

District I
1625 N. French Dr., Hobbs, NM 88240
Phone: (575) 393-6161 Fax: (575) 393-0780
District II
811 S. First St., Artesia, NM 88210
Phone: (575) 748-1283 Fax: (575) 748-9720
District III
1000 Rio Brazos Road, Aztec, NM 87410
Phone: (505) 334-6178 Fax: (505) 334-6170
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505
Phone: (505) 476-3460 Fax: (505) 476-3462

OIL CONSERVATION
ARTESIA DISTRICT
MAR 29 2017
RECEIVED

State of New Mexico
Energy, Minerals & Natural Resources Department
OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-102
Revised August 1, 2011
Submit one copy to appropriate
District Office
☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

¹ API Number 30-015-44116	² Pool Code 98199	³ Pool Name PARKWAY; BONE SPRING WEST
⁴ Property Code 317572	⁵ Property Name AGATE PWU 21-22	⁶ Well Number 9H
⁷ OGRID No. 6137	⁸ Operator Name DEVON ENERGY PRODUCTION COMPANY, L.P.	⁹ Elevation 3334.2

¹⁰ Surface Location

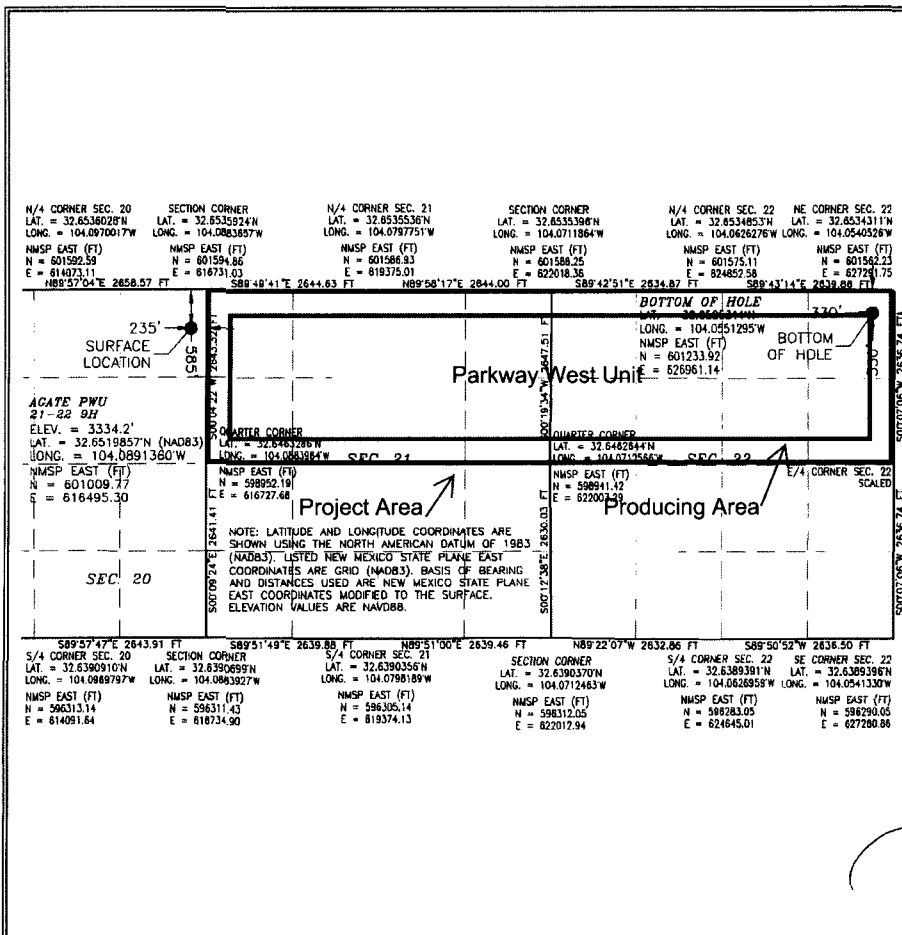
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
A	20	19 S	29 E		585	NORTH	235	EAST	EDDY

¹¹ Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
A	22	19 S	29 E		330	NORTH	330	EAST	EDDY

¹² Dedicated Acres	¹³ Joint or Infill	¹⁴ Consolidation Code	¹⁵ Order No.

No allowable will be assigned to this completion until all interests have been consolidated or a non-standard unit has been approved by the division.



¹⁷ OPERATOR CERTIFICATION

I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.

Erin Workman 03/27/2017
Signature Date

Erin Workman

Printed Name

Erin.workman@dvn.com

E-mail Address

¹⁸ SURVEYOR CERTIFICATION

I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief.

MARCH 10, 2017

Date of Survey

Signature and Seal of Professional Surveyor

Certificate Number: FELIMON F. JARAMILLO, PLS 12797

SURVEY NO. 5143A

Devon Energy, Agate PWU 21-22 9H

MAR 29 2017

RECEIVED

1. Geologic Formations

TVD of target	8996	Pilot hole depth	N/A
MD at TD:	18,772.33'	Deepest expected fresh water:	

Basin

Formation	Depth (TVD) from KB	Water/Mineral Bearing/ Target Zone?	Hazards*
Top of Salt	439		
Base of Salt	900		
Delaware	3545		
Bone Spring	4712		
1BSSS	6752		
2BSLM	6891		
2BSSS	7486		
3BSLM	7842		
3BSSS	8609		
G Sand Target	8931		
WFMP	9018		

*H2S, water flows, loss of circulation, abnormal pressures, etc.

Devon Energy, Agate PWU 21-22 9H

2. Casing Program

Hole Size	Casing Interval		Csg. Size	Weight (lbs)	Grade	Conn.
	From	To				
17.5"	0	350'	13.375"	48	H-40	STC
12.25"	0	3,450'	9.625"	40	J-55	BTC
8.75"	0	18,772.33'	5.5	17	P-110	BTC
BLM Minimum Safety Factor				1.125	1.00	1.6 Dry 1.8 Wet

All casing strings will be tested in accordance with Onshore Oil and Gas Order #2 III.B.1.h

Must have table for contingency casing

	Y or N
Is casing new? If used, attach certification as required in Onshore Order #1	Y
Does casing meet API specifications? If no, attach casing specification sheet.	Y
Is premium or uncommon casing planned? If yes attach casing specification sheet.	N
Does the above casing design meet or exceed BLM's minimum standards? If not provide justification (loading assumptions, casing design criteria).	Y
Will the intermediate pipe be kept at a minimum 1/3 fluid filled to avoid approaching the collapse pressure rating of the casing?	Y
Is well located within Capitan Reef?	N
If yes, does production casing cement tie back a minimum of 50' above the Reef?	
Is well within the designated 4 string boundary.	
Is well located in SOPA but not in R-111-P?	N
If yes, are the first 2 strings cemented to surface and 3 rd string cement tied back 500' into previous casing?	
Is well located in R-111-P and SOPA?	N
If yes, are the first three strings cemented to surface?	
Is 2 nd string set 100' to 600' below the base of salt?	
Is well located in high Cave/Karst?	N
If yes, are there two strings cemented to surface?	
(For 2 string wells) If yes, is there a contingency casing if lost circulation occurs?	
Is well located in critical Cave/Karst?	N
If yes, are there three strings cemented to surface?	

Devon Energy, Agate PWU 21-22 9H

3. Cementing Program

Casing	# Sks	Wt. lb/ gal	H ₂ O gal/sk	Yld ft ³ / sack	500# Comp. Strength (hours)	Slurry Description
13-3/8" Surface	395	14.8	6.368	1.33	6 hr 49 mn	C + Adds
9-5/8" Inter.	655	12.6	10.654	1.95	31 hr 40 mn	35:65 Poz:C + Adds
	438	14.8	6.352	1.33	5 hr 29 mn	C + Adds
5-1/2" Prod	851	11.2	15.442	2.59	19 hr 3 mn	TXI + Adds
	2350	14.5	5.175	1.18	9 hr 6 mn	50:50 Poz:H + Adds

If a DV tool is used, depth(s) will be adjusted based on hole conditions and cement volumes will be adjusted proportionally. DV tool will be set a minimum of 50 feet below previous casing and a minimum of 200 feet above current shoe. Lab reports with the 500 psi compressive strength time for the cement will be onsite for review.

Casing String	TOC	% Excess
13-3/8" Surface	0'	25%
9-5/8" Intermediate	0'	25%
5-1/2" Production Casing	2450'	10%

Devon Energy, Agate PWU 21-22 9H

4. Pressure Control Equipment

N	A variance is requested for the use of a diverter on the surface casing. See attached for schematic.
---	--

BOP installed and tested before drilling which hole?	Size?	Min. Required WP	Type	✓	Tested to:
12-1/4"	13-5/8"	3M	Annular	x	50% of working pressure
			Blind Ram		3M
			Pipe Ram		
			Double Ram	x	
			Other*		
8-3/4"	13-5/8"	3M	Annular	x	50% testing pressure
			Blind Ram		3M
			Pipe Ram		
			Double Ram	x	
			Other*		
			Annular		
			Blind Ram		
			Pipe Ram		
			Double Ram		
			Other*		

*Specify if additional ram is utilized.

BOP/BOPE will be tested by an independent service company to 250 psi low and the high pressure indicated above per Onshore Order 2 requirements. The System may be upgraded to a higher pressure but still tested to the working pressure listed in the table above. If the system is upgraded all the components installed will be functional and tested.

Pipe rams will be operationally checked each 24 hour period. Blind rams will be operationally checked on each trip out of the hole. These checks will be noted on the daily tour sheets. Other accessories to the BOP equipment will include a Kelly cock and floor safety valve (inside BOP) and choke lines and choke manifold. See attached schematics.

Y	Formation integrity test will be performed per Onshore Order #2. On Exploratory wells or on that portion of any well approved for a 5M BOPE system or greater, a pressure integrity test of each casing shoe shall be performed. Will be tested in accordance with Onshore Oil and Gas Order #2 III.B.1.i.
---	---

Devon Energy, Agate PWU 21-22 9H

Y	A variance is requested for the use of a flexible choke line from the BOP to Choke Manifold. See attached for specs and hydrostatic test chart.
Y	Are anchors required by manufacturer?
Y	A multibowl wellhead may be used. The BOP will be tested per Onshore Order #2 after installation on the surface casing which will cover testing requirements for a maximum of 30 days. If any seal subject to test pressure is broken the system must be tested. Devon proposes using a multi-bowl wellhead assembly. This assembly will only be tested when installed on the surface casing. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be 3000 (3M) psi. - Wellhead will be installed by wellhead representatives. - If the welding is performed by a third party, the wellhead representative will monitor the temperature to verify that it does not exceed the maximum temperature of the seal. - Wellhead representative will install the test plug for the initial BOP test. - Wellhead company will install a solid steel body pack-off to completely isolate the lower head after cementing intermediate casing. After installation of the pack-off, the pack-off and the lower flange will be tested to 3M, as shown on the attached schematic. Everything above the pack-off will not have been altered whatsoever from the initial nipple up. Therefore the BOP components will not be retested at that time. - If the cement does not circulate and one inch operations would have been possible with a standard wellhead, the well head will be cut and top out operations will be conducted. - Devon will pressure test all seals above and below the mandrel (but still above the casing) to full working pressure rating. - Devon will test the casing to 0.22 psi/ft or 1500 psi, whichever is greater, as per Onshore Order #2. After running the 13-3/8" surface casing, a 13-5/8" BOP/BOPE system with a minimum rating of 3M will be installed on the wellhead system and will undergo a 250 psi low pressure test followed by a 3,000 psi high pressure test. The 3,000 psi high and 250 psi low test will cover testing requirements a maximum of 30 days, as per Onshore Order #2. If the well is not complete within 30 days of this BOP test, another full BOP test will be conducted, as per Onshore Order #2. After running the 9-5/8" intermediate casing with a mandrel hanger, the 13-5/8" BOP/BOPE system with a minimum rating of 3M will already be installed on the wellhead. The pipe rams will be operated and checked each 24 hour period and each time the drill pipe is out of the hole. These tests will be logged in the daily driller's log. A 2" kill line and 3" choke line will be incorporated into the drilling spool below the ram BOP. 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.

Devon Energy, Agate PWU 21-22 9H

	Devon's proposed wellhead manufactures will be FMC Technologies, Cactus Wellhead, or Cameron. Devon requests a variance to use a flexible line with flanged ends between the BOP and the choke manifold (choke line). The line will be kept as straight as possible with minimal turns.
--	---

5. Mud Program

Depth		Type	Weight (ppg)	Viscosity	Water Loss
From	To				
0	350'	FW Gel	8.6-8.8	28-34	N/C
350'	3,450'	Saturated Brine	10.0-10.2	28-34	N/C
3,450'	18,772.33'	Cut Brine	8.5-9.0	28-34	N/C

Sufficient mud materials to maintain mud properties and meet minimum lost circulation and weight increase requirements will be kept on location at all times.

What will be used to monitor the loss or gain of fluid?	PVT/Pason/Visual Monitoring
---	-----------------------------

6. Logging and Testing Procedures

Logging, Coring and Testing.	
x	Will run GR/CNL from TD to surface (horizontal well – vertical portion of hole). Stated logs run will be in the Completion Report and submitted to the BLM.
	No Logs are planned based on well control or offset log information.
	Drill stem test? If yes, explain
	Coring? If yes, explain

Additional logs planned		Interval
	Resistivity	Int. shoe to KOP
	Density	Int. shoe to KOP
X	CBL	Production casing
X	Mud log	Intermediate shoe to TD
	PEX	

Devon Energy, Agate PWU 21-22 9H

7. Drilling Conditions

Condition	Specify what type and where?
BH Pressure at deepest TVD	4238 psi
Abnormal Temperature	No

Mitigation measure for abnormal conditions. Describe. Lost circulation material/sweeps/mud scavengers.

Hydrogen Sulfide (H₂S) monitors will be installed prior to drilling out the surface shoe. If H₂S is detected in concentrations greater than 100 ppm, the operator will comply with the provisions of Onshore Oil and Gas Order #6. If Hydrogen Sulfide is encountered, measured values and formations will be provided to the BLM.

N	H ₂ S is present
Y	H ₂ S Plan attached

8. Other facets of operation

Is this a walking operation? No.

Will be pre-setting casing? No.

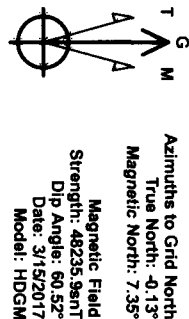
Attachments

☒ Directional Plan

☐ Other, describe

Devon Energy

Project: Eddy County, NM (NAD-83)
 Site: Agate PWU 21-22
 Well: 9H
 Wellbore: OH
 Design: Plan #1



PROJECT DETAILS: Eddy County, NM (NAD-83)
 Geodetic System: US State Plane 1983
 Datum: North American Datum 1983
 Ellipsoid: GRS 1980
 Zone: New Mexico Eastern Zone



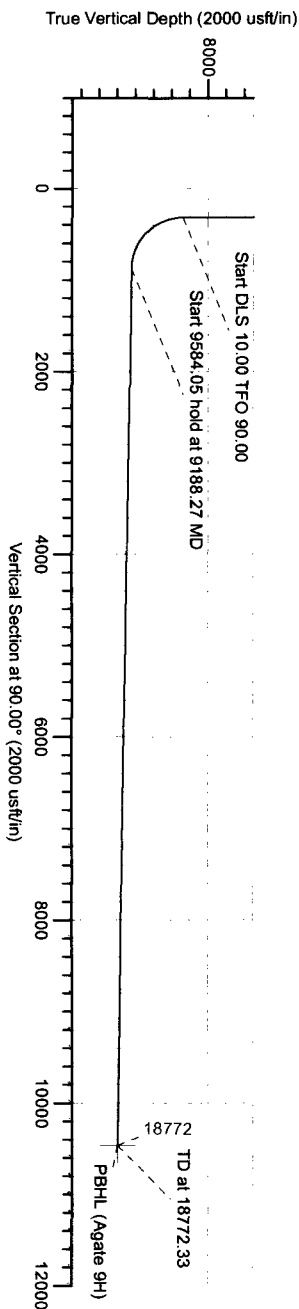
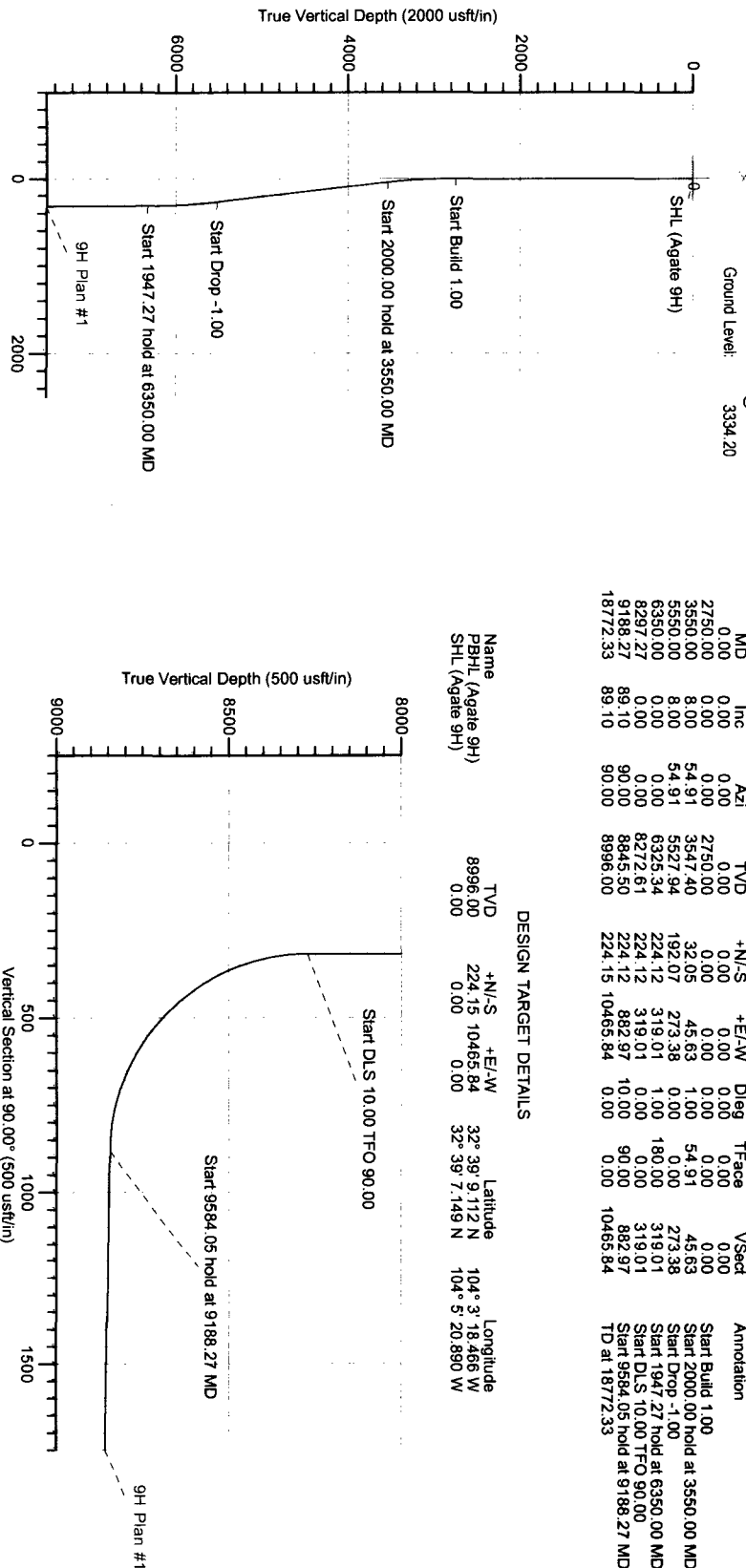
3334.2 GE +23.5 KB @ 3357.70usft
 Ground Level: 3334.20

MD	Inc	Azi	TVD	+N/S	+E/W	Dleg	TFace	V/Sect	Annotation
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	Start Build 1.00
2750.00	0.00	0.00	2750.00	0.00	0.00	0.00	0.00	0.00	Start 2000.00 hold at 3550.00 MD
3550.00	8.00	54.91	3547.40	32.05	45.63	1.00	54.91	45.63	Start Drop -1.00
3550.00	8.00	54.91	3527.94	192.07	273.38	0.00	0.00	273.38	Start 1947.27 hold at 6350.00 MD
6350.00	0.00	0.00	6325.34	224.12	319.01	1.00	180.00	319.01	Start DLS 10.00 TFO 90.00
8297.27	0.00	0.00	8272.61	224.12	319.01	0.00	0.00	319.01	Start 9584.05 hold at 9188.27 MD
9188.27	89.10	90.00	8845.50	224.12	882.97	10.00	90.00	882.97	TD at 18772.33
18772.33	89.10	90.00	8996.00	224.15	10465.84	0.00	0.00	10465.84	

SECTION DETAILS

DESIGN TARGET DETAILS

Name	TVD	+N/S	+E/W	Latitude	Longitude
PBHL (Agate 9H)	8996.00	224.15	10465.84	32° 39' 9.112" N	104° 3' 18.466" W
SHL (Agate 9H)	0.00	0.00	0.00	32° 39' 7.149" N	104° 5' 20.890" W



NM OIL CONSERVATION
 ARTESIA DISTRICT
 MAR 29 2017

RECEIVED



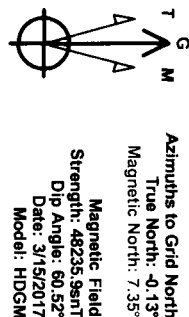
LEAM DRILLING SYSTEMS LLC
 2010 East Davis, Corrao, Texas 77301
 Phone: 936/756-7577, Fax: 936/756-7595

Plan: Plan #1 (9H/OH)
 Agate PWU 21-22
 Created By: Dustin Autt
 Date: 10:58, March 24 2017
 Approved: _____
 Date: _____

Devon Energy
 Project: Eddy County, NM (NAD-83)
 Site: Agate PWU 21-22

Well: 9H
 Wellbore: OH
 Design: Plan #1

devon



PROJECT DETAILS: Eddy County, NM (NAD-83)
 Geoid: US State Plane 1983
 Datum: North American Datum 1983
 Ellipsoid: GRS 1980
 Zone: New Mexico Eastern Zone

Name
 SHL (Agate 9H)
 PBHL (Agate 9H)

TVD
 0.00
 8996.00

+N/-S
 0.00
 224.15

+E/-W
 601009.77
 601233.92

North
 616495.30
 626961.14

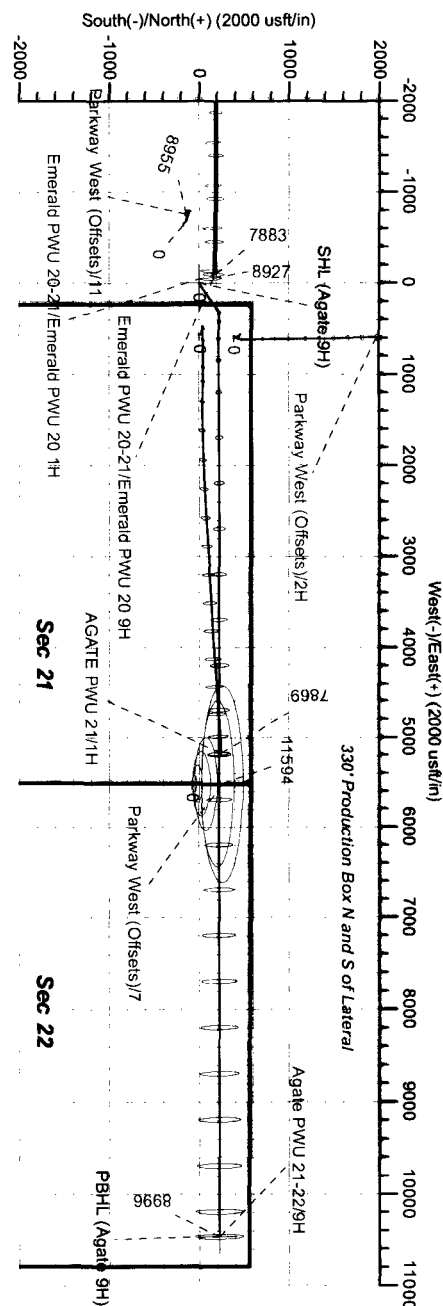
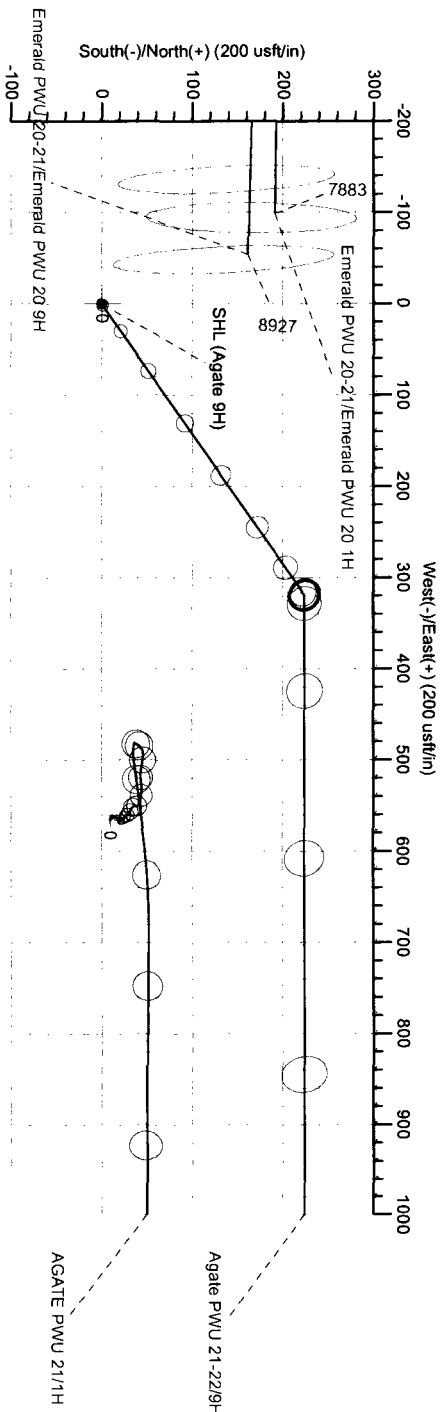
Latitude
 32° 39' 7.149 N
 32° 39' 9.112 N

Longitude
 104° 5' 20.890 W
 104° 3' 18.466 W

DESIGN TARGET DETAILS

SECTION DETAILS

MD	Inc	Azi	TVD	+N/-S	+E/-W	Dieg	TFace	Vsect	Annotation
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	Start Build 1.00
2750.00	0.00	0.00	2750.00	0.00	0.00	0.00	0.00	0.00	Start 2000.00 hold at 3550.00 MD
3550.00	8.00	54.91	3547.40	32.05	45.63	1.00	54.91	45.63	Start Drop -1.00
5550.00	8.00	54.91	5527.94	192.07	273.38	0.00	0.00	273.38	Start 1947.27 hold at 6350.00 MD
6350.00	0.00	0.00	6325.34	224.12	319.01	0.00	180.00	319.01	Start DLS 10.00 TFO 90.00
8297.27	0.00	0.00	8272.61	224.12	319.01	0.00	0.00	319.01	Start 9584.05 hold at 9188.27 MD
9188.27	89.10	90.00	8845.50	224.12	882.97	10.00	90.00	882.97	
18772.33	89.10	90.00	8996.00	224.15	10465.84	0.00	0.00	10465.84	TD at 18772.33



LEAM DRILLING SYSTEMS LLC
 2010 East Davis, Conroe, Texas 77301
 Phone: 936/756-7577, Fax 936/756-7595

Plan: Plan #1 (9H/CH)
 Agate PWU 21-22
 Created By: Dustin Ault
 Date: 11/06/2017
 Approved: _____
 Date: _____

Devon Energy

Eddy County, NM (NAD-83)

Agate PWU 21-22

9H

OH

Plan: Plan #1

Standard Planning Report

24 March, 2017

LEAM Drilling Systems LLC

Planning Report

Database: EDM 5000.1 Multi User Db
Company: Devon Energy
Project: Eddy County, NM (NAD-83)
Site: Agate PWU 21-22
Well: 9H
Wellbore: OH
Design: Plan #1

Local Co-ordinate Reference: Well 9H
TVD Reference: 3334.2' GE + 23.5' KB @ 3357.70usft
MD Reference: 3334.2' GE + 23.5' KB @ 3357.70usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature

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	Agate PWU 21-22		
Site Position:		Northing:	601,009.77 usft
From:	Map	Easting:	616,495.30 usft
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "
		Latitude:	32° 39' 7.149 N
		Longitude:	104° 5' 20.890 W
		Grid Convergence:	0.13 °

Well	9H		
Well Position	+N/-S	0.00 usft	Northing: 601,009.77 usft
	+E/-W	0.00 usft	Easting: 616,495.30 usft
Position Uncertainty	0.00 usft	Wellhead Elevation:	0.00 usft
		Latitude:	32° 39' 7.149 N
		Longitude:	104° 5' 20.890 W
		Ground Level:	3,334.20 usft

Wellbore	OH		
Magnetics	Model Name	Sample Date	Declination
	HDGM	3/15/2017	7.48
		Dip Angle	60.52
		Field Strength	48,236
		(°)	
		(nT)	

Design	Plan #1		
Audit Notes:			
Version:	Phase:	PLAN	Tie On Depth: 0.00
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W
	(usft)	(usft)	(usft)
	0.00	0.00	0.00
		Direction	90.00
		(°)	

Plan Sections										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2,750.00	0.00	0.00	2,750.00	0.00	0.00	0.00	0.00	0.00	0.00	
3,550.00	8.00	54.91	3,547.40	32.05	45.63	1.00	1.00	0.00	54.91	
5,550.00	8.00	54.91	5,527.94	192.07	273.38	0.00	0.00	0.00	0.00	
6,350.00	0.00	0.00	6,325.34	224.12	319.01	1.00	-1.00	0.00	180.00	
8,297.27	0.00	0.00	8,272.61	224.12	319.01	0.00	0.00	0.00	0.00	
9,188.27	89.10	90.00	8,845.50	224.12	882.97	10.00	10.00	10.10	90.00	
18,772.33	89.10	90.00	8,996.00	224.15	10,465.84	0.00	0.00	0.00	0.00	PBHL (Agate 9H)

LEAM Drilling Systems LLC

Planning Report

Database: EDM 5000.1 Multi User Db
Company: Devon Energy
Project: Eddy County, NM (NAD-83)
Site: Agate PWU 21-22
Well: 9H
Wellbore: OH
Design: Plan #1

Local Co-ordinate Reference: Well 9H
TVD Reference: 3334.2' GE + 23.5' KB @ 3357.70usft
MD Reference: 3334.2' GE + 23.5' KB @ 3357.70usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SHL (Agate 9H)									
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
2,750.00	0.00	0.00	2,750.00	0.00	0.00	0.00	0.00	0.00	0.00
Start Build 1.00									
2,800.00	0.50	54.91	2,800.00	0.13	0.18	0.18	1.00	1.00	0.00
2,900.00	1.50	54.91	2,899.98	1.13	1.61	1.61	1.00	1.00	0.00
3,000.00	2.50	54.91	2,999.92	3.13	4.46	4.46	1.00	1.00	0.00
3,100.00	3.50	54.91	3,099.78	6.14	8.74	8.74	1.00	1.00	0.00
3,200.00	4.50	54.91	3,199.54	10.15	14.45	14.45	1.00	1.00	0.00
3,300.00	5.50	54.91	3,299.16	15.16	21.58	21.58	1.00	1.00	0.00
3,400.00	6.50	54.91	3,398.61	21.17	30.14	30.14	1.00	1.00	0.00
3,500.00	7.50	54.91	3,497.86	28.18	40.11	40.11	1.00	1.00	0.00
3,550.00	8.00	54.91	3,547.40	32.05	45.63	45.63	1.00	1.00	0.00
Start 2000.00 hold at 3550.00 MD									
3,600.00	8.00	54.91	3,596.92	36.05	51.32	51.32	0.00	0.00	0.00
3,700.00	8.00	54.91	3,695.94	44.06	62.71	62.71	0.00	0.00	0.00
3,800.00	8.00	54.91	3,794.97	52.06	74.10	74.10	0.00	0.00	0.00
3,900.00	8.00	54.91	3,894.00	60.06	85.48	85.48	0.00	0.00	0.00
4,000.00	8.00	54.91	3,993.02	68.06	96.87	96.87	0.00	0.00	0.00
4,100.00	8.00	54.91	4,092.05	76.06	108.26	108.26	0.00	0.00	0.00
4,200.00	8.00	54.91	4,191.08	84.06	119.65	119.65	0.00	0.00	0.00
4,300.00	8.00	54.91	4,290.10	92.06	131.03	131.03	0.00	0.00	0.00
4,400.00	8.00	54.91	4,389.13	100.06	142.42	142.42	0.00	0.00	0.00
4,500.00	8.00	54.91	4,488.16	108.06	153.81	153.81	0.00	0.00	0.00
4,600.00	8.00	54.91	4,587.18	116.06	165.20	165.20	0.00	0.00	0.00
4,700.00	8.00	54.91	4,686.21	124.06	176.59	176.59	0.00	0.00	0.00

LEAM Drilling Systems LLC

Planning Report

Database: EDM 5000.1 Multi User Db
Company: Devon Energy
Project: Eddy County, NM (NAD-83)
Site: Agate PWU 21-22
Well: 9H
Wellbore: OH
Design: Plan #1

