

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

OCD
Artesia

FORM APPROVED
OMB NO. 1004-0135
Expires: July 31, 2010

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.

SUBMIT IN TRIPLICATE - Other instructions on reverse side.

1. Type of Well ☒ Oil Well ☐ Gas Well ☐ Other		5. Lease Serial No. NMLC061862
2. Name of Operator DEVON ENERGY PRODUCTION CO LP		6. If Indian, Allottee or Tribe Name
3a. Address 333 WEST SHERIDAN AVE OKLAHOMA CITY, OK 73102		7. If Unit or CA/Agreement, Name and/or No.
3b. Phone No. (include area code) Ph: 405-552-7970		8. Well Name and No. COTTON DRAW 15 FED COM 3H
4. Location of Well (Footage, Sec., T., R., M., or Survey Description) Sec 15 T25S R31E NWNE 330FNL 1930FEL		9. API Well No. 30-015-40747-00-X1
		10. Field and Pool, or Exploratory UNDESIGNATED Paduca; B.S.
		11. County or Parish, and State EDDY COUNTY, NM

12. CHECK 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	☐ Fracture Treat	☐ Reclamation	☐ Well Integrity
☐ Final Abandonment Notice	☐ Casing Repair	☐ New Construction	☐ Recomplete	☒ Other Change to Original APD
	☐ Change Plans	☐ Plug and Abandon	☐ Temporarily Abandon	
	☐ Convert to Injection	☐ Plug Back	☐ Water Disposal	

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 recompleting 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 shall be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompleting in a new interval, a Form 3160-4 shall be filed once testing has been completed. Final Abandonment Notices shall 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 Energy Production Co., LP respectfully requests to change from the 96757 Cotton Draw; Delaware, South to the 2nd Bone Spring.

Attachments: Directional & Drilling Plans

Accepted for record
T09/45/2013
SEE ATTACHED FOR
CONDITIONS OF APPROVAL

RECEIVED
APR 05 2013
NMOCD ARTESIA

APPROVED
APR 2 2013
BUREAU OF LAND MANAGEMENT
CARLSBAD FIELD OFFICE

14. I hereby certify that the foregoing is true and correct. Electronic Submission #202608 verified by the BLM Well Information System For DEVON ENERGY PRODUCTION CO LP, sent to the Carlsbad Committed to AFMSS for processing by KURT SIMMONS on 03/27/2013 (13KMS5714SE)	
Name (Printed/Typed) ERIN L WORKMAN	Title REGULATORY COMPLIANCE ASSOC.
Signature (Electronic Submission)	Date 03/26/2013

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved By EDWARD FERNANDEZ	Title PETROLEUM ENGINEER	Date 04/02/2013
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

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.

** BLM REVISED ** BLM REVISED ** BLM REVISED ** BLM REVISED ** BLM REVISED **

RECEIVED

APR 22 2013

NMOCD ARTESIA

Form C-102

Revised August 1, 2011

Submit one copy to appropriate District Office

☐ AMENDED REPORT

DISTRICT I
1425 N. French Dr., H-350, NM 87400
Phone: (505) 351-4141 Fax: (505) 351-0710
DISTRICT II
111 S. First St., Artesia, NM 88210
Phone: (505) 249-1241 Fax: (505) 249-0720
DISTRICT III
1050 Rio Pecos Rd., Abaca, NM 87410
Phone: (505) 334-6178 Fax: (505) 334-0170
DISTRICT IV
1220 N. St. Francis Dr., Santa Fe, NM 87505
Phone: (505) 476-3450 Fax: (505) 476-3162

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

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number 30-015-40747	Pool Code 96641	Pool Name Paduca; Bone Spring
Property Code 39469	Property Name COTTON DRAW 15 FED COM	Well Number 3H
OGRID No. 6137	Operator Name DEVON ENERGY PRODUCTION COMPANY, LP.	Elevation 3383.6'

Surface Location

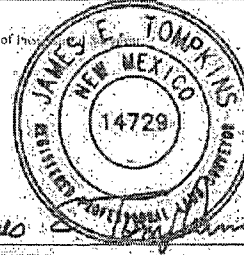
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
B	15	25 S	31 E		330	NORTH	1930	EAST	EDDY

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
P	15	25 S	31 E		330	SOUTH	330	EAST	EDDY

Dedicated Acres 160	Joint or Infill	Consolidated Code	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.

