

Submit 1 Copy To Appropriate District Office
District I – (575) 393-6161
1625 N. French Dr., Hobbs, NM 88240
District II – (575) 748-1283
811 S. First St., Artesia, NM 88210
District III – (505) 334-6178
1000 Rio Brazos Rd., Aztec, NM 87410
District IV – (505) 476-3460
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy, Minerals and Natural Resources

OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-103
Revised August 1, 2011

WELL API NO. 30-015-40786	
5. Indicate Type of Lease STATE ☒ FEE ☐	
6. State Oil & Gas Lease No.	
7. Lease Name or Unit Agreement Name Lava Tube 27 State	
8. Well Number 1H	
9. OGRID Number 6137	
10. Pool name or Wildcat Lost Tank; Wolfcamp	
SUNDRY NOTICES AND REPORTS ON WELLS (DO NOT USE THIS FORM FOR PROPOSALS TO DRILL OR TO DEEPEN OR PLUG BACK TO A DIFFERENT RESERVOIR. USE "APPLICATION FOR PERMIT" (FORM C-101) FOR SUCH PROPOSALS.)	
1. Type of Well: Oil Well ☐ Gas Well ☒ Other	
2. Name of Operator Devon Energy Production Company, L.P.	
3. Address of Operator 333 W. Sheridan, Oklahoma City, OK 73102 Phone: (405) 552-7970	
4. Well Location Unit Letter <u>B: 1015</u> feet from the <u>North</u> line and <u>1655</u> feet from the <u>East</u> line Section <u>34</u> Township <u>21S</u> Range <u>31E</u> NMPM <u>Eddy</u> , <u></u> County	
11. Elevation (Show whether DR, RKB, RT, GR, etc.) 3323	

12. Check Appropriate Box to Indicate Nature of Notice, Report or Other Data

NOTICE OF INTENTION TO:

PERFORM REMEDIAL WORK ☐ PLUG AND ABANDON ☐
TEMPORARILY ABANDON ☐ CHANGE PLANS ☐
PULL OR ALTER CASING ☐ MULTIPLE COMPL ☐
DOWNHOLE COMMINGLE ☐

OTHER: Change to Original APD ☒

SUBSEQUENT REPORT OF:

REMEDIAL WORK ☐ ALTERING CASING ☐
COMMENCE DRILLING OPNS. ☐ P AND A ☐
CASING/CEMENT JOB ☐

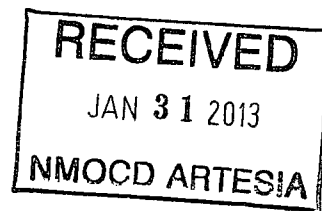
OTHER: ☐

13. Describe proposed or completed operations. (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work). SEE RULE 19.15.7.14 NMAC. For Multiple Completions: Attach wellbore diagram of proposed completion or recompletion.

Devon respectfully request to make a change in the casing design and directional plan for the Lava Tube 27 State 1H (Wolfcamp) due to difficulties COG Operating experienced in drilling the curve and lateral due to sloughing shale on the Poptart 12 Federal 4H (Wolfcamp).

See Attachments: Directional & Drilling Plan

Thank You!



I hereby certify that the information above is true and complete to the best of my knowledge and belief. I further certify that any pit or below-grade tank has been/will be constructed or closed according to NMOCD guidelines ☐, a general permit ☐ or an (attached) alternative OCD-approved plan ☐.

SIGNATURE: Erin Workman TITLE: Regulatory Compliance Associate DATE: 01/30/13

Type or print name Erin Workman E-mail address: Erin.Workman@dmn.com Telephone No. (405) 552-7970
For State Use Only

APPROVED BY: I. C. Shapard TITLE: Geologist DATE: 1/31/2013
Conditions of Approval (if any):

DEVON ENERGY

Project: Eddy County, NM (NAD-83)
 Site: Lava Tube 27 State
 Well: 1H
 Wellbore: OH
 Design: Plan #1



Azimuths to Grid North
 True North: -0.31°
 Magnetic North: 7.19°
 Magnetic Field
 Strength: 48563.4nT
 Dip Angle: 60.31°
 Date: 01/25/2013
 Model: IGRF2010

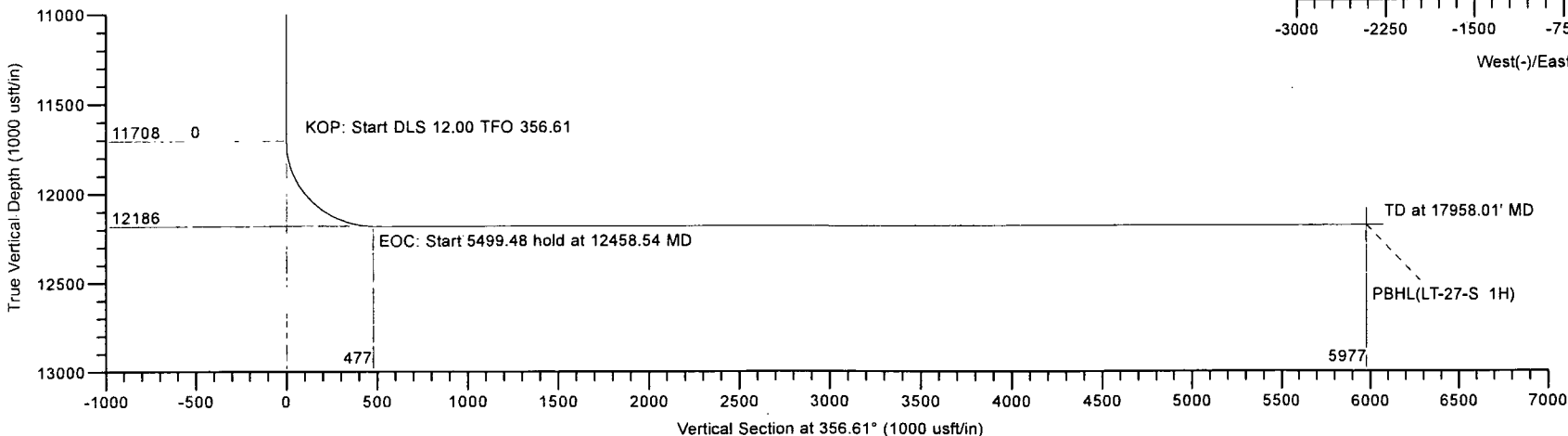
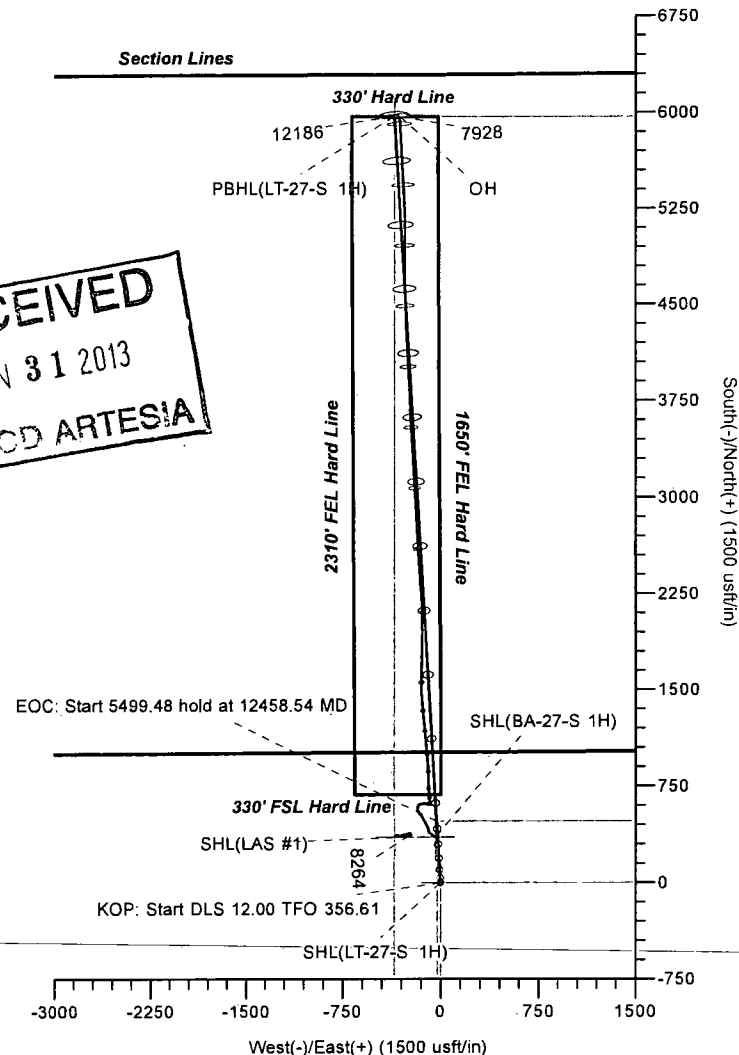


DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
SHL(LT-27-S 1H)	0.00	0.00	0.00	524102.59	717435.5232° 26'	22.308 N03° 45'	45.063 W
PBHL(LT-27-S 1H)	2186.00	5966.48	-353.41	530069.07	717082.1132° 27'	21.366 N03° 45'	48.816 W

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	Vsect	Annotation
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2	11708.54	0.00	0.00	11708.54	0.00	0.00	0.00	0.00	0.00	KOP: Start DLS 12.00 TFO 356.61
3	12458.54	90.00	356.61	12186.00	476.63	-28.23	12.00	356.61	477.46	EOC: Start 5499.48 hold at 12458.54 MD
4	17958.01	90.00	356.61	12186.00	5966.48	-353.41	0.00	0.00	5976.94	TD at 17958.01' MD



LEAM DRILLING SYSTEMS LLC
 2010 East Davis, Conroe, Texas 77301

Plan: Plan #1 (1H/OH)
 Lava Tube 27 State
 Created By: Tyler Carlson
 Date: 16:11, January 25 2013

LEAM Drilling Systems LLC

Planning Report

Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well 1H
Company:	DEVON ENERGY	TVD Reference:	GE 3492' + KB 26' @ 3518.00usft (Original Well Elev)
Project:	Eddy County, NM (NAD-83)	MD Reference:	GE 3492' + KB 26' @ 3518.00usft (Original Well Elev)
Site:	Lava Tube 27 State	North Reference:	Grid
Well:	1H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1		

Project:	Eddy 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:	Lava Tube 27 State		
Site Position:		Northing:	524,102.59 usft
From:	Map	Easting:	717,435.52 usft
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "
		Latitude:	32° 26' 22.308 N
		Longitude:	103° 45' 45.063 W
		Grid Convergence:	0.31 °

Well	1H					
Well Position	+N/-S	0.00 usft	Northing:	524,102.59 usft	Latitude:	32° 26' 22.308 N
	+E/-W	0.00 usft	Easting:	717,435.52 usft	Longitude:	103° 45' 45.063 W
Position Uncertainty		0.00 usft	Wellhead Elevation:		Ground Level:	3,492.00 usft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	01/25/13	7.49	60.31	48,563

Design	Plan #1			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.00	0.00	0.00	356.61

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	
11,708.54	0.00	0.00	11,708.54	0.00	0.00	0.00	0.00	0.00	0.00	
12,458.54	90.00	356.61	12,186.00	476.63	-28.23	12.00	12.00	-0.45	356.61	
17,958.01	90.00	356.61	12,186.00	5,966.48	-353.41	0.00	0.00	0.00	0.00	PBHL(LT-27-S 1H)

LEAM Drilling Systems LLC

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Well:	1H	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	
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00	
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00	
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00	
400.00	0.00	0.00	400.00	0.00	0.00	0.00	0.00	0.00	0.00	
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	0.00	
600.00	0.00	0.00	600.00	0.00	0.00	0.00	0.00	0.00	0.00	
700.00	0.00	0.00	700.00	0.00	0.00	0.00	0.00	0.00	0.00	
800.00	0.00	0.00	800.00	0.00	0.00	0.00	0.00	0.00	0.00	
900.00	0.00	0.00	900.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,000.00	0.00	0.00	1,000.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,100.00	0.00	0.00	1,100.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,200.00	0.00	0.00	1,200.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,300.00	0.00	0.00	1,300.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,400.00	0.00	0.00	1,400.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,500.00	0.00	0.00	1,500.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,600.00	0.00	0.00	1,600.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,700.00	0.00	0.00	1,700.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,800.00	0.00	0.00	1,800.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,900.00	0.00	0.00	1,900.00	0.00	0.00	0.00	0.00	0.00	0.00	
2,000.00	0.00	0.00	2,000.00	0.00	0.00	0.00	0.00	0.00	0.00	
2,100.00	0.00	0.00	2,100.00	0.00	0.00	0.00	0.00	0.00	0.00	
2,200.00	0.00	0.00	2,200.00	0.00	0.00	0.00	0.00	0.00	0.00	
2,300.00	0.00	0.00	2,300.00	0.00	0.00	0.00	0.00	0.00	0.00	
2,400.00	0.00	0.00	2,400.00	0.00	0.00	0.00	0.00	0.00	0.00	
2,500.00	0.00	0.00	2,500.00	0.00	0.00	0.00	0.00	0.00	0.00	
2,600.00	0.00	0.00	2,600.00	0.00	0.00	0.00	0.00	0.00	0.00	
2,700.00	0.00	0.00	2,700.00	0.00	0.00	0.00	0.00	0.00	0.00	
2,800.00	0.00	0.00	2,800.00	0.00	0.00	0.00	0.00	0.00	0.00	
2,900.00	0.00	0.00	2,900.00	0.00	0.00	0.00	0.00	0.00	0.00	
3,000.00	0.00	0.00	3,000.00	0.00	0.00	0.00	0.00	0.00	0.00	
3,100.00	0.00	0.00	3,100.00	0.00	0.00	0.00	0.00	0.00	0.00	
3,200.00	0.00	0.00	3,200.00	0.00	0.00	0.00	0.00	0.00	0.00	
3,300.00	0.00	0.00	3,300.00	0.00	0.00	0.00	0.00	0.00	0.00	
3,400.00	0.00	0.00	3,400.00	0.00	0.00	0.00	0.00	0.00	0.00	
3,500.00	0.00	0.00	3,500.00	0.00	0.00	0.00	0.00	0.00	0.00	
3,600.00	0.00	0.00	3,600.00	0.00	0.00	0.00	0.00	0.00	0.00	
3,700.00	0.00	0.00	3,700.00	0.00	0.00	0.00	0.00	0.00	0.00	
3,800.00	0.00	0.00	3,800.00	0.00	0.00	0.00	0.00	0.00	0.00	
3,900.00	0.00	0.00	3,900.00	0.00	0.00	0.00	0.00	0.00	0.00	
4,000.00	0.00	0.00	4,000.00	0.00	0.00	0.00	0.00	0.00	0.00	
4,100.00	0.00	0.00	4,100.00	0.00	0.00	0.00	0.00	0.00	0.00	
4,200.00	0.00	0.00	4,200.00	0.00	0.00	0.00	0.00	0.00	0.00	
4,300.00	0.00	0.00	4,300.00	0.00	0.00	0.00	0.00	0.00	0.00	
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	
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	
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	

LEAM Drilling Systems LLC

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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)	
5,200.00	0.00	0.00	5,200.00	0.00	0.00	0.00	0.00	0.00	0.00	
5,300.00	0.00	0.00	5,300.00	0.00	0.00	0.00	0.00	0.00	0.00	
5,400.00	0.00	0.00	5,400.00	0.00	0.00	0.00	0.00	0.00	0.00	
5,500.00	0.00	0.00	5,500.00	0.00	0.00	0.00	0.00	0.00	0.00	
5,600.00	0.00	0.00	5,600.00	0.00	0.00	0.00	0.00	0.00	0.00	
5,700.00	0.00	0.00	5,700.00	0.00	0.00	0.00	0.00	0.00	0.00	
5,800.00	0.00	0.00	5,800.00	0.00	0.00	0.00	0.00	0.00	0.00	
5,900.00	0.00	0.00	5,900.00	0.00	0.00	0.00	0.00	0.00	0.00	
6,000.00	0.00	0.00	6,000.00	0.00	0.00	0.00	0.00	0.00	0.00	
6,100.00	0.00	0.00	6,100.00	0.00	0.00	0.00	0.00	0.00	0.00	
6,200.00	0.00	0.00	6,200.00	0.00	0.00	0.00	0.00	0.00	0.00	
6,300.00	0.00	0.00	6,300.00	0.00	0.00	0.00	0.00	0.00	0.00	
6,400.00	0.00	0.00	6,400.00	0.00	0.00	0.00	0.00	0.00	0.00	
6,500.00	0.00	0.00	6,500.00	0.00	0.00	0.00	0.00	0.00	0.00	
6,600.00	0.00	0.00	6,600.00	0.00	0.00	0.00	0.00	0.00	0.00	
6,700.00	0.00	0.00	6,700.00	0.00	0.00	0.00	0.00	0.00	0.00	
6,800.00	0.00	0.00	6,800.00	0.00	0.00	0.00	0.00	0.00	0.00	
6,900.00	0.00	0.00	6,900.00	0.00	0.00	0.00	0.00	0.00	0.00	
7,000.00	0.00	0.00	7,000.00	0.00	0.00	0.00	0.00	0.00	0.00	
7,100.00	0.00	0.00	7,100.00	0.00	0.00	0.00	0.00	0.00	0.00	
7,200.00	0.00	0.00	7,200.00	0.00	0.00	0.00	0.00	0.00	0.00	
7,300.00	0.00	0.00	7,300.00	0.00	0.00	0.00	0.00	0.00	0.00	
7,400.00	0.00	0.00	7,400.00	0.00	0.00	0.00	0.00	0.00	0.00	
7,500.00	0.00	0.00	7,500.00	0.00	0.00	0.00	0.00	0.00	0.00	
7,600.00	0.00	0.00	7,600.00	0.00	0.00	0.00	0.00	0.00	0.00	
7,700.00	0.00	0.00	7,700.00	0.00	0.00	0.00	0.00	0.00	0.00	
7,800.00	0.00	0.00	7,800.00	0.00	0.00	0.00	0.00	0.00	0.00	
7,900.00	0.00	0.00	7,900.00	0.00	0.00	0.00	0.00	0.00	0.00	
8,000.00	0.00	0.00	8,000.00	0.00	0.00	0.00	0.00	0.00	0.00	
8,100.00	0.00	0.00	8,100.00	0.00	0.00	0.00	0.00	0.00	0.00	
8,200.00	0.00	0.00	8,200.00	0.00	0.00	0.00	0.00	0.00	0.00	
8,300.00	0.00	0.00	8,300.00	0.00	0.00	0.00	0.00	0.00	0.00	
8,400.00	0.00	0.00	8,400.00	0.00	0.00	0.00	0.00	0.00	0.00	
8,500.00	0.00	0.00	8,500.00	0.00	0.00	0.00	0.00	0.00	0.00	
8,600.00	0.00	0.00	8,600.00	0.00	0.00	0.00	0.00	0.00	0.00	
8,700.00	0.00	0.00	8,700.00	0.00	0.00	0.00	0.00	0.00	0.00	
8,800.00	0.00	0.00	8,800.00	0.00	0.00	0.00	0.00	0.00	0.00	
8,900.00	0.00	0.00	8,900.00	0.00	0.00	0.00	0.00	0.00	0.00	
9,000.00	0.00	0.00	9,000.00	0.00	0.00	0.00	0.00	0.00	0.00	
9,100.00	0.00	0.00	9,100.00	0.00	0.00	0.00	0.00	0.00	0.00	
9,200.00	0.00	0.00	9,200.00	0.00	0.00	0.00	0.00	0.00	0.00	
9,300.00	0.00	0.00	9,300.00	0.00	0.00	0.00	0.00	0.00	0.00	
9,400.00	0.00	0.00	9,400.00	0.00	0.00	0.00	0.00	0.00	0.00	
9,500.00	0.00	0.00	9,500.00	0.00	0.00	0.00	0.00	0.00	0.00	
9,600.00	0.00	0.00	9,600.00	0.00	0.00	0.00	0.00	0.00	0.00	
9,700.00	0.00	0.00	9,700.00	0.00	0.00	0.00	0.00	0.00	0.00	
9,800.00	0.00	0.00	9,800.00	0.00	0.00	0.00	0.00	0.00	0.00	
9,900.00	0.00	0.00	9,900.00	0.00	0.00	0.00	0.00	0.00	0.00	
10,000.00	0.00	0.00	10,000.00	0.00	0.00	0.00	0.00	0.00	0.00	
10,100.00	0.00	0.00	10,100.00	0.00	0.00	0.00	0.00	0.00	0.00	
10,200.00	0.00	0.00	10,200.00	0.00	0.00	0.00	0.00	0.00	0.00	
10,300.00	0.00	0.00	10,300.00	0.00	0.00	0.00	0.00	0.00	0.00	

