

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

OCD Hobbs

FORM APPROVED
OMB NO. 1004-0137
Expires: January 31, 2018**SUNDRY NOTICES AND REPORTS ON WELLS**
Do not use this form for proposals to drill or to re-enter an abandoned well. Use form 3160-3 (APD) for such proposals.

5. Lease Serial No. NMNM114992
6. If Indian, Allottee or Tribe Name
7. If Unit or CA/Agreement, Name and/or No.
8. Well Name and No. FIGHTING OKRA 18-19 FED 82H 741
9. API Well No. 30-025-44093
10. Field and Pool or Exploratory Area BOBCAT DRAW; UPPER WC
11. County or Parish, State LEA COUNTY, NM

SUBMIT IN TRIPLICATE - Other instructions on page 2

1. Type of Well ☒ Oil Well ☐ Gas Well ☐ Other	2. Name of Operator DEVON ENERGY PRODUCTION COMPANY Contact: REBECCA DEAL Email: Rebecca.Deal@devn.com	3a. Address 333 WEST SHERIDAN AVENUE OKLAHOMA CITY, OK 73102	3b. Phone No. (include area code) Ph: 405-228-8429	10. Field and Pool or Exploratory Area BOBCAT DRAW; UPPER WC
4. Location of Well (Footage, Sec., T., R., M., or Survey Description) Sec 18 T26S R34E NENW 380FNL 1665FWL				11. County or Parish, State LEA COUNTY, NM

12. CHECK THE APPROPRIATE BOX(ES) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION			
☒ Notice of Intent	☐ Acidize	☐ Deepen	☐ Production (Start/Resume)	☐ Water Shut-Off
☐ Subsequent Report	☐ Alter Casing	☐ Hydraulic Fracturing	☐ Reclamation	☐ Well Integrity
☐ Final Abandonment Notice	☐ Casing Repair	☐ New Construction	☐ Recomplete	☒ Other
	☐ Change Plans	☐ Plug and Abandon	☐ Temporarily Abandon	Change to Original A
	☐ Convert to Injection	☐ Plug Back	☐ Water Disposal	PD

13. Describe Proposed or Completed Operation: Clearly state all pertinent details, including estimated starting date of any proposed work and approximate duration thereof. If the proposal is to deepen directionally or recompleat horizontally, give subsurface locations and measured and true vertical depths of all pertinent markers and zones. Attach the Bond under which the work will be performed or provide the Bond No. on file with BLM/BIA. Required subsequent reports must be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompletion in a new interval, a Form 3160-4 must be filed once testing has been completed. Final Abandonment Notices must be filed only after all requirements, including reclamation, have been completed and the operator has determined that the site is ready for final inspection.

Devon respectfully requests the following changes to the original APD:

Well #
Name change from Fighting Okra 18-19 Fed 82H to Fighting Okra 18-19 Fed 7H. ✓

SHL change from 380 FNL & 1665 FWL to 330 FNL & 1725 FWL, both 18-26S-34E ✓

BHL change from 330 FNL & 1284 FWL to 330 FSL & 2280 FWL, Sec. 19-26S-34E ✓

Please see attached revised C-102, Drilling and Directional Plan

**SEE ATTACHED FOR
CONDITIONS OF APPROVAL**

2-2018: Engineering review completed by m Hague

1-2-18 JB USE Existing COA's

14. I hereby certify that the foregoing is true and correct.

Electronic Submission #392827 verified by the BLM Well Information System
For DEVON ENERGY PRODUCTION COMPANY, sent to the Hobbs
Committed to AFMSS for processing by PRISCILLA PEREZ on 11/08/2017 ()

Name (Printed/Typed) REBECCA DEAL	Title REGULATORY COMPLIANCE PROFESSI
Signature (Electronic Submission)	Date 10/24/2017

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved By <i>Carl J. Taylor</i>	Title <i>For</i> FIELD MANAGER	Date <i>01/04/18</i>
Conditions of approval, if any, are attached. Approval of this notice does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.		Office CARLSBAD FIELD OFFICE

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

(Instructions on page 2)

**** OPERATOR-SUBMITTED ** OPERATOR-SUBMITTED ** OPERATOR-SUBMITTED ****

0111100
Additional data for EC transaction #392827 that would not fit on the form

32. Additional remarks, continued
0111100
0111100

District I
1625 N. French Dr., Hobbs, NM 88240
Phone: (575) 393-6161 Fax: (575) 393-0720
District II
511 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

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 30-025-44093	² Pool Code 98094	³ Pool Name BOBCAT DRAW; UPPER WOLFCAMP
⁴ Property Code 30884	⁵ Property Name FIGHTING OKRA 18-19 FED	⁶ Well Number 7H
⁷ OGRID No. 6137	⁸ Operator Name DEVON ENERGY PRODUCTION COMPANY, L.P.	⁹ Elevation 3371.7

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
C	18	26 S	34 E		330	NORTH	1725	WEST	LEA

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
N	19	26 S	34 E		330	SOUTH	2280	WEST	LEA

¹² Dedicated Acres 320	¹³ Joint or Infill	¹⁴ Consolidation Code	¹⁵ Order No.
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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.

	¹⁶ 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 undivided 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. <u>Rebecca Deal</u> 10/23/2017 Signature Date Rebecca Deal, Regulatory Analyst Printed Name <u>rebecca.deal@dm.com</u> E-mail Address ¹⁷ 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. AUGUST 30, 2017 Date of Survey <u>Filimon E. Jaramillo</u> Signature and Seal of Professional Surveyor Certificate Number: <u>FILIMON E. JARAMILLO, PLS 12797</u> SURVEY NO. 5546A
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Devon Energy, Fighting Okra 18-19 Fed 7H

1. Geologic Formations

TVD of target	12,884'	Pilot hole depth	N/A
MD at TD:	22,848'	Deepest expected fresh water:	794'

Basin

Formation	Depth (TVD) from KB	Water/Mineral Bearing/ Target Zone?	Hazards*
RUSTLER	794		
TOP SALT	1149		
BASE OF SALT	5024		
DELAWARE	5279		
LOWER BRUSHY CANYON 8A	9339		
BONE SPRING LIME	9549		
FIRST BONE SPRING SAND	10444		
2ND BONE SPRING LIME	10674		
BONE SPRING 2ND	11039		
BONE SPRING 3RD	11499		
BONE SPRING 3RD	12119		
WOLFCAMP	12554		
WOLFCAMP	12754		

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

2. Casing Program

Hole Size	Casing Interval		Csg. Size	Weight (lbs)	Grade	Conn.	SF Collapse	SF Burst	SF Tension
	From	To							
14.75"	0	900'	10.75"	40.5	J-55	STC	1.125	1.25	1.6
9.875"	0	9200'	7.625"	29.7	P110	BTC	1.125	1.25	1.6
8.75"	9200'	13,050'	7.625"	29.7	P110	Flushmax III	1.125	1.25	1.6
6.75"	0	12,850'	5.5"	20	P110	VamTop HT	1.125	1.25	1.6
6.75"	12,850'	22,848'	5.5"	20	P110	Vam SG	1.125	1.25	1.6

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

Rustler top will be validated via drilling parameters (i.e. reduction in ROP) and surface casing setting depth revised accordingly if needed.

A variance is requested to wave the centralizer requirement for the 7-5/8" flush casing in the 8-3/4" hole and the 5-1/2" SF/Flush casing in the 6-3/4" hole.

	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

Devon Energy, Fighting Okra 18-19 Fed 7H

If yes, are there three strings cemented to surface?

3. Cementing Program

Casing	# Sks	Wt. lb/gal	H ₂ O gal/sk	Yld ft ³ /sack	Slurry Description
10-3/4" Surface	529	14.8	6.34	1.34	Tail: Class C Cement + 1% Calcium Chloride
7-5/8" Int	311	9	13.5	3.27	Lead: Tuned Light® Cement
	430	14.5	5.31	1.2	Tail: (50:50) Class H Cement: Poz (Fly Ash) + 0.5% bwoc HALAD-344 + 0.4% bwoc CFR-3 + 0.2% BWOC HR-601 + 2% bwoc Bentonite
7-5/8" Int Two Stage	122	10.9	20.6	3.31	1 st Stage Lead: (50:40:10) Class C: Silicalite: Enhancer 923 + 10% BWOC Bentonite + 0.05% BWOC SA-1015 + 0.3% BWOC HR-800 + 0.2% BWOC FE-2 + 0.125 lb/sk Pol-E-Flake + 0.5 lb/sk D-Air 5000
	430	14.5	5.31	1.2	1 st Stage Tail: (50:50) Class H Cement: Poz (Fly Ash) + 0.5% bwoc HALAD-344 + 0.4% bwoc CFR-3 + 0.2% BWOC HR-601 + 2% bwoc Bentonite
	230	10.9	20.6	3.31	2 nd Stage Lead: (50:40:10) Class C: Silicalite: Enhancer 923 + 10% BWOC Bentonite + 0.05% BWOC SA-1015 + 0.3% BWOC HR-800 + 0.2% BWOC FE-2 + 0.125 lb/sk Pol-E-Flake + 0.5 lb/sk D-Air 5000
	30	14.8	6.32	1.33	2 nd Stage Tail: Class C Cement + 0.125 lbs/sack Poly-E-Flake
	1450	14.8	6.32	1.32	Class C Cement + 0.125 lbs/sack Poly-E-Flake
7-5/8" Intermediate Squeeze	84	9	13.5	3.27	Class H Cement: Poz (Fly Ash) + 6% BWOC Bentonite + 0.25% BWOC HR-601 + 0.125 lbs/sack Poly-E-Flake
	430	14.5	5.31	1.2	Tail: (50:50) Class H Cement: Poz (Fly Ash) + 0.5% bwoc HALAD-344 + 0.4% bwoc CFR-3 + 0.2% BWOC HR-601 + 2% bwoc Bentonite
5-1/2" Production	750	14.8	6.32	1.33	Tail: Class C Cement + 0.125 lbs/sack Poly-E-Flake

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.

Devon Energy, Fighting Okra 18-19 Fed 7H

Casing String	TOC	% Excess
10-3/4" Surface	0'	50%
7-5/8" Intermediate	0'	30%
7-5/8" Intermediate Two Stage Option	1 st Stage = 4900' / 2 nd Stage = 0'	30%
5-1/2" Production Casing	12,850'	25%

4. Pressure Control Equipment

N	A variance is requested for the use of a diverter on the surface casing. See attached for schematic.
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BOP installed and tested before drilling which hole?	Size?	Min. Required WP	Type	✓	Tested to:
9-7/8" & 8-3/4"	13-5/8"	5M	Annular	X	50% of rated working pressure
			Blind Ram	X	5M
			Pipe Ram	X	
			Double Ram	X	
			Other*		
6-3/4"	13-5/8"	10M	Annular (5M)	X	70% of rated working pressure
			Blind Ram	X	10M
			Pipe Ram	X	
			Double Ram	X	
			Other*		
			Annular		
			Blind Ram		
			Pipe Ram		
			Double Ram		
			Other*		

*Specify if additional ram is utilized.

Devon Energy, Fighting Okra 18-19 Fed 7H

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.
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 5000 (5M) ^{10,150 (10M)} 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.

Devon Energy, Fighting Okra 18-19 Fed 7H

After running the 10-3/4" surface casing, a 13-5/8" BOP/BOPE system with a minimum rating of 5M will be installed on the wellhead system and will undergo a 250 psi low pressure test followed by a 5,000 psi high pressure test. The 5,000 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 7-5/8" intermediate casing with a mandrel hanger, the 13-5/8" BOP/BOPE system with a minimum rating of 10M will 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'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	900'	FW Gel	8.6-8.8	28-34	N/C
900'	13,050'	OBM/Cut Brine	8.6-10	34-65	N/C - 6
13,050'	22,848'	Oil Based Mud	9.5-12	45-65	N/C - 6

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
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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

Devon Energy, Fighting Okra 18-19 Fed 7H

	Coring? If yes, explain
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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	

7. Drilling Conditions

Condition	Specify what type and where?
BH Pressure at deepest TVD	7200 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	H2S is present
Y	H2S Plan attached

8. Other facets of operation

Is this a walking operation? Yes

1. In the event the spudder rig is unable to drill the surface holes the drilling rig will batch drill the surface holes and run/cement surface casing; walking the rig to next wells on the pad.
2. The drilling rig will then batch drill the intermediate sections with either OBM or cut brine and run/cement intermediate casing; the wellbore will be isolated with a blind flange and pressure gauge installed for monitoring the well before walking to the next well.
3. The drilling rig will then batch drill the production hole sections on the wells with OBM, run/cement production casing, and install TA caps or tubing heads for completions.

NOTE: During batch operations the drilling rig will be moved from well to well however, it will not be removed from the pad until all wells have production casing run/cemented.

Devon Energy, Fighting Okra 18-19 Fed 7H

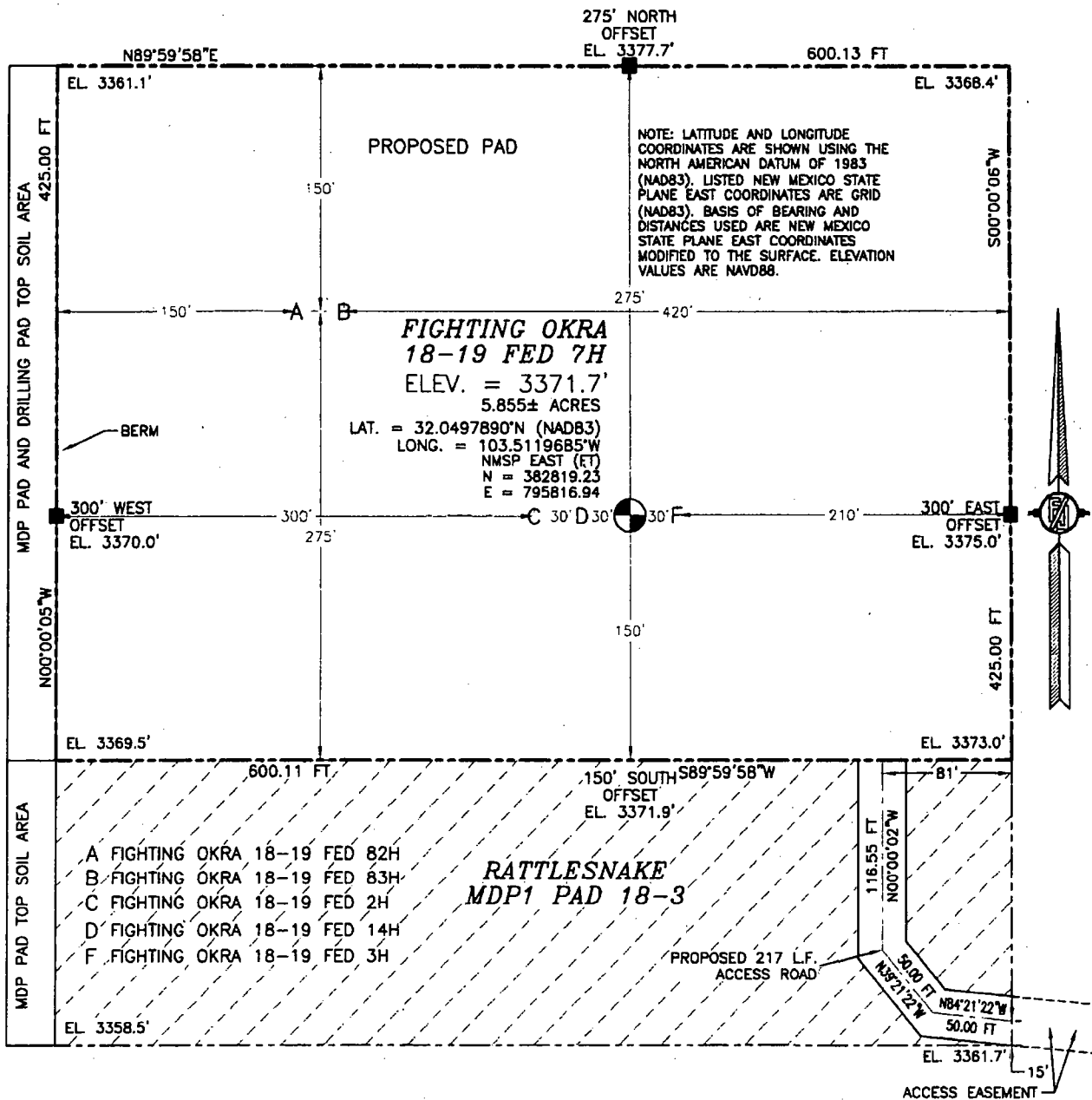
Will be pre-setting casing? Yes

1. Spudder rig will move in and drill surface hole.
 - a. Rig will utilize fresh water based mud to drill 14 3/4" surface hole to TD. Solids control will be handled entirely on a closed loop basis.
2. After drilling the surface hole section, the spudder rig will run casing and cement following all of the applicable rules and regulations (OnShore Order 2, all COAs and NMOCD regulations).
3. The wellhead will be installed and tested once the 10-3/4" surface casing is cut off and the WOC time has been reached.
4. A blind flange with the same pressure rating as the wellhead will be installed to seal the wellbore. Pressure will be monitored with a pressure gauge installed on the wellhead.
5. Spudder rig operations is expected to take 4-5 days per well on a multi well pad.
6. The NMOCD will be contacted and notified 24 hours prior to commencing spudder rig operations.
7. Drilling operations will be performed with the drilling rig. At that time an approved BOP stack will be nipped up and tested on the wellhead before drilling operations commences on each well.
 - a. The NMOCD will be contacted / notified 24 hours before the drilling rig moves back on to the pad with the pre-set surface casing. *The drilling rig needs to move back in within 90 days of pre-setting surface casing.*

Attachments

- ☒ Directional Plan
☐ Other, describe

**SECTION 18, TOWNSHIP 26 SOUTH, RANGE 34 EAST, N.M.P.M.
LEA COUNTY, STATE OF NEW MEXICO
SITE MAP**



010 50 100 200

SCALE 1" = 100'

DIRECTIONS TO LOCATION

FROM THE INTERSECTION OF NM HWY 128 (JAL HWY) AND CR 2 (BATTLE AXE ROAD) GO SOUTH ON BATTLE AXE ROAD 12.31 MILES, TURN LEFT ON A CALICHE LEASE ROAD GO SOUTH 0.65 MILE TO PIPELINE ROAD TURN LEFT GO EAST 1.81 MILES TURN RIGHT AT CALICHE LEASE ROAD GO SOUTH 1.28 MILES TO A PROPOSED ROAD SURVEY, FOLLOW ROAD SURVEY WEST 0.45 MILE, THEN NORTH 747', THEN WEST 122' TO THE SOUTHWEST CORNER OF RATTLESNAKE MDP1 PAD 18-3, THEN FOLLOW ROAD FLAGS WEST 50' THEN NORTHWEST 50' THEN 117' NORTH TO SOUTHEAST PAD CORNER FOR THIS LOCATION.

DEVON ENERGY PRODUCTION COMPANY, L.P.
FIGHTING OKRA 18-19 FED 7H
LOCATED 330 FT. FROM THE NORTH LINE
AND 1725 FT. FROM THE WEST LINE OF
SECTION 18, TOWNSHIP 26 SOUTH,
RANGE 34 EAST, N.M.P.M.
LEA COUNTY, STATE OF NEW MEXICO

AUGUST 30, 2017

SURVEY NO. 5546A

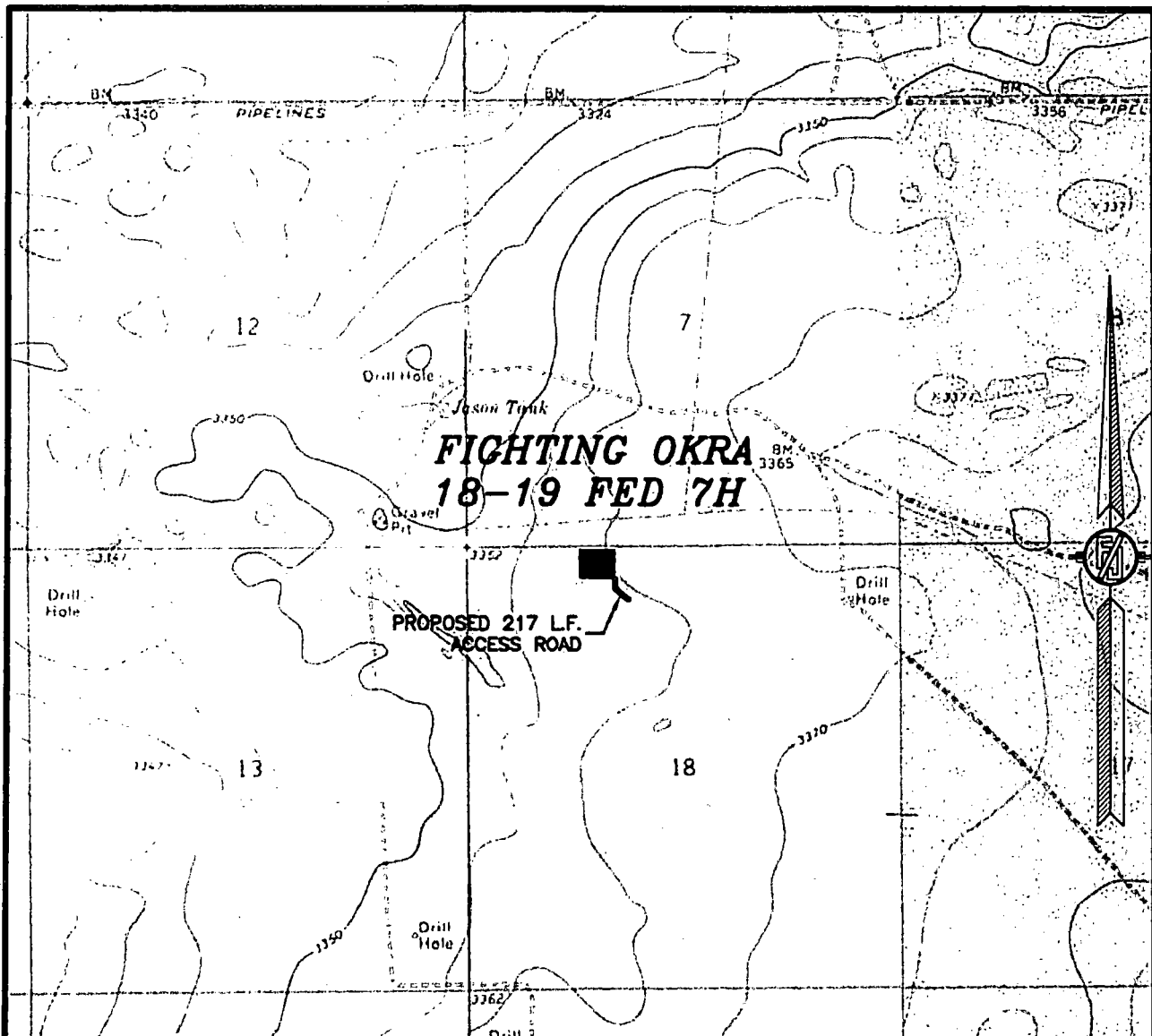
MADRON SURVEYING, INC.

301 SOUTH CANAL
(575) 234-3341

CARLSBAD, NEW MEXICO

CARLSBAD, NEW MEXICO

SECTION 18, TOWNSHIP 26 SOUTH, RANGE 34 EAST, N.M.P.M.
LEA COUNTY, STATE OF NEW MEXICO
LOCATION VERIFICATION MAP



USGS QUAD MAP:
PADUCA BREAKS EAST

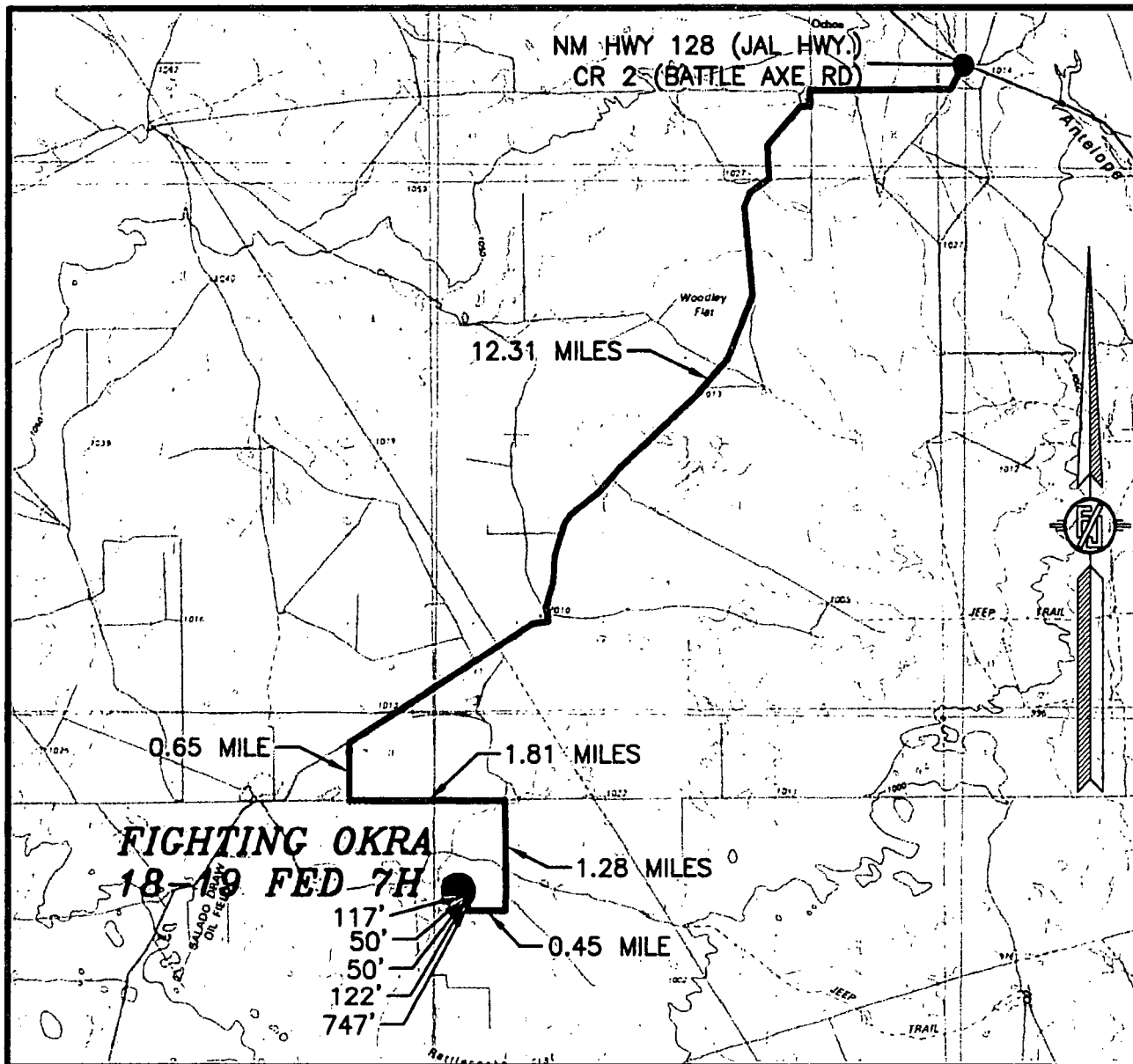
NOT TO SCALE

DEVON ENERGY PRODUCTION COMPANY, L.P.
FIGHTING OKRA 18-19 FED 7H
LOCATED 330 FT. FROM THE NORTH LINE
AND 1725 FT. FROM THE WEST LINE OF
SECTION 18, TOWNSHIP 26 SOUTH,
RANGE 34 EAST, N.M.P.M.
LEA COUNTY, STATE OF NEW MEXICO

AUGUST 30, 2017

MADRON SURVEYING, INC. 301 SOUTH CANAL CARLSBAD, NEW MEXICO
(575) 234-3341 SURVEY NO. 5546A

SECTION 18, TOWNSHIP 26 SOUTH, RANGE 34 EAST, N.M.P.M.
LEA COUNTY, STATE OF NEW MEXICO
VICINITY MAP



DISTANCES IN MILES

NOT TO SCALE

DIRECTIONS TO LOCATION

FROM THE INTERSECTION OF NM HWY 128 (JAL HWY) AND CR 2 (BATTLE AXE ROAD) GO SOUTH ON BATTLE AXE ROAD 12.31 MILES, TURN LEFT ON A CALICHE LEASE ROAD GO SOUTH 0.65 MILE TO PIPELINE ROAD TURN LEFT GO EAST 1.81 MILES TURN RIGHT AT CALICHE LEASE ROAD GO SOUTH 1.28 MILES TO A PROPOSED ROAD SURVEY, FOLLOW ROAD SURVEY WEST 0.45 MILE, THEN NORTH 747', THEN WEST 122' TO THE SOUTHWEST CORNER OF RATTLESNAKE MDP1 PAD 18-3, THEN FOLLOW ROAD FLAGS WEST 50' THEN NORTHWEST 50' THEN 117' NORTH TO SOUTHEAST PAD CORNER FOR THIS LOCATION.

DEVON ENERGY PRODUCTION COMPANY, L.P.

FIGHTING OKRA 18-19 FED 7H

LOCATED 330 FT. FROM THE NORTH LINE

AND 1725 FT. FROM THE WEST LINE OF

SECTION 18, TOWNSHIP 26 SOUTH,

RANGE 34 EAST, N.M.P.M.

LEA COUNTY, STATE OF NEW MEXICO

AUGUST 30, 2017

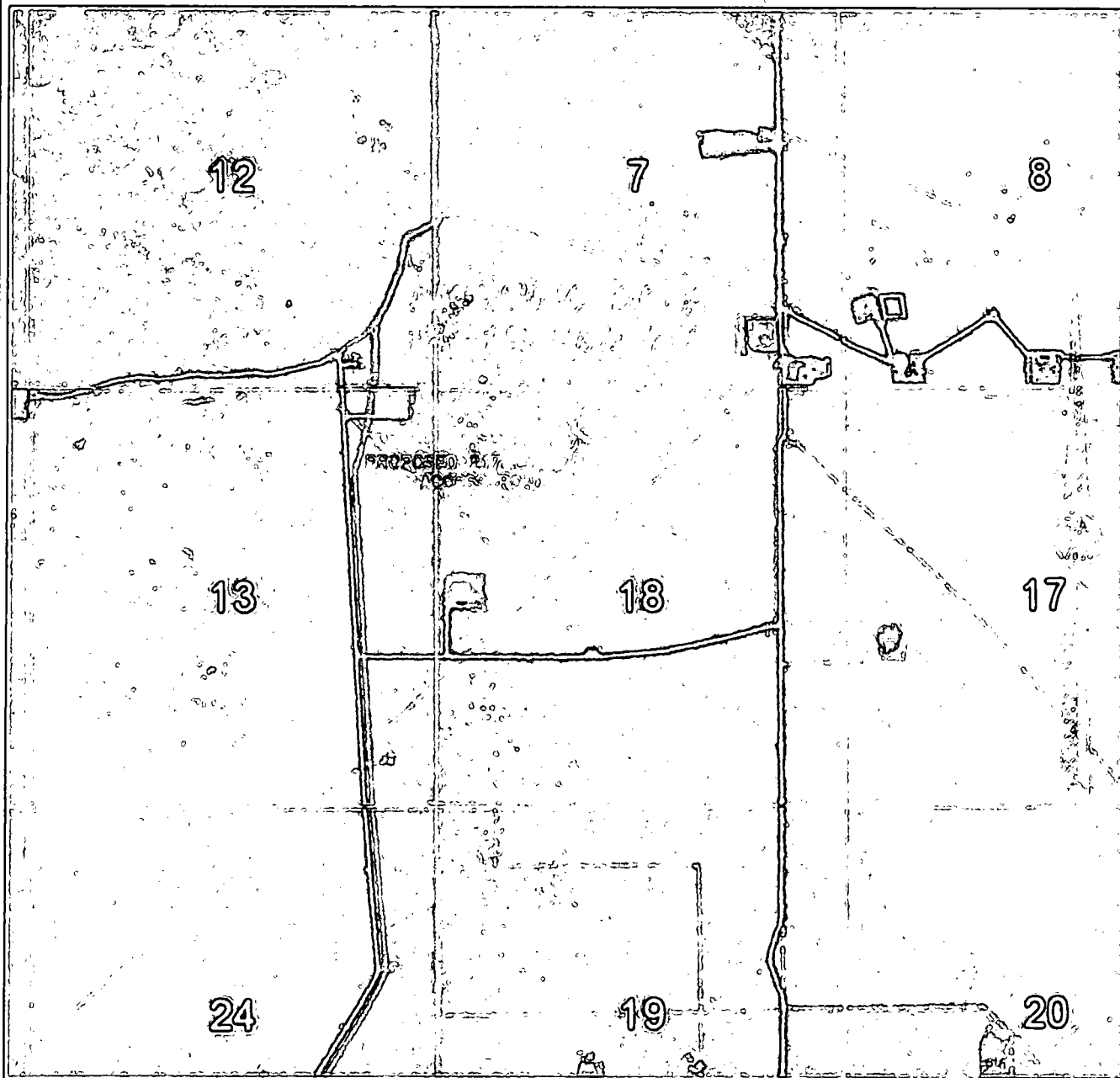
SURVEY NO. 5546A

MADRON SURVEYING, INC.

301 SOUTH CANAL
(575) 234-3241

CARLSBAD, NEW MEXICO

SECTION 18, TOWNSHIP 26 SOUTH, RANGE 34 EAST, N.M.P.M.
LEA COUNTY, STATE OF NEW MEXICO
AERIAL PHOTO



NOT TO SCALE
AERIAL PHOTO:
GOOGLE EARTH
NOV. 2015

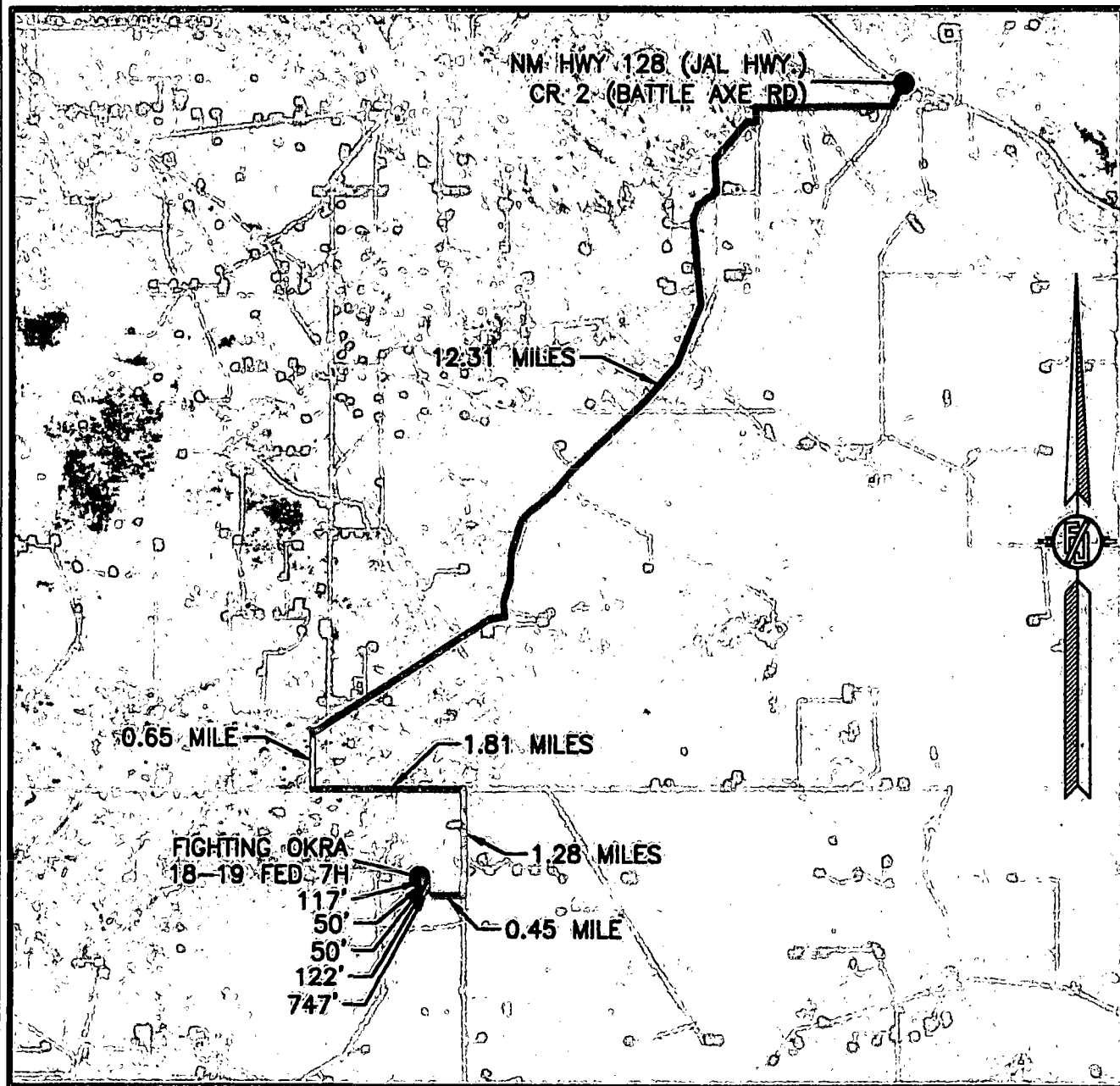
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RANGE 34 EAST, N.M.P.M.
LEA COUNTY, STATE OF NEW MEXICO

AUGUST 30, 2017

SURVEY NO. 5546A

MADRON SURVEYING, INC. 301 SOUTH CANAL (575) 234-3341 CARLSBAD, NEW MEXICO

SECTION 18, TOWNSHIP 26 SOUTH, RANGE 34 EAST, N.M.P.M.
LEA COUNTY, STATE OF NEW MEXICO
AERIAL ACCESS ROUTE MAP



NOT TO SCALE
AERIAL PHOTO:
GOOGLE EARTH
NOV. 2015

DEVON ENERGY PRODUCTION COMPANY, L.P.