Local Co-ordinate Reference: Well 9H
TVD Reference: 3334.2' GE + 23.5' KB @ 3357.70usft
MD Reference: 3334.2' GE + 23.5' KB @ 3357.70usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N-S (usft)	+E-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
4,800.00	8.00	54.91	4,785.24	132.06	187.97	187.97	0.00	0.00	0.00
4,900.00	8.00	54.91	4,884.27	140.06	199.36	199.36	0.00	0.00	0.00
5,000.00	8.00	54.91	4,983.29	148.06	210.75	210.75	0.00	0.00	0.00
5,100.00	8.00	54.91	5,082.32	156.06	222.14	222.14	0.00	0.00	0.00
5,200.00	8.00	54.91	5,181.35	164.06	233.52	233.52	0.00	0.00	0.00
5,300.00	8.00	54.91	5,280.37	172.06	244.91	244.91	0.00	0.00	0.00
5,400.00	8.00	54.91	5,379.40	180.06	256.30	256.30	0.00	0.00	0.00
5,500.00	8.00	54.91	5,478.43	188.06	267.69	267.69	0.00	0.00	0.00
5,550.00	8.00	54.91	5,527.94	192.07	273.38	273.38	0.00	0.00	0.00
Start Drop -1.00									
5,600.00	7.50	54.91	5,577.48	195.94	278.90	278.90	1.00	-1.00	0.00
5,700.00	6.50	54.91	5,676.74	202.95	288.87	288.87	1.00	-1.00	0.00
5,800.00	5.50	54.91	5,776.19	208.96	297.42	297.42	1.00	-1.00	0.00
5,900.00	4.50	54.91	5,875.81	213.97	304.56	304.56	1.00	-1.00	0.00
6,000.00	3.50	54.91	5,975.56	217.98	310.26	310.26	1.00	-1.00	0.00
6,100.00	2.50	54.91	6,075.42	220.98	314.55	314.55	1.00	-1.00	0.00
6,200.00	1.50	54.91	6,175.36	222.99	317.40	317.40	1.00	-1.00	0.00
6,300.00	0.50	54.91	6,275.34	223.99	318.83	318.83	1.00	-1.00	0.00
6,350.00	0.00	0.00	6,325.34	224.12	319.01	319.01	1.00	-1.00	0.00
Start 1947.27 hold at 6350.00 MD									
6,400.00	0.00	0.00	6,375.34	224.12	319.01	319.01	0.00	0.00	0.00
6,500.00	0.00	0.00	6,475.34	224.12	319.01	319.01	0.00	0.00	0.00
6,600.00	0.00	0.00	6,575.34	224.12	319.01	319.01	0.00	0.00	0.00
6,700.00	0.00	0.00	6,675.34	224.12	319.01	319.01	0.00	0.00	0.00
6,800.00	0.00	0.00	6,775.34	224.12	319.01	319.01	0.00	0.00	0.00
6,900.00	0.00	0.00	6,875.34	224.12	319.01	319.01	0.00	0.00	0.00
7,000.00	0.00	0.00	6,975.34	224.12	319.01	319.01	0.00	0.00	0.00
7,100.00	0.00	0.00	7,075.34	224.12	319.01	319.01	0.00	0.00	0.00
7,200.00	0.00	0.00	7,175.34	224.12	319.01	319.01	0.00	0.00	0.00
7,300.00	0.00	0.00	7,275.34	224.12	319.01	319.01	0.00	0.00	0.00
7,400.00	0.00	0.00	7,375.34	224.12	319.01	319.01	0.00	0.00	0.00
7,500.00	0.00	0.00	7,475.34	224.12	319.01	319.01	0.00	0.00	0.00
7,600.00	0.00	0.00	7,575.34	224.12	319.01	319.01	0.00	0.00	0.00
7,700.00	0.00	0.00	7,675.34	224.12	319.01	319.01	0.00	0.00	0.00
7,800.00	0.00	0.00	7,775.34	224.12	319.01	319.01	0.00	0.00	0.00
7,900.00	0.00	0.00	7,875.34	224.12	319.01	319.01	0.00	0.00	0.00
8,000.00	0.00	0.00	7,975.34	224.12	319.01	319.01	0.00	0.00	0.00
8,100.00	0.00	0.00	8,075.34	224.12	319.01	319.01	0.00	0.00	0.00
8,200.00	0.00	0.00	8,175.34	224.12	319.01	319.01	0.00	0.00	0.00
8,297.27	0.00	0.00	8,272.61	224.12	319.01	319.01	0.00	0.00	0.00
Start DLS 10.00 TFO 90.00									
8,300.00	0.27	90.00	8,275.34	224.12	319.01	319.01	10.00	10.00	0.00
8,350.00	5.27	90.00	8,325.27	224.12	321.43	321.43	10.00	10.00	0.00
8,400.00	10.27	90.00	8,374.79	224.12	328.19	328.19	10.00	10.00	0.00
8,450.00	15.27	90.00	8,423.54	224.12	339.24	339.24	10.00	10.00	0.00
8,500.00	20.27	90.00	8,471.14	224.12	354.50	354.50	10.00	10.00	0.00
8,550.00	25.27	90.00	8,517.23	224.12	373.85	373.85	10.00	10.00	0.00
8,600.00	30.27	90.00	8,561.45	224.12	397.14	397.14	10.00	10.00	0.00
8,650.00	35.27	90.00	8,603.48	224.12	424.20	424.20	10.00	10.00	0.00
8,700.00	40.27	90.00	8,642.99	224.12	454.81	454.81	10.00	10.00	0.00
8,750.00	45.27	90.00	8,679.68	224.12	488.76	488.76	10.00	10.00	0.00
8,800.00	50.27	90.00	8,713.27	224.12	525.77	525.77	10.00	10.00	0.00
8,850.00	55.27	90.00	8,743.51	224.12	565.57	565.57	10.00	10.00	0.00

LEAM Drilling Systems LLC

Planning Report

Database: EDM 5000.1 Multi User Db
Company: Devon Energy
Project: Eddy County, NM (NAD-83)
Site: Agate PWU 21-22
Well: 9H
Wellbore: OH
Design: Plan #1

Local Co-ordinate Reference: Well 9H
TVD Reference: 3334.2' GE + 23.5' KB @ 3357.70usft
MD Reference: 3334.2' GE + 23.5' KB @ 3357.70usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
8,900.00	60.27	90.00	8,770.17	224.12	607.85	607.85	10.00	10.00	0.00
8,950.00	65.27	90.00	8,793.04	224.12	652.30	652.30	10.00	10.00	0.00
9,000.00	70.27	90.00	8,811.94	224.12	698.57	698.57	10.00	10.00	0.00
9,050.00	75.27	90.00	8,826.75	224.12	746.31	746.31	10.00	10.00	0.00
9,100.00	80.27	90.00	8,837.33	224.12	795.16	795.16	10.00	10.00	0.00
9,150.00	85.27	90.00	8,843.62	224.12	844.75	844.75	10.00	10.00	0.00
9,188.27	89.10	90.00	8,845.50	224.12	882.97	882.97	10.00	10.00	0.00
Start 9584.05 hold at 9188.27 MD									
9,200.00	89.10	90.00	8,845.68	224.12	894.69	894.69	0.00	0.00	0.00
9,300.00	89.10	90.00	8,847.25	224.12	994.68	994.68	0.00	0.00	0.00
9,400.00	89.10	90.00	8,848.82	224.12	1,094.67	1,094.67	0.00	0.00	0.00
9,500.00	89.10	90.00	8,850.39	224.12	1,194.66	1,194.66	0.00	0.00	0.00
9,600.00	89.10	90.00	8,851.97	224.12	1,294.65	1,294.65	0.00	0.00	0.00
9,700.00	89.10	90.00	8,853.54	224.12	1,394.63	1,394.63	0.00	0.00	0.00
9,800.00	89.10	90.00	8,855.11	224.12	1,494.62	1,494.62	0.00	0.00	0.00
9,900.00	89.10	90.00	8,856.68	224.12	1,594.61	1,594.61	0.00	0.00	0.00
10,000.00	89.10	90.00	8,858.25	224.12	1,694.60	1,694.60	0.00	0.00	0.00
10,100.00	89.10	90.00	8,859.82	224.12	1,794.58	1,794.58	0.00	0.00	0.00
10,200.00	89.10	90.00	8,861.39	224.12	1,894.57	1,894.57	0.00	0.00	0.00
10,300.00	89.10	90.00	8,862.96	224.12	1,994.56	1,994.56	0.00	0.00	0.00
10,400.00	89.10	90.00	8,864.53	224.12	2,094.55	2,094.55	0.00	0.00	0.00
10,500.00	89.10	90.00	8,866.10	224.12	2,194.53	2,194.53	0.00	0.00	0.00
10,600.00	89.10	90.00	8,867.67	224.13	2,294.52	2,294.52	0.00	0.00	0.00
10,700.00	89.10	90.00	8,869.24	224.13	2,394.51	2,394.51	0.00	0.00	0.00
10,800.00	89.10	90.00	8,870.81	224.13	2,494.50	2,494.50	0.00	0.00	0.00
10,900.00	89.10	90.00	8,872.38	224.13	2,594.48	2,594.48	0.00	0.00	0.00
11,000.00	89.10	90.00	8,873.95	224.13	2,694.47	2,694.47	0.00	0.00	0.00
11,100.00	89.10	90.00	8,875.52	224.13	2,794.46	2,794.46	0.00	0.00	0.00
11,200.00	89.10	90.00	8,877.09	224.13	2,894.45	2,894.45	0.00	0.00	0.00
11,300.00	89.10	90.00	8,878.66	224.13	2,994.44	2,994.44	0.00	0.00	0.00
11,400.00	89.10	90.00	8,880.23	224.13	3,094.42	3,094.42	0.00	0.00	0.00
11,500.00	89.10	90.00	8,881.80	224.13	3,194.41	3,194.41	0.00	0.00	0.00
11,600.00	89.10	90.00	8,883.37	224.13	3,294.40	3,294.40	0.00	0.00	0.00
11,700.00	89.10	90.00	8,884.94	224.13	3,394.39	3,394.39	0.00	0.00	0.00
11,800.00	89.10	90.00	8,886.51	224.13	3,494.37	3,494.37	0.00	0.00	0.00
11,900.00	89.10	90.00	8,888.08	224.13	3,594.36	3,594.36	0.00	0.00	0.00
12,000.00	89.10	90.00	8,889.65	224.13	3,694.35	3,694.35	0.00	0.00	0.00
12,100.00	89.10	90.00	8,891.22	224.13	3,794.34	3,794.34	0.00	0.00	0.00
12,200.00	89.10	90.00	8,892.79	224.13	3,894.32	3,894.32	0.00	0.00	0.00
12,300.00	89.10	90.00	8,894.36	224.13	3,994.31	3,994.31	0.00	0.00	0.00
12,400.00	89.10	90.00	8,895.93	224.13	4,094.30	4,094.30	0.00	0.00	0.00
12,500.00	89.10	90.00	8,897.50	224.13	4,194.29	4,194.29	0.00	0.00	0.00
12,600.00	89.10	90.00	8,899.07	224.13	4,294.28	4,294.28	0.00	0.00	0.00
12,700.00	89.10	90.00	8,900.65	224.13	4,394.26	4,394.26	0.00	0.00	0.00
12,800.00	89.10	90.00	8,902.22	224.13	4,494.25	4,494.25	0.00	0.00	0.00
12,900.00	89.10	90.00	8,903.79	224.13	4,594.24	4,594.24	0.00	0.00	0.00
13,000.00	89.10	90.00	8,905.36	224.13	4,694.23	4,694.23	0.00	0.00	0.00
13,100.00	89.10	90.00	8,906.93	224.13	4,794.21	4,794.21	0.00	0.00	0.00
13,200.00	89.10	90.00	8,908.50	224.13	4,894.20	4,894.20	0.00	0.00	0.00
13,300.00	89.10	90.00	8,910.07	224.13	4,994.19	4,994.19	0.00	0.00	0.00
13,400.00	89.10	90.00	8,911.64	224.13	5,094.18	5,094.18	0.00	0.00	0.00
13,500.00	89.10	90.00	8,913.21	224.13	5,194.16	5,194.16	0.00	0.00	0.00
13,600.00	89.10	90.00	8,914.78	224.13	5,294.15	5,294.15	0.00	0.00	0.00
13,700.00	89.10	90.00	8,916.35	224.13	5,394.14	5,394.14	0.00	0.00	0.00

LEAM Drilling Systems LLC

Planning Report

Database: EDM 5000.1 Multi User Db
Company: Devon Energy
Project: Eddy County, NM (NAD-83)
Site: Agate PWJ 21-22
Well: 9H
Wellbore: OH
Design: Plan #1

Local Co-ordinate Reference: Well 9H
TVD Reference: 3334.2' GE + 23.5' KB @ 3357.70usft
MD Reference: 3334.2' GE + 23.5' KB @ 3357.70usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
13,800.00	89.10	90.00	8,917.92	224.13	5,494.13	5,494.13	0.00	0.00	0.00
13,900.00	89.10	90.00	8,919.49	224.14	5,594.12	5,594.12	0.00	0.00	0.00
14,000.00	89.10	90.00	8,921.06	224.14	5,694.10	5,694.10	0.00	0.00	0.00
14,100.00	89.10	90.00	8,922.63	224.14	5,794.09	5,794.09	0.00	0.00	0.00
14,200.00	89.10	90.00	8,924.20	224.14	5,894.08	5,894.08	0.00	0.00	0.00
14,300.00	89.10	90.00	8,925.77	224.14	5,994.07	5,994.07	0.00	0.00	0.00
14,400.00	89.10	90.00	8,927.34	224.14	6,094.05	6,094.05	0.00	0.00	0.00
14,500.00	89.10	90.00	8,928.91	224.14	6,194.04	6,194.04	0.00	0.00	0.00
14,600.00	89.10	90.00	8,930.48	224.14	6,294.03	6,294.03	0.00	0.00	0.00
14,700.00	89.10	90.00	8,932.05	224.14	6,394.02	6,394.02	0.00	0.00	0.00
14,800.00	89.10	90.00	8,933.62	224.14	6,494.00	6,494.00	0.00	0.00	0.00
14,900.00	89.10	90.00	8,935.19	224.14	6,593.99	6,593.99	0.00	0.00	0.00
15,000.00	89.10	90.00	8,936.76	224.14	6,693.98	6,693.98	0.00	0.00	0.00
15,100.00	89.10	90.00	8,938.33	224.14	6,793.97	6,793.97	0.00	0.00	0.00
15,200.00	89.10	90.00	8,939.90	224.14	6,893.95	6,893.95	0.00	0.00	0.00
15,300.00	89.10	90.00	8,941.47	224.14	6,993.94	6,993.94	0.00	0.00	0.00
15,400.00	89.10	90.00	8,943.04	224.14	7,093.93	7,093.93	0.00	0.00	0.00
15,500.00	89.10	90.00	8,944.61	224.14	7,193.92	7,193.92	0.00	0.00	0.00
15,600.00	89.10	90.00	8,946.18	224.14	7,293.91	7,293.91	0.00	0.00	0.00
15,700.00	89.10	90.00	8,947.75	224.14	7,393.89	7,393.89	0.00	0.00	0.00
15,800.00	89.10	90.00	8,949.33	224.14	7,493.88	7,493.88	0.00	0.00	0.00
15,900.00	89.10	90.00	8,950.90	224.14	7,593.87	7,593.87	0.00	0.00	0.00
16,000.00	89.10	90.00	8,952.47	224.14	7,693.86	7,693.86	0.00	0.00	0.00
16,100.00	89.10	90.00	8,954.04	224.14	7,793.84	7,793.84	0.00	0.00	0.00
16,200.00	89.10	90.00	8,955.61	224.14	7,893.83	7,893.83	0.00	0.00	0.00
16,300.00	89.10	90.00	8,957.18	224.14	7,993.82	7,993.82	0.00	0.00	0.00
16,400.00	89.10	90.00	8,958.75	224.14	8,093.81	8,093.81	0.00	0.00	0.00
16,500.00	89.10	90.00	8,960.32	224.14	8,193.79	8,193.79	0.00	0.00	0.00
16,600.00	89.10	90.00	8,961.89	224.14	8,293.78	8,293.78	0.00	0.00	0.00
16,700.00	89.10	90.00	8,963.46	224.14	8,393.77	8,393.77	0.00	0.00	0.00
16,800.00	89.10	90.00	8,965.03	224.14	8,493.76	8,493.76	0.00	0.00	0.00
16,900.00	89.10	90.00	8,966.60	224.14	8,593.75	8,593.75	0.00	0.00	0.00
17,000.00	89.10	90.00	8,968.17	224.14	8,693.73	8,693.73	0.00	0.00	0.00
17,100.00	89.10	90.00	8,969.74	224.14	8,793.72	8,793.72	0.00	0.00	0.00
17,200.00	89.10	90.00	8,971.31	224.15	8,893.71	8,893.71	0.00	0.00	0.00
17,300.00	89.10	90.00	8,972.88	224.15	8,993.70	8,993.70	0.00	0.00	0.00
17,400.00	89.10	90.00	8,974.45	224.15	9,093.68	9,093.68	0.00	0.00	0.00
17,500.00	89.10	90.00	8,976.02	224.15	9,193.67	9,193.67	0.00	0.00	0.00
17,600.00	89.10	90.00	8,977.59	224.15	9,293.66	9,293.66	0.00	0.00	0.00
17,700.00	89.10	90.00	8,979.16	224.15	9,393.65	9,393.65	0.00	0.00	0.00
17,800.00	89.10	90.00	8,980.73	224.15	9,493.63	9,493.63	0.00	0.00	0.00
17,900.00	89.10	90.00	8,982.30	224.15	9,593.62	9,593.62	0.00	0.00	0.00
18,000.00	89.10	90.00	8,983.87	224.15	9,693.61	9,693.61	0.00	0.00	0.00
18,100.00	89.10	90.00	8,985.44	224.15	9,793.60	9,793.60	0.00	0.00	0.00
18,200.00	89.10	90.00	8,987.01	224.15	9,893.58	9,893.58	0.00	0.00	0.00
18,300.00	89.10	90.00	8,988.58	224.15	9,993.57	9,993.57	0.00	0.00	0.00
18,400.00	89.10	90.00	8,990.15	224.15	10,093.56	10,093.56	0.00	0.00	0.00
18,500.00	89.10	90.00	8,991.72	224.15	10,193.55	10,193.55	0.00	0.00	0.00
18,600.00	89.10	90.00	8,993.29	224.15	10,293.54	10,293.54	0.00	0.00	0.00
18,700.00	89.10	90.00	8,994.86	224.15	10,393.52	10,393.52	0.00	0.00	0.00
18,772.33	89.10	90.00	8,996.00	224.15	10,465.84	10,465.84	0.00	0.00	0.00

TD at 18772.33 - PBHL (Agate 9H)

LEAM Drilling Systems LLC

Planning Report

Database: EDM 5000.1 Multi User Db
Company: Devon Energy
Project: Eddy County, NM (NAD-83)
Site: Agate PWJ 21-22
Well: 9H
Wellbore: OH
Design: Plan #1

Local Co-ordinate Reference: Well 9H
TVD Reference: 3334.2' GE + 23.5' KB @ 3357.70usft
MD Reference: 3334.2' GE + 23.5' KB @ 3357.70usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature

Design Targets

Target Name	Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
- hit/miss target	(°)	(°)	(usft)	(usft)	(usft)	(usft)	(usft)		
- Shape									
SHL (Agate 9H)	0.00	0.00	0.00	0.00	0.00	601,009.77	616,495.30	32° 39' 7.149 N	104° 5' 20.890 W
- plan hits target center									
- Point									
PBHL (Agate 9H)	0.00	0.00	8,996.00	224.15	10,465.84	601,233.92	626,961.14	32° 39' 9.112 N	104° 3' 18.466 W
- plan hits target center									
- Point									

Plan Annotations

Measured Depth	Vertical Depth	Local Coordinates		Comment
(usft)	(usft)	+N/-S (usft)	+E/-W (usft)	
2,750.00	2,750.00	0.00	0.00	Start Build 1.00
3,550.00	3,547.40	32.05	45.63	Start 2000.00 hold at 3550.00 MD
5,550.00	5,527.94	192.07	273.38	Start Drop -1.00
6,350.00	6,325.34	224.12	319.01	Start 1947.27 hold at 6350.00 MD
8,297.27	8,272.61	224.12	319.01	Start DLS 10.00 TFO 90.00
9,188.27	8,845.50	224.12	882.97	Start 9584.05 hold at 9188.27 MD
18,772.33	8,996.00	224.15	10,465.84	TD at 18772.33

Devon Energy

Eddy County, NM (NAD-83)

Agate PWU 21-22

9H

OH

Plan #1

Anticollision Report

24 March, 2017

LEAM Drilling Systems LLC

Anticollision Report

Company:	Devon Energy	Local Co-ordinate Reference:	Well 9H
Project:	Eddy County, NM (NAD-83)	TVD Reference:	3334.2' GE + 23.5' KB @ 3357.70usft
Reference Site:	Agate PWU 21-22	MD Reference:	3334.2' GE + 23.5' KB @ 3357.70usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	9H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.1 Multi User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Reference	Plan #1
Filter type:	NO GLOBAL FILTER: Using user defined selection & filtering criteria
Interpolation Method:	Stations
Depth Range:	Unlimited
Results Limited by:	Maximum center-center distance of 9,999.98 usft
Warning Levels Evaluated at:	2.00 Sigma
Error Model:	ISCWSA
Scan Method:	Closest Approach 3D
Error Surface:	Elliptical Conic
Casing Method:	Not applied

Survey Tool Program	Date	3/24/2017
From (usft)	To (usft)	Survey (Wellbore)
0.00	18,772.33	Plan #1 (OH)
		Tool Name
		LEAM MWD+HDGM
		Description
		MWD+HDGM

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						
AGATE PWU 21						
1H - OH - OH	6,949.48	6,926.22	245.81	214.37	7.818	CC
1H - OH - OH	7,000.00	6,976.26	245.86	214.30	7.791	ES
1H - OH - OH	7,300.00	7,271.85	248.53	216.25	7.698	SF
Emerald PWU 20-21						
Emerald PWU 20 1H - OH - OH	7,907.40	12,214.00	418.92	379.51	10.629	CC, ES, SF
Emerald PWU 20 9H - OH - OH	8,600.00	13,671.00	583.84	539.82	13.265	SF
Emerald PWU 20 9H - OH - OH	8,644.17	13,671.00	580.48	537.37	13.466	CC, ES
Parkway West (Offsets)						
11 - OH - OH	1,105.81	1,105.82	651.43	646.80	140.580	CC
11 - OH - OH	1,200.00	1,197.89	651.64	646.63	130.001	ES
11 - OH - OH	8,350.00	8,355.00	1,142.83	1,107.43	32.290	SF
2H - OH - OH	7,207.98	7,186.00	338.08	307.42	11.027	CC, ES
2H - OH - OH	7,300.00	7,249.00	341.90	310.63	10.935	SF
7 - OH - OH	13,800.00	8,925.10	38.65	-609.90	0.060	Level 1, SF
7 - OH - OH	13,822.61	8,925.45	31.35	-284.96	0.099	Level 1, CC
7 - OH - OH	13,900.00	8,926.66	83.50	-790.57	0.096	Level 1, ES

Offset Design												
AGATE PWU 21 - 1H - OH - OH												
Survey Program: 116-NS-GYRO-MS, 6693-MWD-ISCWSA												
Reference		Offset		Semi Major Axis		Distance		Minimum Separation		Warning		
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Separation Factor	
0.00	0.00	0.00	0.00	0.00	0.00	89.04	9.54	566.77	566.85			
100.00	100.00	101.56	101.56	0.09	0.11	89.03	9.55	566.83	566.71	566.51	0.19	2,917.911
200.00	200.00	201.78	201.78	0.31	0.35	89.03	9.56	566.31	566.40	565.74	0.66	855.819
300.00	300.00	301.53	301.53	0.54	0.61	89.04	9.51	566.02	566.10	564.96	1.14	494.615
400.00	400.00	401.97	401.97	0.76	0.87	89.05	9.42	565.72	565.80	564.17	1.63	346.935
500.00	500.00	502.07	502.06	0.99	1.14	89.05	9.39	565.37	565.45	563.33	2.12	266.597
600.00	600.00	603.60	603.59	1.21	1.40	89.04	9.47	564.84	564.93	562.32	2.61	216.382
700.00	700.00	703.32	703.32	1.43	1.65	89.02	9.67	564.23	564.33	561.24	3.09	182.693
800.00	800.00	803.68	803.67	1.66	1.90	88.98	10.08	563.61	563.71	560.15	3.56	158.404
900.00	900.00	904.12	904.11	1.88	2.14	88.91	10.75	562.90	563.02	558.99	4.02	140.007
1,000.00	1,000.00	1,004.12	1,004.10	2.11	2.37	88.82	11.57	562.13	562.26	557.78	4.48	125.465

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

LEAM Drilling Systems LLC

Anticollision Report

Company: Devon Energy
Project: Eddy County, NM (NAD-83)
Reference Site: Agate PWU 21-22
Site Error: 0.00 usft
Reference Well: 9H
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Plan #1

Local Co-ordinate Reference: Well 9H
TVD Reference: 3334.2' GE + 23.5' KB @ 3357.70usft
MD Reference: 3334.2' GE + 23.5' KB @ 3357.70usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at 2.00 sigma
Database: EDM 5000.1 Multi User Db
Offset TVD Reference: Offset Datum

Offset Design AGATE PWU 21 - 1H - OH - OH											Offset Site Error:	0.00 usft
Survey Program: 116-NS-GYRO-MS, 6693-MWD-ISCWSA											Offset Well Error:	0.00 usft
Reference	Offset		Semi Major Axis		Distance		Minimum		Separation		Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor
1,100.00	1,100.00	1,102.70	1,102.67	2.33	2.59	88.72	12.55	561.48	561.62	556.70	4.93	113.972
1,186.88	1,186.88	1,186.91	1,186.88	2.53	2.76	88.62	13.57	561.23	561.39	556.11	5.29	106.169
1,200.00	1,200.00	1,199.47	1,199.44	2.56	2.78	88.60	13.72	561.23	561.40	556.06	5.34	105.185
1,300.00	1,300.00	1,295.52	1,295.48	2.78	2.92	88.48	14.90	561.66	561.87	556.17	5.70	98.613
1,400.00	1,400.00	1,393.10	1,393.05	3.01	3.02	88.37	16.02	562.68	562.95	556.92	6.03	93.379
1,500.00	1,500.00	1,493.36	1,493.29	3.23	3.13	88.25	17.18	563.91	564.22	557.85	6.37	88.630
1,600.00	1,600.00	1,595.04	1,594.96	3.46	3.27	88.15	18.25	564.94	565.25	558.52	6.73	84.004
1,700.00	1,700.00	1,696.91	1,696.83	3.68	3.44	88.06	19.18	565.66	565.99	558.87	7.12	79.481
1,800.00	1,800.00	1,798.25	1,798.16	3.91	3.63	87.98	19.96	566.05	566.41	558.87	7.54	75.102
1,900.00	1,900.00	1,898.95	1,898.86	4.13	3.85	87.90	20.73	566.29	566.67	558.68	7.99	70.966
2,000.00	2,000.00	2,000.15	2,000.05	4.36	4.09	87.83	21.46	566.37	566.78	558.33	8.45	67.082
2,100.00	2,100.00	2,101.73	2,101.63	4.58	4.35	87.77	22.00	566.20	566.63	557.70	8.93	63.463
2,200.00	2,200.00	2,202.07	2,201.97	4.81	4.60	87.73	22.44	565.85	566.30	556.89	9.41	60.181
2,300.00	2,300.00	2,302.50	2,302.40	5.03	4.86	87.68	22.89	565.44	565.91	556.02	9.89	57.215
2,400.00	2,400.00	2,402.55	2,402.44	5.26	5.11	87.64	23.29	565.00	565.48	555.11	10.37	54.535
2,500.00	2,500.00	2,502.58	2,502.47	5.48	5.37	87.60	23.68	564.55	565.05	554.20	10.85	52.090
2,600.00	2,600.00	2,602.61	2,602.50	5.71	5.62	87.56	24.06	564.09	564.61	553.28	11.33	49.847
2,700.00	2,700.00	2,702.83	2,702.72	5.93	5.88	87.51	24.46	563.61	564.15	552.34	11.81	47.779
2,750.00	2,750.00	2,752.93	2,752.82	6.04	6.01	87.49	24.69	563.36	563.90	551.86	12.05	46.803
2,800.00	2,800.00	2,802.96	2,802.85	6.15	6.13	87.47	24.92	563.09	563.67	551.18	12.29	45.861
2,900.00	2,899.98	2,902.78	2,902.67	6.37	6.39	87.42	25.44	562.58	563.15	550.45	12.76	44.013
3,000.00	2,999.92	3,002.61	3,002.49	6.58	6.65	87.37	26.02	562.09	562.67	549.72	13.23	42.179
3,100.00	3,099.78	3,102.40	3,102.28	6.80	6.92	87.32	26.67	561.60	562.18	549.00	13.71	40.362
3,200.00	3,199.54	3,202.05	3,201.93	7.02	7.18	87.28	27.34	561.14	561.72	548.28	14.18	38.563
3,300.00	3,299.16	3,301.89	3,301.77	7.24	7.44	87.24	28.03	560.67	561.25	547.56	14.66	36.779
3,400.00	3,398.61	3,401.68	3,401.55	7.46	7.70	87.20	28.69	560.14	560.72	546.84	15.14	35.007
3,500.00	3,497.86	3,501.42	3,501.29	7.70	7.96	87.16	29.32	559.53	560.11	546.12	15.62	33.249
3,550.00	3,547.40	3,551.28	3,551.14	7.82	8.09	87.12	29.66	559.19	560.00	545.80	15.86	32.373
3,600.00	3,596.92	3,601.17	3,601.03	7.94	8.22	87.08	30.00	558.81	560.00	545.48	16.11	31.512
3,700.00	3,595.94	3,700.68	3,700.54	8.18	8.48	87.04	30.70	557.95	559.54	545.16	16.59	29.865
3,800.00	3,794.97	3,799.97	3,799.82	8.43	8.73	87.00	31.35	557.01	558.60	544.84	17.07	28.313
3,900.00	3,894.00	3,899.47	3,899.31	8.69	8.98	86.96	31.88	555.98	557.57	544.52	17.55	26.854
4,000.00	3,993.02	3,998.60	3,998.44	8.94	9.22	86.92	32.27	554.85	556.44	544.20	18.03	25.479
4,100.00	4,092.05	4,098.99	4,098.82	9.21	9.47	86.88	32.70	553.77	555.36	543.88	18.51	24.178
4,200.00	4,191.08	4,195.79	4,195.61	9.47	9.72	86.84	33.28	552.80	554.39	543.56	19.01	22.942
4,300.00	4,290.10	4,294.93	4,294.74	9.74	9.98	86.80	34.10	551.84	553.43	543.24	19.52	21.766
4,400.00	4,389.13	4,394.12	4,393.92	10.01	10.24	86.76	35.15	550.87	552.46	542.92	20.03	20.649
4,500.00	4,488.16	4,490.78	4,490.58	10.28	10.49	86.72	36.19	550.16	551.75	542.60	20.54	19.612
4,600.00	4,587.18	4,587.17	4,586.96	10.56	10.71	86.68	37.05	550.06	551.65	542.49	21.02	18.689
4,700.00	4,686.21	4,685.83	4,685.62	10.84	10.91	86.64	37.83	550.35	551.94	542.38	21.48	17.855
4,800.00	4,785.24	4,787.10	4,786.88	11.12	11.13	86.60	38.82	550.46	552.05	542.27	21.98	17.032
4,900.00	4,884.27	4,890.42	4,890.19	11.40	11.40	86.56	40.22	549.71	551.30	542.16	22.51	16.187
5,000.00	4,983.29	4,992.28	4,992.02	11.69	11.66	86.52	41.79	548.04	550.63	542.05	23.05	15.350
5,100.00	5,082.32	5,094.55	5,094.25	11.97	11.91	86.48	42.83	545.10	549.72	541.94	23.57	14.528
5,200.00	5,181.35	5,194.35	5,193.97	12.26	12.14	86.44	43.47	541.42	549.00	541.83	24.09	13.736
5,300.00	5,280.37	5,293.39	5,292.93	12.55	12.36	86.40	43.89	537.43	548.29	541.72	24.61	12.987
5,400.00	5,379.40	5,391.98	5,391.43	12.84	12.58	86.36	44.09	533.24	547.57	541.61	25.14	12.283
5,500.00	5,478.43	5,489.76	5,489.13	13.13	12.79	86.32	44.09	529.08	546.85	541.50	25.67	11.634
5,550.00	5,527.94	5,538.45	5,537.78	13.27	12.90	86.28	44.03	527.11	546.13	541.39	25.93	11.333
5,600.00	5,577.48	5,587.49	5,586.78	13.40	13.00	86.24	43.94	525.18	545.41	541.28	26.19	11.058
5,700.00	5,676.74	5,686.03	5,685.24	13.63	13.21	86.20	43.60	521.31	544.69	541.17	26.66	10.577
5,800.00	5,776.19	5,785.06	5,784.19	13.84	13.43	86.16	43.10	517.36	543.97	541.06	27.12	10.162

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

LEAM Drilling Systems LLC

Anticollision Report

Company: Devon Energy
Project: Eddy County, NM (NAD-83)
Reference Site: Agate PWU 21-22
Site Error: 0.00 usft
Reference Well: 9H
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Plan #1

Local Co-ordinate Reference: Well 9H
TVD Reference: 3334.2' GE + 23.5' KB @ 3357.70usft
MD Reference: 3334.2' GE + 23.5' KB @ 3357.70usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at 2.00 sigma
Database: EDM 5000.1 Multi User Db
Offset TVD Reference: Offset Datum