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Company:	DEVON ENERGY	TVD Reference:	GE 3492' + KB 26' @ 3518.00usft (Original Well Elev)
Project:	Eddy County: NM (NAD-83)	MD Reference:	GE 3492' + KB 26' @ 3518.00usft (Original Well Elev)
Site:	Lava Tube 27 State	North Reference:	Grid
Well:	1H	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)
10,400.00	0.00	0.00	10,400.00	0.00	0.00	0.00	0.00	0.00	0.00
10,500.00	0.00	0.00	10,500.00	0.00	0.00	0.00	0.00	0.00	0.00
10,600.00	0.00	0.00	10,600.00	0.00	0.00	0.00	0.00	0.00	0.00
10,700.00	0.00	0.00	10,700.00	0.00	0.00	0.00	0.00	0.00	0.00
10,800.00	0.00	0.00	10,800.00	0.00	0.00	0.00	0.00	0.00	0.00
10,900.00	0.00	0.00	10,900.00	0.00	0.00	0.00	0.00	0.00	0.00
11,000.00	0.00	0.00	11,000.00	0.00	0.00	0.00	0.00	0.00	0.00
11,100.00	0.00	0.00	11,100.00	0.00	0.00	0.00	0.00	0.00	0.00
11,200.00	0.00	0.00	11,200.00	0.00	0.00	0.00	0.00	0.00	0.00
11,300.00	0.00	0.00	11,300.00	0.00	0.00	0.00	0.00	0.00	0.00
11,400.00	0.00	0.00	11,400.00	0.00	0.00	0.00	0.00	0.00	0.00
11,500.00	0.00	0.00	11,500.00	0.00	0.00	0.00	0.00	0.00	0.00
11,600.00	0.00	0.00	11,600.00	0.00	0.00	0.00	0.00	0.00	0.00
11,708.54	0.00	0.00	11,708.54	0.00	0.00	0.00	0.00	0.00	0.00
KOP: Start DLS 12.00 TFO 356.61									
11,725.00	1.98	356.61	11,725.00	0.28	-0.02	0.28	12.00	12.00	0.00
11,750.00	4.98	356.61	11,749.95	1.80	-0.11	1.80	12.00	12.00	0.00
11,775.00	7.98	356.61	11,774.79	4.61	-0.27	4.62	12.00	12.00	0.00
11,800.00	10.98	356.61	11,799.44	8.72	-0.52	8.73	12.00	12.00	0.00
11,825.00	13.98	356.61	11,823.85	14.11	-0.84	14.13	12.00	12.00	0.00
11,850.00	16.98	356.61	11,847.94	20.77	-1.23	20.80	12.00	12.00	0.00
11,875.00	19.98	356.61	11,871.65	28.68	-1.70	28.73	12.00	12.00	0.00
11,900.00	22.98	356.61	11,894.91	37.81	-2.24	37.88	12.00	12.00	0.00
11,925.00	25.98	356.61	11,917.66	48.15	-2.85	48.23	12.00	12.00	0.00
11,950.00	28.98	356.61	11,939.84	59.66	-3.53	59.77	12.00	12.00	0.00
11,975.00	31.98	356.61	11,961.38	72.32	-4.28	72.44	12.00	12.00	0.00
12,000.00	34.98	356.61	11,982.23	86.08	-5.10	86.23	12.00	12.00	0.00
12,025.00	37.98	356.61	12,002.33	100.92	-5.98	101.09	12.00	12.00	0.00
12,050.00	40.98	356.61	12,021.63	116.78	-6.92	116.99	12.00	12.00	0.00
12,075.00	43.98	356.61	12,040.07	133.63	-7.92	133.87	12.00	12.00	0.00
12,100.00	46.98	356.61	12,057.59	151.42	-8.97	151.69	12.00	12.00	0.00
12,125.00	49.98	356.61	12,074.16	170.10	-10.08	170.40	12.00	12.00	0.00
12,150.00	52.98	356.61	12,089.73	189.63	-11.23	189.96	12.00	12.00	0.00
12,175.00	55.98	356.61	12,104.26	209.93	-12.43	210.30	12.00	12.00	0.00
12,200.00	58.98	356.61	12,117.70	230.97	-13.68	231.38	12.00	12.00	0.00
12,225.00	61.98	356.61	12,130.02	252.69	-14.97	253.13	12.00	12.00	0.00
12,250.00	64.98	356.61	12,141.18	275.01	-16.29	275.50	12.00	12.00	0.00
12,275.00	67.98	356.61	12,151.16	297.89	-17.64	298.42	12.00	12.00	0.00
12,300.00	70.98	356.61	12,159.92	321.26	-19.03	321.83	12.00	12.00	0.00
12,325.00	73.98	356.61	12,167.45	345.06	-20.44	345.66	12.00	12.00	0.00
12,350.00	76.98	356.61	12,173.72	369.21	-21.87	369.86	12.00	12.00	0.00
12,375.00	79.98	356.61	12,178.71	393.67	-23.32	394.36	12.00	12.00	0.00
12,400.00	82.98	356.61	12,182.42	418.34	-24.78	419.08	12.00	12.00	0.00
12,425.00	85.98	356.61	12,184.82	443.18	-26.25	443.96	12.00	12.00	0.00
12,450.00	88.98	356.61	12,185.92	468.11	-27.73	468.93	12.00	12.00	0.00
12,458.54	90.00	356.61	12,186.00	476.63	-28.23	477.46	12.00	12.00	0.00
EOC: Start 5499.48 hold at 12458.54 MD									
12,500.00	90.00	356.61	12,186.00	518.02	-30.68	518.93	0.00	0.00	0.00
12,600.00	90.00	356.61	12,186.00	617.85	-36.60	618.93	0.00	0.00	0.00
12,700.00	90.00	356.61	12,186.00	717.67	-42.51	718.93	0.00	0.00	0.00
12,800.00	90.00	356.61	12,186.00	817.50	-48.42	818.93	0.00	0.00	0.00
12,900.00	90.00	356.61	12,186.00	917.32	-54.33	918.93	0.00	0.00	0.00

LEAM Drilling Systems LLC

Planning Report

Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well 1H
Company:	DEVON ENERGY	TVD Reference:	GE 3492' + KB 26' @ 3518.00usft (Original Well Elev)
Project:	Eddy County, NM (NAD-83)	MD Reference:	GE 3492' + KB 26' @ 3518.00usft (Original Well Elev)
Site:	Lava Tube 27 State	North Reference:	Grid
Well:	1H	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)
13,000.00	90.00	356.61	12,186.00	1,017.15	-60.25	1,018.93	0.00	0.00	0.00
13,100.00	90.00	356.61	12,186.00	1,116.97	-66.16	1,118.93	0.00	0.00	0.00
13,200.00	90.00	356.61	12,186.00	1,216.80	-72.07	1,218.93	0.00	0.00	0.00
13,300.00	90.00	356.61	12,186.00	1,316.62	-77.99	1,318.93	0.00	0.00	0.00
13,400.00	90.00	356.61	12,186.00	1,416.45	-83.90	1,418.93	0.00	0.00	0.00
13,500.00	90.00	356.61	12,186.00	1,516.27	-89.81	1,518.93	0.00	0.00	0.00
13,600.00	90.00	356.61	12,186.00	1,616.10	-95.72	1,618.93	0.00	0.00	0.00
13,700.00	90.00	356.61	12,186.00	1,715.92	-101.64	1,718.93	0.00	0.00	0.00
13,800.00	90.00	356.61	12,186.00	1,815.75	-107.55	1,818.93	0.00	0.00	0.00
13,900.00	90.00	356.61	12,186.00	1,915.57	-113.46	1,918.93	0.00	0.00	0.00
14,000.00	90.00	356.61	12,186.00	2,015.40	-119.38	2,018.93	0.00	0.00	0.00
14,100.00	90.00	356.61	12,186.00	2,115.22	-125.29	2,118.93	0.00	0.00	0.00
14,200.00	90.00	356.61	12,186.00	2,215.05	-131.20	2,218.93	0.00	0.00	0.00
14,300.00	90.00	356.61	12,186.00	2,314.87	-137.11	2,318.93	0.00	0.00	0.00
14,400.00	90.00	356.61	12,186.00	2,414.70	-143.03	2,418.93	0.00	0.00	0.00
14,500.00	90.00	356.61	12,186.00	2,514.52	-148.94	2,518.93	0.00	0.00	0.00
14,600.00	90.00	356.61	12,186.00	2,614.35	-154.85	2,618.93	0.00	0.00	0.00
14,700.00	90.00	356.61	12,186.00	2,714.17	-160.77	2,718.93	0.00	0.00	0.00
14,800.00	90.00	356.61	12,186.00	2,814.00	-166.68	2,818.93	0.00	0.00	0.00
14,900.00	90.00	356.61	12,186.00	2,913.82	-172.59	2,918.93	0.00	0.00	0.00
15,000.00	90.00	356.61	12,186.00	3,013.65	-178.50	3,018.93	0.00	0.00	0.00
15,100.00	90.00	356.61	12,186.00	3,113.47	-184.42	3,118.93	0.00	0.00	0.00
15,200.00	90.00	356.61	12,186.00	3,213.30	-190.33	3,218.93	0.00	0.00	0.00
15,300.00	90.00	356.61	12,186.00	3,313.12	-196.24	3,318.93	0.00	0.00	0.00
15,400.00	90.00	356.61	12,186.00	3,412.95	-202.16	3,418.93	0.00	0.00	0.00
15,500.00	90.00	356.61	12,186.00	3,512.77	-208.07	3,518.93	0.00	0.00	0.00
15,600.00	90.00	356.61	12,186.00	3,612.60	-213.98	3,618.93	0.00	0.00	0.00
15,700.00	90.00	356.61	12,186.00	3,712.42	-219.89	3,718.93	0.00	0.00	0.00
15,800.00	90.00	356.61	12,186.00	3,812.25	-225.81	3,818.93	0.00	0.00	0.00
15,900.00	90.00	356.61	12,186.00	3,912.07	-231.72	3,918.93	0.00	0.00	0.00
16,000.00	90.00	356.61	12,186.00	4,011.90	-237.63	4,018.93	0.00	0.00	0.00
16,100.00	90.00	356.61	12,186.00	4,111.72	-243.54	4,118.93	0.00	0.00	0.00
16,200.00	90.00	356.61	12,186.00	4,211.55	-249.46	4,218.93	0.00	0.00	0.00
16,300.00	90.00	356.61	12,186.00	4,311.37	-255.37	4,318.93	0.00	0.00	0.00
16,400.00	90.00	356.61	12,186.00	4,411.20	-261.28	4,418.93	0.00	0.00	0.00
16,500.00	90.00	356.61	12,186.00	4,511.02	-267.20	4,518.93	0.00	0.00	0.00
16,600.00	90.00	356.61	12,186.00	4,610.85	-273.11	4,618.93	0.00	0.00	0.00
16,700.00	90.00	356.61	12,186.00	4,710.67	-279.02	4,718.93	0.00	0.00	0.00
16,800.00	90.00	356.61	12,186.00	4,810.50	-284.93	4,818.93	0.00	0.00	0.00
16,900.00	90.00	356.61	12,186.00	4,910.32	-290.85	4,918.93	0.00	0.00	0.00
17,000.00	90.00	356.61	12,186.00	5,010.15	-296.76	5,018.93	0.00	0.00	0.00
17,100.00	90.00	356.61	12,186.00	5,109.97	-302.67	5,118.93	0.00	0.00	0.00
17,200.00	90.00	356.61	12,186.00	5,209.80	-308.59	5,218.93	0.00	0.00	0.00
17,300.00	90.00	356.61	12,186.00	5,309.62	-314.50	5,318.93	0.00	0.00	0.00
17,400.00	90.00	356.61	12,186.00	5,409.45	-320.41	5,418.93	0.00	0.00	0.00
17,500.00	90.00	356.61	12,186.00	5,509.27	-326.32	5,518.93	0.00	0.00	0.00
17,600.00	90.00	356.61	12,186.00	5,609.10	-332.24	5,618.93	0.00	0.00	0.00
17,700.00	90.00	356.61	12,186.00	5,708.92	-338.15	5,718.93	0.00	0.00	0.00
17,800.00	90.00	356.61	12,186.00	5,808.75	-344.06	5,818.93	0.00	0.00	0.00
17,900.00	90.00	356.61	12,186.00	5,908.57	-349.98	5,918.93	0.00	0.00	0.00
17,958.01	90.00	356.61	12,186.00	5,966.48	-353.41	5,976.94	0.00	0.00	0.00
TD at 17958.01' MD									

LEAM Drilling Systems LLC

Planning Report

Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well 1H
Company:	DEVON ENERGY	TVD Reference:	GE 3492' + KB 26' @ 3518.00usft (Original Well Elev)
Project:	Eddy County, NM (NAD-83)	MD Reference:	GE 3492' + KB 26' @ 3518.00usft (Original Well Elev)
Site:	Lava Tube 27 State	North Reference:	Grid
Well:	1H	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)

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(LT-27-S 1H)	0.00	0.00	0.00	0.00	0.00	524,102.59	717,435.52	32° 26' 22.308 N	103° 45' 45.063 W
- plan hits target center									
- Point									
PBHL(LT-27-S 1H)	0.00	0.00	12,186.00	5,966.48	-353.41	530,069.08	717,082.11	32° 27' 21.366 N	103° 45' 48.816 W
- plan hits target center									
- Point									

Plan Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates +N/-S (usft)	+E/-W (usft)	Comment
11,708.54	11,708.54	0.00	0.00	KOP: Start DLS 12.00 TFO 356.61
12,458.54	12,186.00	476.63	-28.23	EOC: Start 5499.48 hold at 12458.54 MD
17,958.01	12,186.00	5,966.48	-353.41	TD at 17958.01' MD

LEAM Drilling Systems LLC

Anticollision Report

Company:	DEVON ENERGY	Local Co-ordinate Reference:	Well 1H
Project:	Eddy County, NM (NAD-83)	TVD Reference:	GE 3492' + KB 26' @ -3518.00usft (Original Well Elev)
Reference Site:	Lava Tube 27 State	MD Reference:	GE 3492' + KB 26' @ 3518.00usft (Original Well Elev)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	1H	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:	Reference Datum

Reference	Plan #1
Filter type:	NO GLOBAL FILTER: Using user defined selection & filtering criteria
Interpolation Method:	MD + Stations Interval 50.00usft
Depth Range:	0.00 to 17,958.01usft
Results Limited by:	Maximum center-center distance of 10,000.00 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	01/25/13		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
0.00	17,958.01	Plan #1 (OH)	LEAM MWD	MWD - Standard	

Summary						
Site Name	Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
LT-27-S Offsets						
BA-27-S 1H - OH - OH	0.00	0.00	356.64			
BA-27-S 1H - OH - OH	650.00	649.31	359.04	356.42	137.312	ES
BA-27-S 1H - OH - OH	7,300.00	7,297.00	617.27	587.23	20.543	SF
LAS #7 - OH - OH	8,264.05	8,265.00	438.99	401.62	11.748	CC, ES, SF

Offset Design							LT-27-S Offsets - BA-27-S 1H - OH - OH							Offset Site Error:		0.00 usft
Survey Program:							5-NS-GYRO-MS, 7203-MWD							Offset Well Error:		0.00 usft
Reference		Offset		Semi Major Axis		Highside Toolface	Distance							Warning		
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset		Offset Wellbore Centre	Between Centres	Between Ellipses	Minimum Separation	Separation Factor					
(usft)	(usft)	(usft)	(usft)	(usft)	(usft)	(°)	+N/-S (usft)	+E/-W (usft)	(usft)	(usft)	(usft)					
0.00	0.00	0.00	0.00	0.00	0.00	-5.89	354.76	-36.59	356.64							
50.00	50.00	48.53	48.53	0.03	0.04	-5.90	354.86	-36.66	356.75	356.69	0.06	5,516.964				
100.00	100.00	98.43	98.42	0.08	0.17	-5.92	355.06	-36.79	356.97	356.71	0.25	1,413.878				
150.00	150.00	148.27	148.27	0.20	0.30	-5.93	355.28	-36.90	357.20	356.70	0.50	719.548				
200.00	200.00	197.98	197.98	0.31	0.43	-5.94	355.53	-37.00	357.46	356.72	0.74	482.924				
250.00	250.00	247.77	247.77	0.42	0.56	-5.95	355.82	-37.10	357.76	356.77	0.98	363.682				
300.00	300.00	297.68	297.67	0.53	0.69	-5.96	356.13	-37.17	358.08	356.85	1.23	291.868				
350.00	350.00	347.54	347.54	0.65	0.82	-5.96	356.46	-37.22	358.41	356.94	1.47	243.816				
400.00	400.00	397.38	397.37	0.76	0.96	-5.96	356.81	-37.28	358.76	357.05	1.71	209.414				
450.00	450.00	448.30	448.29	0.87	1.06	-5.96	357.15	-37.30	359.09	357.16	1.93	185.927				
500.00	500.00	499.82	499.81	0.98	1.15	-5.93	357.31	-37.09	359.23	357.09	2.14	168.227				
550.00	550.00	550.56	550.55	1.09	1.20	-5.88	357.30	-36.78	359.19	356.90	2.29	156.808				
600.00	600.00	601.11	601.10	1.21	1.23	-5.86	357.20	-36.66	359.08	356.64	2.43	147.485				
631.73	631.73	631.74	631.73	1.28	1.27	-5.86	357.15	-36.66	359.02	356.47	2.55	140.887				
650.00	650.00	649.31	649.30	1.32	1.30	-5.86	357.16	-36.66	359.04	356.42	2.61	137.312	ES			
700.00	700.00	697.57	697.56	1.43	1.37	-5.86	357.39	-36.68	359.27	356.47	2.80	128.450				
750.00	750.00	746.05	746.04	1.54	1.49	-5.86	357.83	-36.75	359.73	356.70	3.03	118.605				
800.00	800.00	794.68	794.66	1.66	1.61	-5.88	358.44	-36.91	360.37	357.10	3.27	110.228				
850.00	850.00	842.64	842.62	1.77	1.73	-5.92	359.25	-37.23	361.25	357.75	3.50	103.120				
900.00	900.00	890.90	890.86	1.88	1.86	-5.99	360.32	-37.81	362.41	358.68	3.74	96.978				
950.00	950.00	941.78	941.72	1.99	1.98	-6.12	361.45	-38.75	363.61	359.64	3.97	91.571				

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 1H
Project:	Eddy County, NM (NAD-83)	TVD Reference:	GE 3492' + KB 26' @ 3518.00usft (Original Well Elev)
Reference Site:	Lava Tube 27 State	MD Reference:	GE 3492' + KB 26' @ 3518.00usft (Original Well Elev)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	1H	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:	Reference Datum

Offset Design												Offset Site Error:	0.00 usft
Survey Program: 5-NS-GYRO-MS, 7203-MWD												Offset Well Error:	0.00 usft
LT-27-S Offsets - BA-27-S 1H - OH - OH													
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)			
1,000.00	1,000.00	992.25	992.16	2.11	2.10	-6.31	362.41	-40.05	364.70	360.50	4.20	86.782	
1,050.00	1,050.00	1,041.51	1,041.39	2.22	2.21	-6.53	363.35	-41.56	365.82	361.40	4.43	82.619	
1,100.00	1,100.00	1,090.80	1,090.64	2.33	2.32	-6.78	364.37	-43.29	367.05	362.40	4.65	78.869	
1,150.00	1,150.00	1,140.16	1,139.95	2.44	2.44	-7.06	365.45	-45.24	368.37	363.49	4.88	75.466	
1,200.00	1,200.00	1,189.51	1,189.24	2.56	2.56	-7.37	366.57	-47.39	369.78	364.67	5.11	72.370	
1,250.00	1,250.00	1,238.85	1,238.51	2.67	2.67	-7.69	367.77	-49.66	371.28	365.94	5.34	69.539	
1,300.00	1,300.00	1,288.17	1,287.76	2.78	2.79	-8.02	369.03	-52.02	372.88	367.31	5.57	66.941	
1,350.00	1,350.00	1,337.49	1,337.00	2.89	2.91	-8.37	370.35	-54.48	374.56	368.76	5.80	64.551	
1,400.00	1,400.00	1,386.90	1,386.33	3.01	3.03	-8.72	371.75	-57.03	376.34	370.31	6.04	62.345	
1,450.00	1,450.00	1,436.37	1,435.70	3.12	3.16	-9.08	373.19	-59.65	378.20	371.93	6.27	60.306	
1,500.00	1,500.00	1,485.82	1,485.06	3.23	3.28	-9.45	374.68	-62.34	380.12	373.62	6.51	58.415	
1,550.00	1,550.00	1,535.26	1,534.40	3.34	3.41	-9.82	376.22	-65.09	382.13	375.38	6.74	56.664	
1,600.00	1,600.00	1,582.94	1,581.97	3.45	3.53	-10.18	377.84	-67.84	384.30	377.32	6.98	55.077	
1,650.00	1,650.00	1,630.20	1,629.11	3.57	3.65	-10.55	379.73	-70.75	386.83	379.61	7.21	53.646	
1,700.00	1,700.00	1,677.22	1,675.97	3.68	3.77	-10.94	381.91	-73.81	389.71	382.27	7.45	52.343	
1,750.00	1,750.00	1,724.15	1,722.72	3.79	3.90	-11.33	384.41	-77.00	392.99	385.31	7.68	51.170	
1,800.00	1,800.00	1,769.85	1,768.24	3.90	4.02	-11.67	387.27	-80.00	396.72	388.80	7.91	50.139	
1,850.00	1,850.00	1,815.30	1,813.49	4.02	4.14	-11.91	390.73	-82.44	400.99	392.85	8.14	49.239	
1,900.00	1,900.00	1,862.63	1,860.60	4.13	4.26	-12.05	394.91	-84.30	405.73	397.35	8.38	48.438	
1,950.00	1,950.00	1,910.53	1,908.26	4.24	4.39	-12.05	399.57	-85.30	410.70	402.09	8.61	47.707	
2,000.00	2,000.00	1,958.24	1,955.71	4.35	4.51	-11.98	404.53	-85.84	415.90	407.06	8.84	47.050	
2,050.00	2,050.00	2,005.88	2,003.06	4.47	4.63	-11.97	409.62	-86.84	421.35	412.28	9.07	46.456	
2,100.00	2,100.00	2,054.08	2,050.95	4.58	4.76	-12.02	414.88	-88.36	427.01	417.70	9.31	45.888	
2,150.00	2,150.00	2,102.35	2,098.88	4.69	4.89	-12.15	420.18	-90.43	432.83	423.29	9.54	45.359	
2,200.00	2,200.00	2,150.15	2,146.33	4.80	5.01	-12.31	425.53	-92.85	438.84	429.06	9.78	44.872	
2,250.00	2,250.00	2,197.85	2,193.63	4.92	5.14	-12.47	431.06	-95.36	445.06	435.05	10.02	44.429	
2,300.00	2,300.00	2,245.52	2,240.89	5.03	5.28	-12.64	436.77	-97.96	451.50	441.25	10.25	44.028	
2,350.00	2,350.00	2,293.15	2,288.08	5.14	5.41	-12.81	442.65	-100.66	458.15	447.66	10.49	43.665	
2,400.00	2,400.00	2,341.39	2,335.85	5.25	5.54	-12.99	448.76	-103.50	464.99	454.25	10.73	43.327	
2,450.00	2,450.00	2,390.29	2,384.25	5.37	5.68	-13.18	455.04	-106.54	471.95	460.98	10.97	43.010	
2,500.00	2,500.00	2,437.92	2,431.36	5.48	5.81	-13.37	461.26	-109.64	479.05	467.84	11.21	42.729	
2,550.00	2,550.00	2,484.33	2,477.26	5.59	5.94	-13.57	467.39	-112.81	486.28	474.84	11.45	42.484	
2,600.00	2,600.00	2,532.64	2,525.00	5.70	6.08	-13.79	473.94	-116.29	493.73	482.04	11.69	42.246	
2,650.00	2,650.00	2,578.37	2,570.14	5.81	6.20	-14.00	480.37	-119.76	501.47	489.55	11.92	42.068	
2,700.00	2,700.00	2,625.45	2,616.56	5.93	6.34	-14.23	487.22	-123.52	509.51	497.35	12.16	41.908	
2,750.00	2,750.00	2,672.41	2,662.82	6.04	6.47	-14.46	494.29	-127.46	517.85	505.45	12.39	41.779	
2,800.00	2,800.00	2,717.08	2,706.77	6.15	6.60	-14.70	501.23	-131.52	526.52	513.89	12.63	41.700	
2,850.00	2,850.00	2,762.31	2,751.18	6.26	6.73	-14.98	508.47	-136.05	535.56	522.70	12.86	41.648	
2,900.00	2,900.00	2,807.68	2,795.65	6.38	6.87	-15.29	515.94	-141.05	544.96	531.86	13.09	41.623	
2,950.00	2,950.00	2,852.91	2,839.90	6.49	7.00	-15.63	523.56	-146.50	554.71	541.38	13.33	41.627	
3,000.00	3,000.00	2,907.61	2,893.41	6.60	7.16	-16.04	532.72	-153.16	564.46	550.88	13.58	41.555	
3,050.00	3,050.00	2,964.70	2,949.45	6.71	7.33	-16.38	541.75	-159.29	573.57	559.72	13.85	41.420	
3,100.00	3,100.00	3,022.64	3,006.50	6.83	7.50	-16.66	550.29	-164.68	581.97	567.85	14.11	41.234	
3,150.00	3,150.00	3,080.80	3,063.94	6.94	7.66	-16.85	558.26	-169.13	589.63	575.25	14.38	41.006	
3,200.00	3,200.00	3,139.19	3,121.76	7.05	7.83	-16.90	565.88	-171.90	596.56	581.92	14.64	40.738	
3,250.00	3,250.00	3,202.41	3,184.52	7.16	7.99	-16.80	573.44	-173.11	602.57	587.66	14.91	40.407	
3,300.00	3,300.00	3,260.84	3,242.62	7.28	8.14	-16.61	579.57	-172.91	607.53	592.36	15.17	40.060	
3,350.00	3,350.00	3,313.12	3,294.63	7.39	8.27	-16.40	584.84	-172.10	612.15	596.75	15.40	39.754	
3,400.00	3,400.00	3,366.02	3,347.25	7.50	8.39	-16.14	590.08	-170.79	616.56	600.93	15.63	39.452	
3,450.00	3,450.00	3,419.24	3,400.20	7.61	8.51	-15.85	595.18	-168.99	620.70	604.85	15.86	39.147	
3,500.00	3,500.00	3,478.78	3,459.43	7.73	8.62	-15.46	600.49	-166.10	624.36	608.28	16.08	38.826	