FIGHTING OKRA 18-19 FED 7H

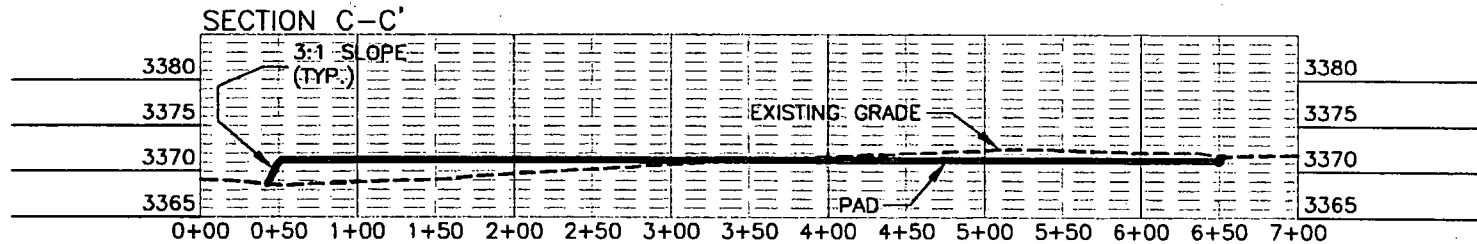
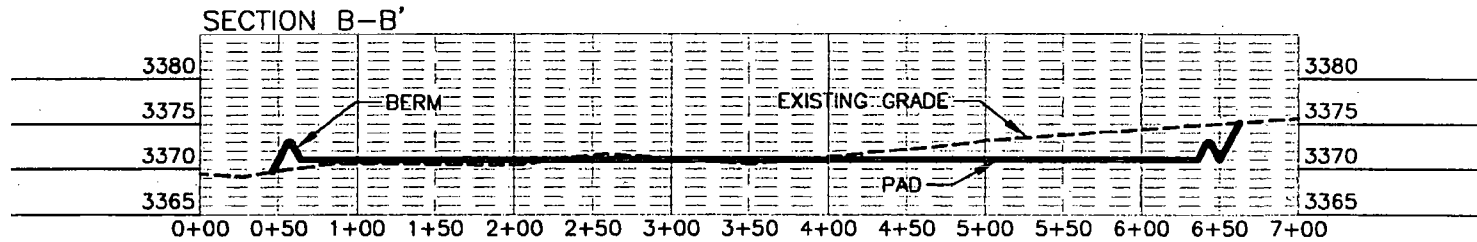
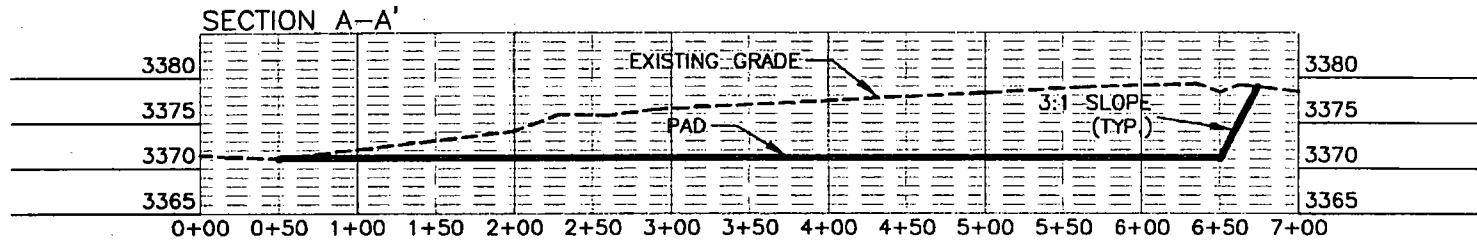
LOCATED 330 FT. FROM THE NORTH LINE
AND 1725 FT. FROM THE WEST LINE OF
SECTION 18, TOWNSHIP 26 SOUTH,
RANGE 34 EAST, N.M.P.M.
LEA COUNTY, STATE OF NEW MEXICO

AUGUST 30, 2017

SURVEY NO. 5546A

MADRON SURVEYING, INC. 301 SOUTH CANAL (575) 234-3341 **CARLSBAD, NEW MEXICO**

CROSS-SECTIONS



012 60 120 240
SCALE 1" = 120' - 1" = 20' VER

DEVON ENERGY PRODUCTION COMPANY, L.P.
GRADING PLAN AND CROSS SECTIONS
FOR FIGHTING OKRA 18-19 FED 7H
SECTION 18, TOWNSHIP 26 SOUTH,
RANGE 34 EAST, N.M.P.M.
LEA COUNTY, STATE OF NEW MEXICO

EARTHWORK QUANTITIES RATTLESNAKE MDP1 PAD 18-3		
CUT	FILL	NET
26793 CU. YD	4287 CU. YD	22506 CU. YD (CUT)

EARTHWORK QUANTITIES ARE ESTIMATED

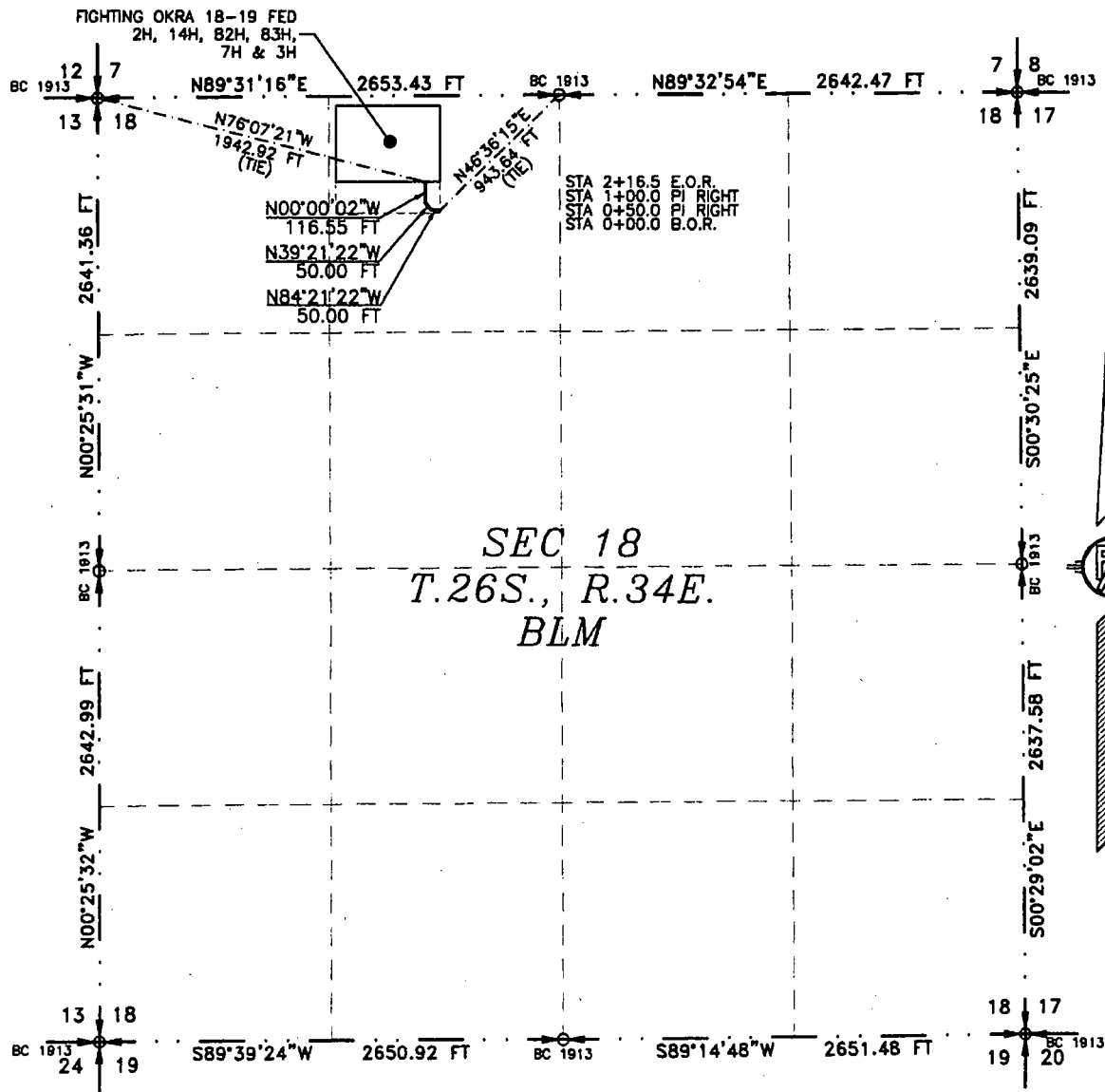
AUGUST 30, 2017
MADRON SURVEYING, INC. 301 SOUTH CANAL CARLSBAD, NEW MEXICO
(575) 234-3341

SHEET 2-2
SURVEY NO. 5546A

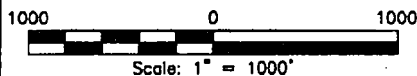
ACCESS ROAD PLAT

ACCESS ROAD FOR FIGHTING OKRA 18-19 FED 2H, 14H, 82H, 83H, 7H & 3H

DEVON ENERGY PRODUCTION COMPANY, L.P.
CENTERLINE SURVEY OF AN ACCESS ROAD CROSSING
SECTION 18, TOWNSHIP 26 SOUTH, RANGE 34 EAST, N.M.P.M.
LEA COUNTY, STATE OF NEW MEXICO
AUGUST 30, 2017



SEE NEXT SHEET (2-2) FOR DESCRIPTION



GENERAL NOTES

- 1.) THE INTENT OF THIS ROUTE SURVEY IS TO ACQUIRE AN EASEMENT.
- 2.) BASIS OF BEARING AND DISTANCE IS NMSP EAST (NAD83) MODIFIED TO SURFACE COORDINATES. NAD 83 (FEET) AND NAVD 88 (FEET) COORDINATE SYSTEMS USED IN THE SURVEY.

SHEET: 1-2

MADRON SURVEYING, INC. 301 SOUTH CANAL (575) 234-3341 CARLSBAD, NEW MEXICO

SURVEYOR CERTIFICATE

I, FILMON F. JARAMILLO, A NEW MEXICO PROFESSIONAL SURVEYOR NO. 12797, HEREBY CERTIFY THAT I HAVE CONDUCTED AND AM RESPONSIBLE FOR THIS SURVEY, THAT THIS SURVEY IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF, AND THAT THIS SURVEY AND PLAT MEET THE MINIMUM STANDARDS FOR LAND SURVEYING IN THE STATE OF NEW MEXICO.

IN WITNESS WHEREOF, THIS CERTIFICATE IS EXECUTED AT CARLSBAD, NEW MEXICO, THIS 30 DAY OF AUGUST 2017

FILMON F. JARAMILLO, PLS. 12797

MADRON SURVEYING, INC.
301 SOUTH CANAL
CARLSBAD, NEW MEXICO 88220
Phone (575) 234-3341

SURVEY NO. 5546A

ACCESS ROAD PLAT

ACCESS ROAD FOR FIGHTING OKRA 18-19 FED 2H, 14H, 82H, 83H, 7H & 3H

DEVON ENERGY PRODUCTION COMPANY, L.P.
CENTERLINE SURVEY OF AN ACCESS ROAD CROSSING
SECTION 18, TOWNSHIP 26 SOUTH, RANGE 34 EAST, N.M.P.M.
LEA COUNTY, STATE OF NEW MEXICO
AUGUST 30, 2017

DESCRIPTION

A STRIP OF LAND 30 FEET WIDE CROSSING BUREAU OF LAND MANAGEMENT LAND IN SECTION 18, TOWNSHIP 26 SOUTH, RANGE 34 EAST, N.M.P.M., LEA COUNTY, STATE OF NEW MEXICO AND BEING 15 FEET EACH SIDE OF THE FOLLOWING DESCRIBED CENTERLINE SURVEY:

BEGINNING AT A POINT WITHIN THE NE/4 NW/4 OF SAID SECTION 18, TOWNSHIP 26 SOUTH, RANGE 34 EAST, N.M.P.M., WHENCE THE NORTH QUARTER CORNER OF SAID SECTION 18, TOWNSHIP 26 SOUTH, RANGE 34 EAST, N.M.P.M. BEARS N46°36'15"E, A DISTANCE OF 943.64 FEET;
THENCE N84°21'22"W A DISTANCE OF 50.00 FEET TO AN ANGLE POINT OF THE LINE HEREIN DESCRIBED;
THENCE N39°21'22"W A DISTANCE OF 50.00 FEET TO AN ANGLE POINT OF THE LINE HEREIN DESCRIBED;
THENCE N00°00'02"W A DISTANCE OF 116.55 FEET THE TERMINUS OF THIS CENTERLINE SURVEY, WHENCE THE NORTHWEST CORNER OF SAID SECTION 18, TOWNSHIP 26 SOUTH, RANGE 34 EAST, N.M.P.M. BEARS N76°07'21"W, A DISTANCE OF 1942.92 FEET;

SAID STRIP OF LAND BEING 216.55 FEET OR 13.12 RODS IN LENGTH, CONTAINING 0.149 ACRES MORE OR LESS AND BEING ALLOCATED BY FORTIES AS FOLLOWS:

NE/4 NW/4 216.55 L.F. 13.12 RODS 0.149 ACRES

GENERAL NOTES

1.) THE INTENT OF THIS ROUTE SURVEY IS TO ACQUIRE AN EASEMENT.

2.) BASIS OF BEARING AND DISTANCE IS NMSP EAST (NAD83) MODIFIED TO SURFACE COORDINATES. NAD 83 (FEET) AND NAVD 88 (FEET) COORDINATE SYSTEMS USED IN THE SURVEY.

SURVEYOR CERTIFICATE

I, FILIMON F. JARAMILLO, A NEW MEXICO PROFESSIONAL SURVEYOR NO. 12797, HEREBY CERTIFY THAT I HAVE CONDUCTED AND AM RESPONSIBLE FOR THIS SURVEY, THAT THIS SURVEY IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF, AND THAT THIS SURVEY AND PLAT MEET THE MINIMUM STANDARDS FOR LAND SURVEYING IN THE STATE OF NEW MEXICO.

IN WITNESS WHEREOF, THIS CERTIFICATE IS EXECUTED AT CARLSBAD, NEW MEXICO, THIS 30 DAY OF AUGUST 2017

FILIMON F. JARAMILLO - PLS. 12797

301 SOUTH CANAL
(575) 234-3341

MADRON SURVEYING, INC.
301 SOUTH CANAL
CARLSBAD, NEW MEXICO 88220
Phone (575) 234-3341

SURVEY NO. 5546A

MADRON SURVEYING, INC. CARLSBAD, NEW MEXICO

SHEET: 2-2

Devon Energy

Project: Lea County, NM (NAD-83)
 Site: Fighting Okra 18-19 Fed
 Well: 7H
 Wellbore: OH
 Design: Plan #1

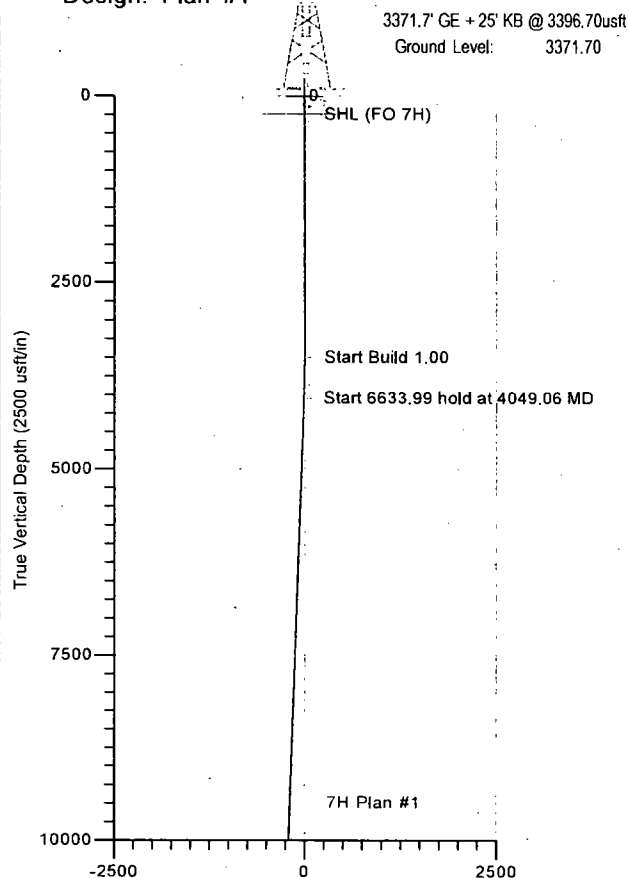


Azimuths to Grid North
 True North: -0.44°
 Magnetic North: 6.36°

Magnetic Field
 Strength: 47893.0snT
 Dip Angle: 59.78°
 Date: 9/6/2017
 Model: HDGM

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

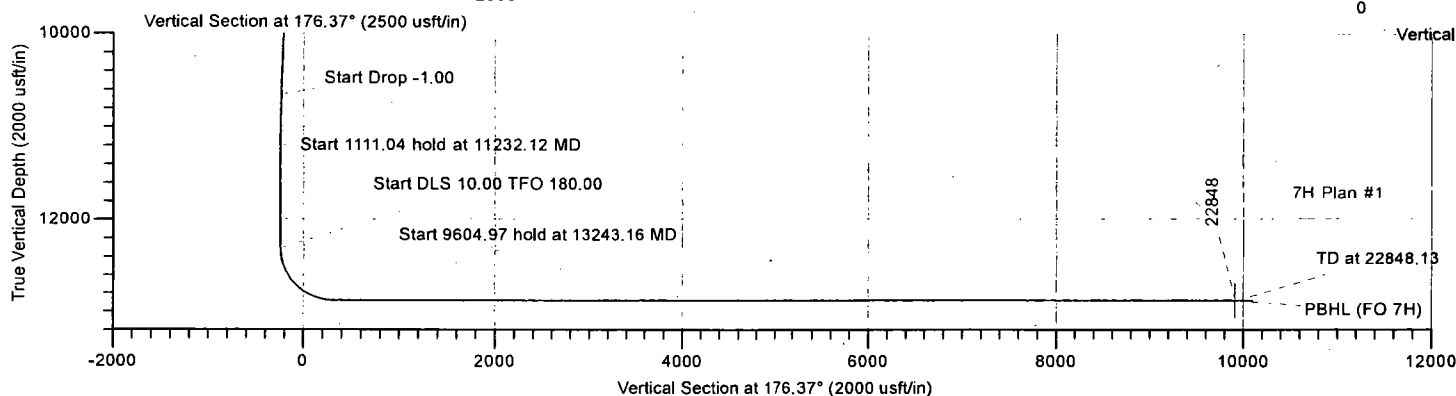
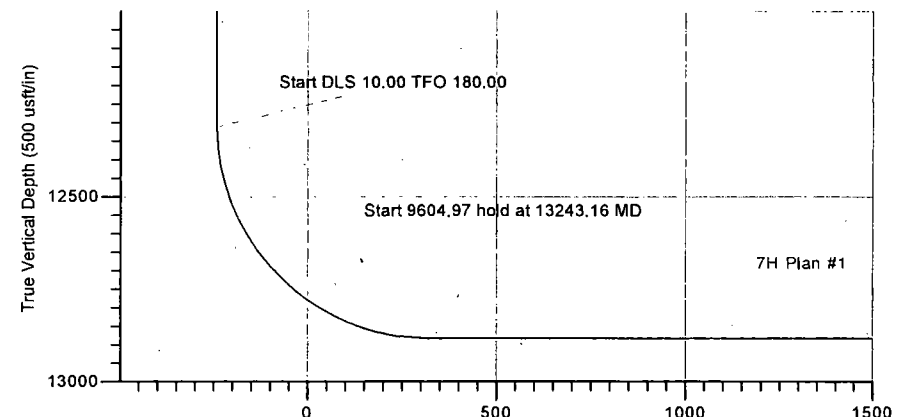
Geodetic System: US State Plane 1983
 Datum: North American Datum 1983
 Ellipsoid: GRS 1980
 Zone: New Mexico Eastern Zone



MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	Vsect	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	Start Build 1.00
3500.00	0.00	0.00	3500.00	0.00	0.00	0.00	0.00	0.00	Start 6633.99 hold at 4049.06 MD
4049.06	5.49	65.96	4048.22	10.71	24.01	1.00	65.96	-9.17	Start Drop -1.00
10683.05	5.49	65.96	10651.78	269.29	603.71	0.00	0.00	-230.54	Start 1111.04 hold at 11232.12 MD
11232.12	0.00	0.00	11200.00	280.00	627.72	1.00	180.00	-239.71	Start DLS 10.00 TFO 180.00
12343.16	0.00	0.00	12311.04	280.00	627.72	0.00	0.00	-239.71	Start 9604.97 hold at 13243.16 MD
13243.16	90.00	180.00	12684.00	-292.96	627.72	10.00	180.00	332.10	TD at 22848.13
22848.13	90.00	180.00	12884.00	-9897.93	627.72	0.00	0.00	9917.81	

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Latitude	Longitude
PBHL (FO 7H)	12884.00	-9897.93	627.72	32° 1' 21.250 N	103° 30' 36.670 W
SHL (FO 7H)	0.00	0.00	0.00	32° 2' 59.240 N	103° 30' 43.087 W



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

Plan: Plan #1 (7H/OH)
 Fighting Okra 18-19 Fed
 Created By: Dustin Ault
 Date: 15:47, September 06 2017
 Approved: _____
 Date: _____

Devon Energy

Project: Lea County, NM (NAD-83)
Site: Fighting Okra 18-19 Fed
Well: 7H
Wellbore: OH
Design: Plan #1



Azimuths to Grid North
True North: -0.44°
Magnetic North: 6.36°

Magnetic Field
Strength: 47893.0snT
Dip Angle: 59.78°
Date: 9/6/2017
Model: HDGM

devon

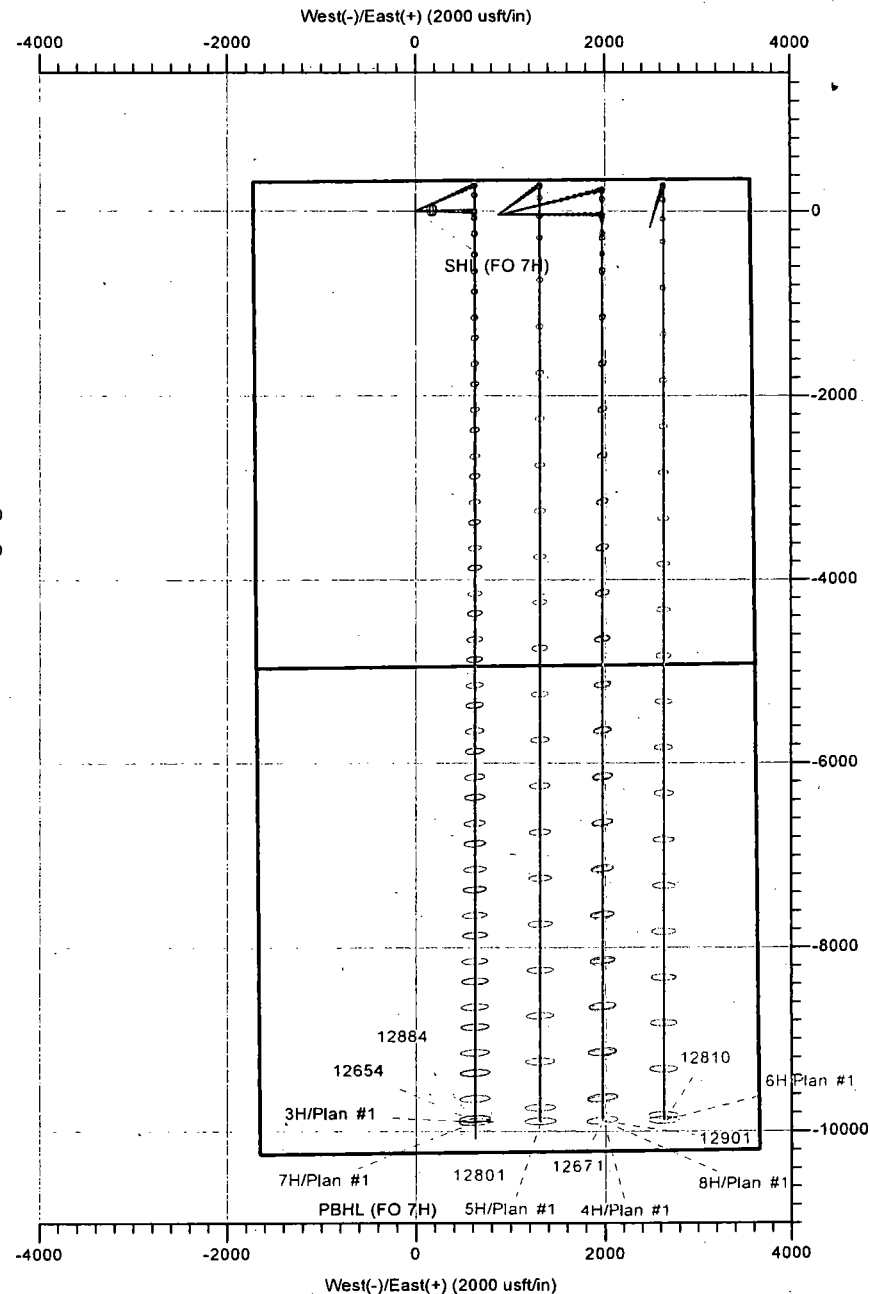
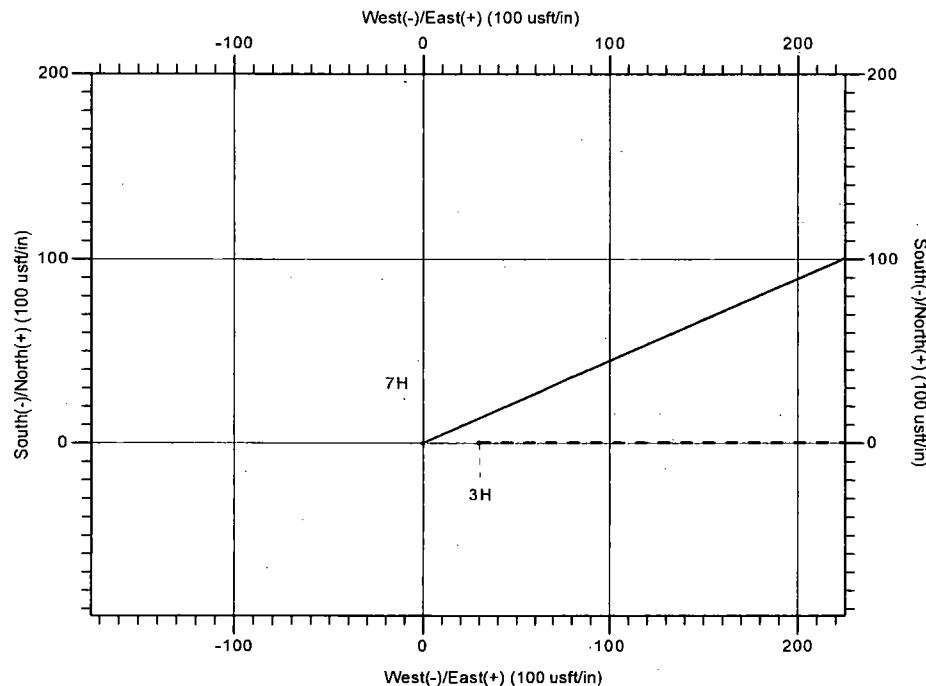
PROJECT DETAILS: Lea County, NM (NAD-83)
Geodetic System: US State Plane 1983
Datum: North American Datum 1983
Ellipsoid: GRS 1980
Zone: New Mexico Eastern Zone

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
PBHL (FO 7H)	12884.00	-9897.93	627.72	372921.30	796444.66	32° 1' 21.250 N	103° 30' 36.670 W
SHL (FO 7H)	0.00	0.00	0.00	382819.23	795816.94	32° 2' 59.240 N	103° 30' 43.087 W

SECTION DETAILS

MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Annotation
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
3500.00	0.00	0.00	3500.00	0.00	0.00	0.00	0.00	0.00	Start Build 1.00
4049.06	5.49	65.96	4048.22	10.71	24.01	1.00	65.96	-9.17	Start 6633.99 hold at 4049.06 MD
10683.05	5.49	65.96	10651.78	269.29	603.71	0.00	0.00	-230.54	Start Drop -1.00
11232.12	0.00	0.00	11200.00	280.00	627.72	1.00	180.00	-239.71	Start 1111.04 hold at 11232.12 MD
12343.16	0.00	0.00	12311.04	280.00	627.72	0.00	0.00	-239.71	Start DLS 10.00 TFO 180.00
13243.16	90.00	180.00	12884.00	-292.96	627.72	10.00	180.00	332.10	Start 9604.97 hold at 13243.16 MD
22848.13	90.00	180.00	12884.00	-9897.93	627.72	0.00	0.00	9917.81	TD at 22848.13



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

Plan: Plan #1 (7H/OH)
Fighting Okra 18-19 Fed
Created By: Dustin Ault
Date: 15:48, September 06 2017
Approved: _____
Date: _____

Devon Energy

Lea County, NM (NAD-83)

Fighting Okra 18-19 Fed

7H

OH

Plan: Plan #1

Standard Planning Report

06 September, 2017

LEAM Drilling Systems LLC

Planning Report

Database: EDM 5000.1 Multi User Db
 Company: Devon Energy
 Project: Lea County, NM (NAD-83)
 Site: Fighting Okra 18-19 Fed
 Well: 7H
 Wellbore: OH
 Design: Plan #1

Local Co-ordinate Reference: Well 7H
 TVD Reference: 3371.7' GE + 25' KB @ 3396.70usft
 MD Reference: 3371.7' GE + 25' KB @ 3396.70usft
 North Reference: Grid
 Survey Calculation Method: Minimum Curvature

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

Site	Fighting Okra 18-19 Fed		
Site Position:		Northing:	382,937.52 usft
From:	Map	Easting:	794,421.25 usft
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16"
		Latitude:	32° 3' 0.516 N
		Longitude:	103° 30' 59.292 W
		Grid Convergence:	0.43°

Well	7H		
Well Position	+N/-S	-118.29 usft	Northing:
	+E/-W	1,395.69 usft	Easting:
Position Uncertainty	0.00 usft	Wellhead Elevation:	3,383.00 usft
		Latitude:	32° 2' 59.240 N
		Longitude:	103° 30' 43.087 W
		Ground Level:	3,371.70 usft

Wellbore	OH		
Magnetics	Model Name	Sample Date	Declination
	HDGM	9/6/2017	6.80
		Dip Angle	59.78
		Field Strength	47,893

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
			(°)
			176.37

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	
3,500.00	0.00	0.00	3,500.00	0.00	0.00	0.00	0.00	0.00	0.00	
4,049.06	5.49	65.96	4,048.22	10.71	24.01	1.00	1.00	0.00	65.96	
10,683.05	5.49	65.96	10,651.78	269.29	603.71	0.00	0.00	0.00	0.00	
11,232.12	0.00	0.00	11,200.00	280.00	627.72	1.00	-1.00	0.00	180.00	
12,343.16	0.00	0.00	12,311.04	280.00	627.72	0.00	0.00	0.00	0.00	
13,243.16	90.00	180.00	12,884.00	-292.96	627.72	10.00	10.00	20.00	180.00	
22,848.13	90.00	180.00	12,884.00	-9,897.93	627.72	0.00	0.00	0.00	0.00	PBHL (FO 7H)

LEAM Drilling Systems LLC

Planning Report

Database: EDM 5000.1 Multi User Db
 Company: Devon Energy
 Project: Lea County, NM (NAD-83)
 Site: Fighting Okra 18-19 Fed
 Well: 7H
 Wellbore: OH
 Design: Plan #1

Local Co-ordinate Reference: Well 7H
 TVD Reference: 3371.7' GE + 25' KB @ 3396.70usft
 MD Reference: 3371.7' GE + 25' KB @ 3396.70usft
 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 (FO 7H)									
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00
400.00	0.00	0.00	400.00	0.00	0.00	0.00	0.00	0.00	0.00
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	0.00
600.00	0.00	0.00	600.00	0.00	0.00	0.00	0.00	0.00	0.00
700.00	0.00	0.00	700.00	0.00	0.00	0.00	0.00	0.00	0.00
800.00	0.00	0.00	800.00	0.00	0.00	0.00	0.00	0.00	0.00
900.00	0.00	0.00	900.00	0.00	0.00	0.00	0.00	0.00	0.00
1,000.00	0.00	0.00	1,000.00	0.00	0.00	0.00	0.00	0.00	0.00
1,100.00	0.00	0.00	1,100.00	0.00	0.00	0.00	0.00	0.00	0.00
1,200.00	0.00	0.00	1,200.00	0.00	0.00	0.00	0.00	0.00	0.00
1,300.00	0.00	0.00	1,300.00	0.00	0.00	0.00	0.00	0.00	0.00
1,400.00	0.00	0.00	1,400.00	0.00	0.00	0.00	0.00	0.00	0.00
1,500.00	0.00	0.00	1,500.00	0.00	0.00	0.00	0.00	0.00	0.00
1,600.00	0.00	0.00	1,600.00	0.00	0.00	0.00	0.00	0.00	0.00
1,700.00	0.00	0.00	1,700.00	0.00	0.00	0.00	0.00	0.00	0.00
1,800.00	0.00	0.00	1,800.00	0.00	0.00	0.00	0.00	0.00	0.00
1,900.00	0.00	0.00	1,900.00	0.00	0.00	0.00	0.00	0.00	0.00
2,000.00	0.00	0.00	2,000.00	0.00	0.00	0.00	0.00	0.00	0.00
2,100.00	0.00	0.00	2,100.00	0.00	0.00	0.00	0.00	0.00	0.00
2,200.00	0.00	0.00	2,200.00	0.00	0.00	0.00	0.00	0.00	0.00
2,300.00	0.00	0.00	2,300.00	0.00	0.00	0.00	0.00	0.00	0.00
2,400.00	0.00	0.00	2,400.00	0.00	0.00	0.00	0.00	0.00	0.00
2,500.00	0.00	0.00	2,500.00	0.00	0.00	0.00	0.00	0.00	0.00
2,600.00	0.00	0.00	2,600.00	0.00	0.00	0.00	0.00	0.00	0.00
2,700.00	0.00	0.00	2,700.00	0.00	0.00	0.00	0.00	0.00	0.00
2,800.00	0.00	0.00	2,800.00	0.00	0.00	0.00	0.00	0.00	0.00
2,900.00	0.00	0.00	2,900.00	0.00	0.00	0.00	0.00	0.00	0.00
3,000.00	0.00	0.00	3,000.00	0.00	0.00	0.00	0.00	0.00	0.00
3,100.00	0.00	0.00	3,100.00	0.00	0.00	0.00	0.00	0.00	0.00
3,200.00	0.00	0.00	3,200.00	0.00	0.00	0.00	0.00	0.00	0.00
3,300.00	0.00	0.00	3,300.00	0.00	0.00	0.00	0.00	0.00	0.00
3,400.00	0.00	0.00	3,400.00	0.00	0.00	0.00	0.00	0.00	0.00
3,500.00	0.00	0.00	3,500.00	0.00	0.00	0.00	0.00	0.00	0.00
Start Build 1.00									
3,600.00	1.00	65.96	3,600.00	0.36	0.80	-0.30	1.00	1.00	0.00
3,700.00	2.00	65.96	3,699.96	1.42	3.19	-1.22	1.00	1.00	0.00
3,800.00	3.00	65.96	3,799.86	3.20	7.17	-2.74	1.00	1.00	0.00
3,900.00	4.00	65.96	3,899.68	5.69	12.75	-4.87	1.00	1.00	0.00
4,000.00	5.00	65.96	3,999.37	8.88	19.91	-7.60	1.00	1.00	0.00
4,049.06	5.49	65.96	4,048.22	10.71	24.01	-9.17	1.00	1.00	0.00
Start 6633.99 hold at 4049.06 MD									
4,100.00	5.49	65.96	4,098.93	12.69	28.46	-10.87	0.00	0.00	0.00
4,200.00	5.49	65.96	4,198.47	16.59	37.20	-14.20	0.00	0.00	0.00
4,300.00	5.49	65.96	4,298.01	20.49	45.94	-17.54	0.00	0.00	0.00
4,400.00	5.49	65.96	4,397.55	24.39	54.67	-20.88	0.00	0.00	0.00
4,500.00	5.49	65.96	4,497.09	28.29	63.41	-24.22	0.00	0.00	0.00
4,600.00	5.49	65.96	4,596.63	32.18	72.15	-27.55	0.00	0.00	0.00
4,700.00	5.49	65.96	4,696.17	36.08	80.89	-30.89	0.00	0.00	0.00
4,800.00	5.49	65.96	4,795.71	39.98	89.63	-34.23	0.00	0.00	0.00

LEAM Drilling Systems LLC

Planning Report

Database: EDM 5000.1 Multi User Db
Company: Devon Energy
Project: Lea County, NM (NAD-83)
Site: Fighting Okra 18-19 Fed
Well: 7H
Wellbore: OH
Design: Plan #1

Local Co-ordinate Reference: Well 7H
TVD Reference: 3371.7' GE + 25' KB @ 3396.70usft
MD Reference: 3371.7' GE + 25' KB @ 3396.70usft
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)	
4,900.00	5.49	65.96	4,895.26	43.88	98.37	-37.56	0.00	0.00	0.00	
5,000.00	5.49	65.96	4,994.80	47.77	107.10	-40.90	0.00	0.00	0.00	
5,100.00	5.49	65.96	5,094.34	51.67	115.84	-44.24	0.00	0.00	0.00	
5,200.00	5.49	65.96	5,193.88	55.57	124.58	-47.57	0.00	0.00	0.00	
5,300.00	5.49	65.96	5,293.42	59.47	133.32	-50.91	0.00	0.00	0.00	
5,400.00	5.49	65.96	5,392.96	63.37	142.06	-54.25	0.00	0.00	0.00	
5,500.00	5.49	65.96	5,492.50	67.26	150.80	-57.59	0.00	0.00	0.00	
5,600.00	5.49	65.96	5,592.04	71.16	159.53	-60.92	0.00	0.00	0.00	
5,700.00	5.49	65.96	5,691.59	75.06	168.27	-64.26	0.00	0.00	0.00	
5,800.00	5.49	65.96	5,791.13	78.96	177.01	-67.60	0.00	0.00	0.00	
5,900.00	5.49	65.96	5,890.67	82.86	185.75	-70.93	0.00	0.00	0.00	
6,000.00	5.49	65.96	5,990.21	86.75	194.49	-74.27	0.00	0.00	0.00	
6,100.00	5.49	65.96	6,089.75	90.65	203.23	-77.61	0.00	0.00	0.00	
6,200.00	5.49	65.96	6,189.29	94.55	211.97	-80.94	0.00	0.00	0.00	
6,300.00	5.49	65.96	6,288.83	98.45	220.70	-84.28	0.00	0.00	0.00	
6,400.00	5.49	65.96	6,388.37	102.34	229.44	-87.62	0.00	0.00	0.00	
6,500.00	5.49	65.96	6,487.91	106.24	238.18	-90.95	0.00	0.00	0.00	
6,600.00	5.49	65.96	6,587.46	110.14	246.92	-94.29	0.00	0.00	0.00	
6,700.00	5.49	65.96	6,687.00	114.04	255.66	-97.63	0.00	0.00	0.00	
6,800.00	5.49	65.96	6,786.54	117.94	264.40	-100.97	0.00	0.00	0.00	
6,900.00	5.49	65.96	6,886.08	121.83	273.13	-104.30	0.00	0.00	0.00	
7,000.00	5.49	65.96	6,985.62	125.73	281.87	-107.64	0.00	0.00	0.00	
7,100.00	5.49	65.96	7,085.16	129.63	290.61	-110.98	0.00	0.00	0.00	
7,200.00	5.49	65.96	7,184.70	133.53	299.35	-114.31	0.00	0.00	0.00	
7,300.00	5.49	65.96	7,284.24	137.43	308.09	-117.65	0.00	0.00	0.00	
7,400.00	5.49	65.96	7,383.79	141.32	316.83	-120.99	0.00	0.00	0.00	
7,500.00	5.49	65.96	7,483.33	145.22	325.56	-124.32	0.00	0.00	0.00	
7,600.00	5.49	65.96	7,582.87	149.12	334.30	-127.66	0.00	0.00	0.00	
7,700.00	5.49	65.96	7,682.41	153.02	343.04	-131.00	0.00	0.00	0.00	
7,800.00	5.49	65.96	7,781.95	156.91	351.78	-134.33	0.00	0.00	0.00	
7,900.00	5.49	65.96	7,881.49	160.81	360.52	-137.67	0.00	0.00	0.00	
8,000.00	5.49	65.96	7,981.03	164.71	369.26	-141.01	0.00	0.00	0.00	
8,100.00	5.49	65.96	8,080.57	168.61	377.99	-144.35	0.00	0.00	0.00	
8,200.00	5.49	65.96	8,180.12	172.51	386.73	-147.68	0.00	0.00	0.00	
8,300.00	5.49	65.96	8,279.66	176.40	395.47	-151.02	0.00	0.00	0.00	
8,400.00	5.49	65.96	8,379.20	180.30	404.21	-154.36	0.00	0.00	0.00	
8,500.00	5.49	65.96	8,478.74	184.20	412.95	-157.69	0.00	0.00	0.00	
8,600.00	5.49	65.96	8,578.28	188.10	421.69	-161.03	0.00	0.00	0.00	
8,700.00	5.49	65.96	8,677.82	191.99	430.42	-164.37	0.00	0.00	0.00	
8,800.00	5.49	65.96	8,777.36	195.89	439.16	-167.70	0.00	0.00	0.00	
8,900.00	5.49	65.96	8,876.90	199.79	447.90	-171.04	0.00	0.00	0.00	
9,000.00	5.49	65.96	8,976.44	203.69	456.64	-174.38	0.00	0.00	0.00	
9,100.00	5.49	65.96	9,075.99	207.59	465.38	-177.72	0.00	0.00	0.00	
9,200.00	5.49	65.96	9,175.53	211.48	474.12	-181.05	0.00	0.00	0.00	
9,300.00	5.49	65.96	9,275.07	215.38	482.86	-184.39	0.00	0.00	0.00	
9,400.00	5.49	65.96	9,374.61	219.28	491.59	-187.73	0.00	0.00	0.00	
9,500.00	5.49	65.96	9,474.15	223.18	500.33	-191.06	0.00	0.00	0.00	
9,600.00	5.49	65.96	9,573.69	227.08	509.07	-194.40	0.00	0.00	0.00	
9,700.00	5.49	65.96	9,673.23	230.97	517.81	-197.74	0.00	0.00	0.00	
9,800.00	5.49	65.96	9,772.77	234.87	526.55	-201.07	0.00	0.00	0.00	
9,900.00	5.49	65.96	9,872.32	238.77	535.29	-204.41	0.00	0.00	0.00	
10,000.00	5.49	65.96	9,971.86	242.67	544.02	-207.75	0.00	0.00	0.00	
10,100.00	5.49	65.96	10,071.40	246.56	552.76	-211.08	0.00	0.00	0.00	
10,200.00	5.49	65.96	10,170.94	250.46	561.50	-214.42	0.00	0.00	0.00	

LEAM Drilling Systems LLC

Planning Report

Database: EDM 5000.1 Multi User Db
 Company: Devon Energy
 Project: Lea County, NM (NAD-83)
 Site: Fighting Okra 18-19 Fed
 Well: 7H
 Wellbore: OH
 Design: Plan #1