NW COR SEC 15 NMSP-E (NAD 83) Y = 414275.2' N X = 714348.9' E LAT = N32° 08' 15.67" N LONG = W103° 46' 27.76" W	COTTON DRAW 15 FED COM - 3H SHL NMSP-E (NAD 83) Y = 413963.4' N X = 717733.7' E LAT = N32° 08' 12.41" N LONG = W103° 45' 48.41" W	330' 1930' NE COR SEC 15 NMSP-E (NAD 83) Y = 414308.2' N X = 719614.5' E LAT = N32° 08' 15.20" N LONG = W103° 45' 26.84" W Producing Area	OPERATOR CERTIFICATION I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such a mineral or working interest, or to voluntary pooling agreement or a compulsory pooling order heretofore entered by the division. <i>Erin L. Workman</i> 04/18/13 Signature Date Erin L. Workman, Regulatory Assoc. Print Name erin.workman@devon.com E-mail Address
		Project Area COTTON DRAW 15 FED COM - 2H BHL NMSP-E (NAD 83) Y = 409337.5' N X = 719330.8' E LAT = N32° 07' 26.55" N LONG = W103° 45' 30.13" W	SURVEYORS 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. MAY 31, 2012 Date of Survey Signature and Seal of James E. Tompkins  James E. Tompkins (14729) Certificate Number
SW COR SEC 15 NMSP-E (NAD 83) Y = 408972.9' N X = 714348.8' E LAT = N32° 07' 23.20" N LONG = W103° 46' 28.08" W		SE COR SEC 15 NMSP-E (NAD 83) Y = 409007.5' N X = 719660.8' E LAT = N32° 07' 23.27" N LONG = W103° 45' 26.31" W 330'	

Cotton Draw 15 Fed Com 3H – APD DRILLING PLAN
JSL 03-18-2013

Casing Program

See
COA

<u>Hole Size</u>	<u>Hole Interval</u>	<u>OD Csg</u>	<u>Casing Interval</u>	<u>Weight</u>	<u>Collar</u>	<u>Grade</u>
17-1/2"	0 – 875	13-3/8"	0 – 875	48#	STC	H-40
12-1/4"	875 – 4,500	9-5/8"	0 – 4,500	54.5#	BTC	HCK-55
8-3/4"	4,500 – 9,500	5-1/2"	0 – 9,500	17#	LTC	HCP-110
8-3/4"	9,500 – 14,954	5-1/2"	9,500 – 14,954	17#	BTC	HCP-110

Note: only new casing will be utilized

MAXIMUM LATERAL TVD 10,407

SEE ATTACHED FOR
CONDITIONS OF APPROVAL

Design Factors:

<u>Casing Size</u>	<u>Collapse Design Factor</u>	<u>Burst Design Factor</u>	<u>Tension Design Factor</u>
13-3/8", 48#, H-40, ST&C	1.98	4.44	8.94
9-5/8", 54.5#, HCK-55 BTC	1.81	1.69	21.94
5-1/2" 17# HCP-110 LTC	1.68	2.40	3.38
5-1/2" 17# HCP-110 BTC	1.53	2.19	2.15

Mud Program:

See
COA

<u>Depth</u>	<u>Mud Wt.</u>	<u>Visc.</u>	<u>Fluid Loss</u>	<u>Type System</u>
0 – 875	8.4 – 9.0	30 – 34	N/C	FW
875 – 4,500	9.8 – 10.0	28 – 32	N/C	Brine
4,500 – 14,954	8.6 – 9.0	28 – 32	N/C-12	FW

SEE ATTACHED FOR
CONDITIONS OF APPROVAL

Pressure Control Equipment: See COA

The BOP system used to drill the intermediate hole will consist of a 13-5/8" Double Ram and Annular preventer. The BOP system will be tested as per BLM Onshore Oil and Gas Order No. 2, a 3M system will be installed and tested prior to drilling out the surface casing shoe.