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

LEAM Drilling Systems LLC

Anticollision Report

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Reference Well:	1H	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:	Reference Datum

Offset Design LT-27-S Offsets - BA-27-S 1H - OH - OH														Offset Site Error: 0.00 usft
Survey Program: 5-NS-GYRO-MS, 7203-MWD														Offset Well Error: 0.00 usft
Reference		Offset		Semi-Major Axis		Highside Toolface (°)	Distance		Minimum Separation (usft)	Separation Factor	Warning			
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)				Between Centres (usft)	Between Ellipses (usft)	
3,550.00	3,550.00	3,540.92	3,521.22	7.84	8.73	-14.96	605.29	-161.69	627.18	610.88		16.30	38.477	
3,600.00	3,600.00	3,606.80	3,586.72	7.95	8.83	-14.34	609.12	-155.73	628.85	612.35		16.51	38.099	
3,650.00	3,650.00	3,662.81	3,642.39	8.06	8.89	-13.79	611.46	-150.03	629.65	612.96		16.68	37.740	
3,700.00	3,700.00	3,717.78	3,697.04	8.17	8.95	-13.25	613.28	-144.42	630.07	613.21		16.86	37.377	
3,750.00	3,750.00	3,772.45	3,751.41	8.29	9.01	-12.73	614.64	-138.85	630.13	613.10		17.03	37.010	
3,800.00	3,800.00	3,826.37	3,805.04	8.40	9.06	-12.23	615.54	-133.43	629.86	612.66		17.19	36.638	
3,850.00	3,850.00	3,879.50	3,857.93	8.51	9.10	-11.77	616.06	-128.36	629.34	611.99		17.35	36.266	
3,900.00	3,900.00	3,931.98	3,910.20	8.62	9.15	-11.35	616.24	-123.67	628.61	611.10		17.51	35.895	
3,950.00	3,950.00	3,984.22	3,962.26	8.74	9.19	-10.96	616.15	-119.35	627.72	610.05		17.67	35.524	
4,000.00	4,000.00	4,036.33	4,014.21	8.85	9.23	-10.61	615.80	-115.34	626.66	608.84		17.82	35.157	
4,050.00	4,050.00	4,088.37	4,066.11	8.96	9.27	-10.28	615.20	-111.59	625.45	607.47		17.98	34.788	
4,100.00	4,100.00	4,139.72	4,117.34	9.07	9.30	-9.98	614.42	-108.17	624.11	605.98		18.13	34.427	
4,150.00	4,150.00	4,190.83	4,168.35	9.19	9.33	-9.72	613.48	-105.04	622.67	604.40		18.28	34.067	
4,200.00	4,200.00	4,241.26	4,218.69	9.30	9.36	-9.48	612.42	-102.30	621.19	602.76		18.42	33.717	
4,250.00	4,250.00	4,291.23	4,268.60	9.41	9.39	-9.29	611.27	-99.96	619.67	601.10		18.57	33.374	
4,300.00	4,300.00	4,340.53	4,317.84	9.52	9.42	-9.13	610.12	-98.01	618.20	599.49		18.71	33.042	
4,350.00	4,350.00	4,388.92	4,366.19	9.64	9.44	-9.00	609.01	-96.40	616.80	597.95		18.85	32.719	
4,400.00	4,400.00	4,436.39	4,413.64	9.75	9.47	-8.88	608.07	-94.99	615.59	596.60		18.99	32.410	
4,450.00	4,450.00	4,484.01	4,461.23	9.86	9.50	-8.77	607.29	-93.72	614.58	595.45		19.14	32.111	
4,500.00	4,500.00	4,531.76	4,508.97	9.97	9.54	-8.68	606.67	-92.60	613.76	594.47		19.29	31.820	
4,550.00	4,550.00	4,580.14	4,557.34	10.09	9.58	-8.59	606.18	-91.61	613.11	593.67		19.44	31.534	
4,600.00	4,600.00	4,629.03	4,606.21	10.20	9.62	-8.51	605.78	-90.63	612.56	592.96		19.60	31.251	
4,650.00	4,650.00	4,677.94	4,655.11	10.31	9.67	-8.42	605.47	-89.65	612.09	592.33		19.77	30.968	
4,700.00	4,700.00	4,726.86	4,704.02	10.42	9.73	-8.34	605.24	-88.69	611.72	591.79		19.93	30.688	
4,750.00	4,750.00	4,775.27	4,752.42	10.53	9.79	-8.25	605.12	-87.76	611.45	591.34		20.11	30.405	
4,800.00	4,800.00	4,823.46	4,800.61	10.65	9.85	-8.17	605.13	-86.85	611.33	591.04		20.29	30.129	
4,816.96	4,816.96	4,839.82	4,816.96	10.69	9.88	-8.14	605.16	-86.55	611.32	590.97		20.35	30.035	
4,850.00	4,850.00	4,871.74	4,848.88	10.76	9.93	-8.08	605.28	-85.96	611.35	590.87		20.48	29.846	
4,900.00	4,900.00	4,920.05	4,897.18	10.87	10.02	-8.00	605.55	-85.13	611.51	590.83		20.68	29.570	
4,950.00	4,950.00	4,970.34	4,947.46	10.98	10.11	-7.92	605.90	-84.33	611.75	590.86		20.89	29.289	
5,000.00	5,000.00	5,021.10	4,998.21	11.10	10.20	-7.85	606.18	-83.60	611.92	590.83		21.09	29.008	
5,050.00	5,050.00	5,071.66	5,048.76	11.21	10.29	-7.79	606.40	-82.97	612.05	590.75		21.30	28.734	
5,100.00	5,100.00	5,122.09	5,099.19	11.32	10.39	-7.74	606.55	-82.44	612.13	590.62		21.51	28.463	
5,150.00	5,150.00	5,171.40	5,148.51	11.43	10.48	-7.70	606.70	-82.00	612.22	590.50		21.72	28.193	
5,200.00	5,200.00	5,220.79	5,197.89	11.55	10.58	-7.66	606.90	-81.62	612.37	590.44		21.93	27.928	
5,250.00	5,250.00	5,270.45	5,247.55	11.66	10.69	-7.63	607.13	-81.31	612.56	590.41		22.15	27.656	
5,300.00	5,300.00	5,320.20	5,297.30	11.77	10.80	-7.60	607.38	-81.07	612.77	590.40		22.37	27.389	
5,350.00	5,350.00	5,370.19	5,347.29	11.88	10.91	-7.58	607.63	-80.83	612.99	590.39		22.60	27.123	
5,400.00	5,400.00	5,420.18	5,397.28	12.00	11.03	-7.55	607.89	-80.57	613.21	590.38		22.83	26.862	
5,450.00	5,450.00	5,470.19	5,447.28	12.11	11.14	-7.52	608.15	-80.29	613.43	590.38		23.06	26.607	
5,500.00	5,500.00	5,520.24	5,497.33	12.22	11.25	-7.49	608.41	-80.00	613.65	590.37		23.28	26.358	
5,550.00	5,550.00	5,570.34	5,547.43	12.33	11.36	-7.46	608.67	-79.69	613.87	590.36		23.51	26.113	
5,600.00	5,600.00	5,620.45	5,597.54	12.45	11.48	-7.43	608.92	-79.36	614.07	590.34		23.73	25.874	
5,650.00	5,650.00	5,670.57	5,647.65	12.56	11.59	-7.39	609.16	-79.01	614.27	590.31		23.96	25.640	
5,700.00	5,700.00	5,720.21	5,697.30	12.67	11.70	-7.36	609.40	-78.68	614.47	590.28		24.18	25.408	
5,750.00	5,750.00	5,769.72	5,746.80	12.78	11.81	-7.33	609.68	-78.42	614.71	590.30		24.41	25.180	
5,800.00	5,800.00	5,819.62	5,796.70	12.89	11.94	-7.31	609.97	-78.23	614.97	590.33		24.65	24.951	
5,850.00	5,850.00	5,869.57	5,846.65	13.01	12.06	-7.29	610.26	-78.11	615.24	590.36		24.88	24.725	
5,900.00	5,900.00	5,919.41	5,896.49	13.12	12.18	-7.29	610.54	-78.06	615.52	590.40		25.12	24.503	
5,950.00	5,950.00	5,969.27	5,946.36	13.23	12.30	-7.28	610.84	-78.07	615.81	590.46		25.36	24.287	

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

LEAM Drilling Systems LLC

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

Offset Design LT-27-S Offsets - BA-27-S 1H - OH - OH												Offset Site Error:	0.00 usft
Survey Program: 5-NS-GYRO-MS, 7203-MWD												Offset Well Error:	0.00 usft
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6,000.00	6,000.00	6,019.35	5,996.43	13.34	12.42	-7.29	611.12	-78.14	616.11	590.52	25.59	24.079	
6,050.00	6,050.00	6,069.70	6,046.78	13.46	12.53	-7.29	611.39	-78.27	616.39	590.58	25.81	23.879	
6,100.00	6,100.00	6,120.97	6,098.04	13.57	12.63	-7.31	611.59	-78.46	616.60	590.58	26.02	23.694	
6,150.00	6,150.00	6,172.25	6,149.33	13.68	12.71	-7.33	611.67	-78.71	616.71	590.49	26.22	23.522	
6,200.00	6,200.00	6,223.56	6,200.64	13.79	12.77	-7.35	611.64	-78.93	616.71	590.32	26.39	23.368	
6,250.00	6,250.00	6,274.64	6,251.71	13.91	12.82	-7.37	611.51	-79.13	616.61	590.06	26.55	23.226	
6,300.00	6,300.00	6,325.54	6,302.61	14.02	12.85	-7.39	611.31	-79.27	616.44	589.74	26.69	23.092	
6,350.00	6,350.00	6,376.18	6,353.25	14.13	12.88	-7.40	611.05	-79.36	616.19	589.36	26.84	22.960	
6,400.00	6,400.00	6,426.71	6,403.79	14.24	12.91	-7.40	610.76	-79.36	615.91	588.93	26.98	22.830	
6,450.00	6,450.00	6,476.05	6,453.12	14.36	12.94	-7.40	610.48	-79.30	615.62	588.50	27.12	22.697	
6,500.00	6,500.00	6,525.18	6,502.26	14.47	12.97	-7.40	610.28	-79.24	615.40	588.14	27.27	22.569	
6,550.00	6,550.00	6,574.29	6,551.37	14.58	13.01	-7.40	610.14	-79.19	615.26	587.84	27.42	22.440	
6,600.00	6,600.00	6,623.44	6,600.51	14.69	13.05	-7.39	610.07	-79.16	615.18	587.61	27.57	22.314	
6,650.00	6,650.00	6,673.81	6,650.88	14.81	13.09	-7.39	610.01	-79.12	615.12	587.39	27.73	22.183	
6,700.00	6,700.00	6,724.15	6,701.22	14.92	13.14	-7.38	609.94	-79.05	615.04	587.15	27.89	22.050	
6,750.00	6,750.00	6,774.33	6,751.41	15.03	13.20	-7.37	609.84	-78.93	614.93	586.87	28.07	21.911	
6,800.00	6,800.00	6,824.30	6,801.37	15.14	13.27	-7.36	609.74	-78.76	614.81	586.57	28.24	21.769	
6,850.00	6,850.00	6,873.73	6,850.81	15.25	13.34	-7.34	609.68	-78.59	614.72	586.29	28.43	21.622	
6,900.00	6,900.00	6,922.99	6,900.06	15.37	13.42	-7.33	609.66	-78.42	614.68	586.06	28.63	21.471	
6,903.01	6,903.01	6,925.94	6,903.01	15.37	13.43	-7.33	609.66	-78.41	614.68	586.04	28.64	21.462	
6,950.00	6,950.00	6,971.96	6,949.04	15.48	13.52	-7.32	609.71	-78.28	614.72	585.88	28.84	21.315	
7,000.00	7,000.00	7,021.17	6,998.24	15.59	13.63	-7.30	609.84	-78.17	614.84	585.77	29.06	21.157	
7,050.00	7,050.00	7,070.65	7,047.72	15.70	13.75	-7.30	610.02	-78.10	615.00	585.71	29.29	20.996	
7,100.00	7,100.00	7,121.07	7,098.14	15.82	13.86	-7.30	610.20	-78.12	615.18	585.67	29.52	20.842	
7,150.00	7,150.00	7,171.23	7,148.30	15.93	13.91	-7.31	610.32	-78.31	615.33	585.65	29.68	20.733	
7,200.00	7,200.00	7,221.81	7,198.88	16.04	13.94	-7.33	610.42	-78.52	615.45	585.63	29.82	20.638	
7,250.00	7,250.00	7,266.00	7,243.07	16.15	13.94	-7.34	610.76	-78.68	615.84	585.91	29.93	20.573	
7,300.00	7,300.00	7,297.00	7,274.05	16.27	13.94	-7.34	611.67	-78.82	617.27	587.23	30.05	20.543 SF	
7,350.00	7,350.00	7,329.00	7,306.00	16.38	13.94	-7.33	613.39	-78.95	620.02	589.85	30.16	20.556	
7,400.00	7,400.00	7,360.00	7,336.88	16.49	13.95	-7.29	616.15	-78.85	624.38	594.10	30.28	20.621	
7,450.00	7,450.00	7,392.00	7,368.62	16.60	13.95	-7.29	620.16	-79.34	630.49	600.09	30.39	20.743	
7,500.00	7,500.00	7,413.37	7,389.72	16.72	13.95	-7.30	623.50	-79.87	638.20	607.69	30.51	20.917	
7,550.00	7,550.00	7,440.68	7,416.52	16.83	13.96	-7.24	628.73	-79.89	647.69	617.06	30.63	21.147	
7,600.00	7,600.00	7,468.14	7,443.28	16.94	13.96	-7.19	634.85	-80.08	658.79	628.04	30.75	21.426	
7,650.00	7,650.00	7,487.00	7,461.55	17.05	13.97	-7.16	639.54	-80.35	671.56	640.69	30.86	21.759	
7,700.00	7,700.00	7,518.00	7,491.24	17.17	13.98	-7.13	648.42	-81.15	686.02	655.03	30.99	22.140	
7,750.00	7,750.00	7,535.83	7,508.07	17.28	13.98	-7.13	654.26	-81.81	702.34	671.24	31.10	22.580	
7,800.00	7,800.00	7,550.00	7,521.31	17.39	13.99	-7.13	659.27	-82.44	720.49	689.27	31.22	23.076	
7,850.00	7,850.00	7,581.00	7,549.84	17.50	14.01	-7.12	671.32	-83.85	740.13	708.78	31.35	23.610	
7,900.00	7,900.00	7,598.40	7,565.57	17.61	14.02	-7.11	678.70	-84.63	761.34	729.87	31.47	24.194	
7,950.00	7,950.00	7,613.00	7,578.61	17.73	14.03	-7.09	685.24	-85.29	784.06	752.47	31.59	24.822	
8,000.00	8,000.00	7,635.12	7,598.02	17.84	14.06	-7.06	695.80	-86.17	808.17	776.46	31.71	25.485	
8,050.00	8,050.00	7,653.89	7,614.14	17.95	14.08	-7.02	705.39	-86.81	833.71	801.88	31.83	26.189	
8,100.00	8,100.00	7,676.00	7,632.84	18.06	14.11	-7.00	717.12	-88.09	860.39	828.43	31.96	26.922	
8,150.00	8,150.00	7,695.86	7,649.36	18.18	14.14	-6.98	728.08	-89.16	888.08	856.00	32.08	27.682	
8,200.00	8,200.00	7,708.00	7,659.33	18.29	14.16	-6.94	735.01	-89.42	916.82	884.62	32.20	28.472	
8,250.00	8,250.00	7,739.00	7,684.28	18.40	14.22	-6.80	753.41	-89.81	946.43	914.10	32.33	29.273	
8,300.00	8,300.00	7,739.00	7,684.28	18.51	14.22	-6.80	753.41	-89.81	977.14	944.70	32.44	30.119	
8,350.00	8,350.00	7,764.00	7,703.76	18.63	14.28	-6.69	769.06	-90.15	1,008.57	975.99	32.57	30.965	
8,400.00	8,400.00	7,778.03	7,714.41	18.74	14.32	-6.62	778.20	-90.29	1,041.05	1,008.36	32.69	31.845	
8,450.00	8,450.00	7,802.00	7,732.08	18.85	14.38	-6.49	794.39	-90.44	1,074.55	1,041.73	32.82	32.742	

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 1H
Project:	Eddy County, NM (NAD-83)	TVD Reference:	GE 3492' + KB 26' @ 3518.00usft (Original Well Elev)
Reference Site:	Lava Tube 27 State	MD Reference:	GE 3492' + KB 26' @ 3518.00usft (Original Well Elev)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	1H	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:	Reference Datum

Offset Design LT-27-S Offsets - BA-27-S 1H - OH - OH														Offset Site Error:	0.00 usft
Survey Program: 5-NS-GYRO-MS, 7203-MWD														Offset Well Error:	0.00 usft
Reference	Vertical	Measured	Vertical	Semi Major Axis		Highside	Offset Wellbore Centre		Distance		Minimum	Separation	Warning		
Depth	Depth	Depth	Depth	Reference	Offset		+N/-S	+E/-W	Between	Between					
(usft)	(usft)	(usft)	(usft)	(usft)	(usft)	(°)	(usft)	(usft)	Centres	Ellipses	Separation	Factor			
8,500.00	8,500.00	7,802.00	7,732.08	18.96	14.38	-6.49	794.39	-90.44	1,108.58	1,075.65	32.93	33.664			
8,550.00	8,550.00	7,816.18	7,742.21	19.08	14.42	-6.42	804.31	-90.52	1,143.51	1,110.46	33.06	34.593			
8,600.00	8,600.00	7,834.00	7,754.59	19.19	14.48	-6.33	817.13	-90.66	1,179.25	1,146.06	33.19	35.535			
8,650.00	8,650.00	7,834.00	7,754.59	19.30	14.48	-6.33	817.13	-90.66	1,215.60	1,182.30	33.30	36.507			
8,700.00	8,700.00	7,854.51	7,768.44	19.41	14.56	-6.23	832.26	-90.92	1,252.49	1,219.06	33.43	37.471			
8,750.00	8,750.00	7,865.00	7,775.39	19.53	14.60	-6.19	840.11	-91.08	1,289.94	1,256.39	33.55	38.453			
8,800.00	8,800.00	7,880.08	7,785.21	19.64	14.66	-6.13	851.54	-91.41	1,327.89	1,294.22	33.67	39.440			
8,850.00	8,850.00	7,897.00	7,795.97	19.75	14.73	-6.07	864.59	-91.96	1,366.37	1,332.58	33.79	40.434			
8,900.00	8,900.00	7,897.00	7,795.97	19.86	14.73	-6.07	864.59	-91.96	1,405.30	1,371.40	33.90	41.448			
8,950.00	8,950.00	7,916.71	7,808.18	19.97	14.83	-6.02	880.05	-92.73	1,444.59	1,410.56	34.03	42.450			
9,000.00	9,000.00	7,937.00	7,820.44	20.09	14.92	-5.96	896.19	-93.59	1,484.35	1,450.19	34.16	43.457			
9,050.00	9,050.00	7,937.00	7,820.44	20.20	14.92	-5.96	896.19	-93.59	1,524.38	1,490.11	34.27	44.483			
9,100.00	9,100.00	7,937.00	7,820.44	20.31	14.92	-5.96	896.19	-93.59	1,564.99	1,530.61	34.38	45.518			
9,150.00	9,150.00	7,960.00	7,833.66	20.42	15.05	-5.91	914.97	-94.74	1,605.90	1,571.39	34.51	46.530			
9,200.00	9,200.00	7,960.00	7,833.66	20.54	15.05	-5.91	914.97	-94.74	1,647.13	1,612.51	34.63	47.569			
9,250.00	9,250.00	7,960.00	7,833.66	20.65	15.05	-5.91	914.97	-94.74	1,688.84	1,654.10	34.74	48.616			
9,300.00	9,300.00	7,960.00	7,833.66	20.76	15.05	-5.91	914.97	-94.74	1,730.99	1,696.14	34.85	49.669			
9,350.00	9,350.00	7,975.24	7,841.88	20.87	15.14	-5.89	927.77	-95.65	1,773.23	1,738.25	34.98	50.699			
9,400.00	9,400.00	7,992.00	7,850.43	20.99	15.24	-5.86	942.14	-96.73	1,816.08	1,780.98	35.10	51.738			
9,450.00	9,450.00	7,992.00	7,850.43	21.10	15.24	-5.86	942.14	-96.73	1,858.92	1,823.71	35.21	52.789			
9,500.00	9,500.00	7,992.00	7,850.43	21.21	15.24	-5.86	942.14	-96.73	1,902.12	1,866.79	35.33	53.844			
9,550.00	9,550.00	7,992.00	7,850.43	21.32	15.24	-5.86	942.14	-96.73	1,945.64	1,910.20	35.44	54.902			
9,600.00	9,600.00	7,992.00	7,850.43	21.44	15.24	-5.86	942.14	-96.73	1,989.46	1,953.91	35.55	55.961			
9,650.00	9,650.00	7,992.00	7,850.43	21.55	15.24	-5.86	942.14	-96.73	2,033.57	1,997.91	35.66	57.021			
9,700.00	9,700.00	8,008.53	7,858.35	21.66	15.35	-5.84	956.61	-97.84	2,077.58	2,041.79	35.79	58.050			
9,750.00	9,750.00	8,023.00	7,864.84	21.77	15.45	-5.82	969.51	-98.81	2,122.15	2,086.24	35.91	59.090			
9,800.00	9,800.00	8,023.00	7,864.84	21.89	15.45	-5.82	969.51	-98.81	2,166.69	2,130.67	36.03	60.142			
9,850.00	9,850.00	8,023.00	7,864.84	22.00	15.45	-5.82	969.51	-98.81	2,211.46	2,175.32	36.14	61.194			
9,900.00	9,900.00	8,023.00	7,864.84	22.11	15.45	-5.82	969.51	-98.81	2,256.45	2,220.20	36.25	62.245			
9,950.00	9,950.00	8,023.00	7,864.84	22.22	15.45	-5.82	969.51	-98.81	2,301.65	2,265.29	36.36	63.296			
10,000.00	10,000.00	8,023.00	7,864.84	22.34	15.45	-5.82	969.51	-98.81	2,347.04	2,310.57	36.48	64.345			
10,050.00	10,050.00	8,023.00	7,864.84	22.45	15.45	-5.82	969.51	-98.81	2,392.62	2,356.03	36.59	65.393			
10,100.00	10,100.00	8,039.76	7,871.88	22.56	15.57	-5.80	984.67	-99.98	2,438.05	2,401.34	36.71	66.409			
10,150.00	10,150.00	8,055.00	7,877.87	22.67	15.68	-5.78	998.64	-101.10	2,483.97	2,447.13	36.84	67.433			
10,200.00	10,200.00	8,055.00	7,877.87	22.78	15.68	-5.78	998.64	-101.10	2,529.78	2,492.84	36.95	68.468			
10,250.00	10,250.00	8,055.00	7,877.87	22.90	15.68	-5.78	998.64	-101.10	2,575.76	2,538.70	37.06	69.501			
10,300.00	10,300.00	8,055.00	7,877.87	23.01	15.68	-5.78	998.64	-101.10	2,621.88	2,584.70	37.17	70.531			
10,350.00	10,350.00	8,055.00	7,877.87	23.12	15.68	-5.78	998.64	-101.10	2,668.14	2,630.85	37.29	71.559			
10,400.00	10,400.00	8,055.00	7,877.87	23.23	15.68	-5.78	998.64	-101.10	2,714.53	2,677.13	37.40	72.585			
10,450.00	10,450.00	8,055.00	7,877.87	23.35	15.68	-5.78	998.64	-101.10	2,761.05	2,723.54	37.51	73.607			
10,500.00	10,500.00	8,055.00	7,877.87	23.46	15.68	-5.78	998.64	-101.10	2,807.68	2,770.06	37.62	74.627			
10,550.00	10,550.00	8,055.00	7,877.87	23.57	15.68	-5.78	998.64	-101.10	2,854.44	2,816.70	37.74	75.644			
10,600.00	10,600.00	8,068.57	7,882.82	23.68	15.79	-5.77	1,011.22	-102.17	2,901.05	2,863.19	37.86	76.632			
10,650.00	10,650.00	8,070.77	7,883.59	23.80	15.81	-5.77	1,013.28	-102.35	2,947.92	2,909.95	37.97	77.637			
10,700.00	10,700.00	8,086.00	7,888.59	23.91	15.93	-5.76	1,027.60	-103.67	2,995.12	2,957.03	38.09	78.627			
10,750.00	10,750.00	8,086.00	7,888.59	24.02	15.93	-5.76	1,027.60	-103.67	3,042.10	3,003.90	38.21	79.625			
10,800.00	10,800.00	8,086.00	7,888.59	24.13	15.93	-5.76	1,027.60	-103.67	3,089.18	3,050.86	38.32	80.620			
10,850.00	10,850.00	8,086.00	7,888.59	24.25	15.93	-5.76	1,027.60	-103.67	3,136.35	3,097.92	38.43	81.612			
10,900.00	10,900.00	8,086.00	7,888.59	24.36	15.93	-5.76	1,027.60	-103.67	3,183.60	3,145.06	38.54	82.600			
10,950.00	10,950.00	8,086.00	7,888.59	24.47	15.93	-5.76	1,027.60	-103.67	3,230.94	3,192.28	38.65	83.584			