Local Co-ordinate Reference: Well 7H
 TVD Reference: 3371.7' GE + 25' KB @ 3396.70usft
 MD Reference: 3371.7' GE + 25' KB @ 3396.70usft
 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)
10,300.00	5.49	65.96	10,270.48	254.36	570.24	-217.76	0.00	0.00	0.00
10,400.00	5.49	65.96	10,370.02	258.26	578.98	-221.10	0.00	0.00	0.00
10,500.00	5.49	65.96	10,469.56	262.16	587.72	-224.43	0.00	0.00	0.00
10,600.00	5.49	65.96	10,569.10	266.05	596.45	-227.77	0.00	0.00	0.00
10,683.05	5.49	65.96	10,651.78	269.29	603.71	-230.54	0.00	0.00	0.00
Start Drop -1.00									
10,700.00	5.32	65.96	10,668.65	269.94	605.17	-231.10	1.00	-1.00	0.00
10,800.00	4.32	65.96	10,768.29	273.37	612.85	-234.03	1.00	-1.00	0.00
10,900.00	3.32	65.96	10,868.07	276.08	618.93	-236.35	1.00	-1.00	0.00
11,000.00	2.32	65.96	10,967.95	278.08	623.43	-238.07	1.00	-1.00	0.00
11,100.00	1.32	65.96	11,067.89	279.38	626.33	-239.18	1.00	-1.00	0.00
11,200.00	0.32	65.96	11,167.88	279.96	627.64	-239.68	1.00	-1.00	0.00
11,232.12	0.00	0.00	11,200.00	280.00	627.72	-239.71	1.00	-1.00	0.00
Start 1111.04 hold at 11232.12 MD									
11,300.00	0.00	0.00	11,267.88	280.00	627.72	-239.71	0.00	0.00	0.00
11,400.00	0.00	0.00	11,367.88	280.00	627.72	-239.71	0.00	0.00	0.00
11,500.00	0.00	0.00	11,467.88	280.00	627.72	-239.71	0.00	0.00	0.00
11,600.00	0.00	0.00	11,567.88	280.00	627.72	-239.71	0.00	0.00	0.00
11,700.00	0.00	0.00	11,667.88	280.00	627.72	-239.71	0.00	0.00	0.00
11,800.00	0.00	0.00	11,767.88	280.00	627.72	-239.71	0.00	0.00	0.00
11,900.00	0.00	0.00	11,867.88	280.00	627.72	-239.71	0.00	0.00	0.00
12,000.00	0.00	0.00	11,967.88	280.00	627.72	-239.71	0.00	0.00	0.00
12,100.00	0.00	0.00	12,067.88	280.00	627.72	-239.71	0.00	0.00	0.00
12,200.00	0.00	0.00	12,167.88	280.00	627.72	-239.71	0.00	0.00	0.00
12,300.00	0.00	0.00	12,267.88	280.00	627.72	-239.71	0.00	0.00	0.00
12,343.16	0.00	0.00	12,311.04	280.00	627.72	-239.71	0.00	0.00	0.00
Start DLS 10.00 TFO 180.00									
12,350.00	0.68	180.00	12,317.88	279.96	627.72	-239.67	10.00	10.00	0.00
12,400.00	5.68	180.00	12,367.79	277.18	627.72	-236.90	10.00	10.00	0.00
12,450.00	10.68	180.00	12,417.26	270.07	627.72	-229.80	10.00	10.00	0.00
12,500.00	15.68	180.00	12,465.93	258.67	627.72	-218.42	10.00	10.00	0.00
12,550.00	20.68	180.00	12,513.42	243.07	627.72	-202.85	10.00	10.00	0.00
12,600.00	25.68	180.00	12,559.37	223.39	627.72	-183.21	10.00	10.00	0.00
12,650.00	30.68	180.00	12,603.42	199.78	627.72	-159.65	10.00	10.00	0.00
12,700.00	35.68	180.00	12,645.26	172.42	627.72	-132.35	10.00	10.00	0.00
12,750.00	40.68	180.00	12,684.55	141.52	627.72	-101.51	10.00	10.00	0.00
12,800.00	45.68	180.00	12,720.99	107.32	627.72	-67.37	10.00	10.00	0.00
12,850.00	50.68	180.00	12,754.32	70.06	627.72	-30.19	10.00	10.00	0.00
12,900.00	55.68	180.00	12,784.27	30.05	627.72	9.74	10.00	10.00	0.00
12,950.00	60.68	180.00	12,810.62	-12.42	627.72	52.13	10.00	10.00	0.00
13,000.00	65.68	180.00	12,833.17	-57.03	627.72	96.65	10.00	10.00	0.00
13,050.00	70.68	180.00	12,851.75	-103.44	627.72	142.96	10.00	10.00	0.00
13,100.00	75.68	180.00	12,866.21	-151.28	627.72	190.71	10.00	10.00	0.00
13,150.00	80.68	180.00	12,876.44	-200.21	627.72	239.54	10.00	10.00	0.00
13,200.00	85.68	180.00	12,882.37	-249.84	627.72	289.07	10.00	10.00	0.00
13,243.16	90.00	180.00	12,884.00	-292.96	627.72	332.10	10.00	10.00	0.00
Start 9604.97 hold at 13243.16 MD									
13,300.00	90.00	180.00	12,884.00	-349.80	627.72	388.83	0.00	0.00	0.00
13,400.00	90.00	180.00	12,884.00	-449.80	627.72	488.63	0.00	0.00	0.00
13,500.00	90.00	180.00	12,884.00	-549.80	627.72	588.43	0.00	0.00	0.00
13,600.00	90.00	180.00	12,884.00	-649.80	627.72	688.23	0.00	0.00	0.00
13,700.00	90.00	180.00	12,884.00	-749.80	627.72	788.03	0.00	0.00	0.00
13,800.00	90.00	180.00	12,884.00	-849.80	627.72	887.83	0.00	0.00	0.00

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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)
13,900.00	90.00	180.00	12,884.00	-949.80	627.72	987.63	0.00	0.00	0.00
14,000.00	90.00	180.00	12,884.00	-1,049.80	627.72	1,087.42	0.00	0.00	0.00
14,100.00	90.00	180.00	12,884.00	-1,149.80	627.72	1,187.22	0.00	0.00	0.00
14,200.00	90.00	180.00	12,884.00	-1,249.80	627.72	1,287.02	0.00	0.00	0.00
14,300.00	90.00	180.00	12,884.00	-1,349.80	627.72	1,386.82	0.00	0.00	0.00
14,400.00	90.00	180.00	12,884.00	-1,449.80	627.72	1,486.62	0.00	0.00	0.00
14,500.00	90.00	180.00	12,884.00	-1,549.80	627.72	1,586.42	0.00	0.00	0.00
14,600.00	90.00	180.00	12,884.00	-1,649.80	627.72	1,686.22	0.00	0.00	0.00
14,700.00	90.00	180.00	12,884.00	-1,749.80	627.72	1,786.02	0.00	0.00	0.00
14,800.00	90.00	180.00	12,884.00	-1,849.80	627.72	1,885.82	0.00	0.00	0.00
14,900.00	90.00	180.00	12,884.00	-1,949.80	627.72	1,985.62	0.00	0.00	0.00
15,000.00	90.00	180.00	12,884.00	-2,049.80	627.72	2,085.42	0.00	0.00	0.00
15,100.00	90.00	180.00	12,884.00	-2,149.80	627.72	2,185.22	0.00	0.00	0.00
15,200.00	90.00	180.00	12,884.00	-2,249.80	627.72	2,285.02	0.00	0.00	0.00
15,300.00	90.00	180.00	12,884.00	-2,349.80	627.72	2,384.82	0.00	0.00	0.00
15,400.00	90.00	180.00	12,884.00	-2,449.80	627.72	2,484.62	0.00	0.00	0.00
15,500.00	90.00	180.00	12,884.00	-2,549.80	627.72	2,584.42	0.00	0.00	0.00
15,600.00	90.00	180.00	12,884.00	-2,649.80	627.72	2,684.22	0.00	0.00	0.00
15,700.00	90.00	180.00	12,884.00	-2,749.80	627.72	2,784.02	0.00	0.00	0.00
15,800.00	90.00	180.00	12,884.00	-2,849.80	627.72	2,883.82	0.00	0.00	0.00
15,900.00	90.00	180.00	12,884.00	-2,949.80	627.72	2,983.62	0.00	0.00	0.00
16,000.00	90.00	180.00	12,884.00	-3,049.80	627.72	3,083.42	0.00	0.00	0.00
16,100.00	90.00	180.00	12,884.00	-3,149.80	627.72	3,183.21	0.00	0.00	0.00
16,200.00	90.00	180.00	12,884.00	-3,249.80	627.72	3,283.01	0.00	0.00	0.00
16,300.00	90.00	180.00	12,884.00	-3,349.80	627.72	3,382.81	0.00	0.00	0.00
16,400.00	90.00	180.00	12,884.00	-3,449.80	627.72	3,482.61	0.00	0.00	0.00
16,500.00	90.00	180.00	12,884.00	-3,549.80	627.72	3,582.41	0.00	0.00	0.00
16,600.00	90.00	180.00	12,884.00	-3,649.80	627.72	3,682.21	0.00	0.00	0.00
16,700.00	90.00	180.00	12,884.00	-3,749.80	627.72	3,782.01	0.00	0.00	0.00
16,800.00	90.00	180.00	12,884.00	-3,849.80	627.72	3,881.81	0.00	0.00	0.00
16,900.00	90.00	180.00	12,884.00	-3,949.80	627.72	3,981.61	0.00	0.00	0.00
17,000.00	90.00	180.00	12,884.00	-4,049.80	627.72	4,081.41	0.00	0.00	0.00
17,100.00	90.00	180.00	12,884.00	-4,149.80	627.72	4,181.21	0.00	0.00	0.00
17,200.00	90.00	180.00	12,884.00	-4,249.80	627.72	4,281.01	0.00	0.00	0.00
17,300.00	90.00	180.00	12,884.00	-4,349.80	627.72	4,380.81	0.00	0.00	0.00
17,400.00	90.00	180.00	12,884.00	-4,449.80	627.72	4,480.61	0.00	0.00	0.00
17,500.00	90.00	180.00	12,884.00	-4,549.80	627.72	4,580.41	0.00	0.00	0.00
17,600.00	90.00	180.00	12,884.00	-4,649.80	627.72	4,680.21	0.00	0.00	0.00
17,700.00	90.00	180.00	12,884.00	-4,749.80	627.72	4,780.01	0.00	0.00	0.00
17,800.00	90.00	180.00	12,884.00	-4,849.80	627.72	4,879.81	0.00	0.00	0.00
17,900.00	90.00	180.00	12,884.00	-4,949.80	627.72	4,979.61	0.00	0.00	0.00
18,000.00	90.00	180.00	12,884.00	-5,049.80	627.72	5,079.41	0.00	0.00	0.00
18,100.00	90.00	180.00	12,884.00	-5,149.80	627.72	5,179.20	0.00	0.00	0.00
18,200.00	90.00	180.00	12,884.00	-5,249.80	627.72	5,279.00	0.00	0.00	0.00
18,300.00	90.00	180.00	12,884.00	-5,349.80	627.72	5,378.80	0.00	0.00	0.00
18,400.00	90.00	180.00	12,884.00	-5,449.80	627.72	5,478.60	0.00	0.00	0.00
18,500.00	90.00	180.00	12,884.00	-5,549.80	627.72	5,578.40	0.00	0.00	0.00
18,600.00	90.00	180.00	12,884.00	-5,649.80	627.72	5,678.20	0.00	0.00	0.00
18,700.00	90.00	180.00	12,884.00	-5,749.80	627.72	5,778.00	0.00	0.00	0.00
18,800.00	90.00	180.00	12,884.00	-5,849.80	627.72	5,877.80	0.00	0.00	0.00
18,900.00	90.00	180.00	12,884.00	-5,949.80	627.72	5,977.60	0.00	0.00	0.00
19,000.00	90.00	180.00	12,884.00	-6,049.80	627.72	6,077.40	0.00	0.00	0.00
19,100.00	90.00	180.00	12,884.00	-6,149.80	627.72	6,177.20	0.00	0.00	0.00
19,200.00	90.00	180.00	12,884.00	-6,249.80	627.72	6,277.00	0.00	0.00	0.00

LEAM Drilling Systems LLC

Planning Report

Database: EDM 5000.1 Multi User Db
 Company: Devon Energy
 Project: Lea County, NM (NAD-83)
 Site: Fighting Okra 18-19 Fed
 Well: 7H
 Wellbore: OH
 Design: Plan #1

Local Co-ordinate Reference: Well 7H
 TVD Reference: 3371.7' GE + 25' KB @ 3396.70usft
 MD Reference: 3371.7' GE + 25' KB @ 3396.70usft
 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)
19,300.00	90.00	180.00	12,884.00	-6,349.80	627.72	6,376.80	0.00	0.00	0.00
19,400.00	90.00	180.00	12,884.00	-6,449.80	627.72	6,476.60	0.00	0.00	0.00
19,500.00	90.00	180.00	12,884.00	-6,549.80	627.72	6,576.40	0.00	0.00	0.00
19,600.00	90.00	180.00	12,884.00	-6,649.80	627.72	6,676.20	0.00	0.00	0.00
19,700.00	90.00	180.00	12,884.00	-6,749.80	627.72	6,776.00	0.00	0.00	0.00
19,800.00	90.00	180.00	12,884.00	-6,849.80	627.72	6,875.80	0.00	0.00	0.00
19,900.00	90.00	180.00	12,884.00	-6,949.80	627.72	6,975.60	0.00	0.00	0.00
20,000.00	90.00	180.00	12,884.00	-7,049.80	627.72	7,075.40	0.00	0.00	0.00
20,100.00	90.00	180.00	12,884.00	-7,149.80	627.72	7,175.19	0.00	0.00	0.00
20,200.00	90.00	180.00	12,884.00	-7,249.80	627.72	7,274.99	0.00	0.00	0.00
20,300.00	90.00	180.00	12,884.00	-7,349.80	627.72	7,374.79	0.00	0.00	0.00
20,400.00	90.00	180.00	12,884.00	-7,449.80	627.72	7,474.59	0.00	0.00	0.00
20,500.00	90.00	180.00	12,884.00	-7,549.80	627.72	7,574.39	0.00	0.00	0.00
20,600.00	90.00	180.00	12,884.00	-7,649.80	627.72	7,674.19	0.00	0.00	0.00
20,700.00	90.00	180.00	12,884.00	-7,749.80	627.72	7,773.99	0.00	0.00	0.00
20,800.00	90.00	180.00	12,884.00	-7,849.80	627.72	7,873.79	0.00	0.00	0.00
20,900.00	90.00	180.00	12,884.00	-7,949.80	627.72	7,973.59	0.00	0.00	0.00
21,000.00	90.00	180.00	12,884.00	-8,049.80	627.72	8,073.39	0.00	0.00	0.00
21,100.00	90.00	180.00	12,884.00	-8,149.80	627.72	8,173.19	0.00	0.00	0.00
21,200.00	90.00	180.00	12,884.00	-8,249.80	627.72	8,272.99	0.00	0.00	0.00
21,300.00	90.00	180.00	12,884.00	-8,349.80	627.72	8,372.79	0.00	0.00	0.00
21,400.00	90.00	180.00	12,884.00	-8,449.80	627.72	8,472.59	0.00	0.00	0.00
21,500.00	90.00	180.00	12,884.00	-8,549.80	627.72	8,572.39	0.00	0.00	0.00
21,600.00	90.00	180.00	12,884.00	-8,649.80	627.72	8,672.19	0.00	0.00	0.00
21,700.00	90.00	180.00	12,884.00	-8,749.80	627.72	8,771.99	0.00	0.00	0.00
21,800.00	90.00	180.00	12,884.00	-8,849.80	627.72	8,871.79	0.00	0.00	0.00
21,900.00	90.00	180.00	12,884.00	-8,949.80	627.72	8,971.59	0.00	0.00	0.00
22,000.00	90.00	180.00	12,884.00	-9,049.80	627.72	9,071.39	0.00	0.00	0.00
22,100.00	90.00	180.00	12,884.00	-9,149.80	627.72	9,171.18	0.00	0.00	0.00
22,200.00	90.00	180.00	12,884.00	-9,249.80	627.72	9,270.98	0.00	0.00	0.00
22,300.00	90.00	180.00	12,884.00	-9,349.80	627.72	9,370.78	0.00	0.00	0.00
22,400.00	90.00	180.00	12,884.00	-9,449.80	627.72	9,470.58	0.00	0.00	0.00
22,500.00	90.00	180.00	12,884.00	-9,549.80	627.72	9,570.38	0.00	0.00	0.00
22,600.00	90.00	180.00	12,884.00	-9,649.80	627.72	9,670.18	0.00	0.00	0.00
22,700.00	90.00	180.00	12,884.00	-9,749.80	627.72	9,769.98	0.00	0.00	0.00
22,800.00	90.00	180.00	12,884.00	-9,849.80	627.72	9,869.78	0.00	0.00	0.00
22,848.13	90.00	180.00	12,884.00	-9,897.93	627.72	9,917.82	0.00	0.00	0.00

TD at 22848.13 - PBHL (FO 7H)

Design Targets

Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
SHL (FO 7H) - hit/miss target - Shape - Point	0.00	0.00	0.00	0.00	0.00	382,819.23	795,816.94	32° 2' 59.240 N	103° 30' 43.087 W
PBHL (FO 7H) - plan hits target center - Point	0.00	0.00	12,884.00	-9,897.93	627.72	372,921.30	796,444.66	32° 1' 21.250 N	103° 30' 36.670 W

LEAM Drilling Systems LLC

Planning Report

Database: EDM 5000.1 Multi User Db
Company: Devon Energy
Project: Lea County, NM (NAD-83)
Site: Fighting Okra 18-19 Fed
Well: 7H
Wellbore: OH
Design: Plan #1

Local Co-ordinate Reference: Well 7H
TVD Reference: 3371.7' GE + 25' KB @ 3396.70usft
MD Reference: 3371.7' GE + 25' KB @ 3396.70usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
3,500.00	3,500.00	0.00	0.00	Start Build 1.00
4,049.06	4,048.22	10.71	24.01	Start 6633.99 hold at 4049.06 MD
10,683.05	10,651.78	269.29	603.71	Start Drop -1.00
11,232.12	11,200.00	280.00	627.72	Start 1111.04 hold at 11232.12 MD
12,343.16	12,311.04	280.00	627.72	Start DLS 10.00 TFO 180.00
13,243.16	12,884.00	-292.96	627.72	Start 9604.97 hold at 13243.16 MD
22,848.13	12,884.00	-9,897.93	627.72	TD at 22848.13

Devon Energy

**Lea County, NM (NAD-83)
Fighting Okra 18-19 Fed
7H**

**OH
Plan #1**

Anticollision Report

06 September, 2017

LEAM Drilling Systems LLC

Anticollision Report

Company:	Devon Energy	Local Co-ordinate Reference:	Well 7H
Project:	Lea County, NM (NAD-83)	TVD Reference:	3371.7' GE + 25' KB @ 3396.70usft
Reference Site:	Fighting Okra 18-19 Fed	MD Reference:	3371.7' GE + 25' KB @ 3396.70usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	7H	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	Error Model:	ISCWSA
Depth Range:	Unlimited	Scan Method:	Closest Approach 3D
Results Limited by:	Maximum center-center distance of 9,999.98 usft	Error Surface:	Elliptical Conic
Warning Levels Evaluated at:	2.00 Sigma	Casing Method:	Not applied

Survey Tool Program	Date	9/6/2017		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
0.00	22,848.13	Plan #1 (OH)	LEAM MWD+HDGM	MWD+HDGM

Summary						
Site Name	Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Separation Factor	Warning
Fighting Okra 18-19 Fed						
3H - OH - Plan #1	2,916.50	2,917.00	29.99	17.16	2.337 CC	
3H - OH - Plan #1	3,000.00	3,000.50	29.99	16.79	2.271 ES	
3H - OH - Plan #1	22,848.13	22,329.42	230.50	78.37	1.515 SF	
4H - OH - Plan #1	2,500.00	2,493.30	955.81	944.87	87.350 CC, ES	
4H - OH - Plan #1	22,848.13	22,329.57	1,365.37	1,039.68	4.192 SF	
5H - OH - Plan #1	10,972.07	10,924.50	688.59	639.32	13.978 CC	
5H - OH - Plan #1	22,848.13	22,746.83	693.74	366.32	2.119 ES, SF	
6H - OH - Plan #1	12,415.12	12,398.51	2,008.46	1,952.78	36.074 CC	
6H - OH - Plan #1	22,848.13	22,751.03	2,009.93	1,682.89	6.146 ES, SF	
8H - OH - Plan #1	3,000.00	2,993.50	910.91	897.72	69.058 CC, ES	
8H - OH - Plan #1	22,848.13	22,848.63	1,348.71	1,020.12	4.105 SF	

Offset Design											Offset Site Error:	0.00 usft		
Survey Program: 0-LEAM MWD+HDGM											Offset Well Error:	0.00 usft		
Fighting Okra 18-19 Fed - 3H - OH - Plan #1														
Reference Measured Depth (usft)	Vertical Depth (usft)	Offset Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Semi Major Axis	Highside Toolface (°)	Offset Wellbore Centre N-S (usft)	Offset Wellbore Centre E-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
0.00	0.00	0.50	0.50	0.00	0.00	89.52		0.25	29.99	29.99				
100.00	100.00	100.50	100.50	0.08	0.09	89.52		0.25	29.99	29.99	29.82	0.17	176.731	
200.00	200.00	200.50	200.50	0.31	0.31	89.52		0.25	29.99	29.99	29.37	0.62	48.433	
300.00	300.00	300.50	300.50	0.53	0.53	89.52		0.25	29.99	29.99	28.92	1.07	28.061	
400.00	400.00	400.50	400.50	0.76	0.76	89.52		0.25	29.99	29.99	28.47	1.52	19.753	
500.00	500.00	500.50	500.50	0.98	0.98	89.52		0.25	29.99	29.99	28.02	1.97	15.241	
600.00	600.00	600.50	600.50	1.21	1.21	89.52		0.25	29.99	29.99	27.57	2.42	12.407	
700.00	700.00	700.50	700.50	1.43	1.43	89.52		0.25	29.99	29.99	27.12	2.87	10.461	
800.00	800.00	800.50	800.50	1.66	1.66	89.52		0.25	29.99	29.99	26.67	3.32	9.043	
900.00	900.00	900.50	900.50	1.88	1.88	89.52		0.25	29.99	29.99	26.23	3.77	7.964	
1,000.00	1,000.00	1,000.50	1,000.50	2.11	2.11	89.52		0.25	29.99	29.99	25.78	4.22	7.114	
1,100.00	1,100.00	1,100.50	1,100.50	2.33	2.33	89.52		0.25	29.99	29.99	25.33	4.67	6.429	
1,200.00	1,200.00	1,200.50	1,200.50	2.56	2.56	89.52		0.25	29.99	29.99	24.88	5.11	5.864	
1,300.00	1,300.00	1,300.50	1,300.50	2.78	2.78	89.52		0.25	29.99	29.99	24.43	5.56	5.390	
1,400.00	1,400.00	1,400.50	1,400.50	3.01	3.01	89.52		0.25	29.99	29.99	23.98	6.01	4.987	
1,500.00	1,500.00	1,500.50	1,500.50	3.23	3.23	89.52		0.25	29.99	29.99	23.53	6.46	4.640	

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

LEAM Drilling Systems LLC

Anticollision Report

Company: Devon Energy
 Project: Lea County, NM (NAD-83)
 Reference Site: Fighting Okra 18-19 Fed
 Site Error: 0.00 usft
 Reference Well: 7H
 Well Error: 0.00 usft
 Reference Wellbore: OH
 Reference Design: Plan #1

Local Co-ordinate Reference: Well 7H
 TVD Reference: 3371.7' GE + 25' KB @ 3396.70usft
 MD Reference: 3371.7' GE + 25' KB @ 3396.70usft
 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: Fighting Okra 18-19 Fed - 3H - OH - Plan #1														Offset Site Error: 0.00 usft
Survey Program: O-LEAM MWD+HDGM														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)	Offset Wellbore Centre E-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning	
1,600.00	1,600.00	1,600.50	1,600.50	3.46	3.46	89.52	0.25	29.99	29.99	23.08	6.91	4.339		
1,700.00	1,700.00	1,700.50	1,700.50	3.68	3.68	89.52	0.25	29.99	29.99	22.63	7.36	4.074		
1,800.00	1,800.00	1,800.50	1,800.50	3.91	3.91	89.52	0.25	29.99	29.99	22.18	7.81	3.839		
1,900.00	1,900.00	1,900.50	1,900.50	4.13	4.13	89.52	0.25	29.99	29.99	21.73	8.26	3.630		
2,000.00	2,000.00	2,000.50	2,000.50	4.35	4.36	89.52	0.25	29.99	29.99	21.28	8.71	3.443		
2,100.00	2,100.00	2,100.50	2,100.50	4.58	4.58	89.52	0.25	29.99	29.99	20.83	9.16	3.274		
2,200.00	2,200.00	2,200.50	2,200.50	4.80	4.81	89.52	0.25	29.99	29.99	20.38	9.61	3.121		
2,300.00	2,300.00	2,300.50	2,300.50	5.03	5.03	89.52	0.25	29.99	29.99	19.93	10.06	2.981		
2,400.00	2,400.00	2,400.50	2,400.50	5.25	5.26	89.52	0.25	29.99	29.99	19.48	10.51	2.854		
2,500.00	2,500.00	2,500.50	2,500.50	5.48	5.48	89.52	0.25	29.99	29.99	19.03	10.96	2.737		
2,600.00	2,600.00	2,600.50	2,600.50	5.70	5.70	89.52	0.25	29.99	29.99	18.58	11.41	2.629		
2,700.00	2,700.00	2,700.50	2,700.50	5.93	5.93	89.52	0.25	29.99	29.99	18.13	11.86	2.529		
2,800.00	2,800.00	2,800.50	2,800.50	6.15	6.15	89.52	0.25	29.99	29.99	17.68	12.31	2.437		
2,900.00	2,900.00	2,900.50	2,900.50	6.38	6.38	89.52	0.25	29.99	29.99	17.23	12.76	2.351		
2,916.50	2,916.50	2,917.00	2,917.00	6.41	6.42	89.52	0.25	29.99	29.99	17.16	12.83	2.337 CC		
3,000.00	3,000.00	3,000.50	3,000.50	6.60	6.60	89.52	0.25	29.99	29.99	16.79	13.21	2.271 ES		
3,100.00	3,100.00	3,100.00	3,099.99	6.83	6.81	89.54	0.25	30.86	30.87	17.23	13.64	2.263		
3,200.00	3,200.00	3,199.38	3,199.34	7.05	7.01	89.57	0.25	33.46	33.48	19.43	14.05	2.382		
3,300.00	3,300.00	3,298.66	3,298.53	7.28	7.21	89.62	0.25	37.77	37.82	23.36	14.46	2.615		
3,400.00	3,400.00	3,397.77	3,397.45	7.50	7.41	89.67	0.25	43.79	43.90	29.03	14.87	2.952		
3,500.00	3,500.00	3,497.04	3,496.43	7.73	7.62	89.72	0.25	51.37	51.53	36.24	15.29	3.371		
3,600.00	3,600.00	3,596.79	3,595.87	7.94	7.83	24.11	0.25	59.24	58.63	42.92	15.71	3.733		
3,700.00	3,699.96	3,696.63	3,695.40	8.15	8.04	25.04	0.25	67.12	64.15	48.03	16.12	3.980		
3,800.00	3,799.86	3,796.53	3,794.99	8.36	8.26	26.45	0.25	75.01	68.12	51.59	16.53	4.121		
3,900.00	3,899.68	3,896.47	3,894.62	8.58	8.48	28.38	0.25	82.90	70.59	53.64	16.95	4.165		
4,000.00	3,999.37	3,996.42	3,994.25	8.79	8.70	30.88	0.25	90.79	71.63	54.26	17.37	4.124		
4,049.06	4,048.22	4,045.45	4,043.13	8.90	8.81	32.35	0.25	94.67	71.65	54.07	17.57	4.077		
4,100.00	4,098.93	4,096.34	4,093.86	9.01	8.92	33.97	0.25	98.68	71.54	53.74	17.79	4.021		
4,172.26	4,170.86	4,168.55	4,165.84	9.17	9.09	36.28	0.25	104.38	71.48	53.38	18.10	3.949		
4,200.00	4,198.47	4,196.27	4,193.47	9.23	9.15	37.17	0.25	106.57	71.49	53.27	18.22	3.924		
4,300.00	4,298.01	4,296.19	4,293.08	9.46	9.38	40.35	0.25	114.46	71.66	53.01	18.65	3.842		
4,400.00	4,397.55	4,396.11	4,392.69	9.69	9.60	43.52	0.25	122.35	72.05	52.96	19.09	3.774		
4,500.00	4,497.09	4,496.03	4,492.30	9.92	9.83	46.64	0.25	130.24	72.66	53.13	19.54	3.720		
4,600.00	4,596.63	4,595.95	4,591.91	10.15	10.07	49.70	0.25	138.13	73.49	53.50	19.99	3.677		
4,700.00	4,696.17	4,695.87	4,691.52	10.38	10.30	52.68	0.25	146.02	74.51	54.07	20.44	3.645		
4,800.00	4,795.71	4,795.79	4,791.12	10.62	10.53	55.58	0.25	153.91	75.74	54.84	20.90	3.623		
4,900.00	4,895.26	4,895.71	4,890.73	10.85	10.77	58.37	0.25	161.80	77.15	55.78	21.37	3.610		
5,000.00	4,994.80	4,995.63	4,990.34	11.09	11.00	61.06	0.25	169.69	78.74	56.90	21.84	3.605		
5,100.00	5,094.34	5,095.55	5,089.95	11.33	11.24	63.64	0.25	177.58	80.49	58.17	22.32	3.607		
5,200.00	5,193.88	5,195.47	5,189.56	11.57	11.48	66.10	0.25	185.46	82.40	59.60	22.80	3.614		
5,300.00	5,293.42	5,295.39	5,289.17	11.82	11.71	68.45	0.25	193.35	84.46	61.18	23.28	3.627		
5,400.00	5,392.96	5,395.31	5,388.77	12.06	11.95	70.68	0.25	201.24	86.65	62.88	23.77	3.645		
5,500.00	5,492.50	5,495.23	5,488.38	12.30	12.19	72.80	0.25	209.13	88.97	64.70	24.26	3.667		
5,600.00	5,592.04	5,595.15	5,587.99	12.55	12.43	74.81	0.25	217.02	91.40	66.64	24.76	3.692		
5,700.00	5,691.59	5,695.07	5,687.60	12.80	12.67	76.71	0.25	224.91	93.94	68.68	25.26	3.720		
5,800.00	5,791.13	5,794.99	5,787.21	13.05	12.92	78.52	0.25	232.80	96.57	70.82	25.75	3.750		
5,900.00	5,890.67	5,894.91	5,886.82	13.29	13.16	80.22	0.25	240.69	99.30	73.05	26.25	3.782		
6,000.00	5,990.21	5,994.83	5,986.42	13.54	13.40	81.83	0.25	248.58	102.11	75.36	26.76	3.816		
6,100.00	6,089.75	6,094.75	6,086.03	13.79	13.65	83.35	0.25	256.47	105.00	77.74	27.26	3.852		
6,200.00	6,189.29	6,194.67	6,185.64	14.05	13.89	84.80	0.25	264.36	107.96	80.19	27.76	3.889		
6,300.00	6,288.83	6,294.59	6,285.25	14.30	14.13	86.16	0.25	272.25	110.98	82.71	28.27	3.926		
6,400.00	6,388.37	6,394.51	6,384.86	14.55	14.38	87.45	0.25	280.13	114.06	85.28	28.77	3.964		

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

LEAM Drilling Systems LLC

Anticollision Report

Company: Devon Energy
Project: Lea County, NM (NAD-83)
Reference Site: Fighting Okra 18-19 Fed
Site Error: 0.00 usft
Reference Well: 7H
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Plan #1

Local Co-ordinate Reference: Well 7H
TVD Reference: 3371.7' GE + 25' KB @ 3396.70usft
MD Reference: 3371.7' GE + 25' KB @ 3396.70usft
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: Fighting Okra 18-19 Fed - 3H - OH - Plan #1													Offset Site Error: 0.00 usft
Survey Program: 0-LEAM MWD+HDGM													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	
6,500.00	6,487.91	6,494.43	6,484.47	14.80	14.63	88.67	0.25	288.02	117.19	87.91	29.28	4.003	
6,600.00	6,587.46	6,594.35	6,584.08	15.06	14.87	89.83	0.25	295.91	120.38	90.59	29.79	4.041	
6,700.00	6,687.00	6,694.27	6,683.68	15.31	15.12	90.93	0.25	303.80	123.61	93.32	30.29	4.080	
6,800.00	6,786.54	6,794.19	6,783.29	15.57	15.36	91.97	0.25	311.69	126.89	96.09	30.80	4.119	
6,900.00	6,886.08	6,894.12	6,882.90	15.82	15.61	92.96	0.25	319.58	130.21	98.89	31.31	4.158	
7,000.00	6,985.62	6,994.04	6,982.51	16.08	15.86	93.90	0.25	327.47	133.56	101.74	31.82	4.197	
7,100.00	7,085.16	7,093.96	7,082.12	16.34	16.11	94.80	0.25	335.36	136.95	104.62	32.33	4.236	
7,200.00	7,184.70	7,193.88	7,181.73	16.59	16.35	95.65	0.25	343.25	140.36	107.53	32.84	4.274	
7,300.00	7,284.24	7,293.80	7,281.33	16.85	16.60	96.46	0.25	351.14	143.81	110.46	33.35	4.312	
7,400.00	7,383.79	7,393.72	7,380.94	17.11	16.85	97.23	0.25	359.03	147.29	113.43	33.86	4.350	
7,500.00	7,483.33	7,493.64	7,480.55	17.37	17.10	97.96	0.25	366.92	150.79	116.42	34.37	4.387	
7,600.00	7,582.87	7,593.56	7,580.16	17.63	17.35	98.67	0.25	374.80	154.31	119.43	34.88	4.424	
7,700.00	7,682.41	7,693.48	7,679.77	17.88	17.60	99.34	0.25	382.69	157.86	122.47	35.39	4.461	
7,800.00	7,781.95	7,793.40	7,779.38	18.14	17.85	99.98	0.25	390.58	161.43	125.53	35.90	4.497	
7,900.00	7,881.49	7,893.32	7,878.99	18.40	18.10	100.59	0.25	398.47	165.01	128.60	36.41	4.532	
8,000.00	7,981.03	7,993.24	7,978.59	18.66	18.35	101.18	0.25	406.36	168.62	131.70	36.92	4.567	
8,100.00	8,080.57	8,093.16	8,078.20	18.92	18.60	101.74	0.25	414.25	172.24	134.81	37.43	4.601	
8,200.00	8,180.12	8,193.08	8,177.81	19.19	18.85	102.28	0.25	422.14	175.88	137.94	37.94	4.635	
8,300.00	8,279.66	8,293.00	8,277.42	19.45	19.10	102.80	0.25	430.03	179.53	141.08	38.45	4.669	
8,400.00	8,379.20	8,392.92	8,377.03	19.71	19.35	103.30	0.25	437.92	183.20	144.23	38.97	4.701	
8,500.00	8,478.74	8,492.84	8,476.64	19.97	19.60	103.78	0.25	445.81	186.88	147.40	39.48	4.734	
8,600.00	8,578.28	8,592.76	8,576.24	20.23	19.85	104.24	0.25	453.70	190.57	150.58	39.99	4.766	
8,700.00	8,677.82	8,692.68	8,675.85	20.49	20.10	104.68	0.25	461.59	194.28	153.77	40.50	4.797	
8,800.00	8,777.36	8,792.60	8,775.46	20.76	20.36	105.10	0.25	469.47	197.99	156.98	41.01	4.827	
8,900.00	8,876.90	8,892.52	8,875.07	21.02	20.61	105.51	0.25	477.36	201.72	160.19	41.53	4.858	
9,000.00	8,976.44	8,992.44	8,974.68	21.28	20.86	105.91	0.25	485.25	205.45	163.42	42.04	4.887	
9,100.00	9,075.99	9,092.36	9,074.29	21.54	21.11	106.29	0.25	493.14	209.20	166.65	42.55	4.917	
9,200.00	9,175.53	9,192.28	9,173.90	21.81	21.36	106.65	0.25	501.03	212.95	169.89	43.06	4.945	
9,300.00	9,275.07	9,292.20	9,273.50	22.07	21.62	107.01	0.25	508.92	216.71	173.14	43.57	4.973	
9,400.00	9,374.61	9,392.12	9,373.11	22.33	21.87	107.35	0.25	516.81	220.49	176.40	44.09	5.001	
9,500.00	9,474.15	9,492.05	9,472.72	22.60	22.12	107.68	0.25	524.70	224.26	179.66	44.60	5.028	
9,600.00	9,573.69	9,591.97	9,572.33	22.86	22.37	108.00	0.25	532.59	228.05	182.94	45.11	5.055	
9,700.00	9,673.23	9,691.89	9,671.94	23.13	22.63	108.31	0.25	540.48	231.84	186.22	45.63	5.081	
9,800.00	9,772.77	9,791.81	9,771.55	23.39	22.88	108.61	0.25	548.37	235.64	189.50	46.14	5.107	
9,900.00	9,872.32	9,891.73	9,871.15	23.65	23.13	108.90	0.25	556.26	239.44	192.79	46.65	5.133	
10,000.00	9,971.86	9,991.65	9,970.76	23.92	23.39	109.18	0.25	564.15	243.26	196.09	47.16	5.158	
10,100.00	10,071.40	10,091.57	10,070.37	24.18	23.64	109.45	0.25	572.03	247.07	199.39	47.68	5.182	
10,200.00	10,170.94	10,191.49	10,169.98	24.45	23.89	109.71	0.25	579.92	250.89	202.70	48.19	5.206	
10,300.00	10,270.48	10,291.41	10,269.59	24.71	24.15	109.97	0.25	587.81	254.72	206.02	48.70	5.230	
10,400.00	10,370.02	10,391.33	10,369.20	24.98	24.40	110.22	0.25	595.70	258.55	209.34	49.22	5.253	
10,500.00	10,469.56	10,491.25	10,468.81	25.24	24.65	110.46	0.25	603.59	262.39	212.66	49.73	5.276	
10,600.00	10,569.10	10,591.22	10,568.47	25.51	24.90	110.70	0.25	611.45	266.23	215.99	50.24	5.299	
10,683.05	10,651.78	10,674.41	10,651.46	25.73	25.06	111.08	0.25	617.11	269.38	218.76	50.62	5.322	
10,700.00	10,668.65	10,691.37	10,668.40	25.77	25.10	111.19	0.25	618.12	270.00	219.31	50.69	5.327	
10,800.00	10,768.29	10,791.48	10,768.38	25.97	25.29	111.84	0.25	623.04	273.31	222.24	51.07	5.352	
10,900.00	10,868.07	10,891.55	10,868.40	26.17	25.47	112.49	0.25	626.21	275.93	224.49	51.43	5.365	
11,000.00	10,967.95	10,991.58	10,968.42	26.35	25.64	113.16	0.25	627.63	277.87	226.09	51.78	5.366	
11,100.00	11,067.89	11,091.56	11,068.39	26.53	25.82	113.75	0.25	627.72	279.13	227.00	52.13	5.355	
11,200.00	11,167.88	11,191.54	11,168.38	26.70	26.02	114.02	0.25	627.72	279.71	227.22	52.49	5.329	
11,232.12	11,200.00	11,223.66	11,200.50	26.75	26.08	180.00	0.25	627.72	279.75	227.14	52.61	5.318	
11,300.00	11,267.88	11,291.54	11,268.38	26.88	26.22	180.00	0.25	627.72	279.75	226.88	52.87	5.292	
11,400.00	11,367.88	11,391.54	11,368.38	27.08	26.42	180.00	0.25	627.72	279.75	226.48	53.27	5.252	

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

LEAM Drilling Systems LLC

Anticollision Report

Company: Devon Energy
Project: Lea County, NM (NAD-83)
Reference Site: Fighting Okra 18-19 Fed
Site Error: 0.00 usft
Reference Well: 7H
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Plan #1

Local Co-ordinate Reference: Well 7H
TVD Reference: 3371.7' GE + 25' KB @ 3396.70usft
MD Reference: 3371.7' GE + 25' KB @ 3396.70usft
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 Fighting Okra 18-19 Fed - 3H - OH - Plan #1														Offset Site Error:	0.00 usft
Survey Program: 0-LEAM MWD+HDGM														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	Warning		
11,500.00	11,467.88	11,491.54	11,468.38	27.28	26.61	180.00	0.25	627.72	279.75	226.08	53.67	5.213			
11,600.00	11,567.88	11,591.54	11,568.38	27.48	26.81	180.00	0.25	627.72	279.75	225.68	54.07	5.174			
11,700.00	11,667.88	11,691.54	11,668.38	27.68	27.01	180.00	0.25	627.72	279.75	225.28	54.47	5.136			
11,800.00	11,767.88	11,791.54	11,768.38	27.88	27.21	180.00	0.25	627.72	279.75	224.87	54.88	5.098			
11,900.00	11,867.88	11,891.54	11,868.38	28.08	27.41	180.00	0.25	627.72	279.75	224.47	55.28	5.061			
12,000.00	11,967.88	11,991.54	11,968.38	28.29	27.61	180.00	0.25	627.72	279.75	224.07	55.68	5.024			
12,100.00	12,067.88	12,091.54	12,068.38	28.49	27.81	180.00	0.25	627.72	279.75	223.66	56.09	4.988			
12,200.00	12,167.88	12,192.69	12,169.42	28.69	27.95	180.00	-2.73	627.72	284.21	227.98	56.23	5.054			
12,300.00	12,267.88	12,288.11	12,263.99	28.89	28.07	180.00	-13.10	627.72	300.09	244.12	55.97	5.362			
12,343.16	12,311.04	12,250.00	12,225.27	28.98	28.11	180.00	-18.20	627.72	310.43	254.83	55.59	5.584			
12,350.00	12,317.88	12,259.75	12,234.68	29.00	28.13	0.00	-20.73	627.72	312.13	256.42	55.71	5.603			
12,400.00	12,367.79	12,290.95	12,264.50	29.07	28.18	0.00	-29.91	627.72	324.16	268.81	55.36	5.856			
12,450.00	12,417.26	12,321.99	12,293.62	29.14	28.24	0.00	-40.65	627.72	334.60	279.67	54.93	6.092			
12,500.00	12,465.93	12,350.00	12,319.37	29.21	28.29	0.00	-51.67	627.72	343.42	289.10	54.32	6.322			
12,550.00	12,513.42	12,383.72	12,349.60	29.26	28.36	0.00	-66.59	627.72	350.55	296.69	53.86	6.508			
12,600.00	12,559.37	12,414.46	12,376.35	29.31	28.41	0.00	-81.72	627.72	356.04	302.80	53.24	6.687			
12,650.00	12,603.42	12,450.00	12,406.22	29.34	28.48	0.00	-100.97	627.72	359.91	307.14	52.78	6.820			
12,700.00	12,645.26	12,475.78	12,427.11	29.38	28.53	0.00	-116.07	627.72	361.99	310.15	51.84	6.982			
12,750.00	12,684.55	12,500.00	12,446.10	29.40	28.58	0.00	-131.11	627.72	362.52	311.74	50.79	7.138			
12,800.00	12,720.99	12,537.04	12,473.86	29.43	28.66	0.00	-155.61	627.72	361.18	310.88	50.30	7.181			
12,850.00	12,754.32	12,567.69	12,495.61	29.45	28.72	0.00	-177.22	627.72	358.24	308.75	49.49	7.239			
12,900.00	12,784.27	12,600.00	12,517.24	29.47	28.79	0.00	-201.21	627.72	353.63	304.88	48.75	7.254			
12,950.00	12,810.62	12,629.17	12,535.58	29.50	28.86	0.00	-223.89	627.72	347.33	299.48	47.86	7.258			
13,000.00	12,833.17	12,660.03	12,553.70	29.53	28.94	0.00	-248.86	627.72	339.39	292.33	47.05	7.213			
13,050.00	12,851.75	12,700.00	12,575.12	29.57	29.04	0.00	-282.60	627.72	329.99	283.28	46.71	7.064			
13,100.00	12,866.21	12,722.12	12,585.95	29.63	29.11	0.00	-301.88	627.72	318.60	273.05	45.55	6.995			
13,150.00	12,876.44	12,750.00	12,598.53	29.70	29.19	0.00	-326.76	627.72	305.83	261.11	44.72	6.839			
13,200.00	12,882.37	12,784.87	12,612.53	29.80	29.30	0.00	-358.70	627.72	291.44	247.19	44.25	6.586			
13,243.16	12,884.00	12,812.23	12,622.14	29.90	29.39	0.00	-384.31	627.72	277.81	234.02	43.78	6.345			
13,300.00	12,884.00	12,850.00	12,633.37	30.05	29.53	0.00	-420.36	627.72	260.85	217.55	43.30	6.024			
13,400.00	12,884.00	12,917.23	12,647.41	30.41	29.80	0.00	-486.07	627.72	239.85	197.09	42.76	5.609			
13,500.00	12,884.00	12,987.87	12,653.77	30.85	30.12	0.00	-556.38	627.72	230.83	187.97	42.86	5.386			
13,543.24	12,884.00	13,024.53	12,654.00	31.07	30.31	0.00	-593.04	627.72	230.50	187.45	43.05	5.355			
13,600.00	12,884.00	13,081.29	12,654.00	31.38	30.61	0.00	-649.80	627.72	230.50	187.26	43.24	5.331			
13,700.00	12,884.00	13,181.29	12,654.00	31.99	31.20	0.00	-749.80	627.72	230.50	186.88	43.62	5.284			
13,800.00	12,884.00	13,281.29	12,654.00	32.67	31.86	0.00	-849.80	627.72	230.50	186.46	44.04	5.233			
13,900.00	12,884.00	13,381.29	12,654.00	33.41	32.60	0.00	-949.80	627.72	230.50	185.98	44.52	5.178			
14,000.00	12,884.00	13,481.29	12,654.00	34.22	33.39	0.00	-1,049.80	627.72	230.50	185.47	45.03	5.119			
14,100.00	12,884.00	13,581.29	12,654.00	35.09	34.25	0.00	-1,149.80	627.72	230.50	184.92	45.58	5.057			
14,200.00	12,884.00	13,681.29	12,654.00	36.01	35.16	0.00	-1,249.80	627.72	230.50	184.32	46.18	4.991			
14,300.00	12,884.00	13,781.29	12,654.00	36.98	36.12	0.00	-1,349.80	627.72	230.50	183.69	46.81	4.924			
14,400.00	12,884.00	13,881.29	12,654.00	38.00	37.13	0.00	-1,449.80	627.72	230.50	183.02	47.48	4.854			
14,500.00	12,884.00	13,981.29	12,654.00	39.06	38.18	0.00	-1,549.80	627.72	230.50	182.31	48.19	4.783			
14,600.00	12,884.00	14,081.29	12,654.00	40.16	39.27	0.00	-1,649.80	627.72	230.50	181.57	48.93	4.711			
14,700.00	12,884.00	14,181.29	12,654.00	41.29	40.40	0.00	-1,749.80	627.72	230.50	180.80	49.70	4.638			
14,800.00	12,884.00	14,281.29	12,654.00	42.46	41.56	0.00	-1,849.80	627.72	230.50	180.00	50.50	4.564			
14,900.00	12,884.00	14,381.29	12,654.00	43.65	42.76	0.00	-1,949.80	627.72	230.50	179.17	51.33	4.490			
15,000.00	12,884.00	14,481.29	12,654.00	44.88	43.98	0.00	-2,049.80	627.72	230.50	178.31	52.19	4.416			
15,100.00	12,884.00	14,581.29	12,654.00	46.12	45.22	0.00	-2,149.80	627.72	230.50	177.42	53.08	4.342			
15,200.00	12,884.00	14,681.29	12,654.00	47.40	46.50	0.00	-2,249.80	627.72	230.50	176.51	53.99	4.269			
15,300.00	12,884.00	14,781.29	12,654.00	48.69	47.79	0.00	-2,349.80	627.72	230.50	175.57	54.93	4.196			
15,400.00	12,884.00	14,881.29	12,654.00	50.00	49.10	0.00	-2,449.80	627.72	230.50	174.61	55.89	4.124			