The BOP system used to drill the production hole will consist of a 13-5/8" Double Ram and Annular preventer. The BOP system will be tested as per BLM Onshore Oil and Gas Order No. 2 a 3M system will be installed prior to drilling out the intermediate casing shoe.

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 5,000 psi WP.

See
COA

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.

Cementing Program (cement volumes based on 100 % excess Surface, 50% excess Intermediate and at least 25% excess Production)

13-3/8" Surface 875 ft **Lead:** 300 sacks Class C Cement + 2% bwoc Calcium Chloride + 0.125 lbs/sack Poly-E-Flake + 4% bwoc Bentonite + 70.1% Fresh Water, 13.5 ppg

Yield: 1.75 cf/sk

TOC @ surface

500 ft Tail: 515 sacks Class C Cement + 2% bwoc Calcium Chloride + 0.125 lbs/sack Poly-E-Flake + 63.1% Fresh Water, 14.8 ppg

Yield: 1.35 cf/sk

9-5/8" Intermediate 4500 ft **Lead:** 900 sacks (65:35) Class C Cement:Poz (Fly Ash): + 5% bwow Sodium Chloride + 0.125 lbs/sack Poly-E-Flake + 6% bwoc Bentonite + 70.9% Fresh Water, 12.9 ppg

Yield: 1.85 cf/sk

TOC @ surface

Tail: 360 sacks Class C Cement + 0.125 lbs/sack Poly-E-Flake + 63.5% Water, 14.8 ppg

Yield: 1.33 cf/sk

5-1/2" Production 14956 ft. 3000 **1" Lead:** 380 sacks (50:50) Class H Cement:Poz (Fly Ash) + 10% bwoc Bentonite + 8 lb/sk Sodium Chloride + 0.125 lbs/sack Poly-E-Flake + 0.3% bwoc HR-601 + 0.3% bwoc Econolite + 77.2% Fresh Water, 11.8 ppg

Yield: 2.52 cf/sk

2300 2" Lead: 375 sacks (65:35) Class H Cement:Poz (Fly Ash) + 6% bwoc Bentonite + 0.125 lbs/sack Poly-E-Flake + 0.1% bwoc HR-601 + 74.1% Fresh Water, 12.5 ppg

Yield: 1.95 cf/sk

5700 ft. Tail: 1475 sacks (50:50) Class H Cement:Poz (Fly Ash) + 1 lb/sk Sodium Chloride + 0.5% bwoc HALAD-344 + 0.4% bwoc CFR-3 + 0.1% bwoc HR-601 + 2% bwoc Bentonite + 58.8% Fresh Water, 14.5 ppg

Yield: 1.22 cf/sk

TOC for All Strings:

