	99.74	30.124	
8,700.00	8,691.54	16,045.00	11,082.91	19.47	80.87	99.28	-61.62	1,619.65	2,921.50	2,821.54	99.97	29.225	
8,800.00	8,791.54	16,045.00	11,082.91	19.69	80.87	99.28	-61.62	1,619.65	2,839.36	2,739.18	100.19	28.341	
8,900.00	8,891.54	16,045.00	11,082.91	19.91	80.87	99.28	-61.62	1,619.65	2,758.40	2,658.00	100.41	27.472	
9,000.00	8,991.54	16,045.00	11,082.91	20.13	80.87	99.28	-61.62	1,619.65	2,678.73	2,578.10	100.63	26.620	
9,100.00	9,091.54	16,045.00	11,082.91	20.36	80.87	99.28	-61.62	1,619.65	2,600.46	2,499.61	100.85	25.786	
9,200.00	9,191.54	16,045.00	11,082.91	20.58	80.87	99.28	-61.62	1,619.65	2,523.73	2,422.66	101.07	24.970	
9,300.00	9,291.54	16,045.00	11,082.91	20.80	80.87	99.28	-61.62	1,619.65	2,448.68	2,347.39	101.29	24.175	

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 77H
Project:	Lea County, NM (NAD-83)	TVD Reference:	3727.4' GL + 23.5' RKB @ 3750.90usft (Original Well Elev)
Reference Site:	Thistle Unit	MD Reference:	3727.4' GL + 23.5' RKB @ 3750.90usft (Original Well Elev)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	77H	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 Thistle Unit - 60H - OH - OH														Offset Site Error:	0.00 usft
Survey Program: 154- VES GyroFlex V2, 1527-LEAM MWD+HDGM, 16045-Project														Offset Well Error:	0.00 usft
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning			
9,400.00	9,391.54	16,045.00	11,082.91	21.02	80.87	99.28	-61.62	1,619.65	2,375.46	2,273.95	101.51	23.401			
9,500.00	9,491.54	16,045.00	11,082.91	21.24	80.87	99.28	-61.62	1,619.65	2,304.27	2,202.53	101.73	22.650			
9,600.00	9,591.54	16,045.00	11,082.91	21.46	80.87	99.28	-61.62	1,619.65	2,235.27	2,133.32	101.96	21.924			
9,700.00	9,691.54	16,045.00	11,082.91	21.68	80.87	99.28	-61.62	1,619.65	2,168.70	2,066.52	102.18	21.225			
9,800.00	9,791.54	16,045.00	11,082.91	21.90	80.87	99.28	-61.62	1,619.65	2,104.77	2,002.37	102.40	20.555			
9,900.00	9,891.54	16,045.00	11,082.91	22.13	80.87	99.28	-61.62	1,619.65	2,043.74	1,941.12	102.62	19.915			
10,000.00	9,991.54	16,045.00	11,082.91	22.35	80.87	99.28	-61.62	1,619.65	1,985.87	1,883.03	102.84	19.310			
10,100.00	10,091.54	16,045.00	11,082.91	22.57	80.87	99.28	-61.62	1,619.65	1,931.45	1,828.38	103.06	18.740			
10,133.99	10,125.53	16,045.00	11,082.91	22.64	80.87	99.28	-61.62	1,619.65	1,913.79	1,810.65	103.14	18.555			
10,150.00	10,141.54	16,045.00	11,082.91	22.68	80.87	-81.43	-61.62	1,619.65	1,905.58	1,802.24	103.34	18.439			
10,175.00	10,166.49	16,045.00	11,082.91	22.71	80.87	-83.19	-61.62	1,619.65	1,892.84	1,789.32	103.51	18.286			
10,200.00	10,191.33	16,045.00	11,082.91	22.75	80.87	-84.94	-61.62	1,619.65	1,880.21	1,776.60	103.61	18.147			
10,225.00	10,215.99	16,045.00	11,082.91	22.78	80.87	-86.66	-61.62	1,619.65	1,867.72	1,764.09	103.63	18.022			
10,250.00	10,240.41	16,045.00	11,082.91	22.81	80.87	-88.35	-61.62	1,619.65	1,855.42	1,751.83	103.59	17.911			
10,275.00	10,264.50	16,045.00	11,082.91	22.83	80.87	-90.01	-61.62	1,619.65	1,843.35	1,739.87	103.48	17.813			
10,300.00	10,288.22	16,045.00	11,082.91	22.85	80.87	-91.62	-61.62	1,619.65	1,831.54	1,728.22	103.32	17.728			
10,325.00	10,311.49	16,045.00	11,082.91	22.87	80.87	-93.17	-61.62	1,619.65	1,820.03	1,716.93	103.10	17.653			
10,350.00	10,334.25	16,045.00	11,082.91	22.89	80.87	-94.67	-61.62	1,619.65	1,808.85	1,706.01	102.84	17.589			
10,375.00	10,356.44	16,045.00	11,082.91	22.90	80.87	-96.10	-61.62	1,619.65	1,798.05	1,695.50	102.55	17.534			
10,400.00	10,377.99	16,045.00	11,082.91	22.92	80.87	-97.46	-61.62	1,619.65	1,787.66	1,685.43	102.23	17.487			
10,425.00	10,398.86	16,045.00	11,082.91	22.93	80.87	-98.75	-61.62	1,619.65	1,777.72	1,675.82	101.90	17.446			
10,450.00	10,418.97	16,045.00	11,082.91	22.95	80.87	-99.96	-61.62	1,619.65	1,768.25	1,666.70	101.55	17.412			
10,475.00	10,438.28	16,045.00	11,082.91	22.98	80.87	-101.09	-61.62	1,619.65	1,759.31	1,658.09	101.22	17.382			
10,500.00	10,456.74	16,045.00	11,082.91	23.01	80.87	-102.14	-61.62	1,619.65	1,750.91	1,650.03	100.89	17.355			
10,525.00	10,474.28	16,045.00	11,082.91	23.03	80.87	-103.10	-61.62	1,619.65	1,743.09	1,642.52	100.57	17.331			
10,550.00	10,490.87	16,045.00	11,082.91	23.05	80.87	-103.98	-61.62	1,619.65	1,735.89	1,635.60	100.29	17.309			
10,575.00	10,506.46	16,045.00	11,082.91	23.08	80.87	-104.77	-61.62	1,619.65	1,729.31	1,629.28	100.03	17.287			
10,600.00	10,521.00	16,026.54	11,083.71	23.10	80.87	-105.17	-80.03	1,618.52	1,723.30	1,623.24	100.06	17.222			
10,625.00	10,534.46	16,004.96	11,084.66	23.12	80.87	-105.49	-101.55	1,617.20	1,717.71	1,617.64	100.07	17.166			
10,650.00	10,546.80	15,982.12	11,085.65	23.14	80.70	-105.78	-124.32	1,615.80	1,712.52	1,612.60	99.92	17.138 SF			
10,675.00	10,557.98	15,957.99	11,086.65	23.18	80.34	-106.03	-148.38	1,614.32	1,707.73	1,608.15	99.57	17.150			
10,700.00	10,567.98	15,933.38	11,087.61	23.23	79.96	-106.27	-172.93	1,612.82	1,703.31	1,604.08	99.23	17.165			
10,725.00	10,576.77	15,909.24	11,088.49	23.28	79.60	-106.51	-197.00	1,611.34	1,699.27	1,600.36	98.91	17.180			
10,750.00	10,584.32	15,886.21	11,089.27	23.34	79.26	-106.75	-219.98	1,609.97	1,695.63	1,597.01	98.62	17.194			
10,775.00	10,590.61	15,862.90	11,090.00	23.41	78.92	-106.97	-243.24	1,608.60	1,692.40	1,594.06	98.34	17.210			
10,800.00	10,595.63	15,839.36	11,090.67	23.49	78.58	-107.18	-266.73	1,607.26	1,689.57	1,591.50	98.07	17.228			
10,825.00	10,599.36	15,823.00	11,091.10	23.57	78.34	-107.40	-283.08	1,606.35	1,687.16	1,589.25	97.91	17.232			
10,850.00	10,601.79	15,795.47	11,091.81	23.66	77.94	-107.57	-310.54	1,604.87	1,685.16	1,587.54	97.62	17.262			
10,875.00	10,602.91	15,774.38	11,092.39	23.75	77.63	-107.75	-331.60	1,603.79	1,683.63	1,586.20	97.43	17.281			
10,883.99	10,603.00	15,766.79	11,092.60	23.79	77.52	-107.81	-339.17	1,603.41	1,683.19	1,585.83	97.36	17.288			
10,900.00	10,603.00	15,753.28	11,092.98	23.86	77.32	-107.83	-352.67	1,602.75	1,682.47	1,585.24	97.23	17.304 CC, 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
Project: Lea County, NM (NAD-83)
Reference Site: Thistle Unit
Site Error: 0.00 usft
Reference Well: 77H
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Plan #1