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LEAM Drilling Systems LLC

Anticollision Report

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

Local Co-ordinate Reference: Well 7H
 TVD Reference: 3371.7' GE + 25' KB @ 3396.70usft
 MD Reference: 3371.7' GE + 25' KB @ 3396.70usft
 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 Fighting Okra 18-19 Fed - 3H - OH - Plan #1													Offset Site Error: 0.00 usft
Survey Program: 0-LEAM MWD+HDGM													Offset Well Error: 0.00 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance				Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N-S (usft)	+E-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	
15,500.00	12,884.00	14,981.29	12,654.00	51.34	50.44	0.00	-2,549.80	627.72	230.50	173.63	56.87	4.053	
15,600.00	12,884.00	15,081.29	12,654.00	52.68	51.79	0.00	-2,649.80	627.72	230.50	172.63	57.87	3.983	
15,700.00	12,884.00	15,181.29	12,654.00	54.05	53.15	0.00	-2,749.80	627.72	230.50	171.61	58.89	3.914	
15,800.00	12,884.00	15,281.29	12,654.00	55.43	54.53	0.00	-2,849.80	627.72	230.50	170.57	59.93	3.846	
15,900.00	12,884.00	15,381.29	12,654.00	56.82	55.93	0.00	-2,949.80	627.72	230.50	169.51	60.99	3.779	
16,000.00	12,884.00	15,481.29	12,654.00	58.23	57.33	0.00	-3,049.80	627.72	230.50	168.44	62.06	3.714	
16,100.00	12,884.00	15,581.29	12,654.00	59.64	58.75	0.00	-3,149.80	627.72	230.50	167.35	63.15	3.650	
16,200.00	12,884.00	15,681.29	12,654.00	61.07	60.18	0.00	-3,249.80	627.72	230.50	166.24	64.26	3.587	
16,300.00	12,884.00	15,781.29	12,654.00	62.51	61.62	0.00	-3,349.80	627.72	230.50	165.12	65.38	3.526	
16,400.00	12,884.00	15,881.29	12,654.00	63.96	63.07	0.00	-3,449.80	627.72	230.50	163.99	66.51	3.466	
16,500.00	12,884.00	15,981.29	12,654.00	65.41	64.53	0.00	-3,549.80	627.72	230.50	162.85	67.65	3.407	
16,600.00	12,884.00	16,081.29	12,654.00	66.88	65.99	0.00	-3,649.80	627.72	230.50	161.69	68.81	3.350	
16,700.00	12,884.00	16,181.29	12,654.00	68.35	67.47	0.00	-3,749.80	627.72	230.50	160.52	69.98	3.294	
16,800.00	12,884.00	16,281.29	12,654.00	69.83	68.95	0.00	-3,849.80	627.72	230.50	159.34	71.16	3.239	
16,900.00	12,884.00	16,381.29	12,654.00	71.32	70.44	0.00	-3,949.80	627.72	230.50	158.15	72.35	3.186	
17,000.00	12,884.00	16,481.29	12,654.00	72.81	71.93	0.00	-4,049.80	627.72	230.50	156.95	73.55	3.134	
17,100.00	12,884.00	16,581.29	12,654.00	74.31	73.43	0.00	-4,149.80	627.72	230.50	155.74	74.76	3.083	
17,200.00	12,884.00	16,681.29	12,654.00	75.81	74.94	0.00	-4,249.80	627.72	230.50	154.52	75.98	3.034	
17,300.00	12,884.00	16,781.29	12,654.00	77.32	76.45	0.00	-4,349.80	627.72	230.50	153.29	77.21	2.985	
17,400.00	12,884.00	16,881.29	12,654.00	78.83	77.96	0.00	-4,449.80	627.72	230.50	152.05	78.45	2.938	
17,500.00	12,884.00	16,981.29	12,654.00	80.35	79.49	0.00	-4,549.80	627.72	230.50	150.81	79.69	2.892	
17,600.00	12,884.00	17,081.29	12,654.00	81.88	81.01	0.00	-4,649.80	627.72	230.50	149.56	80.94	2.848	
17,700.00	12,884.00	17,181.29	12,654.00	83.40	82.54	0.00	-4,749.80	627.72	230.50	148.30	82.20	2.804	
17,800.00	12,884.00	17,281.29	12,654.00	84.94	84.07	0.00	-4,849.80	627.72	230.50	147.03	83.47	2.762	
17,900.00	12,884.00	17,381.29	12,654.00	86.47	85.61	0.00	-4,949.80	627.72	230.50	145.76	84.74	2.720	
18,000.00	12,884.00	17,481.29	12,654.00	88.01	87.15	0.00	-5,049.80	627.72	230.50	144.48	86.02	2.680	
18,100.00	12,884.00	17,581.29	12,654.00	89.55	88.70	0.00	-5,149.80	627.72	230.50	143.20	87.30	2.640	
18,200.00	12,884.00	17,681.29	12,654.00	91.10	90.24	0.00	-5,249.80	627.72	230.50	141.91	88.59	2.602	
18,300.00	12,884.00	17,781.29	12,654.00	92.65	91.79	0.00	-5,349.80	627.72	230.50	140.61	89.89	2.564	
18,400.00	12,884.00	17,881.29	12,654.00	94.20	93.35	0.00	-5,449.80	627.72	230.50	139.31	91.19	2.528	
18,500.00	12,884.00	17,981.29	12,654.00	95.75	94.90	0.00	-5,549.80	627.72	230.50	138.01	92.49	2.492	
18,600.00	12,884.00	18,081.29	12,654.00	97.31	96.46	0.00	-5,649.80	627.72	230.50	136.70	93.80	2.457	
18,700.00	12,884.00	18,181.29	12,654.00	98.87	98.02	0.00	-5,749.80	627.72	230.50	135.38	95.12	2.423	
18,800.00	12,884.00	18,281.29	12,654.00	100.43	99.58	0.00	-5,849.80	627.72	230.50	134.06	96.44	2.390	
18,900.00	12,884.00	18,381.29	12,654.00	101.99	101.15	0.00	-5,949.80	627.72	230.50	132.74	97.76	2.358	
19,000.00	12,884.00	18,481.29	12,654.00	103.56	102.72	0.00	-6,049.80	627.72	230.50	131.41	99.09	2.326	
19,100.00	12,884.00	18,581.29	12,654.00	105.13	104.29	0.00	-6,149.80	627.72	230.50	130.08	100.42	2.295	
19,200.00	12,884.00	18,681.29	12,654.00	106.70	105.86	0.00	-6,249.80	627.72	230.50	128.75	101.75	2.265	
19,300.00	12,884.00	18,781.29	12,654.00	108.27	107.43	0.00	-6,349.80	627.72	230.50	127.41	103.09	2.236	
19,400.00	12,884.00	18,881.29	12,654.00	109.84	109.01	0.00	-6,449.80	627.72	230.50	126.07	104.43	2.207	
19,500.00	12,884.00	18,981.29	12,654.00	111.42	110.59	0.00	-6,549.80	627.72	230.50	124.72	105.78	2.179	
19,600.00	12,884.00	19,081.29	12,654.00	113.00	112.16	0.00	-6,649.80	627.72	230.50	123.37	107.13	2.152	
19,700.00	12,884.00	19,181.29	12,654.00	114.57	113.74	0.00	-6,749.80	627.72	230.50	122.02	108.48	2.125	
19,800.00	12,884.00	19,281.29	12,654.00	116.16	115.33	0.00	-6,849.80	627.72	230.50	120.67	109.83	2.099	
19,900.00	12,884.00	19,381.29	12,654.00	117.74	116.91	0.00	-6,949.80	627.72	230.50	119.31	111.19	2.073	
20,000.00	12,884.00	19,481.29	12,654.00	119.32	118.49	0.00	-7,049.80	627.72	230.50	117.95	112.55	2.048	
20,100.00	12,884.00	19,581.29	12,654.00	120.91	120.08	0.00	-7,149.80	627.72	230.50	116.59	113.91	2.023	
20,200.00	12,884.00	19,681.29	12,654.00	122.49	121.67	0.00	-7,249.80	627.72	230.50	115.22	115.28	1.999	
20,300.00	12,884.00	19,781.29	12,654.00	124.08	123.25	0.00	-7,349.80	627.72	230.50	113.85	116.65	1.976	
20,400.00	12,884.00	19,881.29	12,654.00	125.67	124.84	0.00	-7,449.80	627.72	230.50	112.48	118.02	1.953	
20,500.00	12,884.00	19,981.29	12,654.00	127.26	126.44	0.00	-7,549.80	627.72	230.50	111.11	119.39	1.931	
20,600.00	12,884.00	20,081.29	12,654.00	128.85	128.03	0.00	-7,649.80	627.72	230.50	109.74	120.76	1.909	

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

LEAM Drilling Systems LLC

Anticollision Report

Company: Devon Energy
 Project: Lea County, NM (NAD-83)
 Reference Site: Fighting Okra 18-19 Fed
 Site Error: 0.00 usft
 Reference Well: 7H
 Well Error: 0.00 usft
 Reference Wellbore: OH
 Reference Design: Plan #1

Local Co-ordinate Reference: Well 7H
 TVD Reference: 3371.7' GE + 25' KB @ 3396.70usft
 MD Reference: 3371.7' GE + 25' KB @ 3396.70usft
 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 Fighting Okra 18-19 Fed - 3H - OH - Plan #1													Offset Site Error:	0.00 usft
Survey Program: 0-LEAM MWD+HDGM													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Distance		Minimum Separation (usft)	Separation Factor	Warning			
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		Between Centres (usft)	Between Ellipses (usft)						
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre N-S (usft)	Offset Wellbore Centre E-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning	
20,700.00	12,884.00	20,181.29	12,654.00	130.44	129.62	0.00	-7,749.80	627.72	230.50	108.36	122.14	1.887		
20,800.00	12,884.00	20,281.29	12,654.00	132.03	131.21	0.00	-7,849.80	627.72	230.50	106.98	123.52	1.866		
20,900.00	12,884.00	20,381.29	12,654.00	133.63	132.81	0.00	-7,949.80	627.72	230.50	105.60	124.90	1.845		
21,000.00	12,884.00	20,481.29	12,654.00	135.22	134.40	0.00	-8,049.80	627.72	230.50	104.22	126.28	1.825		
21,100.00	12,884.00	20,581.29	12,654.00	136.82	136.00	0.00	-8,149.80	627.72	230.50	102.83	127.67	1.805		
21,200.00	12,884.00	20,681.29	12,654.00	138.41	137.60	0.00	-8,249.80	627.72	230.50	101.44	129.06	1.786		
21,300.00	12,884.00	20,781.29	12,654.00	140.01	139.20	0.00	-8,349.80	627.72	230.50	100.06	130.44	1.767		
21,400.00	12,884.00	20,881.29	12,654.00	141.61	140.80	0.00	-8,449.80	627.72	230.50	98.67	131.83	1.748		
21,500.00	12,884.00	20,981.29	12,654.00	143.21	142.40	0.00	-8,549.80	627.72	230.50	97.27	133.23	1.730		
21,600.00	12,884.00	21,081.29	12,654.00	144.81	144.00	0.00	-8,649.80	627.72	230.50	95.88	134.62	1.712		
21,700.00	12,884.00	21,181.29	12,654.00	146.41	145.60	0.00	-8,749.80	627.72	230.50	94.49	136.01	1.695		
21,800.00	12,884.00	21,281.29	12,654.00	148.01	147.20	0.00	-8,849.80	627.72	230.50	93.09	137.41	1.677		
21,900.00	12,884.00	21,381.29	12,654.00	149.61	148.81	0.00	-8,949.80	627.72	230.50	91.69	138.81	1.661		
22,000.00	12,884.00	21,481.29	12,654.00	151.21	150.41	0.00	-9,049.80	627.72	230.50	90.29	140.21	1.644		
22,100.00	12,884.00	21,581.29	12,654.00	152.82	152.01	0.00	-9,149.80	627.72	230.50	88.89	141.61	1.628		
22,200.00	12,884.00	21,681.29	12,654.00	154.42	153.62	0.00	-9,249.80	627.72	230.50	87.49	143.01	1.612		
22,300.00	12,884.00	21,781.29	12,654.00	156.03	155.22	0.00	-9,349.80	627.72	230.50	86.09	144.41	1.596		
22,400.00	12,884.00	21,881.29	12,654.00	157.63	156.83	0.00	-9,449.80	627.72	230.50	84.68	145.82	1.581		
22,500.00	12,884.00	21,981.29	12,654.00	159.24	158.44	0.00	-9,549.80	627.72	230.50	83.28	147.22	1.566		
22,600.00	12,884.00	22,081.29	12,654.00	160.85	160.04	0.00	-9,649.80	627.72	230.50	81.87	148.63	1.551		
22,700.00	12,884.00	22,181.29	12,654.00	162.45	161.65	0.00	-9,749.80	627.72	230.50	80.46	150.04	1.536		
22,800.00	12,884.00	22,281.29	12,654.00	164.06	163.26	0.00	-9,849.80	627.72	230.50	79.05	151.45	1.522		
22,832.77	12,884.00	22,314.07	12,654.00	164.59	163.79	0.00	-9,882.57	627.72	230.50	78.59	151.91	1.517		
22,848.13	12,884.00	22,329.42	12,654.00	164.83	164.03	0.00	-9,897.93	627.72	230.50	78.37	152.13	1.515 SF		

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

LEAM Drilling Systems LLC

Anticollision Report

Company: Devon Energy
Project: Lea County, NM (NAD-83)
Reference Site: Fighting Okra 18-19 Fed
Site Error: 0.00 usft
Reference Well: 7H
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Plan #1

Local Co-ordinate Reference: Well 7H
TVD Reference: 3371.7' GE + 25' KB @ 3396.70usft
MD Reference: 3371.7' GE + 25' KB @ 3396.70usft
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: Fighting Okra 18-19 Fed - 4H - OH - Plan #1													Offset Site Error: 0.00 usft
Survey Program: O-LEAM MWD+HDGM													Offset Well Error: 0.00 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N-S (usft)	+E-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
0.00	0.00	0.00	0.00	0.00	0.00	92.26	-37.63	955.07	955.83				
100.00	100.00	93.30	93.30	0.08	0.08	92.26	-37.63	955.07	955.81	955.65	0.16	5,866.481	
200.00	200.00	193.30	193.30	0.31	0.29	92.26	-37.63	955.07	955.81	955.21	0.60	1,584.968	
300.00	300.00	293.30	293.30	0.53	0.52	92.26	-37.63	955.07	955.81	954.76	1.05	908.065	
400.00	400.00	393.30	393.30	0.76	0.74	92.26	-37.63	955.07	955.81	954.31	1.50	636.312	
500.00	500.00	493.30	493.30	0.98	0.97	92.26	-37.63	955.07	955.81	953.86	1.95	489.747	
600.00	600.00	593.30	593.30	1.21	1.19	92.26	-37.63	955.07	955.81	953.41	2.40	398.060	
700.00	700.00	693.30	693.30	1.43	1.42	92.26	-37.63	955.07	955.81	952.96	2.85	335.289	
800.00	800.00	793.30	793.30	1.66	1.64	92.26	-37.63	955.07	955.81	952.51	3.30	289.619	
900.00	900.00	893.30	893.30	1.88	1.87	92.26	-37.63	955.07	955.81	952.06	3.75	254.898	
1,000.00	1,000.00	993.30	993.30	2.11	2.09	92.26	-37.63	955.07	955.81	951.61	4.20	227.612	
1,100.00	1,100.00	1,093.30	1,093.30	2.33	2.32	92.26	-37.63	955.07	955.81	951.16	4.65	205.602	
1,200.00	1,200.00	1,193.30	1,193.30	2.56	2.54	92.26	-37.63	955.07	955.81	950.71	5.10	187.474	
1,300.00	1,300.00	1,293.30	1,293.30	2.78	2.77	92.26	-37.63	955.07	955.81	950.26	5.55	172.283	
1,400.00	1,400.00	1,393.30	1,393.30	3.01	2.99	92.26	-37.63	955.07	955.81	949.81	6.00	159.370	
1,500.00	1,500.00	1,493.30	1,493.30	3.23	3.22	92.26	-37.63	955.07	955.81	949.36	6.45	148.258	
1,600.00	1,600.00	1,593.30	1,593.30	3.46	3.44	92.26	-37.63	955.07	955.81	948.91	6.90	138.594	
1,700.00	1,700.00	1,693.30	1,693.30	3.68	3.67	92.26	-37.63	955.07	955.81	948.47	7.35	130.113	
1,800.00	1,800.00	1,793.30	1,793.30	3.91	3.89	92.26	-37.63	955.07	955.81	948.02	7.80	122.610	
1,900.00	1,900.00	1,893.30	1,893.30	4.13	4.12	92.26	-37.63	955.07	955.81	947.57	8.25	115.925	
2,000.00	2,000.00	1,993.30	1,993.30	4.35	4.34	92.26	-37.63	955.07	955.81	947.12	8.69	109.931	
2,100.00	2,100.00	2,093.30	2,093.30	4.58	4.56	92.26	-37.63	955.07	955.81	946.67	9.14	104.527	
2,200.00	2,200.00	2,193.30	2,193.30	4.80	4.79	92.26	-37.63	955.07	955.81	946.22	9.59	99.629	
2,300.00	2,300.00	2,293.30	2,293.30	5.03	5.01	92.26	-37.63	955.07	955.81	945.77	10.04	95.170	
2,400.00	2,400.00	2,393.30	2,393.30	5.25	5.24	92.26	-37.63	955.07	955.81	945.32	10.49	91.092	
2,500.00	2,500.00	2,493.30	2,493.30	5.48	5.46	92.26	-37.63	955.07	955.81	944.87	10.94	87.350 CC, ES	
2,600.00	2,600.00	2,579.96	2,579.96	5.70	5.65	92.25	-37.63	955.63	956.46	945.11	11.35	84.275	
2,700.00	2,700.00	2,665.64	2,665.64	5.93	5.82	92.25	-37.63	957.46	958.60	946.86	11.74	81.636	
2,800.00	2,800.00	2,751.23	2,751.15	6.15	5.99	92.24	-37.63	960.58	962.24	950.11	12.13	79.320	
2,900.00	2,900.00	2,836.72	2,836.53	6.38	6.17	92.23	-37.63	964.96	967.36	954.84	12.52	77.277	
3,000.00	3,000.00	2,922.05	2,921.67	6.60	6.34	92.22	-37.63	970.61	973.97	961.07	12.90	75.483	
3,100.00	3,100.00	3,000.00	2,999.37	6.83	6.51	92.21	-37.63	976.87	982.10	968.84	13.26	74.047	
3,200.00	3,200.00	3,092.13	3,091.07	7.05	6.71	92.19	-37.63	985.64	991.64	977.97	13.67	72.560	
3,300.00	3,300.00	3,176.79	3,175.22	7.28	6.89	92.17	-37.63	995.00	1,002.68	988.64	14.04	71.394	
3,400.00	3,400.00	3,264.84	3,262.57	7.50	7.10	92.14	-37.63	1,005.99	1,015.15	1,000.71	14.43	70.334	
3,500.00	3,500.00	3,364.00	3,360.91	7.73	7.33	92.12	-37.63	1,018.77	1,028.02	1,013.16	14.87	69.157	
3,600.00	3,600.00	3,463.27	3,459.35	7.94	7.57	26.10	-37.63	1,031.56	1,040.13	1,024.84	15.29	68.027	
3,700.00	3,699.96	3,562.71	3,557.96	8.15	7.81	26.09	-37.63	1,044.38	1,050.67	1,034.96	15.71	66.885	
3,800.00	3,799.86	3,662.29	3,656.71	8.36	8.06	26.13	-37.63	1,057.21	1,059.65	1,043.52	16.13	65.693	
3,900.00	3,899.68	3,761.99	3,755.58	8.58	8.31	26.21	-37.63	1,070.06	1,067.08	1,050.52	16.56	64.455	
4,000.00	3,899.37	3,861.77	3,854.53	8.79	8.57	26.34	-37.63	1,082.91	1,072.95	1,055.97	16.98	63.177	
4,049.06	4,048.22	3,910.75	3,903.10	8.90	8.69	26.43	-37.63	1,089.23	1,075.26	1,058.07	17.19	62.536	
4,100.00	4,098.93	3,961.60	3,953.53	9.01	8.83	26.53	-37.63	1,095.78	1,077.47	1,060.06	17.41	61.873	
4,200.00	4,198.47	4,061.44	4,052.54	9.23	9.09	26.72	-37.63	1,108.64	1,081.82	1,063.97	17.85	60.612	
4,300.00	4,298.01	4,161.28	4,151.54	9.46	9.35	26.92	-37.63	1,121.51	1,086.17	1,067.89	18.28	59.403	
4,400.00	4,397.55	4,261.12	4,250.55	9.69	9.62	27.11	-37.63	1,134.38	1,090.54	1,071.82	18.72	58.244	
4,500.00	4,497.09	4,360.95	4,349.55	9.92	9.89	27.30	-37.63	1,147.24	1,094.93	1,075.76	19.16	57.133	
4,600.00	4,596.63	4,460.79	4,448.56	10.15	10.16	27.49	-37.63	1,160.11	1,099.32	1,079.71	19.61	56.065	
4,700.00	4,696.17	4,560.63	4,547.56	10.38	10.44	27.68	-37.63	1,172.97	1,103.73	1,083.68	20.05	55.041	
4,800.00	4,795.71	4,660.46	4,646.57	10.62	10.71	27.87	-37.63	1,185.84	1,108.15	1,087.65	20.50	54.056	
4,900.00	4,895.26	4,760.30	4,745.57	10.85	10.99	28.05	-37.63	1,198.70	1,112.58	1,091.63	20.95	53.110	
5,000.00	4,994.80	4,860.14	4,844.58	11.09	11.27	28.23	-37.63	1,211.57	1,117.02	1,095.62	21.40	52.200	

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

LEAM Drilling Systems LLC

Anticollision Report

Company: Devon Energy
Project: Lea County, NM (NAD-83)
Reference Site: Fighting Okra 18-19 Fed
Site Error: 0.00 usft
Reference Well: 7H
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Plan #1

Local Co-ordinate Reference: Well 7H
TVD Reference: 3371.7' GE + 25' KB @ 3396.70usft
MD Reference: 3371.7' GE + 25' KB @ 3396.70usft
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: Fighting Okra 18-19 Fed - 4H - OH - Plan #1													Offset Site Error: 0.00 usft
Survey Program: O-LEAM MWD+HDGM													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	Warning
5,100.00	5,094.34	4,959.98	4,943.58	11.33	11.55	28.42	-37.63	1,224.43	1,121.47	1,099.82	21.85	51.324	
5,200.00	5,193.88	5,059.81	5,042.58	11.57	11.83	28.60	-37.63	1,237.30	1,125.94	1,103.63	22.30	50.481	
5,300.00	5,293.42	5,159.65	5,141.59	11.82	12.11	28.78	-37.63	1,250.16	1,130.41	1,107.65	22.76	49.669	
5,400.00	5,392.96	5,259.49	5,240.59	12.06	12.39	28.96	-37.63	1,263.03	1,134.90	1,111.68	23.22	48.886	
5,500.00	5,492.50	5,359.33	5,339.60	12.30	12.68	29.13	-37.63	1,275.90	1,139.40	1,115.72	23.67	48.131	
5,600.00	5,592.04	5,459.16	5,438.60	12.55	12.96	29.31	-37.63	1,288.76	1,143.90	1,119.77	24.13	47.403	
5,700.00	5,691.59	5,559.00	5,537.61	12.80	13.25	29.48	-37.63	1,301.63	1,148.42	1,123.83	24.59	46.700	
5,800.00	5,791.13	5,658.84	5,636.61	13.05	13.54	29.65	-37.63	1,314.49	1,152.95	1,127.90	25.05	46.022	
5,900.00	5,890.67	5,758.67	5,735.62	13.29	13.83	29.83	-37.63	1,327.36	1,157.49	1,131.98	25.51	45.366	
6,000.00	5,990.21	5,858.51	5,834.62	13.54	14.12	30.00	-37.63	1,340.22	1,162.04	1,136.07	25.98	44.732	
6,100.00	6,089.75	5,958.35	5,933.63	13.79	14.40	30.16	-37.63	1,353.09	1,166.60	1,140.16	26.44	44.120	
6,200.00	6,189.29	6,058.19	6,032.63	14.05	14.70	30.33	-37.63	1,365.95	1,171.17	1,144.27	26.91	43.527	
6,300.00	6,288.83	6,158.02	6,131.64	14.30	14.99	30.50	-37.63	1,378.82	1,175.75	1,148.38	27.37	42.953	
6,400.00	6,388.37	6,257.86	6,230.64	14.55	15.28	30.66	-37.63	1,391.68	1,180.34	1,152.50	27.84	42.397	
6,500.00	6,487.91	6,357.70	6,329.65	14.80	15.57	30.82	-37.63	1,404.55	1,184.94	1,156.63	28.31	41.859	
6,600.00	6,587.46	6,457.54	6,428.65	15.06	15.86	30.99	-37.63	1,417.41	1,189.55	1,160.77	28.78	41.337	
6,700.00	6,687.00	6,557.37	6,527.66	15.31	16.16	31.15	-37.63	1,430.28	1,194.17	1,164.92	29.25	40.831	
6,800.00	6,786.54	6,657.21	6,626.66	15.57	16.45	31.31	-37.63	1,443.15	1,198.80	1,169.08	29.72	40.341	
6,900.00	6,886.08	6,757.05	6,725.67	15.82	16.74	31.47	-37.63	1,456.01	1,203.43	1,173.25	30.19	39.865	
7,000.00	6,985.62	6,856.89	6,824.67	16.08	17.04	31.62	-37.63	1,468.88	1,208.08	1,177.42	30.66	39.403	
7,100.00	7,085.16	6,956.72	6,923.68	16.34	17.33	31.78	-37.63	1,481.74	1,212.74	1,181.60	31.13	38.954	
7,200.00	7,184.70	7,056.56	7,022.68	16.59	17.63	31.93	-37.63	1,494.61	1,217.40	1,185.79	31.61	38.519	
7,300.00	7,284.24	7,156.40	7,121.69	16.85	17.93	32.09	-37.63	1,507.47	1,222.07	1,189.99	32.08	38.095	
7,400.00	7,383.79	7,256.23	7,220.69	17.11	18.22	32.24	-37.63	1,520.34	1,226.75	1,194.20	32.55	37.683	
7,500.00	7,483.33	7,356.07	7,319.70	17.37	18.52	32.39	-37.63	1,533.20	1,231.44	1,198.41	33.03	37.283	
7,600.00	7,582.87	7,455.91	7,418.70	17.63	18.81	32.54	-37.63	1,546.07	1,236.14	1,202.64	33.51	36.894	
7,700.00	7,682.41	7,555.75	7,517.71	17.88	19.11	32.69	-37.63	1,558.93	1,240.85	1,206.87	33.98	36.515	
7,800.00	7,781.95	7,655.58	7,616.71	18.14	19.41	32.84	-37.63	1,571.80	1,245.56	1,211.11	34.46	36.146	
7,900.00	7,881.49	7,755.42	7,715.72	18.40	19.71	32.98	-37.63	1,584.66	1,250.29	1,215.35	34.94	35.787	
8,000.00	7,981.03	7,855.26	7,814.72	18.66	20.00	33.13	-37.63	1,597.53	1,255.02	1,219.60	35.42	35.437	
8,100.00	8,080.57	7,955.10	7,913.73	18.92	20.30	33.27	-37.63	1,610.40	1,259.76	1,223.86	35.89	35.096	
8,200.00	8,180.12	8,054.93	8,012.73	19.19	20.60	33.42	-37.63	1,623.26	1,264.51	1,228.13	36.37	34.764	
8,300.00	8,279.66	8,154.77	8,111.74	19.45	20.90	33.56	-37.63	1,636.13	1,269.26	1,232.41	36.85	34.440	
8,400.00	8,379.20	8,254.61	8,210.74	19.71	21.20	33.70	-37.63	1,648.99	1,274.03	1,236.69	37.33	34.125	
8,500.00	8,478.74	8,354.44	8,309.75	19.97	21.50	33.84	-37.63	1,661.86	1,278.80	1,240.98	37.82	33.817	
8,600.00	8,578.28	8,454.28	8,408.75	20.23	21.80	33.98	-37.63	1,674.72	1,283.58	1,245.28	38.30	33.516	
8,700.00	8,677.82	8,554.12	8,507.76	20.49	22.10	34.12	-37.63	1,687.59	1,288.36	1,249.58	38.78	33.223	
8,800.00	8,777.36	8,653.96	8,606.76	20.76	22.40	34.26	-37.63	1,700.45	1,293.15	1,253.89	39.26	32.936	
8,900.00	8,876.90	8,753.79	8,705.77	21.02	22.70	34.39	-37.63	1,713.32	1,297.96	1,258.21	39.75	32.657	
9,000.00	8,976.44	8,853.63	8,804.77	21.28	23.00	34.53	-37.63	1,726.18	1,302.76	1,262.53	40.23	32.384	
9,100.00	9,075.99	8,953.47	8,903.78	21.54	23.30	34.66	-37.63	1,739.05	1,307.58	1,266.87	40.71	32.117	
9,200.00	9,175.53	9,053.31	9,002.78	21.81	23.60	34.80	-37.63	1,751.92	1,312.40	1,271.20	41.20	31.856	
9,300.00	9,275.07	9,153.14	9,101.79	22.07	23.90	34.93	-37.63	1,764.78	1,317.23	1,275.55	41.68	31.601	
9,400.00	9,374.61	9,252.98	9,200.79	22.33	24.20	35.06	-37.63	1,777.65	1,322.07	1,279.90	42.17	31.352	
9,500.00	9,474.15	9,352.82	9,299.80	22.60	24.50	35.19	-37.63	1,790.51	1,326.91	1,284.26	42.65	31.109	
9,600.00	9,573.69	9,452.65	9,398.80	22.86	24.80	35.32	-37.63	1,803.38	1,331.76	1,288.62	43.14	30.870	
9,700.00	9,673.23	9,552.49	9,497.81	23.13	25.10	35.45	-37.63	1,816.24	1,336.62	1,292.99	43.63	30.637	
9,800.00	9,772.77	9,652.33	9,596.81	23.39	25.40	35.57	-37.63	1,829.11	1,341.48	1,297.37	44.11	30.409	
9,900.00	9,872.32	9,752.17	9,695.81	23.65	25.70	35.70	-37.63	1,841.97	1,346.35	1,301.75	44.60	30.186	
10,000.00	9,971.86	9,852.00	9,794.82	23.92	26.00	35.83	-37.63	1,854.84	1,351.23	1,306.14	45.09	29.967	
10,100.00	10,071.40	9,951.84	9,893.82	24.18	26.31	35.95	-37.63	1,867.70	1,356.11	1,310.53	45.58	29.753	
10,200.00	10,170.94	10,051.68	9,992.83	24.45	26.61	36.07	-37.63	1,880.57	1,361.00	1,314.93	46.07	29.544	

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

LEAM Drilling Systems LLC

Anticollision Report

Company: Devon Energy
 Project: Lea County, NM (NAD-83)
 Reference Site: Fighting Okra 18-19 Fed
 Site Error: 0.00 usft
 Reference Well: 7H
 Well Error: 0.00 usft
 Reference Wellbore: OH
 Reference Design: Plan #1

Local Co-ordinate Reference: Well 7H
 TVD Reference: 3371.7' GE + 25' KB @ 3396.70usft
 MD Reference: 3371.7' GE + 25' KB @ 3396.70usft
 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: Fighting Okra 18-19 Fed - 4H - OH - Plan #1														Offset Site Error:	0.00 usft
Survey Program: 0-LEAM MWD+HDGM														Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning		
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N-S (usft)	+E-W (usft)	Between Centres (usft)	Between Ellipses (usft)					
10,300.00	10,270.48	10,151.52	10,091.83	24.71	26.91	36.20	-37.63	1,893.43	1,365.90	1,319.34	46.56	29.338			
10,400.00	10,370.02	10,251.35	10,190.84	24.98	27.21	36.32	-37.63	1,906.30	1,370.80	1,323.75	47.05	29.137			
10,500.00	10,469.56	10,351.19	10,289.84	25.24	27.51	36.44	-37.63	1,919.17	1,375.71	1,328.17	47.54	28.940			
10,600.00	10,569.10	10,459.45	10,387.22	25.51	27.83	36.57	-37.63	1,933.01	1,380.54	1,332.48	48.05	28.730			
10,683.05	10,651.78	10,567.93	10,505.00	25.73	28.08	36.72	-37.63	1,945.29	1,383.35	1,334.84	48.51	28.515			
10,700.00	10,668.65	10,590.08	10,527.03	25.77	28.13	36.75	-37.63	1,947.55	1,383.76	1,335.16	48.60	28.472			
10,800.00	10,768.29	10,720.81	10,657.24	25.97	28.40	36.93	-37.63	1,959.14	1,385.68	1,336.60	49.08	28.236			
10,900.00	10,868.07	10,851.61	10,787.75	26.17	28.65	37.07	-37.63	1,967.76	1,386.78	1,337.26	49.52	28.002			
11,000.00	10,967.95	10,982.43	10,918.45	26.35	28.88	37.18	-37.63	1,973.39	1,387.05	1,337.11	49.95	27.771			
11,100.00	11,067.89	11,113.24	11,049.23	26.53	29.09	37.26	-37.63	1,976.05	1,386.50	1,336.16	50.34	27.542			
11,200.00	11,167.88	11,225.19	11,161.18	26.70	29.28	37.29	-37.63	1,976.27	1,385.52	1,334.81	50.72	27.319			
11,232.12	11,200.00	11,257.31	11,193.30	26.75	29.33	103.25	-37.63	1,976.27	1,385.45	1,334.62	50.84	27.253			
11,300.00	11,267.88	11,325.19	11,261.18	26.88	29.45	103.25	-37.63	1,976.27	1,385.45	1,334.35	51.10	27.112			
11,400.00	11,367.88	11,425.19	11,361.18	27.08	29.63	103.25	-37.63	1,976.27	1,385.45	1,333.94	51.51	26.899			
11,500.00	11,467.88	11,525.19	11,461.18	27.28	29.81	103.25	-37.63	1,976.27	1,385.45	1,333.54	51.91	26.688			
11,600.00	11,567.88	11,625.19	11,561.18	27.48	29.99	103.25	-37.63	1,976.27	1,385.45	1,333.13	52.32	26.480			
11,700.00	11,667.88	11,725.19	11,661.18	27.68	30.16	103.25	-37.63	1,976.27	1,385.45	1,332.72	52.73	26.275			
11,800.00	11,767.88	11,825.19	11,761.18	27.88	30.34	103.25	-37.63	1,976.27	1,385.45	1,332.31	53.14	26.073			
11,900.00	11,867.88	11,925.19	11,861.18	28.08	30.52	103.25	-37.63	1,976.27	1,385.45	1,331.90	53.55	25.874			
12,000.00	11,967.88	12,025.19	11,961.18	28.29	30.70	103.25	-37.63	1,976.27	1,385.45	1,331.49	53.96	25.677			
12,100.00	12,067.88	12,125.19	12,061.18	28.49	30.88	103.25	-37.63	1,976.27	1,385.45	1,331.08	54.37	25.483			
12,200.00	12,167.88	12,200.00	12,135.94	28.69	31.01	103.32	-39.39	1,976.27	1,386.09	1,331.34	54.75	25.318			
12,300.00	12,267.88	12,263.21	12,198.56	28.89	31.12	103.66	-47.81	1,976.27	1,389.23	1,334.14	55.09	25.216			
12,343.16	12,311.04	12,289.74	12,224.49	28.98	31.16	103.89	-53.39	1,976.27	1,391.44	1,336.21	55.23	25.193			
12,350.00	12,317.88	12,300.00	12,234.45	29.00	31.18	-75.98	-55.87	1,976.27	1,391.85	1,336.59	55.27	25.185			
12,400.00	12,367.79	12,324.24	12,257.78	29.07	31.22	-75.52	-62.43	1,976.27	1,394.49	1,339.11	55.38	25.181			
12,450.00	12,417.26	12,350.00	12,282.25	29.14	31.26	-75.12	-70.48	1,976.27	1,396.79	1,341.33	55.46	25.183			
12,500.00	12,465.93	12,384.61	12,314.51	29.21	31.32	-74.73	-83.01	1,976.27	1,398.67	1,343.12	55.55	25.179			
12,550.00	12,513.42	12,414.68	12,341.88	29.26	31.37	-74.46	-95.46	1,976.27	1,400.13	1,344.53	55.60	25.184			
12,600.00	12,559.37	12,450.00	12,373.14	29.31	31.43	-74.26	-111.89	1,976.27	1,401.15	1,345.51	55.64	25.182			
12,650.00	12,603.42	12,474.70	12,394.36	29.34	31.47	-74.18	-124.51	1,976.27	1,401.68	1,346.04	55.64	25.193			
12,700.00	12,645.26	12,500.00	12,415.53	29.38	31.51	-74.16	-138.37	1,976.27	1,401.76	1,346.13	55.63	25.200			
12,750.00	12,684.55	12,534.67	12,443.49	29.40	31.58	-74.24	-158.86	1,976.27	1,401.33	1,345.69	55.65	25.182			
12,800.00	12,720.99	12,564.68	12,466.65	29.43	31.63	-74.40	-177.93	1,976.27	1,400.46	1,344.80	55.66	25.162			
12,850.00	12,754.32	12,600.00	12,492.60	29.45	31.70	-74.67	-201.89	1,976.27	1,399.14	1,343.44	55.70	25.120			
12,900.00	12,784.27	12,624.85	12,509.94	29.47	31.74	-74.98	-219.69	1,976.27	1,397.35	1,341.62	55.72	25.077			
12,950.00	12,810.62	12,650.00	12,526.69	29.50	31.79	-75.36	-238.44	1,976.27	1,395.18	1,339.41	55.77	25.015			
13,000.00	12,833.17	12,685.36	12,548.81	29.53	31.87	-75.89	-266.02	1,976.27	1,392.61	1,336.72	55.89	24.916			
13,050.00	12,851.75	12,715.80	12,566.46	29.57	31.93	-76.45	-290.82	1,976.27	1,389.71	1,333.68	56.03	24.803			
13,100.00	12,866.21	12,750.00	12,584.69	29.63	32.01	-77.14	-319.75	1,976.27	1,386.54	1,330.32	56.22	24.664			
13,150.00	12,876.44	12,777.16	12,597.92	29.70	32.08	-77.81	-343.46	1,976.27	1,383.11	1,326.68	56.43	24.510			
13,200.00	12,882.37	12,800.00	12,608.16	29.80	32.14	-78.46	-363.88	1,976.27	1,379.55	1,322.87	56.68	24.341			
13,243.16	12,884.00	12,835.07	12,622.29	29.90	32.24	-79.29	-395.98	1,976.27	1,376.31	1,319.36	56.95	24.166			
13,300.00	12,884.00	12,871.55	12,634.86	30.05	32.34	-79.81	-430.21	1,976.27	1,372.53	1,315.19	57.34	23.937			
13,400.00	12,884.00	12,939.47	12,652.38	30.41	32.57	-80.53	-495.80	1,976.27	1,367.95	1,309.81	58.14	23.528			
13,500.00	12,884.00	13,010.84	12,662.29	30.85	32.84	-80.94	-566.42	1,976.27	1,365.68	1,306.60	59.09	23.114			
13,600.00	12,884.00	13,094.26	12,664.00	31.38	33.21	-81.01	-649.80	1,976.27	1,365.31	1,305.15	60.17	22.692			
13,635.01	12,884.00	13,129.27	12,664.00	31.59	33.38	-81.01	-684.81	1,976.27	1,365.31	1,304.72	60.60	22.531			
13,700.00	12,884.00	13,194.26	12,664.00	31.99	33.72	-81.01	-749.80	1,976.27	1,365.31	1,303.92	61.40	22.237			
13,800.00	12,884.00	13,294.26	12,664.00	32.67	34.29	-81.01	-849.80	1,976.27	1,365.31	1,302.55	62.77	21.752			
13,900.00	12,884.00	13,394.26	12,664.00	33.41	34.94	-81.01	-949.80	1,976.27	1,365.31	1,301.04	64.27	21.242			
14,000.00	12,884.00	13,494.26	12,664.00	34.22	35.65	-81.01	-1,049.80	1,976.27	1,365.31	1,299.41	65.90	20.717			