Offset Design AGATE PWU 21 - 1H - OH - OH												Offset Site Error:	0.00 usft
Survey Program: 116-NS-GYRO-MS, 6693-MWD-ISCWSA												Offset Well Error:	0.00 usft
Reference	Offset	Semi Major Axis		Distance		Minimum Separation		Separation Factor		Warning			
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
5,900.00	5,875.81	5,884.90	5,883.96	14.05	13.85	74.48	43.26	513.77	270.14	242.56	27.58	9.795	
6,000.00	5,975.58	5,985.47	5,984.47	14.26	13.89	76.33	43.72	509.98	265.20	237.16	28.04	9.459	
6,100.00	6,075.42	6,086.48	6,085.38	14.45	14.13	77.94	44.35	505.69	260.45	231.96	28.49	9.143	
6,200.00	6,175.36	6,185.93	6,184.73	14.64	14.38	79.19	45.21	501.25	255.91	226.98	28.93	8.846	
6,300.00	6,275.34	6,283.31	6,282.03	14.82	14.61	79.99	45.95	497.56	252.37	223.01	29.36	8.595	
6,350.00	6,325.34	6,332.08	6,330.78	14.90	14.73	135.14	46.14	496.11	251.14	221.57	29.57	8.494	
6,400.00	6,375.34	6,381.14	6,379.82	14.99	14.85	135.33	46.25	494.84	250.15	220.37	29.78	8.400	
6,500.00	6,475.34	6,479.12	6,477.79	15.20	15.07	135.65	46.23	492.88	248.76	218.55	30.21	8.234	
6,600.00	6,575.34	6,578.83	6,577.49	15.40	15.20	135.93	46.00	491.41	247.90	217.35	30.55	8.115	
6,700.00	6,675.34	6,678.94	6,677.58	15.60	15.31	136.25	45.71	489.83	247.01	216.15	30.86	8.004	
6,800.00	6,775.34	6,778.14	6,776.77	15.81	15.33	136.59	45.25	488.24	246.25	215.14	31.10	7.918	
6,900.00	6,875.34	6,877.20	6,875.82	16.01	15.34	136.96	44.43	486.81	245.86	214.53	31.33	7.848	
6,949.48	6,924.82	6,926.22	6,924.82	16.11	15.35	137.15	43.90	486.17	245.81	214.37	31.44	7.818 CC	
7,000.00	6,975.34	6,976.28	6,974.86	16.22	15.35	137.36	43.26	485.55	245.86	214.30	31.56	7.791 ES	
7,100.00	7,075.34	7,075.26	7,073.83	16.42	15.36	137.79	41.71	484.44	246.26	214.47	31.79	7.747	
7,200.00	7,175.34	7,173.72	7,172.27	16.63	15.38	138.34	39.51	483.24	247.11	215.08	32.03	7.714	
7,300.00	7,275.34	7,271.85	7,270.34	16.84	15.40	139.04	36.48	481.91	248.53	216.25	32.29	7.698 SF	
7,400.00	7,375.34	7,348.99	7,347.18	17.04	15.41	138.40	34.84	480.06	254.68	222.02	32.66	7.799	
7,500.00	7,475.34	7,428.70	7,422.44	17.25	15.44	135.09	36.59	505.96	270.03	237.25	32.78	8.237	
7,600.00	7,575.34	7,494.00	7,484.80	17.46	15.47	131.02	39.75	530.94	295.14	262.60	32.54	9.069	
7,700.00	7,675.34	7,553.66	7,536.75	17.67	15.52	126.84	43.61	559.95	331.43	299.53	31.89	10.392	
7,800.00	7,775.34	7,608.65	7,581.65	17.88	15.60	122.97	47.39	591.45	378.12	347.11	31.02	12.190	
7,900.00	7,875.34	7,655.35	7,617.69	18.09	15.70	119.98	49.91	621.03	433.53	403.55	29.98	14.459	
8,000.00	7,975.34	7,695.00	7,646.32	18.30	15.82	117.69	51.29	648.41	496.82	467.72	28.91	17.180	
8,100.00	8,075.34	7,727.00	7,667.98	18.51	15.95	116.01	51.88	671.95	565.85	538.03	27.82	20.339	
8,200.00	8,175.34	7,759.00	7,688.51	18.72	16.09	114.51	51.99	696.49	639.63	612.67	26.96	23.723	
8,297.27	8,272.61	7,790.00	7,707.34	18.92	16.26	113.20	51.77	721.11	714.79	688.47	26.32	27.162	
8,300.00	8,275.34	7,790.00	7,707.34	18.93	16.26	23.06	51.77	721.11	716.94	690.67	26.28	27.284	
8,350.00	8,325.27	7,807.64	7,717.53	19.04	16.37	20.23	51.60	735.51	755.35	729.35	26.00	29.049	
8,400.00	8,374.79	7,822.00	7,725.49	19.17	16.46	18.10	51.48	747.46	791.95	766.34	25.61	30.922	
8,450.00	8,423.54	7,835.51	7,732.68	19.32	16.56	16.41	51.35	758.89	826.58	801.40	25.18	32.829	
8,500.00	8,471.14	7,853.00	7,741.54	19.48	16.68	14.98	51.16	773.98	859.18	834.37	24.82	34.620	
8,550.00	8,517.23	7,853.00	7,741.54	19.68	16.68	14.01	51.16	773.98	889.78	865.74	24.05	37.004	
8,600.00	8,561.45	7,883.34	7,755.82	19.89	16.94	12.93	50.79	800.74	917.60	893.65	23.95	38.308	
8,650.00	8,603.48	7,917.00	7,770.18	20.14	17.24	12.06	50.36	831.17	943.51	919.61	23.90	39.471	
8,700.00	8,642.99	7,917.00	7,770.18	20.42	17.24	11.54	50.36	831.17	966.25	943.12	23.13	41.782	
8,750.00	8,679.88	7,935.52	7,777.36	20.74	17.42	11.01	50.16	848.25	986.75	964.00	22.76	43.384	
8,800.00	8,713.27	7,949.00	7,782.20	21.11	17.56	10.60	50.07	860.82	1,004.71	982.43	22.28	45.093	
8,850.00	8,743.51	7,981.00	7,792.62	21.53	17.92	10.21	50.05	891.08	1,020.03	997.83	22.20	45.947	
8,900.00	8,770.17	7,991.76	7,795.79	22.01	18.05	9.95	50.10	901.36	1,032.39	1,010.68	21.71	47.553	
8,950.00	8,793.04	8,013.00	7,801.56	22.55	18.30	9.73	50.38	921.80	1,042.04	1,020.58	21.46	48.562	
9,000.00	8,811.94	8,029.95	7,805.68	23.15	18.52	9.58	50.60	938.24	1,048.86	1,027.70	21.16	49.571	
9,050.00	8,826.75	8,045.00	7,808.98	23.81	18.72	9.50	50.84	952.92	1,052.92	1,032.04	20.87	50.439	
9,100.00	8,837.33	8,066.13	7,813.01	24.53	19.01	9.48	50.51	973.66	1,054.16	1,033.40	20.75	50.796	
9,150.00	8,843.62	8,077.00	7,814.79	25.30	19.16	9.51	50.40	984.38	1,052.70	1,032.17	20.52	51.291	
9,188.27	8,845.50	8,108.00	7,818.99	25.91	19.82	9.61	50.03	1,015.09	1,049.52	1,028.77	20.74	50.598	
9,200.00	8,845.68	8,108.00	7,818.99	26.10	19.62	9.61	50.03	1,015.09	1,048.29	1,027.61	20.67	50.713	
9,300.00	8,847.25	8,138.00	7,821.68	27.83	20.07	9.66	49.53	1,044.96	1,041.54	1,020.87	20.67	50.387	
9,352.73	8,848.08	8,159.28	7,822.60	28.81	20.41	9.69	49.01	1,066.22	1,040.49	1,019.64	20.86	49.891	
9,400.00	8,848.82	8,179.26	7,822.73	29.69	20.73	9.72	48.40	1,086.19	1,041.06	1,019.99	21.07	49.403	
9,500.00	8,850.39	8,268.73	7,821.66	31.66	22.25	9.84	45.84	1,175.61	1,044.24	1,022.20	22.05	47.359	
9,600.00	8,851.97	8,373.88	7,820.74	33.73	24.19	9.96	43.10	1,280.72	1,047.08	1,023.84	23.25	45.043	

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

LEAM Drilling Systems LLC

Anticollision Report

Company: Devon Energy
Project: Eddy County, NM (NAD-83)
Reference Site: Agate PWU 21-22
Site Error: 0.00 usft
Reference Well: 9H
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Plan #1

Local Co-ordinate Reference: Well 9H
TVD Reference: 3334.2' GE + 23.5' KB @ 3357.70usft
MD Reference: 3334.2' GE + 23.5' KB @ 3357.70usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at: 2.00 sigma
Database: EDM 5000.1 Multi User Db
Offset TVD Reference: Offset Datum

AGATE PWU 21 - 1H - OH - OH														Offset Site Error:	0.00 usft
Survey Program: 116-NS-GYRO-MS, 6693-MWD-ISCWSA														Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Distance		Minimum Separation (usft)	Separation Factor	Warning				
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)				Between Centres (usft)	Between Ellipses (usft)		
9,700.00	8,853.54	8,493.18	7,820.77	35.86	26.53	10.09	40.41	1,399.98	1,048.99	1,024.33	24.66	42.538			
9,800.00	8,855.11	8,606.91	7,822.10	38.07	28.87	10.06	40.76	1,513.70	1,049.33	1,023.30	26.03	40.313			
9,823.40	8,855.47	8,627.46	7,822.37	38.59	29.30	10.04	41.20	1,534.24	1,049.30	1,023.01	26.29	39.917			
9,900.00	8,856.68	8,696.95	7,822.89	40.32	30.78	9.94	42.93	1,603.70	1,049.58	1,022.44	27.15	38.662			
10,000.00	8,858.25	8,788.26	7,822.68	42.62	32.76	9.79	45.50	1,694.98	1,050.86	1,022.57	28.29	37.141			
10,100.00	8,859.82	8,904.00	7,823.86	44.95	35.33	9.64	48.18	1,810.68	1,050.91	1,021.18	29.72	35.358			
10,200.00	8,861.39	8,995.20	7,824.33	47.32	37.38	9.50	50.64	1,901.85	1,051.49	1,020.58	30.91	34.014			
10,300.00	8,862.96	9,084.65	7,824.13	49.71	39.42	9.33	53.44	1,991.26	1,052.76	1,020.67	32.09	32.807			
10,400.00	8,864.53	9,179.84	7,822.95	52.13	41.61	9.11	57.08	2,086.16	1,054.92	1,021.62	33.31	31.674			
10,500.00	8,866.10	9,286.56	7,821.39	54.57	44.09	8.81	62.23	2,192.95	1,057.18	1,022.58	34.61	30.550			
10,600.00	8,867.67	9,388.94	7,820.02	57.03	46.48	8.54	66.86	2,295.22	1,059.38	1,023.50	35.88	29.526			
10,700.00	8,869.24	9,522.41	7,822.05	59.50	49.63	8.17	73.63	2,428.49	1,058.49	1,021.06	37.43	28.282			
10,800.00	8,870.81	9,607.00	7,823.79	61.98	51.64	7.93	78.19	2,512.94	1,057.30	1,018.76	38.54	27.431			
10,843.60	8,871.49	9,648.67	7,824.27	63.07	52.63	7.81	80.46	2,554.54	1,057.16	1,018.09	39.07	27.056			
10,900.00	8,872.38	9,697.31	7,824.50	64.48	53.79	7.67	82.99	2,603.11	1,057.38	1,017.66	39.71	26.626			
11,000.00	8,873.95	9,784.31	7,824.07	66.99	55.87	7.41	87.54	2,690.00	1,058.74	1,017.89	40.85	25.917			
11,100.00	8,875.52	9,904.99	7,824.47	69.50	58.76	7.04	94.26	2,810.48	1,059.16	1,016.90	42.26	25.060			
11,200.00	8,877.09	9,996.52	7,824.79	72.03	60.97	6.73	99.88	2,901.84	1,059.63	1,016.21	43.43	24.400			
11,300.00	8,878.66	10,091.04	7,824.43	74.56	63.24	6.36	106.59	2,996.12	1,060.76	1,016.17	44.59	23.789			
11,400.00	8,880.23	10,208.24	7,824.93	77.10	66.07	5.89	115.20	3,113.00	1,061.07	1,015.14	45.93	23.102			
11,432.24	8,880.74	10,238.57	7,825.19	77.92	66.80	5.76	117.82	3,143.24	1,061.04	1,014.73	46.30	22.915			
11,500.00	8,881.80	10,300.13	7,825.47	79.65	68.29	5.50	122.44	3,204.60	1,061.26	1,014.18	47.08	22.543			
11,600.00	8,883.37	10,397.49	7,825.76	82.20	70.66	5.17	128.49	3,301.78	1,061.95	1,013.64	48.32	21.979			
11,700.00	8,884.94	10,550.89	7,829.35	84.76	74.39	4.68	137.58	3,454.84	1,060.86	1,010.87	49.98	21.224			
11,800.00	8,886.51	10,653.98	7,835.12	87.32	76.91	4.42	142.78	3,557.63	1,056.43	1,005.11	51.31	20.588			
11,900.00	8,888.08	10,749.77	7,840.25	89.89	79.25	4.19	147.34	3,653.17	1,052.29	999.68	52.61	20.003			
12,000.00	8,889.65	10,848.26	7,845.49	92.46	81.66	3.97	151.64	3,751.43	1,048.23	994.30	53.93	19.437			
12,100.00	8,891.22	10,947.42	7,850.49	95.03	84.09	3.69	156.88	3,850.33	1,044.41	989.16	55.25	18.903			
12,200.00	8,892.79	11,047.44	7,855.48	97.61	86.53	3.37	163.03	3,950.03	1,040.61	984.03	56.58	18.393			
12,300.00	8,894.36	11,158.00	7,861.23	100.19	89.24	2.96	170.74	4,060.17	1,036.81	978.84	57.97	17.881			
12,400.00	8,895.93	11,244.31	7,865.76	102.78	91.35	2.65	176.48	4,146.17	1,032.58	973.34	59.25	17.428			
12,500.00	8,897.50	11,339.37	7,870.00	105.36	93.69	2.29	183.10	4,240.90	1,029.38	968.78	60.60	16.987			
12,600.00	8,899.07	11,422.27	7,872.86	107.95	95.72	1.95	189.21	4,323.53	1,027.22	965.33	61.89	16.597			
12,672.75	8,900.22	11,482.07	7,874.01	109.84	97.19	1.68	193.99	4,383.13	1,026.77	963.93	62.84	16.339			
12,700.00	8,900.65	11,505.12	7,874.27	110.54	97.76	1.58	195.87	4,406.10	1,026.83	963.62	63.21	16.245			
12,800.00	8,902.22	11,589.00	7,874.53	113.13	99.81	1.17	203.22	4,489.65	1,027.91	963.34	64.57	15.920			
12,900.00	8,903.79	11,677.76	7,873.58	115.73	101.99	0.72	211.13	4,578.05	1,030.42	964.41	66.01	15.610			
13,000.00	8,905.36	11,778.19	7,871.78	118.33	104.41	0.29	218.97	4,676.16	1,033.74	966.17	67.58	15.297			
13,100.00	8,906.93	11,875.01	7,869.89	120.93	106.85	-0.10	226.01	4,774.71	1,037.22	968.04	69.18	14.994			
13,200.00	8,908.50	11,973.79	7,867.87	123.53	109.28	-0.48	232.80	4,873.23	1,040.87	970.06	70.81	14.700			
13,300.00	8,910.07	12,094.43	7,866.59	126.13	112.26	-0.80	238.61	4,993.72	1,043.58	970.99	72.60	14.375			
13,400.00	8,911.64	12,214.37	7,867.67	128.73	115.23	-1.03	242.84	5,113.58	1,044.32	970.00	74.32	14.051			
13,468.59	8,912.71	12,280.00	7,868.93	130.52	116.86	-1.15	245.14	5,179.15	1,044.13	968.73	75.40	13.848			
13,500.00	8,913.21	12,280.00	7,868.93	131.34	116.86	-1.15	245.14	5,179.15	1,044.60	968.93	75.87	13.805			
13,600.00	8,914.78	12,280.00	7,868.93	133.94	116.86	-1.15	245.14	5,179.15	1,052.37	976.17	76.20	13.811			
13,700.00	8,916.35	12,280.00	7,868.93	136.55	116.86	-1.15	245.14	5,179.15	1,069.47	993.23	76.24	14.028			
13,800.00	8,917.92	12,280.00	7,868.93	139.16	116.86	-1.15	245.14	5,179.15	1,095.46	1,019.63	75.83	14.446			
13,900.00	8,919.49	12,280.00	7,868.93	141.77	116.86	-1.15	245.14	5,179.15	1,129.74	1,054.68	75.07	15.050			
14,000.00	8,921.06	12,280.00	7,868.93	144.38	116.86	-1.15	245.14	5,179.15	1,171.58	1,097.56	74.03	15.827			
14,100.00	8,922.63	12,280.00	7,868.93	146.99	116.86	-1.15	245.14	5,179.15	1,220.20	1,147.40	72.80	16.752			
14,200.00	8,924.20	12,280.00	7,868.93	149.60	116.86	-1.15	245.14	5,179.15	1,274.82	1,203.36	71.46	17.840			
14,300.00	8,925.77	12,280.00	7,868.93	152.21	116.86	-1.15	245.14	5,179.15	1,334.71	1,264.63	70.08	19.046			

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

LEAM Drilling Systems LLC

Anticollision Report

Company: Devon Energy
Project: Eddy County, NM (NAD-83)
Reference Site: Agate PWU 21-22
Site Error: 0.00 usft
Reference Well: 9H
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Plan #1

Local Co-ordinate Reference: Well 9H
TVD Reference: 3334.2' GE + 23.5' KB @ 3357.70usft
MD Reference: 3334.2' GE + 23.5' KB @ 3357.70usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at 2.00 sigma
Database: EDM 5000.1 Multi User Db
Offset TVD Reference: Offset Datum

AGATE PWU 21 - 1H - OH - OH														Offset Site Error:	0.00 usft
Survey Program: 118-NS-GYRO-MS, 6693-MWD-ISCWSA														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)							
14,400.00	8,927.34	12,280.00	7,868.93	154.83	116.86	-1.15	245.14	5,179.15	1,399.19	1,330.49	68.70	20.366			
14,500.00	8,928.91	12,280.00	7,868.93	157.44	116.86	-1.15	245.14	5,179.15	1,467.66	1,400.29	67.37	21.786			
14,600.00	8,930.48	12,280.00	7,868.93	160.06	116.86	-1.15	245.14	5,179.15	1,539.58	1,473.48	66.09	23.294			
14,700.00	8,932.05	12,280.00	7,868.93	162.67	116.86	-1.15	245.14	5,179.15	1,614.49	1,549.60	64.89	24.879			
14,800.00	8,933.62	12,280.00	7,868.93	165.29	116.86	-1.15	245.14	5,179.15	1,692.00	1,628.22	63.78	26.529			
14,900.00	8,935.19	12,280.00	7,868.93	167.91	116.86	-1.15	245.14	5,179.15	1,771.76	1,709.01	62.75	28.236			
15,000.00	8,936.76	12,280.00	7,868.93	170.52	116.86	-1.15	245.14	5,179.15	1,853.49	1,791.69	61.80	29.990			
15,100.00	8,938.33	12,280.00	7,868.93	173.14	116.86	-1.15	245.14	5,179.15	1,936.93	1,875.99	60.94	31.785			
15,200.00	8,939.90	12,280.00	7,868.93	175.76	116.86	-1.15	245.14	5,179.15	2,021.88	1,961.73	60.15	33.614			
15,300.00	8,941.47	12,280.00	7,868.93	178.38	116.86	-1.15	245.14	5,179.15	2,108.14	2,048.71	59.43	35.472			
15,400.00	8,943.04	12,280.00	7,868.93	181.00	116.86	-1.15	245.14	5,179.15	2,195.58	2,136.79	58.78	37.352			
15,500.00	8,944.61	12,280.00	7,868.93	183.62	116.86	-1.15	245.14	5,179.15	2,284.04	2,225.85	58.19	39.252			
15,600.00	8,946.18	12,280.00	7,868.93	186.24	116.86	-1.15	245.14	5,179.15	2,373.42	2,315.76	57.65	41.166			
15,700.00	8,947.75	12,280.00	7,868.93	188.86	116.86	-1.15	245.14	5,179.15	2,463.61	2,406.44	57.17	43.092			
15,800.00	8,949.33	12,280.00	7,868.93	191.48	116.86	-1.15	245.14	5,179.15	2,554.54	2,497.81	56.73	45.027			
15,900.00	8,950.90	12,280.00	7,868.93	194.11	116.86	-1.15	245.14	5,179.15	2,646.12	2,589.78	56.34	46.969			
16,000.00	8,952.47	12,280.00	7,868.93	196.73	116.86	-1.15	245.14	5,179.15	2,738.29	2,682.31	55.98	48.915			
16,100.00	8,954.04	12,280.00	7,868.93	199.35	116.86	-1.15	245.14	5,179.15	2,830.99	2,775.33	55.66	50.863			
16,200.00	8,955.61	12,280.00	7,868.93	201.98	116.86	-1.15	245.14	5,179.15	2,924.18	2,868.81	55.37	52.812			
16,300.00	8,957.18	12,280.00	7,868.93	204.60	116.86	-1.15	245.14	5,179.15	3,017.80	2,962.69	55.11	54.760			
16,400.00	8,958.75	12,280.00	7,868.93	207.22	116.86	-1.15	245.14	5,179.15	3,111.81	3,056.94	54.88	56.706			
16,500.00	8,960.32	12,280.00	7,868.93	209.85	116.86	-1.15	245.14	5,179.15	3,206.19	3,151.52	54.67	58.650			
16,600.00	8,961.89	12,280.00	7,868.93	212.47	116.86	-1.15	245.14	5,179.15	3,300.90	3,246.42	54.48	60.590			
16,700.00	8,963.46	12,280.00	7,868.93	215.10	116.86	-1.15	245.14	5,179.15	3,395.91	3,341.60	54.31	62.525			
16,800.00	8,965.03	12,280.00	7,868.93	217.72	116.86	-1.15	245.14	5,179.15	3,491.20	3,437.04	54.17	64.454			
16,900.00	8,966.60	12,280.00	7,868.93	220.35	116.86	-1.15	245.14	5,179.15	3,586.75	3,532.72	54.04	66.378			
17,000.00	8,968.17	12,280.00	7,868.93	222.97	116.86	-1.15	245.14	5,179.15	3,682.53	3,628.61	53.92	68.296			
17,100.00	8,969.74	12,280.00	7,868.93	225.60	116.86	-1.15	245.14	5,179.15	3,778.54	3,724.72	53.82	70.206			
17,200.00	8,971.31	12,280.00	7,868.93	228.23	116.86	-1.15	245.14	5,179.15	3,874.74	3,821.01	53.73	72.109			
17,300.00	8,972.88	12,280.00	7,868.93	230.85	116.86	-1.15	245.14	5,179.15	3,971.13	3,917.47	53.66	74.005			
17,400.00	8,974.45	12,280.00	7,868.93	233.48	116.86	-1.15	245.14	5,179.15	4,067.70	4,014.10	53.60	75.892			
17,500.00	8,976.02	12,280.00	7,868.93	236.11	116.86	-1.15	245.14	5,179.15	4,164.43	4,110.88	53.55	77.771			
17,600.00	8,977.59	12,280.00	7,868.93	238.73	116.86	-1.15	245.14	5,179.15	4,261.31	4,207.80	53.51	79.642			
17,700.00	8,979.16	12,280.00	7,868.93	241.36	116.86	-1.15	245.14	5,179.15	4,358.33	4,304.86	53.47	81.504			
17,800.00	8,980.73	12,280.00	7,868.93	243.99	116.86	-1.15	245.14	5,179.15	4,455.48	4,402.03	53.45	83.358			
17,900.00	8,982.30	12,280.00	7,868.93	246.62	116.86	-1.15	245.14	5,179.15	4,552.76	4,499.32	53.43	85.202			
18,000.00	8,983.87	12,280.00	7,868.93	249.25	116.86	-1.15	245.14	5,179.15	4,650.15	4,596.72	53.43	87.037			
18,100.00	8,985.44	12,280.00	7,868.93	251.87	116.86	-1.15	245.14	5,179.15	4,747.65	4,694.22	53.43	88.863			
18,200.00	8,987.01	12,280.00	7,868.93	254.50	116.86	-1.15	245.14	5,179.15	4,845.25	4,791.82	53.43	90.680			
18,300.00	8,988.58	12,280.00	7,868.93	257.13	116.86	-1.15	245.14	5,179.15	4,942.95	4,889.50	53.44	92.487			
18,400.00	8,990.15	12,280.00	7,868.93	259.76	116.86	-1.15	245.14	5,179.15	5,040.74	4,987.27	53.46	94.285			
18,500.00	8,991.72	12,280.00	7,868.93	262.39	116.86	-1.15	245.14	5,179.15	5,138.61	5,085.12	53.49	96.073			
18,600.00	8,993.29	12,280.00	7,868.93	265.02	116.86	-1.15	245.14	5,179.15	5,236.56	5,183.05	53.52	97.852			
18,700.00	8,994.86	12,280.00	7,868.93	267.65	116.86	-1.15	245.14	5,179.15	5,334.59	5,281.04	53.55	99.621			
18,772.33	8,996.00	12,280.00	7,868.93	269.55	116.86	-1.15	245.14	5,179.15	5,405.54	5,351.96	53.58	100.894			

LEAM Drilling Systems LLC

Anticollision Report

Company: Devon Energy
Project: Eddy County, NM (NAD-83)
Reference Site: Agate PWU 21-22
Site Error: 0.00 usft
Reference Well: 9H
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Plan #1

Local Co-ordinate Reference: Well 9H
TVD Reference: 3334.2' GE + 23.5' KB @ 3357.70usft
MD Reference: 3334.2' GE + 23.5' KB @ 3357.70usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at 2.00 sigma
Database: EDM 5000.1 Multi User Db
Offset TVD Reference: Offset Datum

Offset Design Emerald PWU 20-21 - Emerald PWU 20 1H - OH - OH													Offset Site Error:	0.00 usft
Survey Program: 100-MWD-ISCWSA													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
0.00	0.00	0.00	0.00	0.00	0.00	-87.71	189.19	-4,737.39	4,741.16					
100.00	100.00	84.81	84.61	0.09	0.07	-87.71	189.19	-4,737.53	4,741.33	4,741.17	0.16	N/A		
200.00	200.00	178.24	178.24	0.31	0.26	-87.71	189.17	-4,737.91	4,741.74	4,741.16	0.57	8,293.671		
300.00	300.00	255.06	255.06	0.54	0.43	-87.71	189.18	-4,738.41	4,742.39	4,741.43	0.97	4,902.935		
400.00	400.00	336.38	336.37	0.76	0.61	-87.71	189.43	-4,739.39	4,743.60	4,742.24	1.37	3,465.275		
500.00	500.00	438.96	438.94	0.99	0.82	-87.71	189.92	-4,740.75	4,744.95	4,743.14	1.81	2,626.257		
600.00	600.00	560.36	560.33	1.21	1.07	-87.70	190.73	-4,742.07	4,746.07	4,743.80	2.27	2,086.904		
700.00	700.00	733.60	733.56	1.43	1.42	-87.68	192.04	-4,742.13	4,746.13	4,743.28	2.85	1,663.016		
800.00	800.00	849.94	849.90	1.66	1.66	-87.67	192.78	-4,741.01	4,745.20	4,741.87	3.32	1,427.653		
900.00	900.00	944.22	944.17	1.88	1.86	-87.66	193.45	-4,740.00	4,744.15	4,740.40	3.75	1,265.552		
1,000.00	1,000.00	1,029.81	1,029.75	2.11	2.04	-87.65	194.19	-4,739.31	4,743.38	4,739.23	4.15	1,142.091		
1,100.00	1,100.00	1,115.98	1,115.92	2.33	2.22	-87.64	195.01	-4,738.85	4,742.89	4,738.33	4.56	1,040.617		
1,187.88	1,187.88	1,187.95	1,187.88	2.53	2.37	-87.63	195.74	-4,738.70	4,742.74	4,737.83	4.91	966.718		
1,200.00	1,200.00	1,200.00	1,199.93	2.56	2.40	-87.63	195.87	-4,738.70	4,742.74	4,737.79	4.96	956.453		
1,300.00	1,300.00	1,295.67	1,295.59	2.78	2.60	-87.62	196.93	-4,738.73	4,742.82	4,737.43	5.39	880.131		
1,400.00	1,400.00	1,387.96	1,387.88	3.01	2.81	-87.61	198.04	-4,738.84	4,742.99	4,737.18	5.81	815.864		
1,500.00	1,500.00	1,491.71	1,491.62	3.23	3.03	-87.59	199.41	-4,739.02	4,743.22	4,736.96	6.26	757.494		
1,600.00	1,600.00	1,590.31	1,590.22	3.46	3.23	-87.58	200.67	-4,739.15	4,743.41	4,736.72	6.69	708.979		
1,700.00	1,700.00	1,695.63	1,695.53	3.68	3.45	-87.56	201.84	-4,739.27	4,743.56	4,736.43	7.13	665.245		
1,800.00	1,800.00	1,791.88	1,791.78	3.91	3.65	-87.55	202.81	-4,739.35	4,743.69	4,736.14	7.55	628.080		
1,900.00	1,900.00	1,884.08	1,883.97	4.13	3.83	-87.54	203.49	-4,739.55	4,743.95	4,735.98	7.97	595.540		
2,000.00	2,000.00	1,979.23	1,979.11	4.36	4.03	-87.54	203.90	-4,739.91	4,744.34	4,735.96	8.39	565.697		
2,100.00	2,100.00	2,074.76	2,074.64	4.58	4.23	-87.53	204.13	-4,740.37	4,744.83	4,736.02	8.81	538.552		
2,200.00	2,200.00	2,173.13	2,173.02	4.81	4.44	-87.53	204.32	-4,740.91	4,745.39	4,736.15	9.24	513.465		
2,300.00	2,300.00	2,273.63	2,273.51	5.03	4.65	-87.53	204.54	-4,741.47	4,745.95	4,736.28	9.68	490.439		
2,400.00	2,400.00	2,371.00	2,370.87	5.26	4.85	-87.53	204.75	-4,742.02	4,746.53	4,736.43	10.11	469.702		
2,500.00	2,500.00	2,465.63	2,465.51	5.48	5.05	-87.52	205.04	-4,742.64	4,747.20	4,736.67	10.53	450.795		
2,600.00	2,600.00	2,564.36	2,564.24	5.71	5.26	-87.52	205.33	-4,743.38	4,747.95	4,736.99	10.96	433.062		
2,700.00	2,700.00	2,661.41	2,661.28	5.93	5.46	-87.52	205.54	-4,744.11	4,748.72	4,737.33	11.39	416.851		
2,750.00	2,750.00	2,708.86	2,708.73	6.04	5.56	-87.52	205.63	-4,744.51	4,749.14	4,737.54	11.60	409.268		
2,800.00	2,800.00	2,756.86	2,756.72	6.15	5.67	-142.42	205.74	-4,744.93	4,749.76	4,737.95	11.82	401.999		
2,900.00	2,899.98	2,853.87	2,853.73	6.37	5.87	-142.42	206.02	-4,745.84	4,752.09	4,739.86	12.23	388.458		
3,000.00	2,999.92	2,952.19	2,952.05	6.58	6.08	-142.42	206.14	-4,746.81	4,755.85	4,743.20	12.65	375.863		
3,100.00	3,099.78	3,052.76	3,052.61	6.80	6.29	-142.43	206.37	-4,747.82	4,761.01	4,747.93	13.08	364.037		
3,200.00	3,199.54	3,183.34	7,881.78	7.02	115.35	-148.71	191.82	-129.26	4,887.97	4,852.25	35.72	131.244		
3,300.00	3,299.16	3,293.50	7,882.10	7.24	115.60	-153.55	191.63	-119.11	4,588.50	4,552.71	35.78	128.235		
3,400.00	3,398.61	12,205.05	7,882.46	7.46	115.88	-157.30	191.41	-107.56	4,489.20	4,453.34	35.86	125.194		
3,500.00	3,497.86	12,214.00	7,882.74	7.70	116.11	-160.19	191.24	-98.62	4,390.11	4,354.19	35.92	122.218		
3,550.00	3,547.40	12,214.00	7,882.74	7.82	116.11	-161.30	191.24	-98.62	4,340.66	4,304.74	35.92	120.836		
3,600.00	3,596.92	12,214.00	7,882.74	7.94	116.11	-161.30	191.24	-98.62	4,291.25	4,255.33	35.93	119.440		
3,700.00	3,695.94	12,214.00	7,882.74	8.18	116.11	-161.30	191.24	-98.62	4,192.49	4,156.54	35.95	116.621		
3,800.00	3,794.97	12,214.00	7,882.74	8.43	116.11	-161.30	191.24	-98.62	4,093.79	4,057.81	35.98	113.780		
3,900.00	3,894.00	12,214.00	7,882.74	8.69	116.11	-161.30	191.24	-98.62	3,995.15	3,959.13	36.02	110.919		
4,000.00	3,993.02	12,214.00	7,882.74	8.94	116.11	-161.30	191.24	-98.62	3,896.58	3,860.51	36.07	108.038		
4,100.00	4,092.05	12,214.00	7,882.74	9.21	116.11	-161.30	191.24	-98.62	3,798.08	3,761.96	36.12	105.142		
4,200.00	4,191.08	12,214.00	7,882.74	9.47	116.11	-161.30	191.24	-98.62	3,699.66	3,663.48	36.19	102.232		
4,300.00	4,290.10	12,214.00	7,882.74	9.74	116.11	-161.30	191.24	-98.62	3,601.34	3,565.07	36.26	99.311		
4,400.00	4,389.13	12,214.00	7,882.74	10.01	116.11	-161.30	191.24	-98.62	3,503.10	3,466.76	36.35	96.380		
4,500.00	4,488.16	12,214.00	7,882.74	10.28	116.11	-161.30	191.24	-98.62	3,404.97	3,368.53	36.44	93.444		
4,600.00	4,587.18	12,214.00	7,882.74	10.56	116.11	-161.30	191.24	-98.62	3,306.96	3,270.42	36.54	90.504		
4,700.00	4,686.21	12,214.00	7,882.74	10.84	116.11	-161.30	191.24	-98.62	3,209.06	3,172.41	36.65	87.562		
4,800.00	4,785.24	12,214.00	7,882.74	11.12	116.11	-161.30	191.24	-98.62	3,111.30	3,074.53	36.77	84.621		

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

LEAM Drilling Systems LLC

Anticollision Report

Company: Devon Energy
Project: Eddy County, NM (NAD-83)
Reference Site: Agate PWU 21-22
Site Error: 0.00 usft
Reference Well: 9H
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Plan #1

Local Co-ordinate Reference: Well 9H
TVD Reference: 3334.2' GE + 23.5' KB @ 3357.70usft
MD Reference: 3334.2' GE + 23.5' KB @ 3357.70usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at: 2.00 sigma
Database: EDM 5000.1 Multi User Db
Offset TVD Reference: Offset Datum