Local Co-ordinate Reference: Well 77H
TVD Reference: 3727.4' GL + 23.5' RKB @ 3750.90usft (Original Well Elev)
MD Reference: 3727.4' GL + 23.5' RKB @ 3750.90usft (Original Well Elev)
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 Thistle Unit - 82H - OH - Plan #1												Offset Site Error:	0.00 usft
Survey Program: 0-LEAM MWD-ADJ												Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
0.00	0.00	0.00	0.00	0.00	0.00	-175.38	-5,278.27	-426.39	5,295.60				
100.00	100.00	61.80	61.80	0.09	0.05	-175.38	-5,278.27	-426.39	5,295.46	5,295.33	0.14	N/A	
200.00	200.00	161.80	161.80	0.31	0.22	-175.38	-5,278.27	-426.39	5,295.46	5,294.93	0.53	9,917.864	
300.00	300.00	261.80	261.80	0.54	0.45	-175.38	-5,278.27	-426.39	5,295.46	5,294.48	0.98	5,384.503	
400.00	400.00	361.80	361.80	0.76	0.67	-175.38	-5,278.27	-426.39	5,295.46	5,294.03	1.43	3,695.380	
500.00	500.00	461.80	461.80	0.99	0.90	-175.38	-5,278.27	-426.39	5,295.46	5,293.58	1.88	2,812.954	
600.00	600.00	561.80	561.80	1.21	1.12	-175.38	-5,278.27	-426.39	5,295.46	5,293.13	2.33	2,270.724	
700.00	700.00	661.80	661.80	1.43	1.35	-175.38	-5,278.27	-426.39	5,295.46	5,292.68	2.78	1,903.753	
800.00	800.00	761.80	761.80	1.66	1.57	-175.38	-5,278.27	-426.39	5,295.46	5,292.23	3.23	1,638.892	
900.00	900.00	861.80	861.80	1.88	1.80	-175.38	-5,278.27	-426.39	5,295.46	5,291.78	3.68	1,438.728	
1,000.00	1,000.00	961.80	961.80	2.11	2.02	-175.38	-5,278.27	-426.39	5,295.46	5,291.33	4.13	1,282.136	
1,100.00	1,100.00	1,061.80	1,061.80	2.33	2.25	-175.38	-5,278.27	-426.39	5,295.46	5,290.88	4.58	1,156.285	
1,200.00	1,200.00	1,161.80	1,161.80	2.56	2.47	-175.38	-5,278.27	-426.39	5,295.46	5,290.44	5.03	1,052.933	
1,300.00	1,300.00	1,261.80	1,261.80	2.78	2.70	-175.38	-5,278.27	-426.39	5,295.46	5,289.99	5.48	966.540	
1,400.00	1,400.00	1,361.80	1,361.80	3.01	2.92	-175.38	-5,278.27	-426.39	5,295.46	5,289.54	5.93	893.249	
1,500.00	1,500.00	1,461.80	1,461.80	3.23	3.15	-175.38	-5,278.27	-426.39	5,295.46	5,289.09	6.38	830.290	
1,600.00	1,600.00	1,561.80	1,561.80	3.46	3.37	-175.38	-5,278.27	-426.39	5,295.46	5,288.64	6.83	775.622	
1,700.00	1,700.00	1,661.80	1,661.80	3.68	3.59	-175.38	-5,278.27	-426.39	5,295.46	5,288.19	7.28	727.708	
1,800.00	1,800.00	1,761.80	1,761.80	3.91	3.82	-175.38	-5,278.27	-426.39	5,295.46	5,287.74	7.73	685.369	
1,900.00	1,900.00	1,861.80	1,861.80	4.13	4.04	-175.38	-5,278.27	-426.39	5,295.46	5,287.29	8.18	647.686	
2,000.00	2,000.00	1,961.80	1,961.80	4.36	4.27	-175.38	-5,278.27	-426.39	5,295.46	5,286.84	8.63	613.931	
2,100.00	2,100.00	2,061.80	2,061.80	4.58	4.49	-175.38	-5,278.27	-426.39	5,295.46	5,286.39	9.08	583.520	
2,200.00	2,200.00	2,161.80	2,161.80	4.81	4.72	-175.38	-5,278.27	-426.39	5,295.46	5,285.94	9.52	555.979	
2,300.00	2,300.00	2,261.80	2,261.80	5.03	4.94	-175.38	-5,278.27	-426.39	5,295.46	5,285.49	9.97	530.921	
2,400.00	2,400.00	2,361.80	2,361.80	5.26	5.17	-175.38	-5,278.27	-426.39	5,295.46	5,285.04	10.42	508.025	
2,500.00	2,500.00	2,461.80	2,461.80	5.48	5.39	-175.38	-5,278.27	-426.39	5,295.46	5,284.59	10.87	487.021	
2,600.00	2,600.00	2,561.80	2,561.80	5.71	5.62	-175.38	-5,278.27	-426.39	5,295.46	5,284.14	11.32	467.686	
2,700.00	2,700.00	2,661.80	2,661.80	5.93	5.84	-175.38	-5,278.27	-426.39	5,295.46	5,283.69	11.77	449.827	
2,800.00	2,800.00	2,761.80	2,761.80	6.15	6.07	-175.38	-5,278.27	-426.39	5,295.46	5,283.24	12.22	433.261	
2,900.00	2,900.00	2,861.80	2,861.80	6.38	6.29	-175.38	-5,278.27	-426.39	5,295.46	5,282.79	12.67	417.910	
3,000.00	3,000.00	2,961.80	2,961.80	6.60	6.52	-175.38	-5,278.27	-426.39	5,295.46	5,282.34	13.12	403.592	
3,100.00	3,100.00	3,061.80	3,061.80	6.83	6.74	-175.38	-5,278.27	-426.39	5,295.46	5,281.89	13.57	390.223	
3,200.00	3,200.00	3,161.80	3,161.80	7.05	6.97	-175.38	-5,278.27	-426.39	5,295.46	5,281.44	14.02	377.711	
3,300.00	3,300.00	3,261.80	3,261.80	7.28	7.19	-175.38	-5,278.27	-426.39	5,295.46	5,281.00	14.47	365.976	
3,400.00	3,400.00	3,361.80	3,361.80	7.50	7.42	-175.38	-5,278.27	-426.39	5,295.46	5,280.55	14.92	354.949	
3,500.00	3,500.00	3,461.80	3,461.80	7.73	7.64	-175.38	-5,278.27	-426.39	5,295.46	5,280.10	15.37	344.566	
3,600.00	3,600.00	3,561.80	3,561.80	7.95	7.87	-175.38	-5,278.27	-426.39	5,295.46	5,279.65	15.82	334.774	
3,700.00	3,700.00	3,661.80	3,661.80	8.18	8.09	-175.38	-5,278.27	-426.39	5,295.46	5,279.20	16.27	325.523	
3,800.00	3,800.00	3,761.80	3,761.80	8.40	8.31	-175.38	-5,278.27	-426.39	5,295.46	5,278.75	16.72	316.770	
3,900.00	3,900.00	3,861.80	3,861.80	8.63	8.54	-175.38	-5,278.27	-426.39	5,295.46	5,278.30	17.17	308.475	
4,000.00	4,000.00	3,961.80	3,961.80	8.85	8.76	-175.38	-5,278.27	-426.39	5,295.46	5,277.85	17.62	300.803	
4,100.00	4,100.00	4,061.80	4,061.80	9.08	8.99	-175.38	-5,278.27	-426.39	5,295.46	5,277.40	18.07	293.123	
4,200.00	4,200.00	4,161.80	4,161.80	9.30	9.21	-175.38	-5,278.27	-426.39	5,295.46	5,276.95	18.52	286.006	
4,300.00	4,300.00	4,261.80	4,261.80	9.53	9.44	-175.38	-5,278.27	-426.39	5,295.46	5,276.50	18.96	279.227	
4,400.00	4,400.00	4,361.80	4,361.80	9.75	9.66	-175.38	-5,278.27	-426.39	5,295.46	5,276.05	19.41	272.761	
4,500.00	4,500.00	4,461.80	4,461.80	9.98	9.89	-175.38	-5,278.27	-426.39	5,295.46	5,275.60	19.86	266.569	
4,600.00	4,600.00	4,561.80	4,561.80	10.20	10.11	-175.38	-5,278.27	-426.39	5,295.46	5,275.15	20.31	260.889	
4,700.00	4,700.00	4,661.80	4,661.80	10.43	10.34	-175.38	-5,278.27	-426.39	5,295.46	5,274.70	20.76	255.045	
4,800.00	4,800.00	4,761.80	4,761.80	10.65	10.56	-175.38	-5,278.27	-426.39	5,295.46	5,274.25	21.21	249.840	
4,900.00	4,900.00	4,861.80	4,861.80	10.87	10.79	-175.38	-5,278.27	-426.39	5,295.46	5,273.80	21.66	244.459	
5,000.00	5,000.00	4,961.80	4,961.80	11.10	11.01	-175.38	-5,278.27	-426.39	5,295.46	5,273.35	22.11	239.489	