Surface:	0
Intermediate:	0
Production:	4000. ft

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

DEVON ENERGY

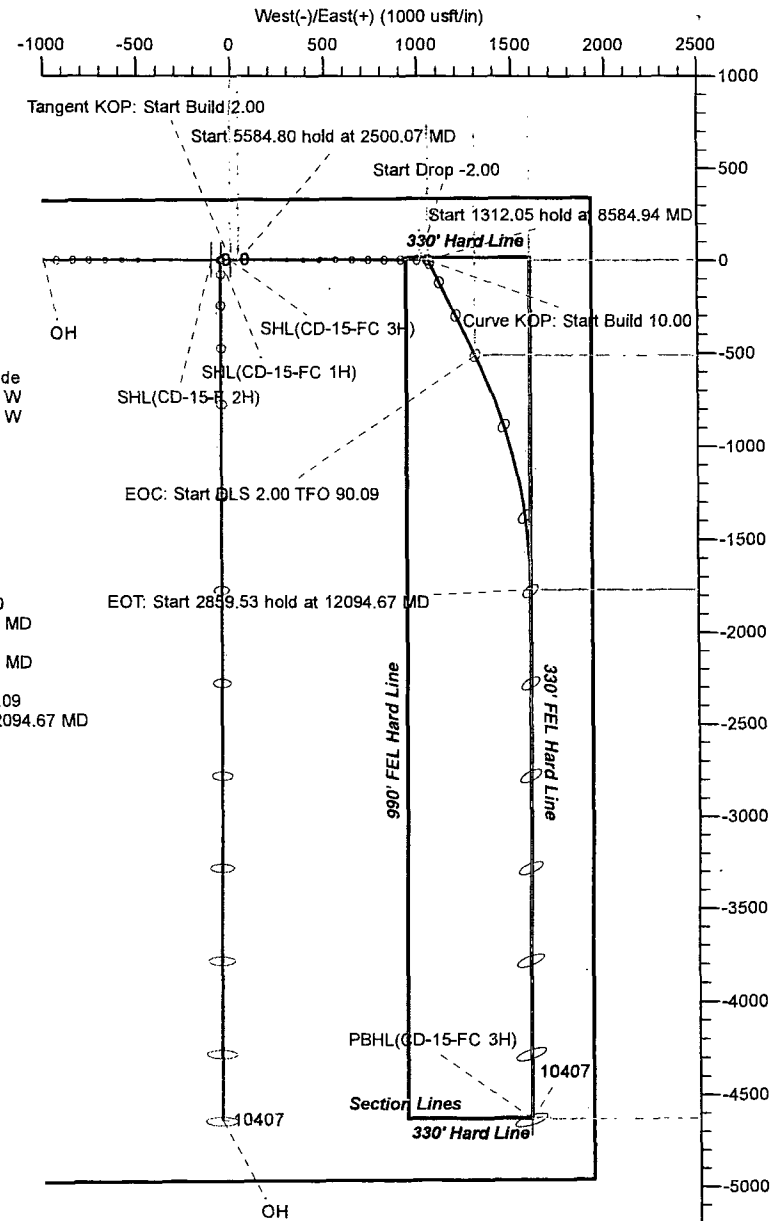
Project: Eddy County, NM (NAD-83)
 Site: Cotton Draw
 Well: 15 Fed Com 3H
 Wellbore: OH
 Design: Plan #1



Azimuths to Grid North
 True North: -0.30°
 Magnetic North: 7.15°

Magnetic Field
 Strength: 48366.2snT
 Dip Angle: 60.03°
 Date: 03/22/2013
 Model: IGRF2010