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

LEAM Drilling Systems LLC

Anticollision Report

Company: Devon Energy
Project: Lea County, NM (NAD-83)
Reference Site: Fighting Okra 18-19 Fed
Site Error: 0.00 usft
Reference Well: 7H
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Plan #1

Local Co-ordinate Reference: Well 7H
TVD Reference: 3371.7' GE + 25' KB @ 3396.70usft
MD Reference: 3371.7' GE + 25' KB @ 3396.70usft
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 Fighting Okra 18-19 Fed - 4H - OH - Plan #1												Offset Site Error:	0.00 usft
Survey Program: O-LEAM MWD+HDGM												Offset Well Error:	0.00 usft
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Semi Major Axis (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor
14,100.00	12,884.00	13,594.26	12,664.00	35.09	36.42	-81.01	-81.01	-1,149.80	1,976.27	1,365.31	1,297.66	67.65	20.182
14,200.00	12,884.00	13,594.26	12,664.00	36.01	37.25	-81.01	-81.01	-1,249.80	1,976.27	1,365.31	1,295.81	69.50	19.644
14,300.00	12,884.00	13,794.26	12,664.00	36.98	38.13	-81.01	-81.01	-1,349.80	1,976.27	1,365.31	1,293.86	71.45	19.108
14,400.00	12,884.00	13,894.26	12,664.00	38.00	39.06	-81.01	-81.01	-1,449.80	1,976.27	1,365.31	1,291.82	73.50	18.577
14,500.00	12,884.00	13,994.26	12,664.00	39.06	40.04	-81.01	-81.01	-1,549.80	1,976.27	1,365.31	1,289.69	75.62	18.055
14,600.00	12,884.00	14,094.26	12,664.00	40.16	41.06	-81.01	-81.01	-1,649.80	1,976.27	1,365.31	1,287.49	77.82	17.544
14,700.00	12,884.00	14,194.26	12,664.00	41.29	42.11	-81.01	-81.01	-1,749.80	1,976.27	1,365.31	1,285.22	80.10	17.046
14,800.00	12,884.00	14,294.26	12,664.00	42.46	43.21	-81.01	-81.01	-1,849.80	1,976.27	1,365.31	1,282.88	82.43	16.563
14,900.00	12,884.00	14,394.26	12,664.00	43.65	44.33	-81.01	-81.01	-1,949.80	1,976.27	1,365.31	1,280.48	84.83	16.095
15,000.00	12,884.00	14,494.26	12,664.00	44.88	45.49	-81.01	-81.01	-2,049.80	1,976.27	1,365.31	1,278.03	87.28	15.643
15,100.00	12,884.00	14,594.26	12,664.00	46.12	46.68	-81.01	-81.01	-2,149.80	1,976.27	1,365.31	1,275.53	89.78	15.207
15,200.00	12,884.00	14,694.26	12,664.00	47.40	47.89	-81.01	-81.01	-2,249.80	1,976.27	1,365.31	1,272.99	92.33	14.788
15,300.00	12,884.00	14,794.26	12,664.00	48.69	49.13	-81.01	-81.01	-2,349.80	1,976.27	1,365.31	1,270.40	94.92	14.384
15,400.00	12,884.00	14,894.26	12,664.00	50.00	50.39	-81.01	-81.01	-2,449.80	1,976.27	1,365.31	1,267.77	97.54	13.997
15,500.00	12,884.00	14,994.26	12,664.00	51.34	51.67	-81.01	-81.01	-2,549.80	1,976.27	1,365.31	1,265.11	100.21	13.625
15,600.00	12,884.00	15,094.26	12,664.00	52.68	52.97	-81.01	-81.01	-2,649.80	1,976.27	1,365.31	1,262.41	102.90	13.268
15,700.00	12,884.00	15,194.26	12,664.00	54.05	54.29	-81.01	-81.01	-2,749.80	1,976.27	1,365.31	1,259.69	105.63	12.926
15,800.00	12,884.00	15,294.26	12,664.00	55.43	55.62	-81.01	-81.01	-2,849.80	1,976.27	1,365.31	1,256.93	108.38	12.597
15,900.00	12,884.00	15,394.26	12,664.00	56.82	56.97	-81.01	-81.01	-2,949.80	1,976.27	1,365.31	1,254.15	111.16	12.282
16,000.00	12,884.00	15,494.26	12,664.00	58.23	58.34	-81.01	-81.01	-3,049.80	1,976.27	1,365.31	1,251.35	113.97	11.980
16,100.00	12,884.00	15,594.26	12,664.00	59.64	59.72	-81.01	-81.01	-3,149.80	1,976.27	1,365.31	1,248.52	116.79	11.690
16,200.00	12,884.00	15,694.26	12,664.00	61.07	61.11	-81.01	-81.01	-3,249.80	1,976.27	1,365.31	1,245.67	119.64	11.412
16,300.00	12,884.00	15,794.26	12,664.00	62.51	62.51	-81.01	-81.01	-3,349.80	1,976.27	1,365.31	1,242.81	122.51	11.145
16,400.00	12,884.00	15,894.26	12,664.00	63.96	63.93	-81.01	-81.01	-3,449.80	1,976.27	1,365.31	1,239.92	125.39	10.888
16,500.00	12,884.00	15,994.26	12,664.00	65.41	65.35	-81.01	-81.01	-3,549.80	1,976.27	1,365.31	1,237.02	128.29	10.642
16,600.00	12,884.00	16,094.26	12,664.00	66.88	66.78	-81.01	-81.01	-3,649.80	1,976.27	1,365.31	1,234.10	131.21	10.405
16,700.00	12,884.00	16,194.26	12,664.00	68.35	68.23	-81.01	-81.01	-3,749.80	1,976.27	1,365.31	1,231.17	134.14	10.178
16,800.00	12,884.00	16,294.26	12,664.00	69.83	69.68	-81.01	-81.01	-3,849.80	1,976.27	1,365.31	1,228.23	137.09	9.959
16,900.00	12,884.00	16,394.26	12,664.00	71.32	71.14	-81.01	-81.01	-3,949.80	1,976.27	1,365.31	1,225.27	140.05	9.749
17,000.00	12,884.00	16,494.26	12,664.00	72.81	72.61	-81.01	-81.01	-4,049.80	1,976.27	1,365.31	1,222.30	143.02	9.546
17,100.00	12,884.00	16,594.26	12,664.00	74.31	74.08	-81.01	-81.01	-4,149.80	1,976.27	1,365.31	1,219.31	146.00	9.351
17,200.00	12,884.00	16,694.26	12,664.00	75.81	75.56	-81.01	-81.01	-4,249.80	1,976.27	1,365.31	1,216.32	148.99	9.164
17,300.00	12,884.00	16,794.26	12,664.00	77.32	77.05	-81.01	-81.01	-4,349.80	1,976.27	1,365.31	1,213.32	152.00	8.983
17,400.00	12,884.00	16,894.26	12,664.00	78.83	78.54	-81.01	-81.01	-4,449.80	1,976.27	1,365.31	1,210.31	155.01	8.808
17,500.00	12,884.00	16,994.26	12,664.00	80.35	80.04	-81.01	-81.01	-4,549.80	1,976.27	1,365.31	1,207.29	158.03	8.640
17,600.00	12,884.00	17,094.26	12,664.00	81.88	81.54	-81.01	-81.01	-4,649.80	1,976.27	1,365.31	1,204.26	161.06	8.477
17,700.00	12,884.00	17,194.26	12,664.00	83.40	83.05	-81.01	-81.01	-4,749.80	1,976.27	1,365.31	1,201.22	164.10	8.320
17,800.00	12,884.00	17,294.26	12,664.00	84.94	84.56	-81.01	-81.01	-4,849.80	1,976.27	1,365.31	1,198.17	167.14	8.169
17,900.00	12,884.00	17,394.26	12,664.00	86.47	86.08	-81.01	-81.01	-4,949.80	1,976.27	1,365.31	1,195.12	170.19	8.022
18,000.00	12,884.00	17,494.26	12,664.00	88.01	87.60	-81.01	-81.01	-5,049.80	1,976.27	1,365.31	1,192.06	173.25	7.881
18,100.00	12,884.00	17,594.26	12,664.00	89.55	89.13	-81.01	-81.01	-5,149.80	1,976.27	1,365.31	1,189.00	176.32	7.744
18,200.00	12,884.00	17,694.26	12,664.00	91.10	90.66	-81.01	-81.01	-5,249.80	1,976.27	1,365.31	1,185.93	179.39	7.611
18,300.00	12,884.00	17,794.26	12,664.00	92.65	92.19	-81.01	-81.01	-5,349.80	1,976.27	1,365.31	1,182.85	182.46	7.483
18,400.00	12,884.00	17,894.26	12,664.00	94.20	93.73	-81.01	-81.01	-5,449.80	1,976.27	1,365.31	1,179.77	185.55	7.358
18,500.00	12,884.00	17,994.26	12,664.00	95.75	95.27	-81.01	-81.01	-5,549.80	1,976.27	1,365.31	1,176.68	188.63	7.238
18,600.00	12,884.00	18,094.26	12,664.00	97.31	96.81	-81.01	-81.01	-5,649.80	1,976.27	1,365.31	1,173.59	191.73	7.121
18,700.00	12,884.00	18,194.26	12,664.00	98.87	98.36	-81.01	-81.01	-5,749.80	1,976.27	1,365.31	1,170.49	194.82	7.008
18,800.00	12,884.00	18,294.26	12,664.00	100.43	99.90	-81.01	-81.01	-5,849.80	1,976.27	1,365.31	1,167.39	197.92	6.898
18,900.00	12,884.00	18,394.26	12,664.00	101.99	101.46	-81.01	-81.01	-5,949.80	1,976.27	1,365.31	1,164.28	201.03	6.792
19,000.00	12,884.00	18,494.26	12,664.00	103.56	103.01	-81.01	-81.01	-6,049.80	1,976.27	1,365.31	1,161.17	204.14	6.688
19,100.00	12,884.00	18,594.26	12,664.00	105.13	104.57	-81.01	-81.01	-6,149.80	1,976.27	1,365.31	1,158.06	207.25	6.588
19,200.00	12,884.00	18,694.26	12,664.00	106.70	106.12	-81.01	-81.01	-6,249.80	1,976.27	1,365.31	1,154.94	210.37	6.490

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

LEAM Drilling Systems LLC

Anticollision Report

Company: Devon Energy
 Project: Lea County, NM (NAD-83)
 Reference Site: Fighting Okra 18-19 Fed
 Site Error: 0.00 usft
 Reference Well: 7H
 Well Error: 0.00 usft
 Reference Wellbore: OH
 Reference Design: Plan #1

Local Co-ordinate Reference: Well 7H
 TVD Reference: 3371.7' GE + 25' KB @ 3396.70usft
 MD Reference: 3371.7' GE + 25' KB @ 3396.70usft
 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 Fighting Okra 18-19 Fed - 4H - OH - Plan #1													Offset Site Error: 0.00 usft
Survey Program: 0-LEAM MWD+HDGM													Offset Well Error: 0.00 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		N/S (usft)	E/W (usft)	Between Centres (usft)	Between Ellipses (usft)			
19,300.00	12,884.00	18,794.26	12,664.00	108.27	107.69	-81.01	-6,349.80	1,976.27	1,365.31	1,151.82	213.49	6.395	
19,400.00	12,884.00	18,894.26	12,664.00	109.84	109.25	-81.01	-6,449.80	1,976.27	1,365.31	1,148.70	216.62	6.303	
19,500.00	12,884.00	18,994.26	12,664.00	111.42	110.81	-81.01	-6,549.80	1,976.27	1,365.31	1,145.57	219.74	6.213	
19,600.00	12,884.00	19,094.26	12,664.00	113.00	112.38	-81.01	-6,649.80	1,976.27	1,365.31	1,142.44	222.88	6.126	
19,700.00	12,884.00	19,194.26	12,664.00	114.57	113.95	-81.01	-6,749.80	1,976.27	1,365.31	1,139.31	226.01	6.041	
19,800.00	12,884.00	19,294.26	12,664.00	116.16	115.52	-81.01	-6,849.80	1,976.27	1,365.31	1,136.17	229.15	5.958	
19,900.00	12,884.00	19,394.26	12,664.00	117.74	117.09	-81.01	-6,949.80	1,976.27	1,365.31	1,133.03	232.29	5.878	
20,000.00	12,884.00	19,494.26	12,664.00	119.32	118.67	-81.01	-7,049.80	1,976.27	1,365.31	1,129.89	235.43	5.799	
20,100.00	12,884.00	19,594.26	12,664.00	120.91	120.24	-81.01	-7,149.80	1,976.27	1,365.31	1,126.74	238.57	5.723	
20,200.00	12,884.00	19,694.26	12,664.00	122.49	121.82	-81.01	-7,249.80	1,976.27	1,365.31	1,123.60	241.72	5.648	
20,300.00	12,884.00	19,794.26	12,664.00	124.08	123.40	-81.01	-7,349.80	1,976.27	1,365.31	1,120.45	244.87	5.576	
20,400.00	12,884.00	19,894.26	12,664.00	125.67	124.98	-81.01	-7,449.80	1,976.27	1,365.31	1,117.29	248.02	5.505	
20,500.00	12,884.00	19,994.26	12,664.00	127.26	126.56	-81.01	-7,549.80	1,976.27	1,365.31	1,114.14	251.17	5.436	
20,600.00	12,884.00	20,094.26	12,664.00	128.85	128.14	-81.01	-7,649.80	1,976.27	1,365.31	1,110.99	254.33	5.368	
20,700.00	12,884.00	20,194.26	12,664.00	130.44	129.73	-81.01	-7,749.80	1,976.27	1,365.31	1,107.83	257.49	5.302	
20,800.00	12,884.00	20,294.26	12,664.00	132.03	131.31	-81.01	-7,849.80	1,976.27	1,365.31	1,104.67	260.65	5.238	
20,900.00	12,884.00	20,394.26	12,664.00	133.63	132.90	-81.01	-7,949.80	1,976.27	1,365.31	1,101.51	263.81	5.175	
21,000.00	12,884.00	20,494.26	12,664.00	135.22	134.49	-81.01	-8,049.80	1,976.27	1,365.31	1,098.34	266.97	5.114	
21,100.00	12,884.00	20,594.26	12,664.00	136.82	136.08	-81.01	-8,149.80	1,976.27	1,365.31	1,095.18	270.14	5.054	
21,200.00	12,884.00	20,694.26	12,664.00	138.41	137.67	-81.01	-8,249.80	1,976.27	1,365.31	1,092.01	273.30	4.996	
21,300.00	12,884.00	20,794.26	12,664.00	140.01	139.26	-81.01	-8,349.80	1,976.27	1,365.31	1,088.84	276.47	4.938	
21,400.00	12,884.00	20,894.26	12,664.00	141.61	140.85	-81.01	-8,449.80	1,976.27	1,365.31	1,085.67	279.64	4.882	
21,500.00	12,884.00	20,994.26	12,664.00	143.21	142.44	-81.01	-8,549.80	1,976.27	1,365.31	1,082.50	282.82	4.828	
21,600.00	12,884.00	21,094.26	12,664.00	144.81	144.04	-81.01	-8,649.80	1,976.27	1,365.31	1,079.33	285.99	4.774	
21,700.00	12,884.00	21,194.26	12,664.00	146.41	145.63	-81.01	-8,749.80	1,976.27	1,365.31	1,076.15	289.16	4.722	
21,800.00	12,884.00	21,294.26	12,664.00	148.01	147.23	-81.01	-8,849.80	1,976.27	1,365.31	1,072.98	292.34	4.670	
21,900.00	12,884.00	21,394.26	12,664.00	149.61	148.82	-81.01	-8,949.80	1,976.27	1,365.31	1,069.80	295.52	4.620	
22,000.00	12,884.00	21,494.26	12,664.00	151.21	150.42	-81.01	-9,049.80	1,976.27	1,365.31	1,066.62	298.69	4.571	
22,100.00	12,884.00	21,594.26	12,664.00	152.82	152.02	-81.01	-9,149.80	1,976.27	1,365.31	1,063.44	301.87	4.523	
22,200.00	12,884.00	21,694.26	12,664.00	154.42	153.62	-81.01	-9,249.80	1,976.27	1,365.31	1,060.26	305.05	4.476	
22,300.00	12,884.00	21,794.26	12,664.00	156.03	155.22	-81.01	-9,349.80	1,976.27	1,365.31	1,057.08	308.24	4.429	
22,400.00	12,884.00	21,894.26	12,664.00	157.63	156.82	-81.01	-9,449.80	1,976.27	1,365.31	1,053.89	311.42	4.384	
22,500.00	12,884.00	21,994.26	12,664.00	159.24	158.42	-81.01	-9,549.80	1,976.27	1,365.31	1,050.71	314.60	4.340	
22,600.00	12,884.00	22,094.26	12,664.00	160.85	160.02	-81.01	-9,649.80	1,976.27	1,365.31	1,047.52	317.79	4.296	
22,700.00	12,884.00	22,194.26	12,664.00	162.45	161.62	-81.01	-9,749.80	1,976.27	1,365.31	1,044.34	320.98	4.254	
22,800.00	12,884.00	22,294.26	12,664.00	164.06	163.23	-81.01	-9,849.80	1,976.27	1,365.31	1,041.15	324.16	4.212	
22,833.50	12,884.00	22,327.76	12,664.00	164.60	163.76	-81.01	-9,883.30	1,976.27	1,365.31	1,040.08	325.23	4.198	
22,848.13	12,884.00	22,329.57	12,664.00	164.83	163.79	-81.01	-9,885.11	1,976.27	1,365.37	1,039.68	325.70	4.192 SF	

LEAM Drilling Systems LLC

Anticollision Report

Company: Devon Energy
 Project: Lea County, NM (NAD-83)
 Reference Site: Fighting Okra 18-19 Fed
 Site Error: 0.00 usft
 Reference Well: 7H
 Well Error: 0.00 usft
 Reference Wellbore: OH
 Reference Design: Plan #1

Local Co-ordinate Reference: Well 7H
 TVD Reference: 3371.7' GE + 25' KB @ 3396.70usft
 MD Reference: 3371.7' GE + 25' KB @ 3396.70usft
 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 Fighting Okra 18-19 Fed - 5H - OH - Plan #1													Offset Site Error: 0.00 usft
Survey Program: 0-LEAM MWD+HDGM													Offset Well Error: 0.00 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
0.00	0.00	0.00	0.00	0.00	0.00	92.45	-37.63	880.15	880.98				
100.00	100.00	93.30	93.30	0.08	0.08	92.45	-37.63	880.15	880.95	880.79	0.16	5,407.031	
200.00	200.00	193.30	193.30	0.31	0.29	92.45	-37.63	880.15	880.95	880.35	0.60	1,460.837	
300.00	300.00	293.30	293.30	0.53	0.52	92.45	-37.63	880.15	880.95	879.90	1.05	836.948	
400.00	400.00	393.30	393.30	0.76	0.74	92.45	-37.63	880.15	880.95	879.45	1.50	586.477	
500.00	500.00	493.30	493.30	0.98	0.97	92.45	-37.63	880.15	880.95	879.00	1.95	451.391	
600.00	600.00	593.30	593.30	1.21	1.19	92.45	-37.63	880.15	880.95	878.55	2.40	366.884	
700.00	700.00	693.30	693.30	1.43	1.42	92.45	-37.63	880.15	880.95	878.10	2.85	309.030	
800.00	800.00	793.30	793.30	1.66	1.64	92.45	-37.63	880.15	880.95	877.65	3.30	266.936	
900.00	900.00	893.30	893.30	1.88	1.87	92.45	-37.63	880.15	880.95	877.20	3.75	234.935	
1,000.00	1,000.00	993.30	993.30	2.11	2.09	92.45	-37.63	880.15	880.95	876.75	4.20	209.786	
1,100.00	1,100.00	1,093.30	1,093.30	2.33	2.32	92.45	-37.63	880.15	880.95	876.31	4.65	189.500	
1,200.00	1,200.00	1,193.30	1,193.30	2.56	2.54	92.45	-37.63	880.15	880.95	875.86	5.10	172.791	
1,300.00	1,300.00	1,293.30	1,293.30	2.78	2.77	92.45	-37.63	880.15	880.95	875.41	5.55	158.791	
1,400.00	1,400.00	1,393.30	1,393.30	3.01	2.99	92.45	-37.63	880.15	880.95	874.96	6.00	146.889	
1,500.00	1,500.00	1,493.30	1,493.30	3.23	3.22	92.45	-37.63	880.15	880.95	874.51	6.45	136.646	
1,600.00	1,600.00	1,593.30	1,593.30	3.46	3.44	92.45	-37.63	880.15	880.95	874.06	6.90	127.739	
1,700.00	1,700.00	1,693.30	1,693.30	3.68	3.67	92.45	-37.63	880.15	880.95	873.61	7.35	119.922	
1,800.00	1,800.00	1,793.30	1,793.30	3.91	3.89	92.45	-37.63	880.15	880.95	873.16	7.80	113.007	
1,900.00	1,900.00	1,893.30	1,893.30	4.13	4.12	92.45	-37.63	880.15	880.95	872.71	8.25	106.846	
2,000.00	2,000.00	1,993.30	1,993.30	4.35	4.34	92.45	-37.63	880.15	880.95	872.26	8.69	101.322	
2,100.00	2,100.00	2,093.30	2,093.30	4.58	4.56	92.45	-37.63	880.15	880.95	871.81	9.14	96.341	
2,200.00	2,200.00	2,193.30	2,193.30	4.80	4.79	92.45	-37.63	880.15	880.95	871.36	9.59	91.826	
2,300.00	2,300.00	2,293.30	2,293.30	5.03	5.01	92.45	-37.63	880.15	880.95	870.91	10.04	87.716	
2,400.00	2,400.00	2,393.30	2,393.30	5.25	5.24	92.45	-37.63	880.15	880.95	870.46	10.49	83.958	
2,500.00	2,500.00	2,493.30	2,493.30	5.48	5.46	92.45	-37.63	880.15	880.95	870.01	10.94	80.509	
2,600.00	2,600.00	2,593.30	2,593.30	5.70	5.69	92.45	-37.63	880.15	880.95	869.56	11.39	77.332	
2,700.00	2,700.00	2,693.30	2,693.30	5.93	5.91	92.45	-37.63	880.15	880.95	869.11	11.84	74.396	
2,800.00	2,800.00	2,793.30	2,793.30	6.15	6.14	92.45	-37.63	880.15	880.95	868.66	12.29	71.675	
2,900.00	2,900.00	2,893.30	2,893.30	6.38	6.36	92.45	-37.63	880.15	880.95	868.21	12.74	69.146	
3,000.00	3,000.00	2,993.30	2,993.30	6.60	6.59	92.45	-37.63	880.15	880.95	867.76	13.19	66.790	
3,100.00	3,100.00	3,093.30	3,093.30	6.83	6.81	92.45	-37.63	880.15	880.95	867.31	13.64	64.589	
3,200.00	3,200.00	3,193.30	3,193.30	7.05	7.04	92.45	-37.63	880.15	880.95	866.87	14.09	62.528	
3,300.00	3,300.00	3,293.30	3,293.30	7.28	7.26	92.45	-37.63	880.15	880.95	866.42	14.54	60.594	
3,400.00	3,400.00	3,393.30	3,393.30	7.50	7.49	92.45	-37.63	880.15	880.95	865.97	14.99	58.777	
3,500.00	3,500.00	3,493.30	3,493.30	7.73	7.71	92.45	-37.63	880.15	880.95	865.52	15.44	57.065	
3,600.00	3,600.00	3,593.30	3,593.30	7.94	7.91	26.49	-37.27	880.64	880.70	864.85	15.85	55.565	
3,700.00	3,699.96	3,672.71	3,672.68	8.15	8.10	26.48	-36.08	882.24	880.09	863.84	16.25	54.173	
3,800.00	3,799.86	3,762.05	3,761.96	8.36	8.29	26.45	-34.05	884.96	879.13	862.49	16.64	52.834	
3,900.00	3,899.68	3,851.41	3,851.19	8.58	8.49	26.42	-31.19	888.79	877.81	860.78	17.03	51.540	
4,000.00	3,999.37	3,942.30	3,941.86	8.79	8.69	26.38	-27.45	893.82	876.14	858.71	17.43	50.272	
4,049.06	4,048.22	3,991.35	3,990.77	8.90	8.79	26.36	-25.26	896.75	874.96	857.32	17.64	49.608	
4,100.00	4,098.93	4,042.26	4,041.55	9.01	8.91	26.35	-22.99	899.80	873.54	855.69	17.86	48.924	
4,200.00	4,198.47	4,142.22	4,141.23	9.23	9.13	26.32	-18.54	905.78	870.76	852.48	18.28	47.623	
4,300.00	4,298.01	4,242.18	4,240.91	9.45	9.35	26.29	-14.08	911.76	867.98	849.26	18.72	46.375	
4,400.00	4,397.55	4,342.15	4,340.59	9.69	9.57	26.26	-9.63	917.74	865.20	846.05	19.15	45.179	
4,500.00	4,497.09	4,442.11	4,440.27	9.92	9.80	26.23	-5.17	923.72	862.41	842.83	19.59	44.031	
4,600.00	4,496.63	4,542.07	4,539.96	10.15	10.03	26.20	-0.72	929.70	859.63	839.61	20.02	42.929	
4,700.00	4,496.17	4,642.03	4,639.64	10.38	10.25	26.17	3.74	935.68	856.85	836.39	20.46	41.870	
4,800.00	4,495.71	4,741.99	4,739.32	10.62	10.48	26.14	8.19	941.66	854.07	833.17	20.91	40.853	
4,900.00	4,495.26	4,841.95	4,839.00	10.85	10.71	26.11	12.65	947.64	851.29	829.94	21.35	39.874	
5,000.00	4,494.80	4,941.91	4,938.68	11.09	10.95	26.08	17.10	953.62	848.51	826.72	21.79	38.933	

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

LEAM Drilling Systems LLC

Anticollision Report

Company:	Devon Energy	Local Co-ordinate Reference:	Well 7H
Project:	Lea County, NM (NAD-83)	TVD Reference:	3371.7' GE + 25' KB @ 3396.70usft
Reference Site:	Fighting Okra 18-19 Fed	MD Reference:	3371.7' GE + 25' KB @ 3396.70usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	7H	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

Offset Design Fighting Okra 18-19 Fed - 5H - OH - Plan #1														Offset Site Error:	0.00 usft
Survey Program: O-LEAM MWD+HDGM														Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning		
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)					
5,100.00	5,094.34	5,041.87	5,038.37	11.33	11.18	26.05	21.56	959.60	845.73	823.49	22.24	38.027			
5,200.00	5,193.88	5,141.83	5,138.05	11.57	11.41	26.02	26.01	965.58	842.95	820.26	22.69	37.155			
5,300.00	5,293.42	5,241.79	5,237.73	11.82	11.65	25.98	30.47	971.56	840.17	817.04	23.14	36.314			
5,400.00	5,392.96	5,341.75	5,337.41	12.06	11.88	25.95	34.92	977.54	837.39	813.81	23.59	35.504			
5,500.00	5,492.50	5,441.71	5,437.09	12.30	12.12	25.92	39.38	983.52	834.61	810.58	24.04	34.723			
5,600.00	5,592.04	5,541.67	5,536.77	12.55	12.35	25.89	43.83	989.50	831.84	807.35	24.49	33.968			
5,700.00	5,691.59	5,641.63	5,636.46	12.80	12.59	25.86	48.29	995.48	829.06	804.12	24.94	33.240			
5,800.00	5,791.13	5,741.59	5,736.14	13.05	12.83	25.82	52.74	1,001.46	826.28	800.88	25.40	32.537			
5,900.00	5,890.67	5,841.55	5,835.82	13.29	13.06	25.79	57.20	1,007.44	823.50	797.65	25.85	31.857			
6,000.00	5,990.21	5,941.51	5,935.50	13.54	13.30	25.76	61.65	1,013.42	820.72	794.42	26.31	31.200			
6,100.00	6,089.75	6,041.47	6,035.18	13.79	13.54	25.73	66.11	1,019.40	817.95	791.18	26.76	30.564			
6,200.00	6,189.29	6,141.43	6,134.86	14.05	13.78	25.69	70.56	1,025.38	815.17	787.95	27.22	29.949			
6,300.00	6,288.83	6,241.39	6,234.55	14.30	14.02	25.66	75.02	1,031.36	812.39	784.72	27.68	29.354			
6,400.00	6,388.37	6,341.35	6,334.23	14.55	14.26	25.62	79.47	1,037.34	809.61	781.48	28.13	28.777			
6,500.00	6,487.91	6,441.31	6,433.91	14.80	14.50	25.59	83.93	1,043.32	806.84	778.25	28.59	28.218			
6,600.00	6,587.46	6,541.27	6,533.59	15.06	14.74	25.56	88.38	1,049.30	804.06	775.01	29.05	27.676			
6,700.00	6,687.00	6,641.23	6,633.27	15.31	14.99	25.52	92.84	1,055.28	801.29	771.77	29.51	27.151			
6,800.00	6,786.54	6,741.19	6,732.96	15.57	15.23	25.49	97.29	1,061.26	798.51	768.54	29.97	26.641			
6,900.00	6,886.08	6,841.15	6,832.64	15.82	15.47	25.45	101.75	1,067.24	795.74	765.30	30.43	26.146			
7,000.00	6,985.62	6,941.11	6,932.32	16.08	15.71	25.42	106.20	1,073.22	792.96	762.07	30.90	25.666			
7,100.00	7,085.16	7,041.07	7,032.00	16.34	15.96	25.38	110.66	1,079.20	790.19	758.83	31.36	25.199			
7,200.00	7,184.70	7,141.03	7,131.68	16.59	16.20	25.35	115.11	1,085.18	787.41	755.59	31.82	24.746			
7,300.00	7,284.24	7,240.99	7,231.36	16.85	16.44	25.31	119.57	1,091.16	784.64	752.36	32.28	24.305			
7,400.00	7,383.79	7,340.95	7,331.05	17.11	16.69	25.27	124.02	1,097.14	781.87	749.12	32.75	23.877			
7,500.00	7,483.33	7,440.91	7,430.73	17.37	16.93	25.24	128.48	1,103.12	779.09	745.88	33.21	23.460			
7,600.00	7,582.87	7,540.87	7,530.41	17.63	17.17	25.20	132.93	1,109.10	776.32	742.65	33.67	23.054			
7,700.00	7,682.41	7,640.84	7,630.09	17.88	17.42	25.16	137.39	1,115.08	773.55	739.41	34.14	22.660			
7,800.00	7,781.95	7,740.80	7,729.77	18.14	17.66	25.13	141.84	1,121.06	770.77	736.17	34.60	22.275			
7,900.00	7,881.49	7,840.76	7,829.45	18.40	17.91	25.09	146.30	1,127.04	768.00	732.94	35.07	21.901			
8,000.00	7,981.03	7,940.72	7,929.14	18.66	18.15	25.05	150.75	1,133.02	765.23	729.70	35.53	21.536			
8,100.00	8,080.57	8,040.68	8,028.82	18.92	18.40	25.01	155.21	1,139.00	762.46	726.46	36.00	21.181			
8,200.00	8,180.12	8,140.64	8,128.50	19.19	18.65	24.97	159.66	1,144.98	759.69	723.23	36.46	20.834			
8,300.00	8,279.66	8,240.60	8,228.18	19.45	18.89	24.93	164.12	1,150.96	756.92	719.99	36.93	20.497			
8,400.00	8,379.20	8,340.56	8,327.86	19.71	19.14	24.90	168.57	1,156.94	754.15	716.75	37.40	20.167			
8,500.00	8,478.74	8,440.52	8,427.55	19.97	19.38	24.86	173.03	1,162.92	751.38	713.52	37.86	19.845			
8,600.00	8,578.28	8,540.48	8,527.23	20.23	19.63	24.82	177.48	1,168.90	748.61	710.28	38.33	19.532			
8,700.00	8,677.82	8,640.44	8,626.91	20.49	19.88	24.78	181.94	1,174.88	745.84	707.04	38.79	19.225			
8,800.00	8,777.36	8,740.40	8,726.59	20.76	20.12	24.74	186.39	1,180.86	743.07	703.81	39.26	18.926			
8,900.00	8,876.90	8,840.36	8,826.27	21.02	20.37	24.70	190.85	1,186.84	740.30	700.57	39.73	18.634			
9,000.00	8,976.44	8,940.32	8,925.95	21.28	20.62	24.66	195.30	1,192.82	737.53	697.34	40.20	18.348			
9,100.00	9,075.99	9,040.28	9,025.64	21.54	20.86	24.61	199.76	1,198.80	734.77	694.10	40.66	18.069			
9,200.00	9,175.53	9,140.24	9,125.32	21.81	21.11	24.57	204.21	1,204.78	732.00	690.87	41.13	17.797			
9,300.00	9,275.07	9,240.20	9,225.00	22.07	21.36	24.53	208.67	1,210.76	729.23	687.63	41.60	17.530			
9,400.00	9,374.61	9,340.16	9,324.68	22.33	21.61	24.49	213.12	1,216.75	726.46	684.40	42.07	17.269			
9,500.00	9,474.15	9,440.12	9,424.36	22.60	21.85	24.45	217.58	1,222.73	723.70	681.16	42.53	17.014			
9,600.00	9,573.69	9,540.08	9,524.04	22.86	22.10	24.40	222.03	1,228.71	720.93	677.93	43.00	16.765			
9,700.00	9,673.23	9,640.04	9,623.73	23.13	22.35	24.36	226.49	1,234.69	718.17	674.70	43.47	16.521			
9,800.00	9,772.77	9,740.00	9,723.41	23.39	22.60	24.32	230.94	1,240.67	715.40	671.46	43.94	16.282			
9,900.00	9,872.32	9,839.96	9,823.09	23.65	22.85	24.27	235.40	1,246.65	712.64	668.23	44.41	16.048			
10,000.00	9,971.86	9,939.92	9,922.77	23.92	23.09	24.23	239.85	1,252.63	709.87	665.00	44.88	15.819			
10,100.00	10,071.40	10,039.88	10,022.45	24.18	23.34	24.19	244.31	1,258.61	707.11	661.77	45.34	15.584			
10,200.00	10,170.94	10,139.84	10,122.14	24.45	23.59	24.14	248.76	1,264.59	704.35	658.53	45.81	15.374			

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

LEAM Drilling Systems LLC

Anticollision Report

Company: Devon Energy
Project: Lea County, NM (NAD-83)
Reference Site: Fighting Okra 18-19 Fed
Site Error: 0.00 usft
Reference Well: 7H
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Plan #1

Local Co-ordinate Reference: Well 7H
TVD Reference: 3371.7' GE + 25' KB @ 3396.70usft
MD Reference: 3371.7' GE + 25' KB @ 3396.70usft
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: Fighting Okra 18-19 Fed - 5H - OH - Plan #1													Offset Site Error: 0.00 usft
Survey Program: O-LEAM MWD+HDGM													Offset Well Error: 0.00 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance				Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	
10,300.00	10,270.48	10,239.80	10,221.82	24.71	23.84	24.10	253.22	1,270.57	701.58	655.30	46.28	15.159	
10,400.00	10,370.02	10,339.76	10,321.50	24.98	24.09	24.05	257.67	1,276.55	698.82	652.07	46.75	14.948	
10,500.00	10,469.56	10,439.72	10,421.18	25.24	24.34	24.01	262.13	1,282.53	696.06	648.84	47.22	14.741	
10,600.00	10,569.10	10,539.68	10,520.86	25.51	24.59	23.96	266.58	1,288.51	693.30	645.61	47.69	14.538	
10,683.05	10,651.78	10,622.70	10,603.65	25.73	24.79	23.92	270.28	1,293.47	691.00	642.93	48.08	14.373	
10,700.00	10,668.65	10,639.64	10,620.54	25.77	24.83	23.91	271.04	1,294.49	690.56	642.41	48.15	14.341	
10,800.00	10,768.29	10,739.62	10,720.25	25.97	25.08	23.82	275.49	1,300.47	688.87	640.29	48.57	14.182	
10,900.00	10,868.07	10,844.70	10,825.05	26.17	25.32	23.68	280.03	1,306.56	688.60	639.62	48.98	14.058	
10,972.07	10,940.04	10,924.50	10,904.71	26.30	25.47	23.58	282.82	1,310.30	688.59	639.32	49.26	13.978 CC	
11,000.00	10,967.95	10,955.43	10,935.60	26.35	25.52	23.55	283.72	1,311.52	688.59	639.22	49.37	13.947	
11,100.00	11,067.89	11,066.17	11,046.27	26.53	25.72	23.47	286.14	1,314.76	688.62	638.88	49.74	13.843	
11,200.00	11,167.88	11,176.93	11,157.01	26.70	25.92	23.43	287.27	1,316.28	688.69	638.59	50.10	13.745	
11,232.12	11,200.00	11,212.50	11,192.58	26.75	25.98	89.39	287.37	1,316.41	688.73	638.51	50.22	13.714	
11,300.00	11,267.88	11,281.10	11,261.18	26.88	26.10	89.39	287.37	1,316.41	688.73	638.25	50.48	13.643	
11,400.00	11,367.88	11,381.10	11,361.18	27.08	26.31	89.39	287.37	1,316.41	688.73	637.83	50.90	13.531	
11,500.00	11,467.88	11,481.10	11,461.18	27.28	26.52	89.39	287.37	1,316.41	688.73	637.40	51.33	13.419	
11,600.00	11,567.88	11,581.10	11,561.18	27.48	26.73	89.39	287.37	1,316.41	688.73	636.98	51.75	13.309	
11,700.00	11,667.88	11,681.10	11,661.18	27.68	26.93	89.39	287.37	1,316.41	688.73	636.55	52.17	13.201	
11,800.00	11,767.88	11,781.10	11,761.18	27.88	27.14	89.39	287.37	1,316.41	688.73	636.13	52.60	13.094	
11,900.00	11,867.88	11,881.10	11,861.18	28.08	27.35	89.39	287.37	1,316.41	688.73	635.70	53.03	12.989	
12,000.00	11,967.88	11,981.10	11,961.18	28.29	27.56	89.39	287.37	1,316.41	688.73	635.28	53.45	12.885	
12,100.00	12,067.88	12,081.10	12,061.18	28.49	27.77	89.39	287.37	1,316.41	688.73	634.85	53.88	12.783	
12,200.00	12,167.88	12,181.10	12,161.18	28.69	27.98	89.39	287.37	1,316.41	688.73	634.43	54.30	12.683	
12,300.00	12,267.88	12,281.56	12,261.60	28.89	28.17	89.51	285.93	1,316.41	688.72	634.00	54.72	12.587	
12,343.16	12,311.04	12,324.75	12,304.53	28.98	28.24	89.90	281.26	1,316.41	688.69	633.81	54.89	12.548	
12,350.00	12,317.88	12,331.52	12,311.23	29.00	28.25	-90.02	280.23	1,316.41	688.69	633.78	54.91	12.542	
12,351.87	12,319.75	12,333.37	12,313.05	29.00	28.25	-90.00	279.93	1,316.41	688.69	633.77	54.92	12.540	
12,400.00	12,367.79	12,380.71	12,359.40	29.07	28.31	-89.43	270.41	1,316.41	688.73	633.65	55.08	12.505	
12,450.00	12,417.26	12,429.30	12,406.00	29.14	28.36	-88.84	256.69	1,316.41	688.83	633.62	55.22	12.475	
12,500.00	12,465.93	12,477.33	12,450.76	29.21	28.40	-88.26	239.30	1,316.41	689.01	633.68	55.34	12.451	
12,550.00	12,513.42	12,524.82	12,493.43	29.26	28.43	-87.70	218.48	1,316.41	689.26	633.82	55.43	12.434	
12,600.00	12,559.37	12,571.83	12,533.82	29.31	28.46	-87.15	194.46	1,316.41	689.55	634.04	55.51	12.422	
12,650.00	12,603.42	12,618.37	12,571.74	29.34	28.48	-86.63	167.50	1,316.41	689.90	634.32	55.57	12.414	
12,700.00	12,645.26	12,664.48	12,607.03	29.38	28.49	-86.14	137.84	1,316.41	690.28	634.65	55.63	12.409	
12,750.00	12,684.55	12,710.20	12,639.56	29.40	28.51	-85.67	105.72	1,316.41	690.68	635.01	55.67	12.406	
12,800.00	12,720.99	12,755.57	12,669.20	29.43	28.52	-85.24	71.40	1,316.41	691.10	635.38	55.72	12.404	
12,850.00	12,754.32	12,800.00	12,695.51	29.45	28.53	-84.84	35.60	1,316.41	691.52	635.75	55.77	12.400	
12,900.00	12,784.27	12,845.36	12,719.42	29.47	28.54	-84.47	-2.93	1,316.41	691.93	636.09	55.84	12.392	
12,950.00	12,810.62	12,889.86	12,739.85	29.50	28.55	-84.15	-42.45	1,316.41	692.32	636.39	55.92	12.380	
13,000.00	12,833.17	12,934.14	12,757.07	29.53	28.57	-83.86	-83.23	1,316.41	692.67	636.64	56.03	12.362	
13,050.00	12,851.75	12,978.24	12,771.04	29.57	28.60	-83.62	-125.04	1,316.41	692.99	636.82	56.18	12.336	
13,100.00	12,866.21	13,022.17	12,781.73	29.63	28.64	-83.42	-167.65	1,316.41	693.26	636.91	56.35	12.303	
13,150.00	12,876.44	13,065.98	12,789.10	29.70	28.71	-83.27	-210.82	1,316.41	693.48	636.92	56.56	12.261	
13,200.00	12,882.37	13,109.71	12,793.15	29.80	28.79	-83.16	-254.35	1,316.41	693.63	636.82	56.81	12.210	
13,243.16	12,884.00	13,148.33	12,794.00	29.90	28.89	-83.10	-292.96	1,316.41	693.71	636.66	57.05	12.159	
13,300.00	12,884.00	13,205.17	12,794.00	30.05	29.05	-83.10	-349.80	1,316.41	693.71	636.29	57.42	12.082	
13,400.00	12,884.00	13,305.17	12,794.00	30.41	29.42	-83.10	-449.80	1,316.41	693.71	635.51	58.20	11.920	
13,500.00	12,884.00	13,405.17	12,794.00	30.85	29.87	-83.10	-549.80	1,316.41	693.71	634.56	59.14	11.729	
13,600.00	12,884.00	13,505.17	12,794.00	31.38	30.41	-83.10	-649.80	1,316.41	693.71	633.45	60.25	11.513	
13,700.00	12,884.00	13,605.17	12,794.00	31.99	31.02	-83.10	-749.80	1,316.41	693.71	632.20	61.51	11.277	
13,800.00	12,884.00	13,705.17	12,794.00	32.67	31.71	-83.10	-849.80	1,316.41	693.71	630.79	62.92	11.026	
13,900.00	12,884.00	13,805.17	12,794.00	33.41	32.46	-83.10	-949.80	1,316.41	693.71	629.25	64.45	10.763	