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)

Local Co-ordinate Reference: Well 77H
TVD Reference: 3727.4' GL + 23.5' RKB @ 3750.90usft
(Original Well Elev)

Reference Site: Thistle Unit

MD Reference: 3727.4' GL + 23.5' RKB @ 3750.90usft
(Original Well Elev)

Site Error: 0.00 usft

North Reference:

Reference Well: 77H

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 Thistle Unit - 82H - OH - Plan #1												Offset Site Error:	0.00 usft
Survey Program: 0-LEAM MWD-ADJ												Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Distance		Minimum Separation (usft)	Separation Factor	Warning		
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)					
5,100.00	5,100.00	5,061.80	5,061.80	11.32	11.24	-175.38	-5,278.27	-426.39	5,295.46	5,272.90	22.56	234.718	
5,200.00	5,199.99	5,161.79	5,161.79	11.55	11.46	-174.96	-5,278.27	-426.39	5,296.77	5,273.77	23.00	230.263	
5,300.00	5,299.91	5,261.71	5,261.71	11.77	11.69	-174.96	-5,278.27	-426.39	5,300.88	5,277.25	23.43	226.235	
5,400.00	5,399.89	5,361.49	5,361.49	12.00	11.91	-174.96	-5,278.27	-426.39	5,307.19	5,283.35	23.84	222.609	
5,433.33	5,432.91	5,394.71	5,394.71	12.07	11.98	-174.96	-5,278.27	-426.39	5,309.94	5,285.97	23.97	221.486	
5,500.00	5,499.32	5,461.12	5,461.12	12.22	12.13	-174.96	-5,278.27	-426.39	5,315.73	5,291.46	24.27	219.000	
5,600.00	5,599.94	5,560.74	5,560.74	12.45	12.36	-174.97	-5,278.27	-426.39	5,324.41	5,299.69	24.72	215.381	
5,700.00	5,699.56	5,660.36	5,660.36	12.67	12.58	-174.98	-5,278.27	-426.39	5,333.10	5,307.93	25.17	211.889	
5,800.00	5,799.18	5,759.98	5,759.98	12.90	12.81	-174.99	-5,278.27	-426.39	5,341.78	5,316.16	25.62	208.516	
5,900.00	5,897.80	5,859.60	5,859.60	13.13	13.03	-174.99	-5,278.27	-426.39	5,350.46	5,324.39	26.07	205.257	
6,000.00	5,997.42	5,959.22	5,959.22	13.36	13.25	-175.00	-5,278.27	-426.39	5,359.14	5,332.63	26.52	202.106	
6,100.00	6,097.04	6,058.84	6,058.84	13.59	13.48	-175.01	-5,278.27	-426.39	5,367.83	5,340.86	26.97	199.059	
6,200.00	6,196.66	6,158.46	6,158.46	13.83	13.70	-175.02	-5,278.27	-426.39	5,376.51	5,349.09	27.42	196.109	
6,300.00	6,296.28	6,258.08	6,258.08	14.06	13.93	-175.03	-5,278.27	-426.39	5,385.19	5,357.33	27.87	193.253	
6,400.00	6,395.90	6,357.70	6,357.70	14.30	14.15	-175.03	-5,278.27	-426.39	5,393.88	5,365.56	28.32	190.487	
6,500.00	6,495.52	6,457.32	6,457.32	14.54	14.37	-175.04	-5,278.27	-426.39	5,402.56	5,373.79	28.77	187.805	
6,600.00	6,595.14	6,556.94	6,556.94	14.78	14.60	-175.05	-5,278.27	-426.39	5,411.24	5,382.02	29.22	185.205	
6,700.00	6,694.76	6,656.56	6,656.56	15.02	14.82	-175.06	-5,278.27	-426.39	5,419.93	5,390.26	29.67	182.683	
6,800.00	6,794.38	6,756.18	6,756.18	15.26	15.05	-175.07	-5,278.27	-426.39	5,428.61	5,398.49	30.12	180.235	
6,900.00	6,894.00	6,855.80	6,855.80	15.50	15.27	-175.07	-5,278.27	-426.39	5,437.29	5,406.72	30.57	177.858	
7,000.00	6,993.62	6,955.42	6,955.42	15.74	15.49	-175.08	-5,278.27	-426.39	5,445.98	5,414.95	31.02	175.549	
7,100.00	7,093.24	7,055.04	7,055.04	15.99	15.72	-175.09	-5,278.27	-426.39	5,454.66	5,423.19	31.47	173.306	
7,200.00	7,192.85	7,154.65	7,154.65	16.23	15.94	-175.10	-5,278.27	-426.39	5,463.34	5,431.42	31.93	171.125	
7,300.00	7,292.47	7,254.27	7,254.27	16.48	16.16	-175.11	-5,278.27	-426.39	5,472.03	5,439.65	32.38	169.004	
7,400.00	7,392.09	7,353.89	7,353.89	16.72	16.39	-175.11	-5,278.27	-426.39	5,480.71	5,447.88	32.83	166.941	
7,433.33	7,425.30	7,387.10	7,387.10	16.81	16.46	-175.12	-5,278.27	-426.39	5,483.81	5,450.63	32.98	166.266	
7,500.00	7,491.76	7,453.56	7,453.56	16.95	16.61	-175.13	-5,278.27	-426.39	5,488.82	5,455.52	33.30	164.848	
7,600.00	7,591.80	7,553.40	7,553.40	17.14	16.84	-175.14	-5,278.27	-426.39	5,494.47	5,460.74	33.72	162.924	
7,700.00	7,691.55	7,653.35	7,653.35	17.31	17.06	-175.15	-5,278.27	-426.39	5,497.51	5,463.38	34.13	161.062	
7,766.67	7,758.21	7,720.01	7,720.01	17.43	17.21	-175.15	-5,278.27	-426.39	5,498.09	5,463.69	34.39	159.854	
7,800.00	7,791.54	7,753.34	7,753.34	17.49	17.29	-175.15	-5,278.27	-426.39	5,498.09	5,463.55	34.53	159.204	
7,900.00	7,891.54	7,853.34	7,853.34	17.71	17.51	-175.15	-5,278.27	-426.39	5,498.09	5,463.11	34.98	157.163	
8,000.00	7,991.54	7,953.34	7,953.34	17.93	17.74	-175.15	-5,278.27	-426.39	5,498.09	5,462.66	35.43	155.173	
8,100.00	8,091.54	8,053.34	8,053.34	18.15	17.96	-175.15	-5,278.27	-426.39	5,498.09	5,462.21	35.88	153.234	
8,200.00	8,191.54	8,153.34	8,153.34	18.37	18.19	-175.15	-5,278.27	-426.39	5,498.09	5,461.76	36.33	151.341	
8,300.00	8,291.54	8,253.34	8,253.34	18.59	18.41	-175.15	-5,278.27	-426.39	5,498.09	5,461.31	36.78	149.495	
8,400.00	8,391.54	8,353.34	8,353.34	18.81	18.63	-175.15	-5,278.27	-426.39	5,498.09	5,460.86	37.23	147.694	
8,500.00	8,491.54	8,453.34	8,453.34	19.03	18.86	-175.15	-5,278.27	-426.39	5,498.09	5,460.41	37.67	145.935	
8,600.00	8,591.54	8,553.34	8,553.34	19.25	19.08	-175.15	-5,278.27	-426.39	5,498.09	5,459.97	38.12	144.218	
8,700.00	8,691.54	8,653.34	8,653.34	19.47	19.31	-175.15	-5,278.27	-426.39	5,498.09	5,459.52	38.57	142.540	
8,800.00	8,791.54	8,753.34	8,753.34	19.69	19.53	-175.15	-5,278.27	-426.39	5,498.09	5,459.07	39.02	140.901	
8,900.00	8,891.54	8,853.34	8,853.34	19.91	19.76	-175.15	-5,278.27	-426.39	5,498.09	5,458.62	39.47	139.299	
9,000.00	8,991.54	8,953.34	8,953.34	20.13	19.98	-175.15	-5,278.27	-426.39	5,498.09	5,458.17	39.92	137.733	
9,100.00	9,091.54	9,053.34	9,053.34	20.36	20.21	-175.15	-5,278.27	-426.39	5,498.09	5,457.72	40.37	136.202	
9,200.00	9,191.54	9,153.34	9,153.34	20.58	20.43	-175.15	-5,278.27	-426.39	5,498.09	5,457.27	40.82	134.704	
9,300.00	9,291.54	9,253.34	9,253.34	20.80	20.66	-175.15	-5,278.27	-426.39	5,498.09	5,456.82	41.26	133.239	
9,400.00	9,391.54	9,353.34	9,353.34	21.02	20.88	-175.15	-5,278.27	-426.39	5,498.09	5,456.38	41.71	131.806	
9,500.00	9,491.54	9,453.34	9,453.34	21.24	21.11	-175.15	-5,278.27	-426.39	5,498.09	5,455.93	42.16	130.403	
9,600.00	9,591.54	9,553.34	9,553.34	21.46	21.33	-175.15	-5,278.27	-426.39	5,498.09	5,455.48	42.61	129.029	
9,700.00	9,691.54	9,653.34	9,653.34	21.68	21.56	-175.15	-5,278.27	-426.39	5,498.09	5,455.03	43.06	127.684	