devon

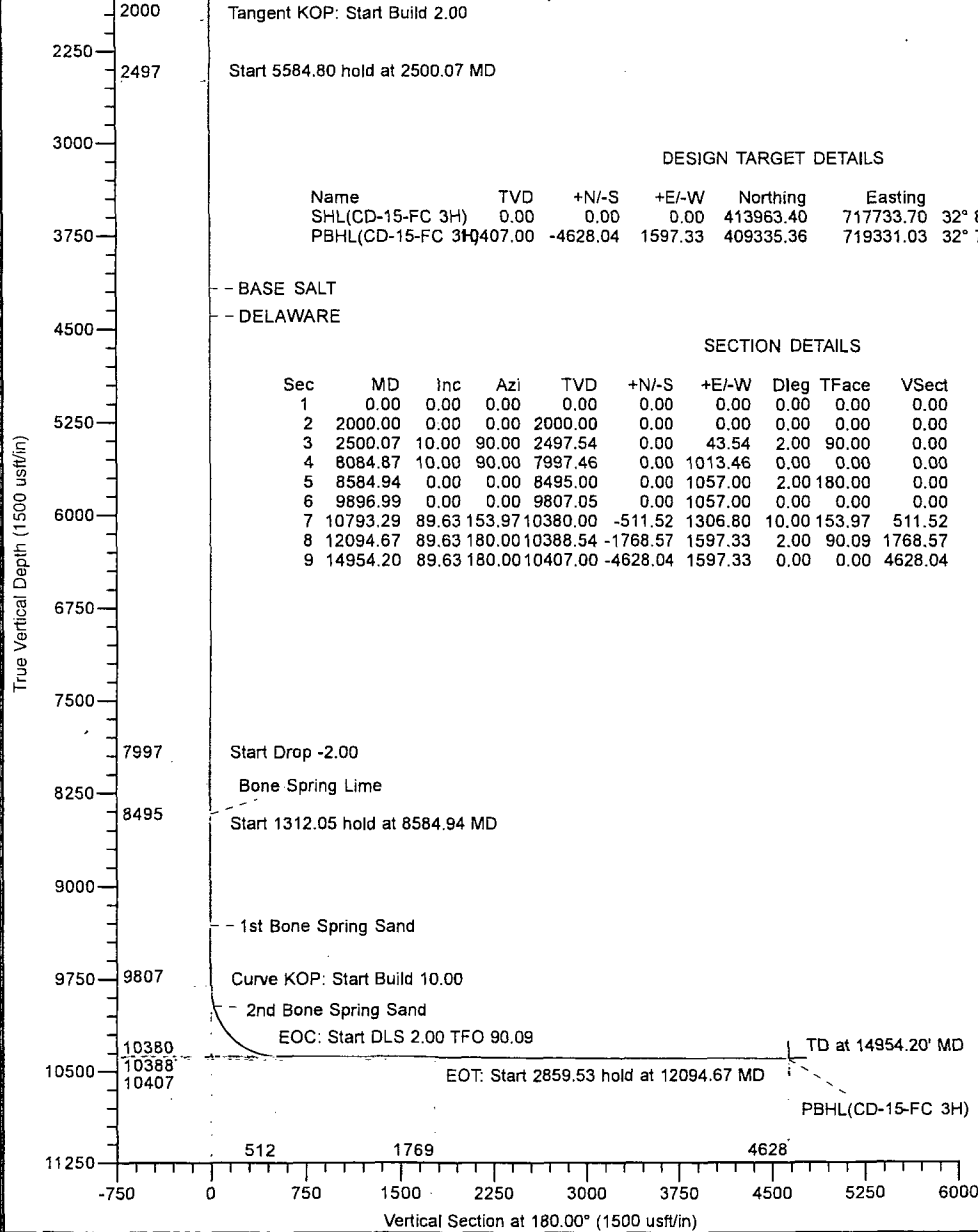


DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
SHL(CD-15-FC 3H)	0.00	0.00	0.00	413963.40	717733.70	32° 8' 12.413 N	103° 45' 48.412 W
PBHL(CD-15-FC 3H)	10407.00	-4628.04	1597.33	409335.36	719331.03	32° 7' 26.531 N	103° 45' 30.123 W

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	Vsect	Annotation
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	Tangent KOP: Start Build 2.00
2	2000.00	0.00	0.00	2000.00	0.00	0.00	0.00	0.00	0.00	Start 5584.80 hold at 2500.07 MD
3	2500.07	10.00	90.00	2497.54	0.00	43.54	2.00	90.00	0.00	Start Drop -2.00
4	8084.87	10.00	90.00	7997.46	0.00	1013.46	0.00	0.00	0.00	Start 1312.05 hold at 8584.94 MD
5	8584.94	0.00	0.00	8495.00	0.00	1057.00	2.00	180.00	0.00	Curve KOP: Start Build 10.00
6	9896.99	0.00	0.00	9807.05	0.00	1057.00	0.00	0.00	0.00	EOC: Start DLS 2.00 TFO 90.09
7	10793.29	89.63	153.97	10380.00	-511.52	1306.80	10.00	153.97	511.52	EOC: Start DLS 2.00 TFO 90.09
8	12094.67	89.63	180.00	10388.54	-1768.57	1597.33	2.00	90.09	1768.57	TD at 14954.20' MD
9	14954.20	89.63	180.00	10407.00	-4628.04	1597.33	0.00	0.00	4628.04	



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

Plan: Plan #1 (15 Fed Com 3H/OH)
 Cotton Draw
 Created By: Tyler Carlson Date: 10:47, March 22 2013
 Date: _____
 Approved: _____ Date: _____

LEAM Drilling Systems LLC

Planning Report

Database:	EDM5000.1 Single User Db	Local Co-ordinate Reference:	Well: 15 Fed Com 3H
Company:	DEVON ENERGY	TVD Reference:	GE 3384' + KB 25' @ 3409.00usft
Project:	Eddy County, NM (NAD-83)	MD Reference:	(Permitting)
Site:	Cotton Draw	North Reference:	GE 3384' + KB 25' @ 3409.00usft
Well:	15 Fed Com 3H	Survey Calculation Method:	(Permitting)
Wellbore:	OH		Grid:
Design:	Plan #1		Minimum Curvature