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

LEAM Drilling Systems LLC

Anticollision Report

Company: Devon Energy
 Project: Lea County, NM (NAD-83)
 Reference Site: Fighting Okra 18-19 Fed
 Site Error: 0.00 usft
 Reference Well: 7H
 Well Error: 0.00 usft
 Reference Wellbore: OH
 Reference Design: Plan #1

Local Co-ordinate Reference: Well 7H
 TVD Reference: 3371.7' GE + 25' KB @ 3396.70usft
 MD Reference: 3371.7' GE + 25' KB @ 3396.70usft
 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 Fighting Okra 18-19 Fed - 5H - OH - Plan #1													Offset Site Error: 0.00 usft
Survey Program: 0-LEAM MWD+HDGM													Offset Well Error: 0.00 usft
Reference		Offset		Semi Major Axis			Offset Wellbore Centre		Distance				Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	+N/S (usft)	-E/W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	
14,000.00	12,884.00	13,905.17	12,794.00	34.22	33.28	-83.10	-1,049.80	1,316.41	693.71	627.59	66.12	10.492	
14,100.00	12,884.00	14,005.17	12,794.00	35.09	34.16	-83.10	-1,149.80	1,316.41	693.71	625.82	67.89	10.218	
14,200.00	12,884.00	14,105.17	12,794.00	36.01	35.09	-83.10	-1,249.80	1,316.41	693.71	623.94	69.77	9.942	
14,300.00	12,884.00	14,205.17	12,794.00	36.98	36.06	-83.10	-1,349.80	1,316.41	693.71	621.96	71.75	9.668	
14,400.00	12,884.00	14,305.17	12,794.00	38.00	37.09	-83.10	-1,449.80	1,316.41	693.71	619.89	73.82	9.397	
14,500.00	12,884.00	14,405.17	12,794.00	39.06	38.16	-83.10	-1,549.80	1,316.41	693.71	617.73	75.98	9.131	
14,600.00	12,884.00	14,505.17	12,794.00	40.16	39.26	-83.10	-1,649.80	1,316.41	693.71	615.50	78.21	8.870	
14,700.00	12,884.00	14,605.17	12,794.00	41.29	40.40	-83.10	-1,749.80	1,316.41	693.71	613.21	80.50	8.617	
14,800.00	12,884.00	14,705.17	12,794.00	42.46	41.58	-83.10	-1,849.80	1,316.41	693.71	610.84	82.87	8.371	
14,900.00	12,884.00	14,805.17	12,794.00	43.65	42.78	-83.10	-1,949.80	1,316.41	693.71	608.42	85.29	8.134	
15,000.00	12,884.00	14,905.17	12,794.00	44.88	44.02	-83.10	-2,049.80	1,316.41	693.71	605.95	87.76	7.905	
15,100.00	12,884.00	15,005.17	12,794.00	46.12	45.27	-83.10	-2,149.80	1,316.41	693.71	603.43	90.28	7.684	
15,200.00	12,884.00	15,105.17	12,794.00	47.40	46.56	-83.10	-2,249.80	1,316.41	693.71	600.86	92.85	7.471	
15,300.00	12,884.00	15,205.17	12,794.00	48.69	47.86	-83.10	-2,349.80	1,316.41	693.71	598.25	95.46	7.267	
15,400.00	12,884.00	15,305.17	12,794.00	50.00	49.18	-83.10	-2,449.80	1,316.41	693.71	595.60	98.11	7.071	
15,500.00	12,884.00	15,405.17	12,794.00	51.34	50.52	-83.10	-2,549.80	1,316.41	693.71	592.91	100.79	6.882	
15,600.00	12,884.00	15,505.17	12,794.00	52.68	51.88	-83.10	-2,649.80	1,316.41	693.71	590.20	103.51	6.702	
15,700.00	12,884.00	15,605.17	12,794.00	54.05	53.25	-83.10	-2,749.80	1,316.41	693.71	587.45	106.26	6.529	
15,800.00	12,884.00	15,705.17	12,794.00	55.43	54.64	-83.10	-2,849.80	1,316.41	693.71	584.68	109.03	6.363	
15,900.00	12,884.00	15,805.17	12,794.00	56.82	56.04	-83.10	-2,949.80	1,316.41	693.71	581.88	111.83	6.203	
16,000.00	12,884.00	15,905.17	12,794.00	58.23	57.45	-83.10	-3,049.80	1,316.41	693.71	579.06	114.65	6.051	
16,100.00	12,884.00	16,005.17	12,794.00	59.64	58.88	-83.10	-3,149.80	1,316.41	693.71	576.21	117.50	5.904	
16,200.00	12,884.00	16,105.17	12,794.00	61.07	60.31	-83.10	-3,249.80	1,316.41	693.71	573.35	120.36	5.763	
16,300.00	12,884.00	16,205.17	12,794.00	62.51	61.76	-83.10	-3,349.80	1,316.41	693.71	570.46	123.25	5.629	
16,400.00	12,884.00	16,305.17	12,794.00	63.96	63.21	-83.10	-3,449.80	1,316.41	693.71	567.56	126.15	5.499	
16,500.00	12,884.00	16,405.17	12,794.00	65.41	64.67	-83.10	-3,549.80	1,316.41	693.71	564.64	129.07	5.375	
16,600.00	12,884.00	16,505.17	12,794.00	66.88	66.14	-83.10	-3,649.80	1,316.41	693.71	561.70	132.00	5.255	
16,700.00	12,884.00	16,605.17	12,794.00	68.35	67.62	-83.10	-3,749.80	1,316.41	693.71	558.76	134.95	5.140	
16,800.00	12,884.00	16,705.17	12,794.00	69.83	69.11	-83.10	-3,849.80	1,316.41	693.71	555.79	137.92	5.030	
16,900.00	12,884.00	16,805.17	12,794.00	71.32	70.60	-83.10	-3,949.80	1,316.41	693.71	552.82	140.89	4.924	
17,000.00	12,884.00	16,905.17	12,794.00	72.81	72.10	-83.10	-4,049.80	1,316.41	693.71	549.83	143.88	4.821	
17,100.00	12,884.00	17,005.17	12,794.00	74.31	73.60	-83.10	-4,149.80	1,316.41	693.71	546.83	146.88	4.723	
17,200.00	12,884.00	17,105.17	12,794.00	75.81	75.11	-83.10	-4,249.80	1,316.41	693.71	543.82	149.89	4.628	
17,300.00	12,884.00	17,205.17	12,794.00	77.32	76.62	-83.10	-4,349.80	1,316.41	693.71	540.80	152.90	4.537	
17,400.00	12,884.00	17,305.17	12,794.00	78.83	78.14	-83.10	-4,449.80	1,316.41	693.71	537.78	155.93	4.449	
17,500.00	12,884.00	17,405.17	12,794.00	80.35	79.67	-83.10	-4,549.80	1,316.41	693.71	534.74	158.97	4.364	
17,600.00	12,884.00	17,505.17	12,794.00	81.88	81.20	-83.10	-4,649.80	1,316.41	693.71	531.69	162.01	4.282	
17,700.00	12,884.00	17,605.17	12,794.00	83.40	82.73	-83.10	-4,749.80	1,316.41	693.71	528.64	165.07	4.203	
17,800.00	12,884.00	17,705.17	12,794.00	84.94	84.26	-83.10	-4,849.80	1,316.41	693.71	525.58	168.13	4.126	
17,900.00	12,884.00	17,805.17	12,794.00	86.47	85.80	-83.10	-4,949.80	1,316.41	693.71	522.51	171.19	4.052	
18,000.00	12,884.00	17,905.17	12,794.00	88.01	87.35	-83.10	-5,049.80	1,316.41	693.71	519.44	174.27	3.981	
18,100.00	12,884.00	18,005.17	12,794.00	89.55	88.89	-83.10	-5,149.80	1,316.41	693.71	516.36	177.35	3.912	
18,200.00	12,884.00	18,105.17	12,794.00	91.10	90.44	-83.10	-5,249.80	1,316.41	693.71	513.27	180.43	3.845	
18,300.00	12,884.00	18,205.17	12,794.00	92.65	91.99	-83.10	-5,349.80	1,316.41	693.71	510.18	183.53	3.780	
18,400.00	12,884.00	18,305.17	12,794.00	94.20	93.55	-83.10	-5,449.80	1,316.41	693.71	507.09	186.62	3.717	
18,500.00	12,884.00	18,405.17	12,794.00	95.75	95.11	-83.10	-5,549.80	1,316.41	693.71	503.98	189.73	3.656	
18,600.00	12,884.00	18,505.17	12,794.00	97.31	96.67	-83.10	-5,649.80	1,316.41	693.71	500.88	192.83	3.597	
18,700.00	12,884.00	18,605.17	12,794.00	98.87	98.23	-83.10	-5,749.80	1,316.41	693.71	497.76	195.94	3.540	
18,800.00	12,884.00	18,705.17	12,794.00	100.43	99.79	-83.10	-5,849.80	1,316.41	693.71	494.65	199.06	3.485	
18,900.00	12,884.00	18,805.17	12,794.00	101.99	101.36	-83.10	-5,949.80	1,316.41	693.71	491.53	202.18	3.431	
19,000.00	12,884.00	18,905.17	12,794.00	103.56	102.93	-83.10	-6,049.80	1,316.41	693.71	488.40	205.31	3.379	
19,100.00	12,884.00	19,005.17	12,794.00	105.13	104.50	-83.10	-6,149.80	1,316.41	693.71	485.28	208.43	3.328	

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

LEAM Drilling Systems LLC

Anticollision Report

Company: Devon Energy
 Project: Lea County, NM (NAD-83)
 Reference Site: Fighting Okra 18-19 Fed
 Site Error: 0.00 usft
 Reference Well: 7H
 Well Error: 0.00 usft
 Reference Wellbore: OH
 Reference Design: Plan #1

Local Co-ordinate Reference: Well 7H
 TVD Reference: 3371.7' GE + 25' KB @ 3396.70usft
 MD Reference: 3371.7' GE + 25' KB @ 3396.70usft
 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										Fighting Okra 18-19 Fed - 5H - OH - Plan #1		Offset Site Error: 0.00 usft	
Survey Program: 0-LEAM MWD+HDGM										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
19,200.00	12,884.00	19,105.17	12,794.00	106.70	106.08	-83.10	-6,249.80	1,316.41	693.71	482.14	211.57	3.279	
19,300.00	12,884.00	19,205.17	12,794.00	108.27	107.65	-83.10	-6,349.80	1,316.41	693.71	479.01	214.70	3.231	
19,400.00	12,884.00	19,305.17	12,794.00	109.84	109.23	-83.10	-6,449.80	1,316.41	693.71	475.87	217.84	3.184	
19,500.00	12,884.00	19,405.17	12,794.00	111.42	110.81	-83.10	-6,549.80	1,316.41	693.71	472.73	220.98	3.139	
19,600.00	12,884.00	19,505.17	12,794.00	113.00	112.39	-83.10	-6,649.80	1,316.41	693.71	469.58	224.13	3.095	
19,700.00	12,884.00	19,605.17	12,794.00	114.57	113.97	-83.10	-6,749.80	1,316.41	693.71	466.43	227.28	3.052	
19,800.00	12,884.00	19,705.17	12,794.00	116.16	115.55	-83.10	-6,849.80	1,316.41	693.71	463.28	230.43	3.011	
19,900.00	12,884.00	19,805.17	12,794.00	117.74	117.13	-83.10	-6,949.80	1,316.41	693.71	460.13	233.58	2.970	
20,000.00	12,884.00	19,905.17	12,794.00	119.32	118.72	-83.10	-7,049.80	1,316.41	693.71	456.97	236.74	2.930	
20,100.00	12,884.00	20,005.17	12,794.00	120.91	120.31	-83.10	-7,149.80	1,316.41	693.71	453.81	239.89	2.892	
20,200.00	12,884.00	20,105.17	12,794.00	122.49	121.90	-83.10	-7,249.80	1,316.41	693.71	450.65	243.06	2.854	
20,300.00	12,884.00	20,205.17	12,794.00	124.08	123.49	-83.10	-7,349.80	1,316.41	693.71	447.49	246.22	2.817	
20,400.00	12,884.00	20,305.17	12,794.00	125.67	125.08	-83.10	-7,449.80	1,316.41	693.71	444.32	249.39	2.782	
20,500.00	12,884.00	20,405.17	12,794.00	127.26	126.67	-83.10	-7,549.80	1,316.41	693.71	441.16	252.55	2.747	
20,600.00	12,884.00	20,505.17	12,794.00	128.85	128.26	-83.10	-7,649.80	1,316.41	693.71	437.99	255.72	2.713	
20,700.00	12,884.00	20,605.17	12,794.00	130.44	129.85	-83.10	-7,749.80	1,316.41	693.71	434.81	258.89	2.680	
20,800.00	12,884.00	20,705.18	12,794.00	132.03	131.45	-83.10	-7,849.80	1,316.41	693.71	431.64	262.07	2.647	
20,900.00	12,884.00	20,805.18	12,794.00	133.63	133.05	-83.10	-7,949.80	1,316.41	693.71	428.47	265.24	2.615	
21,000.00	12,884.00	20,905.18	12,794.00	135.22	134.64	-83.10	-8,049.80	1,316.41	693.71	425.29	268.42	2.584	
21,100.00	12,884.00	21,005.18	12,794.00	136.82	136.24	-83.10	-8,149.80	1,316.41	693.71	422.11	271.60	2.554	
21,200.00	12,884.00	21,105.18	12,794.00	138.41	137.84	-83.10	-8,249.80	1,316.41	693.71	418.93	274.78	2.525	
21,300.00	12,884.00	21,205.18	12,794.00	140.01	139.44	-83.10	-8,349.80	1,316.41	693.71	415.75	277.96	2.496	
21,400.00	12,884.00	21,305.18	12,794.00	141.61	141.04	-83.10	-8,449.80	1,316.41	693.71	412.56	281.15	2.467	
21,500.00	12,884.00	21,405.18	12,794.00	143.21	142.64	-83.10	-8,549.80	1,316.41	693.71	409.38	284.33	2.440	
21,600.00	12,884.00	21,505.18	12,794.00	144.81	144.24	-83.10	-8,649.80	1,316.41	693.71	406.19	287.52	2.413	
21,700.00	12,884.00	21,605.18	12,794.00	146.41	145.84	-83.10	-8,749.80	1,316.41	693.71	403.00	290.71	2.386	
21,800.00	12,884.00	21,705.18	12,794.00	148.01	147.45	-83.10	-8,849.80	1,316.41	693.71	399.81	293.90	2.360	
21,900.00	12,884.00	21,805.18	12,794.00	149.61	149.05	-83.10	-8,949.80	1,316.41	693.71	396.62	297.09	2.335	
22,000.00	12,884.00	21,905.18	12,794.00	151.21	150.65	-83.10	-9,049.80	1,316.41	693.71	393.43	300.28	2.310	
22,100.00	12,884.00	22,005.18	12,794.00	152.82	152.26	-83.10	-9,149.80	1,316.41	693.71	390.24	303.47	2.286	
22,200.00	12,884.00	22,105.18	12,794.00	154.42	153.86	-83.10	-9,249.80	1,316.41	693.71	387.04	306.67	2.262	
22,300.00	12,884.00	22,205.18	12,794.00	156.03	155.47	-83.10	-9,349.80	1,316.41	693.71	383.84	309.86	2.239	
22,400.00	12,884.00	22,305.18	12,794.00	157.63	157.08	-83.10	-9,449.80	1,316.41	693.71	380.65	313.06	2.216	
22,500.00	12,884.00	22,405.18	12,794.00	159.24	158.69	-83.10	-9,549.80	1,316.41	693.71	377.45	316.26	2.193	
22,600.00	12,884.00	22,505.18	12,794.00	160.85	160.29	-83.10	-9,649.80	1,316.41	693.71	374.25	319.46	2.172	
22,700.00	12,884.00	22,605.18	12,794.00	162.45	161.90	-83.10	-9,749.80	1,316.41	693.71	371.05	322.66	2.150	
22,800.00	12,884.00	22,705.18	12,794.00	164.06	163.51	-83.10	-9,849.80	1,316.41	693.71	367.85	325.86	2.129	
22,802.85	12,884.00	22,708.03	12,794.00	164.11	163.56	-83.10	-9,852.65	1,316.41	693.71	367.76	325.95	2.128	
22,848.13	12,884.00	22,746.83	12,794.00	164.83	164.18	-83.10	-9,891.45	1,316.41	693.74	366.32	327.42	2.119 ES. SF	

LEAM Drilling Systems LLC

Anticollision Report

Company: Devon Energy
Project: Lea County, NM (NAD-83)
Reference Site: Fighting Okra 18-19 Fed
Site Error: 0.00 usft
Reference Well: 7H
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Plan #1

Local Co-ordinate Reference: Well 7H
TVD Reference: 3371.7' GE + 25' KB @ 3396.70usft
MD Reference: 3371.7' GE + 25' KB @ 3396.70usft
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 Fighting Okra 18-19 Fed - 6H - OH - Plan #1													Offset Site Error: 0.00 ush
Survey Program: 0-LEAM MWD+HDGM													Offset Well Error: 0.00 ush
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Distance		Minimum Separation (ush)	Separation Factor	Warning		
Measured Depth (ush)	Vertical Depth (ush)	Measured Depth (ush)	Vertical Depth (ush)	Reference (ush)	Offset (ush)		Offset Wellbore Centre +N/-S (ush)	Offset Wellbore Centre -E/-W (ush)				Between Centres (ush)	Between Ellipses (ush)
0.00	0.00	0.00	0.00	0.00	0.00	94.04	-175.58	2,487.72	2,493.91				
100.00	100.00	97.30	97.30	0.08	0.08	94.04	-175.58	2,487.72	2,493.91	2,493.74	0.17 N/A		
200.00	200.00	197.30	197.30	0.31	0.30	94.04	-175.58	2,487.72	2,493.91	2,493.30	0.61 4,074.760		
300.00	300.00	297.30	297.30	0.53	0.53	94.04	-175.58	2,487.72	2,493.91	2,492.85	1.06 2,349.264		
400.00	400.00	397.30	397.30	0.76	0.75	94.04	-175.58	2,487.72	2,493.91	2,492.40	1.51 1,650.390		
500.00	500.00	497.30	497.30	0.98	0.98	94.04	-175.58	2,487.72	2,493.91	2,491.95	1.96 1,271.991		
600.00	600.00	597.30	597.30	1.21	1.20	94.04	-175.58	2,487.72	2,493.91	2,491.50	2.41 1,034.745		
700.00	700.00	697.30	697.30	1.43	1.43	94.04	-175.58	2,487.72	2,493.91	2,491.05	2.86 872.088		
800.00	800.00	797.30	797.30	1.66	1.65	94.04	-175.58	2,487.72	2,493.91	2,490.60	3.31 753.622		
900.00	900.00	897.30	897.30	1.88	1.88	94.04	-175.58	2,487.72	2,493.91	2,490.15	3.76 663.492		
1,000.00	1,000.00	997.30	997.30	2.11	2.10	94.04	-175.58	2,487.72	2,493.91	2,489.70	4.21 592.617		
1,100.00	1,100.00	1,097.30	1,097.30	2.33	2.33	94.04	-175.58	2,487.72	2,493.91	2,489.25	4.66 535.423		
1,200.00	1,200.00	1,197.30	1,197.30	2.56	2.55	94.04	-175.58	2,487.72	2,493.91	2,488.80	5.11 488.297		
1,300.00	1,300.00	1,297.30	1,297.30	2.78	2.78	94.04	-175.58	2,487.72	2,493.91	2,488.35	5.56 448.796		
1,400.00	1,400.00	1,397.30	1,397.30	3.01	3.00	94.04	-175.58	2,487.72	2,493.91	2,487.90	6.01 415.207		
1,500.00	1,500.00	1,497.30	1,497.30	3.23	3.22	94.04	-175.58	2,487.72	2,493.91	2,487.45	6.46 386.296		
1,600.00	1,600.00	1,597.30	1,597.30	3.46	3.45	94.04	-175.58	2,487.72	2,493.91	2,487.00	6.91 361.149		
1,700.00	1,700.00	1,697.30	1,697.30	3.68	3.67	94.04	-175.58	2,487.72	2,493.91	2,486.55	7.36 339.076		
1,800.00	1,800.00	1,797.30	1,797.30	3.91	3.90	94.04	-175.58	2,487.72	2,493.91	2,486.10	7.80 319.545		
1,900.00	1,900.00	1,897.30	1,897.30	4.13	4.12	94.04	-175.58	2,487.72	2,493.91	2,485.65	8.25 302.142		
2,000.00	2,000.00	1,997.30	1,997.30	4.35	4.35	94.04	-175.58	2,487.72	2,493.91	2,485.20	8.70 286.537		
2,100.00	2,100.00	2,097.30	2,097.30	4.58	4.57	94.04	-175.58	2,487.72	2,493.91	2,484.76	9.15 272.465		
2,200.00	2,200.00	2,197.30	2,197.30	4.80	4.80	94.04	-175.58	2,487.72	2,493.91	2,484.31	9.60 259.710		
2,300.00	2,300.00	2,297.30	2,297.30	5.03	5.02	94.04	-175.58	2,487.72	2,493.91	2,483.86	10.05 248.095		
2,400.00	2,400.00	2,397.30	2,397.30	5.25	5.25	94.04	-175.58	2,487.72	2,493.91	2,483.41	10.50 237.476		
2,500.00	2,500.00	2,497.30	2,497.30	5.48	5.47	94.04	-175.58	2,487.72	2,493.91	2,482.96	10.95 227.728		
2,600.00	2,600.00	2,597.30	2,597.30	5.70	5.70	94.04	-175.58	2,487.72	2,493.91	2,482.51	11.40 218.748		
2,700.00	2,700.00	2,697.30	2,697.30	5.93	5.92	94.04	-175.58	2,487.72	2,493.91	2,482.06	11.85 210.450		
2,800.00	2,800.00	2,797.30	2,797.30	6.15	6.15	94.04	-175.58	2,487.72	2,493.91	2,481.61	12.30 202.759		
2,900.00	2,900.00	2,897.30	2,897.30	6.38	6.37	94.04	-175.58	2,487.72	2,493.91	2,481.16	12.75 195.610		
3,000.00	3,000.00	2,997.30	2,997.30	6.60	6.60	94.04	-175.58	2,487.72	2,493.91	2,480.71	13.20 188.948		
3,100.00	3,100.00	3,097.30	3,097.30	6.83	6.82	94.04	-175.58	2,487.72	2,493.91	2,480.26	13.65 182.724		
3,200.00	3,200.00	3,197.30	3,197.30	7.05	7.05	94.04	-175.58	2,487.72	2,493.91	2,479.81	14.10 176.898		
3,300.00	3,300.00	3,297.30	3,297.30	7.28	7.27	94.04	-175.58	2,487.72	2,493.91	2,479.36	14.55 171.432		
3,400.00	3,400.00	3,397.30	3,397.30	7.50	7.50	94.04	-175.58	2,487.72	2,493.91	2,478.91	15.00 166.293		
3,500.00	3,500.00	3,497.30	3,497.30	7.73	7.72	94.04	-175.58	2,487.72	2,493.91	2,478.46	15.45 161.454		
3,600.00	3,600.00	3,588.33	3,588.32	7.94	7.92	28.07	-174.93	2,487.93	2,493.31	2,477.45	15.87 157.147		
3,700.00	3,699.96	3,679.08	3,679.05	8.15	8.13	28.06	-172.91	2,488.56	2,491.55	2,475.27	16.28 153.084		
3,800.00	3,799.86	3,769.79	3,769.69	8.36	8.33	28.04	-169.52	2,489.63	2,488.61	2,471.93	16.69 149.150		
3,900.00	3,899.68	3,860.43	3,860.19	8.58	8.53	28.00	-164.77	2,491.13	2,484.51	2,467.42	17.10 145.332		
4,000.00	3,999.37	3,956.51	3,956.05	8.79	8.75	27.96	-158.54	2,493.10	2,479.18	2,461.66	17.52 141.508		
4,049.06	4,048.22	4,005.46	4,004.88	8.90	8.86	27.95	-155.31	2,494.12	2,476.02	2,458.29	17.73 139.628		
4,100.00	4,098.93	4,056.26	4,055.56	9.01	8.97	27.93	-151.96	2,495.18	2,472.55	2,454.59	17.95 137.709		
4,200.00	4,198.47	4,156.01	4,155.07	9.23	9.20	27.87	-145.37	2,497.26	2,465.73	2,447.33	18.39 134.065		
4,300.00	4,298.01	4,255.75	4,254.57	9.46	9.42	27.82	-138.79	2,499.34	2,458.91	2,440.08	18.83 130.574		
4,400.00	4,397.55	4,355.49	4,354.07	9.69	9.65	27.77	-132.20	2,501.42	2,452.09	2,432.82	19.27 127.227		
4,500.00	4,497.09	4,455.23	4,453.57	9.92	9.88	27.71	-125.62	2,503.50	2,445.28	2,425.56	19.72 124.017		
4,600.00	4,596.63	4,554.97	4,553.08	10.15	10.10	27.66	-119.04	2,505.58	2,438.47	2,418.30	20.16 120.937		
4,700.00	4,696.17	4,654.71	4,652.58	10.38	10.33	27.61	-112.45	2,507.66	2,431.66	2,411.05	20.61 117.979		
4,800.00	4,795.71	4,754.46	4,752.08	10.62	10.56	27.55	-105.87	2,509.74	2,424.85	2,403.79	21.06 115.138		
4,900.00	4,895.26	4,854.20	4,851.58	10.85	10.79	27.50	-99.28	2,511.82	2,418.04	2,396.53	21.51 112.408		
5,000.00	4,994.80	4,953.94	4,951.09	11.09	11.03	27.44	-92.70	2,513.90	2,411.24	2,389.28	21.96 109.783		

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

LEAM Drilling Systems LLC

Anticollision Report

Company: Devon Energy
 Project: Lea County, NM (NAD-83)
 Reference Site: Fighting Okra 18-19 Fed
 Site Error: 0.00 usft
 Reference Well: 7H
 Well Error: 0.00 usft
 Reference Wellbore: OH
 Reference Design: Plan #1

Local Co-ordinate Reference: Well 7H
 TVD Reference: 3371.7' GE + 25' KB @ 3396.70usft
 MD Reference: 3371.7' GE + 25' KB @ 3396.70usft
 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 Fighting Okra 18-19 Fed - 6H - OH - Plan #1														Offset Site Error: 0.00 usft
Survey Program: 0-LEAM MWD+HDGM														Offset Well Error: 0.00 usft
Reference		Offset		Semi Major Axis		Distance		Minimum Separation		Warning				
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre N/S (usft)	Offset Wellbore Centre E/W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
5,100.00	5,094.34	5,053.68	5,050.59	11.33	11.26	27.39	-86.12	2,515.98	2,404.44	2,382.02	22.42	107.256		
5,200.00	5,193.88	5,153.42	5,150.09	11.57	11.49	27.33	-79.53	2,518.06	2,397.64	2,374.77	22.87	104.825		
5,300.00	5,293.42	5,253.17	5,249.59	11.82	11.73	27.28	-72.95	2,520.14	2,390.84	2,367.51	23.33	102.482		
5,400.00	5,392.96	5,352.91	5,349.10	12.06	11.96	27.22	-66.36	2,522.22	2,384.05	2,360.26	23.79	100.225		
5,500.00	5,492.50	5,452.65	5,448.60	12.30	12.19	27.17	-59.78	2,524.30	2,377.26	2,353.01	24.25	98.049		
5,600.00	5,592.04	5,552.39	5,548.10	12.55	12.43	27.11	-53.20	2,526.38	2,370.47	2,345.76	24.71	95.950		
5,700.00	5,691.59	5,652.13	5,647.61	12.80	12.66	27.05	-46.61	2,528.46	2,363.68	2,338.51	25.17	93.924		
5,800.00	5,791.13	5,751.88	5,747.11	13.05	12.90	27.00	-40.03	2,530.54	2,356.89	2,331.27	25.63	91.968		
5,900.00	5,890.67	5,851.62	5,846.61	13.29	13.14	26.94	-33.44	2,532.62	2,350.11	2,324.02	26.09	90.078		
6,000.00	5,990.21	5,951.36	5,946.11	13.54	13.37	26.88	-26.86	2,534.70	2,343.33	2,316.78	26.55	88.251		
6,100.00	6,089.75	6,051.10	6,045.62	13.79	13.61	26.82	-20.27	2,536.78	2,336.55	2,309.54	27.02	86.484		
6,200.00	6,189.29	6,150.84	6,145.12	14.05	13.85	26.76	-13.69	2,538.86	2,329.78	2,302.29	27.48	84.775		
6,300.00	6,288.83	6,250.58	6,244.62	14.30	14.09	26.71	-7.11	2,540.94	2,323.00	2,295.06	27.95	83.121		
6,400.00	6,388.37	6,350.33	6,344.12	14.55	14.32	26.65	-0.52	2,543.02	2,316.23	2,287.82	28.41	81.520		
6,500.00	6,487.91	6,450.07	6,443.63	14.80	14.56	26.59	6.06	2,545.10	2,309.46	2,280.58	28.88	79.968		
6,600.00	6,587.46	6,549.81	6,543.13	15.06	14.80	26.53	12.65	2,547.18	2,302.70	2,273.35	29.35	78.465		
6,700.00	6,687.00	6,649.55	6,642.63	15.31	15.04	26.47	19.23	2,549.26	2,295.93	2,266.12	29.81	77.007		
6,800.00	6,786.54	6,749.29	6,742.13	15.57	15.28	26.41	25.81	2,551.33	2,289.17	2,258.89	30.28	75.593		
6,900.00	6,886.08	6,849.04	6,841.64	15.82	15.52	26.35	32.40	2,553.41	2,282.42	2,251.66	30.75	74.221		
7,000.00	6,985.62	6,948.78	6,941.14	16.08	15.76	26.28	38.98	2,555.49	2,275.66	2,244.44	31.22	72.889		
7,100.00	7,085.16	7,048.52	7,040.64	16.34	16.00	26.22	45.57	2,557.57	2,268.91	2,237.22	31.69	71.596		
7,200.00	7,184.70	7,148.26	7,140.14	16.59	16.24	26.16	52.15	2,559.65	2,262.16	2,230.00	32.16	70.340		
7,300.00	7,284.24	7,248.00	7,239.65	16.85	16.48	26.10	58.73	2,561.73	2,255.41	2,222.78	32.63	69.119		
7,400.00	7,383.79	7,347.75	7,339.15	17.11	16.72	26.04	65.32	2,563.81	2,248.66	2,215.56	33.10	67.932		
7,500.00	7,483.33	7,447.49	7,438.65	17.37	16.96	25.97	71.90	2,565.89	2,241.92	2,208.35	33.57	66.778		
7,600.00	7,582.87	7,547.23	7,538.15	17.63	17.20	25.91	78.49	2,567.97	2,235.18	2,201.14	34.04	65.655		
7,700.00	7,682.41	7,646.97	7,637.66	17.88	17.44	25.85	85.07	2,570.05	2,228.44	2,193.93	34.52	64.563		
7,800.00	7,781.95	7,746.71	7,737.16	18.14	17.68	25.78	91.66	2,572.13	2,221.71	2,186.72	34.99	63.499		
7,900.00	7,881.49	7,846.46	7,836.66	18.40	17.93	25.72	98.24	2,574.21	2,214.98	2,179.52	35.46	62.463		
8,000.00	7,981.03	7,946.20	7,936.17	18.66	18.17	25.65	104.82	2,576.29	2,208.25	2,172.32	35.93	61.455		
8,100.00	8,080.57	8,045.94	8,035.67	18.92	18.41	25.59	111.41	2,578.37	2,201.52	2,165.12	36.41	60.472		
8,200.00	8,180.12	8,145.68	8,135.17	19.19	18.65	25.52	117.99	2,580.45	2,194.80	2,157.92	36.88	59.513		
8,300.00	8,279.66	8,245.42	8,234.67	19.45	18.89	25.45	124.58	2,582.53	2,188.08	2,150.73	37.35	58.579		
8,400.00	8,379.20	8,345.16	8,334.18	19.71	19.13	25.39	131.16	2,584.61	2,181.37	2,143.54	37.83	57.668		
8,500.00	8,478.74	8,444.91	8,433.68	19.97	19.38	25.32	137.74	2,586.69	2,174.65	2,136.35	38.30	56.780		
8,600.00	8,578.28	8,544.65	8,533.18	20.23	19.62	25.25	144.33	2,588.77	2,167.94	2,129.17	38.77	55.912		
8,700.00	8,677.82	8,644.39	8,632.68	20.49	19.86	25.18	150.91	2,590.85	2,161.23	2,121.98	39.25	55.066		
8,800.00	8,777.36	8,744.13	8,732.19	20.76	20.10	25.12	157.50	2,592.93	2,154.53	2,114.81	39.72	54.240		
8,900.00	8,876.90	8,843.87	8,831.69	21.02	20.35	25.05	164.08	2,595.01	2,147.83	2,107.63	40.20	53.433		
9,000.00	8,976.44	8,943.62	8,931.19	21.28	20.59	24.98	170.66	2,597.09	2,141.13	2,100.46	40.67	52.644		
9,100.00	9,075.99	9,043.36	9,030.69	21.54	20.83	24.91	177.25	2,599.17	2,134.43	2,093.28	41.15	51.874		
9,200.00	9,175.53	9,143.10	9,130.20	21.81	21.07	24.84	183.83	2,601.25	2,127.74	2,086.12	41.62	51.122		
9,300.00	9,275.07	9,242.84	9,229.70	22.07	21.32	24.77	190.42	2,603.33	2,121.05	2,078.95	42.10	50.386		
9,400.00	9,374.61	9,342.58	9,329.20	22.33	21.56	24.70	197.00	2,605.41	2,114.36	2,071.79	42.57	49.666		
9,500.00	9,474.15	9,442.33	9,428.70	22.60	21.80	24.63	203.59	2,607.49	2,107.68	2,064.63	43.05	48.963		
9,600.00	9,573.69	9,542.07	9,528.21	22.86	22.05	24.55	210.17	2,609.57	2,101.00	2,057.48	43.52	48.274		
9,700.00	9,673.23	9,641.81	9,627.71	23.13	22.29	24.48	216.75	2,611.65	2,094.32	2,050.33	44.00	47.601		
9,800.00	9,772.77	9,741.55	9,727.21	23.39	22.53	24.41	223.34	2,613.73	2,087.65	2,043.18	44.47	46.942		
9,900.00	9,872.32	9,841.29	9,826.71	23.65	22.78	24.34	229.92	2,615.81	2,080.98	2,036.03	44.95	46.297		
10,000.00	9,971.86	9,941.03	9,926.22	23.92	23.02	24.26	236.51	2,617.89	2,074.32	2,028.89	45.42	45.665		
10,100.00	10,071.40	10,040.78	10,025.72	24.18	23.27	24.19	243.09	2,619.97	2,067.65	2,021.75	45.90	45.046		
10,200.00	10,170.94	10,140.52	10,125.22	24.45	23.51	24.11	249.67	2,622.05	2,060.99	2,014.62	46.38	44.441		

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

LEAM Drilling Systems LLC

Anticollision Report

Company:	Devon Energy	Local Co-ordinate Reference:	Well 7H
Project:	Lea County, NM (NAD-83)	TVD Reference:	3371.7' GE + 25' KB @ 3396.70usft
Reference Site:	Fighting Okra 18-19 Fed	MD Reference:	3371.7' GE + 25' KB @ 3396.70usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	7H	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