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: Thistle Unit

Site Error: 0.00 usft
Reference Well: 77H
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Plan #1

Local Co-ordinate Reference: Well 77H
TVD Reference: 3727.4' GL + 23.5' RKB @ 3750.90usft (Original Well Elev)
MD Reference: 3727.4' GL + 23.5' RKB @ 3750.90usft (Original Well Elev)
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 Thistle Unit - 82H - OH - Plan #1												Offset Site Error:	0.00 usft
Survey Program: 0-LEAM MWD-ADJ												Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Distance		Minimum Separation (usft)	Separation Factor	Warning		
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)					
9,800.00	9,791.54	9,753.34	9,753.34	21.90	21.78	-175.57	-5,278.27	-426.39	5,498.09	5,454.58	43.51	126.367	
9,900.00	9,891.54	9,853.34	9,853.34	22.13	22.01	-175.57	-5,278.27	-426.39	5,498.09	5,454.13	43.96	125.077	
10,000.00	9,991.54	9,953.34	9,953.34	22.35	22.23	-175.57	-5,278.27	-426.39	5,498.09	5,453.68	44.41	123.812	
10,100.00	10,091.54	10,053.34	10,053.34	22.57	22.46	-175.57	-5,278.27	-426.39	5,498.09	5,453.23	44.86	122.573	
10,133.99	10,125.53	10,087.33	10,087.33	22.64	22.53	-175.57	-5,278.27	-426.39	5,498.09	5,453.08	45.01	122.158	
10,150.00	10,141.54	10,103.34	10,103.34	22.68	22.57	4.86	-5,278.27	-426.39	5,497.82	5,452.77	45.05	122.041	
10,175.00	10,166.49	10,128.29	10,128.29	22.71	22.62	4.87	-5,278.27	-426.39	5,496.34	5,451.30	45.03	122.047	
10,200.00	10,191.33	10,153.13	10,153.13	22.75	22.68	4.90	-5,278.27	-426.39	5,493.55	5,448.62	44.93	122.257	
10,225.00	10,215.99	10,177.79	10,177.79	22.78	22.74	4.95	-5,278.27	-426.39	5,489.47	5,444.72	44.75	122.674	
10,250.00	10,240.41	10,202.21	10,202.21	22.81	22.79	5.01	-5,278.27	-426.39	5,484.11	5,439.64	44.48	123.298	
10,275.00	10,264.50	10,226.30	10,226.30	22.83	22.84	5.09	-5,278.27	-426.39	5,477.49	5,433.36	44.13	124.130	
10,300.00	10,288.22	10,250.02	10,250.02	22.85	22.90	5.19	-5,278.27	-426.39	5,469.82	5,425.92	43.70	125.174	
10,325.00	10,311.49	10,273.29	10,273.29	22.87	22.95	5.30	-5,278.27	-426.39	5,460.52	5,417.33	43.19	126.432	
10,350.00	10,334.25	10,296.05	10,296.05	22.89	23.00	5.44	-5,278.27	-426.39	5,450.23	5,407.62	42.61	127.909	
10,375.00	10,356.44	10,318.24	10,318.24	22.90	23.05	5.60	-5,278.27	-426.39	5,438.76	5,396.79	41.96	129.607	
10,400.00	10,377.99	10,339.79	10,339.79	22.92	23.10	5.79	-5,278.27	-426.39	5,426.15	5,384.89	41.25	131.529	
10,425.00	10,398.88	10,360.66	10,360.66	22.93	23.15	6.00	-5,278.27	-426.39	5,412.43	5,371.94	40.49	133.878	
10,450.00	10,418.97	10,380.77	10,380.77	22.95	23.19	6.26	-5,278.27	-426.39	5,397.64	5,357.97	39.67	136.052	
10,475.00	10,438.28	10,400.08	10,400.08	22.98	23.24	6.55	-5,278.27	-426.39	5,381.83	5,343.01	38.82	138.647	
10,500.00	10,456.74	10,418.54	10,418.54	23.01	23.28	6.89	-5,278.27	-426.39	5,365.03	5,327.10	37.93	141.454	
10,525.00	10,474.28	10,436.08	10,436.08	23.03	23.32	7.28	-5,278.27	-426.39	5,347.29	5,310.27	37.02	144.455	
10,550.00	10,490.87	10,452.67	10,452.67	23.05	23.35	7.75	-5,278.27	-426.39	5,328.66	5,292.57	36.10	147.624	
10,575.00	10,506.46	10,468.26	10,468.26	23.08	23.39	8.30	-5,278.27	-426.39	5,309.20	5,274.02	35.18	150.917	
10,600.00	10,521.00	10,482.80	10,482.80	23.10	23.42	8.95	-5,278.27	-426.39	5,288.94	5,254.66	34.28	154.267	
10,625.00	10,534.46	10,496.26	10,496.26	23.12	23.45	9.74	-5,278.27	-426.39	5,267.96	5,234.53	33.43	157.581	
10,650.00	10,546.80	10,508.60	10,508.60	23.14	23.48	10.71	-5,278.27	-426.39	5,246.31	5,213.66	32.64	160.717	
10,675.00	10,557.98	10,519.78	10,519.78	23.18	23.50	11.91	-5,278.27	-426.39	5,224.04	5,192.08	31.96	163.478	
10,700.00	10,567.98	10,526.00	10,526.00	23.23	23.52	13.41	-5,278.27	-426.39	5,201.22	5,169.82	31.40	165.643	
10,725.00	10,576.77	10,526.00	10,526.00	23.28	23.52	15.32	-5,278.27	-426.39	5,177.93	5,146.90	31.03	166.858	
10,750.00	10,584.32	10,526.00	10,526.00	23.34	23.52	17.89	-5,278.27	-426.39	5,154.22	5,123.25	30.97	166.422	
10,775.00	10,590.61	10,526.00	10,526.00	23.41	23.52	21.48	-5,278.27	-426.39	5,130.15	5,098.77	31.39	163.439	
10,800.00	10,595.63	10,526.00	10,526.00	23.49	23.52	26.80	-5,278.27	-426.39	5,105.80	5,073.19	32.60	156.601	
10,825.00	10,599.36	10,526.00	10,526.00	23.57	23.52	35.24	-5,278.27	-426.39	5,081.21	5,046.00	35.21	144.319	
10,850.00	10,601.79	10,526.00	10,526.00	23.66	23.52	49.62	-5,278.27	-426.39	5,056.45	5,016.42	40.03	126.318	
10,875.00	10,602.91	10,526.00	10,526.00	23.75	23.52	74.04	-5,278.27	-426.39	5,031.59	4,985.54	46.06	109.243	
10,883.99	10,603.00	10,526.00	10,526.00	23.79	23.52	85.23	-5,278.27	-426.39	5,022.85	4,975.45	47.20	106.418	
10,900.00	10,603.00	10,526.00	10,526.00	23.86	23.52	85.23	-5,278.27	-426.39	5,006.70	4,959.44	47.26	105.932 CC, ES, SF	

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

LEAM Drilling Systems LLC

Anticollision Report

Company: DEVON ENERGY
Project: Lea County, NM (NAD-83)
Reference Site: Thistle Unit
Site Error: 0.00 usft
Reference Well: 77H
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Plan #1