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

Site:	Cotton Draw		
Site Position:	From:	Map	
	Northings:	413,963.10 usft	Latitude: 32° 8' 12.412 N
	Easting:	717,683.70 usft	Longitude: 103° 45' 48.994 W
Position Uncertainty:	0.00 usft	Slot Radius: 13-1/16"	Grid Convergence: 0.30°

Well:	15 Fed Com 3H		
Well Position	+N-S	0.30 usft	Northings: 413,963.40 usft
	+E-W	50.00 usft	Easting: 717,733.70 usft
Position Uncertainty	0.00 usft	Wellhead Elevation:	Ground Level: 3,384.00 usft

Wellbore:	OH		
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Magnetics	Model Name	Sample Date	Declination	Dip Angle	Field Strength
			(°)	(°)	(nT)
	IGRF2010	03/22/13	7.45	60.03	48,366

Design:	Plan #1		
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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: 180.00

Plan Sections										
Measured	Inclination	Azimuth	Vertical	+N-S	+E-W	Dogleg	Build	Turn	TFO	Target
Depth	(°)	(°)	Depth	(usft)	(usft)	Rate	Rate	Rate	(%)	
(usft)			(usft)			(°/100usft)	(°/100usft)	(°/100usft)		
0.00	0.00	0.00	0.00	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	
2,500.07	10.00	90.00	2,497.54	0.00	43.54	2.00	2.00	0.00	90.00	
8,084.87	10.00	90.00	7,997.46	0.00	1,013.46	0.00	0.00	0.00	0.00	
8,584.94	0.00	0.00	8,495.00	0.00	1,057.00	2.00	-2.00	0.00	180.00	
9,896.99	0.00	0.00	9,807.05	0.00	1,057.00	0.00	0.00	0.00	0.00	
10,793.29	89.63	153.97	10,380.00	-511.52	1,306.80	10.00	10.00	0.00	153.97	
12,094.67	89.63	180.00	10,388.55	-1,768.57	1,597.33	2.00	0.00	2.00	90.09	
14,954.20	89.63	180.00	10,407.00	-4,628.04	1,597.33	0.00	0.00	0.00	0.00	PBHL(CD-15-FC 3H)

LEAM Drilling Systems LLC

Planning Report

Database:	EDM:5000.1 Single User Db	Local Co-ordinate Reference:	Well: 15 Fed Com 3H
Company:	DEVON ENERGY	TVD Reference:	GE 3384' + KB 25' @ 3409'00usft (Permitting)
Project:	Eddy County, NM (NAD-83)	IMD Reference:	GE 3384' + KB 25' @ 3409'00usft (Permitting)
Site:	Cotton Draw	North Reference:	Grid
Well:	15 Fed Com 3H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	N-S (usft)	E-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00
400.00	0.00	0.00	400.00	0.00	0.00	0.00	0.00	0.00	0.00
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	0.00
600.00	0.00	0.00	600.00	0.00	0.00	0.00	0.00	0.00	0.00
685.00	0.00	0.00	685.00	0.00	0.00	0.00	0.00	0.00	0.00
RUSTLER									
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
984.00	0.00	0.00	984.00	0.00	0.00	0.00	0.00	0.00	0.00
TOP SALT									
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
Tangent KOP: Start/Build 2:00									
2,100.00	2.00	90.00	2,099.98	0.00	1.75	0.00	2.00	2.00	0.00
2,200.00	4.00	90.00	2,199.84	0.00	6.98	0.00	2.00	2.00	0.00
2,300.00	6.00	90.00	2,299.45	0.00	15.69	0.00	2.00	2.00	0.00
2,400.00	8.00	90.00	2,398.70	0.00	27.88	0.00	2.00	2.00	0.00
2,500.07	10.00	90.00	2,497.54	0.00	43.54	0.00	2.00	2.00	0.00
Start/5584:80 hold at 2500:07 MD									
2,600.00	10.00	90.00	2,595.95	0.00	60.89	0.00	0.00	0.00	0.00
2,700.00	10.00	90.00	2,694.43	0.00	78.26	0.00	0.00	0.00	0.00
2,800.00	10.00	90.00	2,792.91	0.00	95.62	0.00	0.00	0.00	0.00
2,900.00	10.00	90.00	2,891.39	0.00	112.99	0.00	0.00	0.00	0.00
3,000.00	10.00	90.00	2,989.87	0.00	130.36	0.00	0.00	0.00	0.00
3,100.00	10.00	90.00	3,088.35	0.00	147.73	0.00	0.00	0.00	0.00
3,200.00	10.00	90.00	3,186.83	0.00	165.09	0.00	0.00	0.00	0.00
3,300.00	10.00	90.00	3,285.31	0.00	182.46	0.00	0.00	0.00	0.00
3,400.00	10.00	90.00	3,383.79	0.00	199.83	0.00	0.00	0.00	0.00
3,500.00	10.00	90.00	3,482.27	0.00	217.20	0.00	0.00	0.00	0.00
3,600.00	10.00	90.00	3,580.75	0.00	234.56	0.00	0.00	0.00	0.00
3,700.00	10.00	90.00	3,679.23	0.00	251.93	0.00	0.00	0.00	0.00
3,800.00	10.00	90.00	3,777.71	0.00	269.30	0.00	0.00	0.00	0.00
3,900.00	10.00	90.00	3,876.19	0.00	286.67	0.00	0.00	0.00	0.00
4,000.00	10.00	90.00	3,974.67	0.00	304.03	0.00	0.00	0.00	0.00
4,100.00	10.00	90.00	4,073.15	0.00	321.40	0.00	0.00	0.00	0.00
4,200.00	10.00	90.00	4,171.63	0.00	338.77	0.00	0.00	0.00	0.00
4,200.37	10.00	90.00	4,172.00	0.00	338.83	0.00	0.00	0.00	0.00
BASE SALT									