Offset Design Emerald PWU 20-21 - Emerald PWU 20 1H - OH - OH											Offset Site Error: 0.00 usft		
Survey Program: 100-MWD-ISCWSA											Offset Well Error: 0.00 usft		
Reference		Offset		Semi Major Axis			Distance					Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N-S (usft)	+E-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)		Separation Factor
4,900.00	4,884.27	12,214.00	7,882.74	11.40	116.11	-161.30	191.24	-98.62	3,013.68	2,976.79	36.90	81.682	
5,000.00	4,983.29	12,214.00	7,882.74	11.69	116.11	-161.30	191.24	-98.62	2,916.23	2,879.20	37.03	78.749	
5,100.00	5,082.32	12,214.00	7,882.74	11.97	116.11	-161.30	191.24	-98.62	2,818.95	2,781.77	37.18	75.822	
5,200.00	5,181.35	12,214.00	7,882.74	12.26	116.11	-161.30	191.24	-98.62	2,721.88	2,684.54	37.33	72.904	
5,300.00	5,280.37	12,214.00	7,882.74	12.55	116.11	-161.30	191.24	-98.62	2,625.02	2,587.51	37.50	69.997	
5,400.00	5,379.40	12,214.00	7,882.74	12.84	116.11	-161.30	191.24	-98.62	2,528.40	2,490.72	37.68	67.101	
5,500.00	5,478.43	12,214.00	7,882.74	13.13	116.11	-161.30	191.24	-98.62	2,432.06	2,394.19	37.87	64.219	
5,550.00	5,527.94	12,214.00	7,882.74	13.27	116.11	-161.30	191.24	-98.62	2,384.01	2,346.03	37.97	62.784	
5,600.00	5,577.48	12,214.00	7,882.74	13.40	116.11	-160.73	191.24	-98.62	2,335.97	2,297.90	38.07	61.353	
5,700.00	5,676.74	12,214.00	7,882.74	13.63	116.11	-159.54	191.24	-98.62	2,239.81	2,201.53	38.28	58.507	
5,800.00	5,776.19	12,214.00	7,882.74	13.84	116.11	-158.26	191.24	-98.62	2,143.54	2,105.04	38.50	55.679	
5,900.00	5,875.81	12,214.00	7,882.74	14.05	116.11	-156.88	191.24	-98.62	2,047.16	2,008.44	38.72	52.873	
6,000.00	5,975.56	12,214.00	7,882.74	14.26	116.11	-155.40	191.24	-98.62	1,950.70	1,911.76	38.94	50.093	
6,100.00	6,075.42	12,214.00	7,882.74	14.45	116.11	-153.82	191.24	-98.62	1,854.18	1,815.02	39.17	47.340	
6,200.00	6,175.36	12,214.00	7,882.74	14.64	116.11	-152.14	191.24	-98.62	1,757.62	1,718.23	39.39	44.617	
6,300.00	6,275.34	12,214.00	7,882.74	14.82	116.11	-150.35	191.24	-98.62	1,661.04	1,621.43	39.62	41.925	
6,350.00	6,325.34	12,214.00	7,882.74	14.90	116.11	-94.50	191.24	-98.62	1,612.76	1,573.03	39.73	40.590	
6,400.00	6,375.34	12,214.00	7,882.74	14.99	116.11	-94.50	191.24	-98.62	1,564.53	1,524.68	39.85	39.264	
6,500.00	6,475.34	12,214.00	7,882.74	15.20	116.11	-94.50	191.24	-98.62	1,468.42	1,428.34	40.08	36.635	
6,600.00	6,575.34	12,214.00	7,882.74	15.40	116.11	-94.50	191.24	-98.62	1,372.88	1,332.55	40.33	34.041	
6,700.00	6,675.34	12,214.00	7,882.74	15.60	116.11	-94.50	191.24	-98.62	1,278.01	1,237.42	40.59	31.488	
6,800.00	6,775.34	12,214.00	7,882.74	15.81	116.11	-94.50	191.24	-98.62	1,183.99	1,143.13	40.85	28.981	
6,900.00	6,875.34	12,214.00	7,882.74	16.01	116.11	-94.50	191.24	-98.62	1,091.03	1,049.90	41.13	26.527	
7,000.00	6,975.34	12,214.00	7,882.74	16.22	116.11	-94.50	191.24	-98.62	999.43	958.03	41.41	24.137	
7,100.00	7,075.34	12,214.00	7,882.74	16.42	116.11	-94.50	191.24	-98.62	909.61	867.93	41.68	21.824	
7,200.00	7,175.34	12,214.00	7,882.74	16.63	116.11	-94.50	191.24	-98.62	822.14	780.21	41.92	19.610	
7,300.00	7,275.34	12,214.00	7,882.74	16.84	116.11	-94.50	191.24	-98.62	737.85	695.74	42.11	17.522	
7,400.00	7,375.34	12,214.00	7,882.74	17.04	116.11	-94.50	191.24	-98.62	657.99	615.82	42.17	15.602	
7,500.00	7,475.34	12,214.00	7,882.74	17.25	116.11	-94.50	191.24	-98.62	584.35	542.36	42.00	13.914	
7,600.00	7,575.34	12,214.00	7,882.74	17.46	116.11	-94.50	191.24	-98.62	519.61	478.19	41.42	12.546	
7,700.00	7,675.34	12,214.00	7,882.74	17.67	116.11	-94.50	191.24	-98.62	467.45	426.90	40.55	11.527	
7,800.00	7,775.34	12,214.00	7,882.74	17.88	116.11	-94.50	191.24	-98.62	432.47	392.56	39.91	10.835	
7,900.00	7,875.34	12,214.00	7,882.74	18.09	116.11	-94.50	191.24	-98.62	418.99	379.57	39.42	10.630	
7,907.40	7,882.74	12,214.00	7,882.74	18.10	116.11	-94.50	191.24	-98.62	418.92	379.51	39.41	10.629 CC, ES, SF	
8,000.00	7,975.34	12,214.00	7,882.74	18.30	116.11	-94.50	191.24	-98.62	429.03	389.12	39.91	10.749	
8,100.00	8,075.34	12,214.00	7,882.74	18.51	116.11	-94.50	191.24	-98.62	461.07	419.71	41.37	11.146	
8,200.00	8,175.34	12,214.00	7,882.74	18.72	116.11	-94.50	191.24	-98.62	510.99	468.02	42.97	11.892	
8,297.27	8,272.61	12,214.00	7,882.74	18.92	116.11	-94.50	191.24	-98.62	572.27	528.05	44.22	12.941	
8,300.00	8,275.34	12,214.00	7,882.74	18.93	116.11	175.48	191.24	-98.62	574.14	529.89	44.25	12.974	
8,350.00	8,325.27	12,214.00	7,882.74	19.04	116.11	175.02	191.24	-98.62	611.03	566.29	44.74	13.658	
8,400.00	8,374.79	12,214.00	7,882.74	19.17	116.11	174.35	191.24	-98.62	652.20	607.07	45.13	14.452	
8,450.00	8,423.54	12,214.00	7,882.74	19.32	116.11	173.30	191.24	-98.62	696.61	651.18	45.43	15.333	
8,500.00	8,471.14	12,214.00	7,882.74	19.48	116.11	171.54	191.24	-98.62	743.38	697.71	45.67	16.278	
8,550.00	8,517.23	12,214.00	7,882.74	19.68	116.11	168.13	191.24	-98.62	791.76	745.91	45.85	17.268	
8,600.00	8,561.45	12,214.00	7,882.74	19.89	116.11	159.08	191.24	-98.62	841.13	795.14	45.99	18.289	
8,650.00	8,603.48	12,214.00	7,882.74	20.14	116.11	107.91	191.24	-98.62	891.00	844.91	46.10	19.330	
8,700.00	8,642.99	12,214.00	7,882.74	20.42	116.11	25.42	191.24	-98.62	940.93	894.76	46.17	20.382	
8,750.00	8,679.68	12,214.00	7,882.74	20.74	116.11	12.14	191.24	-98.62	990.56	944.35	46.20	21.439	
8,800.00	8,713.27	12,214.00	7,882.74	21.11	116.11	7.81	191.24	-98.62	1,039.58	993.37	46.21	22.495	
8,850.00	8,743.51	12,214.00	7,882.74	21.53	116.11	5.71	191.24	-98.62	1,087.73	1,041.53	46.20	23.545	
8,900.00	8,770.17	12,214.00	7,882.74	22.01	116.11	4.47	191.24	-98.62	1,134.77	1,088.62	46.16	24.586	
8,950.00	8,793.04	12,214.00	7,882.74	22.55	116.11	3.67	191.24	-98.62	1,180.51	1,134.42	46.09	25.614	

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

LEAM Drilling Systems LLC

Anticollision Report

Company: Devon Energy
Project: Eddy County, NM (NAD-83)
Reference Site: Agate PWU 21-22
Site Error: 0.00 usft
Reference Well: 9H
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Plan #1

Local Co-ordinate Reference: Well 9H
TVD Reference: 3334.2' GE + 23.5' KB @ 3357.70usft
MD Reference: 3334.2' GE + 23.5' KB @ 3357.70usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at 2.00 sigma
Database: EDM 5000.1 Multi User Db
Offset TVD Reference: Offset Datum

Offset Design Emerald PWU 20-21 - Emerald PWU 20 1H - OH - OH												Offset Site Error:	0.00 usft
Survey Program: 100-MWD-ISCWSA												Offset Well Error:	0.00 usft
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning
Reference				Reference	Offset		+N-S (usft)	+E-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
9,000.00	8,811.94	12,214.00	7,882.74	23.15	116.11	3.11	191.24	-98.62	1,224.75	1,178.75	46.00	26.627	
9,050.00	8,826.75	12,214.00	7,882.74	23.81	116.11	2.70	191.24	-98.62	1,267.34	1,221.45	45.88	27.620	
9,100.00	8,837.33	12,214.00	7,882.74	24.53	116.11	2.38	191.24	-98.62	1,308.12	1,262.37	45.75	28.592	
9,150.00	8,843.62	12,214.00	7,882.74	25.30	116.11	2.14	191.24	-98.62	1,346.97	1,301.37	45.60	29.540	
9,188.27	8,845.50	12,214.00	7,882.74	25.91	116.11	1.99	191.24	-98.62	1,375.32	1,329.85	45.47	30.248	
9,200.00	8,845.68	12,214.00	7,882.74	26.10	116.11	1.99	191.24	-98.62	1,383.84	1,338.41	45.43	30.464	
9,300.00	8,847.25	12,214.00	7,882.74	27.83	116.11	1.99	191.24	-98.62	1,458.31	1,413.20	45.11	32.326	
9,400.00	8,848.82	12,214.00	7,882.74	29.69	116.11	1.99	191.24	-98.62	1,535.69	1,490.87	44.81	34.268	
9,500.00	8,850.39	12,214.00	7,882.74	31.66	116.11	1.99	191.24	-98.62	1,615.55	1,571.02	44.53	36.277	
9,600.00	8,851.97	12,214.00	7,882.74	33.73	116.11	1.99	191.24	-98.62	1,697.55	1,653.27	44.27	38.342	
9,700.00	8,853.54	12,214.00	7,882.74	35.86	116.11	1.99	191.24	-98.62	1,781.38	1,737.35	44.04	40.452	
9,800.00	8,855.11	12,214.00	7,882.74	38.07	116.11	1.99	191.24	-98.62	1,866.81	1,822.99	43.82	42.599	
9,900.00	8,856.68	12,214.00	7,882.74	40.32	116.11	1.99	191.24	-98.62	1,953.63	1,909.99	43.63	44.776	
10,000.00	8,858.25	12,214.00	7,882.74	42.62	116.11	1.99	191.24	-98.62	2,041.65	1,998.19	43.46	46.977	
10,100.00	8,859.82	12,214.00	7,882.74	44.95	116.11	1.99	191.24	-98.62	2,130.72	2,087.41	43.31	49.199	
10,200.00	8,861.39	12,214.00	7,882.74	47.32	116.11	1.99	191.24	-98.62	2,220.73	2,177.55	43.18	51.435	
10,300.00	8,862.96	12,214.00	7,882.74	49.71	116.11	1.99	191.24	-98.62	2,311.56	2,268.50	43.06	53.683	
10,400.00	8,864.53	12,214.00	7,882.74	52.13	116.11	1.99	191.24	-98.62	2,403.12	2,360.16	42.96	55.940	
10,500.00	8,866.10	12,214.00	7,882.74	54.57	116.11	1.99	191.24	-98.62	2,495.32	2,452.45	42.87	58.204	
10,600.00	8,867.67	12,214.00	7,882.74	57.03	116.11	1.99	191.24	-98.62	2,588.11	2,545.31	42.80	60.472	
10,700.00	8,869.24	12,214.00	7,882.74	59.50	116.11	1.99	191.24	-98.62	2,681.41	2,638.67	42.74	62.743	
10,800.00	8,870.81	12,214.00	7,882.74	61.98	116.11	1.99	191.24	-98.62	2,775.18	2,732.49	42.69	65.015	
10,900.00	8,872.38	12,214.00	7,882.74	64.48	116.11	1.99	191.24	-98.62	2,869.37	2,826.73	42.64	67.287	
11,000.00	8,873.95	12,214.00	7,882.74	66.99	116.11	1.99	191.24	-98.62	2,963.94	2,921.33	42.61	69.557	
11,100.00	8,875.52	12,214.00	7,882.74	69.50	116.11	1.99	191.24	-98.62	3,058.86	3,016.27	42.59	71.825	
11,200.00	8,877.09	12,214.00	7,882.74	72.03	116.11	1.99	191.24	-98.62	3,154.09	3,111.52	42.57	74.090	
11,300.00	8,878.66	12,214.00	7,882.74	74.56	116.11	1.99	191.24	-98.62	3,249.61	3,207.04	42.56	76.351	
11,400.00	8,880.23	12,214.00	7,882.74	77.10	116.11	1.99	191.24	-98.62	3,345.38	3,302.83	42.56	78.608	
11,500.00	8,881.80	12,214.00	7,882.74	79.65	116.11	1.99	191.24	-98.62	3,441.40	3,398.84	42.56	80.859	
11,600.00	8,883.37	12,214.00	7,882.74	82.20	116.11	1.99	191.24	-98.62	3,537.64	3,495.08	42.57	83.105	
11,700.00	8,884.94	12,214.00	7,882.74	84.76	116.11	1.99	191.24	-98.62	3,634.09	3,591.51	42.58	85.345	
11,800.00	8,886.51	12,214.00	7,882.74	87.32	116.11	1.99	191.24	-98.62	3,730.72	3,688.12	42.60	87.578	
11,900.00	8,888.08	12,214.00	7,882.74	89.89	116.11	1.99	191.24	-98.62	3,827.52	3,784.90	42.62	89.805	
12,000.00	8,889.65	12,214.00	7,882.74	92.46	116.11	1.99	191.24	-98.62	3,924.48	3,881.84	42.65	92.024	
12,100.00	8,891.22	12,214.00	7,882.74	95.03	116.11	1.99	191.24	-98.62	4,021.60	3,978.92	42.68	94.235	
12,200.00	8,892.79	12,214.00	7,882.74	97.61	116.11	1.99	191.24	-98.62	4,118.85	4,076.14	42.71	96.439	
12,300.00	8,894.36	12,214.00	7,882.74	100.19	116.11	1.99	191.24	-98.62	4,216.23	4,173.48	42.75	98.634	
12,400.00	8,895.93	12,214.00	7,882.74	102.78	116.11	1.99	191.24	-98.62	4,313.73	4,270.94	42.79	100.821	
12,500.00	8,897.50	12,214.00	7,882.74	105.36	116.11	1.99	191.24	-98.62	4,411.34	4,368.51	42.83	102.999	
12,600.00	8,899.07	12,214.00	7,882.74	107.95	116.11	1.99	191.24	-98.62	4,509.05	4,466.18	42.87	105.169	
12,700.00	8,900.65	12,214.00	7,882.74	110.54	116.11	1.99	191.24	-98.62	4,606.87	4,563.94	42.92	107.329	
12,800.00	8,902.22	12,214.00	7,882.74	113.13	116.11	1.99	191.24	-98.62	4,704.77	4,661.80	42.97	109.481	
12,900.00	8,903.79	12,214.00	7,882.74	115.73	116.11	1.99	191.24	-98.62	4,802.76	4,759.74	43.03	111.622	
13,000.00	8,905.36	12,214.00	7,882.74	118.33	116.11	1.99	191.24	-98.62	4,900.84	4,857.75	43.08	113.755	
13,100.00	8,906.93	12,214.00	7,882.74	120.93	116.11	1.99	191.24	-98.62	4,998.99	4,955.85	43.14	115.877	
13,200.00	8,908.50	12,214.00	7,882.74	123.53	116.11	1.99	191.24	-98.62	5,097.21	5,054.01	43.20	117.990	
13,300.00	8,910.07	12,214.00	7,882.74	126.13	116.11	1.99	191.24	-98.62	5,195.50	5,152.23	43.26	120.093	
13,400.00	8,911.64	12,214.00	7,882.74	128.73	116.11	1.99	191.24	-98.62	5,293.85	5,250.52	43.33	122.185	
13,500.00	8,913.21	12,214.00	7,882.74	131.34	116.11	1.99	191.24	-98.62	5,392.26	5,348.87	43.39	124.267	
13,600.00	8,914.78	12,214.00	7,882.74	133.94	116.11	1.99	191.24	-98.62	5,490.74	5,447.28	43.46	126.339	
13,700.00	8,916.35	12,214.00	7,882.74	136.55	116.11	1.99	191.24	-98.62	5,589.26	5,545.73	43.53	128.401	
13,800.00	8,917.92	12,214.00	7,882.74	139.16	116.11	1.99	191.24	-98.62	5,687.84	5,644.24	43.60	130.452	

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

LEAM Drilling Systems LLC

Anticollision Report

Company: Devon Energy
Project: Eddy County, NM (NAD-83)
Reference Site: Agate PWU 21-22
Site Error: 0.00 usft
Reference Well: 9H
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Plan #1

Local Co-ordinate Reference: Well 9H
TVD Reference: 3334.2' GE + 23.5' KB @ 3357.70usft
MD Reference: 3334.2' GE + 23.5' KB @ 3357.70usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at 2.00 sigma
Database: EDM 5000.1 Multi User Db
Offset TVD Reference: Offset Datum

Offset Design Emerald PWU 20-21 - Emerald PWU 20 1H - OH - OH											Offset Site Error:	0.00 usft
Survey Program: 100-MWD-ISCWSA											Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Distance		Minimum Separation (usft)	Separation Factor	Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)				
13,900.00	8,919.49	12,214.00	7,882.74	141.77	116.11	1.99	191.24	-98.62	5,786.46	5,742.79	43.67	132.492
14,000.00	8,921.06	12,214.00	7,882.74	144.38	116.11	1.99	191.24	-98.62	5,885.14	5,841.39	43.75	134.522
14,100.00	8,922.63	12,214.00	7,882.74	146.99	116.11	1.99	191.24	-98.62	5,983.85	5,940.03	43.82	136.541
14,200.00	8,924.20	12,214.00	7,882.74	149.60	116.11	1.99	191.24	-98.62	6,082.61	6,038.71	43.90	138.549
14,300.00	8,925.77	12,214.00	7,882.74	152.21	116.11	1.99	191.24	-98.62	6,181.41	6,137.43	43.98	140.546
14,400.00	8,927.34	12,214.00	7,882.74	154.83	116.11	1.99	191.24	-98.62	6,280.25	6,236.18	44.06	142.532
14,500.00	8,928.91	12,214.00	7,882.74	157.44	116.11	1.99	191.24	-98.62	6,379.12	6,334.97	44.14	144.507
14,600.00	8,930.48	12,214.00	7,882.74	160.06	116.11	1.99	191.24	-98.62	6,478.03	6,433.80	44.23	146.470
14,700.00	8,932.05	12,214.00	7,882.74	162.67	116.11	1.99	191.24	-98.62	6,576.97	6,532.65	44.31	148.423
14,800.00	8,933.62	12,214.00	7,882.74	165.29	116.11	1.99	191.24	-98.62	6,675.94	6,631.54	44.40	150.365
14,900.00	8,935.19	12,214.00	7,882.74	167.91	116.11	1.99	191.24	-98.62	6,774.94	6,730.45	44.49	152.295
15,000.00	8,936.76	12,214.00	7,882.74	170.52	116.11	1.99	191.24	-98.62	6,873.97	6,829.40	44.57	154.214
15,100.00	8,938.33	12,214.00	7,882.74	173.14	116.11	1.99	191.24	-98.62	6,973.03	6,928.36	44.66	156.122
15,200.00	8,939.90	12,214.00	7,882.74	175.76	116.11	1.99	191.24	-98.62	7,072.11	7,027.36	44.76	158.018
15,300.00	8,941.47	12,214.00	7,882.74	178.38	116.11	1.99	191.24	-98.62	7,171.22	7,126.38	44.85	159.903
15,400.00	8,943.04	12,214.00	7,882.74	181.00	116.11	1.99	191.24	-98.62	7,270.36	7,225.42	44.94	161.777
15,500.00	8,944.61	12,214.00	7,882.74	183.62	116.11	1.99	191.24	-98.62	7,369.52	7,324.48	45.04	163.639
15,600.00	8,946.18	12,214.00	7,882.74	186.24	116.11	1.99	191.24	-98.62	7,468.70	7,423.57	45.13	165.490
15,700.00	8,947.75	12,214.00	7,882.74	188.86	116.11	1.99	191.24	-98.62	7,567.90	7,522.67	45.23	167.330
15,800.00	8,949.33	12,214.00	7,882.74	191.48	116.11	1.99	191.24	-98.62	7,667.12	7,621.80	45.33	169.158
15,900.00	8,950.90	12,214.00	7,882.74	194.11	116.11	1.99	191.24	-98.62	7,766.37	7,720.94	45.42	170.975
16,000.00	8,952.47	12,214.00	7,882.74	196.73	116.11	1.99	191.24	-98.62	7,865.63	7,820.10	45.52	172.780
16,100.00	8,954.04	12,214.00	7,882.74	199.35	116.11	1.99	191.24	-98.62	7,964.91	7,919.28	45.62	174.574
16,200.00	8,955.61	12,214.00	7,882.74	201.98	116.11	1.99	191.24	-98.62	8,064.21	8,018.48	45.73	176.357
16,300.00	8,957.18	12,214.00	7,882.74	204.60	116.11	1.99	191.24	-98.62	8,163.52	8,117.69	45.83	178.128
16,400.00	8,958.75	12,214.00	7,882.74	207.22	116.11	1.99	191.24	-98.62	8,262.85	8,216.92	45.93	179.888
16,500.00	8,960.32	12,214.00	7,882.74	209.85	116.11	1.99	191.24	-98.62	8,362.20	8,316.16	46.04	181.637
16,600.00	8,961.89	12,214.00	7,882.74	212.47	116.11	1.99	191.24	-98.62	8,461.56	8,415.42	46.14	183.374
16,700.00	8,963.46	12,214.00	7,882.74	215.10	116.11	1.99	191.24	-98.62	8,560.94	8,514.69	46.25	185.100
16,800.00	8,965.03	12,214.00	7,882.74	217.72	116.11	1.99	191.24	-98.62	8,660.33	8,613.98	46.36	186.814
16,900.00	8,966.60	12,214.00	7,882.74	220.35	116.11	1.99	191.24	-98.62	8,759.74	8,713.27	46.47	188.518
17,000.00	8,968.17	12,214.00	7,882.74	222.97	116.11	1.99	191.24	-98.62	8,859.16	8,812.58	46.58	190.210
17,100.00	8,969.74	12,214.00	7,882.74	225.60	116.11	1.99	191.24	-98.62	8,958.59	8,911.91	46.69	191.891
17,200.00	8,971.31	12,214.00	7,882.74	228.23	116.11	1.99	191.24	-98.62	9,058.04	9,011.24	46.80	193.561
17,300.00	8,972.88	12,214.00	7,882.74	230.85	116.11	1.99	191.24	-98.62	9,157.49	9,110.59	46.91	195.220
17,400.00	8,974.45	12,214.00	7,882.74	233.48	116.11	1.99	191.24	-98.62	9,256.96	9,209.94	47.02	196.867
17,500.00	8,976.02	12,214.00	7,882.74	236.11	116.11	1.99	191.24	-98.62	9,356.44	9,309.31	47.13	198.504
17,600.00	8,977.59	12,214.00	7,882.74	238.73	116.11	1.99	191.24	-98.62	9,455.93	9,408.69	47.25	200.130
17,700.00	8,979.16	12,214.00	7,882.74	241.36	116.11	1.99	191.24	-98.62	9,555.44	9,508.07	47.36	201.744
17,800.00	8,980.73	12,214.00	7,882.74	243.99	116.11	1.99	191.24	-98.62	9,654.95	9,607.47	47.48	203.348
17,900.00	8,982.30	12,214.00	7,882.74	246.62	116.11	1.99	191.24	-98.62	9,754.47	9,706.87	47.60	204.941
18,000.00	8,983.87	12,214.00	7,882.74	249.25	116.11	1.99	191.24	-98.62	9,854.00	9,806.29	47.71	206.523
18,100.00	8,985.44	12,214.00	7,882.74	251.87	116.11	1.99	191.24	-98.62	9,953.54	9,905.71	47.83	208.094

LEAM Drilling Systems LLC

Anticollision Report

Company: Devon Energy
Project: Eddy County, NM (NAD-83)
Reference Site: Agate PWU 21-22
Site Error: 0.00 usft
Reference Well: 9H
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Plan #1

Local Co-ordinate Reference: Well 9H
TVD Reference: 3334.2' GE + 23.5' KB @ 3357.70usft
MD Reference: 3334.2' GE + 23.5' KB @ 3357.70usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at 2.00 sigma
Database: EDM 5000.1 Multi User Db
Offset TVD Reference: Offset Datum

Offset Design Emerald PWU 20-21 - Emerald PWU 20 9H - OH - OH														Offset Site Error:	0.00 usft
Survey Program: 128-GYRO, 3268-MWD-ISCWSA														Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Distance		Minimum Separation (usft)	Separation Factor	Warning				
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)							
0.00	0.00	0.00	0.00	0.00	0.00	-94.11	-350.35	-4,871.13	4,883.71						
100.00	100.00	94.32	94.32	0.09	0.00	-94.11	-350.25	-4,871.19	4,883.77	4,883.68	0.09	N/A			
200.00	200.00	178.54	178.54	0.31	0.00	-94.11	-350.05	-4,871.40	4,884.01	4,883.70	0.31	N/A			
300.00	300.00	281.07	281.07	0.54	0.00	-94.11	-350.31	-4,871.96	4,884.57	4,884.03	0.54	9,114.028			
400.00	400.00	388.01	387.99	0.78	0.00	-94.13	-351.57	-4,872.13	4,884.82	4,884.06	0.78	6,422.882			
500.00	500.00	467.00	466.99	0.99	0.00	-94.14	-352.31	-4,872.39	4,885.22	4,884.24	0.99	4,956.722			
600.00	600.00	546.91	546.89	1.21	0.00	-94.14	-353.03	-4,872.99	4,886.05	4,884.84	1.21	4,035.864			
700.00	700.00	701.43	701.40	1.43	0.00	-94.16	-354.43	-4,873.47	4,886.34	4,884.90	1.43	3,405.661			
800.00	800.00	828.80	828.76	1.66	0.00	-94.18	-355.89	-4,873.16	4,886.22	4,884.56	1.66	2,944.132			
900.00	900.00	905.82	905.78	1.88	0.00	-94.18	-356.33	-4,872.80	4,885.81	4,883.93	1.88	2,592.900			
916.77	916.77	917.77	917.73	1.92	0.00	-94.18	-356.36	-4,872.79	4,885.80	4,883.88	1.92	2,542.053			
1,000.00	1,000.00	992.76	992.72	2.11	0.00	-94.18	-356.45	-4,872.86	4,885.89	4,883.78	2.11	2,316.606			
1,100.00	1,100.00	1,112.03	1,111.99	2.33	0.00	-94.19	-356.74	-4,872.86	4,885.92	4,883.58	2.33	2,093.508			
1,200.00	1,200.00	1,208.00	1,207.96	2.56	0.00	-94.19	-357.05	-4,872.63	4,885.70	4,883.14	2.56	1,909.519			
1,231.26	1,231.26	1,231.30	1,231.26	2.63	0.00	-94.19	-357.06	-4,872.61	4,885.67	4,883.04	2.63	1,858.475			
1,300.00	1,300.00	1,281.80	1,281.76	2.78	0.00	-94.19	-357.04	-4,872.70	4,885.80	4,883.02	2.78	1,755.352			
1,400.00	1,400.00	1,414.18	1,414.14	3.01	0.00	-94.19	-357.29	-4,872.82	4,885.93	4,882.92	3.01	1,624.238			
1,500.00	1,500.00	1,512.92	1,512.87	3.23	0.00	-94.20	-357.96	-4,872.50	4,885.94	4,882.41	3.23	1,511.228			
1,600.00	1,600.00	1,608.23	1,608.18	3.46	0.00	-94.21	-358.75	-4,872.22	4,885.42	4,881.96	3.46	1,412.926			
1,700.00	1,700.00	1,700.80	1,700.75	3.68	0.00	-94.22	-359.65	-4,872.07	4,885.33	4,881.65	3.68	1,326.659			
1,710.63	1,710.63	1,710.68	1,710.63	3.71	0.00	-94.22	-359.74	-4,872.07	4,885.33	4,881.62	3.71	1,318.110			
1,800.00	1,800.00	1,790.97	1,790.91	3.91	0.00	-94.23	-360.37	-4,872.07	4,885.39	4,881.49	3.91	1,250.359			
1,900.00	1,900.00	1,870.00	1,869.94	4.13	0.00	-94.23	-360.78	-4,872.36	4,885.79	4,881.66	4.13	1,182.451			
2,000.00	2,000.00	1,954.35	1,954.28	4.36	0.00	-94.24	-361.13	-4,872.99	4,886.57	4,882.21	4.36	1,121.643			
2,100.00	2,100.00	2,063.11	2,063.03	4.58	0.00	-94.25	-362.22	-4,873.86	4,887.44	4,882.86	4.58	1,066.799			
2,200.00	2,200.00	2,172.59	2,172.51	4.81	0.00	-94.27	-363.57	-4,874.39	4,888.00	4,883.20	4.81	1,017.019			
2,300.00	2,300.00	2,248.00	2,247.91	5.03	0.00	-94.27	-364.11	-4,874.99	4,888.84	4,883.81	5.03	971.779			
2,400.00	2,400.00	2,360.01	2,359.92	5.26	0.00	-94.28	-364.81	-4,876.01	4,889.81	4,884.55	5.26	930.389			
2,500.00	2,500.00	2,458.97	2,458.87	5.48	0.00	-94.29	-365.75	-4,876.72	4,890.59	4,885.11	5.48	892.378			
2,600.00	2,600.00	2,542.25	2,542.14	5.71	0.00	-94.30	-366.96	-4,877.47	4,891.60	4,885.89	5.70	857.423			
2,700.00	2,700.00	2,621.00	2,620.87	5.93	0.00	-94.32	-368.18	-4,878.47	4,892.98	4,887.06	5.93	825.201			
2,750.00	2,750.00	2,667.65	2,667.52	6.04	0.00	-94.32	-368.80	-4,879.19	4,893.80	4,887.76	6.04	809.998			
2,800.00	2,800.00	2,715.00	2,714.85	6.15	0.00	-149.23	-369.27	-4,879.98	4,894.85	4,888.71	6.15	795.787			
2,900.00	2,899.98	2,824.96	2,824.79	6.37	0.00	-149.24	-370.84	-4,881.67	4,897.99	4,891.63	6.36	769.667			
3,000.00	2,999.92	2,918.80	2,918.41	6.58	0.00	-149.25	-371.60	-4,883.10	4,902.59	4,896.01	6.58	745.415			
3,100.00	3,099.78	3,010.52	3,010.32	6.80	0.00	-149.25	-372.29	-4,884.65	4,908.83	4,902.04	6.79	722.866			
3,200.00	3,199.54	3,103.29	3,103.07	7.02	0.01	-149.26	-373.07	-4,886.36	4,916.72	4,909.71	7.01	701.136			
3,300.00	3,299.16	3,202.15	3,201.91	7.24	0.12	-149.27	-373.98	-4,888.24	4,926.18	4,918.84	7.34	671.140			
3,400.00	3,398.61	3,288.43	3,288.17	7.46	0.24	-149.27	-374.73	-4,889.92	4,937.19	4,929.52	7.67	643.411			
3,500.00	3,497.86	3,363.00	3,362.70	7.70	0.40	-149.25	-373.71	-4,892.02	4,950.32	4,942.28	8.04	615.392			
3,550.00	3,547.40	3,390.91	3,390.58	7.82	0.46	-149.22	-372.90	-4,892.97	4,957.65	4,949.44	8.21	603.705			
3,600.00	3,596.92	3,439.99	3,439.61	7.94	0.56	-149.24	-371.38	-4,894.65	4,965.22	4,956.80	8.42	589.384			
3,700.00	3,695.94	3,532.53	3,532.02	8.18	0.77	-149.27	-367.67	-4,897.95	4,980.41	4,971.56	8.85	562.728			
3,800.00	3,794.97	3,688.88	3,687.96	8.43	1.15	-149.28	-357.80	-4,903.05	4,995.14	4,985.69	9.45	528.702			
3,900.00	3,894.00	3,817.21	3,815.82	8.69	1.47	-149.27	-347.23	-4,906.28	5,008.96	4,998.96	10.00	500.861			
4,000.00	3,993.02	13,671.00	8,927.17	8.94	122.09	-167.79	161.99	-53.70	4,937.34	4,898.82	38.52	128.176			
4,100.00	4,092.05	13,671.00	8,927.17	9.21	122.09	-167.79	161.99	-53.70	4,838.60	4,800.02	38.58	125.428			
4,200.00	4,191.08	13,671.00	8,927.17	9.47	122.09	-167.79	161.99	-53.70	4,739.91	4,701.26	38.64	122.664			
4,300.00	4,290.10	13,671.00	8,927.17	9.74	122.09	-167.79	161.99	-53.70	4,641.27	4,602.56	38.71	119.884			
4,400.00	4,389.13	13,671.00	8,927.17	10.01	122.09	-167.79	161.99	-53.70	4,542.70	4,503.90	38.80	117.093			
4,500.00	4,488.16	13,671.00	8,927.17	10.28	122.09	-167.79	161.99	-53.70	4,444.19	4,405.30	38.88	114.291			
4,600.00	4,587.18	13,671.00	8,927.17	10.56	122.09	-167.79	161.99	-53.70	4,345.75	4,306.76	38.98	111.481			