Local Co-ordinate Reference: Well 77H
TVD Reference: 3727.4' GL + 23.5' RKB @ 3750.90usft
(Original Well Elev)
MD Reference: 3727.4' GL + 23.5' RKB @ 3750.90usft
(Original Well Elev)
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 Thistle Unit (Offsets) - 18H - OH - OH												Offset Site Error:	0.00 usft
Survey Program: 100-ISCWSA-GYRO-3, 8360-MWD-ISCWSA												Offset Well Error:	0.00 usft
Reference	Offset		Semi Major Axis		Distance		Minimum		Separation		Warning		
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	
0.00	0.00	0.00	0.00	0.00	0.00	-163.98	-5,183.81	-1,488.02	5,393.33				
100.00	100.00	65.39	65.39	0.09	0.05	-163.98	-5,183.74	-1,488.05	5,393.11	5,392.98	0.13	N/A	
174.87	174.87	129.64	129.64	0.25	0.12	-163.98	-5,183.60	-1,488.16	5,392.99	5,392.61	0.37	N/A	
200.00	200.00	150.00	150.00	0.31	0.16	-163.98	-5,183.61	-1,488.20	5,393.02	5,392.55	0.46	N/A	
300.00	300.00	259.33	259.33	0.54	0.35	-163.98	-5,183.44	-1,488.47	5,392.92	5,392.04	0.88	6,129.833	
311.28	311.28	267.38	267.38	0.56	0.36	-163.98	-5,183.43	-1,488.49	5,392.92	5,392.00	0.92	5,867.310	
400.00	400.00	350.45	350.45	0.76	0.50	-163.97	-5,183.46	-1,488.84	5,393.05	5,391.79	1.26	4,268.859	
500.00	500.00	435.04	435.04	0.99	0.85	-163.97	-5,183.39	-1,489.25	5,393.13	5,391.50	1.64	3,297.179	
600.00	600.00	530.64	530.63	1.21	0.82	-163.97	-5,183.70	-1,489.76	5,393.59	5,391.56	2.03	2,660.412	
700.00	700.00	631.26	631.25	1.43	1.00	-163.96	-5,184.01	-1,490.25	5,394.02	5,391.59	2.43	2,221.699	
800.00	800.00	737.27	737.26	1.66	1.18	-163.96	-5,184.33	-1,490.75	5,394.44	5,391.61	2.84	1,900.844	
900.00	900.00	852.91	852.90	1.88	1.38	-163.95	-5,184.38	-1,491.29	5,394.60	5,391.34	3.26	1,652.459	
1,000.00	1,000.00	965.43	965.42	2.11	1.58	-163.95	-5,184.14	-1,491.78	5,394.52	5,390.83	3.69	1,463.688	
1,059.55	1,059.55	1,015.67	1,015.65	2.24	1.67	-163.94	-5,183.99	-1,492.10	5,394.45	5,390.55	3.91	1,380.695	
1,100.00	1,100.00	1,049.40	1,049.39	2.33	1.73	-163.94	-5,183.95	-1,492.37	5,394.49	5,390.44	4.06	1,329.729	
1,200.00	1,200.00	1,136.01	1,135.99	2.56	1.88	-163.93	-5,184.02	-1,493.28	5,394.85	5,390.42	4.43	1,217.004	
1,300.00	1,300.00	1,225.94	1,225.92	2.78	2.04	-163.92	-5,184.18	-1,494.27	5,395.32	5,390.51	4.81	1,120.577	
1,400.00	1,400.00	1,320.86	1,320.83	3.01	2.20	-163.91	-5,184.49	-1,495.34	5,395.95	5,390.74	5.21	1,036.599	
1,500.00	1,500.00	1,435.64	1,435.60	3.23	2.41	-163.90	-5,184.66	-1,496.84	5,396.44	5,390.81	5.63	958.391	
1,600.00	1,600.00	1,538.19	1,538.13	3.46	2.59	-163.88	-5,184.56	-1,498.48	5,396.80	5,390.76	6.03	894.310	
1,700.00	1,700.00	1,643.35	1,643.28	3.68	2.77	-163.86	-5,184.47	-1,500.22	5,397.19	5,390.74	6.44	837.676	
1,800.00	1,800.00	1,740.99	1,740.91	3.91	2.94	-163.84	-5,184.19	-1,501.84	5,397.37	5,390.53	6.84	789.284	
1,900.00	1,900.00	1,843.52	1,843.42	4.13	3.12	-163.83	-5,183.91	-1,503.47	5,397.55	5,390.31	7.24	745.300	
2,000.00	2,000.00	1,954.43	1,954.32	4.36	3.32	-163.81	-5,183.55	-1,505.19	5,397.87	5,390.01	7.66	704.606	
2,100.00	2,100.00	2,070.37	2,070.25	4.58	3.52	-163.79	-5,182.93	-1,506.60	5,397.48	5,389.40	8.09	667.373	
2,200.00	2,200.00	2,178.06	2,177.93	4.81	3.71	-163.78	-5,182.18	-1,507.64	5,397.08	5,388.58	8.50	634.925	
2,300.00	2,300.00	2,277.50	2,277.36	5.03	3.88	-163.77	-5,181.47	-1,508.55	5,396.65	5,387.75	8.90	606.458	
2,400.00	2,400.00	2,378.60	2,378.46	5.26	4.06	-163.75	-5,180.71	-1,509.57	5,396.21	5,386.91	9.30	580.243	
2,500.00	2,500.00	2,474.07	2,473.92	5.48	4.23	-163.74	-5,180.06	-1,510.68	5,395.88	5,386.18	9.69	556.769	
2,600.00	2,600.00	2,576.94	2,576.78	5.71	4.41	-163.73	-5,179.31	-1,511.81	5,395.49	5,385.39	10.10	534.425	
2,700.00	2,700.00	2,682.22	2,682.05	5.93	4.59	-163.71	-5,178.46	-1,513.02	5,395.03	5,384.52	10.50	513.588	
2,800.00	2,800.00	2,792.18	2,792.00	6.15	4.78	-163.70	-5,177.46	-1,514.25	5,394.47	5,383.55	10.92	493.930	
2,900.00	2,900.00	2,893.70	2,893.51	6.38	4.96	-163.68	-5,176.44	-1,515.23	5,393.78	5,382.46	11.32	476.324	
3,000.00	3,000.00	3,006.07	3,005.87	6.60	5.16	-163.67	-5,175.13	-1,516.25	5,392.91	5,381.17	11.74	459.167	
3,100.00	3,100.00	3,130.85	3,130.63	6.83	5.38	-163.65	-5,173.38	-1,517.25	5,391.80	5,379.61	12.19	442.384	
3,200.00	3,200.00	3,265.40	3,265.15	7.05	5.61	-163.64	-5,170.84	-1,518.03	5,390.16	5,377.51	12.65	426.156	
3,300.00	3,300.00	3,406.33	3,406.04	7.28	5.86	-163.63	-5,167.31	-1,518.28	5,387.84	5,374.72	13.12	410.667	
3,400.00	3,400.00	3,600.78	3,600.33	7.50	6.20	-163.62	-5,160.37	-1,518.39	5,384.10	5,370.41	13.68	393.457	
3,500.00	3,500.00	3,712.21	3,711.66	7.73	6.40	-163.63	-5,155.55	-1,514.40	5,379.44	5,365.34	14.10	381.436	
3,600.00	3,600.00	3,785.46	3,784.83	7.95	6.53	-163.64	-5,152.41	-1,513.01	5,374.84	5,360.38	14.46	371.821	
3,700.00	3,700.00	3,849.30	3,848.62	8.18	6.64	-163.64	-5,150.15	-1,511.90	5,370.93	5,356.14	14.79	363.113	
3,800.00	3,800.00	3,939.71	3,938.97	8.40	6.80	-163.64	-5,147.26	-1,510.60	5,367.46	5,352.29	15.17	353.731	
3,900.00	3,900.00	4,031.12	4,030.33	8.63	6.97	-163.65	-5,144.37	-1,509.39	5,364.06	5,348.50	15.56	344.773	
4,000.00	4,000.00	4,121.59	4,120.75	8.85	7.13	-163.65	-5,141.76	-1,508.18	5,360.91	5,344.97	15.94	336.297	
4,100.00	4,100.00	4,219.84	4,218.95	9.08	7.30	-163.66	-5,139.10	-1,506.69	5,357.89	5,341.55	16.34	327.953	
4,200.00	4,200.00	4,314.32	4,313.38	9.30	7.47	-163.66	-5,136.90	-1,504.08	5,354.88	5,338.15	16.73	320.137	
4,300.00	4,300.00	4,390.53	4,389.50	9.53	7.60	-163.71	-5,135.78	-1,500.58	5,352.18	5,335.09	17.08	313.281	
4,400.00	4,400.00	4,472.85	4,471.66	9.75	7.74	-163.76	-5,135.20	-1,495.68	5,349.83	5,332.38	17.45	306.541	
4,500.00	4,500.00	4,549.80	4,548.46	9.98	7.87	-163.81	-5,135.06	-1,490.86	5,347.90	5,330.09	17.81	300.259	
4,600.00	4,600.00	4,632.65	4,631.14	10.20	8.02	-163.87	-5,135.15	-1,485.50	5,346.22	5,328.04	18.18	294.071	
4,700.00	4,700.00	4,711.38	4,709.67	10.43	8.15	-163.92	-5,135.81	-1,479.95	5,345.06	5,326.52	18.54	288.267	