Offset Design: Fighting Okra 18-19 Fed - 6H - OH - Plan #1														Offset Site Error:	0.00 usft
Survey Program: 0-LEAM MWD+HDGM														Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning		
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)					
10,300.00	10,270.48	10,240.26	10,224.73	24.71	23.75	24.04	256.26	2,624.13	2,054.34	2,007.49	46.85	43.847			
10,400.00	10,370.02	10,340.00	10,324.23	24.98	24.00	23.96	262.84	2,626.21	2,047.69	2,000.36	47.33	43.265			
10,500.00	10,469.56	10,439.74	10,423.73	25.24	24.24	23.89	269.43	2,628.29	2,041.04	1,993.23	47.80	42.696			
10,600.00	10,569.10	10,539.49	10,523.23	25.51	24.48	23.81	276.01	2,630.37	2,034.39	1,986.11	48.28	42.137			
10,683.05	10,651.78	10,622.63	10,606.18	25.73	24.69	23.75	281.50	2,632.10	2,028.88	1,980.20	48.68	41.681			
10,700.00	10,668.65	10,641.60	10,625.11	25.77	24.73	23.73	282.71	2,632.48	2,027.76	1,979.01	48.75	41.593			
10,800.00	10,768.29	10,753.61	10,736.94	25.97	24.95	23.64	288.66	2,634.36	2,021.78	1,972.62	49.16	41.126			
10,900.00	10,868.07	10,865.68	10,848.93	26.17	25.15	23.60	292.52	2,635.58	2,016.78	1,967.24	49.54	40.708			
11,000.00	10,967.95	10,977.78	10,961.02	26.35	25.34	23.59	294.29	2,636.14	2,012.78	1,962.87	49.91	40.325			
11,100.00	11,067.89	11,081.96	11,065.19	26.53	25.53	23.62	294.42	2,636.18	2,009.91	1,959.82	50.28	39.972			
11,200.00	11,167.88	11,181.95	11,165.18	26.70	25.74	23.63	294.42	2,636.18	2,008.59	1,957.92	50.67	39.641			
11,232.12	11,200.00	11,214.06	11,197.30	26.75	25.81	89.59	294.42	2,636.18	2,008.51	1,957.72	50.80	39.541			
11,300.00	11,267.88	11,281.95	11,265.18	26.88	25.95	89.59	294.42	2,636.18	2,008.51	1,957.44	51.07	39.326			
11,400.00	11,367.88	11,381.95	11,365.18	27.08	26.16	89.59	294.42	2,636.18	2,008.51	1,957.01	51.50	39.002			
11,500.00	11,467.88	11,481.95	11,465.18	27.28	26.38	89.59	294.42	2,636.18	2,008.51	1,956.59	51.92	38.683			
11,600.00	11,567.88	11,581.95	11,565.18	27.48	26.59	89.59	294.42	2,636.18	2,008.51	1,956.16	52.35	38.369			
11,700.00	11,667.88	11,681.95	11,665.18	27.68	26.81	89.59	294.42	2,636.18	2,008.51	1,955.74	52.77	38.059			
11,800.00	11,767.88	11,781.95	11,765.18	27.88	27.02	89.59	294.42	2,636.18	2,008.51	1,955.31	53.20	37.755			
11,900.00	11,867.88	11,881.95	11,865.18	28.08	27.24	89.59	294.42	2,636.18	2,008.51	1,954.89	53.63	37.455			
12,000.00	11,967.88	11,981.95	11,965.18	28.29	27.45	89.59	294.42	2,636.18	2,008.51	1,954.46	54.05	37.159			
12,100.00	12,067.88	12,081.95	12,065.18	28.49	27.66	89.59	294.42	2,636.18	2,008.51	1,954.03	54.48	36.867			
12,200.00	12,167.88	12,181.95	12,165.18	28.69	27.88	89.59	294.42	2,636.18	2,008.51	1,953.61	54.91	36.580			
12,300.00	12,267.88	12,282.72	12,265.94	28.89	28.08	89.61	293.53	2,636.18	2,008.51	1,953.18	55.32	36.305			
12,343.16	12,311.04	12,326.58	12,309.59	28.98	28.15	89.73	289.42	2,636.18	2,008.48	1,953.00	55.48	36.202			
12,350.00	12,317.88	12,333.47	12,316.42	29.00	28.15	-90.24	288.47	2,636.18	2,008.48	1,952.98	55.50	36.187			
12,400.00	12,367.79	12,383.49	12,365.55	29.07	28.20	-90.06	279.12	2,636.18	2,008.46	1,952.82	55.64	36.098			
12,415.12	12,382.81	12,398.51	12,380.11	29.10	28.22	-90.00	275.49	2,636.18	2,008.46	1,952.78	55.68	36.074 CC			
12,450.00	12,417.26	12,432.95	12,413.13	29.14	28.24	-89.87	265.71	2,636.18	2,008.47	1,952.71	55.75	36.026			
12,500.00	12,465.93	12,481.85	12,458.88	29.21	28.26	-89.69	248.46	2,636.18	2,008.49	1,952.65	55.84	35.970			
12,550.00	12,513.42	12,530.23	12,502.53	29.26	28.27	-89.51	227.62	2,636.18	2,008.54	1,952.63	55.90	35.929			
12,600.00	12,559.37	12,578.12	12,543.84	29.31	28.27	-89.33	203.44	2,636.18	2,008.60	1,952.65	55.95	35.899			
12,650.00	12,603.42	12,625.54	12,582.63	29.34	28.26	-89.16	176.18	2,636.18	2,008.68	1,952.69	55.99	35.878			
12,700.00	12,645.26	12,672.53	12,618.71	29.38	28.25	-88.99	146.10	2,636.18	2,008.77	1,952.76	56.01	35.863			
12,750.00	12,684.55	12,719.11	12,651.92	29.40	28.24	-88.84	113.45	2,636.18	2,008.88	1,952.84	56.04	35.850			
12,800.00	12,720.99	12,765.32	12,682.14	29.43	28.22	-88.69	78.51	2,636.18	2,008.99	1,952.93	56.06	35.836			
12,850.00	12,754.32	12,811.19	12,709.26	29.45	28.21	-88.55	41.54	2,636.18	2,009.11	1,953.02	56.09	35.818			
12,900.00	12,784.27	12,856.75	12,733.18	29.47	28.20	-88.42	2.78	2,636.18	2,009.23	1,953.09	56.14	35.791			
12,950.00	12,810.62	12,900.00	12,752.98	29.50	28.19	-88.31	-35.67	2,636.18	2,009.35	1,953.15	56.20	35.754			
13,000.00	12,833.17	12,947.06	12,771.15	29.53	28.19	-88.20	-79.06	2,636.18	2,009.46	1,953.17	56.28	35.702			
13,050.00	12,851.75	12,991.88	12,785.10	29.57	28.20	-88.11	-121.64	2,636.18	2,009.56	1,953.17	56.39	35.635			
13,100.00	12,866.21	13,036.51	12,795.64	29.63	28.23	-88.03	-165.01	2,636.18	2,009.65	1,953.12	56.53	35.550			
13,150.00	12,876.44	13,081.00	12,802.75	29.70	28.28	-87.96	-208.90	2,636.18	2,009.73	1,953.03	56.70	35.446			
13,200.00	12,882.37	13,125.35	12,806.43	29.80	28.35	-87.91	-253.10	2,636.18	2,009.80	1,952.90	56.89	35.325			
13,243.16	12,884.00	13,165.22	12,807.00	29.90	28.43	-87.88	-292.96	2,636.18	2,009.83	1,952.74	57.09	35.204			
13,300.00	12,884.00	13,222.07	12,807.00	30.05	28.56	-87.88	-349.80	2,636.18	2,009.83	1,952.43	57.40	35.012			
13,400.00	12,884.00	13,322.07	12,807.00	30.41	28.85	-87.88	-449.80	2,636.18	2,009.83	1,951.75	58.09	34.602			
13,500.00	12,884.00	13,422.07	12,807.00	30.85	29.23	-87.88	-549.80	2,636.18	2,009.83	1,950.89	58.94	34.100			
13,600.00	12,884.00	13,522.07	12,807.00	31.38	29.70	-87.88	-649.80	2,636.18	2,009.83	1,949.87	59.96	33.519			
13,700.00	12,884.00	13,622.07	12,807.00	31.99	30.24	-87.88	-749.80	2,636.18	2,009.83	1,948.70	61.14	32.873			
13,800.00	12,884.00	13,722.07	12,807.00	32.67	30.86	-87.88	-849.80	2,636.18	2,009.83	1,947.37	62.47	32.175			
13,900.00	12,884.00	13,822.07	12,807.00	33.41	31.55	-87.88	-949.80	2,636.18	2,009.83	1,945.90	63.93	31.437			
14,000.00	12,884.00	13,922.07	12,807.00	34.22	32.31	-87.88	-1,049.80	2,636.18	2,009.83	1,944.31	65.53	30.671			

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

LEAM Drilling Systems LLC

Anticollision Report

Company:	Devon Energy	Local Co-ordinate Reference:	Well 7H
Project:	Lea County, NM (NAD-83)	TVD Reference:	3371.7' GE + 25' KB @ 3396.70usft
Reference Site:	Fighting Okra 18-19 Fed	MD Reference:	3371.7' GE + 25' KB @ 3396.70usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	7H	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

Offset Design: Fighting Okra 18-19 Fed - 6H - OH - Plan #1														Offset Site Error:	0.00 usft
Survey Program: D-LEAM MWD+HDGM														Offset Well Error:	0.00 usft
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference	Offset	Semi Major Axis	Highside Toolface (°)	Offset Wellbore Centre +N-S (usft)	Offset Wellbore Centre +E-W (usft)	Distance Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning	
14,100.00	12,884.00	14,022.07	12,807.00	35.09	33.14	-87.88	-1,149.80	2,636.18	2,009.83	1,942.59	67.25	29.888			
14,200.00	12,884.00	14,122.07	12,807.00	36.01	34.02	-87.88	-1,249.80	2,636.18	2,009.83	1,940.76	69.08	29.096			
14,300.00	12,884.00	14,222.07	12,807.00	36.98	34.95	-87.88	-1,349.80	2,636.18	2,009.83	1,938.83	71.01	28.304			
14,400.00	12,884.00	14,322.07	12,807.00	38.00	35.94	-87.88	-1,449.80	2,636.18	2,009.83	1,936.80	73.04	27.519			
14,500.00	12,884.00	14,422.07	12,807.00	39.06	36.97	-87.88	-1,549.80	2,636.18	2,009.83	1,934.68	75.15	26.744			
14,600.00	12,884.00	14,522.07	12,807.00	40.16	38.04	-87.88	-1,649.80	2,636.18	2,009.83	1,932.49	77.35	25.985			
14,700.00	12,884.00	14,622.07	12,807.00	41.29	39.16	-87.88	-1,749.80	2,636.18	2,009.83	1,930.22	79.62	25.244			
14,800.00	12,884.00	14,722.07	12,807.00	42.46	40.30	-87.88	-1,849.80	2,636.18	2,009.83	1,927.88	81.95	24.525			
14,900.00	12,884.00	14,822.07	12,807.00	43.65	41.48	-87.88	-1,949.80	2,636.18	2,009.83	1,925.48	84.35	23.827			
15,000.00	12,884.00	14,922.07	12,807.00	44.88	42.69	-87.88	-2,049.80	2,636.18	2,009.83	1,923.03	86.81	23.153			
15,100.00	12,884.00	15,022.07	12,807.00	46.12	43.93	-87.88	-2,149.80	2,636.18	2,009.83	1,920.52	89.31	22.503			
15,200.00	12,884.00	15,122.07	12,807.00	47.40	45.19	-87.88	-2,249.80	2,636.18	2,009.83	1,917.97	91.87	21.878			
15,300.00	12,884.00	15,222.07	12,807.00	48.69	46.48	-87.88	-2,349.80	2,636.18	2,009.83	1,915.37	94.47	21.276			
15,400.00	12,884.00	15,322.07	12,807.00	50.00	47.79	-87.88	-2,449.80	2,636.18	2,009.83	1,912.73	97.11	20.697			
15,500.00	12,884.00	15,422.07	12,807.00	51.34	49.11	-87.88	-2,549.80	2,636.18	2,009.83	1,910.05	99.78	20.142			
15,600.00	12,884.00	15,522.07	12,807.00	52.68	50.46	-87.88	-2,649.80	2,636.18	2,009.83	1,907.34	102.49	19.609			
15,700.00	12,884.00	15,622.07	12,807.00	54.05	51.82	-87.88	-2,749.80	2,636.18	2,009.83	1,904.60	105.24	19.098			
15,800.00	12,884.00	15,722.07	12,807.00	55.43	53.20	-87.88	-2,849.80	2,636.18	2,009.83	1,901.83	108.01	18.608			
15,900.00	12,884.00	15,822.07	12,807.00	56.82	54.59	-87.88	-2,949.80	2,636.18	2,009.83	1,899.03	110.81	18.138			
16,000.00	12,884.00	15,922.07	12,807.00	58.23	55.99	-87.88	-3,049.80	2,636.18	2,009.83	1,896.20	113.63	17.688			
16,100.00	12,884.00	16,022.07	12,807.00	59.64	57.41	-87.88	-3,149.80	2,636.18	2,009.83	1,893.36	116.48	17.255			
16,200.00	12,884.00	16,122.07	12,807.00	61.07	58.84	-87.88	-3,249.80	2,636.18	2,009.83	1,890.49	119.34	16.841			
16,300.00	12,884.00	16,222.07	12,807.00	62.51	60.28	-87.88	-3,349.80	2,636.18	2,009.83	1,887.60	122.23	16.443			
16,400.00	12,884.00	16,322.07	12,807.00	63.96	61.72	-87.88	-3,449.80	2,636.18	2,009.83	1,884.69	125.14	16.061			
16,500.00	12,884.00	16,422.07	12,807.00	65.41	63.18	-87.88	-3,549.80	2,636.18	2,009.83	1,881.77	128.06	15.694			
16,600.00	12,884.00	16,522.07	12,807.00	66.88	64.65	-87.88	-3,649.80	2,636.18	2,009.83	1,878.83	131.01	15.342			
16,700.00	12,884.00	16,622.07	12,807.00	68.35	66.12	-87.88	-3,749.80	2,636.18	2,009.83	1,875.87	133.96	15.003			
16,800.00	12,884.00	16,722.07	12,807.00	69.83	67.60	-87.88	-3,849.80	2,636.18	2,009.83	1,872.90	136.93	14.678			
16,900.00	12,884.00	16,822.07	12,807.00	71.32	69.09	-87.88	-3,949.80	2,636.18	2,009.83	1,869.92	139.91	14.365			
17,000.00	12,884.00	16,922.07	12,807.00	72.81	70.58	-87.88	-4,049.80	2,636.18	2,009.83	1,866.92	142.91	14.064			
17,100.00	12,884.00	17,022.07	12,807.00	74.31	72.08	-87.88	-4,149.80	2,636.18	2,009.83	1,863.92	145.92	13.774			
17,200.00	12,884.00	17,122.07	12,807.00	75.81	73.59	-87.88	-4,249.80	2,636.18	2,009.83	1,860.90	148.94	13.495			
17,300.00	12,884.00	17,222.07	12,807.00	77.32	75.10	-87.88	-4,349.80	2,636.18	2,009.83	1,857.87	151.96	13.226			
17,400.00	12,884.00	17,322.07	12,807.00	78.83	76.62	-87.88	-4,449.80	2,636.18	2,009.83	1,854.83	155.00	12.966			
17,500.00	12,884.00	17,422.07	12,807.00	80.35	78.14	-87.88	-4,549.80	2,636.18	2,009.83	1,851.78	158.05	12.716			
17,600.00	12,884.00	17,522.07	12,807.00	81.88	79.66	-87.88	-4,649.80	2,636.18	2,009.83	1,848.73	161.11	12.475			
17,700.00	12,884.00	17,622.07	12,807.00	83.40	81.19	-87.88	-4,749.80	2,636.18	2,009.83	1,845.66	164.17	12.242			
17,800.00	12,884.00	17,722.07	12,807.00	84.94	82.73	-87.88	-4,849.80	2,636.18	2,009.83	1,842.59	167.24	12.018			
17,900.00	12,884.00	17,822.07	12,807.00	86.47	84.27	-87.88	-4,949.80	2,636.18	2,009.83	1,839.51	170.32	11.800			
18,000.00	12,884.00	17,922.07	12,807.00	88.01	85.81	-87.88	-5,049.80	2,636.18	2,009.83	1,836.43	173.41	11.590			
18,100.00	12,884.00	18,022.07	12,807.00	89.55	87.35	-87.88	-5,149.80	2,636.18	2,009.83	1,833.34	176.50	11.387			
18,200.00	12,884.00	18,122.07	12,807.00	91.10	88.90	-87.88	-5,249.80	2,636.18	2,009.83	1,830.24	179.60	11.191			
18,300.00	12,884.00	18,222.07	12,807.00	92.65	90.45	-87.88	-5,349.80	2,636.18	2,009.83	1,827.13	182.70	11.001			
18,400.00	12,884.00	18,322.07	12,807.00	94.20	92.00	-87.88	-5,449.80	2,636.18	2,009.83	1,824.02	185.81	10.816			
18,500.00	12,884.00	18,422.07	12,807.00	95.75	93.56	-87.88	-5,549.80	2,636.18	2,009.83	1,820.91	188.93	10.638			
18,600.00	12,884.00	18,522.07	12,807.00	97.31	95.12	-87.88	-5,649.80	2,636.18	2,009.83	1,817.79	192.05	10.465			
18,700.00	12,884.00	18,622.07	12,807.00	98.87	96.68	-87.88	-5,749.80	2,636.18	2,009.83	1,814.66	195.17	10.298			
18,800.00	12,884.00	18,722.07	12,807.00	100.43	98.25	-87.88	-5,849.80	2,636.18	2,009.83	1,811.53	198.30	10.135			
18,900.00	12,884.00	18,822.07	12,807.00	101.99	99.81	-87.88	-5,949.80	2,636.18	2,009.83	1,808.40	201.44	9.977			
19,000.00	12,884.00	18,922.07	12,807.00	103.56	101.38	-87.88	-6,049.80	2,636.18	2,009.83	1,805.26	204.58	9.824			
19,100.00	12,884.00	19,022.07	12,807.00	105.13	102.95	-87.88	-6,149.80	2,636.18	2,009.83	1,802.12	207.72	9.676			
19,200.00	12,884.00	19,122.07	12,807.00	106.70	104.52	-87.88	-6,249.80	2,636.18	2,009.83	1,798.97	210.86	9.531			

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: Lea County, NM (NAD-83)
 Reference Site: Fighting Okra 18-19 Fed
 Site Error: 0.00 usft
 Reference Well: 7H
 Well Error: 0.00 usft
 Reference Wellbore: OH
 Reference Design: Plan #1

Local Co-ordinate Reference: Well 7H
 TVD Reference: 3371.7' GE + 25' KB @ 3396.70usft
 MD Reference: 3371.7' GE + 25' KB @ 3396.70usft
 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 Fighting Okra 18-19 Fed - 6H - OH - Plan #1													Offset Site Error: 0.00 usft
Survey Program: 0-LEAM MWD+HDGM													Offset Well Error: 0.00 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N-S (usft)	+E-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
19,300.00	12,884.00	19,222.07	12,807.00	108.27	106.10	-87.88	-6,349.80	2,636.18	2,009.83	1,795.82	214.01	9.391	
19,400.00	12,884.00	19,322.07	12,807.00	109.84	107.67	-87.88	-6,449.80	2,636.18	2,009.83	1,792.67	217.17	9.255	
19,500.00	12,884.00	19,422.07	12,807.00	111.42	109.25	-87.88	-6,549.80	2,636.18	2,009.83	1,789.51	220.32	9.122	
19,600.00	12,884.00	19,522.07	12,807.00	113.00	110.83	-87.88	-6,649.80	2,636.18	2,009.83	1,786.35	223.48	8.993	
19,700.00	12,884.00	19,622.07	12,807.00	114.57	112.41	-87.88	-6,749.80	2,636.18	2,009.83	1,783.19	226.65	8.868	
19,800.00	12,884.00	19,722.07	12,807.00	116.16	113.99	-87.88	-6,849.80	2,636.18	2,009.83	1,780.02	229.81	8.746	
19,900.00	12,884.00	19,822.07	12,807.00	117.74	115.58	-87.88	-6,949.80	2,636.18	2,009.83	1,776.85	232.98	8.627	
20,000.00	12,884.00	19,922.07	12,807.00	119.32	117.16	-87.88	-7,049.80	2,636.18	2,009.83	1,773.68	236.15	8.511	
20,100.00	12,884.00	20,022.07	12,807.00	120.91	118.75	-87.88	-7,149.80	2,636.18	2,009.83	1,770.51	239.32	8.398	
20,200.00	12,884.00	20,122.07	12,807.00	122.49	120.34	-87.88	-7,249.80	2,636.18	2,009.83	1,767.33	242.50	8.288	
20,300.00	12,884.00	20,222.07	12,807.00	124.08	121.93	-87.88	-7,349.80	2,636.18	2,009.83	1,764.16	245.68	8.181	
20,400.00	12,884.00	20,322.07	12,807.00	125.67	123.52	-87.88	-7,449.80	2,636.18	2,009.83	1,760.97	248.86	8.076	
20,500.00	12,884.00	20,422.07	12,807.00	127.26	125.11	-87.88	-7,549.80	2,636.18	2,009.83	1,757.79	252.04	7.974	
20,600.00	12,884.00	20,522.07	12,807.00	128.85	126.70	-87.88	-7,649.80	2,636.18	2,009.83	1,754.61	255.23	7.875	
20,700.00	12,884.00	20,622.07	12,807.00	130.44	128.30	-87.88	-7,749.80	2,636.18	2,009.83	1,751.42	258.41	7.778	
20,800.00	12,884.00	20,722.07	12,807.00	132.03	129.89	-87.88	-7,849.80	2,636.18	2,009.83	1,748.23	261.60	7.683	
20,900.00	12,884.00	20,822.07	12,807.00	133.63	131.49	-87.88	-7,949.80	2,636.18	2,009.83	1,745.04	264.80	7.590	
21,000.00	12,884.00	20,922.07	12,807.00	135.22	133.08	-87.88	-8,049.80	2,636.18	2,009.83	1,741.85	267.99	7.500	
21,100.00	12,884.00	21,022.07	12,807.00	136.82	134.68	-87.88	-8,149.80	2,636.18	2,009.83	1,738.65	271.18	7.411	
21,200.00	12,884.00	21,122.07	12,807.00	138.41	136.28	-87.88	-8,249.80	2,636.18	2,009.83	1,735.45	274.38	7.325	
21,300.00	12,884.00	21,222.07	12,807.00	140.01	137.88	-87.88	-8,349.80	2,636.18	2,009.83	1,732.26	277.58	7.241	
21,400.00	12,884.00	21,322.07	12,807.00	141.61	139.48	-87.88	-8,449.80	2,636.18	2,009.83	1,729.06	280.78	7.158	
21,500.00	12,884.00	21,422.07	12,807.00	143.21	141.08	-87.88	-8,549.80	2,636.18	2,009.83	1,725.86	283.98	7.077	
21,600.00	12,884.00	21,522.07	12,807.00	144.81	142.68	-87.88	-8,649.80	2,636.18	2,009.83	1,722.65	287.18	6.999	
21,700.00	12,884.00	21,622.07	12,807.00	146.41	144.28	-87.88	-8,749.80	2,636.18	2,009.83	1,719.45	290.38	6.921	
21,800.00	12,884.00	21,722.07	12,807.00	148.01	145.89	-87.88	-8,849.80	2,636.18	2,009.83	1,716.24	293.59	6.846	
21,900.00	12,884.00	21,822.07	12,807.00	149.61	147.49	-87.88	-8,949.80	2,636.18	2,009.83	1,713.04	296.80	6.772	
22,000.00	12,884.00	21,922.07	12,807.00	151.21	149.09	-87.88	-9,049.80	2,636.18	2,009.83	1,709.83	300.00	6.699	
22,100.00	12,884.00	22,022.07	12,807.00	152.82	150.70	-87.88	-9,149.80	2,636.18	2,009.83	1,706.62	303.21	6.628	
22,200.00	12,884.00	22,122.07	12,807.00	154.42	152.30	-87.88	-9,249.80	2,636.18	2,009.83	1,703.41	306.42	6.559	
22,300.00	12,884.00	22,222.07	12,807.00	156.03	153.91	-87.88	-9,349.80	2,636.18	2,009.83	1,700.20	309.64	6.491	
22,400.00	12,884.00	22,322.07	12,807.00	157.63	155.52	-87.88	-9,449.80	2,636.18	2,009.83	1,696.98	312.85	6.424	
22,500.00	12,884.00	22,422.07	12,807.00	159.24	157.12	-87.88	-9,549.80	2,636.18	2,009.83	1,693.77	316.06	6.359	
22,600.00	12,884.00	22,522.07	12,807.00	160.85	158.73	-87.88	-9,649.80	2,636.18	2,009.83	1,690.56	319.28	6.295	
22,700.00	12,884.00	22,622.07	12,807.00	162.45	160.34	-87.88	-9,749.80	2,636.18	2,009.83	1,687.34	322.49	6.232	
22,800.00	12,884.00	22,722.07	12,807.00	164.06	161.95	-87.88	-9,849.80	2,636.18	2,009.83	1,684.12	325.71	6.171	
22,828.69	12,884.00	22,750.75	12,807.00	164.52	162.41	-87.88	-9,878.49	2,636.18	2,009.83	1,683.20	326.63	6.153	
22,848.13	12,884.00	22,751.03	12,807.00	164.83	162.42	-87.88	-9,878.76	2,636.18	2,009.93	1,682.89	327.04	6.146 ES, SF	

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

LEAM Drilling Systems LLC

Anticollision Report

Company: Devon Energy
Project: Lea County, NM (NAD-83)
Reference Site: Fighting Okra 18-19 Fed
Site Error: 0.00 usft
Reference Well: 7H
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Plan #1

Local Co-ordinate Reference: Well 7H
TVD Reference: 3371.7' GE + 25' KB @ 3396.70usft
MD Reference: 3371.7' GE + 25' KB @ 3396.70usft
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 Fighting Okra 18-19 Fed - 8H - OH - Plan #1														Offset Site Error:	0.00 usft
Survey Program: 0-LEAM MWD+HDGM														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	92.35	-37.38	910.14	910.93						
100.00	100.00	93.50	93.50	0.08	0.08	92.35	-37.38	910.14	910.91	910.74	0.16	5,585.097			
200.00	200.00	193.50	193.50	0.31	0.29	92.35	-37.38	910.14	910.91	910.30	0.60	1,509.382			
300.00	300.00	293.50	293.50	0.53	0.52	92.35	-37.38	910.14	910.91	909.85	1.05	865.035			
400.00	400.00	393.50	393.50	0.76	0.74	92.35	-37.38	910.14	910.91	909.40	1.50	606.236			
500.00	500.00	493.50	493.50	0.98	0.97	92.35	-37.38	910.14	910.91	908.96	1.95	466.631			
600.00	600.00	593.50	593.50	1.21	1.19	92.35	-37.38	910.14	910.91	908.51	2.40	379.288			
700.00	700.00	693.50	693.50	1.43	1.42	92.35	-37.38	910.14	910.91	908.06	2.85	319.487			
800.00	800.00	793.50	793.50	1.66	1.64	92.35	-37.38	910.14	910.91	907.61	3.30	275.975			
900.00	900.00	893.50	893.50	1.88	1.87	92.35	-37.38	910.14	910.91	907.16	3.75	242.894			
1,000.00	1,000.00	993.50	993.50	2.11	2.09	92.35	-37.38	910.14	910.91	906.71	4.20	216.895			
1,100.00	1,100.00	1,093.50	1,093.50	2.33	2.32	92.35	-37.38	910.14	910.91	906.26	4.65	195.924			
1,200.00	1,200.00	1,193.50	1,193.50	2.56	2.54	92.35	-37.38	910.14	910.91	905.81	5.10	178.651			
1,300.00	1,300.00	1,293.50	1,293.50	2.78	2.77	92.35	-37.38	910.14	910.91	905.36	5.55	164.176			
1,400.00	1,400.00	1,393.50	1,393.50	3.01	2.99	92.35	-37.38	910.14	910.91	904.91	6.00	151.871			
1,500.00	1,500.00	1,493.50	1,493.50	3.23	3.22	92.35	-37.38	910.14	910.91	904.46	6.45	141.283			
1,600.00	1,600.00	1,593.50	1,593.50	3.46	3.44	92.35	-37.38	910.14	910.91	904.01	6.90	132.074			
1,700.00	1,700.00	1,693.50	1,693.50	3.68	3.67	92.35	-37.38	910.14	910.91	903.56	7.35	123.992			
1,800.00	1,800.00	1,793.50	1,793.50	3.91	3.89	92.35	-37.38	910.14	910.91	903.11	7.80	116.843			
1,900.00	1,900.00	1,893.50	1,893.50	4.13	4.12	92.35	-37.38	910.14	910.91	902.66	8.25	110.473			
2,000.00	2,000.00	1,993.50	1,993.50	4.35	4.34	92.35	-37.38	910.14	910.91	902.21	8.70	104.761			
2,100.00	2,100.00	2,093.50	2,093.50	4.58	4.56	92.35	-37.38	910.14	910.91	901.76	9.14	99.611			
2,200.00	2,200.00	2,193.50	2,193.50	4.80	4.79	92.35	-37.38	910.14	910.91	901.31	9.59	94.944			
2,300.00	2,300.00	2,293.50	2,293.50	5.03	5.01	92.35	-37.38	910.14	910.91	900.86	10.04	90.695			
2,400.00	2,400.00	2,393.50	2,393.50	5.25	5.24	92.35	-37.38	910.14	910.91	900.41	10.49	86.809			
2,500.00	2,500.00	2,493.50	2,493.50	5.48	5.46	92.35	-37.38	910.14	910.91	899.96	10.94	83.243			
2,600.00	2,600.00	2,593.50	2,593.50	5.70	5.69	92.35	-37.38	910.14	910.91	899.52	11.39	79.958			
2,700.00	2,700.00	2,693.50	2,693.50	5.93	5.91	92.35	-37.38	910.14	910.91	899.07	11.84	76.923			
2,800.00	2,800.00	2,793.50	2,793.50	6.15	6.14	92.35	-37.38	910.14	910.91	898.62	12.29	74.110			
2,900.00	2,900.00	2,893.50	2,893.50	6.38	6.36	92.35	-37.38	910.14	910.91	898.17	12.74	71.495			
3,000.00	3,000.00	2,993.50	2,993.50	6.60	6.59	92.35	-37.38	910.14	910.91	897.72	13.19	69.058 CC, ES			
3,100.00	3,100.00	3,081.14	3,081.14	6.83	6.78	92.34	-37.24	910.70	911.54	897.94	13.60	67.015			
3,200.00	3,200.00	3,167.89	3,167.87	7.05	6.96	92.31	-36.77	912.52	913.62	899.62	14.00	65.251			
3,300.00	3,300.00	3,254.57	3,254.48	7.28	7.14	92.25	-35.97	915.62	917.15	902.75	14.40	63.705			
3,400.00	3,400.00	3,341.12	3,340.92	7.50	7.32	92.17	-34.84	919.97	922.13	907.34	14.79	62.351			
3,500.00	3,500.00	3,427.52	3,427.12	7.73	7.50	92.07	-33.40	925.58	928.56	913.38	15.18	61.173			
3,600.00	3,600.00	3,513.79	3,513.10	7.94	7.68	25.97	-31.63	932.43	935.64	920.09	15.56	60.142			
3,700.00	3,699.96	3,600.00	3,598.90	8.15	7.87	25.86	-29.54	940.53	942.61	926.69	15.92	59.194			
3,800.00	3,799.86	3,686.08	3,684.44	8.36	8.07	25.76	-27.13	949.87	949.45	933.16	16.29	58.287			
3,900.00	3,899.68	3,772.11	3,769.78	8.58	8.26	25.69	-24.41	960.44	956.17	939.51	16.65	57.415			
4,000.00	3,999.37	3,861.03	3,857.80	8.79	8.47	25.63	-21.26	972.63	962.72	945.69	17.03	56.533			
4,049.06	4,048.22	3,910.01	3,906.25	8.90	8.59	25.62	-19.47	979.56	965.58	948.34	17.24	56.014			
4,100.00	4,098.93	3,960.87	3,956.57	9.01	8.72	25.62	-17.62	986.75	968.35	950.89	17.46	55.473			
4,200.00	4,198.47	4,060.72	4,055.35	9.23	8.97	25.62	-13.98	1,000.87	973.79	955.90	17.89	54.442			
4,300.00	4,298.01	4,160.58	4,154.13	9.46	9.22	25.63	-10.34	1,014.99	979.23	960.91	18.32	53.451			
4,400.00	4,397.55	4,260.43	4,252.91	9.69	9.48	25.63	-6.69	1,029.11	984.67	965.91	18.76	52.497			
4,500.00	4,497.09	4,360.28	4,351.70	9.92	9.74	25.64	-3.05	1,043.23	990.11	970.91	19.20	51.579			
4,600.00	4,496.63	4,460.13	4,450.48	10.15	10.00	25.64	0.59	1,057.35	995.55	975.91	19.64	50.695			
4,700.00	4,496.17	4,559.98	4,549.26	10.38	10.27	25.65	4.23	1,071.47	1,000.99	980.90	20.08	49.845			
4,800.00	4,495.71	4,659.83	4,648.04	10.62	10.54	25.65	7.87	1,085.58	1,006.42	985.90	20.53	49.026			
4,900.00	4,495.26	4,759.69	4,746.82	10.85	10.82	25.66	11.52	1,099.70	1,011.86	990.89	20.98	48.237			
5,000.00	4,494.80	4,859.54	4,845.80	11.09	11.09	25.66	15.16	1,113.82	1,017.30	995.88	21.43	47.476			

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: Lea County, NM (NAD-83)
 Reference Site: Fighting Okra 18-19 Fed
 Site Error: 0.00 usft
 Reference Well: 7H
 Well Error: 0.00 usft
 Reference Wellbore: OH
 Reference Design: Plan #1

Local Co-ordinate Reference: Well 7H
 TVD Reference: 3371.7' GE + 25' KB @ 3396.70usft
 MD Reference: 3371.7' GE + 25' KB @ 3396.70usft
 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 Fighting Okra 18-19 Fed - 8H - OH - Plan #1														Offset Site Error: 0.00 usft
Survey Program: O-LEAM MWD+HDGM														Offset Well Error: 0.00 usft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N-S (usft)	+E-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
5,100.00	5,094.34	4,959.39	4,944.38	11.33	11.37	25.67	18.80	1,127.94	1,022.74	1,000.86	21.88	46.743		
5,200.00	5,193.88	5,059.24	5,043.17	11.57	11.66	25.67	22.44	1,142.08	1,028.18	1,005.85	22.33	46.037		
5,300.00	5,293.42	5,159.09	5,141.95	11.82	11.94	25.67	26.08	1,156.18	1,033.62	1,010.83	22.79	45.355		
5,400.00	5,392.96	5,258.95	5,240.73	12.06	12.23	25.68	29.73	1,170.30	1,039.06	1,015.82	23.25	44.697		
5,500.00	5,492.50	5,358.80	5,339.51	12.30	12.52	25.68	33.37	1,184.42	1,044.50	1,020.80	23.71	44.062		
5,600.00	5,592.04	5,458.65	5,438.29	12.55	12.81	25.69	37.01	1,198.54	1,049.94	1,025.78	24.17	43.448		
5,700.00	5,691.59	5,558.50	5,537.07	12.80	13.10	25.69	40.65	1,212.66	1,055.38	1,030.76	24.63	42.855		
5,800.00	5,791.13	5,658.35	5,635.85	13.05	13.39	25.70	44.29	1,226.78	1,060.82	1,035.73	25.09	42.282		
5,900.00	5,890.67	5,758.21	5,734.64	13.29	13.69	25.70	47.94	1,240.90	1,066.26	1,040.71	25.55	41.727		
6,000.00	5,990.21	5,858.06	5,833.42	13.54	13.98	25.71	51.58	1,255.02	1,071.70	1,045.69	26.02	41.191		
6,100.00	6,089.75	5,957.91	5,932.20	13.79	14.28	25.71	55.22	1,269.14	1,077.14	1,050.66	26.48	40.672		
6,200.00	6,189.29	6,057.76	6,030.98	14.05	14.58	25.71	58.86	1,283.26	1,082.58	1,055.63	26.95	40.170		
6,300.00	6,288.83	6,157.61	6,129.76	14.30	14.88	25.72	62.50	1,297.38	1,088.02	1,060.60	27.42	39.683		
6,400.00	6,388.37	6,257.47	6,228.54	14.55	15.18	25.72	66.15	1,311.50	1,093.46	1,065.58	27.89	39.211		
6,500.00	6,487.91	6,357.32	6,327.33	14.80	15.48	25.73	69.79	1,325.62	1,098.90	1,070.55	28.36	38.754		
6,600.00	6,587.46	6,457.17	6,426.11	15.06	15.79	25.73	73.43	1,339.73	1,104.34	1,075.52	28.83	38.311		
6,700.00	6,687.00	6,557.02	6,524.89	15.31	16.09	25.73	77.07	1,353.85	1,109.78	1,080.49	29.30	37.881		
6,800.00	6,786.54	6,656.87	6,623.67	15.57	16.39	25.74	80.71	1,367.97	1,115.22	1,085.45	29.77	37.463		
6,900.00	6,886.08	6,756.72	6,722.45	15.82	16.70	25.74	84.36	1,382.09	1,120.66	1,090.42	30.24	37.058		
7,000.00	6,985.62	6,856.58	6,821.23	16.08	17.01	25.74	88.00	1,396.21	1,126.10	1,095.39	30.71	36.664		
7,100.00	7,085.16	6,956.43	6,920.01	16.34	17.31	25.75	91.64	1,410.33	1,131.54	1,100.35	31.19	36.282		
7,200.00	7,184.70	7,056.28	7,018.80	16.59	17.62	25.75	95.28	1,424.45	1,136.98	1,105.32	31.66	35.910		
7,300.00	7,284.24	7,156.13	7,117.58	16.85	17.93	25.76	98.92	1,438.57	1,142.42	1,110.29	32.14	35.549		
7,400.00	7,383.79	7,255.98	7,216.36	17.11	18.24	25.76	102.57	1,452.69	1,147.86	1,115.25	32.61	35.198		
7,500.00	7,483.33	7,355.84	7,315.14	17.37	18.55	25.76	106.21	1,466.81	1,153.30	1,120.21	33.09	34.856		
7,600.00	7,582.87	7,455.69	7,413.92	17.63	18.86	25.77	109.85	1,480.93	1,158.74	1,125.18	33.56	34.523		
7,700.00	7,682.41	7,555.54	7,512.70	17.88	19.17	25.77	113.49	1,495.05	1,164.18	1,130.14	34.04	34.199		
7,800.00	7,781.95	7,655.39	7,611.48	18.14	19.48	25.77	117.13	1,509.17	1,169.62	1,135.10	34.52	33.884		
7,900.00	7,881.49	7,755.24	7,710.27	18.40	19.79	25.78	120.78	1,523.29	1,175.06	1,140.07	35.00	33.577		
8,000.00	7,981.03	7,855.10	7,809.05	18.66	20.10	25.78	124.42	1,537.41	1,180.50	1,145.03	35.47	33.278		
8,100.00	8,080.57	7,954.95	7,907.83	18.92	20.41	25.78	128.06	1,551.53	1,185.94	1,149.99	35.95	32.986		
8,200.00	8,180.12	8,054.80	8,006.61	19.19	20.72	25.79	131.70	1,565.65	1,191.38	1,154.95	36.43	32.701		
8,300.00	8,279.66	8,154.65	8,105.39	19.45	21.04	25.79	135.34	1,579.76	1,196.82	1,159.91	36.91	32.424		
8,400.00	8,379.20	8,254.50	8,204.17	19.71	21.35	25.79	138.99	1,593.88	1,202.26	1,164.87	37.39	32.153		
8,500.00	8,478.74	8,354.36	8,302.95	19.97	21.66	25.80	142.63	1,608.00	1,207.70	1,169.83	37.87	31.890		
8,600.00	8,578.28	8,454.21	8,401.74	20.23	21.98	25.80	146.27	1,622.12	1,213.14	1,174.79	38.35	31.632		
8,700.00	8,677.82	8,554.06	8,500.52	20.49	22.29	25.80	149.91	1,636.24	1,218.58	1,179.75	38.83	31.380		
8,800.00	8,777.36	8,653.91	8,599.30	20.76	22.61	25.81	153.55	1,650.36	1,224.02	1,184.71	39.31	31.135		
8,900.00	8,876.90	8,753.76	8,698.08	21.02	22.92	25.81	157.20	1,664.48	1,229.46	1,189.67	39.80	30.895		
9,000.00	8,976.44	8,853.61	8,796.86	21.28	23.24	25.81	160.84	1,678.60	1,234.90	1,194.62	40.28	30.660		
9,100.00	9,075.99	8,953.47	8,895.64	21.54	23.55	25.82	164.48	1,692.72	1,240.34	1,199.58	40.76	30.431		
9,200.00	9,175.53	9,053.32	8,994.43	21.81	23.87	25.82	168.12	1,706.84	1,245.78	1,204.54	41.24	30.207		
9,300.00	9,275.07	9,153.17	9,093.21	22.07	24.19	25.82	171.76	1,720.96	1,251.22	1,209.50	41.72	29.988		
9,400.00	9,374.61	9,253.02	9,191.99	22.33	24.50	25.83	175.41	1,735.08	1,256.66	1,214.46	42.21	29.774		
9,500.00	9,474.15	9,352.87	9,290.77	22.60	24.82	25.83	179.05	1,749.20	1,262.10	1,219.41	42.69	29.565		
9,600.00	9,573.69	9,452.73	9,389.55	22.86	25.13	25.83	182.69	1,763.32	1,267.54	1,224.37	43.17	29.360		
9,700.00	9,673.23	9,552.58	9,488.33	23.13	25.45	25.83	186.33	1,777.44	1,272.98	1,229.33	43.66	29.159		
9,800.00	9,772.77	9,652.43	9,587.11	23.39	25.77	25.84	189.97	1,791.56	1,278.42	1,234.28	44.14	28.963		
9,900.00	9,872.32	9,752.28	9,685.90	23.65	26.09	25.84	193.62	1,805.68	1,283.86	1,239.24	44.62	28.770		
10,000.00	9,971.86	9,852.13	9,784.68	23.92	26.40	25.84	197.26	1,819.80	1,289.30	1,244.19	45.11	28.582		
10,100.00	10,071.40	9,951.99	9,883.46	24.18	26.72	25.85	200.90	1,833.91	1,294.74	1,249.15	45.59	28.398		
10,200.00	10,170.94	10,051.84	9,982.24	24.45	27.04	25.85	204.54	1,848.03	1,300.18	1,254.10	46.08	28.217		

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

LEAM Drilling Systems LLC

Anticollision Report

Company: Devon Energy
 Project: Lea County, NM (NAD-83)
 Reference Site: Fighting Okra 18-19 Fed
 Site Error: 0.00 usft
 Reference Well: 7H
 Well Error: 0.00 usft
 Reference Wellbore: OH
 Reference Design: Plan #1