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

LEAM Drilling Systems LLC

Anticollision Report

Company: Devon Energy
Project: Eddy County, NM (NAD-83)
Reference Site: Agate PWU 21-22
Site Error: 0.00 usft
Reference Well: 9H
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Plan #1

Local Co-ordinate Reference: Well 9H
TVD Reference: 3334.2' GE + 23.5' KB @ 3357.70usft
MD Reference: 3334.2' GE + 23.5' KB @ 3357.70usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at: 2.00 sigma
Database: EDM 5000.1 Multi User Db
Offset TVD Reference: Offset Datum

Offset Design Emerald PWU 20-21 - Emerald PWU 20 9H - OH - OH											Offset Site Error:	0.00 usft
Survey Program: 128-GYRO, 3268-MWD-ISCWSA											Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Distance		Minimum Separation (usft)	Separation Factor	Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)				
4,700.00	4,886.21	13,671.00	8,927.17	10.84	122.09	-167.79	161.99	-53.70	4,247.38	4,208.29	39.09	108.666
4,800.00	4,785.24	13,671.00	8,927.17	11.12	122.09	-167.79	161.99	-53.70	4,149.09	4,109.89	39.20	105.847
4,900.00	4,884.27	13,671.00	8,927.17	11.40	122.09	-167.79	161.99	-53.70	4,050.88	4,011.56	39.32	103.027
5,000.00	4,983.29	13,671.00	8,927.17	11.69	122.09	-167.79	161.99	-53.70	3,952.76	3,913.31	39.45	100.207
5,100.00	5,082.32	13,671.00	8,927.17	11.97	122.09	-167.79	161.99	-53.70	3,854.74	3,815.16	39.58	97.390
5,200.00	5,181.35	13,671.00	8,927.17	12.26	122.09	-167.79	161.99	-53.70	3,756.82	3,717.10	39.72	94.576
5,300.00	5,280.37	13,671.00	8,927.17	12.55	122.09	-167.79	161.99	-53.70	3,659.02	3,619.15	39.87	91.767
5,400.00	5,379.40	13,671.00	8,927.17	12.84	122.09	-167.79	161.99	-53.70	3,561.34	3,521.31	40.03	88.966
5,500.00	5,478.43	13,671.00	8,927.17	13.13	122.09	-167.79	161.99	-53.70	3,463.79	3,423.59	40.20	86.172
5,550.00	5,527.94	13,671.00	8,927.17	13.27	122.09	-167.79	161.99	-53.70	3,415.06	3,374.78	40.28	84.778
5,600.00	5,577.48	13,671.00	8,927.17	13.40	122.09	-167.32	161.99	-53.70	3,366.33	3,325.96	40.37	83.388
5,700.00	5,676.74	13,671.00	8,927.17	13.63	122.09	-166.29	161.99	-53.70	3,268.69	3,228.15	40.55	80.618
5,800.00	5,776.19	13,671.00	8,927.17	13.84	122.09	-165.12	161.99	-53.70	3,170.84	3,130.11	40.72	77.861
5,900.00	5,875.81	13,671.00	8,927.17	14.05	122.09	-163.77	161.99	-53.70	3,072.76	3,031.86	40.90	75.122
6,000.00	5,975.56	13,671.00	8,927.17	14.26	122.09	-162.22	161.99	-53.70	2,974.49	2,933.41	41.08	72.401
6,100.00	6,075.42	13,671.00	8,927.17	14.45	122.09	-160.41	161.99	-53.70	2,876.03	2,834.77	41.26	69.701
6,200.00	6,175.36	13,671.00	8,927.17	14.64	122.09	-158.30	161.99	-53.70	2,777.39	2,735.95	41.44	67.022
6,300.00	6,275.34	13,671.00	8,927.17	14.82	122.09	-155.80	161.99	-53.70	2,678.58	2,636.97	41.62	64.365
6,350.00	6,325.34	13,671.00	8,927.17	14.90	122.09	-99.46	161.99	-53.70	2,629.12	2,587.42	41.70	63.045
6,400.00	6,375.34	13,671.00	8,927.17	14.99	122.09	-99.46	161.99	-53.70	2,579.65	2,537.86	41.79	61.730
6,500.00	6,475.34	13,671.00	8,927.17	15.20	122.09	-99.46	161.99	-53.70	2,480.77	2,438.81	41.97	59.113
6,600.00	6,575.34	13,671.00	8,927.17	15.40	122.09	-99.46	161.99	-53.70	2,381.99	2,339.84	42.15	56.513
6,700.00	6,675.34	13,671.00	8,927.17	15.60	122.09	-99.46	161.99	-53.70	2,283.31	2,240.97	42.34	53.932
6,800.00	6,775.34	13,671.00	8,927.17	15.81	122.09	-99.46	161.99	-53.70	2,184.75	2,142.22	42.53	51.371
6,900.00	6,875.34	13,671.00	8,927.17	16.01	122.09	-99.46	161.99	-53.70	2,086.33	2,043.60	42.73	48.829
7,000.00	6,975.34	13,671.00	8,927.17	16.22	122.09	-99.46	161.99	-53.70	1,988.07	1,945.14	42.93	46.309
7,100.00	7,075.34	13,671.00	8,927.17	16.42	122.09	-99.46	161.99	-53.70	1,889.98	1,846.84	43.14	43.810
7,200.00	7,175.34	13,671.00	8,927.17	16.63	122.09	-99.46	161.99	-53.70	1,792.11	1,748.76	43.36	41.335
7,300.00	7,275.34	13,671.00	8,927.17	16.84	122.09	-99.46	161.99	-53.70	1,694.49	1,650.92	43.58	38.885
7,400.00	7,375.34	13,671.00	8,927.17	17.04	122.09	-99.46	161.99	-53.70	1,597.17	1,553.36	43.81	36.460
7,500.00	7,475.34	13,671.00	8,927.17	17.25	122.09	-99.46	161.99	-53.70	1,500.19	1,456.15	44.04	34.064
7,600.00	7,575.34	13,671.00	8,927.17	17.46	122.09	-99.46	161.99	-53.70	1,403.64	1,359.36	44.28	31.697
7,700.00	7,675.34	13,671.00	8,927.17	17.67	122.09	-99.46	161.99	-53.70	1,307.61	1,263.08	44.53	29.364
7,800.00	7,775.34	13,671.00	8,927.17	17.88	122.09	-99.46	161.99	-53.70	1,212.22	1,167.44	44.79	27.067
7,900.00	7,875.34	13,671.00	8,927.17	18.09	122.09	-99.46	161.99	-53.70	1,117.64	1,072.59	45.04	24.812
8,000.00	7,975.34	13,671.00	8,927.17	18.30	122.09	-99.46	161.99	-53.70	1,024.08	978.78	45.30	22.605
8,100.00	8,075.34	13,671.00	8,927.17	18.51	122.09	-99.46	161.99	-53.70	931.87	886.31	45.56	20.455
8,200.00	8,175.34	13,671.00	8,927.17	18.72	122.09	-99.46	161.99	-53.70	841.44	795.65	45.79	18.376
8,297.27	8,272.61	13,671.00	8,927.17	18.92	122.09	-99.46	161.99	-53.70	755.79	709.81	45.97	16.439
8,300.00	8,275.34	13,671.00	8,927.17	18.93	122.09	170.61	161.99	-53.70	753.43	707.45	45.98	16.387
8,350.00	8,325.27	13,671.00	8,927.17	19.04	122.09	171.76	161.99	-53.70	711.95	665.94	46.01	15.473
8,400.00	8,374.79	13,671.00	8,927.17	19.17	122.09	172.54	161.99	-53.70	674.41	628.45	45.95	14.677
8,450.00	8,423.54	13,671.00	8,927.17	19.32	122.09	173.08	161.99	-53.70	641.80	596.04	45.76	14.024
8,500.00	8,471.14	13,671.00	8,927.17	19.48	122.09	173.45	161.99	-53.70	615.19	569.78	45.40	13.549
8,550.00	8,517.23	13,671.00	8,927.17	19.68	122.09	173.69	161.99	-53.70	585.58	550.75	44.83	13.286
8,600.00	8,561.45	13,671.00	8,927.17	19.89	122.09	173.82	161.99	-53.70	563.84	539.82	44.01	13.265 SF
8,644.17	8,598.70	13,671.00	8,927.17	20.11	122.09	173.86	161.99	-53.70	580.48	537.37	43.11	13.466 CC, ES
8,650.00	8,603.48	13,671.00	8,927.17	20.14	122.09	173.86	161.99	-53.70	580.54	537.56	42.98	13.508
8,700.00	8,642.99	13,671.00	8,927.17	20.42	122.09	173.80	161.99	-53.70	585.84	544.06	41.78	14.023
8,750.00	8,679.68	13,671.00	8,927.17	20.74	122.09	173.64	161.99	-53.70	599.48	558.97	40.51	14.798
8,800.00	8,713.27	13,671.00	8,927.17	21.11	122.09	173.37	161.99	-53.70	620.80	581.18	39.62	15.668
8,850.00	8,743.51	13,671.00	8,927.17	21.53	122.09	172.97	161.99	-53.70	648.91	609.75	39.16	16.572

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

LEAM Drilling Systems LLC

Anticollision Report

Company: Devon Energy
Project: Eddy County, NM (NAD-83)
Reference Site: Agate PWU 21-22
Site Error: 0.00 usft
Reference Well: 9H
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Plan #1

Local Co-ordinate Reference: Well 9H
TVD Reference: 3334.2' GE + 23.5' KB @ 3357.70usft
MD Reference: 3334.2' GE + 23.5' KB @ 3357.70usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at: 2.00 sigma
Database: EDM 5000.1 Multi User Db
Offset TVD Reference: Offset Datum

Offset Design Emerald PWU 20-21 - Emerald PWU 20 9H - OH - OH													Offset Site Error: 0.00 usft
Survey Program: 128-GYRO, 3268-MWD-ISCWSA													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	Offset		Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)					
8,900.00	8,770.17	13,671.00	8,927.17	22.01	122.09	172.38	161.99	-53.70	682.76	643.98	38.78	17.604	
8,950.00	8,793.04	13,671.00	8,927.17	22.55	122.09	171.53	161.99	-53.70	721.31	682.79	38.52	18.727	
9,000.00	8,811.94	13,671.00	8,927.17	23.15	122.09	170.27	161.99	-53.70	763.58	725.23	38.34	19.914	
9,050.00	8,826.75	13,671.00	8,927.17	23.81	122.09	168.32	161.99	-53.70	808.68	770.43	38.25	21.143	
9,100.00	8,837.33	13,671.00	8,927.17	24.53	122.09	165.01	161.99	-53.70	855.86	817.65	38.21	22.401	
9,150.00	8,843.62	13,671.00	8,927.17	25.30	122.09	158.45	161.99	-53.70	904.46	866.26	38.20	23.677	
9,188.27	8,845.50	13,671.00	8,927.17	25.91	122.09	147.19	161.99	-53.70	942.27	904.06	38.21	24.660	
9,200.00	8,845.68	13,671.00	8,927.17	26.10	122.09	147.19	161.99	-53.70	953.91	915.70	38.22	24.961	
9,300.00	8,847.25	13,671.00	8,927.17	27.83	122.09	147.19	161.99	-53.70	1,053.26	1,014.98	38.28	27.518	
9,400.00	8,848.82	13,671.00	8,927.17	29.69	122.09	147.19	161.99	-53.70	1,152.71	1,114.36	38.36	30.050	
9,500.00	8,850.39	13,671.00	8,927.17	31.66	122.09	147.19	161.99	-53.70	1,252.26	1,213.80	38.46	32.562	
9,600.00	8,851.97	13,671.00	8,927.17	33.73	122.09	147.19	161.99	-53.70	1,351.87	1,313.31	38.56	35.056	
9,700.00	8,853.54	13,671.00	8,927.17	35.86	122.09	147.19	161.99	-53.70	1,451.53	1,412.86	38.67	37.535	
9,800.00	8,855.11	13,671.00	8,927.17	38.07	122.09	147.19	161.99	-53.70	1,551.24	1,512.46	38.78	40.002	
9,900.00	8,856.68	13,671.00	8,927.17	40.32	122.09	147.19	161.99	-53.70	1,650.98	1,612.10	38.89	42.457	
10,000.00	8,858.25	13,671.00	8,927.17	42.62	122.09	147.19	161.99	-53.70	1,750.76	1,711.77	38.99	44.902	
10,100.00	8,859.82	13,671.00	8,927.17	44.95	122.09	147.19	161.99	-53.70	1,850.55	1,811.46	39.09	47.337	
10,200.00	8,861.39	13,671.00	8,927.17	47.32	122.09	147.19	161.99	-53.70	1,950.37	1,911.18	39.19	49.762	
10,300.00	8,862.96	13,671.00	8,927.17	49.71	122.09	147.19	161.99	-53.70	2,050.21	2,010.91	39.29	52.179	
10,400.00	8,864.53	13,671.00	8,927.17	52.13	122.09	147.19	161.99	-53.70	2,150.06	2,110.67	39.39	54.587	
10,500.00	8,866.10	13,671.00	8,927.17	54.57	122.09	147.19	161.99	-53.70	2,249.92	2,210.44	39.48	56.986	
10,600.00	8,867.67	13,671.00	8,927.17	57.03	122.09	147.19	161.99	-53.70	2,349.80	2,310.22	39.57	59.377	
10,700.00	8,869.24	13,671.00	8,927.17	59.50	122.09	147.19	161.99	-53.70	2,449.68	2,410.02	39.66	61.760	
10,800.00	8,870.81	13,671.00	8,927.17	61.98	122.09	147.19	161.99	-53.70	2,549.58	2,509.82	39.75	64.135	
10,900.00	8,872.38	13,671.00	8,927.17	64.48	122.09	147.19	161.99	-53.70	2,649.48	2,609.64	39.84	66.501	
11,000.00	8,873.95	13,671.00	8,927.17	66.99	122.09	147.19	161.99	-53.70	2,749.39	2,709.46	39.93	68.859	
11,100.00	8,875.52	13,671.00	8,927.17	69.50	122.09	147.19	161.99	-53.70	2,849.31	2,809.29	40.01	71.208	
11,200.00	8,877.09	13,671.00	8,927.17	72.03	122.09	147.19	161.99	-53.70	2,949.23	2,909.13	40.10	73.549	
11,300.00	8,878.66	13,671.00	8,927.17	74.56	122.09	147.19	161.99	-53.70	3,049.15	3,008.97	40.18	75.881	
11,400.00	8,880.23	13,671.00	8,927.17	77.10	122.09	147.19	161.99	-53.70	3,149.09	3,108.82	40.27	78.205	
11,500.00	8,881.80	13,671.00	8,927.17	79.65	122.09	147.19	161.99	-53.70	3,249.02	3,208.67	40.35	80.519	
11,600.00	8,883.37	13,671.00	8,927.17	82.20	122.09	147.19	161.99	-53.70	3,348.96	3,308.53	40.43	82.825	
11,700.00	8,884.94	13,671.00	8,927.17	84.76	122.09	147.19	161.99	-53.70	3,448.90	3,408.39	40.52	85.121	
11,800.00	8,886.51	13,671.00	8,927.17	87.32	122.09	147.19	161.99	-53.70	3,548.85	3,508.25	40.60	87.408	
11,900.00	8,888.08	13,671.00	8,927.17	89.89	122.09	147.19	161.99	-53.70	3,648.80	3,608.12	40.68	89.686	
12,000.00	8,889.65	13,671.00	8,927.17	92.46	122.09	147.19	161.99	-53.70	3,748.75	3,707.98	40.77	91.954	
12,100.00	8,891.22	13,671.00	8,927.17	95.03	122.09	147.19	161.99	-53.70	3,848.71	3,807.86	40.85	94.213	
12,200.00	8,892.79	13,671.00	8,927.17	97.61	122.09	147.19	161.99	-53.70	3,948.66	3,907.73	40.93	96.462	
12,300.00	8,894.36	13,671.00	8,927.17	100.19	122.09	147.19	161.99	-53.70	4,048.62	4,007.60	41.02	98.701	
12,400.00	8,895.93	13,671.00	8,927.17	102.78	122.09	147.19	161.99	-53.70	4,148.58	4,107.48	41.10	100.930	
12,500.00	8,897.50	13,671.00	8,927.17	105.36	122.09	147.19	161.99	-53.70	4,248.55	4,207.36	41.19	103.149	
12,600.00	8,899.07	13,671.00	8,927.17	107.95	122.09	147.19	161.99	-53.70	4,348.51	4,307.24	41.27	105.358	
12,700.00	8,900.65	13,671.00	8,927.17	110.54	122.09	147.19	161.99	-53.70	4,448.48	4,407.12	41.36	107.556	
12,800.00	8,902.22	13,671.00	8,927.17	113.13	122.09	147.19	161.99	-53.70	4,548.44	4,507.00	41.45	109.744	
12,900.00	8,903.79	13,671.00	8,927.17	115.73	122.09	147.19	161.99	-53.70	4,648.41	4,606.88	41.53	111.921	
13,000.00	8,905.36	13,671.00	8,927.17	118.33	122.09	147.19	161.99	-53.70	4,748.38	4,706.76	41.62	114.088	
13,100.00	8,906.93	13,671.00	8,927.17	120.93	122.09	147.19	161.99	-53.70	4,848.35	4,806.65	41.71	116.244	
13,200.00	8,908.50	13,671.00	8,927.17	123.53	122.09	147.19	161.99	-53.70	4,948.33	4,906.53	41.80	118.389	
13,300.00	8,910.07	13,671.00	8,927.17	126.13	122.09	147.19	161.99	-53.70	5,048.30	5,006.41	41.89	120.524	
13,400.00	8,911.64	13,671.00	8,927.17	128.73	122.09	147.19	161.99	-53.70	5,148.28	5,106.30	41.98	122.647	
13,500.00	8,913.21	13,671.00	8,927.17	131.34	122.09	147.19	161.99	-53.70	5,248.25	5,206.18	42.07	124.759	
13,600.00	8,914.78	13,671.00	8,927.17	133.94	122.09	147.19	161.99	-53.70	5,348.23	5,306.07	42.16	126.860	

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

LEAM Drilling Systems LLC

Anticollision Report

Company: Devon Energy
Project: Eddy County, NM (NAD-83)
Reference Site: Agate PWU 21-22
Site Error: 0.00 usft
Reference Well: 9H
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Plan #1

Local Co-ordinate Reference: Well 9H
TVD Reference: 3334.2' GE + 23.5' KB @ 3357.70usft
MD Reference: 3334.2' GE + 23.5' KB @ 3357.70usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at 2.00 sigma
Database: EDM 5000.1 Multi User Db
Offset TVD Reference: Offset Datum

Offset Design Emerald PWU 20-21 - Emerald PWU 20 9H - OH - OH												Offset Site Error:	0.00 usft
Survey Program: 128-GYRO, 3288-MWD-ISCWSA												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)					
13,700.00	8,916.35	13,671.00	8,927.17	136.55	122.09	147.19	161.99	-53.70	5,448.20	5,405.95	42.25	128.950	
13,800.00	8,917.92	13,671.00	8,927.17	139.16	122.09	147.19	161.99	-53.70	5,548.18	5,505.84	42.34	131.028	
13,900.00	8,919.49	13,671.00	8,927.17	141.77	122.09	147.19	161.99	-53.70	5,648.16	5,605.73	42.44	133.095	
14,000.00	8,921.06	13,671.00	8,927.17	144.38	122.09	147.19	161.99	-53.70	5,748.14	5,705.61	42.53	135.151	
14,100.00	8,922.63	13,671.00	8,927.17	146.99	122.09	147.19	161.99	-53.70	5,848.12	5,805.50	42.63	137.195	
14,200.00	8,924.20	13,671.00	8,927.17	149.60	122.09	147.19	161.99	-53.70	5,948.10	5,905.38	42.72	139.228	
14,300.00	8,925.77	13,671.00	8,927.17	152.21	122.09	147.19	161.99	-53.70	6,048.09	6,005.27	42.82	141.249	
14,400.00	8,927.34	13,671.00	8,927.17	154.83	122.09	147.19	161.99	-53.70	6,148.07	6,105.15	42.92	143.258	
14,500.00	8,928.91	13,671.00	8,927.17	157.44	122.09	147.19	161.99	-53.70	6,248.05	6,205.04	43.01	145.256	
14,600.00	8,930.48	13,671.00	8,927.17	160.06	122.09	147.19	161.99	-53.70	6,348.03	6,304.92	43.11	147.242	
14,700.00	8,932.05	13,671.00	8,927.17	162.67	122.09	147.19	161.99	-53.70	6,448.02	6,404.81	43.21	149.217	
14,800.00	8,933.62	13,671.00	8,927.17	165.29	122.09	147.19	161.99	-53.70	6,548.00	6,504.69	43.31	151.179	
14,900.00	8,935.19	13,671.00	8,927.17	167.91	122.09	147.19	161.99	-53.70	6,647.99	6,604.57	43.41	153.130	
15,000.00	8,936.76	13,671.00	8,927.17	170.52	122.09	147.19	161.99	-53.70	6,747.97	6,704.46	43.52	155.069	
15,100.00	8,938.33	13,671.00	8,927.17	173.14	122.09	147.19	161.99	-53.70	6,847.96	6,804.34	43.62	156.996	
15,200.00	8,939.90	13,671.00	8,927.17	175.76	122.09	147.19	161.99	-53.70	6,947.94	6,904.22	43.72	158.912	
15,300.00	8,941.47	13,671.00	8,927.17	178.38	122.09	147.19	161.99	-53.70	7,047.93	7,004.10	43.83	160.815	
15,400.00	8,943.04	13,671.00	8,927.17	181.00	122.09	147.19	161.99	-53.70	7,147.92	7,103.99	43.93	162.707	
15,500.00	8,944.61	13,671.00	8,927.17	183.62	122.09	147.19	161.99	-53.70	7,247.91	7,203.87	44.04	164.587	
15,600.00	8,946.18	13,671.00	8,927.17	186.24	122.09	147.19	161.99	-53.70	7,347.89	7,303.75	44.14	166.455	
15,700.00	8,947.75	13,671.00	8,927.17	188.86	122.09	147.19	161.99	-53.70	7,447.88	7,403.63	44.25	168.311	
15,800.00	8,949.33	13,671.00	8,927.17	191.48	122.09	147.19	161.99	-53.70	7,547.87	7,503.51	44.36	170.155	
15,900.00	8,950.90	13,671.00	8,927.17	194.11	122.09	147.19	161.99	-53.70	7,647.86	7,603.39	44.47	171.988	
16,000.00	8,952.47	13,671.00	8,927.17	196.73	122.09	147.19	161.99	-53.70	7,747.85	7,703.27	44.58	173.808	
16,100.00	8,954.04	13,671.00	8,927.17	199.35	122.09	147.19	161.99	-53.70	7,847.84	7,803.15	44.69	175.617	
16,200.00	8,955.61	13,671.00	8,927.17	201.98	122.09	147.19	161.99	-53.70	7,947.83	7,903.03	44.80	177.414	
16,300.00	8,957.18	13,671.00	8,927.17	204.60	122.09	147.19	161.99	-53.70	8,047.82	8,002.91	44.91	179.199	
16,400.00	8,958.75	13,671.00	8,927.17	207.22	122.09	147.19	161.99	-53.70	8,147.81	8,102.78	45.02	180.973	
16,500.00	8,960.32	13,671.00	8,927.17	209.85	122.09	147.19	161.99	-53.70	8,247.80	8,202.66	45.14	182.735	
16,600.00	8,961.89	13,671.00	8,927.17	212.47	122.09	147.19	161.99	-53.70	8,347.79	8,302.54	45.25	184.485	
16,700.00	8,963.46	13,671.00	8,927.17	215.10	122.09	147.19	161.99	-53.70	8,447.78	8,402.41	45.36	186.223	
16,800.00	8,965.03	13,671.00	8,927.17	217.72	122.09	147.19	161.99	-53.70	8,547.77	8,502.29	45.48	187.950	
16,900.00	8,966.60	13,671.00	8,927.17	220.35	122.09	147.19	161.99	-53.70	8,647.76	8,602.16	45.59	189.665	
17,000.00	8,968.17	13,671.00	8,927.17	222.97	122.09	147.19	161.99	-53.70	8,747.75	8,702.04	45.71	191.369	
17,100.00	8,969.74	13,671.00	8,927.17	225.60	122.09	147.19	161.99	-53.70	8,847.74	8,801.91	45.83	193.061	
17,200.00	8,971.31	13,671.00	8,927.17	228.23	122.09	147.19	161.99	-53.70	8,947.73	8,901.79	45.95	194.741	
17,300.00	8,972.88	13,671.00	8,927.17	230.85	122.09	147.19	161.99	-53.70	9,047.72	9,001.66	46.07	196.410	
17,400.00	8,974.45	13,671.00	8,927.17	233.48	122.09	147.19	161.99	-53.70	9,147.72	9,101.53	46.18	198.068	
17,500.00	8,976.02	13,671.00	8,927.17	236.11	122.09	147.19	161.99	-53.70	9,247.71	9,201.40	46.30	199.714	
17,600.00	8,977.59	13,671.00	8,927.17	238.73	122.09	147.19	161.99	-53.70	9,347.70	9,301.28	46.43	201.349	
17,700.00	8,979.16	13,671.00	8,927.17	241.36	122.09	147.19	161.99	-53.70	9,447.69	9,401.15	46.55	202.973	
17,800.00	8,980.73	13,671.00	8,927.17	243.99	122.09	147.19	161.99	-53.70	9,547.69	9,501.02	46.67	204.585	
17,900.00	8,982.30	13,671.00	8,927.17	246.62	122.09	147.19	161.99	-53.70	9,647.68	9,600.89	46.79	206.186	
18,000.00	8,983.87	13,671.00	8,927.17	249.25	122.09	147.19	161.99	-53.70	9,747.67	9,700.76	46.91	207.776	
18,100.00	8,985.44	13,671.00	8,927.17	251.87	122.09	147.19	161.99	-53.70	9,847.67	9,800.63	47.04	209.355	
18,200.00	8,987.01	13,671.00	8,927.17	254.50	122.09	147.19	161.99	-53.70	9,947.66	9,900.50	47.16	210.923	

LEAM Drilling Systems LLC

Anticollision Report

Company: Devon Energy
Project: Eddy County, NM (NAD-83)
Reference Site: Agate PWU 21-22
Site Error: 0.00 usft
Reference Well: 9H
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Plan #1

Local Co-ordinate Reference: Well 9H
TVD Reference: 3334.2' GE + 23.5' KB @ 3357.70usft
MD Reference: 3334.2' GE + 23.5' KB @ 3357.70usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at 2.00 sigma
Database: EDM 5000.1 Multi User Db
Offset TVD Reference: Offset Datum

Offset Design												Offset Site Error:	0.00 usft
Survey Program: 15-NS-GYRO-MS												Offset Well Error:	0.00 usft
Parkway West (Offsets) - 11 - OH - OH													
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	Offset		Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)					
0.00	0.00	0.00	0.00	0.00	0.00	-105.28	-172.08	-629.73	652.82				
100.00	100.00	99.89	99.88	0.09	0.19	-105.24	-171.58	-629.86	652.81	652.53	0.28	2,335.496	
200.00	200.00	199.80	199.80	0.31	0.46	-105.18	-170.94	-630.05	652.82	652.05	0.77	847.932	
300.00	300.00	298.22	298.21	0.54	0.71	-105.14	-170.58	-630.32	653.00	651.75	1.25	524.240	
400.00	400.00	398.06	398.05	0.76	0.96	-105.11	-170.33	-630.69	653.29	651.57	1.72	379.906	
500.00	500.00	497.86	497.85	0.99	1.21	-105.08	-170.05	-631.09	653.61	651.41	2.20	297.176	
600.00	600.00	598.32	598.31	1.21	1.47	-105.05	-169.80	-631.50	653.93	651.25	2.68	243.756	
700.00	700.00	703.12	703.11	1.43	1.66	-105.03	-169.51	-631.35	653.72	650.63	3.09	211.299	
800.00	800.00	804.00	803.99	1.66	1.77	-105.02	-169.31	-630.81	653.15	649.72	3.43	190.497	
900.00	900.00	904.52	904.50	1.88	1.91	-105.02	-169.10	-630.20	652.51	648.72	3.79	172.115	
1,000.00	1,000.00	1,003.88	1,003.87	2.11	2.07	-105.01	-168.86	-629.57	651.84	647.66	4.18	155.891	
1,100.00	1,100.00	1,100.45	1,100.44	2.33	2.27	-105.00	-168.63	-629.23	651.43	646.82	4.61	141.384	
1,105.81	1,105.81	1,105.82	1,105.81	2.35	2.29	-105.00	-168.62	-629.23	651.43	646.80	4.63	140.580 CC	
1,200.00	1,200.00	1,197.89	1,197.88	2.56	2.45	-104.99	-168.55	-629.46	651.64	646.63	5.01	130.001 ES	
1,300.00	1,300.00	1,296.30	1,296.28	2.78	2.60	-104.99	-168.63	-629.90	652.09	646.71	5.38	121.241	
1,400.00	1,400.00	1,394.22	1,394.20	3.01	2.74	-104.99	-168.82	-630.59	652.83	647.07	5.75	113.479	
1,500.00	1,500.00	1,493.37	1,493.34	3.23	2.91	-104.99	-169.10	-631.54	653.82	647.67	6.14	106.427	
1,600.00	1,600.00	1,592.19	1,592.16	3.46	3.10	-104.98	-169.30	-632.61	654.92	648.36	6.55	99.915	
1,700.00	1,700.00	1,692.15	1,692.11	3.68	3.30	-104.97	-169.49	-633.76	656.08	649.10	6.98	93.974	
1,800.00	1,800.00	1,792.10	1,792.05	3.91	3.51	-104.96	-169.67	-634.94	657.27	649.65	7.42	86.615	
1,900.00	1,900.00	1,893.84	1,893.78	4.13	3.74	-104.94	-169.70	-636.02	658.30	650.43	7.87	83.624	
2,000.00	2,000.00	1,993.89	1,993.83	4.36	3.98	-104.91	-169.84	-637.02	659.25	650.92	8.33	79.116	
2,100.00	2,100.00	2,093.86	2,093.80	4.58	4.22	-104.88	-169.57	-638.02	660.20	651.41	8.80	75.049	
2,200.00	2,200.00	2,193.49	2,193.42	4.81	4.46	-104.86	-169.50	-639.03	661.17	651.90	9.26	71.374	
2,300.00	2,300.00	2,293.82	2,293.75	5.03	4.70	-104.83	-169.45	-640.04	662.12	652.39	9.73	68.025	
2,400.00	2,400.00	2,394.13	2,394.06	5.26	4.95	-104.80	-169.36	-641.04	663.06	652.85	10.21	64.960	
2,500.00	2,500.00	2,494.25	2,494.17	5.48	5.20	-104.77	-169.22	-641.98	663.93	653.25	10.68	62.142	
2,600.00	2,600.00	2,594.40	2,594.32	5.71	5.46	-104.73	-169.05	-642.90	664.78	653.62	11.16	59.552	
2,700.00	2,700.00	2,694.31	2,694.22	5.93	5.71	-104.70	-168.86	-643.83	665.64	653.99	11.64	57.171	
2,750.00	2,750.00	2,744.28	2,744.19	6.04	5.84	-104.68	-168.76	-644.31	666.07	654.19	11.88	56.051	
2,800.00	2,800.00	2,794.38	2,794.28	6.15	5.97	-159.57	-168.65	-644.79	666.72	654.59	12.12	55.004	
2,900.00	2,899.98	2,894.72	2,894.62	6.37	6.23	-159.57	-168.36	-645.73	669.17	656.58	12.59	53.137	
3,000.00	2,999.92	2,994.27	2,994.16	6.58	6.49	-159.61	-168.04	-646.67	673.28	660.22	13.06	51.534	
3,100.00	3,099.78	3,094.32	3,094.21	6.80	6.75	-159.69	-167.55	-647.63	678.99	665.45	13.54	50.153	
3,200.00	3,199.54	3,194.32	3,194.20	7.02	7.01	-159.79	-166.93	-648.59	686.31	672.30	14.01	48.982	
3,300.00	3,299.16	3,293.84	3,293.72	7.24	7.26	-159.94	-166.26	-649.59	695.28	680.80	14.48	48.002	
3,400.00	3,398.61	3,393.11	3,392.98	7.46	7.52	-160.11	-165.57	-650.61	705.91	690.96	14.96	47.193	
3,500.00	3,497.86	3,489.91	3,489.77	7.70	7.77	-160.32	-164.87	-651.72	718.30	702.87	15.43	46.561	
3,550.00	3,547.40	3,538.32	3,538.18	7.82	7.90	-160.43	-164.54	-652.40	725.24	709.58	15.86	46.302	
3,600.00	3,596.92	3,585.81	3,585.66	7.94	8.02	-160.56	-164.20	-653.20	732.51	716.61	15.90	46.079	
3,700.00	3,695.94	3,684.01	3,683.84	8.18	8.28	-160.82	-163.45	-654.99	747.19	730.82	16.37	45.634	
3,800.00	3,794.97	3,782.25	3,782.05	8.43	8.54	-161.05	-162.49	-656.94	761.98	745.13	16.85	45.216	
3,900.00	3,894.00	3,882.85	3,882.62	8.69	8.80	-161.24	-160.97	-659.04	776.72	759.39	17.34	44.803	
4,000.00	3,993.02	3,981.65	3,981.37	8.94	9.05	-161.36	-158.74	-661.25	791.41	773.59	17.81	44.430	
4,100.00	4,092.05	4,080.41	4,080.07	9.21	9.30	-161.45	-158.21	-663.56	806.10	787.81	18.29	44.077	
4,200.00	4,191.08	4,179.47	4,179.06	9.47	9.55	-161.53	-153.42	-665.93	820.78	802.01	18.77	43.739	
4,300.00	4,290.10	4,277.56	4,277.08	9.74	9.80	-161.58	-150.46	-668.39	835.50	816.26	19.24	43.424	
4,400.00	4,389.13	4,375.97	4,375.40	10.01	10.05	-161.62	-147.40	-670.93	850.28	830.56	19.72	43.120	
4,500.00	4,488.16	4,472.95	4,472.31	10.28	10.30	-161.68	-144.56	-673.51	865.18	844.98	20.20	42.839	
4,600.00	4,587.18	4,567.06	4,566.35	10.56	10.54	-161.74	-142.08	-676.23	880.38	859.72	20.67	42.597	
4,700.00	4,686.21	4,661.23	4,660.43	10.84	10.79	-161.82	-140.00	-679.49	896.25	875.11	21.14	42.369	
4,800.00	4,785.24	4,757.88	4,757.00	11.12	11.05	-161.91	-138.23	-683.09	912.47	890.85	21.63	42.188	