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 1H
Project:	Eddy County, NM (NAD-83)	TVD Reference:	GE 3492' + KB 26' @ 3518.00usft (Original Well Elev)
Reference Site:	Lava Tube 27 State	MD Reference:	GE 3492' + KB 26' @ 3518.00usft (Original Well Elev)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	1H	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:	Reference Datum

Offset Design												Offset Site Error:	0.00 usft
Survey Program: 5-NS-GYRO-MS, 7203-MWD												Offset Well Error:	0.00 usft
Reference: LT-27-S Offsets - BA-27-S 1H - OH - OH													
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)			
11,000.00	11,000.00	8,086.00	7,888.59	24.58	15.93	-5.76	1,027.60	-103.67	3,278.35	3,239.58	38.77	84.565	
11,050.00	11,050.00	8,086.00	7,888.59	24.70	15.93	-5.76	1,027.60	-103.67	3,325.84	3,286.96	38.88	85.542	
11,100.00	11,100.00	8,086.00	7,888.59	24.81	15.93	-5.76	1,027.60	-103.67	3,373.41	3,334.41	38.99	86.515	
11,150.00	11,150.00	8,086.00	7,888.59	24.92	15.93	-5.76	1,027.60	-103.67	3,421.04	3,381.94	39.10	87.485	
11,200.00	11,200.00	8,086.00	7,888.59	25.03	15.93	-5.76	1,027.60	-103.67	3,468.74	3,429.52	39.22	88.450	
11,250.00	11,250.00	8,086.00	7,888.59	25.14	15.93	-5.76	1,027.60	-103.67	3,516.50	3,477.17	39.33	89.412	
11,300.00	11,300.00	8,086.00	7,888.59	25.26	15.93	-5.76	1,027.60	-103.67	3,564.33	3,524.89	39.44	90.370	
11,350.00	11,350.00	8,086.00	7,888.59	25.37	15.93	-5.76	1,027.60	-103.67	3,612.21	3,572.66	39.55	91.324	
11,400.00	11,400.00	8,086.00	7,888.59	25.48	15.93	-5.76	1,027.60	-103.67	3,660.15	3,620.49	39.67	92.274	
11,450.00	11,450.00	8,101.42	7,893.17	25.59	16.06	-5.76	1,042.26	-105.10	3,707.88	3,668.09	39.79	93.192	
11,500.00	11,500.00	8,103.10	7,893.64	25.71	16.08	-5.76	1,043.87	-105.26	3,755.87	3,715.97	39.90	94.130	
11,550.00	11,550.00	8,118.00	7,897.59	25.82	16.21	-5.76	1,058.16	-106.70	3,804.10	3,764.07	40.02	95.051	
11,600.00	11,600.00	8,118.00	7,897.59	25.93	16.21	-5.76	1,058.16	-106.70	3,852.13	3,811.99	40.13	95.982	
11,650.00	11,650.00	8,118.00	7,897.59	26.04	16.21	-5.76	1,058.16	-106.70	3,900.21	3,859.66	40.25	96.908	
11,700.00	11,700.00	8,118.00	7,897.59	26.16	16.21	-5.76	1,058.16	-106.70	3,948.34	3,907.98	40.36	97.831	
11,708.54	11,708.54	8,118.00	7,897.59	26.18	16.21	-5.76	1,058.16	-106.70	3,956.56	3,916.18	40.38	97.988	
11,725.00	11,725.00	8,118.00	7,897.59	26.21	16.21	-2.11	1,058.16	-106.70	3,972.34	3,931.91	40.43	98.263	
11,750.00	11,749.95	8,118.00	7,897.59	26.27	16.21	-1.81	1,058.16	-106.70	3,995.98	3,955.57	40.41	98.879	
11,775.00	11,774.79	8,118.00	7,897.59	26.33	16.21	-1.59	1,058.16	-106.70	4,019.19	3,978.89	40.30	99.740	
11,800.00	11,799.44	8,118.00	7,897.59	26.38	16.21	-1.42	1,058.16	-106.70	4,041.91	4,001.83	40.08	100.854	
11,825.00	11,823.85	8,118.00	7,897.59	26.44	16.21	-1.28	1,058.16	-106.70	4,064.08	4,024.32	39.75	102.229	
11,850.00	11,847.94	8,118.00	7,897.59	26.49	16.21	-1.17	1,058.16	-106.70	4,085.65	4,046.32	39.33	103.880	
11,875.00	11,871.65	8,118.00	7,897.59	26.55	16.21	-1.08	1,058.16	-106.70	4,106.57	4,067.77	38.81	105.823	
11,900.00	11,894.91	8,118.00	7,897.59	26.60	16.21	-1.01	1,058.16	-106.70	4,126.81	4,088.63	38.18	108.081	
11,925.00	11,917.66	8,118.00	7,897.59	26.65	16.21	-0.94	1,058.16	-106.70	4,146.30	4,108.84	37.46	110.679	
11,950.00	11,939.84	8,118.00	7,897.59	26.70	16.21	-0.89	1,058.16	-106.70	4,165.02	4,128.37	36.65	113.649	
11,975.00	11,961.38	8,118.00	7,897.59	26.75	16.21	-0.84	1,058.16	-106.70	4,182.91	4,147.17	35.74	117.029	
12,000.00	11,982.23	8,118.00	7,897.59	26.80	16.21	-0.80	1,058.16	-106.70	4,199.94	4,165.19	34.75	120.866	
12,025.00	12,002.33	8,118.00	7,897.59	26.85	16.21	-0.77	1,058.16	-106.70	4,216.08	4,182.41	33.67	125.216	
12,050.00	12,021.63	8,118.00	7,897.59	26.90	16.21	-0.74	1,058.16	-106.70	4,231.29	4,198.78	32.51	130.145	
12,075.00	12,040.07	8,118.00	7,897.59	26.96	16.21	-0.71	1,058.16	-106.70	4,245.53	4,214.26	31.28	135.735	
12,100.00	12,057.59	8,118.00	7,897.59	27.02	16.21	-0.69	1,058.16	-106.70	4,258.79	4,228.82	29.97	142.082	
12,125.00	12,074.16	8,118.00	7,897.59	27.09	16.21	-0.67	1,058.16	-106.70	4,271.03	4,242.43	28.61	149.305	
12,150.00	12,089.73	8,146.43	7,904.16	27.16	16.48	-0.67	1,085.67	-109.48	4,281.54	4,254.30	27.25	157.132	
12,175.00	12,104.26	8,149.57	7,904.81	27.23	16.51	-0.65	1,088.74	-109.78	4,291.52	4,265.73	25.78	166.435	
12,200.00	12,117.70	8,152.78	7,905.46	27.30	16.54	-0.64	1,091.86	-110.09	4,300.39	4,276.10	24.28	177.098	
12,225.00	12,130.02	8,181.00	7,910.58	27.39	16.80	-0.64	1,119.48	-112.75	4,308.66	4,285.84	22.82	188.791	
12,250.00	12,141.18	8,181.00	7,910.58	27.47	16.80	-0.63	1,119.48	-112.75	4,315.14	4,293.87	21.27	202.878	
12,275.00	12,151.16	8,181.00	7,910.58	27.56	16.80	-0.63	1,119.48	-112.75	4,320.48	4,300.77	19.72	219.135	
12,300.00	12,159.92	8,181.00	7,910.58	27.66	16.80	-0.62	1,119.48	-112.75	4,324.68	4,306.50	18.18	237.858	
12,325.00	12,167.45	8,181.00	7,910.58	27.76	16.80	-0.62	1,119.48	-112.75	4,327.73	4,311.03	16.69	259.264	
12,350.00	12,173.72	8,181.00	7,910.58	27.86	16.80	-0.61	1,119.48	-112.75	4,329.61	4,314.33	15.28	283.326	
12,375.00	12,178.71	8,181.00	7,910.58	27.97	16.80	-0.61	1,119.48	-112.75	4,330.33	4,316.34	13.99	309.462	
12,400.00	12,182.42	8,181.00	7,910.58	28.09	16.80	-0.61	1,119.48	-112.75	4,329.89	4,317.01	12.88	336.059	
12,425.00	12,184.82	8,181.00	7,910.58	28.21	16.80	-0.62	1,119.48	-112.75	4,328.29	4,316.26	12.02	359.989	
12,450.00	12,185.92	8,192.53	7,912.39	28.34	16.92	-0.63	1,130.82	-113.81	4,325.47	4,313.94	11.53	375.246	
12,458.54	12,186.00	8,195.01	7,912.77	28.38	16.95	-0.63	1,133.26	-114.04	4,324.23	4,312.80	11.43	378.179	
12,500.00	12,186.00	8,212.00	7,915.29	28.60	17.12	-0.64	1,149.99	-115.55	4,318.05	4,306.41	11.64	371.102	
12,550.00	12,186.00	8,212.00	7,915.29	28.91	17.12	-0.64	1,149.99	-115.55	4,310.97	4,299.15	11.82	364.732	
12,600.00	12,186.00	8,244.00	7,919.60	29.22	17.46	-0.65	1,181.57	-118.42	4,304.26	4,292.12	12.14	354.452	
12,650.00	12,186.00	8,244.00	7,919.60	29.57	17.46	-0.65	1,181.57	-118.42	4,297.96	4,285.60	12.35	347.888	

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

LEAM Drilling Systems LLC

Anticollision Report

Company:	DEVON ENERGY	Local Co-ordinate Reference:	Well 1H
Project:	Eddy County, NM (NAD-83)	TVD Reference:	GE 3492' + KB 26' @ 3518.00usft (Original Well Elev)
Reference Site:	Lava Tube 27 State	MD Reference:	GE 3492' + KB 26' @ 3518.00usft (Original Well Elev)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	1H	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:	Reference Datum

Offset Design LT-27-S Offsets - BA-27-S 1H - OH - OH													Offset Site Error: 0.00 usft
Survey Program: 5-NS-GYRO-MS, 7203-MWD													Offset Well Error: 0.00 usft
Reference		Offset		Semi Major Axis		Highside Toolface	Offset Wellbore Centre		Distance		Minimum Separation	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)			
12,700.00	12,186.00	8,257.24	7,921.17	29.93	17.61	-0.66	1,194.66	-119.68	4,292.12	4,279.49	12.63	339.943	
12,750.00	12,186.00	8,275.00	7,923.01	30.33	17.80	-0.67	1,212.23	-121.46	4,286.79	4,273.85	12.94	331.253	
12,800.00	12,186.00	8,275.00	7,923.01	30.74	17.80	-0.67	1,212.23	-121.46	4,281.85	4,268.67	13.17	324.999	
12,850.00	12,186.00	8,275.00	7,923.01	31.18	17.80	-0.67	1,212.23	-121.46	4,277.49	4,264.06	13.43	318.554	
12,900.00	12,186.00	8,290.71	7,924.34	31.63	17.98	-0.68	1,227.81	-123.05	4,273.51	4,259.75	13.76	310.672	
12,950.00	12,186.00	8,307.00	7,925.36	32.12	18.17	-0.68	1,243.99	-124.61	4,270.15	4,256.05	14.10	302.803	
13,000.00	12,186.00	8,307.00	7,925.36	32.60	18.17	-0.68	1,243.99	-124.61	4,267.16	4,252.79	14.37	296.934	
13,050.00	12,186.00	8,307.00	7,925.36	33.13	18.17	-0.68	1,243.99	-124.61	4,264.75	4,250.10	14.65	291.059	
13,100.00	12,186.00	8,338.00	7,926.58	33.65	18.54	-0.70	1,274.83	-127.47	4,262.78	4,247.69	15.09	282.515	
13,150.00	12,186.00	8,338.00	7,926.58	34.20	18.54	-0.70	1,274.83	-127.47	4,261.19	4,245.80	15.38	277.034	
13,200.00	12,186.00	8,352.03	7,926.90	34.76	18.71	-0.70	1,288.80	-128.71	4,260.09	4,244.34	15.75	270.541	
13,250.00	12,186.00	8,370.00	7,927.12	35.34	18.93	-0.71	1,306.70	-130.25	4,259.43	4,243.29	16.14	263.887	
13,293.19	12,186.00	8,370.00	7,927.12	35.85	18.93	-0.71	1,306.70	-130.25	4,259.21	4,242.81	16.40	259.678	
13,300.00	12,186.00	8,370.00	7,927.12	35.93	18.93	-0.71	1,306.70	-130.25	4,259.21	4,242.77	16.44	259.029	
13,350.00	12,186.00	8,401.00	7,927.04	36.54	19.31	-0.72	1,337.59	-132.86	4,259.37	4,242.46	16.92	251.780	
13,400.00	12,186.00	8,401.00	7,927.04	37.15	19.31	-0.72	1,337.59	-132.86	4,259.97	4,242.74	17.23	247.290	
13,450.00	12,186.00	8,433.00	7,926.48	37.79	19.72	-0.73	1,369.47	-135.65	4,260.90	4,243.19	17.72	240.501	
13,500.00	12,186.00	8,448.39	7,926.07	38.43	19.92	-0.74	1,384.80	-136.98	4,262.22	4,244.10	18.12	235.243	
13,550.00	12,186.00	8,464.00	7,925.55	39.09	20.12	-0.74	1,400.34	-138.28	4,263.92	4,245.39	18.53	230.149	
13,600.00	12,186.00	8,496.00	7,924.21	39.75	20.55	-0.75	1,432.20	-140.93	4,266.00	4,246.97	19.03	224.175	
13,650.00	12,186.00	8,624.00	7,919.39	40.43	22.13	-0.71	1,559.99	-145.20	4,268.18	4,248.07	20.11	212.261	
13,700.00	12,186.00	8,667.17	7,918.55	41.10	22.71	-0.67	1,603.15	-144.91	4,269.16	4,248.46	20.70	206.247	
13,750.00	12,186.00	8,688.32	7,917.91	41.80	22.99	-0.65	1,624.29	-144.72	4,270.62	4,249.46	21.16	201.832	
13,800.00	12,186.00	8,716.00	7,916.87	42.50	23.36	-0.62	1,651.95	-144.43	4,272.43	4,250.77	21.66	197.256	
13,850.00	12,186.00	8,933.00	7,912.84	43.21	26.28	-0.38	1,868.81	-138.81	4,273.25	4,249.87	23.38	182.743	
13,860.93	12,186.00	8,939.13	7,912.84	43.37	26.37	-0.37	1,874.94	-138.64	4,273.25	4,249.75	23.50	181.861	
13,900.00	12,186.00	8,961.08	7,912.79	43.93	26.68	-0.34	1,896.88	-138.08	4,273.33	4,249.42	23.90	178.780	
13,950.00	12,186.00	9,000.00	7,912.47	44.65	27.23	-0.30	1,935.79	-137.28	4,273.68	4,249.19	24.50	174.465	
14,000.00	12,186.00	9,036.56	7,912.08	45.38	27.78	-0.27	1,972.34	-136.86	4,274.17	4,249.10	25.08	170.431	
14,050.00	12,186.00	9,096.08	7,911.55	46.12	28.67	-0.22	2,031.87	-137.09	4,274.61	4,248.79	25.82	165.564	
14,100.00	12,186.00	9,397.40	7,917.77	46.87	33.19	-0.23	2,332.39	-155.52	4,273.86	4,245.64	28.22	151.462	
14,150.00	12,186.00	9,476.38	7,922.10	47.62	34.40	-0.24	2,411.08	-160.71	4,271.11	4,242.01	29.11	146.737	
14,200.00	12,186.00	9,526.24	7,924.98	48.37	35.19	-0.24	2,460.78	-163.51	4,268.22	4,238.42	29.80	143.245	
14,250.00	12,186.00	9,566.00	7,927.29	49.14	35.82	-0.24	2,500.40	-165.84	4,265.33	4,234.92	30.42	140.226	
14,300.00	12,186.00	9,566.00	7,927.29	49.90	35.82	-0.24	2,500.40	-165.84	4,262.85	4,232.09	30.76	138.578	
14,350.00	12,186.00	9,609.39	7,929.46	50.68	36.52	-0.24	2,543.65	-168.44	4,260.39	4,228.98	31.41	135.634	
14,400.00	12,186.00	9,629.11	7,930.22	51.45	36.84	-0.24	2,563.32	-169.62	4,258.45	4,226.56	31.89	133.516	
14,450.00	12,186.00	9,661.00	7,931.16	52.24	37.36	-0.24	2,595.14	-171.51	4,256.91	4,224.45	32.47	131.122	
14,500.00	12,186.00	9,661.00	7,931.16	53.02	37.36	-0.24	2,595.14	-171.51	4,255.66	4,222.85	32.81	129.696	
14,550.00	12,186.00	9,697.88	7,931.90	53.81	37.98	-0.24	2,631.95	-173.67	4,254.69	4,221.27	33.42	127.306	
14,600.00	12,186.00	9,724.53	7,932.26	54.61	38.42	-0.24	2,658.56	-175.18	4,254.02	4,220.06	33.96	125.276	
14,650.00	12,186.00	9,755.00	7,932.49	55.41	38.92	-0.24	2,688.98	-176.85	4,253.63	4,219.11	34.52	123.216	
14,700.00	12,186.00	9,787.24	7,932.59	56.21	39.46	-0.23	2,721.17	-178.82	4,253.46	4,218.36	35.10	121.183	
14,732.49	12,186.00	9,811.69	7,932.61	56.73	39.87	-0.23	2,745.58	-179.98	4,253.43	4,217.93	35.50	119.814	
14,750.00	12,186.00	9,824.86	7,932.60	57.02	40.09	-0.23	2,758.74	-180.73	4,253.44	4,217.72	35.72	119.089	
14,800.00	12,186.00	9,864.31	7,932.51	57.82	40.75	-0.23	2,798.12	-182.97	4,253.56	4,217.21	36.35	117.028	
14,850.00	12,186.00	9,907.41	7,932.32	58.64	41.46	-0.22	2,841.17	-184.94	4,253.77	4,216.77	37.00	114.954	
14,900.00	12,186.00	9,952.92	7,932.04	59.45	42.21	-0.21	2,886.66	-186.33	4,254.07	4,216.39	37.68	112.903	
14,950.00	12,186.00	10,012.27	7,931.74	60.27	43.18	-0.19	2,945.96	-188.84	4,254.32	4,215.87	38.45	110.635	
15,000.00	12,186.00	10,059.60	7,931.57	61.09	43.96	-0.20	2,993.19	-191.85	4,254.50	4,215.36	39.14	108.690	

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 1H
Project:	Eddy County, NM (NAD-83)	TVD Reference:	GE 3492' + KB 26' @ 3518.00usft (Original Well Elev)
Reference Site:	Lava Tube 27 State	MD Reference:	GE 3492' + KB 26' @ 3518.00usft (Original Well Elev)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	1H	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:	Reference Datum