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: Thistle Unit

Site Error: 0.00 usft

Reference Well: 77H

Well Error: 0.00 usft

Reference Wellbore: OH

Reference Design: Plan #1

Local Co-ordinate Reference: Well 77H
TVD Reference: 3727.4' GL + 23.5' RKB @ 3750.90usft
(Original Well Elev)

MD Reference: 3727.4' GL + 23.5' RKB @ 3750.90usft
(Original Well Elev)

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 Thistle Unit (Offsets) - 18H - OH - OH													Offset Site Error: 0.00 usft
Survey Program: 100-ISCWSA-GYRO-3, 8360-MWD-ISCWSA													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	
4,800.00	4,800.00	4,799.47	4,797.48	10.85	8.30	-164.00	-5,137.01	-1,473.05	5,344.20	5,325.28	18.92	282.456	
4,900.00	4,900.00	4,887.96	4,885.85	10.87	8.45	-164.08	-5,138.47	-1,465.85	5,343.49	5,324.19	19.30	276.869	
5,000.00	5,000.00	4,983.42	4,980.86	11.10	8.58	-164.15	-5,139.97	-1,459.83	5,343.21	5,323.55	19.66	271.830	
5,074.91	5,074.91	5,032.96	5,030.21	11.27	8.70	-164.20	-5,141.26	-1,454.79	5,343.12	5,323.18	19.95	267.873	CC
5,100.00	5,100.00	5,053.17	5,050.38	11.32	8.74	-164.21	-5,141.84	-1,453.51	5,343.14	5,323.10	20.04	266.647	ES
5,200.00	5,199.99	5,142.01	5,139.04	11.55	8.89	-163.85	-5,143.33	-1,448.03	5,344.56	5,324.15	20.41	261.806	
5,300.00	5,299.91	5,238.12	5,235.02	11.77	9.06	-163.90	-5,145.00	-1,443.43	5,348.72	5,327.93	20.79	257.254	
5,400.00	5,399.69	5,327.03	5,323.82	12.00	9.22	-163.94	-5,146.56	-1,439.33	5,355.45	5,334.30	21.14	253.273	
5,433.33	5,432.91	5,354.70	5,351.46	12.07	9.26	-163.95	-5,147.10	-1,438.08	5,358.32	5,337.07	21.26	252.075	
5,500.00	5,499.32	5,428.66	5,425.33	12.22	9.39	-164.00	-5,148.46	-1,434.84	5,364.30	5,342.77	21.54	249.083	
5,600.00	5,598.94	5,518.53	5,515.11	12.45	9.55	-164.07	-5,150.08	-1,431.10	5,373.32	5,351.40	21.92	245.146	
5,700.00	5,698.56	5,616.40	5,612.89	12.67	9.72	-164.14	-5,151.93	-1,427.35	5,382.50	5,360.19	22.32	241.195	
5,800.00	5,798.18	5,717.64	5,714.04	12.90	9.90	-164.21	-5,153.77	-1,423.49	5,391.63	5,368.91	22.72	237.313	
5,900.00	5,897.80	5,813.47	5,809.79	13.13	10.07	-164.27	-5,155.51	-1,420.00	5,400.81	5,377.70	23.11	233.659	
6,000.00	5,997.42	5,918.15	5,914.40	13.36	10.25	-164.34	-5,157.28	-1,416.45	5,409.94	5,386.42	23.52	229.971	
6,100.00	6,097.04	6,006.93	6,003.13	13.59	10.41	-164.39	-5,158.87	-1,413.86	5,419.10	5,395.19	23.91	226.672	
6,200.00	6,196.66	6,106.93	6,106.08	13.83	10.59	-164.45	-5,160.35	-1,411.19	5,428.39	5,404.07	24.32	223.248	
6,300.00	6,296.28	6,211.38	6,207.48	14.06	10.77	-164.50	-5,161.87	-1,408.76	5,437.61	5,412.89	24.72	219.958	
6,400.00	6,395.90	6,343.40	6,339.46	14.30	11.00	-164.57	-5,163.59	-1,405.73	5,446.72	5,421.54	25.18	216.305	
6,500.00	6,495.52	6,456.50	6,452.53	14.54	11.20	-164.63	-5,164.23	-1,403.17	5,455.07	5,429.46	25.61	213.031	
6,600.00	6,595.14	6,532.20	6,528.21	14.78	11.33	-164.66	-5,164.75	-1,401.51	5,463.60	5,437.83	25.97	210.397	
6,700.00	6,694.76	6,606.19	6,602.18	15.02	11.46	-164.70	-5,165.67	-1,399.98	5,472.68	5,446.35	26.33	207.875	
6,800.00	6,794.38	6,703.92	6,699.87	15.26	11.63	-164.75	-5,167.26	-1,397.85	5,482.10	5,455.37	26.73	205.109	
6,900.00	6,894.00	6,813.23	6,809.15	15.50	11.82	-164.80	-5,168.76	-1,395.55	5,491.30	5,464.15	27.15	202.265	
7,000.00	6,993.62	6,908.29	6,904.19	15.74	11.99	-164.85	-5,169.98	-1,393.80	5,500.48	5,472.93	27.55	199.687	
7,100.00	7,093.24	6,997.94	6,993.82	15.99	12.15	-164.89	-5,171.18	-1,392.43	5,509.80	5,481.87	27.93	197.253	
7,200.00	7,192.85	7,087.17	7,083.03	16.23	12.30	-164.92	-5,172.51	-1,391.23	5,519.32	5,491.00	28.32	194.895	
7,300.00	7,292.47	7,184.21	7,180.05	16.48	12.47	-164.96	-5,174.07	-1,390.02	5,528.98	5,500.26	28.72	192.512	
7,400.00	7,392.09	7,275.06	7,270.89	16.72	12.63	-165.00	-5,175.53	-1,389.02	5,538.67	5,509.56	29.11	190.266	
7,433.33	7,425.30	7,302.92	7,298.74	16.81	12.68	-165.01	-5,176.02	-1,388.71	5,541.96	5,512.72	29.24	189.559	
7,500.00	7,491.76	7,363.56	7,359.36	16.95	12.79	-165.05	-5,177.17	-1,388.06	5,546.04	5,518.55	29.49	188.113	
7,600.00	7,591.60	7,461.83	7,457.60	17.14	12.96	-165.11	-5,179.08	-1,387.07	5,555.15	5,525.30	29.85	186.091	
7,700.00	7,691.55	7,565.24	7,560.99	17.31	13.15	-165.15	-5,181.09	-1,385.85	5,559.89	5,529.48	30.21	184.052	
7,766.67	7,758.21	7,634.23	7,629.96	17.43	13.27	-165.59	-5,182.44	-1,384.85	5,561.28	5,530.84	30.44	182.703	
7,800.00	7,791.54	7,668.81	7,664.53	17.49	13.33	-165.60	-5,183.10	-1,384.35	5,561.78	5,531.21	30.56	181.966	
7,900.00	7,891.54	7,759.81	7,755.50	17.71	13.49	-165.62	-5,184.87	-1,383.07	5,563.32	5,532.37	30.95	179.762	
8,000.00	7,991.54	7,856.37	7,852.03	17.93	13.66	-165.64	-5,186.98	-1,381.83	5,565.05	5,533.71	31.34	177.562	
8,100.00	8,091.54	7,964.70	7,960.33	18.15	13.85	-165.66	-5,189.21	-1,380.08	5,566.70	5,534.95	31.76	175.300	
8,200.00	8,191.54	8,067.51	8,063.10	18.37	14.03	-165.68	-5,191.21	-1,378.60	5,568.23	5,536.07	32.16	173.144	
8,300.00	8,291.54	8,183.73	8,179.30	18.59	14.24	-165.70	-5,193.28	-1,377.09	5,569.83	5,537.04	32.59	170.915	
8,400.00	8,391.54	8,281.57	8,277.12	18.81	14.41	-165.71	-5,194.79	-1,376.08	5,570.88	5,537.89	32.98	168.905	
8,500.00	8,491.54	8,329.70	8,325.24	19.03	14.50	-165.72	-5,195.52	-1,375.74	5,572.40	5,539.11	33.29	167.389	
8,600.00	8,591.54	8,380.00	8,355.52	19.25	14.52	-165.72	-5,196.53	-1,375.43	5,575.26	5,541.56	33.70	165.443	
8,700.00	8,691.54	8,380.00	8,355.52	19.47	14.52	-165.72	-5,196.53	-1,375.43	5,579.60	5,545.68	33.92	164.480	
8,800.00	8,791.54	8,392.00	8,387.44	19.69	14.53	-165.74	-5,198.63	-1,374.54	5,585.40	5,551.25	34.15	163.550	
8,900.00	8,891.54	8,392.00	8,387.44	19.91	14.53	-165.74	-5,198.63	-1,374.54	5,592.74	5,558.36	34.37	162.699	
9,000.00	8,991.54	8,424.00	8,419.24	20.13	14.53	-165.76	-5,201.85	-1,372.96	5,601.49	5,566.88	34.61	161.865	
9,100.00	9,091.54	8,436.50	8,431.61	20.36	14.53	-165.78	-5,203.43	-1,372.11	5,611.74	5,576.91	34.83	161.100	
9,200.00	9,191.54	8,456.00	8,450.83	20.58	14.53	-165.80	-5,206.18	-1,370.36	5,623.40	5,588.34	35.06	160.374	
9,300.00	9,291.54	8,456.00	8,450.83	20.80	14.53	-165.80	-5,206.18	-1,370.36	5,636.67	5,601.38	35.29	159.732	