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

LEAM Drilling Systems LLC

Anticollision Report

Company: Devon Energy
Project: Eddy County, NM (NAD-83)
Reference Site: Agate PWU 21-22
Site Error: 0.00 usft
Reference Well: 9H
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Plan #1

Local Co-ordinate Reference: Well 9H
TVD Reference: 3334.2' GE + 23.5' KB @ 3357.70usft
MD Reference: 3334.2' GE + 23.5' KB @ 3357.70usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at 2.00 sigma
Database: EDM 5000.1 Multi User Db
Offset TVD Reference: Offset Datum

Offset Design												Offset Site Error:	0.00 usft
Survey Program: 15-NS-GYRO-MS												Offset Well Error:	0.00 usft
Parkway West (Offsets) - 11 - 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	Offset		Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)					
4,900.00	4,884.27	4,853.30	4,852.33	11.40	11.30	-162.00	-136.80	-686.83	928.92	906.81	22.11	42.015	
5,000.00	4,983.29	4,943.42	4,942.35	11.69	11.54	-162.07	-134.96	-690.94	945.95	923.38	22.57	41.912	
5,100.00	5,082.32	5,029.42	5,028.19	11.97	11.76	-162.10	-133.32	-695.90	964.09	941.08	23.01	41.897	
5,200.00	5,181.35	5,119.26	5,117.80	12.26	12.00	-162.14	-131.78	-702.13	983.37	959.90	23.46	41.909	
5,300.00	5,280.37	5,211.36	5,209.61	12.55	12.24	-162.15	-130.21	-709.19	1,003.34	979.42	23.93	41.933	
5,400.00	5,379.40	5,308.60	5,306.53	12.84	12.49	-162.17	-128.58	-716.99	1,023.65	999.24	24.41	41.930	
5,500.00	5,478.43	5,407.92	5,405.52	13.13	12.75	-162.19	-126.99	-724.86	1,043.90	1,018.99	24.91	41.907	
5,550.00	5,527.94	5,457.97	5,455.41	13.27	12.88	-162.20	-126.25	-728.76	1,053.98	1,028.82	25.16	41.892	
5,600.00	5,577.48	5,508.67	5,505.96	13.40	13.02	-162.24	-125.49	-732.64	1,063.79	1,038.39	25.40	41.879	
5,700.00	5,676.74	5,617.44	5,614.43	13.63	13.31	-162.28	-123.32	-740.47	1,081.61	1,055.71	25.90	41.764	
5,800.00	5,776.19	5,725.57	5,722.30	13.84	13.59	-162.28	-120.70	-747.37	1,096.89	1,070.50	26.39	41.563	
5,900.00	5,875.81	5,828.64	5,825.18	14.05	13.87	-162.24	-118.39	-753.11	1,109.81	1,082.95	26.86	41.318	
6,000.00	5,975.56	5,930.44	5,926.83	14.26	14.14	-162.21	-116.44	-758.47	1,120.89	1,093.57	27.32	41.025	
6,100.00	6,075.42	6,029.02	6,025.27	14.45	14.40	-162.16	-114.77	-763.36	1,130.11	1,102.34	27.77	40.697	
6,200.00	6,175.36	6,137.77	6,133.88	14.64	14.69	-162.08	-113.04	-768.62	1,137.57	1,109.32	28.25	40.264	
6,300.00	6,275.34	6,244.11	6,240.10	14.82	14.97	-161.98	-111.44	-773.32	1,143.04	1,114.32	28.72	39.794	
6,350.00	6,325.34	6,290.42	6,286.38	14.90	15.09	-107.03	-110.96	-775.05	1,144.88	1,115.95	28.93	39.571	
6,400.00	6,375.34	6,353.76	6,349.68	14.99	15.26	-106.97	-110.30	-777.18	1,146.35	1,117.14	29.21	39.245	
6,500.00	6,475.34	6,443.82	6,439.70	15.20	15.48	-106.93	-110.31	-779.59	1,148.92	1,119.28	29.64	38.760	
6,600.00	6,575.34	6,555.00	6,550.84	15.40	15.76	-106.90	-110.43	-782.38	1,151.34	1,121.20	30.14	38.201	
6,700.00	6,675.34	6,660.00	6,655.82	15.60	16.00	-106.88	-110.83	-784.62	1,153.50	1,122.90	30.61	37.689	
6,800.00	6,775.34	6,763.74	6,759.54	15.81	16.25	-106.87	-111.15	-786.62	1,155.45	1,124.38	31.07	37.190	
6,900.00	6,875.34	6,860.76	6,856.54	16.01	16.42	-106.91	-112.43	-787.80	1,156.99	1,125.54	31.45	36.790	
7,000.00	6,975.34	6,966.63	6,962.39	16.22	16.56	-106.99	-114.43	-788.80	1,158.45	1,126.64	31.82	36.412	
7,100.00	7,075.34	7,071.44	7,067.17	16.42	16.66	-107.09	-116.44	-788.98	1,159.17	1,127.04	32.13	36.076	
7,200.00	7,175.34	7,177.47	7,173.16	16.63	16.76	-107.18	-118.54	-789.12	1,159.90	1,127.45	32.45	35.744	
7,295.32	7,270.66	7,275.00	7,270.66	16.83	16.81	-107.32	-121.20	-788.26	1,159.87	1,127.16	32.71	35.461	
7,300.00	7,275.34	7,275.00	7,270.66	16.84	16.81	-107.32	-121.20	-788.26	1,159.88	1,127.16	32.72	35.452	
7,400.00	7,375.34	7,385.75	7,381.36	17.04	16.88	-107.48	-124.36	-787.44	1,160.05	1,127.04	33.00	35.148	
7,490.24	7,465.58	7,470.00	7,465.58	17.23	16.93	-107.59	-126.37	-786.69	1,159.91	1,126.67	33.25	34.887	
7,500.00	7,475.34	7,475.80	7,471.38	17.25	16.94	-107.60	-126.52	-786.64	1,159.93	1,126.65	33.27	34.861	
7,600.00	7,575.34	7,616.55	7,612.07	17.46	16.97	-107.74	-128.56	-783.37	1,158.00	1,124.48	33.52	34.546	
7,700.00	7,675.34	7,710.00	7,705.46	17.67	16.99	-107.82	-129.25	-780.42	1,155.22	1,121.46	33.76	34.220	
7,800.00	7,775.34	7,808.55	7,803.98	17.88	17.01	-107.91	-130.52	-778.01	1,153.27	1,119.27	34.00	33.919	
7,900.00	7,875.34	7,900.03	7,895.41	18.09	17.04	-108.00	-131.56	-775.65	1,151.17	1,116.92	34.25	33.613	
8,000.00	7,975.34	7,999.57	7,994.91	18.30	17.07	-108.11	-133.08	-773.19	1,149.29	1,114.79	34.50	33.314	
8,100.00	8,075.34	8,085.00	8,080.32	18.51	17.10	-108.18	-134.08	-771.67	1,148.01	1,113.25	34.75	33.034	
8,200.00	8,175.34	8,215.56	8,210.83	18.72	17.15	-108.28	-134.95	-769.24	1,145.56	1,110.54	35.01	32.720	
8,297.27	8,272.61	8,310.00	8,305.18	18.92	17.19	-108.39	-136.14	-764.42	1,142.22	1,106.95	35.26	32.394	
8,300.00	8,275.34	8,310.00	8,305.18	18.93	17.19	-161.61	-136.14	-764.42	1,142.15	1,106.88	35.27	32.385	
8,318.91	8,294.24	8,340.00	8,335.15	18.97	17.20	-161.58	-136.66	-763.14	1,141.83	1,106.51	35.31	32.335	
8,350.00	8,325.27	8,355.00	8,350.13	19.04	17.21	-161.55	-136.83	-762.61	1,142.83	1,107.43	35.39	32.290 SF	
8,400.00	8,374.79	8,404.62	8,399.72	19.17	17.23	-161.43	-137.36	-760.97	1,147.86	1,112.33	35.52	32.313	
8,450.00	8,423.54	8,448.47	8,443.55	19.32	17.25	-161.24	-137.71	-759.77	1,157.22	1,121.58	35.66	32.455	
8,500.00	8,471.14	8,498.42	8,493.49	19.48	17.27	-161.00	-138.15	-758.63	1,170.81	1,135.02	35.79	32.710	
8,550.00	8,517.23	8,545.59	8,540.64	19.68	17.30	-160.66	-138.57	-757.60	1,188.39	1,152.46	35.93	33.075	
8,600.00	8,561.45	8,578.67	8,573.72	19.89	17.32	-160.11	-138.82	-757.16	1,210.08	1,174.01	36.07	33.552	
8,650.00	8,603.48	8,610.00	8,605.04	20.14	17.34	-159.38	-138.94	-756.68	1,235.43	1,199.24	36.20	34.132	
8,700.00	8,642.99	8,655.00	8,650.04	20.42	17.39	-158.63	-139.24	-756.34	1,264.51	1,228.15	36.35	34.784	
8,750.00	8,679.68	8,700.00	8,695.04	20.74	17.43	-157.70	-139.56	-755.84	1,296.73	1,260.24	36.49	35.537	
8,800.00	8,713.27	8,718.67	8,713.70	21.11	17.44	-156.05	-139.83	-755.65	1,332.10	1,295.50	36.60	36.397	
8,850.00	8,743.51	8,760.00	8,755.03	21.53	17.47	-154.45	-140.15	-755.34	1,370.26	1,333.54	36.72	37.312	

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

LEAM Drilling Systems LLC

Anticollision Report

Company: Devon Energy
Project: Eddy County, NM (NAD-83)
Reference Site: Agate PWU 21-22
Site Error: 0.00 usft
Reference Well: 9H
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Plan #1

Local Co-ordinate Reference: Well 9H
TVD Reference: 3334.2' GE + 23.5' KB @ 3357.70usft
MD Reference: 3334.2' GE + 23.5' KB @ 3357.70usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at 2.00 sigma
Database: EDM 5000.1 Multi User Db
Offset TVD Reference: Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 15-NS-GYRO-MS													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)						
8,900.00	8,770.17	8,775.00	8,770.03	22.01	17.49	151.86	-140.30	-755.22	1,410.95	1,374.13	38.82	38.323		
8,950.00	8,793.04	8,810.14	8,805.16	22.55	17.53	148.68	-140.76	-754.96	1,453.85	1,416.92	36.93	39.386		
9,000.00	8,811.94	8,820.00	8,815.02	23.15	17.54	143.52	-140.75	-754.94	1,498.61	1,461.60	37.01	40.495		
9,050.00	8,826.75	8,827.36	8,822.39	23.81	17.55	135.97	-140.77	-754.95	1,544.98	1,507.91	37.07	41.676		
9,100.00	8,837.33	8,858.23	8,853.25	24.53	17.59	127.23	-141.17	-754.71	1,592.41	1,555.26	37.16	42.854		
9,150.00	8,843.62	8,865.00	8,860.02	25.30	17.59	112.07	-141.18	-754.64	1,640.66	1,603.46	37.20	44.105		
9,188.27	8,845.50	8,865.00	8,860.02	25.91	17.59	96.28	-141.18	-754.64	1,677.92	1,640.70	37.22	45.083		
9,200.00	8,845.68	8,865.00	8,860.02	26.10	17.59	96.28	-141.18	-754.64	1,689.37	1,652.14	37.22	45.384		
9,300.00	8,847.25	8,865.00	8,860.02	27.83	17.59	96.28	-141.18	-754.64	1,787.11	1,749.84	37.27	47.952		
9,400.00	8,848.82	8,865.00	8,860.02	29.69	17.59	96.28	-141.18	-754.64	1,885.08	1,847.76	37.32	50.516		
9,500.00	8,850.39	8,865.00	8,860.02	31.66	17.59	96.28	-141.18	-754.64	1,983.26	1,945.89	37.37	53.075		
9,600.00	8,851.97	8,865.00	8,860.02	33.73	17.59	96.28	-141.18	-754.64	2,081.61	2,044.19	37.42	55.629		
9,700.00	8,853.54	8,865.00	8,860.02	35.86	17.59	96.28	-141.18	-754.64	2,180.11	2,142.64	37.47	58.178		
9,800.00	8,855.11	8,865.00	8,860.02	38.07	17.59	96.28	-141.18	-754.64	2,278.74	2,241.21	37.53	60.721		
9,900.00	8,856.68	8,865.00	8,860.02	40.32	17.59	96.28	-141.18	-754.64	2,377.49	2,339.90	37.58	63.259		
10,000.00	8,858.25	8,865.00	8,860.02	42.62	17.59	96.28	-141.18	-754.64	2,476.33	2,438.69	37.64	65.791		
10,100.00	8,859.82	8,865.00	8,860.02	44.95	17.59	96.28	-141.18	-754.64	2,575.27	2,537.57	37.70	68.317		
10,200.00	8,861.39	8,865.00	8,860.02	47.32	17.59	96.28	-141.18	-754.64	2,674.28	2,636.53	37.75	70.836		
10,300.00	8,862.96	8,870.90	8,865.91	49.71	17.60	97.20	-141.19	-754.62	2,773.34	2,735.52	37.82	73.328		
10,400.00	8,864.53	8,871.32	8,866.33	52.13	17.60	97.26	-141.19	-754.62	2,872.49	2,834.61	37.88	75.830		
10,500.00	8,866.10	8,871.72	8,866.74	54.57	17.60	97.32	-141.19	-754.61	2,971.69	2,933.75	37.94	78.326		
10,600.00	8,867.67	8,872.10	8,867.12	57.03	17.60	97.38	-141.20	-754.61	3,070.94	3,032.94	38.00	80.815		
10,700.00	8,869.24	8,872.47	8,867.49	59.50	17.60	97.44	-141.20	-754.61	3,170.24	3,132.18	38.06	83.296		
10,800.00	8,870.81	8,901.34	8,896.35	61.98	17.64	101.83	-141.51	-754.48	3,269.58	3,231.40	38.18	85.641		
10,900.00	8,872.38	8,901.76	8,896.78	64.48	17.64	101.89	-141.51	-754.47	3,368.95	3,330.71	38.24	88.102		
11,000.00	8,873.95	8,902.17	8,897.18	66.99	17.64	101.95	-141.51	-754.47	3,468.35	3,430.05	38.30	90.554		
11,100.00	8,875.52	8,902.55	8,897.56	69.50	17.64	102.01	-141.51	-754.47	3,567.78	3,529.42	38.36	92.998		
11,200.00	8,877.09	8,902.91	8,897.93	72.03	17.64	102.06	-141.51	-754.46	3,667.25	3,628.82	38.43	95.433		
11,300.00	8,878.66	8,903.28	8,898.27	74.56	17.64	102.11	-141.52	-754.46	3,766.74	3,728.25	38.49	97.860		
11,400.00	8,880.23	8,903.59	8,898.60	77.10	17.64	102.16	-141.52	-754.46	3,866.26	3,827.70	38.56	100.277		
11,500.00	8,881.80	8,910.00	8,905.01	79.65	17.65	103.12	-141.52	-754.46	3,965.83	3,927.20	38.63	102.649		
11,600.00	8,883.37	8,910.00	8,905.01	82.20	17.65	103.12	-141.52	-754.46	4,065.39	4,026.69	38.70	105.049		
11,700.00	8,884.94	8,910.00	8,905.01	84.76	17.65	103.12	-141.52	-754.46	4,164.98	4,126.21	38.77	107.440		
11,800.00	8,886.51	8,910.00	8,905.01	87.32	17.65	103.12	-141.52	-754.46	4,264.58	4,225.75	38.83	109.820		
11,900.00	8,888.08	8,910.00	8,905.01	89.89	17.65	103.12	-141.52	-754.46	4,364.20	4,325.30	38.90	112.191		
12,000.00	8,889.65	8,910.00	8,905.01	92.46	17.65	103.12	-141.52	-754.46	4,463.84	4,424.87	38.97	114.551		
12,100.00	8,891.22	8,910.00	8,905.01	95.03	17.65	103.12	-141.52	-754.46	4,563.49	4,524.45	39.04	116.902		
12,200.00	8,892.79	8,910.00	8,905.01	97.61	17.65	103.12	-141.52	-754.46	4,663.16	4,624.05	39.11	119.242		
12,300.00	8,894.36	8,910.00	8,905.01	100.19	17.65	103.12	-141.52	-754.46	4,762.84	4,723.66	39.18	121.571		
12,400.00	8,895.93	8,910.00	8,905.01	102.78	17.65	103.12	-141.52	-754.46	4,862.53	4,823.29	39.25	123.890		
12,500.00	8,897.50	8,910.00	8,905.01	105.36	17.65	103.12	-141.52	-754.46	4,962.24	4,922.92	39.32	126.198		
12,600.00	8,899.07	8,910.00	8,905.01	107.95	17.65	103.12	-141.52	-754.46	5,061.96	5,022.57	39.39	128.495		
12,700.00	8,900.65	8,910.00	8,905.01	110.54	17.65	103.12	-141.52	-754.46	5,161.69	5,122.22	39.47	130.781		
12,800.00	8,902.22	8,940.00	8,935.01	113.13	17.69	107.48	-141.84	-754.33	5,261.43	5,221.82	39.61	132.833		
12,900.00	8,903.79	8,940.00	8,935.01	115.73	17.69	107.48	-141.84	-754.33	5,361.17	5,321.48	39.69	135.092		
13,000.00	8,905.36	8,940.00	8,935.01	118.33	17.69	107.48	-141.84	-754.33	5,460.91	5,421.15	39.76	137.340		
13,100.00	8,906.93	8,940.00	8,935.01	120.93	17.69	107.48	-141.84	-754.33	5,560.67	5,520.83	39.84	139.576		
13,200.00	8,908.50	8,946.73	8,941.75	123.53	17.70	108.43	-141.87	-754.26	5,660.40	5,620.47	39.93	141.749		
13,300.00	8,910.07	8,946.97	8,941.98	126.13	17.70	108.46	-141.87	-754.25	5,760.17	5,720.16	40.01	143.959		
13,400.00	8,911.64	8,947.19	8,942.20	128.73	17.70	108.49	-141.87	-754.25	5,859.95	5,819.86	40.09	146.157		
13,500.00	8,913.21	8,947.41	8,942.42	131.34	17.70	108.52	-141.87	-754.25	5,959.74	5,919.56	40.18	148.344		
13,600.00	8,914.78	8,947.63	8,942.64	133.94	17.70	108.55	-141.87	-754.25	6,059.53	6,019.27	40.26	150.518		

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

LEAM Drilling Systems LLC

Anticollision Report

Company: Devon Energy
Project: Eddy County, NM (NAD-83)
Reference Site: Agate PWU 21-22
Site Error: 0.00 usft
Reference Well: 9H
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Plan #1

Local Co-ordinate Reference: Well 9H
TVD Reference: 3334.2' GE + 23.5' KB @ 3357.70usft
MD Reference: 3334.2' GE + 23.5' KB @ 3357.70usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at 2.00 sigma
Database: EDM 5000.1 Multi User Db
Offset TVD Reference: Offset Datum

Offset Design Parkway West (Offsets) - 11 - OH - OH												Offset Site Error:	0.00 usft
Survey Program: 15-NS-GYRO-MS												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)					
13,700.00	8,916.35	8,947.83	8,942.84	136.55	17.70	108.58	-141.87	-754.25	8,159.33	6,118.99	40.34	152.681	
13,800.00	8,917.92	8,948.03	8,943.04	139.16	17.70	108.61	-141.87	-754.25	8,259.14	6,218.71	40.43	154.831	
13,900.00	8,919.49	8,948.23	8,943.24	141.77	17.70	108.64	-141.87	-754.25	8,358.95	6,318.44	40.51	156.969	
14,000.00	8,921.06	8,955.00	8,950.01	144.38	17.71	109.58	-141.91	-754.25	8,458.80	6,418.19	40.61	159.040	
14,100.00	8,922.63	8,955.00	8,950.01	146.99	17.71	109.58	-141.91	-754.25	8,558.62	6,517.93	40.70	161.154	
14,200.00	8,924.20	8,955.00	8,950.01	149.60	17.71	109.58	-141.91	-754.25	8,658.45	6,617.67	40.79	163.256	
14,300.00	8,925.77	8,955.00	8,950.01	152.21	17.71	109.58	-141.91	-754.25	8,758.28	6,717.41	40.87	165.345	
14,400.00	8,927.34	8,955.00	8,950.01	154.83	17.71	109.58	-141.91	-754.25	8,858.12	6,817.16	40.96	167.422	
14,500.00	8,928.91	8,955.00	8,950.01	157.44	17.71	109.58	-141.91	-754.25	8,957.96	6,916.91	41.05	169.486	
14,600.00	8,930.48	8,955.00	8,950.01	160.06	17.71	109.58	-141.91	-754.25	9,057.81	7,016.66	41.14	171.538	
14,700.00	8,932.05	8,955.00	8,950.01	162.67	17.71	109.58	-141.91	-754.25	9,157.66	7,116.42	41.24	173.577	
14,800.00	8,933.62	8,955.00	8,950.01	165.29	17.71	109.58	-141.91	-754.25	9,257.51	7,216.19	41.33	175.604	
14,900.00	8,935.19	8,955.00	8,950.01	167.91	17.71	109.58	-141.91	-754.25	9,357.37	7,315.95	41.42	177.618	
15,000.00	8,936.76	8,955.00	8,950.01	170.52	17.71	109.58	-141.91	-754.25	9,457.24	7,415.72	41.52	179.619	
15,100.00	8,938.33	8,955.00	8,950.01	173.14	17.71	109.58	-141.91	-754.25	9,557.10	7,515.49	41.61	181.607	
15,200.00	8,939.90	8,955.00	8,950.01	175.76	17.71	109.58	-141.91	-754.25	9,656.97	7,615.26	41.71	183.582	
15,300.00	8,941.47	8,955.00	8,950.01	178.38	17.71	109.58	-141.91	-754.25	9,756.84	7,715.04	41.81	185.545	
15,400.00	8,943.04	8,955.00	8,950.01	181.00	17.71	109.58	-141.91	-754.25	9,856.72	7,814.82	41.90	187.495	
15,500.00	8,944.61	8,955.00	8,950.01	183.62	17.71	109.58	-141.91	-754.25	9,956.60	7,914.60	42.00	189.433	
15,600.00	8,946.18	8,955.00	8,950.01	186.24	17.71	109.58	-141.91	-754.25	10,056.48	8,014.38	42.10	191.357	
15,700.00	8,947.75	8,955.00	8,950.01	188.86	17.71	109.58	-141.91	-754.25	10,156.37	8,114.16	42.20	193.269	
15,800.00	8,949.33	8,955.00	8,950.01	191.48	17.71	109.58	-141.91	-754.25	10,256.25	8,213.95	42.30	195.168	
15,900.00	8,950.90	8,955.00	8,950.01	194.11	17.71	109.58	-141.91	-754.25	10,356.14	8,313.74	42.41	197.054	
16,000.00	8,952.47	8,955.00	8,950.01	196.73	17.71	109.58	-141.91	-754.25	10,456.04	8,413.53	42.51	198.927	
16,100.00	8,954.04	8,955.00	8,950.01	199.35	17.71	109.58	-141.91	-754.25	10,555.93	8,513.32	42.61	200.788	
16,200.00	8,955.61	8,955.00	8,950.01	201.98	17.71	109.58	-141.91	-754.25	10,655.83	8,613.12	42.72	202.636	
16,300.00	8,957.18	8,955.00	8,950.01	204.60	17.71	109.58	-141.91	-754.25	10,755.73	8,712.91	42.82	204.472	
16,400.00	8,958.75	8,955.00	8,950.01	207.22	17.71	109.58	-141.91	-754.25	10,855.63	8,812.71	42.93	206.294	
16,500.00	8,960.32	8,955.00	8,950.01	209.85	17.71	109.58	-141.91	-754.25	10,955.54	8,912.51	43.03	208.104	
16,600.00	8,961.89	8,955.00	8,950.01	212.47	17.71	109.58	-141.91	-754.25	11,055.45	9,012.30	43.14	209.902	
16,700.00	8,963.46	8,955.00	8,950.01	215.10	17.71	109.58	-141.91	-754.25	11,155.35	9,112.11	43.25	211.687	
16,800.00	8,965.03	8,955.00	8,950.01	217.72	17.71	109.58	-141.91	-754.25	11,255.27	9,211.91	43.36	213.459	
16,900.00	8,966.60	8,955.00	8,950.01	220.35	17.71	109.58	-141.91	-754.25	11,355.18	9,311.71	43.47	215.219	
17,000.00	8,968.17	8,955.00	8,950.01	222.97	17.71	109.58	-141.91	-754.25	11,455.09	9,411.51	43.58	216.966	
17,100.00	8,969.74	8,955.00	8,950.01	225.60	17.71	109.58	-141.91	-754.25	11,555.01	9,511.32	43.69	218.701	
17,200.00	8,971.31	8,955.00	8,950.01	228.23	17.71	109.58	-141.91	-754.25	11,654.93	9,611.13	43.80	220.423	
17,300.00	8,972.88	8,955.00	8,950.01	230.85	17.71	109.58	-141.91	-754.25	11,754.85	9,710.93	43.91	222.133	
17,400.00	8,974.45	8,955.00	8,950.01	233.48	17.71	109.58	-141.91	-754.25	11,854.77	9,810.74	44.03	223.831	
17,500.00	8,976.02	8,955.00	8,950.01	236.11	17.71	109.58	-141.91	-754.25	11,954.69	9,910.55	44.14	225.517	

LEAM Drilling Systems LLC

Anticollision Report

Company: Devon Energy
Project: Eddy County, NM (NAD-83)
Reference Site: Agate PWU 21-22
Site Error: 0.00 usft
Reference Well: 9H
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Plan #1

Local Co-ordinate Reference: Well 9H
TVD Reference: 3334.2' GE + 23.5' KB @ 3357.70usft
MD Reference: 3334.2' GE + 23.5' KB @ 3357.70usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at 2.00 sigma
Database: EDM 5000.1 Multi User Db
Offset TVD Reference: Offset Datum

Offset Design											Offset Site Error:	0.00 usft
Survey Program: 100-MWD-ISCWSA											Offset Well Error:	0.00 usft
Parkway West (Offsets) - 2H - 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	Offset		Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)				
0.00	0.00	0.00	0.00	0.00	0.00	56.17	389.56	581.27	699.74			
100.00	100.00	97.13	97.13	0.09	0.08	56.18	389.62	581.47	699.94	0.17	4,085.832	
200.00	200.00	198.04	198.04	0.31	0.29	56.16	390.01	581.64	700.30	0.60	1,159.741	
300.00	300.00	300.38	300.38	0.54	0.50	56.11	390.56	581.41	700.41	1.04	673.596	
400.00	400.00	400.76	400.76	0.76	0.71	56.06	390.96	581.04	700.33	1.47	475.282	
500.00	500.00	502.72	502.71	0.99	0.93	56.01	391.42	580.42	700.07	1.92	365.422	
578.23	578.23	578.24	578.23	1.16	1.09	55.94	391.95	579.88	699.92	2.25	311.188	
600.00	600.00	600.00	599.99	1.21	1.13	55.93	392.15	579.76	699.93	2.34	298.636	
700.00	700.00	692.47	692.45	1.43	1.33	55.83	393.40	579.58	700.52	2.76	253.668	
800.00	800.00	781.95	781.90	1.66	1.52	55.74	395.23	580.29	702.33	3.18	221.027	
900.00	900.00	873.83	873.73	1.88	1.71	55.67	397.61	582.22	705.52	3.60	196.000	
1,000.00	1,000.00	972.94	972.77	2.11	1.93	55.61	400.37	585.02	709.43	4.03	175.938	
1,100.00	1,100.00	1,075.33	1,075.09	2.33	2.14	55.55	403.12	587.70	713.11	4.47	159.607	
1,200.00	1,200.00	1,180.92	1,180.61	2.56	2.37	55.46	405.92	589.81	716.26	4.91	145.790	
1,300.00	1,300.00	1,288.97	1,288.63	2.78	2.60	55.36	408.29	591.02	718.42	5.37	133.898	
1,400.00	1,400.00	1,389.86	1,389.50	3.01	2.81	55.26	410.20	591.50	719.89	5.81	124.001	
1,500.00	1,500.00	1,488.51	1,488.13	3.23	3.03	55.14	412.25	591.92	721.43	6.24	115.578	
1,600.00	1,600.00	1,588.89	1,588.48	3.46	3.25	55.01	414.58	592.30	723.07	6.68	108.198	
1,700.00	1,700.00	1,687.06	1,686.63	3.68	3.45	54.90	416.69	592.85	724.77	7.11	101.884	
1,800.00	1,800.00	1,790.05	1,789.60	3.91	3.67	54.82	418.50	593.70	726.45	7.55	96.189	
1,900.00	1,900.00	1,891.65	1,891.18	4.13	3.89	54.75	420.02	594.26	727.76	7.99	91.056	
2,000.00	2,000.00	1,992.72	1,992.24	4.36	4.10	54.69	421.30	594.75	728.89	8.43	86.464	
2,100.00	2,100.00	2,092.73	2,092.25	4.58	4.31	54.65	422.34	595.31	729.95	8.86	82.364	
2,200.00	2,200.00	2,195.21	2,194.72	4.81	4.52	54.62	423.13	595.89	730.86	9.30	78.564	
2,300.00	2,300.00	2,294.43	2,293.94	5.03	4.73	54.60	423.83	596.32	731.62	9.74	75.149	
2,400.00	2,400.00	2,395.68	2,395.18	5.26	4.94	54.55	424.79	596.57	732.37	10.18	71.977	
2,500.00	2,500.00	2,497.91	2,497.41	5.48	5.16	54.49	425.73	596.54	732.88	10.62	69.005	
2,600.00	2,600.00	2,599.03	2,598.52	5.71	5.38	54.41	426.64	596.23	733.16	11.06	66.263	
2,700.00	2,700.00	2,700.10	2,699.59	5.93	5.60	54.33	427.54	595.75	733.29	11.51	63.717	
2,750.00	2,750.00	2,753.12	2,752.61	6.04	5.72	54.29	427.97	595.34	733.21	11.74	62.470	
2,800.00	2,800.00	2,805.89	2,805.38	6.15	5.83	-0.67	428.33	594.72	732.71	11.96	61.256	
2,900.00	2,899.98	2,907.50	2,906.98	6.37	6.05	-0.78	428.86	593.25	730.10	12.39	58.904	
3,000.00	2,999.92	3,005.51	3,004.96	6.58	6.25	-0.89	429.56	591.77	725.81	12.82	56.634	
3,100.00	3,099.78	3,108.66	3,108.10	6.80	6.47	-1.04	430.41	589.95	719.63	13.25	54.314	
3,200.00	3,199.54	3,208.09	3,207.50	7.02	6.68	-1.19	431.12	588.04	711.53	13.67	52.037	
3,300.00	3,299.16	3,308.60	3,308.00	7.24	6.88	-1.34	431.71	586.07	701.59	14.10	49.759	
3,400.00	3,398.61	3,402.44	3,401.82	7.46	7.08	-1.47	432.22	584.69	690.29	14.51	47.561	
3,500.00	3,497.86	3,500.00	3,499.38	7.70	7.28	-1.60	433.04	583.68	677.78	14.93	45.392	
3,550.00	3,547.40	3,549.04	3,548.41	7.82	7.38	-1.68	433.58	583.17	670.95	15.14	44.309	
3,600.00	3,596.92	3,598.24	3,597.60	7.94	7.48	-1.76	434.11	582.69	663.93	15.35	43.244	
3,700.00	3,695.94	3,692.77	3,692.13	8.18	7.67	-1.92	435.34	582.05	650.26	15.77	41.243	
3,800.00	3,794.97	3,791.39	3,790.73	8.43	7.87	-2.10	436.95	581.64	636.99	16.19	39.337	
3,900.00	3,894.00	3,889.92	3,889.24	8.69	8.08	-2.31	438.79	581.12	623.79	16.63	37.521	
4,000.00	3,993.02	3,989.44	3,988.74	8.94	8.30	-2.56	440.88	580.44	610.62	17.06	35.789	
4,100.00	4,092.05	4,088.40	4,087.67	9.21	8.51	-2.84	443.09	579.62	597.42	17.50	34.145	
4,200.00	4,191.08	4,188.16	4,187.39	9.47	8.72	-3.16	445.49	578.61	584.21	17.93	32.577	
4,300.00	4,290.10	4,287.05	4,286.24	9.74	8.93	-3.54	448.21	577.27	570.95	18.37	31.073	
4,400.00	4,389.13	4,386.65	4,385.79	10.01	9.15	-3.95	451.04	575.82	557.70	18.82	29.635	
4,500.00	4,488.16	4,486.71	4,485.80	10.28	9.37	-4.39	453.87	574.18	544.34	19.27	28.253	
4,600.00	4,587.18	4,584.11	4,583.14	10.56	9.59	-4.86	456.51	572.31	530.70	19.71	26.921	
4,700.00	4,686.21	4,691.22	4,690.20	10.84	9.81	-5.34	458.58	570.07	516.48	20.16	25.621	
4,800.00	4,785.24	4,792.28	4,791.23	11.12	10.03	-5.80	459.99	567.53	501.63	20.61	24.345	