Local Co-ordinate Reference: Well 7H
 TVD Reference: 3371.7' GE + 25' KB @ 3396.70usft
 MD Reference: 3371.7' GE + 25' KB @ 3396.70usft
 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: Fighting Okra 18-19 Fed - 8H - OH - Plan #1														Offset Site Error: 0.00 usft
Survey Program: O-LEAM MWD+HDGM														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)	Offset Wellbore Centre -E-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning	
10,300.00	10,270.48	10,151.69	10,081.02	24.71	27.36	25.85	208.18	1,862.15	1,305.62	1,259.06	46.56	28.040		
10,400.00	10,370.02	10,251.54	10,179.80	24.98	27.88	25.85	211.83	1,876.27	1,311.06	1,264.01	47.05	27.867		
10,500.00	10,469.56	10,351.39	10,278.58	25.24	28.00	25.86	215.47	1,890.39	1,316.50	1,268.97	47.53	27.697		
10,600.00	10,569.10	10,451.25	10,377.37	25.51	28.31	25.86	219.11	1,904.51	1,321.94	1,273.92	48.02	27.530		
10,683.05	10,651.78	10,534.18	10,459.41	25.73	28.58	25.86	222.14	1,916.24	1,326.46	1,278.04	48.42	27.394		
10,700.00	10,668.65	10,554.81	10,479.82	25.77	28.64	25.87	222.88	1,919.13	1,327.39	1,278.87	48.51	27.362		
10,800.00	10,768.29	10,683.29	10,607.18	25.97	28.96	25.89	227.12	1,935.56	1,332.52	1,283.51	49.02	27.184		
10,900.00	10,868.07	10,811.95	10,735.06	26.17	29.24	25.90	230.65	1,949.24	1,337.08	1,287.59	49.49	27.017		
11,000.00	10,967.95	10,940.76	10,863.37	26.35	29.51	25.90	233.46	1,960.14	1,341.05	1,291.11	49.94	26.854		
11,100.00	11,067.89	11,069.71	10,992.04	26.53	29.76	25.89	235.55	1,968.25	1,344.43	1,294.07	50.36	26.696		
11,200.00	11,167.88	11,198.76	11,120.98	26.70	29.99	25.87	236.92	1,973.56	1,347.22	1,296.46	50.76	26.541		
11,232.12	11,200.00	11,240.23	11,162.43	26.75	30.05	91.82	237.21	1,974.67	1,347.99	1,297.11	50.88	26.492		
11,300.00	11,267.88	11,327.92	11,250.10	26.88	30.19	91.80	237.57	1,976.06	1,349.05	1,297.90	51.15	26.375		
11,400.00	11,367.88	11,439.20	11,361.38	27.08	30.38	91.80	237.62	1,976.27	1,349.22	1,297.66	51.55	26.171		
11,500.00	11,467.88	11,539.20	11,461.38	27.28	30.55	91.80	237.62	1,976.27	1,349.22	1,297.25	51.96	25.964		
11,600.00	11,567.88	11,639.20	11,561.38	27.48	30.73	91.80	237.62	1,976.27	1,349.22	1,296.84	52.38	25.760		
11,700.00	11,667.88	11,739.20	11,661.38	27.68	30.91	91.80	237.62	1,976.27	1,349.22	1,296.43	52.79	25.559		
11,800.00	11,767.88	11,839.20	11,761.38	27.88	31.09	91.80	237.62	1,976.27	1,349.22	1,296.02	53.20	25.361		
11,900.00	11,867.88	11,939.20	11,861.38	28.08	31.27	91.80	237.62	1,976.27	1,349.22	1,295.60	53.61	25.166		
12,000.00	11,967.88	12,039.20	11,961.38	28.29	31.45	91.80	237.62	1,976.27	1,349.22	1,295.19	54.03	24.973		
12,100.00	12,067.88	12,139.20	12,061.38	28.49	31.63	91.80	237.62	1,976.27	1,349.22	1,294.77	54.44	24.783		
12,200.00	12,167.88	12,239.20	12,161.38	28.69	31.81	91.80	237.62	1,976.27	1,349.22	1,294.36	54.86	24.596		
12,300.00	12,267.88	12,339.20	12,261.38	28.89	31.99	91.80	237.62	1,976.27	1,349.22	1,293.94	55.27	24.411		
12,343.16	12,311.04	12,382.35	12,304.54	28.98	32.07	91.80	237.62	1,976.27	1,349.22	1,293.76	55.45	24.332		
12,350.00	12,317.88	12,389.20	12,311.38	29.00	32.08	-88.20	237.62	1,976.27	1,349.21	1,293.74	55.48	24.320		
12,400.00	12,367.79	12,436.45	12,358.61	29.07	32.15	-88.26	236.39	1,976.27	1,349.17	1,293.53	55.64	24.248		
12,450.00	12,417.26	12,483.16	12,405.04	29.14	32.22	-88.34	231.43	1,976.27	1,349.12	1,293.34	55.78	24.186		
12,500.00	12,465.93	12,530.00	12,451.05	29.21	32.27	-88.43	222.68	1,976.27	1,349.06	1,293.16	55.90	24.134		
12,550.00	12,513.42	12,577.01	12,496.34	29.26	32.32	-88.53	210.14	1,976.27	1,348.99	1,293.00	56.00	24.091		
12,600.00	12,559.37	12,624.20	12,540.62	29.31	32.37	-88.64	193.87	1,976.27	1,348.93	1,292.85	56.08	24.054		
12,650.00	12,603.42	12,671.59	12,583.59	29.34	32.40	-88.77	173.92	1,976.27	1,348.86	1,292.72	56.15	24.023		
12,700.00	12,645.26	12,719.20	12,624.96	29.38	32.44	-88.90	150.37	1,976.27	1,348.80	1,292.59	56.21	23.996		
12,750.00	12,684.55	12,767.06	12,664.42	29.40	32.46	-89.04	123.32	1,976.27	1,348.74	1,292.47	56.27	23.970		
12,800.00	12,720.99	12,815.17	12,701.68	29.43	32.49	-89.18	92.91	1,976.27	1,348.69	1,292.36	56.33	23.944		
12,850.00	12,754.32	12,863.57	12,736.45	29.45	32.51	-89.34	59.27	1,976.27	1,348.64	1,292.25	56.39	23.914		
12,900.00	12,784.27	12,912.25	12,768.44	29.47	32.53	-89.49	22.59	1,976.27	1,348.60	1,292.13	56.48	23.880		
12,950.00	12,810.62	12,961.25	12,797.38	29.50	32.55	-89.66	-16.93	1,976.27	1,348.57	1,292.00	56.57	23.838		
13,000.00	12,833.17	13,010.57	12,822.99	29.53	32.57	-89.82	-59.06	1,976.27	1,348.56	1,291.86	56.69	23.787		
13,050.00	12,851.75	13,060.22	12,845.02	29.57	32.61	-89.99	-103.54	1,976.27	1,348.55	1,291.71	56.84	23.726		
13,053.18	12,852.79	13,063.38	12,846.29	29.58	32.61	-90.00	-106.44	1,976.27	1,348.55	1,291.70	56.85	23.721		
13,100.00	12,866.21	13,110.21	12,863.22	29.63	32.65	-90.16	-150.08	1,976.27	1,348.56	1,291.54	57.01	23.654		
13,150.00	12,876.44	13,160.55	12,877.39	29.70	32.70	-90.32	-198.38	1,976.27	1,348.57	1,291.36	57.22	23.570		
13,200.00	12,882.37	13,211.25	12,887.31	29.80	32.77	-90.49	-248.08	1,976.27	1,348.60	1,291.15	57.45	23.474		
13,243.16	12,884.00	13,255.30	12,892.34	29.90	32.84	-90.63	-291.83	1,976.27	1,348.63	1,290.96	57.68	23.383		
13,300.00	12,884.00	13,313.32	12,894.00	30.05	32.96	-90.70	-349.80	1,976.27	1,348.65	1,290.63	58.02	23.244		
13,400.00	12,884.00	13,413.32	12,894.00	30.41	33.23	-90.70	-449.80	1,976.27	1,348.65	1,289.89	58.76	22.952		
13,500.00	12,884.00	13,513.32	12,894.00	30.85	33.57	-90.70	-549.80	1,976.27	1,348.65	1,288.98	59.67	22.602		
13,600.00	12,884.00	13,613.32	12,894.00	31.38	34.00	-90.70	-649.80	1,976.27	1,348.65	1,287.91	60.74	22.204		
13,700.00	12,884.00	13,713.32	12,894.00	31.99	34.50	-90.70	-749.80	1,976.27	1,348.65	1,286.69	61.97	21.765		
13,800.00	12,884.00	13,813.32	12,894.00	32.67	35.08	-90.70	-849.80	1,976.27	1,348.65	1,285.32	63.34	21.294		
13,900.00	12,884.00	13,913.32	12,894.00	33.41	35.72	-90.70	-949.80	1,976.27	1,348.65	1,283.81	64.84	20.799		
14,000.00	12,884.00	14,013.32	12,894.00	34.22	36.44	-90.70	-1,049.80	1,976.27	1,348.65	1,282.18	66.48	20.288		

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

LEAM Drilling Systems LLC

Anticollision Report

Company: Devon Energy
 Project: Lea County, NM (NAD-83)
 Reference Site: Fighting Okra 18-19 Fed
 Site Error: 0.00 usft
 Reference Well: 7H
 Well Error: 0.00 usft
 Reference Wellbore: OH
 Reference Design: Plan #1

Local Co-ordinate Reference: Well 7H
 TVD Reference: 3371.7' GE + 25' KB @ 3396.70usft
 MD Reference: 3371.7' GE + 25' KB @ 3396.70usft
 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 Fighting Okra 18-19 Fed - 8H - OH - Plan #1														Offset Site Error: 0.00 usft
Survey Program: 0-LEAM MWD+HDGM														Offset Well Error: 0.00 usft
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N-S (usft)	Offset Wellbore Centre +E-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning	
14,100.00	12,884.00	14,113.32	12,894.00	35.09	37.21	-90.70	-1,149.80	1,976.27	1,348.65	1,280.43	68.23	19.767		
14,200.00	12,884.00	14,213.32	12,894.00	36.01	38.04	-90.70	-1,249.80	1,976.27	1,348.65	1,278.57	70.09	19.243		
14,300.00	12,884.00	14,313.32	12,894.00	36.98	38.93	-90.70	-1,349.80	1,976.27	1,348.65	1,276.61	72.04	18.720		
14,400.00	12,884.00	14,413.32	12,894.00	38.00	39.86	-90.70	-1,449.80	1,976.27	1,348.65	1,274.55	74.10	18.201		
14,500.00	12,884.00	14,513.32	12,894.00	39.06	40.84	-90.70	-1,549.80	1,976.27	1,348.65	1,272.42	76.23	17.691		
14,600.00	12,884.00	14,613.32	12,894.00	40.16	41.86	-90.70	-1,649.80	1,976.27	1,348.65	1,270.20	78.45	17.191		
14,700.00	12,884.00	14,713.32	12,894.00	41.29	42.92	-90.70	-1,749.80	1,976.27	1,348.65	1,267.92	80.74	16.705		
14,800.00	12,884.00	14,813.32	12,894.00	42.46	44.01	-90.70	-1,849.80	1,976.27	1,348.65	1,265.56	83.09	16.232		
14,900.00	12,884.00	14,913.32	12,894.00	43.65	45.14	-90.70	-1,949.80	1,976.27	1,348.65	1,263.15	85.50	15.774		
15,000.00	12,884.00	15,013.32	12,894.00	44.88	46.30	-90.70	-2,049.80	1,976.27	1,348.65	1,260.68	87.97	15.331		
15,100.00	12,884.00	15,113.32	12,894.00	46.12	47.49	-90.70	-2,149.80	1,976.27	1,348.65	1,258.16	90.49	14.904		
15,200.00	12,884.00	15,213.32	12,894.00	47.40	48.70	-90.70	-2,249.80	1,976.27	1,348.65	1,255.60	93.05	14.493		
15,300.00	12,884.00	15,313.32	12,894.00	48.69	49.94	-90.70	-2,349.80	1,976.27	1,348.65	1,252.99	95.66	14.098		
15,400.00	12,884.00	15,413.32	12,894.00	50.00	51.20	-90.70	-2,449.80	1,976.27	1,348.65	1,250.34	98.31	13.719		
15,500.00	12,884.00	15,513.32	12,894.00	51.34	52.48	-90.70	-2,549.80	1,976.27	1,348.65	1,247.66	100.99	13.354		
15,600.00	12,884.00	15,613.32	12,894.00	52.68	53.78	-90.70	-2,649.80	1,976.27	1,348.65	1,244.94	103.71	13.004		
15,700.00	12,884.00	15,713.32	12,894.00	54.05	55.10	-90.70	-2,749.80	1,976.27	1,348.65	1,242.19	106.46	12.668		
15,800.00	12,884.00	15,813.32	12,894.00	55.43	56.43	-90.70	-2,849.80	1,976.27	1,348.65	1,239.42	109.24	12.346		
15,900.00	12,884.00	15,913.32	12,894.00	56.82	57.78	-90.70	-2,949.80	1,976.27	1,348.65	1,236.61	112.04	12.037		
16,000.00	12,884.00	16,013.32	12,894.00	58.23	59.15	-90.70	-3,049.80	1,976.27	1,348.65	1,233.78	114.87	11.741		
16,100.00	12,884.00	16,113.32	12,894.00	59.64	60.53	-90.70	-3,149.80	1,976.27	1,348.65	1,230.93	117.72	11.457		
16,200.00	12,884.00	16,213.32	12,894.00	61.07	61.92	-90.70	-3,249.80	1,976.27	1,348.65	1,228.06	120.59	11.184		
16,300.00	12,884.00	16,313.32	12,894.00	62.51	63.32	-90.70	-3,349.80	1,976.27	1,348.65	1,225.17	123.48	10.922		
16,400.00	12,884.00	16,413.32	12,894.00	63.96	64.73	-90.70	-3,449.80	1,976.27	1,348.65	1,222.26	126.39	10.670		
16,500.00	12,884.00	16,513.32	12,894.00	65.41	66.15	-90.70	-3,549.80	1,976.27	1,348.65	1,219.33	129.32	10.429		
16,600.00	12,884.00	16,613.32	12,894.00	66.88	67.59	-90.70	-3,649.80	1,976.27	1,348.65	1,216.39	132.26	10.197		
16,700.00	12,884.00	16,713.32	12,894.00	68.35	69.03	-90.70	-3,749.80	1,976.27	1,348.65	1,213.43	135.22	9.974		
16,800.00	12,884.00	16,813.32	12,894.00	69.83	70.48	-90.70	-3,849.80	1,976.27	1,348.65	1,210.46	138.20	9.759		
16,900.00	12,884.00	16,913.32	12,894.00	71.32	71.94	-90.70	-3,949.80	1,976.27	1,348.65	1,207.47	141.18	9.553		
17,000.00	12,884.00	17,013.32	12,894.00	72.81	73.40	-90.70	-4,049.80	1,976.27	1,348.65	1,204.47	144.18	9.354		
17,100.00	12,884.00	17,113.32	12,894.00	74.31	74.87	-90.70	-4,149.80	1,976.27	1,348.65	1,201.46	147.19	9.163		
17,200.00	12,884.00	17,213.32	12,894.00	75.81	76.35	-90.70	-4,249.80	1,976.27	1,348.65	1,198.44	150.21	8.979		
17,300.00	12,884.00	17,313.32	12,894.00	77.32	77.84	-90.70	-4,349.80	1,976.27	1,348.65	1,195.41	153.24	8.801		
17,400.00	12,884.00	17,413.32	12,894.00	78.83	79.33	-90.70	-4,449.80	1,976.27	1,348.65	1,192.37	156.28	8.630		
17,500.00	12,884.00	17,513.32	12,894.00	80.35	80.83	-90.70	-4,549.80	1,976.27	1,348.65	1,189.32	159.33	8.465		
17,600.00	12,884.00	17,613.32	12,894.00	81.88	82.33	-90.70	-4,649.80	1,976.27	1,348.65	1,186.27	162.38	8.305		
17,700.00	12,884.00	17,713.32	12,894.00	83.40	83.83	-90.70	-4,749.80	1,976.27	1,348.65	1,183.20	165.45	8.151		
17,800.00	12,884.00	17,813.32	12,894.00	84.94	85.35	-90.70	-4,849.80	1,976.27	1,348.65	1,180.13	168.52	8.003		
17,900.00	12,884.00	17,913.32	12,894.00	86.47	86.86	-90.70	-4,949.80	1,976.27	1,348.65	1,177.05	171.60	7.859		
18,000.00	12,884.00	18,013.32	12,894.00	88.01	88.38	-90.70	-5,049.80	1,976.27	1,348.65	1,173.96	174.69	7.720		
18,100.00	12,884.00	18,113.32	12,894.00	89.55	89.91	-90.70	-5,149.80	1,976.27	1,348.65	1,170.87	177.78	7.586		
18,200.00	12,884.00	18,213.32	12,894.00	91.10	91.43	-90.70	-5,249.80	1,976.27	1,348.65	1,167.77	180.88	7.456		
18,300.00	12,884.00	18,313.32	12,894.00	92.65	92.97	-90.70	-5,349.80	1,976.27	1,348.65	1,164.66	183.99	7.330		
18,400.00	12,884.00	18,413.32	12,894.00	94.20	94.50	-90.70	-5,449.80	1,976.27	1,348.65	1,161.55	187.10	7.208		
18,500.00	12,884.00	18,513.32	12,894.00	95.75	96.04	-90.70	-5,549.80	1,976.27	1,348.65	1,158.43	190.22	7.090		
18,600.00	12,884.00	18,613.32	12,894.00	97.31	97.58	-90.70	-5,649.80	1,976.27	1,348.65	1,155.31	193.34	6.976		
18,700.00	12,884.00	18,713.32	12,894.00	98.87	99.12	-90.70	-5,749.80	1,976.27	1,348.65	1,152.19	196.47	6.865		
18,800.00	12,884.00	18,813.32	12,894.00	100.43	100.67	-90.70	-5,849.80	1,976.27	1,348.65	1,149.05	199.60	6.757		
18,900.00	12,884.00	18,913.32	12,894.00	101.99	102.22	-90.70	-5,949.80	1,976.27	1,348.65	1,145.92	202.73	6.652		
19,000.00	12,884.00	19,013.32	12,894.00	103.56	103.77	-90.70	-6,049.80	1,976.27	1,348.65	1,142.78	205.87	6.551		
19,100.00	12,884.00	19,113.32	12,894.00	105.13	105.33	-90.70	-6,149.80	1,976.27	1,348.65	1,139.64	209.01	6.452		
19,200.00	12,884.00	19,213.32	12,894.00	106.70	106.89	-90.70	-6,249.80	1,976.27	1,348.65	1,136.49	212.16	6.357		

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

LEAM Drilling Systems LLC

Anticollision Report

Company: Devon Energy
 Project: Lea County, NM (NAD-83)
 Reference Site: Fighting Okra 18-19 Fed
 Site Error: 0.00 usft
 Reference Well: 7H
 Well Error: 0.00 usft
 Reference Wellbore: OH
 Reference Design: Plan #1

Local Co-ordinate Reference: Well 7H
 TVD Reference: 3371.7' GE + 25' KB @ 3396.70usft
 MD Reference: 3371.7' GE + 25' KB @ 3396.70usft
 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 Fighting Okra 18-19 Fed - 8H - OH - Plan #1														Offset Site Error: 0.00 usft
Survey Program: 0-LEAM MWD+HDGM														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		
19,300.00	12,884.00	19,313.32	12,894.00	108.27	108.45	-90.70	-6,349.80	1,976.27	1,348.65	1,133.34	215.31	6.264		
19,400.00	12,884.00	19,413.32	12,894.00	109.84	110.01	-90.70	-6,449.80	1,976.27	1,348.65	1,130.18	218.47	6.173		
19,500.00	12,884.00	19,513.32	12,894.00	111.42	111.57	-90.70	-6,549.80	1,976.27	1,348.65	1,127.03	221.62	6.085		
19,600.00	12,884.00	19,613.32	12,894.00	113.00	113.14	-90.70	-6,649.80	1,976.27	1,348.65	1,123.87	224.78	6.000		
19,700.00	12,884.00	19,713.32	12,894.00	114.57	114.71	-90.70	-6,749.80	1,976.27	1,348.65	1,120.70	227.95	5.916		
19,800.00	12,884.00	19,813.32	12,894.00	116.16	116.28	-90.70	-6,849.80	1,976.27	1,348.65	1,117.54	231.12	5.835		
19,900.00	12,884.00	19,913.32	12,894.00	117.74	117.85	-90.70	-6,949.80	1,976.27	1,348.65	1,114.37	234.28	5.756		
20,000.00	12,884.00	20,013.32	12,894.00	119.32	119.42	-90.70	-7,049.80	1,976.27	1,348.65	1,111.19	237.46	5.680		
20,100.00	12,884.00	20,113.32	12,894.00	120.91	120.99	-90.70	-7,149.80	1,976.27	1,348.65	1,108.02	240.63	5.605		
20,200.00	12,884.00	20,213.32	12,894.00	122.49	122.57	-90.70	-7,249.80	1,976.27	1,348.65	1,104.84	243.81	5.532		
20,300.00	12,884.00	20,313.32	12,894.00	124.08	124.15	-90.70	-7,349.80	1,976.27	1,348.65	1,101.66	246.99	5.460		
20,400.00	12,884.00	20,413.32	12,894.00	125.67	125.73	-90.70	-7,449.80	1,976.27	1,348.65	1,098.48	250.17	5.391		
20,500.00	12,884.00	20,513.32	12,894.00	127.26	127.31	-90.70	-7,549.80	1,976.27	1,348.65	1,095.30	253.35	5.323		
20,600.00	12,884.00	20,613.32	12,894.00	128.85	128.89	-90.70	-7,649.80	1,976.27	1,348.65	1,092.11	256.54	5.257		
20,700.00	12,884.00	20,713.32	12,894.00	130.44	130.47	-90.70	-7,749.80	1,976.27	1,348.65	1,088.92	259.73	5.193		
20,800.00	12,884.00	20,813.32	12,894.00	132.03	132.06	-90.70	-7,849.80	1,976.27	1,348.65	1,085.73	262.92	5.130		
20,900.00	12,884.00	20,913.32	12,894.00	133.63	133.64	-90.70	-7,949.80	1,976.27	1,348.65	1,082.54	266.11	5.068		
21,000.00	12,884.00	21,013.32	12,894.00	135.22	135.23	-90.70	-8,049.80	1,976.27	1,348.65	1,079.35	269.30	5.008		
21,100.00	12,884.00	21,113.32	12,894.00	136.82	136.82	-90.70	-8,149.80	1,976.27	1,348.65	1,076.15	272.50	4.949		
21,200.00	12,884.00	21,213.32	12,894.00	138.41	138.41	-90.70	-8,249.80	1,976.27	1,348.65	1,072.95	275.70	4.892		
21,300.00	12,884.00	21,313.32	12,894.00	140.01	140.00	-90.70	-8,349.80	1,976.27	1,348.65	1,069.75	278.90	4.836		
21,400.00	12,884.00	21,413.32	12,894.00	141.61	141.59	-90.70	-8,449.80	1,976.27	1,348.65	1,066.55	282.10	4.781		
21,500.00	12,884.00	21,513.32	12,894.00	143.21	143.18	-90.70	-8,549.80	1,976.27	1,348.65	1,063.35	285.30	4.727		
21,600.00	12,884.00	21,613.32	12,894.00	144.81	144.77	-90.70	-8,649.80	1,976.27	1,348.65	1,060.15	288.50	4.675		
21,700.00	12,884.00	21,713.32	12,894.00	146.41	146.37	-90.70	-8,749.80	1,976.27	1,348.65	1,056.94	291.71	4.623		
21,800.00	12,884.00	21,813.32	12,894.00	148.01	147.96	-90.70	-8,849.80	1,976.27	1,348.65	1,053.74	294.91	4.573		
21,900.00	12,884.00	21,913.32	12,894.00	149.61	149.56	-90.70	-8,949.80	1,976.27	1,348.65	1,050.53	298.12	4.524		
22,000.00	12,884.00	22,013.32	12,894.00	151.21	151.15	-90.70	-9,049.80	1,976.27	1,348.65	1,047.32	301.33	4.476		
22,100.00	12,884.00	22,113.32	12,894.00	152.82	152.75	-90.70	-9,149.80	1,976.27	1,348.65	1,044.11	304.54	4.428		
22,200.00	12,884.00	22,213.32	12,894.00	154.42	154.35	-90.70	-9,249.80	1,976.27	1,348.65	1,040.90	307.75	4.382		
22,300.00	12,884.00	22,313.32	12,894.00	156.03	155.95	-90.70	-9,349.80	1,976.27	1,348.65	1,037.68	310.97	4.337		
22,400.00	12,884.00	22,413.32	12,894.00	157.63	157.55	-90.70	-9,449.80	1,976.27	1,348.65	1,034.47	314.18	4.293		
22,500.00	12,884.00	22,513.32	12,894.00	159.24	159.15	-90.70	-9,549.80	1,976.27	1,348.65	1,031.26	317.40	4.249		
22,600.00	12,884.00	22,613.32	12,894.00	160.85	160.75	-90.70	-9,649.80	1,976.27	1,348.65	1,028.04	320.61	4.206		
22,700.00	12,884.00	22,713.32	12,894.00	162.45	162.35	-90.70	-9,749.80	1,976.27	1,348.65	1,024.82	323.83	4.165		
22,800.00	12,884.00	22,813.32	12,894.00	164.06	163.95	-90.70	-9,849.80	1,976.27	1,348.65	1,021.60	327.05	4.124		
22,800.01	12,884.00	22,813.32	12,894.00	164.06	163.95	-90.70	-9,849.81	1,976.27	1,348.65	1,021.60	327.05	4.124		
22,848.13	12,884.00	22,848.63	12,894.00	164.83	164.52	-90.70	-9,885.11	1,976.27	1,348.71	1,020.12	328.59	4.105 SF		

LEAM Drilling Systems LLC

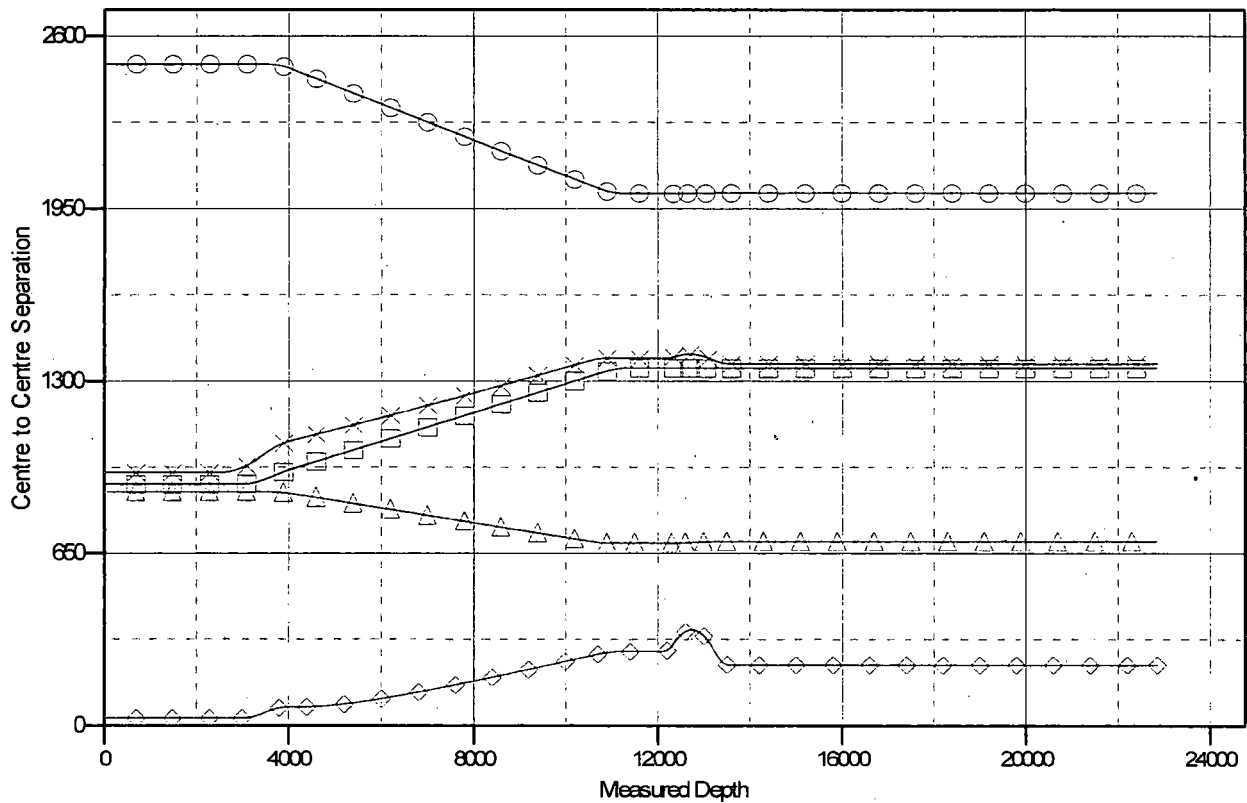
Anticollision Report

Company:	Devon Energy	Local Co-ordinate Reference:	Well 7H
Project:	Lea County, NM (NAD-83)	TVD Reference:	3371.7' GE + 25' KB @ 3396.70usft
Reference Site:	Fighting Okra 18-19 Fed	MD Reference:	3371.7' GE + 25' KB @ 3396.70usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	7H	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 Depths are relative to 3371.7' GE + 25' KB @ 3396.70usft
 Offset Depths are relative to Offset Datum
 Central Meridian is 104° 20' 0.000 W

Coordinates are relative to: 7H.
 Coordinate System is US State Plane 1983, New Mexico Eastern Zone
 Grid Convergence at Surface is: 0.44°

Ladder Plot



LEGEND

8H, OH, Plan #1 V0
 3H, OH, Plan #1 V0
 5H, OH, Plan #1 V0
 6H, OH, Plan #1 V0
 4H, OH, Plan #1 V0

LEAM Drilling Systems LLC

Anticollision Report

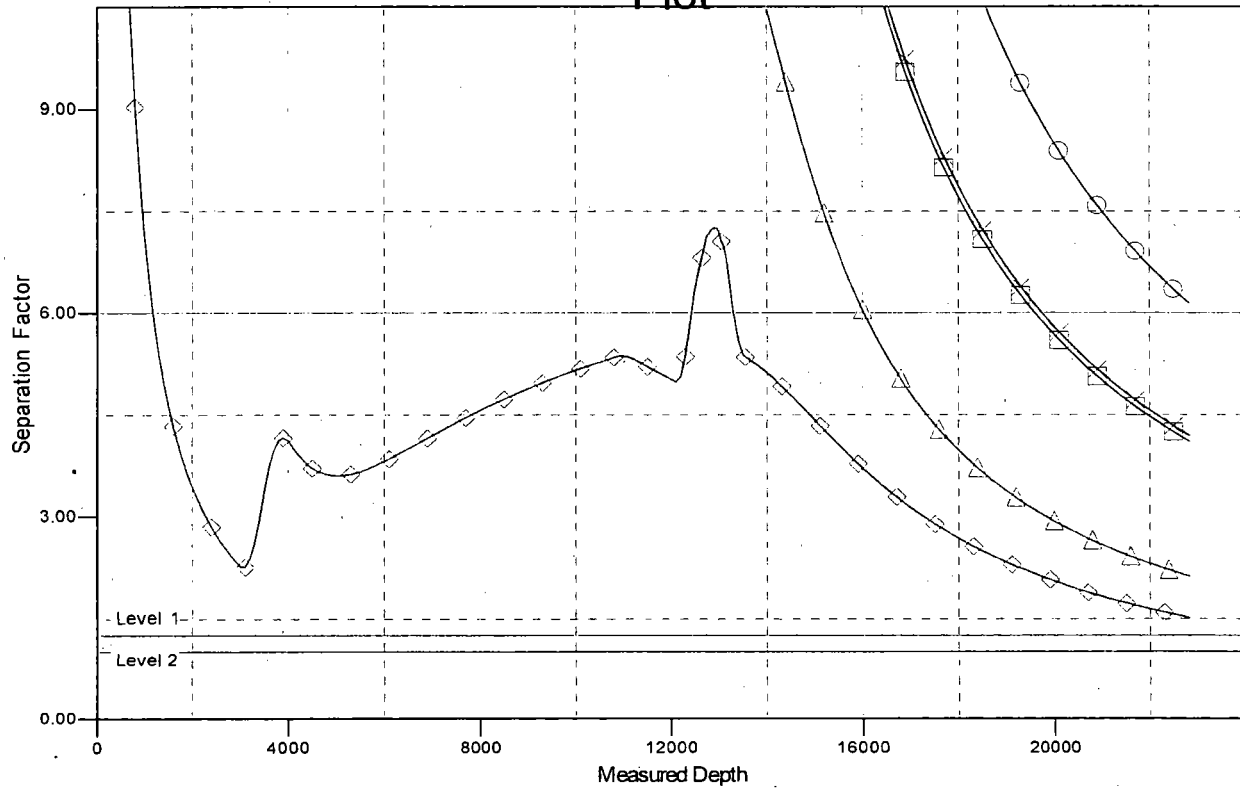
Company: Devon Energy
Project: Lea County, NM (NAD-83)
Reference Site: Fighting Okra 18-19 Fed
Site Error: 0.00 usft
Reference Well: 7H
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Plan #1

Local Co-ordinate Reference: Well 7H
TVD Reference: 3371.7' GE + 25' KB @ 3396.70usft
MD Reference: 3371.7' GE + 25' KB @ 3396.70usft
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 3371.7' GE + 25' KB @ 3396.70usft
 Offset Depths are relative to Offset Datum
 Central Meridian is 104° 20' 0.000 W

Coordinates are relative to: 7H
 Coordinate System is US State Plane 1983, New Mexico Eastern Zone
 Grid Convergence at Surface is: 0.44°

Separation Factor Plot



LEGEND

8H, OH, Plan #1 V0 3H, OH, Plan #1 V0 5H, OH, Plan #1 V0
 6H, OH, Plan #1 V0 4H, OH, Plan #1 V0

VAM SG

Connection Data Sheet

O.D (in)	WEIGHT (lb/ft)	WALL (in)	GRADE	DRIFT	CONNECTION
5.500	20.00	0.361	VST P110EC	4.653	VAM® SG

PIPE PROPERTIES

Material Grade	VST P110EC
Min. Yield Strength	125 ksi
Min. Tensile Strength	135 ksi
Nominal OD	5.500 in
Nominal ID	4.778 in
Nominal Area	5.828 sq. in
Yield Strength	729 kips
Ultimate Strength	787 kips
Min Internal Yield	14,360 psi
External Pressure	12,090 psi

CONNECTION PROPERTIES

Connection OD	5.697 in
Connection ID	4.711 in
Make up Loss	6.335 in
Connection Critical Area	5.071 sq. in
%PB Section Area	87.0%
Yield Strength	634 kips
Parting Load	685 kips
Min Internal Yield	14,360 psi
External Pressure	8,460 psi
Structural Collapse	12,090 psi
Working Compression	444 kips
Max. Bending w/ Sealability	40 °/100 ft

DOCUMENTATION

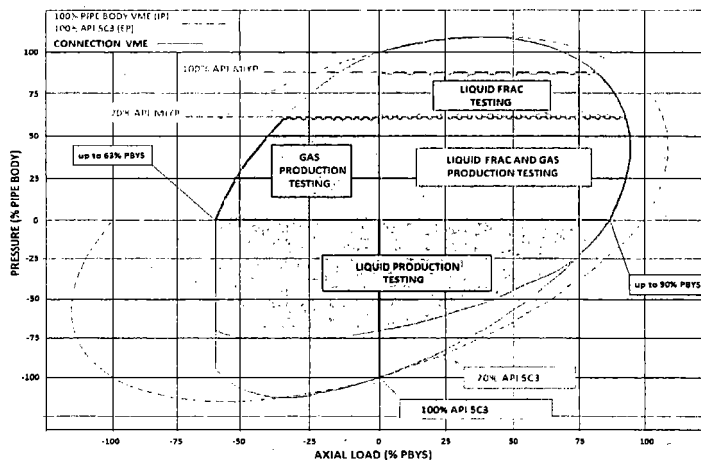
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Email	tech.support@vam-usa.com

TORQUE VALUES

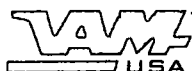
Min Make Up Torque	8,100 ft-lb
Opt Make Up Torque	9,800 ft-lb
Max Make Up Torque	11,500 ft-lb
Max Torque w/ Sealability	12,500 ft-lb

The single solution for Shale Play needs

VAM® SG brings VAM® premium sealing performance to a semi-flush connection with extremely high Tension performance and increased Torque capacity, validated to the specific Shale drilling requirements, while remaining highly competitive in North American Shale play economics.



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Metal One

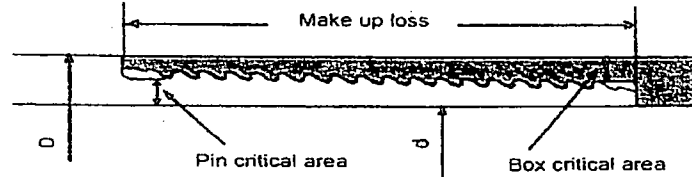
Metal One Corp

FLUSHMAX-III Connection Data Sheet

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Date 1-Oct-15

Rev. N-0



Pipe Body	Imperial		S.I.	
Grade	P110		P110	
Pipe OD (D)	7 5/8	in	193.68	mm
Weight	29.7	lb/ft	44.25	kg/m
Actual weight	29.0	lb/ft	43.26	kg/m
Wall thickness (t)	0.375	in	9.53	mm
Pipe ID (d)	6.875	in	174.63	mm
Pipe body cross section	8.537	in ²	5,508	mm ²
Drift Dia.	6.750	in	171.45	mm

Connection				
Box OD (W)	7.625	in	193.68	mm
PIN ID	6.875	in	174.63	mm
Pin critical area	4.420	in ²	2,852	mm ²
Box critical area	4.424	in ²	2,854	mm ²
Joint load efficiency	60	%	60	%
Make up loss	3.040	in	77.22	mm
Thread taper	1/16 (3/4 in per ft)			
Number of threads	5 thread per in.			

Connection Performance Properties

Tensile Yield load	563.4	kips	2,506	kN
M.I.Y.P.	7,574	psi	52.2	MPa
Collapse strength	5,350	psi	36.9	MPa

Note

M.I.Y.P. = Minimum Internal Yield Pressure of the connection

Torque Recommended

Min.	8,700	ft-lb	11,700	N-m
Optl.	9,700	ft-lb	13,100	N-m
Max.	10,700	ft-lb	14,500	N-m
Operational Max.	23,600	ft-lb	32,000	N-m

Note : Operational Max. torque can be applied for high torque application

**PECOS DISTRICT
DRILLING OPERATIONS
CONDITIONS OF APPROVAL**

OPERATOR'S NAME:	Devon Energy Production Company LP
LEASE NO.:	NMNM114992
WELL NAME & NO.:	7H – Fighting Okra 18-19 Fed
SURFACE HOLE FOOTAGE:	330'/N & 1725'/W
BOTTOM HOLE FOOTAGE:	330'/S & 2280'/W
LOCATION:	Section 18 T.26 S., R.34 E., NMPM
COUNTY:	Lea County, New Mexico

All previous COAs still apply, except for the following:

A. DRILLING OPERATIONS REQUIREMENTS

1. In the event the operator has proposed to drill multiple wells utilizing a skid/walking rig. Operator shall secure the wellbore on the current well, after installing and testing the wellhead, by installing a blind flange of like pressure rating to the wellhead and a pressure gauge that can be monitored while drilling is performed on the other well(s).
2. When the operator proposes to set surface casing with Spudder Rig
 - Notify the BLM when moving in and removing the Spudder Rig.
 - Notify the BLM when moving in the 2nd Rig. Rig to be moved in within 90 days of notification that Spudder Rig has left the location.
 - BOP/BOPE test to be conducted per Onshore Oil and Gas Order No. 2 as soon as 2nd Rig is rigged up on well.

B. CASING

Changes to the approved APD casing program need prior approval if the items substituted are of lesser grade or different casing size or are Non-API. The Operator can exchange the components of the proposal with that of superior strength (i.e. changing from J-55 to N-80, or from 36# to 40#). Changes to the approved cement program need prior approval if the altered cement plan has less volume or strength or if the changes are substantial (i.e. Multistage tool, ECP, etc.). The initial wellhead installed on the well will remain on the well with spools used as needed.

Centralizers required on surface casing per Onshore Order 2.III.B.1.f.

Wait on cement (WOC) for Water Basin:

After cementing but before commencing any tests, the casing string shall stand cemented under pressure until both of the following conditions have been met: 1) cement reaches a minimum compressive strength of 500 psi at the shoe, 2) until cement has been in place at least 8 hours. WOC time will be recorded in the driller's log. See individual casing strings for details regarding lead cement slurry requirements.

Provide compressive strengths including hours to reach required 500 pounds compressive strength prior to cementing each casing string. Have well specific cement details onsite prior to pumping the cement for each casing string.

No pea gravel permitted for remedial or fall back remedial without prior authorization from the BLM engineer.

Possibility of water flows in the Salado and Castile.

Possibility of lost circulation in the Red Beds, Rustler, and Delaware.

Abnormal pressures may be encountered upon penetrating the 3rd Bone Spring Sandstone and all subsequent formations.

1. The 10 3/4 inch surface casing shall be set at approximately 900 feet (a minimum of 25 feet into the Rustler Anhydrite and above the salt) and cemented to the surface.
 - a. If cement does not circulate to the surface, the appropriate BLM office shall be notified and a temperature survey utilizing an electronic type temperature survey with surface log readout will be used or a cement bond log shall be run to verify the top of the cement. Temperature survey will be run a minimum of six hours after pumping cement and ideally between 8-10 hours after completing the cement job.
 - b. Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry.
 - c. Wait on cement (WOC) time for a remedial job will be a minimum of 4 hours after bringing cement to surface or 500 pounds compressive strength, whichever is greater.
 - d. If cement falls back, remedial cementing will be done prior to drilling out that string.

Formation below the 10 3/4" shoe to be tested according to Onshore Order 2.III.B.1.i. Test to be done as a mud equivalency test using the mud weight necessary for the pore pressure of the formation below the shoe and the mud weight for the bottom of the hole. Report results to BLM office.

Intermediate casing must be kept fluid filled to meet BLM minimum collapse requirement.

2. The minimum required fill of cement behind the 7 5/8 inch intermediate casing is:

Cement Option #1 (Single Stage):

- ☒ Cement to surface. If cement does not circulate, contact the appropriate BLM office. **Excess calculates to -46% - Additional cement will be required.**

Cement Option #2:

Operator has proposed DV tool at a depth of 4900', but will adjust cement proportionally if moved. DV tool shall be set a minimum of 50' below previous shoe and a minimum of 200' above current shoe. Operator shall submit sundry if DV tool depth cannot be set in this range. If an ECP is used, it is to be set a minimum of 50' below the shoe to provide cement across the shoe. If it cannot be set below the shoe, a CBL shall be run to verify cement coverage.

a. First stage to DV tool:

- ☒ Cement to circulate. If cement does not circulate, contact the appropriate BLM office before proceeding with second stage cement job. Operator should have plans as to how they will achieve circulation or approved top of cement on the next stage. **Excess calculates to -48% - Additional cement will be required.**

b. Second stage above DV tool:

- ☒ Cement to surface. If cement does not circulate, contact the appropriate BLM office. **Excess calculates to -25% - Additional cement will be required.**

Formation below the 7 5/8" shoe to be tested according to Onshore Order 2.III.B.1.i. Test to be done as a mud equivalency test using the mud weight necessary for the pore pressure of the formation below the shoe and the mud weight for the bottom of the hole. Report results to BLM office.

3. The minimum required fill of cement behind the 5 1/2 inch production casing is:

- ☒ Cement should tie-back at least 200 feet into previous casing string. Operator shall provide method of verification. **Excess calculates to 18% - Additional cement may be required.**

4. If hardband drill pipe is rotated inside casing, returns will be monitored for metal. If metal is found in samples, drill pipe will be pulled and rubber protectors which have a

larger diameter than the tool joints of the drill pipe will be installed prior to continuing drilling operations.

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