LEAM Drilling Systems LLC

Planning Report

Database:	EDM5000.1 Single User Db.	Local Co-ordinate Reference:	Well 15 Fed Com 3H
Company:	DEVON ENERGY	TVD Reference:	GE 3384' + KB 25' @ 3409'00usft
Project:	Eddy County, NM (NAD 83)	MD Reference:	GE 3384' + KB 25' @ 3409'00usft
Site:	Cotton Draw	North Reference:	Grid
Well:	15 Fed Com 3H	Survey Calculation Method:	Minimum Curvature
Wellbore:	QH		
Design:	Plan #1		

Planned Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	N/S (usft)	E/W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
4,300.00	10.00	90.00	4,270.11	0.00	356.13	0.00	0.00	0.00	0.00	
4,400.00	10.00	90.00	4,368.59	0.00	373.50	0.00	0.00	0.00	0.00	
4,426.82	10.00	90.00	4,395.00	0.00	378.16	0.00	0.00	0.00	0.00	
DELAWARE										
4,500.00	10.00	90.00	4,467.07	0.00	390.87	0.00	0.00	0.00	0.00	
4,600.00	10.00	90.00	4,565.55	0.00	408.24	0.00	0.00	0.00	0.00	
4,700.00	10.00	90.00	4,664.03	0.00	425.60	0.00	0.00	0.00	0.00	
4,800.00	10.00	90.00	4,762.51	0.00	442.97	0.00	0.00	0.00	0.00	
4,900.00	10.00	90.00	4,860.99	0.00	460.34	0.00	0.00	0.00	0.00	
5,000.00	10.00	90.00	4,959.47	0.00	477.71	0.00	0.00	0.00	0.00	
5,100.00	10.00	90.00	5,057.95	0.00	495.07	0.00	0.00	0.00	0.00	
5,200.00	10.00	90.00	5,156.43	0.00	512.44	0.00	0.00	0.00	0.00	
5,300.00	10.00	90.00	5,254.91	0.00	529.81	0.00	0.00	0.00	0.00	
5,400.00	10.00	90.00	5,353.40	0.00	547.17	0.00	0.00	0.00	0.00	
5,500.00	10.00	90.00	5,451.88	0.00	564.54	0.00	0.00	0.00	0.00	
5,600.00	10.00	90.00	5,550.36	0.00	581.91	0.00	0.00	0.00	0.00	
5,700.00	10.00	90.00	5,648.84	0.00	599.28	0.00	0.00	0.00	0.00	
5,800.00	10.00	90.00	5,747.32	0.00	616.64	0.00	0.00	0.00	0.00	
5,900.00	10.00	90.00	5,845.80	0.00	634.01	0.00	0.00	0.00	0.00	
6,000.00	10.00	90.00	5,944.28	0.00	651.38	0.00	0.00	0.00	0.00	
6,100.00	10.00	90.00	6,042.76	0.00	668.75	0.00	0.00	0.00	0.00	
6,200.00	10.00	90.00	6,141.24	0.00	686.11	0.00	0.00	0.00	0.00	
6,300.00	10.00	90.00	6,239.72	0.00	703.48	0.00	0.00	0.00	0.00	
6,400.00	10.00	90.00	6,338.20	0.00	720.85	0.00	0.00	0.00	0.00	