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

LEAM Drilling Systems LLC

Anticollision Report

Company: Devon Energy
Project: Eddy County, NM (NAD-83)
Reference Site: Agate PWU 21-22
Site Error: 0.00 usft
Reference Well: 9H
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Plan #1

Local Co-ordinate Reference: Well 9H
TVD Reference: 3334.2' GE + 23.5' KB @ 3357.70usft
MD Reference: 3334.2' GE + 23.5' KB @ 3357.70usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at 2.00 sigma
Database: EDM 5000.1 Multi User Db
Offset TVD Reference: Offset Datum

Offset Design													Offset Site Error:		0.00 usft
Survey Program: 100-MWD-ISCWSA													Offset Well Error:		0.00 usft
Reference				Offset		Semi Major Axis			Distance						
Measured Depth	Vertical	Measured	Vertical	Reference	Offset	Highside	Offset Wellbore	Centre	Between	Between	Minimum	Separation	Warning		
Depth (usft)	Depth (usft)	Depth (usft)	Depth (usft)	(usft)	(usft)	Toolface (°)	+N/-S (usft)	+E/-W (usft)	Centres (usft)	Ellipses (usft)	Separation (usft)	Factor			
4,900.00	4,884.27	4,889.57	4,888.47	11.40	10.23	-6.28	461.30	565.02	486.74	465.70	21.05	23.126			
5,000.00	4,983.29	4,988.82	4,987.88	11.69	10.44	-6.79	462.72	562.81	472.05	450.56	21.49	21.967			
5,100.00	5,082.32	5,086.84	5,085.46	11.97	10.64	-7.25	463.66	560.66	457.42	435.49	21.93	20.858			
5,200.00	5,181.35	5,187.32	5,186.16	12.26	10.85	-7.60	463.79	559.40	442.78	420.41	22.37	19.795			
5,300.00	5,280.37	5,283.13	5,281.95	12.55	11.04	-7.81	463.09	558.99	428.19	405.38	22.81	18.772			
5,400.00	5,379.40	5,379.71	5,378.52	12.84	11.24	-7.84	461.90	560.03	414.35	391.10	23.25	17.821			
5,500.00	5,478.43	5,474.68	5,473.45	13.13	11.42	-7.70	460.31	562.37	401.22	377.53	23.70	16.933			
5,550.00	5,527.94	5,522.50	5,521.23	13.27	11.52	-7.57	459.45	564.14	395.07	371.15	23.92	16.519			
5,600.00	5,577.48	5,570.96	5,569.64	13.40	11.62	-7.39	458.57	566.17	389.31	365.18	24.12	16.138			
5,700.00	5,676.74	5,665.82	5,664.33	13.63	11.80	-6.84	456.48	571.31	379.74	355.22	24.52	15.487			
5,800.00	5,776.19	5,764.82	5,762.80	13.84	12.00	-5.91	453.48	578.77	373.00	348.10	24.91	14.976			
5,900.00	5,875.81	5,866.84	5,864.81	14.05	12.21	-5.14	451.27	585.13	367.63	342.34	25.29	14.537			
6,000.00	5,975.56	5,969.46	5,967.26	14.26	12.43	-4.41	449.00	590.55	363.32	337.65	25.67	14.154			
6,100.00	6,075.42	6,073.04	6,070.72	14.45	12.64	-3.77	446.77	594.81	359.93	333.89	26.04	13.820			
6,200.00	6,175.36	6,175.67	6,173.29	14.64	12.86	-3.26	444.71	597.63	357.34	330.92	26.42	13.524			
6,300.00	6,275.34	6,279.50	6,277.09	14.82	13.08	-2.86	442.75	599.30	355.70	328.90	26.80	13.274			
6,350.00	6,325.34	6,331.75	6,329.32	14.90	13.19	52.23	441.60	599.67	355.08	328.09	26.99	13.155			
6,400.00	6,375.34	6,384.05	6,381.61	14.99	13.30	52.39	440.34	599.68	354.36	327.17	27.19	13.031			
6,500.00	6,475.34	6,487.00	6,484.51	15.20	13.52	52.69	437.49	598.99	352.14	324.52	27.62	12.751			
6,600.00	6,575.34	6,586.38	6,585.84	15.40	13.73	53.00	434.24	597.85	349.31	321.27	28.04	12.456			
6,700.00	6,675.34	6,685.32	6,682.73	15.60	13.93	53.27	431.39	596.79	346.67	318.20	28.47	12.175			
6,800.00	6,775.34	6,785.15	6,782.53	15.81	14.14	53.55	428.84	596.16	344.64	315.74	28.90	11.927			
6,900.00	6,875.34	6,884.09	6,881.43	16.01	14.34	53.87	426.16	595.72	342.68	313.36	29.32	11.688			
7,000.00	6,975.34	6,984.89	6,982.20	16.22	14.54	54.13	423.79	595.14	340.83	311.09	29.74	11.459			
7,100.00	7,075.34	7,082.19	7,079.48	16.42	14.75	54.19	422.59	594.05	339.20	309.03	30.17	11.242			
7,200.00	7,175.34	7,179.44	7,176.73	16.63	14.95	54.20	421.89	593.23	338.10	307.49	30.61	11.045			
7,207.98	7,183.32	7,186.00	7,183.29	16.65	14.96	54.21	421.85	593.23	338.08	307.42	30.66	11.027	CC, ES		
7,300.00	7,275.34	7,249.00	7,246.21	16.84	15.09	54.22	423.31	595.36	341.90	310.63	31.27	10.935	SF		
7,400.00	7,375.34	7,315.71	7,312.23	17.04	15.23	53.70	430.99	600.64	355.10	323.40	31.70	11.202			
7,500.00	7,475.34	7,385.30	7,379.81	17.25	15.39	52.59	445.50	608.49	376.75	344.80	31.94	11.795			
7,600.00	7,575.34	7,461.19	7,451.21	17.46	15.58	50.41	469.84	616.10	405.03	372.89	32.14	12.603			
7,700.00	7,675.34	7,520.05	7,503.53	17.67	15.75	47.67	496.59	618.18	439.61	407.60	32.01	13.732			
7,800.00	7,775.34	7,566.45	7,541.74	17.88	15.89	45.11	522.86	618.88	483.46	451.94	31.52	15.336			
7,900.00	7,875.34	7,623.00	7,585.48	18.09	16.08	41.95	558.68	619.68	535.12	503.94	31.18	17.161			
8,000.00	7,975.34	7,671.95	7,621.35	18.30	16.28	39.23	591.97	619.35	592.31	561.60	30.71	19.288			
8,100.00	8,075.34	7,708.13	7,646.35	18.51	16.44	37.23	618.10	618.35	654.87	624.87	30.00	21.827			
8,200.00	8,175.34	7,735.25	7,663.67	18.72	16.57	35.72	638.94	617.28	723.08	693.91	29.17	24.784			
8,297.27	8,272.61	7,759.03	7,677.84	18.92	16.70	34.43	658.00	616.44	794.02	765.60	28.42	27.937			
8,300.00	8,275.34	7,759.71	7,678.24	18.93	16.70	-55.35	658.55	616.42	796.07	767.66	28.40	28.028			
8,350.00	8,325.27	7,771.75	7,685.11	19.04	16.77	-51.59	668.44	616.10	833.10	805.07	28.03	29.717			
8,400.00	8,374.79	7,781.00	7,690.26	19.17	16.82	-48.13	676.12	615.90	869.30	841.69	27.61	31.487			
8,450.00	8,423.54	7,794.40	7,697.51	19.32	16.90	-45.33	687.39	615.64	904.50	877.22	27.29	33.150			
8,500.00	8,471.14	7,804.73	7,702.94	19.48	16.96	-42.73	696.17	615.44	938.64	911.73	26.92	34.872			
8,550.00	8,517.23	7,825.00	7,713.18	19.68	17.08	-41.09	713.66	615.05	971.77	944.97	26.79	36.273			
8,600.00	8,561.45	7,825.00	7,713.18	19.89	17.08	-38.48	713.66	615.05	1,003.35	977.08	26.27	38.190			
8,650.00	8,603.48	7,825.00	7,713.18	20.14	17.08	-36.16	713.66	615.05	1,033.79	1,007.98	25.81	40.061			
8,700.00	8,642.99	7,825.00	7,713.18	20.42	17.08	-34.09	713.66	615.05	1,062.96	1,037.56	25.40	41.849			
8,750.00	8,679.68	7,825.00	7,713.18	20.74	17.08	-32.26	713.66	615.05	1,090.75	1,065.68	25.07	43.513			
8,800.00	8,713.27	7,834.85	7,717.80	21.11	17.15	-31.20	722.36	614.91	1,116.77	1,091.73	25.03	44.610			
8,850.00	8,743.51	7,844.00	7,721.70	21.53	17.20	-30.27	730.64	614.89	1,141.54	1,116.45	25.08	45.511			
8,900.00	8,770.17	7,844.00	7,721.70	22.01	17.20	-28.99	730.64	614.89	1,164.43	1,139.40	25.03	46.516			
8,950.00	8,793.04	7,844.00	7,721.70	22.55	17.20	-27.88	730.64	614.89	1,185.64	1,160.54	25.09	47.252			

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

LEAM Drilling Systems LLC

Anticollision Report

Company: Devon Energy
Project: Eddy County, NM (NAD-83)
Reference Site: Agate PWU 21-22
Site Error: 0.00 usft
Reference Well: 9H
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Plan #1

Local Co-ordinate Reference: Well 9H
TVD Reference: 3334.2' GE + 23.5' KB @ 3357.70usft
MD Reference: 3334.2' GE + 23.5' KB @ 3357.70usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at 2.00 sigma
Database: EDM 5000.1 Multi User Db
Offset TVD Reference: Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 100-MWD-ISCWSA													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Distance		Minimum Separation (usft)	Separation Factor	Warning			
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference	Offset		Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)						
9,000.00	8,811.94	7,844.00	7,721.70	23.15	17.20	-26.91	730.64	614.89	1,205.08	1,179.81	25.26	47.704		
9,050.00	8,826.75	7,844.00	7,721.70	23.81	17.20	-26.07	730.64	614.89	1,222.69	1,197.15	25.54	47.872		
9,100.00	8,837.33	7,844.00	7,721.70	24.53	17.20	-25.35	730.64	614.89	1,238.43	1,212.50	25.93	47.767		
9,150.00	8,843.62	7,844.00	7,721.70	25.30	17.20	-24.74	730.64	614.89	1,252.24	1,225.83	26.41	47.413		
9,188.27	8,845.50	7,844.00	7,721.70	25.91	17.20	-24.35	730.64	614.89	1,261.49	1,234.65	26.84	46.996		
9,200.00	8,845.68	7,844.00	7,721.70	26.10	17.20	-24.35	730.64	614.89	1,264.20	1,237.22	26.98	46.852		
9,300.00	8,847.25	7,844.00	7,721.70	27.83	17.20	-24.35	730.64	614.89	1,291.39	1,263.11	28.28	45.672		
9,400.00	8,848.82	7,844.00	7,721.70	29.69	17.20	-24.35	730.64	614.89	1,325.58	1,295.94	29.64	44.720		
9,500.00	8,850.39	7,844.00	7,721.70	31.66	17.20	-24.35	730.64	614.89	1,366.26	1,335.25	31.01	44.063		
9,600.00	8,851.97	7,844.00	7,721.70	33.73	17.20	-24.35	730.64	614.89	1,412.85	1,380.53	32.32	43.717		
9,700.00	8,853.54	7,844.00	7,721.70	35.86	17.20	-24.35	730.64	614.89	1,464.79	1,431.25	33.54	43.667		
9,800.00	8,855.11	7,844.00	7,721.70	38.07	17.20	-24.35	730.64	614.89	1,521.55	1,486.88	34.67	43.887		
9,900.00	8,856.68	7,844.00	7,721.70	40.32	17.20	-24.35	730.64	614.89	1,582.59	1,546.90	35.69	44.346		
10,000.00	8,858.25	7,844.00	7,721.70	42.62	17.20	-24.35	730.64	614.89	1,647.44	1,610.84	36.60	45.013		
10,100.00	8,859.82	7,844.00	7,721.70	44.95	17.20	-24.35	730.64	614.89	1,715.68	1,678.27	37.41	45.858		
10,200.00	8,861.39	7,844.00	7,721.70	47.32	17.20	-24.35	730.64	614.89	1,786.91	1,748.77	38.13	46.858		
10,300.00	8,862.96	7,844.00	7,721.70	49.71	17.20	-24.35	730.64	614.89	1,860.79	1,822.01	38.77	47.991		
10,400.00	8,864.53	7,844.00	7,721.70	52.13	17.20	-24.35	730.64	614.89	1,937.01	1,897.67	39.34	49.238		
10,500.00	8,866.10	7,844.00	7,721.70	54.57	17.20	-24.35	730.64	614.89	2,015.31	1,975.47	39.84	50.583		
10,600.00	8,867.67	7,844.00	7,721.70	57.03	17.20	-24.35	730.64	614.89	2,095.47	2,055.18	40.29	52.013		
10,700.00	8,869.24	7,844.00	7,721.70	59.50	17.20	-24.35	730.64	614.89	2,177.26	2,136.58	40.68	53.517		
10,800.00	8,870.81	7,844.00	7,721.70	61.98	17.20	-24.35	730.64	614.89	2,260.52	2,219.48	41.04	55.086		
10,900.00	8,872.38	7,844.00	7,721.70	64.48	17.20	-24.35	730.64	614.89	2,345.09	2,303.73	41.35	56.709		
11,000.00	8,873.95	7,844.00	7,721.70	66.99	17.20	-24.35	730.64	614.89	2,430.83	2,389.19	41.64	58.382		
11,100.00	8,875.52	7,844.00	7,721.70	69.50	17.20	-24.35	730.64	614.89	2,517.82	2,475.72	41.89	60.097		
11,200.00	8,877.09	7,844.00	7,721.70	72.03	17.20	-24.35	730.64	614.89	2,605.36	2,563.23	42.12	61.849		
11,300.00	8,878.66	7,844.00	7,721.70	74.56	17.20	-24.35	730.64	614.89	2,693.95	2,651.61	42.33	63.635		
11,400.00	8,880.23	7,844.00	7,721.70	77.10	17.20	-24.35	730.64	614.89	2,783.32	2,740.79	42.53	65.448		
11,500.00	8,881.80	7,844.00	7,721.70	79.65	17.20	-24.35	730.64	614.89	2,873.38	2,830.68	42.70	67.287		
11,600.00	8,883.37	7,844.00	7,721.70	82.20	17.20	-24.35	730.64	614.89	2,964.09	2,921.22	42.87	69.148		
11,700.00	8,884.94	7,844.00	7,721.70	84.76	17.20	-24.35	730.64	614.89	3,055.37	3,012.36	43.02	71.028		
11,800.00	8,886.51	7,844.00	7,721.70	87.32	17.20	-24.35	730.64	614.89	3,147.19	3,104.03	43.16	72.925		
11,900.00	8,888.08	7,844.00	7,721.70	89.89	17.20	-24.35	730.64	614.89	3,239.49	3,196.20	43.29	74.837		
12,000.00	8,889.65	7,844.00	7,721.70	92.46	17.20	-24.35	730.64	614.89	3,332.23	3,288.82	43.41	76.761		
12,100.00	8,891.22	7,844.00	7,721.70	95.03	17.20	-24.35	730.64	614.89	3,425.38	3,381.85	43.53	78.697		
12,200.00	8,892.79	7,844.00	7,721.70	97.61	17.20	-24.35	730.64	614.89	3,518.91	3,475.27	43.64	80.642		
12,300.00	8,894.36	7,844.00	7,721.70	100.19	17.20	-24.35	730.64	614.89	3,612.78	3,569.04	43.74	82.595		
12,400.00	8,895.93	7,844.00	7,721.70	102.78	17.20	-24.35	730.64	614.89	3,706.98	3,663.14	43.84	84.555		
12,500.00	8,897.50	7,844.00	7,721.70	105.36	17.20	-24.35	730.64	614.89	3,801.47	3,757.53	43.94	86.520		
12,600.00	8,899.07	7,844.00	7,721.70	107.95	17.20	-24.35	730.64	614.89	3,896.24	3,852.21	44.03	88.490		
12,700.00	8,900.65	7,844.00	7,721.70	110.54	17.20	-24.35	730.64	614.89	3,991.26	3,947.14	44.12	90.464		
12,800.00	8,902.22	7,844.00	7,721.70	113.13	17.20	-24.35	730.64	614.89	4,086.52	4,042.31	44.21	92.441		
12,900.00	8,903.79	7,844.00	7,721.70	115.73	17.20	-24.35	730.64	614.89	4,182.00	4,137.71	44.29	94.419		
13,000.00	8,905.36	7,844.00	7,721.70	118.33	17.20	-24.35	730.64	614.89	4,277.69	4,233.31	44.37	96.399		
13,100.00	8,906.93	7,844.00	7,721.70	120.93	17.20	-24.35	730.64	614.89	4,373.57	4,329.11	44.46	98.379		
13,200.00	8,908.50	7,844.00	7,721.70	123.53	17.20	-24.35	730.64	614.89	4,469.63	4,425.09	44.54	100.359		
13,300.00	8,910.07	7,844.00	7,721.70	126.13	17.20	-24.35	730.64	614.89	4,565.86	4,521.24	44.62	102.338		
13,400.00	8,911.64	7,844.00	7,721.70	128.73	17.20	-24.35	730.64	614.89	4,662.25	4,617.55	44.69	104.316		
13,500.00	8,913.21	7,844.00	7,721.70	131.34	17.20	-24.35	730.64	614.89	4,758.78	4,714.01	44.77	106.292		
13,600.00	8,914.78	7,844.00	7,721.70	133.94	17.20	-24.35	730.64	614.89	4,855.46	4,810.61	44.85	108.266		
13,700.00	8,916.35	7,844.00	7,721.70	136.55	17.20	-24.35	730.64	614.89	4,952.27	4,907.35	44.92	110.238		
13,800.00	8,917.92	7,844.00	7,721.70	139.16	17.20	-24.35	730.64	614.89	5,049.20	5,004.21	45.00	112.206		

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

LEAM Drilling Systems LLC

Anticollision Report

Company: Devon Energy
Project: Eddy County, NM (NAD-83)
Reference Site: Agate PWU 21-22
Site Error: 0.00 usft
Reference Well: 9H
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Plan #1

Local Co-ordinate Reference: Well 9H
TVD Reference: 3334.2' GE + 23.5' KB @ 3357.70usft
MD Reference: 3334.2' GE + 23.5' KB @ 3357.70usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at 2.00 sigma
Database: EDM 5000.1 Multi User Db
Offset TVD Reference: Offset Datum

Offset Design												Offset Site Error:	0.00 usft
Survey Program: 100-MWD-ISCWSA												Offset Well Error:	0.00 usft
Reference													
Offset													
Semi Major Axis													
Distance													
Measured	Vertical	Measured	Vertical	Reference	Offset	Highside	Offset Wellbore Centre	Between	Between	Minimum	Separation		
Depth	Depth	Depth	Depth			Toolface	+N/-S	+E/-W	Centres	Ellipses	Separation	Factor	Warning
(usft)	(usft)	(usft)	(usft)	(usft)	(usft)	(°)	(usft)	(usft)	(usft)	(usft)	(usft)		
13,900.00	8,919.49	7,844.00	7,721.70	141.77	17.20	-24.35	730.84	614.89	5,146.28	5,101.18	45.08	114.171	
14,000.00	8,921.06	7,855.23	7,726.13	144.38	17.28	-24.87	740.95	614.92	5,243.38	5,198.00	45.38	115.542	
14,100.00	8,922.63	7,855.49	7,726.24	146.99	17.28	-24.88	741.20	614.93	5,340.64	5,295.18	45.46	117.477	
14,200.00	8,924.20	7,855.76	7,726.34	149.60	17.29	-24.89	741.44	614.93	5,438.01	5,392.47	45.54	119.407	
14,300.00	8,925.77	7,856.03	7,726.44	152.21	17.29	-24.91	741.69	614.93	5,535.47	5,489.84	45.62	121.332	
14,400.00	8,927.34	7,856.29	7,726.54	154.83	17.29	-24.92	741.93	614.93	5,633.01	5,587.31	45.70	123.252	
14,500.00	8,928.91	7,856.56	7,726.64	157.44	17.29	-24.93	742.18	614.93	5,730.65	5,684.86	45.78	125.166	
14,600.00	8,930.48	7,856.82	7,726.74	160.06	17.29	-24.94	742.42	614.93	5,828.36	5,782.49	45.87	127.075	
14,700.00	8,932.05	7,857.08	7,726.85	162.67	17.30	-24.95	742.66	614.93	5,926.15	5,880.20	45.95	128.977	
14,800.00	8,933.62	7,857.35	7,726.95	165.29	17.30	-24.97	742.91	614.93	6,024.01	5,977.98	46.03	130.873	
14,900.00	8,935.19	7,857.61	7,727.05	167.91	17.30	-24.98	743.15	614.93	6,121.94	6,075.83	46.11	132.763	
15,000.00	8,936.76	7,857.87	7,727.15	170.52	17.30	-24.99	743.39	614.93	6,219.94	6,173.74	46.19	134.646	
15,100.00	8,938.33	7,858.14	7,727.25	173.14	17.30	-25.00	743.64	614.93	6,317.99	6,271.72	46.28	136.523	
15,200.00	8,939.90	7,858.40	7,727.35	175.76	17.30	-25.02	743.88	614.94	6,416.11	6,369.75	46.36	138.392	
15,300.00	8,941.47	7,858.66	7,727.45	178.38	17.31	-25.03	744.12	614.94	6,514.29	6,467.84	46.45	140.254	
15,400.00	8,943.04	7,858.92	7,727.54	181.00	17.31	-25.04	744.36	614.94	6,612.52	6,565.99	46.53	142.109	
15,500.00	8,944.61	7,859.18	7,727.64	183.62	17.31	-25.05	744.61	614.94	6,710.80	6,664.19	46.62	143.957	
15,600.00	8,946.18	7,859.44	7,727.74	186.24	17.31	-25.06	744.85	614.94	6,809.14	6,762.43	46.70	145.797	
15,700.00	8,947.75	7,859.70	7,727.84	188.86	17.31	-25.08	745.09	614.94	6,907.52	6,860.73	46.79	147.629	
15,800.00	8,949.33	7,859.96	7,727.94	191.48	17.32	-25.09	745.33	614.94	7,005.94	6,959.07	46.88	149.454	
15,900.00	8,950.90	7,860.22	7,728.04	194.11	17.32	-25.10	745.57	614.94	7,104.41	7,057.45	46.96	151.271	
16,000.00	8,952.47	7,860.48	7,728.13	196.73	17.32	-25.11	745.81	614.94	7,202.93	7,155.87	47.05	153.079	
16,100.00	8,954.04	7,860.74	7,728.23	199.35	17.32	-25.13	746.05	614.94	7,301.48	7,254.34	47.14	154.880	
16,200.00	8,955.61	7,861.00	7,728.33	201.98	17.32	-25.14	746.29	614.94	7,400.07	7,352.84	47.23	156.672	
16,300.00	8,957.18	7,861.26	7,728.43	204.60	17.32	-25.15	746.53	614.94	7,498.70	7,451.38	47.32	158.457	
16,400.00	8,958.75	7,861.52	7,728.52	207.22	17.33	-25.16	746.77	614.95	7,597.37	7,549.95	47.41	160.232	
16,500.00	8,960.32	7,861.77	7,728.62	209.85	17.33	-25.17	747.01	614.95	7,696.06	7,648.56	47.51	162.000	
16,600.00	8,961.89	7,862.03	7,728.71	212.47	17.33	-25.19	747.24	614.95	7,794.80	7,747.20	47.60	163.759	
16,700.00	8,963.46	7,862.29	7,728.81	215.10	17.33	-25.20	747.48	614.95	7,893.56	7,845.87	47.69	165.509	
16,800.00	8,965.03	7,862.54	7,728.91	217.72	17.33	-25.21	747.72	614.95	7,992.36	7,944.57	47.79	167.251	
16,900.00	8,966.60	7,862.80	7,729.00	220.35	17.33	-25.22	747.96	614.95	8,091.18	8,043.30	47.88	168.984	
17,000.00	8,968.17	7,863.06	7,729.10	222.97	17.34	-25.23	748.20	614.95	8,190.03	8,142.06	47.98	170.709	
17,100.00	8,969.74	7,863.31	7,729.19	225.60	17.34	-25.24	748.43	614.95	8,288.82	8,240.84	48.07	172.424	
17,200.00	8,971.31	7,863.57	7,729.28	228.23	17.34	-25.26	748.67	614.95	8,387.82	8,339.65	48.17	174.131	
17,300.00	8,972.88	7,863.82	7,729.38	230.85	17.34	-25.27	748.91	614.95	8,486.75	8,438.49	48.27	175.829	
17,400.00	8,974.45	7,875.00	7,733.41	233.48	17.42	-25.79	759.34	614.99	8,585.74	8,537.16	48.58	176.743	
17,500.00	8,976.02	7,875.00	7,733.41	236.11	17.42	-25.79	759.34	614.99	8,684.72	8,636.05	48.67	178.437	
17,600.00	8,977.59	7,875.00	7,733.41	238.73	17.42	-25.79	759.34	614.99	8,783.72	8,734.95	48.77	180.122	
17,700.00	8,979.16	7,875.00	7,733.41	241.36	17.42	-25.79	759.34	614.99	8,882.75	8,833.88	48.86	181.799	
17,800.00	8,980.73	7,875.00	7,733.41	243.99	17.42	-25.79	759.34	614.99	8,981.79	8,932.84	48.96	183.467	
17,900.00	8,982.30	7,875.00	7,733.41	246.62	17.42	-25.79	759.34	614.99	9,080.86	9,031.81	49.05	185.127	
18,000.00	8,983.87	7,875.00	7,733.41	249.25	17.42	-25.79	759.34	614.99	9,179.95	9,130.80	49.15	186.777	
18,100.00	8,985.44	7,875.00	7,733.41	251.87	17.42	-25.79	759.34	614.99	9,279.06	9,229.81	49.25	188.419	
18,200.00	8,987.01	7,875.00	7,733.41	254.50	17.42	-25.79	759.34	614.99	9,378.18	9,328.84	49.35	190.052	
18,300.00	8,988.58	7,875.00	7,733.41	257.13	17.42	-25.79	759.34	614.99	9,477.33	9,427.88	49.44	191.678	
18,400.00	8,990.15	7,875.00	7,733.41	259.76	17.42	-25.79	759.34	614.99	9,576.49	9,526.95	49.54	193.292	
18,500.00	8,991.72	7,875.00	7,733.41	262.39	17.42	-25.79	759.34	614.99	9,675.67	9,626.02	49.64	194.898	
18,600.00	8,993.29	7,875.00	7,733.41	265.02	17.42	-25.79	759.34	614.99	9,774.87	9,725.12	49.75	196.496	
18,700.00	8,994.86	7,875.00	7,733.41	267.65	17.42	-25.79	759.34	614.99	9,874.08	9,824.23	49.85	198.084	
18,772.33	8,996.00	7,875.00	7,733.41	269.55	17.42	-25.79	759.34	614.99	9,945.85	9,895.92	49.92	199.228	

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

LEAM Drilling Systems LLC

Anticollision Report

Company: Devon Energy
Project: Eddy County, NM (NAD-83)
Reference Site: Agate PWJ 21-22
Site Error: 0.00 usft
Reference Well: 9H
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Plan #1

Local Co-ordinate Reference: Well 9H
TVD Reference: 3334.2' GE + 23.5' KB @ 3357.70usft
MD Reference: 3334.2' GE + 23.5' KB @ 3357.70usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at 2.00 sigma
Database: EDM 5000.1 Multi User Db
Offset TVD Reference: Offset Datum

Offset Design Parkway West (Offsets) - 7 - OH - OH												Offset Site Error:	0.00 usft
Survey Program: 365-INC												Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Distance		Minimum Separation (usft)	Separation Factor	Warning		
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)					
0.00	0.00	0.00	0.00	0.00	0.00	90.85	-81.77	5,516.70	5,517.31				
100.00	100.00	100.20	100.20	0.09	1.79	90.85	-81.85	5,516.70	5,517.30	5,515.43	1.88	2,939.044	
200.00	200.00	200.39	200.39	0.31	3.58	90.84	-81.29	5,516.70	5,517.30	5,513.41	3.89	1,417.140	
300.00	300.00	300.58	300.58	0.54	5.37	90.84	-80.89	5,516.70	5,517.29	5,511.38	5.91	933.671	
400.00	400.00	400.79	400.79	0.76	8.17	90.83	-79.84	5,516.70	5,517.28	5,508.34	8.93	617.824	
500.00	500.00	501.04	501.03	0.99	12.79	90.82	-78.70	5,516.70	5,517.26	5,503.49	13.77	400.624	
600.00	600.00	601.27	601.25	1.21	17.40	90.80	-77.23	5,516.70	5,517.24	5,498.63	18.61	296.467	
700.00	700.00	701.52	701.48	1.43	23.46	90.78	-75.44	5,516.70	5,517.22	5,492.32	24.89	221.644	
800.00	800.00	801.76	801.69	1.66	30.46	90.76	-73.30	5,516.70	5,517.19	5,485.07	32.12	171.756	
900.00	900.00	901.96	901.86	1.88	37.74	90.74	-70.81	5,516.70	5,517.15	5,477.54	39.62	139.263	
1,000.00	1,000.00	1,002.00	1,001.87	2.11	46.79	90.71	-68.12	5,516.70	5,517.12	5,468.22	48.90	112.832	
1,100.00	1,100.00	1,102.04	1,101.87	2.33	55.85	90.68	-65.32	5,516.70	5,517.09	5,458.91	58.18	94.834	
1,200.00	1,200.00	1,202.07	1,201.86	2.56	64.90	90.65	-62.40	5,516.70	5,517.05	5,449.60	67.46	81.788	
1,300.00	1,300.00	1,302.07	1,301.81	2.78	74.17	90.62	-59.37	5,516.70	5,517.02	5,440.07	78.95	71.700	
1,400.00	1,400.00	1,402.02	1,401.72	3.01	83.88	90.58	-56.32	5,516.70	5,516.99	5,430.10	86.89	63.496	
1,500.00	1,500.00	1,501.98	1,501.63	3.23	93.81	90.55	-53.27	5,516.70	5,516.96	5,420.12	96.84	56.970	
1,600.00	1,600.00	1,601.93	1,601.53	3.46	103.37	90.52	-50.21	5,516.70	5,516.93	5,410.11	106.82	51.647	
1,700.00	1,700.00	1,701.88	1,701.44	3.68	113.12	90.49	-47.16	5,516.70	5,516.90	5,400.10	116.80	47.234	
1,800.00	1,800.00	1,801.84	1,801.35	3.91	122.88	90.46	-44.11	5,516.70	5,516.88	5,390.09	126.79	43.513	
1,900.00	1,900.00	1,901.79	1,901.25	4.13	132.65	90.43	-41.06	5,516.70	5,516.85	5,380.07	136.78	40.334	
2,000.00	2,000.00	2,001.74	2,001.16	4.36	142.42	90.39	-38.00	5,516.70	5,516.83	5,370.06	146.78	37.587	
2,100.00	2,100.00	2,101.70	2,101.07	4.58	152.20	90.36	-34.95	5,516.70	5,516.81	5,360.04	156.77	35.190	
2,200.00	2,200.00	2,201.64	2,200.96	4.81	161.74	90.33	-31.91	5,516.70	5,516.79	5,350.25	166.55	33.125	
2,300.00	2,300.00	2,301.55	2,300.83	5.03	170.84	90.30	-28.97	5,516.70	5,516.78	5,340.91	175.87	31.369	
2,400.00	2,400.00	2,401.48	2,400.72	5.26	179.94	90.27	-26.15	5,516.70	5,516.76	5,331.57	185.19	29.789	
2,500.00	2,500.00	2,501.41	2,500.61	5.48	189.02	90.24	-23.48	5,516.70	5,516.75	5,322.25	194.50	28.364	
2,600.00	2,600.00	2,601.34	2,600.51	5.71	196.82	90.22	-20.95	5,516.70	5,516.74	5,314.22	202.52	27.240	
2,700.00	2,700.00	2,701.28	2,700.42	5.93	204.62	90.19	-18.58	5,516.70	5,516.73	5,306.18	210.55	26.202	
2,750.00	2,750.00	2,751.25	2,750.38	6.04	208.52	90.18	-17.46	5,516.70	5,516.73	5,302.17	214.56	25.712	
2,800.00	2,800.00	2,801.23	2,800.35	6.15	211.61	35.26	-16.38	5,516.70	5,516.55	5,298.78	217.76	25.333	
2,900.00	2,899.98	2,901.19	2,900.29	6.37	217.46	35.26	-14.31	5,516.70	5,515.12	5,291.29	223.82	24.640	
3,000.00	2,999.92	3,001.13	3,000.21	6.58	223.31	35.28	-12.36	5,516.70	5,512.26	5,282.38	229.88	23.979	
3,100.00	3,099.78	3,101.01	3,100.08	6.80	229.15	35.31	-10.53	5,516.70	5,507.98	5,272.04	235.94	23.345	
3,200.00	3,199.54	3,200.80	3,199.85	7.02	234.98	35.37	-8.83	5,516.70	5,502.28	5,260.29	241.99	22.738	
3,300.00	3,299.16	3,300.46	3,299.50	7.24	240.81	35.45	-7.24	5,516.70	5,495.16	5,247.13	248.03	22.155	
3,400.00	3,398.61	3,399.96	3,398.99	7.46	246.63	35.55	-5.78	5,516.70	5,486.63	5,232.56	254.07	21.595	
3,500.00	3,497.86	3,499.27	3,498.29	7.70	252.25	35.66	-4.43	5,516.70	5,478.69	5,216.78	259.90	21.072	
3,550.00	3,547.40	3,548.86	3,547.87	7.82	254.48	35.73	-3.78	5,516.70	5,471.19	5,208.95	262.24	20.863	
3,600.00	3,596.92	3,598.42	3,597.43	7.94	256.70	35.77	-3.14	5,516.70	5,465.52	5,200.94	264.58	20.657	
3,700.00	3,695.94	3,697.55	3,696.54	8.18	261.16	35.84	-1.84	5,516.70	5,454.19	5,184.93	269.26	20.256	
3,800.00	3,794.97	3,796.67	3,795.66	8.43	265.61	35.91	-0.54	5,516.70	5,442.86	5,168.92	273.94	19.869	
3,900.00	3,894.00	3,895.79	3,894.77	8.69	270.06	35.98	0.76	5,516.70	5,431.54	5,152.93	278.62	19.495	
4,000.00	3,893.02	3,894.91	3,893.89	8.94	274.52	36.05	2.05	5,516.70	5,420.23	5,136.93	283.30	19.133	
4,100.00	4,092.05	4,094.13	4,093.10	9.21	280.11	36.13	3.41	5,516.70	5,408.93	5,119.81	289.12	18.708	
4,200.00	4,191.08	4,193.39	4,192.34	9.47	285.91	36.20	4.91	5,516.70	5,397.63	5,102.48	295.15	18.288	
4,300.00	4,290.10	4,292.66	4,291.60	9.74	291.71	36.27	6.57	5,516.70	5,386.34	5,085.16	301.19	17.884	
4,400.00	4,389.13	4,391.95	4,390.88	10.01	297.52	36.34	8.39	5,516.70	5,375.06	5,067.83	307.23	17.496	
4,500.00	4,488.16	4,491.27	4,490.17	10.28	303.32	36.40	10.35	5,516.70	5,363.78	5,050.52	313.26	17.122	
4,600.00	4,587.18	4,590.84	4,589.52	10.56	309.84	36.47	12.48	5,516.70	5,352.51	5,032.69	319.82	16.736	
4,700.00	4,686.21	4,690.24	4,689.09	10.84	316.05	36.53	14.91	5,516.70	5,341.23	5,012.76	326.47	16.261	
4,800.00	4,785.24	4,789.88	4,788.69	11.12	326.47	36.59	17.73	5,516.70	5,329.95	4,992.83	337.13	15.810	
4,900.00	4,884.27	4,889.52	4,888.28	11.40	337.24	36.65	20.91	5,516.70	5,318.68	4,970.54	348.14	15.278	