Offset Design										LT-27-S Offsets - BA-27-S 1H - OH - OH		Offset Site Error: 0.00 usft	
Survey Program: 5-NS-GYRO-MS, 7203-MWD										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)			
15,050.00	12,186.00	10,097.06	7,931.34	61.92	44.57	-0.20	3,030.58	-194.21	4,254.81	4,215.04	39.76	107.000	
15,100.00	12,186.00	10,135.14	7,930.99	62.74	45.20	-0.20	3,068.59	-196.47	4,255.26	4,214.87	40.39	105.355	
15,150.00	12,186.00	10,216.37	7,930.45	63.57	46.54	-0.20	3,149.64	-201.74	4,255.59	4,214.27	41.32	102.979	
15,200.00	12,186.00	10,254.78	7,930.32	64.40	47.18	-0.21	3,187.95	-204.55	4,255.78	4,213.82	41.95	101.438	
15,250.00	12,186.00	10,286.04	7,930.07	65.24	47.71	-0.22	3,219.12	-206.78	4,256.18	4,213.64	42.53	100.067	
15,300.00	12,186.00	10,322.00	7,929.62	66.07	48.31	-0.22	3,255.00	-209.28	4,256.80	4,213.65	43.15	98.660	
15,350.00	12,186.00	10,366.98	7,928.95	66.91	49.06	-0.23	3,299.87	-212.28	4,257.54	4,213.71	43.82	97.149	
15,400.00	12,186.00	10,417.00	7,928.24	67.75	49.90	-0.23	3,349.79	-215.43	4,258.25	4,213.71	44.54	95.606	
15,450.00	12,186.00	10,462.41	7,927.56	68.60	50.66	-0.23	3,395.11	-218.07	4,259.00	4,213.78	45.22	94.180	
15,500.00	12,186.00	10,512.00	7,926.73	69.44	51.48	-0.22	3,444.63	-220.67	4,259.83	4,213.89	45.93	92.737	
15,550.00	12,186.00	10,556.80	7,925.96	70.29	52.22	-0.22	3,489.37	-222.91	4,260.69	4,214.08	46.61	91.404	
15,600.00	12,186.00	10,606.00	7,925.14	71.13	53.04	-0.21	3,538.50	-225.43	4,261.52	4,214.20	47.32	90.049	
15,650.00	12,186.00	10,654.25	7,924.31	71.99	53.84	-0.21	3,586.69	-227.74	4,262.37	4,214.35	48.03	88.745	
15,700.00	12,186.00	10,700.00	7,923.48	72.84	54.60	-0.19	3,632.39	-229.59	4,263.28	4,214.57	48.72	87.513	
15,750.00	12,186.00	10,736.83	7,922.73	73.69	55.23	-0.18	3,669.18	-230.97	4,264.29	4,214.96	49.34	86.427	
15,800.00	12,186.00	11,013.82	7,923.10	74.54	59.83	-0.12	3,945.86	-242.68	4,265.03	4,213.33	51.70	82.502	
15,850.00	12,186.00	11,067.09	7,924.80	75.40	60.71	-0.12	3,999.01	-245.78	4,263.43	4,210.99	52.44	81.302	
15,900.00	12,186.00	11,079.00	7,925.18	76.26	60.91	-0.12	4,010.90	-246.52	4,261.99	4,209.10	52.88	80.591	
15,950.00	12,186.00	11,119.92	7,926.28	77.12	61.61	-0.12	4,051.73	-248.91	4,260.69	4,207.15	53.54	79.581	
16,000.00	12,186.00	11,142.97	7,926.70	77.98	62.00	-0.12	4,074.74	-250.14	4,259.78	4,205.72	54.06	78.790	
16,050.00	12,186.00	11,173.00	7,927.02	78.84	62.52	-0.11	4,104.74	-251.61	4,259.21	4,204.57	54.64	77.948	
16,100.00	12,186.00	11,207.85	7,927.25	79.70	63.11	-0.11	4,139.54	-253.24	4,258.85	4,203.60	55.25	77.079	
16,150.00	12,186.00	11,257.84	7,927.58	80.57	63.97	-0.10	4,189.48	-255.60	4,258.52	4,202.54	55.97	76.079	
16,200.00	12,186.00	11,333.43	7,928.28	81.43	65.23	-0.09	4,264.98	-259.17	4,258.07	4,201.18	56.88	74.858	
16,250.00	12,186.00	11,403.68	7,929.36	82.30	66.40	-0.08	4,335.14	-262.42	4,257.29	4,199.54	57.75	73.718	
16,300.00	12,186.00	11,468.08	7,930.59	83.17	67.46	-0.06	4,399.47	-265.33	4,256.34	4,197.76	58.58	72.661	
16,350.00	12,186.00	11,536.89	7,932.17	84.04	68.60	-0.05	4,468.20	-268.41	4,255.19	4,195.75	59.44	71.591	
16,400.00	12,186.00	11,552.00	7,932.56	84.91	68.85	-0.05	4,483.29	-269.09	4,254.06	4,194.15	59.91	71.011	
16,450.00	12,186.00	11,592.18	7,933.38	85.78	69.53	-0.04	4,523.42	-270.64	4,253.08	4,192.52	60.56	70.230	
16,500.00	12,186.00	11,614.74	7,933.64	86.65	69.91	-0.03	4,545.98	-271.30	4,252.51	4,191.42	61.08	69.617	
16,550.00	12,186.00	11,646.00	7,933.76	87.52	70.44	-0.01	4,577.23	-271.96	4,252.28	4,190.61	61.67	68.950	
16,566.37	12,186.00	11,646.00	7,933.76	87.81	70.44	-0.01	4,577.23	-271.96	4,252.25	4,190.46	61.79	68.818	
16,600.00	12,186.00	11,676.91	7,933.73	88.40	70.96	0.01	4,608.13	-272.50	4,252.27	4,190.01	62.26	68.302	
16,650.00	12,186.00	11,727.27	7,933.70	89.27	71.82	0.03	4,658.49	-273.57	4,252.30	4,189.31	62.98	67.514	
16,700.00	12,186.00	11,770.75	7,933.66	90.15	72.56	0.05	4,701.95	-274.56	4,252.35	4,188.69	63.66	66.797	
16,750.00	12,186.00	11,811.63	7,933.53	91.03	73.25	0.08	4,742.82	-275.17	4,252.51	4,188.19	64.32	66.115	
16,800.00	12,186.00	11,877.03	7,933.29	91.90	74.35	0.12	4,808.22	-275.62	4,252.72	4,187.56	65.16	65.269	
16,850.00	12,186.00	11,946.57	7,933.51	92.78	75.52	0.18	4,877.76	-275.84	4,252.55	4,186.52	66.03	64.408	
16,900.00	12,186.00	11,982.52	7,933.59	93.66	76.12	0.21	4,913.71	-275.80	4,252.43	4,185.79	66.65	63.803	
16,908.82	12,186.00	11,988.86	7,933.60	93.82	76.23	0.21	4,920.05	-275.78	4,252.43	4,185.67	66.76	63.698	
16,950.00	12,186.00	12,024.00	7,933.55	94.54	76.82	0.24	4,955.19	-275.59	4,252.49	4,185.18	67.31	63.174	
17,000.00	12,186.00	12,054.31	7,933.42	95.42	77.34	0.27	4,985.50	-275.35	4,252.71	4,184.81	67.90	62.635	
17,050.00	12,186.00	12,090.14	7,933.15	96.30	77.96	0.30	5,021.33	-274.99	4,253.10	4,184.58	68.52	62.070	
17,100.00	12,186.00	12,127.78	7,932.75	97.18	78.60	0.34	5,058.96	-274.53	4,253.65	4,184.49	69.16	61.506	
17,150.00	12,186.00	12,172.93	7,932.19	98.07	79.38	0.38	5,104.11	-273.88	4,254.30	4,184.45	69.85	60.906	
17,200.00	12,186.00	12,220.91	7,931.54	98.95	80.20	0.43	5,152.08	-273.10	4,255.00	4,184.44	70.56	60.300	
17,250.00	12,186.00	12,291.54	7,930.75	99.83	81.40	0.48	5,222.70	-273.50	4,255.58	4,184.14	71.44	59.565	
17,300.00	12,186.00	12,365.78	7,930.28	100.72	82.67	0.50	5,296.87	-276.43	4,255.91	4,183.56	72.35	58.826	
17,350.00	12,186.00	12,423.24	7,930.18	101.60	83.65	0.50	5,354.23	-279.85	4,255.99	4,182.86	73.13	58.198	
17,400.00	12,186.00	12,464.16	7,930.07	102.49	84.35	0.50	5,395.08	-282.31	4,256.13	4,182.34	73.79	57.679	
17,450.00	12,186.00	12,509.84	7,929.84	103.38	85.14	0.50	5,440.68	-284.89	4,256.37	4,181.89	74.49	57.144	

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 1H
Project:	Eddy County, NM (NAD-83)	TVD Reference:	GE 3492' + KB 26' @ 3518.00usft (Original Well Elev)
Reference Site:	Lava Tube 27 State	MD Reference:	GE 3492' + KB 26' @ 3518.00usft (Original Well Elev)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	1H	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:	Reference Datum

Offset Design											LT-27-S Offsets - BA-27-S 1H - OH - OH		Offset Site Error:		0.00 usft
Survey Program: 5-NS-GYRO-MS, 7203-MWD													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)					
17,500.00	12,186.00	12,574.78	7,929.65	104.26	86.26	0.52	5,505.57	-287.60	4,256.53	4,181.21	75.32	56.511			
17,550.00	12,186.00	12,639.06	7,929.68	105.15	87.36	0.54	5,569.80	-289.92	4,256.52	4,180.36	76.15	55.893			
17,600.00	12,186.00	12,686.00	7,929.83	106.04	88.16	0.53	5,616.64	-292.97	4,256.36	4,179.50	76.86	55.378			
17,605.21	12,186.00	12,686.00	7,929.83	106.13	88.16	0.53	5,616.64	-292.97	4,256.36	4,179.46	76.90	55.351			
17,650.00	12,186.00	12,686.00	7,929.83	106.93	88.16	0.53	5,616.64	-292.97	4,256.60	4,179.37	77.22	55.121			
17,700.00	12,186.00	12,733.67	7,929.66	107.82	88.98	0.53	5,664.20	-296.19	4,256.78	4,178.85	77.93	54.621			
17,750.00	12,186.00	12,781.00	7,928.78	108.71	89.80	0.54	5,711.47	-298.40	4,257.70	4,179.06	78.64	54.141			
17,800.00	12,186.00	12,888.01	7,928.19	109.60	91.65	0.53	5,818.24	-305.21	4,258.00	4,178.22	79.78	53.369			
17,833.64	12,186.00	12,914.47	7,928.21	110.20	92.10	0.53	5,844.64	-306.97	4,257.97	4,177.75	80.22	53.078			
17,850.00	12,186.00	12,927.34	7,928.20	110.49	92.32	0.53	5,857.49	-307.78	4,257.98	4,177.55	80.43	52.938			
17,900.00	12,186.00	12,973.00	7,928.10	111.38	93.11	0.53	5,903.08	-310.37	4,258.09	4,176.96	81.13	52.485			
17,950.00	12,186.00	13,014.95	7,927.95	112.27	93.84	0.53	5,944.97	-312.56	4,258.27	4,176.47	81.80	52.057			
17,958.01	12,186.00	13,022.96	7,927.92	112.41	93.98	0.53	5,952.97	-312.98	4,258.30	4,176.38	81.92	51.983			

LEAM Drilling Systems LLC

Anticollision Report

Company:	DEVON ENERGY	Local Co-ordinate Reference:	Well 1H
Project:	Eddy County, NM (NAD-83)	TVD Reference:	GE 3492' + KB 26' @ 3518.00usft (Original Well Elev)
Reference Site:	Lava Tube 27 State	MD Reference:	GE 3492' + KB 26' @ 3518.00usft (Original Well Elev)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	1H	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:	Reference Datum

Offset Design												Offset Site Error:	0.00 usft
Survey Program: 850-NS-GYRO-MS												Offset Well Error:	0.00 usft
LT-27-S Offsets - LAS #7 - OH - OH													
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Distance		Minimum Separation (usft)	Separation Factor	Warning		
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)					
0.00	0.00	0.00	0.00	0.00	0.00	-44.91	353.14	-352.02	498.62				
50.00	50.00	49.81	49.81	0.03	0.06	-44.91	353.15	-352.02	498.63	498.54	0.09	5,493.913	
100.00	100.00	99.62	99.62	0.08	0.13	-44.90	353.19	-352.02	498.66	498.45	0.21	2,366.224	
150.00	150.00	149.43	149.43	0.20	0.19	-44.90	353.26	-352.02	498.71	498.32	0.39	1,288.943	
200.00	200.00	199.23	199.23	0.31	0.26	-44.89	353.35	-352.02	498.78	498.21	0.56	885.792	
250.00	250.00	249.04	249.04	0.42	0.32	-44.88	353.48	-352.02	498.86	498.12	0.74	674.817	
300.00	300.00	298.85	298.85	0.53	0.38	-44.87	353.62	-352.02	498.97	498.05	0.92	545.066	
350.00	350.00	348.66	348.66	0.65	0.45	-44.86	353.80	-352.02	499.09	498.00	1.09	457.213	
400.00	400.00	398.47	398.46	0.76	0.51	-44.84	354.00	-352.02	499.24	497.97	1.27	393.792	
450.00	450.00	448.27	448.27	0.87	0.57	-44.82	354.23	-352.02	499.40	497.96	1.44	345.860	
500.00	500.00	498.08	498.08	0.98	0.64	-44.80	354.49	-352.02	499.58	497.96	1.62	308.364	
550.00	550.00	547.89	547.88	1.09	0.70	-44.78	354.77	-352.02	499.79	497.99	1.80	278.234	
600.00	600.00	597.69	597.69	1.21	0.77	-44.75	355.08	-352.02	500.01	498.03	1.97	253.495	
650.00	650.00	647.50	647.50	1.32	0.83	-44.72	355.42	-352.02	500.25	498.10	2.15	232.823	
700.00	700.00	697.31	697.30	1.43	0.89	-44.70	355.78	-352.02	500.51	498.18	2.32	215.292	
750.00	750.00	747.11	747.10	1.54	0.96	-44.66	356.17	-352.02	500.79	498.29	2.50	200.238	
800.00	800.00	796.92	796.91	1.66	1.02	-44.63	356.59	-352.02	501.09	498.41	2.68	187.173	
850.00	850.00	846.72	846.71	1.77	1.08	-44.59	357.04	-352.02	501.40	498.55	2.85	175.728	
900.00	900.00	896.24	896.23	1.88	1.21	-44.56	357.49	-352.05	501.75	498.66	3.09	162.278	
950.00	950.00	946.20	946.19	1.99	1.34	-44.53	357.95	-352.14	502.14	498.80	3.34	150.511	
1,000.00	1,000.00	996.32	996.31	2.11	1.47	-44.50	358.41	-352.21	502.51	498.93	3.58	140.332	
1,050.00	1,050.00	1,048.14	1,048.12	2.22	1.60	-44.46	358.85	-352.18	502.80	498.98	3.82	131.640	
1,100.00	1,100.00	1,100.15	1,100.13	2.33	1.73	-44.41	359.22	-351.93	502.88	498.83	4.06	123.973	
1,150.00	1,150.00	1,150.47	1,150.44	2.44	1.83	-44.37	359.48	-351.62	502.86	498.58	4.28	117.621	
1,200.00	1,200.00	1,200.81	1,200.79	2.56	1.94	-44.33	359.64	-351.37	502.80	498.30	4.49	111.884	
1,250.00	1,250.00	1,251.31	1,251.28	2.67	2.04	-44.29	359.81	-351.05	502.69	497.98	4.71	106.688	
1,300.00	1,300.00	1,301.32	1,301.29	2.78	2.15	-44.24	360.04	-350.61	502.55	497.61	4.93	101.886	
1,350.00	1,350.00	1,350.04	1,350.01	2.89	2.27	-44.19	360.31	-350.24	502.48	497.32	5.16	97.373	
1,350.52	1,350.52	1,350.55	1,350.52	2.89	2.27	-44.19	360.31	-350.24	502.48	497.32	5.16	97.328	
1,400.00	1,400.00	1,400.12	1,400.09	3.01	2.38	-44.14	360.61	-349.99	502.52	497.14	5.39	93.277	
1,450.00	1,450.00	1,453.01	1,452.98	3.12	2.50	-44.10	360.79	-349.57	502.37	496.76	5.61	89.510	
1,500.00	1,500.00	1,503.95	1,503.91	3.23	2.60	-44.04	360.83	-348.96	501.98	496.15	5.83	86.091	
1,550.00	1,550.00	1,553.13	1,553.09	3.34	2.70	-43.97	361.02	-348.27	501.63	495.59	6.04	83.009	
1,600.00	1,600.00	1,603.34	1,603.29	3.45	2.81	-43.88	361.36	-347.49	501.34	495.07	6.26	80.047	
1,650.00	1,650.00	1,654.30	1,654.24	3.57	2.92	-43.80	361.59	-346.70	500.96	494.47	6.49	77.208	
1,700.00	1,700.00	1,705.63	1,705.57	3.68	3.03	-43.72	361.70	-345.86	500.48	493.77	6.71	74.597	
1,750.00	1,750.00	1,757.10	1,757.03	3.79	3.14	-43.63	361.74	-344.88	499.85	492.92	6.93	72.149	
1,800.00	1,800.00	1,806.68	1,806.59	3.90	3.25	-43.53	361.84	-343.78	499.15	492.00	7.15	69.814	
1,850.00	1,850.00	1,855.95	1,855.85	4.02	3.36	-43.40	362.19	-342.52	498.53	491.16	7.37	67.625	
1,900.00	1,900.00	1,908.32	1,908.20	4.13	3.47	-43.26	362.51	-341.11	497.83	490.23	7.60	65.474	
1,950.00	1,950.00	1,958.27	1,958.13	4.24	3.59	-43.14	362.56	-339.81	496.98	489.15	7.83	63.492	
2,000.00	2,000.00	2,006.93	2,006.77	4.35	3.69	-43.03	362.68	-338.60	496.22	488.17	8.05	61.655	
2,050.00	2,050.00	2,055.21	2,055.05	4.47	3.80	-42.96	362.72	-337.72	495.63	487.36	8.27	59.929	
2,100.00	2,100.00	2,104.29	2,104.12	4.58	3.92	-42.88	362.83	-336.93	495.16	486.67	8.50	58.262	
2,150.00	2,150.00	2,153.18	2,153.00	4.69	4.04	-42.79	363.11	-336.10	494.80	486.07	8.73	56.681	
2,200.00	2,200.00	2,201.48	2,201.29	4.80	4.16	-42.67	363.63	-335.24	494.58	485.61	8.97	55.158	
2,216.10	2,216.10	2,216.29	2,216.10	4.84	4.20	-42.64	363.83	-334.98	494.56	485.52	9.04	54.710	
2,250.00	2,250.00	2,247.02	2,246.83	4.92	4.28	-42.57	364.28	-334.64	494.67	485.47	9.19	53.819	
2,300.00	2,300.00	2,295.27	2,295.06	5.03	4.39	-42.51	364.99	-334.55	495.14	485.73	9.42	52.577	
2,350.00	2,350.00	2,346.76	2,346.76	5.14	4.51	-42.45	365.65	-334.51	495.59	485.94	9.65	51.357	
2,400.00	2,400.00	2,401.18	2,400.97	5.25	4.64	-42.37	366.22	-334.07	495.71	485.81	9.89	50.106	

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

LEAM Drilling Systems LLC

Anticollision Report

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Project:	Eddy County, NM (NAD-83)	TVD Reference:	GE 3492' + KB 26' @ 3518.00usft (Original Well Elev)
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Reference Design:	Plan #1	Offset TVD Reference:	Reference Datum