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 77H
Project:	Lea County, NM (NAD-83)	TVD Reference:	3727.4' GL + 23.5' RKB @ 3750.90usft (Original Well Elev)
Reference Site:	Thistle Unit	MD Reference:	3727.4' GL + 23.5' RKB @ 3750.90usft (Original Well Elev)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	77H	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 Thistle Unit (Offsets) - 18H - OH - OH														Offset Site Error:	0.00 usft
Survey Program: 100-ISCWSA-GYRO-3, 8360-MWD-ISCWSA														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 +N-S (usft)	Centre +E-W (usft)	Between Centres (usft)	Between Ellipses (usft)					
9,400.00	9,391.54	8,488.00	8,482.13	21.02	14.53	-165.85	-5,211.84	-1,366.87	5,851.37	5,815.84	35.53	159.087			
9,500.00	9,491.54	8,488.00	8,482.13	21.24	14.53	-165.85	-5,211.84	-1,366.87	5,867.54	5,831.79	35.75	158.524			
9,600.00	9,591.54	8,488.00	8,482.13	21.46	14.53	-165.85	-5,211.84	-1,366.87	5,883.43	5,849.46	35.98	158.034			
9,700.00	9,691.54	8,504.32	8,497.93	21.68	14.54	-165.88	-5,215.42	-1,364.93	5,704.75	5,668.54	36.21	157.538			
9,800.00	9,791.54	8,520.00	8,512.98	21.90	14.54	-165.91	-5,219.36	-1,362.92	5,725.73	5,689.28	36.45	157.095			
9,900.00	9,891.54	8,520.00	8,512.98	22.13	14.54	-165.91	-5,219.36	-1,362.92	5,748.12	5,711.45	36.67	156.746			
10,000.00	9,991.54	8,520.00	8,512.98	22.35	14.54	-165.91	-5,219.36	-1,362.92	5,772.16	5,735.26	36.90	156.446			
10,100.00	10,091.54	8,552.00	8,543.16	22.57	14.55	-165.98	-5,228.87	-1,358.25	5,797.72	5,760.57	37.15	156.055			
10,133.99	10,125.53	8,552.00	8,543.16	22.64	14.55	-165.98	-5,228.87	-1,358.25	5,806.83	5,769.41	37.23	155.975			
10,150.00	10,141.54	8,552.00	8,543.16	22.68	14.55	14.32	-5,228.87	-1,358.25	5,810.65	5,773.63	37.01	156.999			
10,175.00	10,166.49	8,552.00	8,543.16	22.71	14.55	14.16	-5,228.87	-1,358.25	5,815.98	5,778.80	37.19	156.406			
10,200.00	10,191.33	8,552.00	8,543.16	22.75	14.55	14.03	-5,228.87	-1,358.25	5,820.17	5,782.85	37.32	155.940			
10,225.00	10,215.99	8,552.00	8,543.16	22.78	14.55	13.95	-5,228.87	-1,358.25	5,823.21	5,785.83	37.38	155.769 SF			
10,250.00	10,240.41	8,552.00	8,543.16	22.81	14.55	13.89	-5,228.87	-1,358.25	5,825.10	5,787.73	37.37	155.886			
10,275.00	10,264.50	8,552.00	8,543.16	22.83	14.55	13.87	-5,228.87	-1,358.25	5,825.82	5,788.54	37.28	156.291			
10,300.00	10,288.22	8,552.00	8,543.16	22.85	14.55	13.88	-5,228.87	-1,358.25	5,825.38	5,788.27	37.11	156.981			
10,325.00	10,311.49	8,552.00	8,543.16	22.87	14.55	13.93	-5,228.87	-1,358.25	5,823.77	5,786.90	36.87	157.956			
10,350.00	10,334.25	8,552.00	8,543.16	22.89	14.55	14.01	-5,228.87	-1,358.25	5,821.01	5,784.45	36.56	159.215			
10,375.00	10,356.44	8,552.00	8,543.16	22.90	14.55	14.13	-5,228.87	-1,358.25	5,817.09	5,780.91	36.19	160.760			
10,400.00	10,377.99	8,552.00	8,543.16	22.92	14.55	14.28	-5,228.87	-1,358.25	5,812.03	5,776.29	35.75	162.589			
10,425.00	10,398.86	8,552.00	8,543.16	22.93	14.55	14.47	-5,228.87	-1,358.25	5,805.84	5,770.59	35.25	164.701			
10,450.00	10,418.97	8,552.00	8,543.16	22.95	14.55	14.70	-5,228.87	-1,358.25	5,798.52	5,763.82	34.70	167.094			
10,475.00	10,438.28	8,567.94	8,557.89	22.98	14.56	14.96	-5,234.36	-1,355.00	5,789.83	5,755.72	34.11	169.724			
10,500.00	10,456.74	8,584.00	8,572.49	23.01	14.56	15.27	-5,240.40	-1,352.73	5,780.48	5,746.99	33.49	172.617			
10,525.00	10,474.28	8,584.00	8,572.49	23.03	14.56	15.65	-5,240.40	-1,352.73	5,769.78	5,736.95	32.83	175.761			
10,550.00	10,490.87	8,584.00	8,572.49	23.05	14.56	16.09	-5,240.40	-1,352.73	5,758.05	5,725.90	32.15	179.104			
10,575.00	10,508.46	8,584.00	8,572.49	23.08	14.56	16.59	-5,240.40	-1,352.73	5,745.30	5,713.83	31.46	182.595			
10,600.00	10,521.00	8,584.00	8,572.49	23.10	14.56	17.16	-5,240.40	-1,352.73	5,731.56	5,700.77	30.79	186.160			
10,625.00	10,534.46	8,584.00	8,572.49	23.12	14.56	17.82	-5,240.40	-1,352.73	5,716.87	5,686.74	30.14	189.694			
10,650.00	10,546.80	8,584.00	8,572.49	23.14	14.56	18.57	-5,240.40	-1,352.73	5,701.26	5,671.73	29.53	193.060			
10,675.00	10,557.98	8,584.00	8,572.49	23.18	14.56	19.42	-5,240.40	-1,352.73	5,684.76	5,655.77	28.99	196.076			
10,700.00	10,567.98	8,584.00	8,572.49	23.23	14.56	20.41	-5,240.40	-1,352.73	5,667.42	5,638.87	28.55	198.520			
10,725.00	10,576.77	8,584.00	8,572.49	23.28	14.56	21.54	-5,240.40	-1,352.73	5,649.26	5,621.04	28.23	200.137			
10,750.00	10,584.32	8,584.00	8,572.49	23.34	14.56	22.86	-5,240.40	-1,352.73	5,630.34	5,602.28	28.06	200.656			
10,775.00	10,590.61	8,584.00	8,572.49	23.41	14.56	24.38	-5,240.40	-1,352.73	5,610.70	5,582.62	28.08	199.830			
10,800.00	10,595.63	8,584.00	8,572.49	23.49	14.56	26.17	-5,240.40	-1,352.73	5,590.38	5,562.07	28.31	197.483			
10,825.00	10,599.36	8,584.00	8,572.49	23.57	14.56	28.28	-5,240.40	-1,352.73	5,569.43	5,540.86	28.77	193.553			
10,850.00	10,601.79	8,584.00	8,572.49	23.66	14.56	30.78	-5,240.40	-1,352.73	5,547.91	5,518.42	29.49	188.113			
10,875.00	10,602.91	8,584.00	8,572.49	23.75	14.56	33.78	-5,240.40	-1,352.73	5,525.86	5,495.39	30.47	181.369			
10,883.99	10,603.00	8,584.00	8,572.49	23.79	14.56	35.00	-5,240.40	-1,352.73	5,517.82	5,486.94	30.88	178.684			
10,900.00	10,603.00	8,584.00	8,572.49	23.86	14.56	35.00	-5,240.40	-1,352.73	5,503.44	5,472.52	30.92	177.974			