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

LEAM Drilling Systems LLC

Anticollision Report

Company: Devon Energy
Project: Eddy County, NM (NAD-83)
Reference Site: Agate PWU 21-22
Site Error: 0.00 usft
Reference Well: 9H
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Plan #1

Local Co-ordinate Reference: Well 9H
TVD Reference: 3334.2' GE + 23.5' KB @ 3357.70usft
MD Reference: 3334.2' GE + 23.5' KB @ 3357.70usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at 2.00 sigma
Database: EDM 5000.1 Multi User Db
Offset TVD Reference: Offset Datum

Offset Design												Offset Site Error:	0.00 usft
Survey Program: 365-INC												Offset Well Error:	0.00 usft
Parkway West (Offsets) - 7 - OH - OH													
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	Offset		Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)					
5,000.00	4,983.29	4,989.19	4,987.89	11.89	348.28	38.70	24.44	5,516.70	5,307.39	4,947.98	359.42	14.767	
5,100.00	5,082.32	5,088.72	5,087.34	11.97	359.82	36.75	28.28	5,516.70	5,296.11	4,924.91	371.19	14.268	
5,200.00	5,181.35	5,187.98	5,186.53	12.26	372.13	38.79	32.18	5,516.70	5,284.82	4,901.08	383.75	13.772	
5,300.00	5,280.37	5,287.16	5,285.83	12.55	384.19	38.84	36.06	5,516.70	5,273.54	4,877.50	396.04	13.316	
5,400.00	5,379.40	5,386.19	5,384.59	12.84	395.82	36.89	39.80	5,516.70	5,262.27	4,854.36	407.92	12.900	
5,500.00	5,478.43	5,485.20	5,483.53	13.13	407.46	36.94	43.38	5,516.70	5,251.01	4,831.22	419.79	12.509	
5,550.00	5,527.94	5,534.83	5,533.13	13.27	413.29	36.97	45.12	5,516.70	5,245.38	4,819.64	425.74	12.321	
5,600.00	5,577.48	5,584.59	5,582.86	13.40	419.14	36.96	46.90	5,516.70	5,239.92	4,808.22	431.70	12.138	
5,700.00	5,676.74	5,684.25	5,682.46	13.63	430.86	36.94	50.56	5,516.70	5,230.05	4,788.44	443.61	11.790	
5,800.00	5,776.19	5,784.09	5,782.22	13.84	442.80	36.92	54.39	5,516.70	5,221.57	4,766.02	455.54	11.462	
5,900.00	5,875.81	5,883.87	5,881.92	14.05	454.90	36.89	58.30	5,516.70	5,214.47	4,746.43	468.04	11.141	
6,000.00	5,975.56	5,983.70	5,981.68	14.26	467.33	36.86	62.22	5,516.70	5,208.77	4,728.12	480.65	10.837	
6,100.00	6,075.42	6,083.60	6,081.51	14.45	479.76	36.82	66.14	5,516.70	5,204.46	4,711.19	493.27	10.551	
6,200.00	6,175.36	6,183.54	6,181.37	14.64	492.19	36.79	70.07	5,516.70	5,201.55	4,695.66	505.89	10.282	
6,300.00	6,275.34	6,283.49	6,281.24	14.82	504.83	36.74	73.99	5,516.70	5,200.04	4,681.52	518.52	10.029	
6,350.00	6,325.34	6,333.46	6,331.16	14.90	510.85	91.63	75.95	5,516.70	5,199.81	4,674.98	524.83	9.908	
6,400.00	6,375.34	6,383.42	6,381.09	14.99	517.07	91.61	77.91	5,516.70	5,199.75	4,668.61	531.14	9.790	
6,500.00	6,475.34	6,483.08	6,480.68	15.20	527.27	91.57	81.75	5,516.70	5,199.64	4,658.09	541.56	9.601	
6,600.00	6,575.34	6,582.71	6,580.24	15.40	537.02	91.53	85.37	5,516.70	5,199.55	4,648.02	551.52	9.428	
6,700.00	6,675.34	6,682.35	6,679.83	15.60	546.77	91.49	88.78	5,516.70	5,199.46	4,637.96	561.49	9.260	
6,800.00	6,775.34	6,782.01	6,779.43	15.81	556.53	91.46	91.97	5,516.70	5,199.37	4,627.91	571.47	9.098	
6,900.00	6,875.34	6,881.68	6,879.06	16.01	566.28	91.42	94.95	5,516.70	5,199.30	4,617.86	581.44	8.942	
7,000.00	6,975.34	6,981.37	6,978.70	16.22	576.04	91.39	97.70	5,516.70	5,199.23	4,607.82	591.41	8.791	
7,100.00	7,075.34	7,081.06	7,078.37	16.42	585.80	91.37	100.25	5,516.70	5,199.17	4,597.78	601.39	8.645	
7,200.00	7,175.34	7,180.77	7,178.05	16.63	595.56	91.34	102.57	5,516.70	5,199.11	4,587.75	611.36	8.504	
7,300.00	7,275.34	7,281.08	7,278.33	16.84	609.71	91.31	104.90	5,516.70	5,199.06	4,573.33	625.73	8.309	
7,400.00	7,375.34	7,381.52	7,378.74	17.04	624.90	91.28	107.82	5,516.70	5,199.00	4,557.86	641.14	8.109	
7,500.00	7,475.34	7,481.94	7,479.10	17.25	640.09	91.25	110.75	5,516.70	5,198.93	4,542.38	656.55	7.919	
7,600.00	7,575.34	7,582.33	7,579.43	17.46	655.28	91.21	114.28	5,516.70	5,198.85	4,526.90	671.96	7.737	
7,700.00	7,675.34	7,682.69	7,679.71	17.67	670.47	91.17	118.21	5,516.70	5,198.77	4,511.41	687.36	7.563	
7,800.00	7,775.34	7,783.01	7,779.95	17.88	685.64	91.12	122.55	5,516.70	5,198.69	4,495.92	702.76	7.398	
7,900.00	7,875.34	7,883.30	7,880.12	18.09	700.82	91.07	127.30	5,516.70	5,198.60	4,480.44	718.16	7.239	
8,000.00	7,975.34	7,983.55	7,980.24	18.30	715.98	91.01	132.44	5,516.70	5,198.50	4,464.95	733.55	7.087	
8,100.00	8,075.34	8,083.76	8,080.29	18.51	731.14	90.95	137.99	5,516.70	5,198.41	4,449.47	748.94	6.941	
8,200.00	8,175.34	8,183.92	8,180.28	18.72	746.30	90.88	143.94	5,516.70	5,198.31	4,434.00	764.31	6.801	
8,297.27	8,272.61	8,281.30	8,277.46	18.92	761.03	90.82	150.11	5,516.70	5,198.22	4,418.95	779.27	6.671	
8,300.00	8,275.34	8,284.03	8,280.18	18.93	761.44	0.81	150.29	5,516.70	5,198.21	4,418.53	779.69	6.667	
8,350.00	8,325.27	8,333.99	8,330.03	19.04	769.00	0.78	153.61	5,516.70	5,195.75	4,408.39	787.35	6.599	
8,400.00	8,374.79	8,383.54	8,379.46	19.17	776.50	0.75	157.00	5,516.70	5,188.94	4,393.98	794.96	6.527	
8,450.00	8,423.54	8,432.29	8,428.10	19.32	783.87	0.73	160.43	5,516.70	5,177.85	4,375.39	802.46	6.452	
8,500.00	8,471.14	8,479.88	8,475.57	19.48	791.07	0.71	163.88	5,516.70	5,162.55	4,352.77	809.78	6.375	
8,550.00	8,517.23	8,525.81	8,521.37	19.68	799.58	0.70	167.25	5,516.70	5,143.17	4,324.76	818.41	6.284	
8,600.00	8,561.45	8,569.78	8,565.23	19.89	808.90	0.70	170.39	5,516.70	5,119.84	4,292.01	827.84	6.185	
8,650.00	8,603.48	8,611.59	8,608.94	20.14	817.75	0.70	173.28	5,516.70	5,092.76	4,255.95	836.81	6.086	
8,700.00	8,642.99	8,650.90	8,646.16	20.42	826.08	0.72	175.90	5,516.70	5,062.12	4,216.88	845.24	5.989	
8,750.00	8,679.68	8,687.42	8,682.60	20.74	833.81	0.74	178.26	5,516.70	5,028.15	4,175.07	853.08	5.894	
8,800.00	8,713.27	8,720.86	8,715.98	21.11	840.89	0.79	180.35	5,516.70	4,991.12	4,130.86	860.26	5.802	
8,850.00	8,743.51	8,751.02	8,746.08	21.53	846.88	0.85	182.19	5,516.70	4,951.31	4,084.97	866.34	5.715	
8,900.00	8,770.17	8,777.62	8,772.63	22.01	851.98	0.95	183.82	5,516.70	4,909.01	4,037.49	871.52	5.633	
8,950.00	8,793.04	8,800.45	8,795.42	22.55	856.36	1.10	185.21	5,516.70	4,864.56	3,988.59	875.97	5.553	
9,000.00	8,811.94	8,819.32	8,814.25	23.15	859.98	1.33	186.36	5,516.70	4,818.28	3,938.63	879.65	5.478	
9,050.00	8,826.75	8,834.10	8,829.00	23.81	862.82	1.74	187.26	5,516.70	4,770.53	3,888.00	882.53	5.406	

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
Project: Eddy County, NM (NAD-83)
Reference Site: Agate PWU 21-22
Site Error: 0.00 usft
Reference Well: 9H
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Plan #1

Local Co-ordinate Reference: Well 9H
TVD Reference: 3334.2' GE + 23.5' KB @ 3357.70usft
MD Reference: 3334.2' GE + 23.5' KB @ 3357.70usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at: 2.00 sigma
Database: EDM 5000.1 Multi User Db
Offset TVD Reference: Offset Datum

Offset Design													Offset Site Error:		0.00 usft
Survey Program: 365-INC													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	Offset		Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)					
9,100.00	8,837.33	8,844.86	8,839.55	24.53	864.84	2.61	187.91	5,516.70	4,721.88	3,837.09	884.59	5.338			
9,150.00	8,843.82	8,850.94	8,845.81	25.30	866.05	5.35	188.29	5,516.70	4,672.09	3,786.27	885.82	5.274			
9,188.27	8,845.50	8,852.81	8,847.68	25.91	866.41	26.85	188.41	5,516.70	4,633.87	3,747.68	886.19	5.229			
9,200.00	8,845.68	8,853.00	8,847.87	26.10	866.44	26.90	188.42	5,516.70	4,622.14	3,735.92	886.23	5.216			
9,300.00	8,847.25	8,854.56	8,849.43	27.83	866.74	27.36	188.51	5,516.70	4,522.16	3,635.61	886.55	5.101			
9,400.00	8,848.82	8,856.13	8,851.00	29.69	867.05	27.84	188.61	5,516.70	4,422.17	3,535.31	886.87	4.986			
9,500.00	8,850.39	8,857.70	8,852.56	31.66	867.35	28.34	188.70	5,516.70	4,322.19	3,435.00	887.19	4.872			
9,600.00	8,851.97	8,859.27	8,854.13	33.73	867.65	28.85	188.80	5,516.70	4,222.20	3,334.69	887.52	4.757			
9,700.00	8,853.54	8,860.83	8,855.69	35.86	867.95	29.39	188.90	5,516.70	4,122.22	3,234.38	887.84	4.643			
9,800.00	8,855.11	8,862.40	8,857.25	38.07	868.25	29.94	188.99	5,516.70	4,022.23	3,134.06	888.17	4.529			
9,900.00	8,856.68	8,863.97	8,858.82	40.32	868.55	30.52	189.09	5,516.70	3,922.25	3,033.75	888.50	4.414			
10,000.00	8,858.25	8,865.54	8,860.38	42.62	868.85	31.13	189.18	5,516.70	3,822.26	2,933.43	888.83	4.300			
10,100.00	8,859.82	8,867.10	8,861.95	44.95	869.15	31.75	189.28	5,516.70	3,722.28	2,833.11	889.17	4.186			
10,200.00	8,861.39	8,868.67	8,863.51	47.32	869.45	32.41	189.37	5,516.70	3,622.30	2,732.79	889.50	4.072			
10,300.00	8,862.96	8,870.24	8,865.08	49.71	869.75	33.09	189.47	5,516.70	3,522.31	2,632.47	889.84	3.958			
10,400.00	8,864.53	8,871.81	8,866.64	52.13	870.05	33.81	189.57	5,516.70	3,422.33	2,532.15	890.18	3.845			
10,500.00	8,866.10	8,873.37	8,868.21	54.57	870.35	34.55	189.66	5,516.70	3,322.35	2,431.83	890.52	3.731			
10,600.00	8,867.67	8,874.94	8,869.77	57.03	870.65	35.33	189.76	5,516.70	3,222.36	2,331.50	890.86	3.617			
10,700.00	8,869.24	8,876.51	8,871.33	59.50	870.95	36.15	189.85	5,516.70	3,122.38	2,231.18	891.20	3.504			
10,800.00	8,870.81	8,878.08	8,872.90	61.98	871.26	37.00	189.95	5,516.70	3,022.40	2,130.85	891.55	3.390			
10,900.00	8,872.38	8,879.64	8,874.46	64.48	871.56	37.89	190.04	5,516.70	2,922.41	2,030.52	891.89	3.277			
11,000.00	8,873.95	8,881.21	8,876.03	66.99	871.86	38.83	190.14	5,516.70	2,822.43	1,930.19	892.24	3.163			
11,100.00	8,875.52	8,882.78	8,877.59	69.50	872.16	39.81	190.24	5,516.70	2,722.45	1,829.86	892.59	3.050			
11,200.00	8,877.09	8,884.34	8,879.16	72.03	872.46	40.84	190.33	5,516.70	2,622.47	1,729.53	892.94	2.937			
11,300.00	8,878.66	8,885.91	8,880.72	74.56	872.76	41.92	190.43	5,516.70	2,522.49	1,629.19	893.30	2.824			
11,400.00	8,880.23	8,887.48	8,882.29	77.10	873.06	43.05	190.52	5,516.70	2,422.51	1,528.86	893.65	2.711			
11,500.00	8,881.80	8,889.05	8,883.85	79.65	873.36	44.24	190.62	5,516.70	2,322.53	1,428.52	894.01	2.598			
11,600.00	8,883.37	8,890.61	8,885.42	82.20	873.66	45.49	190.71	5,516.70	2,222.55	1,328.19	894.37	2.485			
11,700.00	8,884.94	8,892.18	8,886.98	84.76	873.96	46.80	190.81	5,516.70	2,122.58	1,227.85	894.73	2.372			
11,800.00	8,886.51	8,893.75	8,888.54	87.32	874.26	48.19	190.91	5,516.70	2,022.60	1,127.51	895.09	2.260			
11,900.00	8,888.08	8,895.32	8,890.11	89.89	874.56	49.64	191.00	5,516.70	1,922.62	1,027.17	895.46	2.147			
12,000.00	8,889.65	8,896.88	8,891.67	92.46	874.86	51.17	191.10	5,516.70	1,822.65	926.83	895.82	2.035			
12,100.00	8,891.22	8,898.45	8,893.24	95.03	875.16	52.77	191.19	5,516.70	1,722.68	826.49	896.19	1.922			
12,200.00	8,892.79	8,900.02	8,894.80	97.61	875.47	54.46	191.29	5,516.70	1,622.71	726.14	896.57	1.810			
12,300.00	8,894.36	8,901.59	8,896.37	100.19	875.77	56.23	191.38	5,516.70	1,522.74	625.80	896.94	1.698			
12,400.00	8,895.93	8,903.15	8,897.93	102.78	876.07	58.08	191.48	5,516.70	1,422.78	525.46	897.32	1.586			
12,500.00	8,897.50	8,904.72	8,899.50	105.36	876.37	60.03	191.58	5,516.70	1,322.81	425.12	897.70	1.474	Level 3		
12,600.00	8,899.07	8,906.29	8,901.06	107.95	876.67	62.07	191.67	5,516.70	1,222.86	324.77	898.08	1.362	Level 3		
12,700.00	8,900.65	8,907.86	8,902.62	110.54	876.97	64.20	191.77	5,516.70	1,122.91	224.43	898.47	1.250	Level 2		
12,800.00	8,902.22	8,909.42	8,904.19	113.13	877.27	66.43	191.86	5,516.70	1,022.96	124.10	898.87	1.138	Level 2		
12,900.00	8,903.79	8,910.99	8,905.75	115.73	877.57	68.74	191.96	5,516.70	923.02	23.76	899.26	1.026	Level 2		
13,000.00	8,905.36	8,912.56	8,907.32	118.33	877.87	71.15	192.05	5,516.70	823.10	-76.57	899.67	0.915	Level 1		
13,100.00	8,906.93	8,914.13	8,908.88	120.93	878.17	73.64	192.15	5,516.70	723.20	-176.89	900.08	0.803	Level 1		
13,200.00	8,908.50	8,915.69	8,910.45	123.53	878.47	76.21	192.24	5,516.70	623.32	-277.19	900.51	0.692	Level 1		
13,300.00	8,910.07	8,917.26	8,912.01	126.13	878.77	78.86	192.34	5,516.70	523.48	-377.46	900.94	0.581	Level 1		
13,400.00	8,911.64	8,918.83	8,913.58	128.73	879.07	81.57	192.44	5,516.70	423.72	-477.65	901.36	0.470	Level 1		
13,500.00	8,913.21	8,920.40	8,915.14	131.34	879.37	84.34	192.53	5,516.70	324.09	-577.81	901.70	0.359	Level 1		
13,600.00	8,914.78	8,921.96	8,916.71	133.94	879.67	87.15	192.63	5,516.70	224.78	-678.07	902.04	0.249	Level 1		
13,700.00	8,916.35	8,923.53	8,918.27	136.55	879.98	89.99	192.72	5,516.70	126.54	-768.77	895.30	0.141	Level 1		
13,800.00	8,917.92	8,925.10	8,919.83	139.16	880.28	92.85	192.82	5,516.70	38.85	-869.90	894.55	0.060	Level 1, SF		
13,822.81	8,918.27	8,925.45	8,920.19	139.75	880.34	93.50	192.84	5,516.70	31.35	-284.96	316.31	0.099	Level 1, CC		
13,900.00	8,919.49	8,926.66	8,921.40	141.77	880.58	95.72	192.91	5,516.70	83.50	-790.57	874.07	0.096	Level 1, ES		

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

LEAM Drilling Systems LLC

Anticollision Report

Company: Devon Energy
Project: Eddy County, NM (NAD-83)
Reference Site: Agate PWU 21-22
Site Error: 0.00 usft
Reference Well: 9H
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Plan #1

Local Co-ordinate Reference: Well 9H
TVD Reference: 3334.2' GE + 23.5' KB @ 3357.70usft
MD Reference: 3334.2' GE + 23.5' KB @ 3357.70usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at 2.00 sigma
Database: EDM 5000.1 Multi User Db
Offset TVD Reference: Offset Datum

Offset Design												Offset Site Error:	0.00 usft
Survey Program: 365-INC												Offset Well Error:	0.00 usft
Parkway West (Offsets) - 7 - OH - OH													
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	Offset		Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)					
14,000.00	8,921.06	8,928.23	8,922.96	144.38	880.88	98.57	193.01	5,516.70	180.12	-719.55	899.67	0.200	Level 1
14,100.00	8,922.63	8,929.80	8,924.53	146.99	881.18	101.39	193.11	5,516.70	279.13	-623.04	902.17	0.309	Level 1
14,200.00	8,924.20	8,931.37	8,926.09	149.60	881.48	104.18	193.20	5,516.70	378.65	-524.41	903.06	0.419	Level 1
14,300.00	8,925.77	8,932.93	8,927.66	152.21	881.78	106.92	193.30	5,516.70	478.36	-425.29	903.65	0.529	Level 1
14,400.00	8,927.34	8,934.50	8,929.22	154.83	882.08	109.60	193.39	5,516.70	578.17	-325.98	904.16	0.639	Level 1
14,500.00	8,928.91	8,936.07	8,930.79	157.44	882.38	112.21	193.49	5,516.70	678.04	-226.59	904.62	0.750	Level 1
14,600.00	8,930.48	8,937.64	8,932.35	160.06	882.68	114.74	193.58	5,516.70	777.93	-127.14	905.07	0.860	Level 1
14,700.00	8,932.05	8,939.20	8,933.91	162.67	882.98	117.18	193.68	5,516.70	877.85	-27.65	905.50	0.969	Level 1
14,800.00	8,933.62	8,940.77	8,935.48	165.29	883.28	119.54	193.78	5,516.70	977.78	71.65	905.93	1.079	Level 2
14,900.00	8,935.19	8,942.34	8,937.04	167.91	883.58	121.81	193.87	5,516.70	1,077.72	171.37	906.35	1.189	Level 2
15,000.00	8,936.76	8,943.91	8,938.61	170.52	883.88	123.98	193.97	5,516.70	1,177.67	270.90	906.76	1.299	Level 3
15,100.00	8,938.33	8,945.47	8,940.17	173.14	884.19	126.06	194.06	5,516.70	1,277.62	370.44	907.18	1.408	Level 3
15,200.00	8,939.90	8,947.04	8,941.74	175.76	884.49	128.05	194.16	5,516.70	1,377.58	469.99	907.59	1.518	
15,300.00	8,941.47	8,948.61	8,943.30	178.38	884.79	129.95	194.25	5,516.70	1,477.55	569.54	908.00	1.627	
15,400.00	8,943.04	8,950.18	8,944.87	181.00	885.09	131.76	194.35	5,516.70	1,577.51	669.10	908.41	1.737	
15,500.00	8,944.61	8,951.74	8,946.43	183.62	885.39	133.48	194.45	5,516.70	1,677.48	768.66	908.82	1.846	
15,600.00	8,946.18	8,953.31	8,947.99	186.24	885.69	135.12	194.54	5,516.70	1,777.45	868.22	909.23	1.955	
15,700.00	8,947.75	8,954.88	8,949.56	188.86	885.99	136.68	194.64	5,516.70	1,877.43	967.78	909.64	2.064	
15,800.00	8,949.33	8,956.45	8,951.12	191.48	886.29	138.17	194.73	5,516.70	1,977.40	1,067.35	910.05	2.173	
15,900.00	8,950.90	8,958.01	8,952.69	194.11	886.59	139.58	194.83	5,516.70	2,077.38	1,166.91	910.47	2.282	
16,000.00	8,952.47	8,959.58	8,954.25	196.73	886.89	140.92	194.92	5,516.70	2,177.35	1,266.48	910.88	2.390	
16,100.00	8,954.04	8,961.15	8,955.82	199.35	887.19	142.20	195.02	5,516.70	2,277.33	1,366.04	911.29	2.499	
16,200.00	8,955.61	8,962.72	8,957.38	201.98	887.49	143.42	195.12	5,516.70	2,377.31	1,465.61	911.70	2.608	
16,300.00	8,957.18	8,964.28	8,958.95	204.60	887.79	144.58	195.21	5,516.70	2,477.29	1,565.18	912.11	2.716	
16,400.00	8,958.75	8,965.85	8,960.51	207.22	888.09	145.68	195.31	5,516.70	2,577.27	1,664.75	912.52	2.824	
16,500.00	8,960.32	8,967.42	8,962.08	209.85	888.40	146.73	195.40	5,516.70	2,677.25	1,764.31	912.94	2.933	
16,600.00	8,961.89	8,968.98	8,963.64	212.47	888.70	147.74	195.50	5,516.70	2,777.23	1,863.88	913.35	3.041	
16,700.00	8,963.46	8,970.55	8,965.20	215.10	889.00	148.69	195.59	5,516.70	2,877.21	1,963.45	913.76	3.149	
16,800.00	8,965.03	8,972.12	8,966.77	217.72	889.30	149.60	195.69	5,516.70	2,977.19	2,063.02	914.18	3.257	
16,900.00	8,966.60	8,973.69	8,968.33	220.35	889.60	150.47	195.79	5,516.70	3,077.18	2,162.58	914.59	3.365	
17,000.00	8,968.17	8,975.25	8,969.90	222.97	889.90	151.31	195.88	5,516.70	3,177.16	2,262.15	915.01	3.472	
17,100.00	8,969.74	8,976.82	8,971.46	225.60	890.20	152.10	195.98	5,516.70	3,277.14	2,361.72	915.42	3.580	
17,200.00	8,971.31	8,978.39	8,973.03	228.23	890.50	152.86	196.07	5,516.70	3,377.13	2,461.28	915.84	3.687	
17,300.00	8,972.88	8,979.96	8,974.59	230.85	890.80	153.59	196.17	5,516.70	3,477.11	2,560.85	916.26	3.795	
17,400.00	8,974.45	8,981.52	8,976.15	233.48	891.06	154.28	196.26	5,516.70	3,577.09	2,660.46	916.64	3.902	
17,500.00	8,976.02	8,983.08	8,977.71	236.11	891.32	154.95	196.36	5,516.70	3,677.08	2,760.06	917.01	4.010	
17,600.00	8,977.59	8,984.65	8,979.27	238.73	891.58	155.59	196.45	5,516.70	3,777.06	2,859.67	917.39	4.117	
17,700.00	8,979.16	8,986.21	8,980.83	241.36	891.83	156.20	196.55	5,516.70	3,877.05	2,959.28	917.77	4.224	
17,800.00	8,980.73	8,987.78	8,982.40	243.99	892.09	156.79	196.64	5,516.70	3,977.03	3,058.88	918.15	4.332	
17,900.00	8,982.30	8,989.34	8,983.96	246.62	892.35	157.36	196.74	5,516.70	4,077.01	3,158.49	918.52	4.439	
18,000.00	8,983.87	8,990.90	8,985.52	249.25	892.61	157.90	196.83	5,516.70	4,177.00	3,258.10	918.90	4.546	
18,100.00	8,985.44	8,992.47	8,987.08	251.87	892.87	158.42	196.92	5,516.70	4,276.98	3,357.70	919.28	4.653	
18,200.00	8,987.01	8,994.03	8,988.64	254.50	893.13	158.92	197.02	5,516.70	4,376.97	3,457.30	919.66	4.759	
18,300.00	8,988.58	8,995.59	8,990.20	257.13	893.38	159.41	197.11	5,516.70	4,476.95	3,556.91	920.05	4.866	
18,400.00	8,990.15	8,997.16	8,991.76	259.76	893.64	159.87	197.21	5,516.70	4,576.94	3,656.51	920.43	4.973	
18,500.00	8,991.72	8,998.72	8,993.32	262.39	893.90	160.32	197.30	5,516.70	4,676.93	3,756.11	920.81	5.079	
18,600.00	8,993.29	9,000.29	8,994.88	265.02	894.16	160.75	197.39	5,516.70	4,776.91	3,855.72	921.19	5.186	
18,700.00	8,994.86	9,001.85	8,996.44	267.65	894.42	161.17	197.48	5,516.70	4,876.90	3,955.32	921.58	5.292	
18,772.33	8,996.00	9,002.98	8,997.57	269.55	894.60	161.46	197.55	5,516.70	4,949.21	4,027.36	921.86	5.369	

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

LEAM Drilling Systems LLC

Anticollision Report

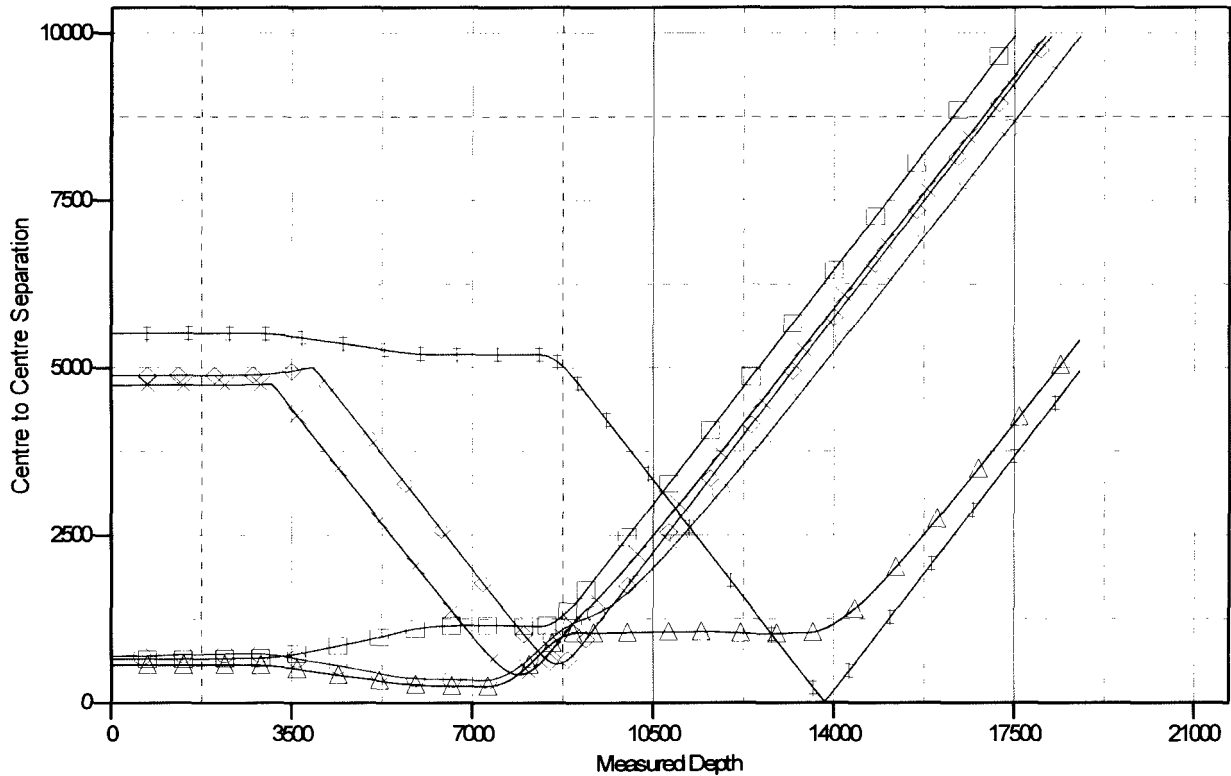
Company: Devon Energy
Project: Eddy County, NM (NAD-83)
Reference Site: Agate PWU 21-22
Site Error: 0.00 usft
Reference Well: 9H
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Plan #1

Local Co-ordinate Reference: Well 9H
TVD Reference: 3334.2' GE + 23.5' KB @ 3357.70usft
MD Reference: 3334.2' GE + 23.5' KB @ 3357.70usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at 2.00 sigma
Database: EDM 5000.1 Multi User Db
Offset TVD Reference: Offset Datum

Reference Depths are relative to 3334.2' GE + 23.5' KB @ 3357.70usft
 Offset Depths are relative to Offset Datum
 Central Meridian is 104° 20' 0.000 W

Coordinates are relative to: 9H
 Coordinate System is US State Plane 1983, New Mexico Eastern Zone
 Grid Convergence at Surface is: 0.13°

Ladder Plot



LEGEND

▲ 1H, OH, OH V0 ✕ Emerald PWU 20 1H, OH, OH V0 ◻ 11, OH, OH V0
 ◆ Emerald PWU 20 9H, OH, OH V0 * 7, OH, OH V0 ○ 2H, OH, OH V0

LEAM Drilling Systems LLC

Anticollision Report

Company: Devon Energy
Project: Eddy County, NM (NAD-83)
Reference Site: Agate PWU 21-22
Site Error: 0.00 usft
Reference Well: 9H
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Plan #1

Local Co-ordinate Reference: Well 9H
TVD Reference: 3334.2' GE + 23.5' KB @ 3357.70usft
MD Reference: 3334.2' GE + 23.5' KB @ 3357.70usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at 2.00 sigma
Database: EDM 5000.1 Multi User Db
Offset TVD Reference: Offset Datum

Reference Depths are relative to 3334.2' GE + 23.5' KB @ 3357.70usft
 Offset Depths are relative to Offset Datum
 Central Meridian is 104° 20' 0.000 W

Coordinates are relative to: 9H
 Coordinate System is US State Plane 1983, New Mexico Eastern Zone
 Grid Convergence at Surface is: 0.13°