Offset Design														Offset Site Error:	0.00 usft
Survey Program: 850-NS-GYRO-MS														Offset Well Error:	0.00 usft
Reference		Offset		Semi-Major Axis		Highside Toolface (°)	Distance		Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning		
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)							
2,450.00	2,450.00	2,452.72	2,452.50	5.37	4.77	-42.27	366.64	-333.25	495.47	485.33	10.13	48.896			
2,500.00	2,500.00	2,502.03	2,501.81	5.48	4.89	-42.20	366.89	-332.66	495.26	484.89	10.37	47.757			
2,550.00	2,550.00	2,551.93	2,551.70	5.59	5.02	-42.14	367.08	-332.19	495.08	484.47	10.61	46.667			
2,600.00	2,600.00	2,602.07	2,601.84	5.70	5.15	-42.09	367.26	-331.74	494.91	484.06	10.85	45.623			
2,650.00	2,650.00	2,652.79	2,652.56	5.81	5.27	-42.02	367.48	-331.16	494.69	483.60	11.09	44.617			
2,700.00	2,700.00	2,704.22	2,703.98	5.93	5.39	-41.96	367.60	-330.52	494.36	483.04	11.32	43.685			
2,750.00	2,750.00	2,755.59	2,755.35	6.04	5.50	-41.91	367.50	-329.90	493.88	482.34	11.54	42.795			
2,800.00	2,800.00	2,806.74	2,806.50	6.15	5.60	-41.88	367.24	-329.27	493.28	481.53	11.75	41.985			
2,850.00	2,850.00	2,858.41	2,858.16	6.26	5.70	-41.85	366.87	-328.56	492.56	480.60	11.96	41.180			
2,900.00	2,900.00	2,910.94	2,910.68	6.38	5.80	-41.77	366.57	-327.39	491.60	479.42	12.18	40.363			
2,950.00	2,950.00	2,962.03	2,961.74	6.49	5.91	-41.65	366.35	-325.84	490.43	478.03	12.40	39.558			
3,000.00	3,000.00	3,012.01	3,011.70	6.60	6.01	-41.56	365.96	-324.48	489.23	476.61	12.62	38.779			
3,050.00	3,050.00	3,060.26	3,059.94	6.71	6.12	-41.50	365.47	-323.37	488.09	475.27	12.83	38.048			
3,100.00	3,100.00	3,108.27	3,107.94	6.83	6.20	-41.45	365.12	-322.47	487.20	474.17	13.03	37.399			
3,150.00	3,150.00	3,157.42	3,157.08	6.94	6.26	-41.50	364.26	-322.30	486.43	473.23	13.20	36.851			
3,200.00	3,200.00	3,206.19	3,205.83	7.05	6.28	-41.65	362.96	-322.79	485.76	472.44	13.33	36.449			
3,250.00	3,250.00	3,254.94	3,254.54	7.16	6.29	-41.85	361.44	-323.71	485.23	471.77	13.45	36.065			
3,300.00	3,300.00	3,303.67	3,303.24	7.28	6.30	-42.04	360.04	-324.69	484.83	471.25	13.58	35.705			
3,350.00	3,350.00	3,357.92	3,357.48	7.39	6.35	-42.18	358.87	-325.16	484.33	470.59	13.74	35.259			
3,400.00	3,400.00	3,409.72	3,409.27	7.50	6.43	-42.18	358.13	-324.56	483.40	469.47	13.93	34.708			
3,450.00	3,450.00	3,461.72	3,461.26	7.61	6.53	-42.16	357.51	-323.68	482.40	468.26	14.14	34.120			
3,500.00	3,500.00	3,514.10	3,513.62	7.73	6.63	-42.13	356.60	-322.53	481.02	466.67	14.36	33.509			
3,550.00	3,550.00	3,560.21	3,559.71	7.84	6.73	-42.08	356.04	-321.49	479.81	465.24	14.56	32.943			
3,600.00	3,600.00	3,608.68	3,608.17	7.95	6.84	-41.99	355.86	-320.35	478.88	464.09	14.79	32.371			
3,650.00	3,650.00	3,657.93	3,657.40	8.06	6.97	-41.88	355.92	-319.11	478.08	463.05	15.03	31.812			
3,700.00	3,700.00	3,708.02	3,707.48	8.17	7.09	-41.77	355.97	-317.91	477.32	462.05	15.27	31.264			
3,750.00	3,750.00	3,759.04	3,758.48	8.29	7.22	-41.62	356.14	-316.43	476.48	460.97	15.51	30.721			
3,800.00	3,800.00	3,807.28	3,806.68	8.40	7.35	-41.44	356.48	-314.77	475.61	459.86	15.75	30.205			
3,850.00	3,850.00	3,852.77	3,852.15	8.51	7.47	-41.27	357.14	-313.42	475.16	459.19	15.98	29.743			
3,900.00	3,900.00	3,902.53	3,901.89	8.62	7.59	-41.09	357.96	-312.16	474.95	458.73	16.22	29.288			
3,950.00	3,950.00	3,953.56	3,952.90	8.74	7.73	-40.92	358.72	-310.90	474.71	458.25	16.46	28.838			
4,000.00	4,000.00	4,003.28	4,002.59	8.85	7.86	-40.73	359.48	-309.53	474.39	457.68	16.70	28.402			
4,050.00	4,050.00	4,051.72	4,051.01	8.96	7.98	-40.55	360.29	-308.31	474.20	457.26	16.94	27.992			
4,100.00	4,100.00	4,102.07	4,101.33	9.07	8.11	-40.38	361.13	-307.14	474.08	456.90	17.18	27.592			
4,150.00	4,150.00	4,152.55	4,151.80	9.19	8.24	-40.21	361.90	-305.97	473.92	456.49	17.42	27.200			
4,200.00	4,200.00	4,203.03	4,202.26	9.30	8.37	-40.05	362.60	-304.81	473.70	456.04	17.67	26.815			
4,250.00	4,250.00	4,253.52	4,252.73	9.41	8.50	-39.90	363.22	-303.66	473.44	455.53	17.91	26.438			
4,300.00	4,300.00	4,304.01	4,303.20	9.52	8.63	-39.75	363.76	-302.51	473.12	454.98	18.15	26.069			
4,350.00	4,350.00	4,354.49	4,353.68	9.64	8.76	-39.61	364.23	-301.37	472.76	454.37	18.39	25.706			
4,400.00	4,400.00	4,404.99	4,404.15	9.75	8.89	-39.47	364.62	-300.24	472.35	453.71	18.63	25.350			
4,450.00	4,450.00	4,455.48	4,454.63	9.86	9.02	-39.34	364.94	-299.12	471.88	453.01	18.87	25.001			
4,500.00	4,500.00	4,505.97	4,505.12	9.97	9.15	-39.22	365.18	-298.00	471.36	452.25	19.12	24.658			
4,550.00	4,550.00	4,556.47	4,555.60	10.09	9.27	-39.10	365.34	-296.89	470.80	451.44	19.36	24.320			
4,600.00	4,600.00	4,606.85	4,605.97	10.20	9.40	-38.99	365.43	-295.79	470.18	450.58	19.60	23.989			
4,650.00	4,650.00	4,656.84	4,655.95	10.31	9.53	-38.88	365.49	-294.70	469.54	449.70	19.84	23.666			
4,700.00	4,700.00	4,706.83	4,705.92	10.42	9.66	-38.77	365.56	-293.62	468.91	448.83	20.08	23.351			
4,750.00	4,750.00	4,756.82	4,755.90	10.53	9.79	-38.66	365.62	-292.53	468.28	447.96	20.32	23.044			
4,800.00	4,800.00	4,806.81	4,805.88	10.65	9.92	-38.55	365.68	-291.44	467.65	447.09	20.56	22.744			
4,850.00	4,850.00	4,856.67	4,855.73	10.76	10.04	-38.44	365.75	-290.35	467.02	446.22	20.80	22.451			
4,900.00	4,900.00	4,905.98	4,905.03	10.87	10.17	-38.35	365.81	-289.37	466.45	445.41	21.04	22.169			

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 1H
Project:	Eddy County, NM (NAD-83)	TVD Reference:	GE 3492' + KB 26' @ 3518.00usft (Original Well Elev)
Reference Site:	Lava Tube 27 State	MD Reference:	GE 3492' + KB 26' @ 3518.00usft (Original Well Elev)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	1H	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:	Reference Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 850-NS-GYRO-MS													Offset Well Error:	0.00 usft
Reference														
Offset														
Semi Major Axis														
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning	
4,950.00	4,950.00	4,955.29	4,954.33	10.98	10.30	-38.26	365.86	-288.50	465.94	444.66	21.28	21.896		
5,000.00	5,000.00	5,004.61	5,003.64	11.10	10.42	-38.18	365.90	-287.76	465.52	444.00	21.52	21.633		
5,050.00	5,050.00	5,053.93	5,052.96	11.21	10.55	-38.12	365.94	-287.15	465.16	443.40	21.76	21.378		
5,100.00	5,100.00	5,103.28	5,102.31	11.32	10.68	-38.07	365.97	-286.66	464.88	442.88	22.00	21.133		
5,150.00	5,150.00	5,153.28	5,152.30	11.43	10.81	-38.03	365.99	-286.23	464.63	442.39	22.24	20.892		
5,200.00	5,200.00	5,203.28	5,202.30	11.55	10.94	-37.98	366.02	-285.79	464.38	441.90	22.48	20.657		
5,250.00	5,250.00	5,253.27	5,252.30	11.66	11.07	-37.94	366.04	-285.36	464.14	441.41	22.72	20.426		
5,300.00	5,300.00	5,303.27	5,302.29	11.77	11.19	-37.89	366.07	-284.92	463.89	440.93	22.96	20.201		
5,350.00	5,350.00	5,353.27	5,352.29	11.88	11.32	-37.85	366.10	-284.49	463.64	440.44	23.21	19.980		
5,400.00	5,400.00	5,403.27	5,402.29	12.00	11.45	-37.81	366.12	-284.05	463.40	439.95	23.45	19.764		
5,450.00	5,450.00	5,453.27	5,452.28	12.11	11.58	-37.76	366.15	-283.62	463.15	439.46	23.69	19.552		
5,500.00	5,500.00	5,503.26	5,502.28	12.22	11.71	-37.72	366.17	-283.18	462.90	438.97	23.93	19.344		
5,550.00	5,550.00	5,553.26	5,552.27	12.33	11.84	-37.67	366.20	-282.74	462.66	438.49	24.17	19.140		
5,600.00	5,600.00	5,603.26	5,602.27	12.45	11.97	-37.63	366.23	-282.31	462.41	438.00	24.41	18.941		
5,650.00	5,650.00	5,653.48	5,652.48	12.56	12.10	-37.58	366.25	-281.85	462.16	437.50	24.66	18.744		
5,700.00	5,700.00	5,703.71	5,702.72	12.67	12.23	-37.53	366.28	-281.35	461.87	436.98	24.90	18.550		
5,750.00	5,750.00	5,753.95	5,752.95	12.78	12.36	-37.47	366.31	-280.80	461.57	436.43	25.14	18.359		
5,800.00	5,800.00	5,804.18	5,803.18	12.89	12.49	-37.41	366.35	-280.21	461.24	435.85	25.38	18.170		
5,850.00	5,850.00	5,854.42	5,853.41	13.01	12.62	-37.34	366.39	-279.56	460.88	435.25	25.63	17.984		
5,900.00	5,900.00	5,904.65	5,903.64	13.12	12.75	-37.27	366.43	-278.88	460.49	434.62	25.87	17.800		
5,950.00	5,950.00	5,954.88	5,953.87	13.23	12.88	-37.20	366.47	-278.14	460.09	433.97	26.11	17.619		
6,000.00	6,000.00	6,005.11	6,004.09	13.34	13.01	-37.12	366.52	-277.36	459.65	433.30	26.36	17.440		
6,050.00	6,050.00	6,055.34	6,054.31	13.46	13.14	-37.03	366.57	-276.54	459.20	432.60	26.60	17.263		
6,100.00	6,100.00	6,105.46	6,104.43	13.57	13.28	-36.94	366.62	-275.67	458.72	431.88	26.84	17.089		
6,150.00	6,150.00	6,155.45	6,154.41	13.68	13.41	-36.85	366.67	-274.80	458.24	431.15	27.09	16.918		
6,200.00	6,200.00	6,205.45	6,204.39	13.79	13.54	-36.76	366.72	-273.93	457.76	430.43	27.33	16.750		
6,250.00	6,250.00	6,255.44	6,254.38	13.91	13.67	-36.67	366.77	-273.06	457.28	429.71	27.57	16.585		
6,300.00	6,300.00	6,305.43	6,304.36	14.02	13.80	-36.58	366.83	-272.19	456.80	428.98	27.81	16.423		
6,350.00	6,350.00	6,355.42	6,354.35	14.13	13.93	-36.48	366.88	-271.31	456.32	428.26	28.06	16.264		
6,400.00	6,400.00	6,405.42	6,404.33	14.24	14.06	-36.39	366.93	-270.44	455.85	427.55	28.30	16.108		
6,450.00	6,450.00	6,455.41	6,454.32	14.36	14.19	-36.30	366.98	-269.57	455.37	426.83	28.54	15.954		
6,500.00	6,500.00	6,505.40	6,504.30	14.47	14.32	-36.21	367.03	-268.70	454.90	426.11	28.79	15.803		
6,550.00	6,550.00	6,555.39	6,554.29	14.58	14.45	-36.12	367.08	-267.83	454.42	425.40	29.03	15.655		
6,600.00	6,600.00	6,605.39	6,604.27	14.69	14.58	-36.02	367.13	-266.96	453.95	424.68	29.27	15.508		
6,650.00	6,650.00	6,655.38	6,654.26	14.81	14.71	-35.93	367.19	-266.09	453.48	423.97	29.51	15.365		
6,700.00	6,700.00	6,705.37	6,704.24	14.92	14.84	-35.84	367.24	-265.22	453.01	423.26	29.76	15.223		
6,750.00	6,750.00	6,755.36	6,754.23	15.03	14.97	-35.74	367.29	-264.35	452.55	422.55	30.00	15.084		
6,800.00	6,800.00	6,805.35	6,804.21	15.14	15.10	-35.65	367.34	-263.48	452.08	421.84	30.24	14.948		
6,850.00	6,850.00	6,855.35	6,854.20	15.25	15.24	-35.56	367.39	-262.61	451.62	421.13	30.49	14.813		
6,900.00	6,900.00	6,905.34	6,904.18	15.37	15.37	-35.46	367.44	-261.73	451.15	420.42	30.73	14.681		
6,950.00	6,950.00	6,955.33	6,954.17	15.48	15.50	-35.37	367.50	-260.86	450.69	419.71	30.97	14.550		
7,000.00	7,000.00	7,005.32	7,004.15	15.59	15.63	-35.27	367.55	-259.99	450.23	419.01	31.22	14.422		
7,050.00	7,050.00	7,055.32	7,054.14	15.70	15.76	-35.18	367.60	-259.12	449.77	418.31	31.46	14.296		
7,100.00	7,100.00	7,105.31	7,104.12	15.82	15.89	-35.09	367.65	-258.25	449.31	417.60	31.70	14.172		
7,150.00	7,150.00	7,155.30	7,154.11	15.93	16.02	-34.99	367.70	-257.38	448.85	416.90	31.95	14.049		
7,200.00	7,200.00	7,205.29	7,204.09	16.04	16.15	-34.90	367.75	-256.51	448.39	416.20	32.19	13.929		
7,250.00	7,250.00	7,255.29	7,254.07	16.15	16.28	-34.80	367.81	-255.64	447.94	415.50	32.44	13.810		
7,300.00	7,300.00	7,305.28	7,304.06	16.27	16.42	-34.71	367.86	-254.77	447.48	414.80	32.68	13.693		
7,350.00	7,350.00	7,355.27	7,354.04	16.38	16.55	-34.61	367.91	-253.90	447.03	414.11	32.92	13.578		
7,400.00	7,400.00	7,405.26	7,404.03	16.49	16.68	-34.51	367.96	-253.02	446.58	413.41	33.17	13.465		
7,450.00	7,450.00	7,455.26	7,454.01	16.60	16.81	-34.42	368.01	-252.15	446.13	412.72	33.41	13.353		

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

LEAM Drilling Systems LLC

Anticollision Report

Company:	DEVON ENERGY	Local Co-ordinate Reference:	Well 1H
Project:	Eddy County, NM (NAD-83)	TVD Reference:	GE 3492' + KB 26' @ 3518.00usft (Original Well Elev)
Reference Site:	Lava Tube 27 State	MD Reference:	GE 3492' + KB 26' @ 3518.00usft (Original Well Elev)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	1H	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:	Reference Datum

Offset Design												Offset Site Error:	0.00 usft
Survey Program: 850-NS-GYRO-MS												Offset Well Error:	0.00 usft
Reference													
Offset													
Semi Major Axis													
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre	Offset Wellbore Centre	Between Centres	Between Ellipses	Minimum Separation	Separation Factor	Warning
(usft)	(usft)	(usft)	(usft)	(usft)	(usft)	(°)	+N/-S (usft)	+E/-W (usft)	(usft)	(usft)	(usft)		
7,500.00	7,500.00	7,505.25	7,504.00	16.72	16.94	-34.32	368.06	-251.28	445.68	412.03	33.65	13.243	
7,550.00	7,550.00	7,555.24	7,553.98	16.83	17.07	-34.23	368.11	-250.41	445.23	411.33	33.90	13.135	
7,600.00	7,600.00	7,605.23	7,603.97	16.94	17.20	-34.13	368.17	-249.54	444.78	410.64	34.14	13.028	
7,650.00	7,650.00	7,655.23	7,653.95	17.05	17.33	-34.03	368.22	-248.67	444.34	409.95	34.38	12.923	
7,700.00	7,700.00	7,705.22	7,703.94	17.17	17.47	-33.94	368.27	-247.80	443.89	409.27	34.63	12.819	
7,750.00	7,750.00	7,755.21	7,753.92	17.28	17.60	-33.84	368.32	-246.93	443.45	408.58	34.87	12.717	
7,800.00	7,800.00	7,805.20	7,803.91	17.39	17.73	-33.74	368.37	-246.06	443.01	407.89	35.12	12.616	
7,850.00	7,850.00	7,855.19	7,853.89	17.50	17.86	-33.64	368.42	-245.19	442.57	407.21	35.36	12.516	
7,900.00	7,900.00	7,905.19	7,903.88	17.61	17.99	-33.55	368.48	-244.32	442.13	406.53	35.60	12.418	
7,950.00	7,950.00	7,955.18	7,953.86	17.73	18.12	-33.45	368.53	-243.44	441.69	405.85	35.85	12.322	
8,000.00	8,000.00	8,005.17	8,003.85	17.84	18.25	-33.35	368.58	-242.57	441.26	405.17	36.09	12.226	
8,050.00	8,050.00	8,055.16	8,053.83	17.95	18.39	-33.25	368.63	-241.70	440.82	404.49	36.33	12.132	
8,100.00	8,100.00	8,105.16	8,103.82	18.06	18.52	-33.15	368.68	-240.83	440.39	403.81	36.58	12.039	
8,150.00	8,150.00	8,155.15	8,153.80	18.18	18.65	-33.05	368.73	-239.96	439.95	403.13	36.82	11.948	
8,200.00	8,200.00	8,205.14	8,203.79	18.29	18.78	-32.96	368.79	-239.09	439.52	402.46	37.07	11.858	
8,250.00	8,250.00	8,255.13	8,253.77	18.40	18.91	-32.86	368.84	-238.22	439.09	401.78	37.31	11.769	
8,264.05	8,264.05	8,265.00	8,263.64	18.43	18.94	-32.84	368.85	-238.05	438.99	401.62	37.37	11.748 CC, ES, SF	
8,300.00	8,300.00	8,265.00	8,263.64	18.51	18.94	-32.84	368.85	-238.05	440.50	403.05	37.45	11.763	
8,350.00	8,350.00	8,265.00	8,263.64	18.63	18.94	-32.84	368.85	-238.05	447.41	409.85	37.56	11.911	
8,400.00	8,400.00	8,265.00	8,263.64	18.74	18.94	-32.84	368.85	-238.05	459.68	422.01	37.67	12.202	
8,450.00	8,450.00	8,265.00	8,263.64	18.85	18.94	-32.84	368.85	-238.05	476.91	439.13	37.79	12.621	
8,500.00	8,500.00	8,265.00	8,263.64	18.96	18.94	-32.84	368.85	-238.05	498.58	460.68	37.90	13.156	
8,550.00	8,550.00	8,265.00	8,263.64	19.08	18.94	-32.84	368.85	-238.05	524.14	486.13	38.01	13.789	
8,600.00	8,600.00	8,265.00	8,263.64	19.19	18.94	-32.84	368.85	-238.05	553.04	514.92	38.12	14.507	
8,650.00	8,650.00	8,265.00	8,263.64	19.30	18.94	-32.84	368.85	-238.05	584.80	546.57	38.24	15.295	
8,700.00	8,700.00	8,265.00	8,263.64	19.41	18.94	-32.84	368.85	-238.05	618.97	580.63	38.35	16.141	
8,750.00	8,750.00	8,265.00	8,263.64	19.53	18.94	-32.84	368.85	-238.05	655.18	616.72	38.46	17.035	
8,800.00	8,800.00	8,265.00	8,263.64	19.64	18.94	-32.84	368.85	-238.05	693.11	654.54	38.57	17.969	
8,850.00	8,850.00	8,265.00	8,263.64	19.75	18.94	-32.84	368.85	-238.05	732.49	693.80	38.69	18.935	
8,900.00	8,900.00	8,265.00	8,263.64	19.86	18.94	-32.84	368.85	-238.05	773.09	734.30	38.80	19.926	
8,950.00	8,950.00	8,265.00	8,263.64	19.97	18.94	-32.84	368.85	-238.05	814.75	775.84	38.91	20.939	
9,000.00	9,000.00	8,265.00	8,263.64	20.09	18.94	-32.84	368.85	-238.05	857.29	818.27	39.02	21.969	
9,050.00	9,050.00	8,265.00	8,263.64	20.20	18.94	-32.84	368.85	-238.05	900.60	861.47	39.13	23.013	
9,100.00	9,100.00	8,265.00	8,263.64	20.31	18.94	-32.84	368.85	-238.05	944.57	905.33	39.25	24.067	
9,150.00	9,150.00	8,265.00	8,263.64	20.42	18.94	-32.84	368.85	-238.05	989.12	949.76	39.36	25.130	
9,200.00	9,200.00	8,265.00	8,263.64	20.54	18.94	-32.84	368.85	-238.05	1,034.16	994.69	39.47	26.200	
9,250.00	9,250.00	8,265.00	8,263.64	20.65	18.94	-32.84	368.85	-238.05	1,079.64	1,040.06	39.58	27.275	
9,300.00	9,300.00	8,265.00	8,263.64	20.76	18.94	-32.84	368.85	-238.05	1,125.51	1,085.81	39.70	28.353	
9,350.00	9,350.00	8,265.00	8,263.64	20.87	18.94	-32.84	368.85	-238.05	1,171.71	1,131.90	39.81	29.433	
9,400.00	9,400.00	8,265.00	8,263.64	20.99	18.94	-32.84	368.85	-238.05	1,218.21	1,178.29	39.92	30.515	
9,450.00	9,450.00	8,265.00	8,263.64	21.10	18.94	-32.84	368.85	-238.05	1,264.98	1,224.95	40.03	31.598	
9,500.00	9,500.00	8,265.00	8,263.64	21.21	18.94	-32.84	368.85	-238.05	1,311.99	1,271.84	40.15	32.680	
9,550.00	9,550.00	8,265.00	8,263.64	21.32	18.94	-32.84	368.85	-238.05	1,359.21	1,318.95	40.26	33.762	
9,600.00	9,600.00	8,265.00	8,263.64	21.44	18.94	-32.84	368.85	-238.05	1,406.62	1,366.25	40.37	34.842	
9,650.00	9,650.00	8,265.00	8,263.64	21.55	18.94	-32.84	368.85	-238.05	1,454.21	1,413.73	40.48	35.921	
9,700.00	9,700.00	8,265.00	8,263.64	21.66	18.94	-32.84	368.85	-238.05	1,501.95	1,461.36	40.60	36.998	
9,750.00	9,750.00	8,265.00	8,263.64	21.77	18.94	-32.84	368.85	-238.05	1,549.84	1,509.13	40.71	38.072	
9,800.00	9,800.00	8,265.00	8,263.64	21.89	18.94	-32.84	368.85	-238.05	1,597.85	1,557.03	40.82	39.143	
9,850.00	9,850.00	8,265.00	8,263.64	22.00	18.94	-32.84	368.85	-238.05	1,645.99	1,605.05	40.93	40.212	
9,900.00	9,900.00	8,265.00	8,263.64	22.11	18.94	-32.84	368.85	-238.05	1,694.23	1,653.18	41.05	41.277	

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 1H
Project:	Eddy County, NM (NAD-83)	TVD Reference:	GE 3492' + KB 26' @ 3518.00usft (Original Well Elev)
Reference Site:	Lava Tube 27 State	MD Reference:	GE 3492' + KB 26' @ 3518.00usft (Original Well Elev)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	1H	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:	Reference Datum