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

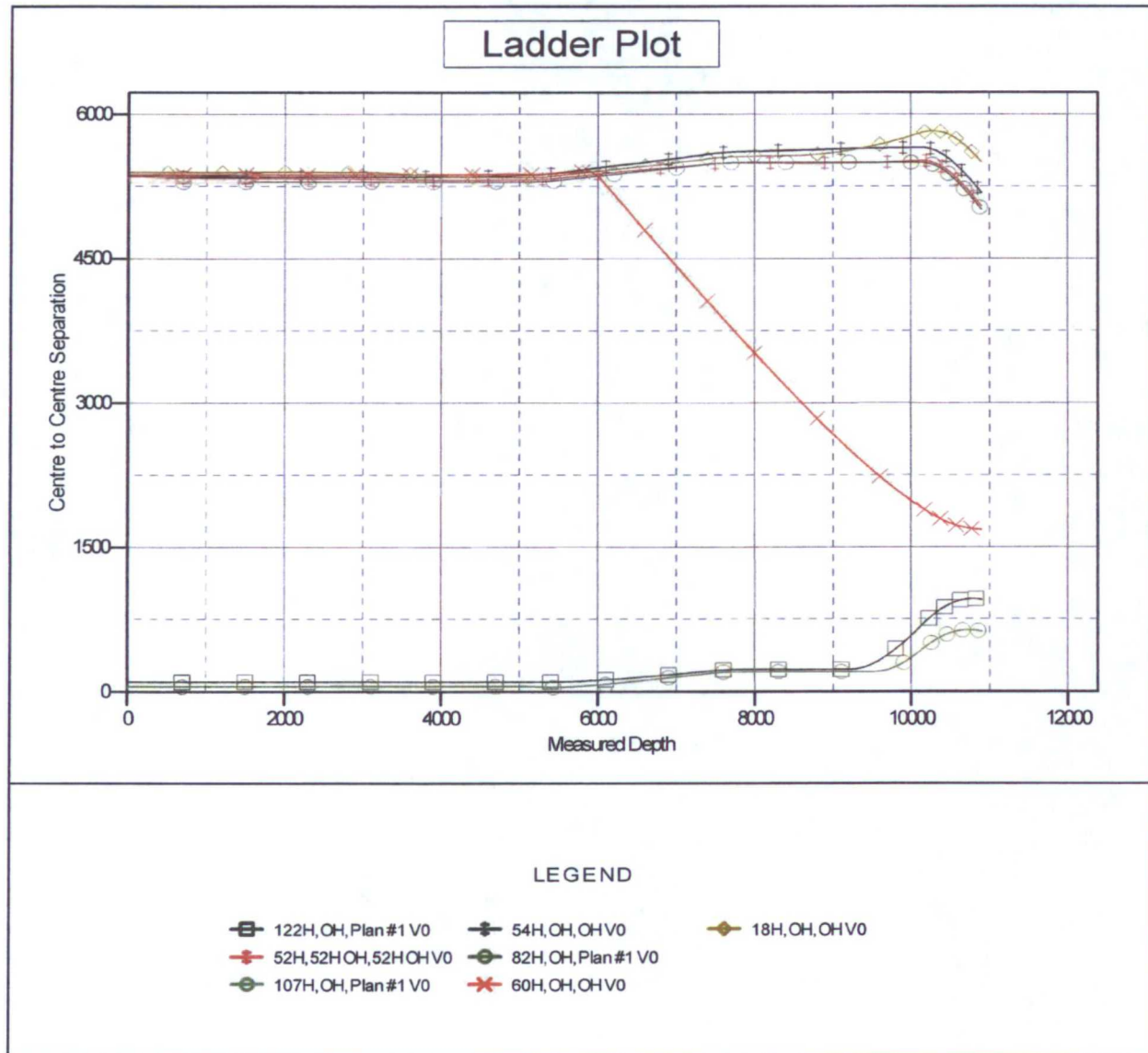
LEAM Drilling Systems LLC

Anticollision Report

Company:	DEVON ENERGY	Local Co-ordinate Reference:	Well 77H
Project:	Lea County, NM (NAD-83)	TVD Reference:	3727.4' GL + 23.5' RKB @ 3750.90usft (Original Well Elev)
Reference Site:	Thistle Unit	MD Reference:	3727.4' GL + 23.5' RKB @ 3750.90usft (Original Well Elev)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	77H	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 3727.4' GL + 23.5' RKB @ 3750.90usft
Offset Depths are relative to Offset Datum
Central Meridian is 104° 20' 0.000 W

Coordinates are relative to: 77H
Coordinate System is US State Plane 1983, New Mexico Eastern Zone
Grid Convergence at Surface is: 0.40°



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

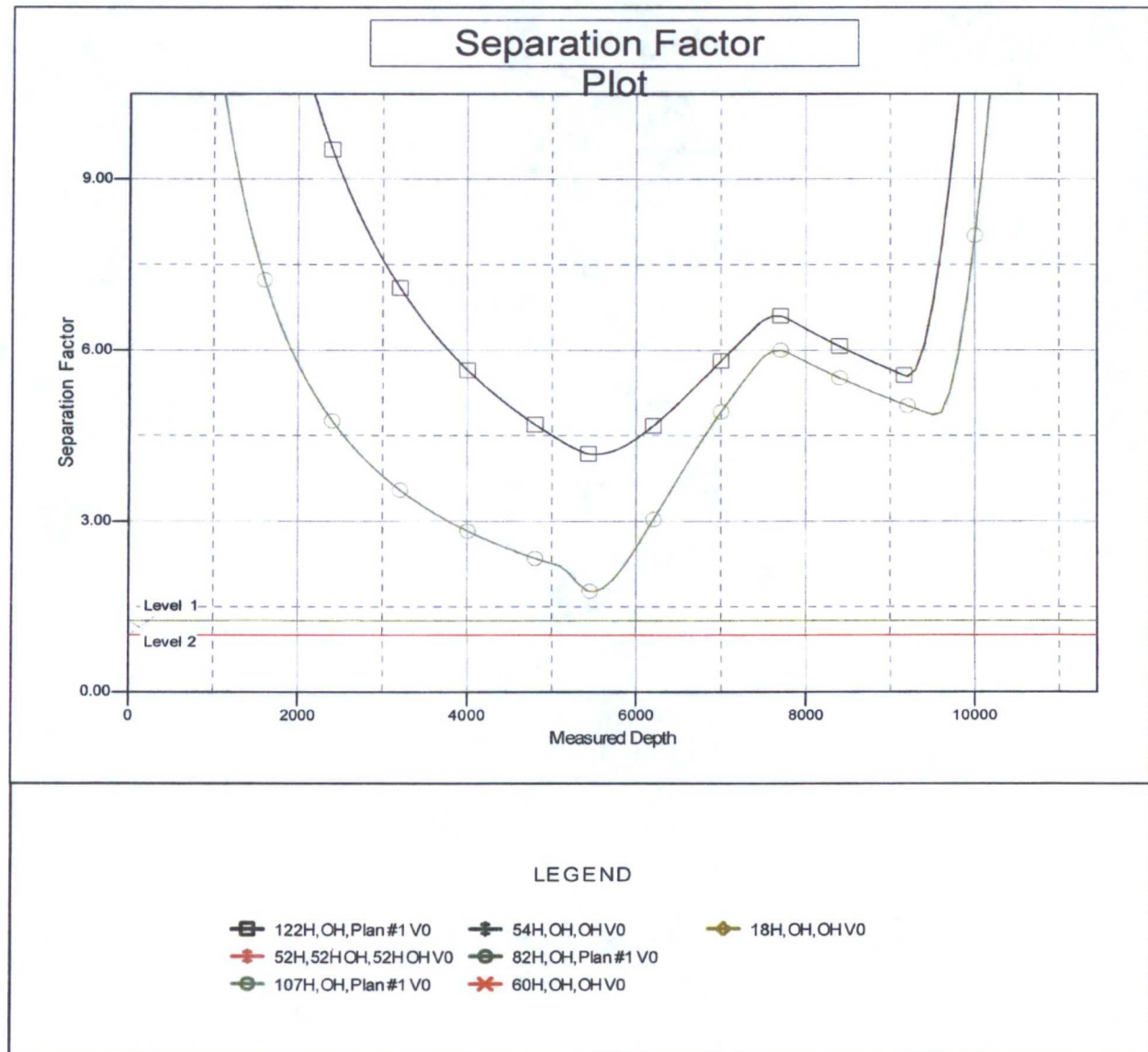
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Reference Depths are relative to 3727.4' GL + 23.5' RKB @ 3750.90us
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Central Meridian is 104° 20' 0.000 W

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