Offset Design										LT-27-S Offsets - LAS #7 - OH - OH				Offset Site Error:		0.00 usft	
Survey Program: 850-NS-GYRO-MS														Offset Well Error:		0.00 usft	
Reference		Offset		Semi Major Axis		Distance											
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre	Between Centres	Between Ellipses	Minimum Separation	Separation Factor	Warning					
(usft)	(usft)	(usft)	(usft)	(usft)	(usft)	(°)	+N/-S (usft)	+E/-W (usft)	(usft)	(usft)	(usft)						
9,950.00	9,950.00	8,265.00	8,263.64	22.22	18.94	-32.84	368.85	-238.05	1,742.57	1,701.41	41.16	42.339					
10,000.00	10,000.00	8,265.00	8,263.64	22.34	18.94	-32.84	368.85	-238.05	1,791.00	1,749.73	41.27	43.397					
10,050.00	10,050.00	8,265.00	8,263.64	22.45	18.94	-32.84	368.85	-238.05	1,839.51	1,798.13	41.38	44.452					
10,100.00	10,100.00	8,265.00	8,263.64	22.56	18.94	-32.84	368.85	-238.05	1,888.11	1,846.61	41.49	45.502					
10,150.00	10,150.00	8,265.00	8,263.64	22.67	18.94	-32.84	368.85	-238.05	1,936.77	1,895.17	41.61	46.549					
10,200.00	10,200.00	8,265.00	8,263.64	22.78	18.94	-32.84	368.85	-238.05	1,985.50	1,943.78	41.72	47.592					
10,250.00	10,250.00	8,265.00	8,263.64	22.90	18.94	-32.84	368.85	-238.05	2,034.30	1,992.46	41.83	48.630					
10,300.00	10,300.00	8,265.00	8,263.64	23.01	18.94	-32.84	368.85	-238.05	2,083.15	2,041.20	41.94	49.665					
10,350.00	10,350.00	8,265.00	8,263.64	23.12	18.94	-32.84	368.85	-238.05	2,132.05	2,089.99	42.06	50.695					
10,400.00	10,400.00	8,265.00	8,263.64	23.23	18.94	-32.84	368.85	-238.05	2,181.00	2,138.83	42.17	51.720					
10,450.00	10,450.00	8,265.00	8,263.64	23.35	18.94	-32.84	368.85	-238.05	2,230.00	2,187.72	42.28	52.742					
10,500.00	10,500.00	8,265.00	8,263.64	23.46	18.94	-32.84	368.85	-238.05	2,279.04	2,236.65	42.39	53.759					
10,550.00	10,550.00	8,265.00	8,263.64	23.57	18.94	-32.84	368.85	-238.05	2,328.13	2,285.62	42.51	54.771					
10,600.00	10,600.00	8,265.00	8,263.64	23.68	18.94	-32.84	368.85	-238.05	2,377.25	2,334.63	42.62	55.780					
10,650.00	10,650.00	8,265.00	8,263.64	23.80	18.94	-32.84	368.85	-238.05	2,426.41	2,383.68	42.73	56.783					
10,700.00	10,700.00	8,265.00	8,263.64	23.91	18.94	-32.84	368.85	-238.05	2,475.60	2,432.76	42.84	57.782					
10,750.00	10,750.00	8,265.00	8,263.64	24.02	18.94	-32.84	368.85	-238.05	2,524.82	2,481.87	42.96	58.777					
10,800.00	10,800.00	8,265.00	8,263.64	24.13	18.94	-32.84	368.85	-238.05	2,574.08	2,531.01	43.07	59.767					
10,850.00	10,850.00	8,265.00	8,263.64	24.25	18.94	-32.84	368.85	-238.05	2,623.36	2,580.18	43.18	60.753					
10,900.00	10,900.00	8,265.00	8,263.64	24.36	18.94	-32.84	368.85	-238.05	2,672.66	2,629.37	43.29	61.734					
10,950.00	10,950.00	8,265.00	8,263.64	24.47	18.94	-32.84	368.85	-238.05	2,722.00	2,678.59	43.41	62.711					
11,000.00	11,000.00	8,265.00	8,263.64	24.58	18.94	-32.84	368.85	-238.05	2,771.36	2,727.84	43.52	63.683					
11,050.00	11,050.00	8,265.00	8,263.64	24.70	18.94	-32.84	368.85	-238.05	2,820.73	2,777.10	43.63	64.651					
11,100.00	11,100.00	8,265.00	8,263.64	24.81	18.94	-32.84	368.85	-238.05	2,870.14	2,826.39	43.74	65.614					
11,150.00	11,150.00	8,265.00	8,263.64	24.92	18.94	-32.84	368.85	-238.05	2,919.56	2,875.70	43.85	66.573					
11,200.00	11,200.00	8,265.00	8,263.64	25.03	18.94	-32.84	368.85	-238.05	2,969.00	2,925.03	43.97	67.528					
11,250.00	11,250.00	8,265.00	8,263.64	25.14	18.94	-32.84	368.85	-238.05	3,018.46	2,974.38	44.08	68.477					
11,300.00	11,300.00	8,265.00	8,263.64	25.26	18.94	-32.84	368.85	-238.05	3,067.94	3,023.74	44.19	69.423					
11,350.00	11,350.00	8,265.00	8,263.64	25.37	18.94	-32.84	368.85	-238.05	3,117.43	3,073.12	44.30	70.364					
11,400.00	11,400.00	8,265.00	8,263.64	25.48	18.94	-32.84	368.85	-238.05	3,166.94	3,122.52	44.42	71.300					
11,450.00	11,450.00	8,265.00	8,263.64	25.59	18.94	-32.84	368.85	-238.05	3,216.46	3,171.93	44.53	72.233					
11,500.00	11,500.00	8,265.00	8,263.64	25.71	18.94	-32.84	368.85	-238.05	3,266.00	3,221.36	44.64	73.161					
11,550.00	11,550.00	8,265.00	8,263.64	25.82	18.94	-32.84	368.85	-238.05	3,315.56	3,270.80	44.75	74.084					
11,600.00	11,600.00	8,265.00	8,263.64	25.93	18.94	-32.84	368.85	-238.05	3,365.12	3,320.26	44.87	75.003					
11,650.00	11,650.00	8,265.00	8,263.64	26.04	18.94	-32.84	368.85	-238.05	3,414.70	3,369.72	44.98	75.918					
11,700.00	11,700.00	8,265.00	8,263.64	26.16	18.94	-32.84	368.85	-238.05	3,464.29	3,419.20	45.09	76.829					
11,708.54	11,708.54	8,265.00	8,263.64	26.18	18.94	-32.84	368.85	-238.05	3,472.76	3,427.65	45.11	76.984					
11,725.00	11,725.00	8,265.00	8,263.64	26.21	18.94	-23.30	368.85	-238.05	3,489.06	3,443.93	45.12	77.322					
11,750.00	11,749.95	8,265.00	8,263.64	26.27	18.94	-17.57	368.85	-238.05	3,513.65	3,468.59	45.05	77.986					
11,775.00	11,774.79	8,265.00	8,263.64	26.33	18.94	-14.07	368.85	-238.05	3,537.99	3,493.12	44.87	78.852					
11,800.00	11,799.44	8,265.00	8,263.64	26.38	18.94	-11.72	368.85	-238.05	3,562.03	3,517.46	44.57	79.927					
11,825.00	11,823.85	8,265.00	8,263.64	26.44	18.94	-10.06	368.85	-238.05	3,585.70	3,541.55	44.15	81.222					
11,850.00	11,847.94	8,265.00	8,263.64	26.49	18.94	-8.81	368.85	-238.05	3,608.94	3,565.33	43.61	82.749					
11,875.00	11,871.65	8,265.00	8,263.64	26.55	18.94	-7.85	368.85	-238.05	3,631.71	3,588.75	42.97	84.524					
11,900.00	11,894.91	8,265.00	8,263.64	26.60	18.94	-7.09	368.85	-238.05	3,653.95	3,611.74	42.21	86.567					
11,925.00	11,917.66	8,265.00	8,263.64	26.65	18.94	-6.48	368.85	-238.05	3,675.60	3,634.26	41.34	88.901					
11,950.00	11,939.84	8,265.00	8,263.64	26.70	18.94	-5.97	368.85	-238.05	3,696.63	3,656.25	40.38	91.556					
11,975.00	11,961.38	8,265.00	8,263.64	26.75	18.94	-5.55	368.85	-238.05	3,716.98	3,677.67	39.31	94.567					
12,000.00	11,982.23	8,265.00	8,263.64	26.80	18.94	-5.19	368.85	-238.05	3,736.60	3,698.46	38.14	97.977					
12,025.00	12,002.33	8,265.00	8,263.64	26.85	18.94	-4.89	368.85	-238.05	3,755.46	3,718.59	36.88	101.838					
12,050.00	12,021.63	8,265.00	8,263.64	26.90	18.94	-4.63	368.85	-238.05	3,773.52	3,737.99	35.53	106.211					

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 1H
Project:	Eddy County, NM (NAD-83)	TVD Reference:	GE 3492' + KB 26' @ 3518.00usft (Original Well Elev)
Reference Site:	Lava Tube 27 State	MD Reference:	GE 3492' + KB 26' @ 3518.00usft (Original Well Elev)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	1H	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:	Reference Datum

Offset Design												Offset Site Error:	0.00 usft
Survey Program: 850-NS-GYRO-MS												Offset Well Error:	0.00 usft
Reference													
Offset													
Semi Major Axis													
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference	Offset	Highside Tooffset (")	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
12,075.00	12,040.07	8,265.00	8,263.64	26.96	18.94	-4.41	368.85	-238.05	3,790.74	3,756.64	34.10	111.172	
12,100.00	12,057.59	8,265.00	8,263.64	27.02	18.94	-4.21	368.85	-238.05	3,807.08	3,774.49	32.59	116.813	
12,125.00	12,074.16	8,265.00	8,263.64	27.09	18.94	-4.04	368.85	-238.05	3,822.51	3,791.50	31.02	123.245	
12,150.00	12,089.73	8,265.00	8,263.64	27.16	18.94	-3.89	368.85	-238.05	3,837.00	3,807.63	29.38	130.604	
12,175.00	12,104.26	8,265.00	8,263.64	27.23	18.94	-3.77	368.85	-238.05	3,850.53	3,822.83	27.69	139.056	
12,200.00	12,117.70	8,265.00	8,263.64	27.30	18.94	-3.65	368.85	-238.05	3,863.05	3,837.09	25.96	148.800	
12,225.00	12,130.02	8,265.00	8,263.64	27.39	18.94	-3.56	368.85	-238.05	3,874.55	3,850.35	24.20	160.077	
12,250.00	12,141.18	8,265.00	8,263.64	27.47	18.94	-3.47	368.85	-238.05	3,885.01	3,862.58	22.43	173.168	
12,275.00	12,151.16	8,265.00	8,263.64	27.56	18.94	-3.40	368.85	-238.05	3,894.41	3,873.74	20.67	188.384	
12,300.00	12,159.92	8,265.00	8,263.64	27.66	18.94	-3.34	368.85	-238.05	3,902.73	3,883.78	18.94	206.026	
12,325.00	12,167.45	8,265.00	8,263.64	27.76	18.94	-3.28	368.85	-238.05	3,909.95	3,892.67	17.28	226.301	
12,350.00	12,173.72	8,265.00	8,263.64	27.86	18.94	-3.24	368.85	-238.05	3,916.05	3,900.33	15.72	249.117	
12,375.00	12,178.71	8,265.00	8,263.64	27.97	18.94	-3.21	368.85	-238.05	3,921.04	3,906.71	14.33	273.715	
12,400.00	12,182.42	8,265.00	8,263.64	28.09	18.94	-3.18	368.85	-238.05	3,924.89	3,911.73	13.17	298.128	
12,425.00	12,184.82	8,265.00	8,263.64	28.21	18.94	-3.16	368.85	-238.05	3,927.61	3,915.29	12.32	318.754	
12,450.00	12,185.92	8,265.00	8,263.64	28.34	18.94	-3.15	368.85	-238.05	3,929.18	3,917.30	11.87	330.883	
12,458.54	12,186.00	8,265.00	8,263.64	28.38	18.94	-3.15	368.85	-238.05	3,929.45	3,917.63	11.82	332.339	
12,500.00	12,186.00	8,265.00	8,263.64	28.60	18.94	-3.15	368.85	-238.05	3,930.67	3,918.72	11.96	328.738	
12,550.00	12,186.00	8,265.00	8,263.64	28.91	18.94	-3.15	368.85	-238.05	3,932.73	3,920.59	12.14	323.965	
12,600.00	12,186.00	8,265.00	8,263.64	29.22	18.94	-3.15	368.85	-238.05	3,935.42	3,923.10	12.32	319.382	
12,650.00	12,186.00	8,265.00	8,263.64	29.57	18.94	-3.15	368.85	-238.05	3,938.74	3,926.21	12.53	314.301	
12,700.00	12,186.00	8,265.00	8,263.64	29.93	18.94	-3.15	368.85	-238.05	3,942.70	3,929.96	12.74	309.434	
12,750.00	12,186.00	8,265.00	8,263.64	30.33	18.94	-3.15	368.85	-238.05	3,947.28	3,934.31	12.97	304.235	
12,800.00	12,186.00	8,265.00	8,263.64	30.74	18.94	-3.15	368.85	-238.05	3,952.49	3,939.28	13.21	299.265	
12,850.00	12,186.00	8,265.00	8,263.64	31.18	18.94	-3.15	368.85	-238.05	3,958.33	3,944.87	13.46	294.094	
12,900.00	12,186.00	8,265.00	8,263.64	31.63	18.94	-3.15	368.85	-238.05	3,964.79	3,951.07	13.71	289.156	
12,950.00	12,186.00	8,265.00	8,263.64	32.12	18.94	-3.15	368.85	-238.05	3,971.86	3,957.88	13.98	284.116	
13,000.00	12,186.00	8,265.00	8,263.64	32.60	18.94	-3.15	368.85	-238.05	3,979.55	3,965.31	14.25	279.307	
13,050.00	12,186.00	8,265.00	8,263.64	33.13	18.94	-3.15	368.85	-238.05	3,987.86	3,973.33	14.53	274.467	
13,100.00	12,186.00	8,265.00	8,263.64	33.65	18.94	-3.15	368.85	-238.05	3,996.77	3,981.96	14.81	269.850	
13,150.00	12,186.00	8,265.00	8,263.64	34.20	18.94	-3.15	368.85	-238.05	4,006.29	3,991.18	15.10	265.250	
13,200.00	12,186.00	8,265.00	8,263.64	34.76	18.94	-3.15	368.85	-238.05	4,016.41	4,001.01	15.40	260.863	
13,250.00	12,186.00	8,265.00	8,263.64	35.34	18.94	-3.15	368.85	-238.05	4,027.12	4,011.42	15.70	256.525	
13,300.00	12,186.00	8,265.00	8,263.64	35.93	18.94	-3.15	368.85	-238.05	4,038.42	4,022.42	16.00	252.387	
13,350.00	12,186.00	8,265.00	8,263.64	36.54	18.94	-3.15	368.85	-238.05	4,050.31	4,034.00	16.31	248.319	
13,400.00	12,186.00	8,265.00	8,263.64	37.15	18.94	-3.15	368.85	-238.05	4,062.78	4,046.16	16.62	244.437	
13,450.00	12,186.00	8,265.00	8,263.64	37.79	18.94	-3.15	368.85	-238.05	4,075.82	4,058.89	16.94	240.637	
13,500.00	12,186.00	8,265.00	8,263.64	38.43	18.94	-3.15	368.85	-238.05	4,089.44	4,072.18	17.25	237.009	
13,550.00	12,186.00	8,265.00	8,263.64	39.09	18.94	-3.15	368.85	-238.05	4,103.62	4,086.04	17.58	233.468	
13,600.00	12,186.00	8,265.00	8,263.64	39.75	18.94	-3.15	368.85	-238.05	4,118.35	4,100.45	17.90	230.086	
13,650.00	12,186.00	8,265.00	8,263.64	40.43	18.94	-3.15	368.85	-238.05	4,133.64	4,115.42	18.23	226.794	
13,700.00	12,186.00	8,265.00	8,263.64	41.10	18.94	-3.15	368.85	-238.05	4,149.48	4,130.92	18.55	223.647	
13,750.00	12,186.00	8,265.00	8,263.64	41.80	18.94	-3.15	368.85	-238.05	4,165.85	4,146.97	18.89	220.589	
13,800.00	12,186.00	8,265.00	8,263.64	42.50	18.94	-3.15	368.85	-238.05	4,182.76	4,163.55	19.22	217.664	
13,850.00	12,186.00	8,265.00	8,263.64	43.21	18.94	-3.15	368.85	-238.05	4,200.20	4,180.65	19.55	214.825	
13,900.00	12,186.00	8,265.00	8,263.64	43.93	18.94	-3.15	368.85	-238.05	4,218.15	4,198.27	19.89	212.108	
13,950.00	12,186.00	8,265.00	8,263.64	44.65	18.94	-3.15	368.85	-238.05	4,236.63	4,216.40	20.23	209.474	
14,000.00	12,186.00	8,265.00	8,263.64	45.38	18.94	-3.15	368.85	-238.05	4,255.60	4,235.04	20.56	206.952	
14,050.00	12,186.00	8,265.00	8,263.64	46.12	18.94	-3.15	368.85	-238.05	4,275.08	4,254.18	20.90	204.508	
14,100.00	12,186.00	8,265.00	8,263.64	46.87	18.94	-3.15	368.85	-238.05	4,295.05	4,273.81	21.25	202.166	

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 1H
Project:	Eddy County, NM (NAD-83)	TVD Reference:	GE 3492' + KB 26' @ 3518.00usft (Original Well Elev)
Reference Site:	Lava Tube 27 State	MD Reference:	GE 3492' + KB 26' @ 3518.00usft (Original Well Elev)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	1H	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:	Reference Datum

Offset Design LT-27-S Offsets - LAS #7 - OH - OH													Offset Site Error:	0.00 usft
Survey Program: 850-NS-GYRO-MS													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)	Separation (usft)	Factor		
14,150.00	12,186.00	8,265.00	8,263.64	47.62	18.94	-3.15	368.85	-238.05	4,315.51	4,293.92	21.59	199.898		
14,200.00	12,186.00	8,265.00	8,263.64	48.37	18.94	-3.15	368.85	-238.05	4,336.45	4,314.52	21.93	197.722		
14,250.00	12,186.00	8,265.00	8,263.64	49.14	18.94	-3.15	368.85	-238.05	4,357.86	4,335.59	22.28	195.617		
14,300.00	12,186.00	8,265.00	8,263.64	49.90	18.94	-3.15	368.85	-238.05	4,379.74	4,357.12	22.62	193.596		
14,350.00	12,186.00	8,265.00	8,263.64	50.68	18.94	-3.15	368.85	-238.05	4,402.08	4,379.11	22.97	191.640		
14,400.00	12,186.00	8,265.00	8,263.64	51.45	18.94	-3.15	368.85	-238.05	4,424.87	4,401.55	23.32	189.762		
14,450.00	12,186.00	8,265.00	8,263.64	52.24	18.94	-3.15	368.85	-238.05	4,448.11	4,424.44	23.67	187.945		
14,500.00	12,186.00	8,265.00	8,263.64	53.02	18.94	-3.15	368.85	-238.05	4,471.78	4,447.76	24.02	186.199		
14,550.00	12,186.00	8,265.00	8,263.64	53.81	18.94	-3.15	368.85	-238.05	4,495.88	4,471.52	24.37	184.509		
14,600.00	12,186.00	8,265.00	8,263.64	54.61	18.94	-3.15	368.85	-238.05	4,520.41	4,495.70	24.72	182.884		
14,650.00	12,186.00	8,265.00	8,263.64	55.41	18.94	-3.15	368.85	-238.05	4,545.36	4,520.29	25.07	181.312		
14,700.00	12,186.00	8,265.00	8,263.64	56.21	18.94	-3.15	368.85	-238.05	4,570.72	4,545.30	25.42	179.799		
14,750.00	12,186.00	8,265.00	8,263.64	57.02	18.94	-3.15	368.85	-238.05	4,596.48	4,570.71	25.77	178.335		
14,800.00	12,186.00	8,265.00	8,263.64	57.82	18.94	-3.15	368.85	-238.05	4,622.64	4,596.51	26.13	176.925		
14,850.00	12,186.00	8,265.00	8,263.64	58.64	18.94	-3.15	368.85	-238.05	4,649.19	4,622.71	26.48	175.561		
14,900.00	12,186.00	8,265.00	8,263.64	59.45	18.94	-3.15	368.85	-238.05	4,676.12	4,649.29	26.84	174.247		
14,950.00	12,186.00	8,265.00	8,263.64	60.27	18.94	-3.15	368.85	-238.05	4,703.43	4,676.24	27.19	172.975		
15,000.00	12,186.00	8,265.00	8,263.64	61.09	18.94	-3.15	368.85	-238.05	4,731.12	4,703.57	27.55	171.750		
15,050.00	12,186.00	8,265.00	8,263.64	61.92	18.94	-3.15	368.85	-238.05	4,759.16	4,731.26	27.90	170.563		
15,100.00	12,186.00	8,265.00	8,263.64	62.74	18.94	-3.15	368.85	-238.05	4,787.57	4,759.31	28.26	169.418		
15,150.00	12,186.00	8,265.00	8,263.64	63.57	18.94	-3.15	368.85	-238.05	4,816.32	4,787.71	28.62	168.310		
15,200.00	12,186.00	8,265.00	8,263.64	64.40	18.94	-3.15	368.85	-238.05	4,845.42	4,816.45	28.97	167.241		
15,250.00	12,186.00	8,265.00	8,263.64	65.24	18.94	-3.15	368.85	-238.05	4,874.86	4,845.53	29.33	166.205		
15,300.00	12,186.00	8,265.00	8,263.64	66.07	18.94	-3.15	368.85	-238.05	4,904.64	4,874.95	29.69	165.205		
15,350.00	12,186.00	8,265.00	8,263.64	66.91	18.94	-3.15	368.85	-238.05	4,934.74	4,904.69	30.05	164.236		
15,400.00	12,186.00	8,265.00	8,263.64	67.75	18.94	-3.15	368.85	-238.05	4,965.16	4,934.75	30.40	163.301		
15,450.00	12,186.00	8,265.00	8,263.64	68.60	18.94	-3.15	368.85	-238.05	4,995.89	4,965.13	30.76	162.394		
15,500.00	12,186.00	8,265.00	8,263.64	69.44	18.94	-3.15	368.85	-238.05	5,026.94	4,995.82	31.12	161.519		
15,550.00	12,186.00	8,265.00	8,263.64	70.29	18.94	-3.15	368.85	-238.05	5,058.29	5,026.81	31.48	160.670		
15,600.00	12,186.00	8,265.00	8,263.64	71.13	18.94	-3.15	368.85	-238.05	5,089.94	5,058.09	31.84	159.849		
15,650.00	12,186.00	8,265.00	8,263.64	71.99	18.94	-3.15	368.85	-238.05	5,121.88	5,089.67	32.20	159.053		
15,700.00	12,186.00	8,265.00	8,263.64	72.84	18.94	-3.15	368.85	-238.05	5,154.10	5,121.54	32.56	158.284		
15,750.00	12,186.00	8,265.00	8,263.64	73.69	18.94	-3.15	368.85	-238.05	5,186.61	5,153.69	32.92	157.538		
15,800.00	12,186.00	8,265.00	8,263.64	74.54	18.94	-3.15	368.85	-238.05	5,219.40	5,186.11	33.28	156.816		
15,850.00	12,186.00	8,265.00	8,263.64	75.40	18.94	-3.15	368.85	-238.05	5,252.45	5,218.81	33.64	156.116		
15,900.00	12,186.00	8,265.00	8,263.64	76.26	18.94	-3.15	368.85	-238.05	5,285.78	5,251.77	34.01	155.438		
15,950.00	12,186.00	8,265.00	8,263.64	77.12	18.94	-3.15	368.85	-238.05	5,319.36	5,284.99	34.37	154.780		
16,000.00	12,186.00	8,265.00	8,263.64	77.98	18.94	-3.15	368.85	-238.05	5,353.20	5,318.47	34.73	154.144		
16,050.00	12,186.00	8,265.00	8,263.64	78.84	18.94	-3.15	368.85	-238.05	5,387.29	5,352.20	35.09	153.526		
16,100.00	12,186.00	8,265.00	8,263.64	79.70	18.94	-3.15	368.85	-238.05	5,421.63	5,386.18	35.45	152.927		
16,150.00	12,186.00	8,265.00	8,263.64	80.57	18.94	-3.15	368.85	-238.05	5,456.21	5,420.40	35.81	152.346		
16,200.00	12,186.00	8,265.00	8,263.64	81.43	18.94	-3.15	368.85	-238.05	5,491.03	5,454.86	36.18	151.783		
16,250.00	12,186.00	8,265.00	8,263.64	82.30	18.94	-3.15	368.85	-238.05	5,526.08	5,489.54	36.54	151.236		
16,300.00	12,186.00	8,265.00	8,263.64	83.17	18.94	-3.15	368.85	-238.05	5,561.36	5,524.46	36.90	150.707		
16,350.00	12,186.00	8,265.00	8,263.64	84.04	18.94	-3.15	368.85	-238.05	5,596.87	5,559.60	37.26	150.192		
16,400.00	12,186.00	8,265.00	8,263.64	84.91	18.94	-3.15	368.85	-238.05	5,632.59	5,594.96	37.63	149.693		
16,450.00	12,186.00	8,265.00	8,263.64	85.78	18.94	-3.15	368.85	-238.05	5,668.53	5,630.54	37.99	149.208		
16,500.00	12,186.00	8,265.00	8,263.64	86.65	18.94	-3.15	368.85	-238.05	5,704.68	5,666.33	38.35	148.738		
16,550.00	12,186.00	8,265.00	8,263.64	87.52	18.94	-3.15	368.85	-238.05	5,741.04	5,702.33	38.72	148.281		
16,600.00	12,186.00	8,265.00	8,263.64	88.40	18.94	-3.15	368.85	-238.05	5,777.61	5,738.53	39.08	147.837		
16,650.00	12,186.00	8,265.00	8,263.64	89.27	18.94	-3.15	368.85	-238.05	5,814.37	5,774.93	39.44	147.406		

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 1H
Project:	Eddy County, NM (NAD-83)	TVD Reference:	GE 3492' + KB 26' @ 3518.00usft (Original Well Elev)
Reference Site:	Lava Tube 27 State	MD Reference:	GE 3492' + KB 26' @ 3518.00usft (Original Well Elev)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	1H	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:	Reference Datum

Offset Design													Offset Site Error:
Survey Program: 850-NS-GYRO-MS													0.00 usft
Reference													Offset Well Error:
Offset													0.00 usft
Semi-Major Axis													
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
16,700.00	12,186.00	8,265.00	8,263.64	90.15	18.94	-3.15	368.85	-238.05	5,851.33	5,811.52	39.81	146.988	
16,750.00	12,186.00	8,265.00	8,263.64	91.03	18.94	-3.15	368.85	-238.05	5,888.48	5,848.31	40.17	146.581	
16,800.00	12,186.00	8,265.00	8,263.64	91.90	18.94	-3.15	368.85	-238.05	5,925.83	5,885.29	40.54	146.186	
16,850.00	12,186.00	8,265.00	8,263.64	92.78	18.94	-3.15	368.85	-238.05	5,963.35	5,922.45	40.90	145.802	
16,900.00	12,186.00	8,265.00	8,263.64	93.66	18.94	-3.15	368.85	-238.05	6,001.06	5,959.80	41.26	145.429	
16,950.00	12,186.00	8,265.00	8,263.64	94.54	18.94	-3.15	368.85	-238.05	6,038.95	5,997.32	41.63	145.066	
17,000.00	12,186.00	8,265.00	8,263.64	95.42	18.94	-3.15	368.85	-238.05	6,077.01	6,035.02	41.99	144.714	
17,050.00	12,186.00	8,265.00	8,263.64	96.30	18.94	-3.15	368.85	-238.05	6,115.25	6,072.89	42.36	144.371	
17,100.00	12,186.00	8,265.00	8,263.64	97.18	18.94	-3.15	368.85	-238.05	6,153.65	6,110.93	42.72	144.038	
17,150.00	12,186.00	8,265.00	8,263.64	98.07	18.94	-3.15	368.85	-238.05	6,192.22	6,149.13	43.09	143.713	
17,200.00	12,186.00	8,265.00	8,263.64	98.95	18.94	-3.15	368.85	-238.05	6,230.95	6,187.50	43.45	143.398	
17,250.00	12,186.00	8,265.00	8,263.64	99.83	18.94	-3.15	368.85	-238.05	6,269.84	6,226.02	43.82	143.091	
17,300.00	12,186.00	8,265.00	8,263.64	100.72	18.94	-3.15	368.85	-238.05	6,308.89	6,264.71	44.18	142.793	
17,350.00	12,186.00	8,265.00	8,263.64	101.60	18.94	-3.15	368.85	-238.05	6,348.09	6,303.54	44.55	142.503	
17,400.00	12,186.00	8,265.00	8,263.64	102.49	18.94	-3.15	368.85	-238.05	6,387.44	6,342.53	44.91	142.221	
17,450.00	12,186.00	8,265.00	8,263.64	103.38	18.94	-3.15	368.85	-238.05	6,426.94	6,381.66	45.28	141.946	
17,500.00	12,186.00	8,265.00	8,263.64	104.26	18.94	-3.15	368.85	-238.05	6,466.59	6,420.94	45.64	141.678	
17,550.00	12,186.00	8,265.00	8,263.64	105.15	18.94	-3.15	368.85	-238.05	6,506.37	6,460.37	46.01	141.418	
17,600.00	12,186.00	8,265.00	8,263.64	106.04	18.94	-3.15	368.85	-238.05	6,546.30	6,499.93	46.37	141.164	
17,650.00	12,186.00	8,265.00	8,263.64	106.93	18.94	-3.15	368.85	-238.05	6,586.37	6,539.63	46.74	140.917	
17,700.00	12,186.00	8,265.00	8,263.64	107.82	18.94	-3.15	368.85	-238.05	6,626.57	6,579.46	47.10	140.677	
17,750.00	12,186.00	8,265.00	8,263.64	108.71	18.94	-3.15	368.85	-238.05	6,666.90	6,619.43	47.47	140.443	
17,800.00	12,186.00	8,265.00	8,263.64	109.60	18.94	-3.15	368.85	-238.05	6,707.36	6,659.53	47.84	140.215	
17,850.00	12,186.00	8,265.00	8,263.64	110.49	18.94	-3.15	368.85	-238.05	6,747.95	6,699.75	48.20	139.993	
17,900.00	12,186.00	8,265.00	8,263.64	111.38	18.94	-3.15	368.85	-238.05	6,788.67	6,740.10	48.57	139.777	
17,950.00	12,186.00	8,265.00	8,263.64	112.27	18.94	-3.15	368.85	-238.05	6,829.51	6,780.58	48.93	139.566	
17,958.01	12,186.00	8,265.00	8,263.64	112.41	18.94	-3.15	368.85	-238.05	6,836.07	6,787.07	48.99	139.533	

MD	INC	AZI	TVD	NS	EW
0.00	0.00	0.00	0.00	0.00	0.00
100.00	0.00	0.00	100.00	0.00	0.00
200.00	0.00	0.00	200.00	0.00	0.00
300.00	0.00	0.00	300.00	0.00	0.00
400.00	0.00	0.00	400.00	0.00	0.00
500.00	0.00	0.00	500.00	0.00	0.00
600.00	0.00	0.00	600.00	0.00	0.00
700.00	0.00	0.00	700.00	0.00	0.00
800.00	0.00	0.00	800.00	0.00	0.00
900.00	0.00	0.00	900.00	0.00	0.00
1000.00	0.00	0.00	1000.00	0.00	0.00
1100.00	0.00	0.00	1100.00	0.00	0.00
1200.00	0.00	0.00	1200.00	0.00	0.00
1300.00	0.00	0.00	1300.00	0.00	0.00
1400.00	0.00	0.00	1400.00	0.00	0.00
1500.00	0.00	0.00	1500.00	0.00	0.00
1600.00	0.00	0.00	1600.00	0.00	0.00
1700.00	0.00	0.00	1700.00	0.00	0.00
1800.00	0.00	0.00	1800.00	0.00	0.00
1900.00	0.00	0.00	1900.00	0.00	0.00
2000.00	0.00	0.00	2000.00	0.00	0.00
2100.00	0.00	0.00	2100.00	0.00	0.00
2200.00	0.00	0.00	2200.00	0.00	0.00
2300.00	0.00	0.00	2300.00	0.00	0.00
2400.00	0.00	0.00	2400.00	0.00	0.00
2500.00	0.00	0.00	2500.00	0.00	0.00
2600.00	0.00	0.00	2600.00	0.00	0.00
2700.00	0.00	0.00	2700.00	0.00	0.00
2800.00	0.00	0.00	2800.00	0.00	0.00
2900.00	0.00	0.00	2900.00	0.00	0.00
3000.00	0.00	0.00	3000.00	0.00	0.00
3100.00	0.00	0.00	3100.00	0.00	0.00
3200.00	0.00	0.00	3200.00	0.00	0.00
3300.00	0.00	0.00	3300.00	0.00	0.00
3400.00	0.00	0.00	3400.00	0.00	0.00
3500.00	0.00	0.00	3500.00	0.00	0.00
3600.00	0.00	0.00	3600.00	0.00	0.00
3700.00	0.00	0.00	3700.00	0.00	0.00
3800.00	0.00	0.00	3800.00	0.00	0.00
3900.00	0.00	0.00	3900.00	0.00	0.00
4000.00	0.00	0.00	4000.00	0.00	0.00
4100.00	0.00	0.00	4100.00	0.00	0.00
4200.00	0.00	0.00	4200.00	0.00	0.00
4300.00	0.00	0.00	4300.00	0.00	0.00
4400.00	0.00	0.00	4400.00	0.00	0.00
4500.00	0.00	0.00	4500.00	0.00	0.00

[illegible]

9300.00	0.00	0.00	9300.00	0.00	0.00
9400.00	0.00	0.00	9400.00	0.00	0.00
9500.00	0.00	0.00	9500.00	0.00	0.00
9600.00	0.00	0.00	9600.00	0.00	0.00
9700.00	0.00	0.00	9700.00	0.00	0.00
9800.00	0.00	0.00	9800.00	0.00	0.00
9900.00	0.00	0.00	9900.00	0.00	0.00
10000.00	0.00	0.00	10000.00	0.00	0.00
10100.00	0.00	0.00	10100.00	0.00	0.00
10200.00	0.00	0.00	10200.00	0.00	0.00
10300.00	0.00	0.00	10300.00	0.00	0.00
10400.00	0.00	0.00	10400.00	0.00	0.00
10500.00	0.00	0.00	10500.00	0.00	0.00
10600.00	0.00	0.00	10600.00	0.00	0.00
10700.00	0.00	0.00	10700.00	0.00	0.00
10800.00	0.00	0.00	10800.00	0.00	0.00
10900.00	0.00	0.00	10900.00	0.00	0.00
11000.00	0.00	0.00	11000.00	0.00	0.00
11100.00	0.00	0.00	11100.00	0.00	0.00
11200.00	0.00	0.00	11200.00	0.00	0.00
11300.00	0.00	0.00	11300.00	0.00	0.00
11400.00	0.00	0.00	11400.00	0.00	0.00
11500.00	0.00	0.00	11500.00	0.00	0.00
11600.00	0.00	0.00	11600.00	0.00	0.00
11708.54	0.00	0.00	11708.54	0.00	0.00
11725.00	1.98	356.61	11725.00	0.28	-0.02
11750.00	4.98	356.61	11749.95	1.80	-0.11
11775.00	7.98	356.61	11774.79	4.61	-0.27
11800.00	10.98	356.61	11799.44	8.72	-0.52
11825.00	13.98	356.61	11823.85	14.11	-0.84
11850.00	16.98	356.61	11847.94	20.77	-1.23
11875.00	19.98	356.61	11871.65	28.68	-1.70
11900.00	22.98	356.61	11894.91	37.81	-2.24
11925.00	25.98	356.61	11917.66	48.15	-2.85
11950.00	28.98	356.61	11939.84	59.66	-3.53
11975.00	31.98	356.61	11961.38	72.32	-4.28
12000.00	34.98	356.61	11982.23	86.08	-5.10
12025.00	37.98	356.61	12002.33	100.92	-5.98
12050.00	40.98	356.61	12021.63	116.78	-6.92
12075.00	43.98	356.61	12040.06	133.63	-7.92
12100.00	46.98	356.61	12057.59	151.42	-8.97
12125.00	49.98	356.61	12074.16	170.10	-10.08
12150.00	52.98	356.61	12089.73	189.63	-11.23
12175.00	55.98	356.61	12104.26	209.93	-12.43
12200.00	58.98	356.61	12117.70	230.97	-13.68
12225.00	61.98	356.61	12130.02	252.69	-14.97
12250.00	64.98	356.61	12141.18	275.01	-16.29

12275.00	67.98	356.61	12151.16	297.89	-17.64
12300.00	70.98	356.61	12159.92	321.26	-19.03
12325.00	73.98	356.61	12167.45	345.06	-20.44
12350.00	76.98	356.61	12173.72	369.21	-21.87
12375.00	79.98	356.61	12178.71	393.67	-23.32
12400.00	82.98	356.61	12182.42	418.34	-24.78
12425.00	85.98	356.61	12184.82	443.18	-26.25
12450.00	88.98	356.61	12185.92	468.11	-27.73
12458.54	90.00	356.61	12186.00	476.63	-28.23
12500.00	90.00	356.61	12186.00	518.02	-30.68
12600.00	90.00	356.61	12186.00	617.85	-36.60
12700.00	90.00	356.61	12186.00	717.67	-42.51
12800.00	90.00	356.61	12186.00	817.50	-48.42
12900.00	90.00	356.61	12186.00	917.32	-54.33
13000.00	90.00	356.61	12186.00	1017.15	-60.25
13100.00	90.00	356.61	12186.00	1116.97	-66.16
13200.00	90.00	356.61	12186.00	1216.80	-72.07
13300.00	90.00	356.61	12186.00	1316.62	-77.99
13400.00	90.00	356.61	12186.00	1416.45	-83.90
13500.00	90.00	356.61	12186.00	1516.27	-89.81
13600.00	90.00	356.61	12186.00	1616.10	-95.72
13700.00	90.00	356.61	12186.00	1715.92	-101.64
13800.00	90.00	356.61	12186.00	1815.75	-107.55
13900.00	90.00	356.61	12186.00	1915.57	-113.46
14000.00	90.00	356.61	12186.00	2015.40	-119.38
14100.00	90.00	356.61	12186.00	2115.22	-125.29
14200.00	90.00	356.61	12186.00	2215.05	-131.20
14300.00	90.00	356.61	12186.00	2314.87	-137.11
14400.00	90.00	356.61	12186.00	2414.70	-143.03
14500.00	90.00	356.61	12186.00	2514.52	-148.94
14600.00	90.00	356.61	12186.00	2614.35	-154.85
14700.00	90.00	356.61	12186.00	2714.17	-160.77
14800.00	90.00	356.61	12186.00	2814.00	-166.68
14900.00	90.00	356.61	12186.00	2913.82	-172.59
15000.00	90.00	356.61	12186.00	3013.65	-178.50
15100.00	90.00	356.61	12186.00	3113.47	-184.42
15200.00	90.00	356.61	12186.00	3213.30	-190.33
15300.00	90.00	356.61	12186.00	3313.12	-196.24
15400.00	90.00	356.61	12186.00	3412.95	-202.16
15500.00	90.00	356.61	12186.00	3512.77	-208.07
15600.00	90.00	356.61	12186.00	3612.60	-213.98
15700.00	90.00	356.61	12186.00	3712.42	-219.89
15800.00	90.00	356.61	12186.00	3812.25	-225.81
15900.00	90.00	356.61	12186.00	3912.07	-231.72
16000.00	90.00	356.61	12186.00	4011.90	-237.63
16100.00	90.00	356.61	12186.00	4111.72	-243.54
16200.00	90.00	356.61	12186.00	4211.55	-249.46

16300.00	90.00	356.61	12186.00	4311.37	-255.37
16400.00	90.00	356.61	12186.00	4411.20	-261.28
16500.00	90.00	356.61	12186.00	4511.02	-267.20
16600.00	90.00	356.61	12186.00	4610.85	-273.11
16700.00	90.00	356.61	12186.00	4710.67	-279.02
16800.00	90.00	356.61	12186.00	4810.50	-284.93
16900.00	90.00	356.61	12186.00	4910.32	-290.85
17000.00	90.00	356.61	12186.00	5010.15	-296.76
17100.00	90.00	356.61	12186.00	5109.97	-302.67
17200.00	90.00	356.61	12186.00	5209.80	-308.59
17300.00	90.00	356.61	12186.00	5309.62	-314.50
17400.00	90.00	356.61	12186.00	5409.45	-320.41
17500.00	90.00	356.61	12186.00	5509.27	-326.32
17600.00	90.00	356.61	12186.00	5609.10	-332.24
17700.00	90.00	356.61	12186.00	5708.92	-338.15
17800.00	90.00	356.61	12186.00	5808.75	-344.06
17900.00	90.00	356.61	12186.00	5908.57	-349.98
17958.01	90.00	356.61	12186.00	5966.48	-353.41

AGATE PWU 21-6H – APD DRILLING PLAN
SKS 07-02-2012

Casing Program:

<u>Hole Size</u>	<u>Hole Interval</u>	<u>OD Csg</u>	<u>Casing Interval</u>	<u>Weight</u>	<u>Collar</u>	<u>Grade</u>
17 1/2"	0-750	13 3/8"	0-750	48	ST&C	H-40
12 1/4"	750-4100	9 5/8"	0-4100	40	LT&C	J-55
8 3/4"	4100-12800	7"	0-11753	17	BT&C	HCP-110
8 3/4"	11700-17958	4 1/2"	11400-17958	13.5	BT&C	HCP-110

An 8-3/4" pilot hole will be drilled to 12,800 ft and plugged back to KOP. 450 sacks Class H Cement +0.6% bwoc R-3 + 46.2% Fresh Water, 15.6 ppg, Yield 1.18 cf/sk.

Mud Program:

<u>Depth</u>	<u>Mud Wt.</u>	<u>Visc.</u>	<u>Fluid Loss</u>	<u>Type System (Fluid)</u>
0-750	8.4 - 9.0	30-34	N/C	FW
0-4100	9.6 - 10	28-32	N/C	Brine
4100-12800	8.6 - 9.2	28-32	N/C	Cut Brine
11700-17958	10.5-11.5	28-29	8-10	OBM

Pressure Control Equipment:

The BOP system used to drill the intermediate hole will consist of a 13-5/8" 3M Triple Ram and Annular preventer. The BOP system will be tested as a 3M system prior to drilling out the surface casing shoe.

The BOP system used to drill the production hole will consist of a 13-5/8" 3M Triple Ram and Annular preventer. The BOP system will be tested as a 3M system prior to drilling out the intermediate casing shoe.

In addition to the rams and annular preventer, additional BOP accessories include a kelly cock, floor safety valve, choke lines, and choke manifold rated at 3,000 psi WP.

Cementing Program (cement volumes based on at least 25% excess)

13-3/8" Surface

Lead: 800 sacks Class C Cement + 2% bwoc Calcium Chloride + 0.125 lbs/sack Cello Flake + 6.3% Fresh Water, 14.8 ppg

Yield: 1.35 cf/sk

TOC @ surface

9-5/8" Intermediate

Lead: 1145 sacks (60:40) Poz (Fly Ash): Class C Cement + 5% bwow Sodium Chloride + 0.125 lbs/sack Cello Flake + 3 lbs/sack LCM-1 + 0.25% bwoc FL-52 + 1% bwoc Sodium Metasilicate + 0.1% bwoc R-3 + 89.6% Fresh Water, 12.6 ppg

Yield: 1.73 cf/sk

Tail: 300 sacks (60:40) Poz (Fly Ash): Class C Cement + 5% bwow Sodium Chloride + 0.125 lbs/sack Cello Flake + 0.3% bwoc Sodium Metasilicate + 0.5% bwoc BA-10A + 4% bwoc MPA-5 + 65.2% Fresh Water, 13.8 ppg

Yield: 1.38 cf/sk

TOC @ surface

7" Production

1st Lead: 450 sacks (35:65) Poz (Fly Ash): Class H Cement + 3% bwow Sodium Chloride + 0.125 lbs/sack Cello Flake + 0.7% bwoc FL-52 + 6% bwoc Bentonite + 105.4% Fresh Water, 12.5 ppg

Yield: 2.00 cf/sk

Tail: 575 sacks (50:50) Poz (Fly Ash): Class H Cement + 5% bwow Sodium Chloride + 0.3% bwoc CD-32 + 0.5% bwoc FL-25 + 0.3% bwoc FL-52 + 0.5% bwoc Sodium Metasilicate + 57.3% Fresh Water, 14.2 ppg

Yield: 1.28 cf/sk

DV Tool and ECP @ 6,000'

1st Lead: 200 sacks Class C Cement + 1.5% bwoc R-3 + 0.125 lbs/sack Cello Flake + 0.3% bwoc L-52 + 3% bwoc Sodium Metasilicate + 157% Fresh Water, 12.5 ppg

Yield: 2.89 cf/sk

Tail: 150 sacks (60:40) Poz (Fly Ash): Class C Cement 5% bwow Sodium Chloride + 0.125 lbs/sack cello Flake + 0.5% bwoc BA-10A + 4% bwoc MPA-5 + 65.1% Fresh Water, 13.8 ppg

Yield: 1.37 cf/sk

TOC @ 3100

4 1/2" Liner

1st Lead: 610 sacks (50:50) Poz (Fly Ash): Class H Cement + 0.15% bwoc R-3 + 5% bwow Sodium chloride + 0.3% bwoc CD-32 + 0.5% bwoc FL-25 + 0.5% bwoc FL-52 + 0.25% bwoc Sodium metasilicate + 57.1% Fresh Water, 14.2 ppg

Yield: 1.28 cf/sk

TOC @ 11700

TOC for All Strings:

Surface:	0
Intermediate:	0
7" Production:	3100 ft
4 1/2" Liner:	11400

ACTUAL CEMENT VOLUMES WILL BE ADJUSTED BASED ON FLUID CALIPER AND CALIPER LOG DATA.