6,500.00	10.00	90.00	6,436.68	0.00	738.22	0.00	0.00	0.00	0.00	
6,600.00	10.00	90.00	6,535.16	0.00	755.58	0.00	0.00	0.00	0.00	
6,700.00	10.00	90.00	6,633.64	0.00	772.95	0.00	0.00	0.00	0.00	
6,800.00	10.00	90.00	6,732.12	0.00	790.32	0.00	0.00	0.00	0.00	
6,900.00	10.00	90.00	6,830.60	0.00	807.68	0.00	0.00	0.00	0.00	
7,000.00	10.00	90.00	6,929.08	0.00	825.05	0.00	0.00	0.00	0.00	
7,100.00	10.00	90.00	7,027.56	0.00	842.42	0.00	0.00	0.00	0.00	
7,200.00	10.00	90.00	7,126.04	0.00	859.79	0.00	0.00	0.00	0.00	
7,300.00	10.00	90.00	7,224.52	0.00	877.15	0.00	0.00	0.00	0.00	
7,400.00	10.00	90.00	7,323.00	0.00	894.52	0.00	0.00	0.00	0.00	
7,500.00	10.00	90.00	7,421.48	0.00	911.89	0.00	0.00	0.00	0.00	
7,600.00	10.00	90.00	7,519.96	0.00	929.26	0.00	0.00	0.00	0.00	
7,700.00	10.00	90.00	7,618.44	0.00	946.62	0.00	0.00	0.00	0.00	
7,800.00	10.00	90.00	7,716.92	0.00	963.99	0.00	0.00	0.00	0.00	
7,900.00	10.00	90.00	7,815.40	0.00	981.36	0.00	0.00	0.00	0.00	
8,000.00	10.00	90.00	7,913.88	0.00	998.73	0.00	0.00	0.00	0.00	
8,084.87	10.00	90.00	7,997.46	0.00	1,013.46	0.00	0.00	0.00	0.00	
Start Drop 2.00										
8,100.00	9.70	90.00	8,012.37	0.00	1,016.05	0.00	2.00	-2.00	0.00	
8,200.00	7.70	90.00	8,111.22	0.00	1,031.18	0.00	2.00	-2.00	0.00	
8,300.00	5.70	90.00	8,210.53	0.00	1,042.84	0.00	2.00	-2.00	0.00	
8,400.00	3.70	90.00	8,310.19	0.00	1,051.03	0.00	2.00	-2.00	0.00	
8,500.00	1.70	90.00	8,410.07	0.00	1,055.74	0.00	2.00	-2.00	0.00	
8,508.93	1.52	90.00	8,419.00	0.00	1,055.99	0.00	2.00	-2.00	0.00	
Bone Spring Line										
8,584.94	0.00	0.00	8,495.00	0.00	1,057.00	0.00	2.00	-2.00	0.00	
Start 1312.05 hold at 8584.94 MD										
8,600.00	0.00	0.00	8,510.06	0.00	1,057.00	0.00	0.00	0.00	0.00	

LEAM Drilling Systems LLC

Planning Report

Database:	EDM:5000:1, Single User Db	Local Co-ordinate Reference:	Well: 15 Fed Com 3H
Company:	DEVON ENERGY	TVD Reference:	GE 3384' + KB:25' @ 3409'00usft (Permitting)
Project:	Eddy County, NM (NAD:83)	MD Reference:	GE 3384' + KB:25' @ 3409'00usft (Permitting)
Site:	Cotton Draw	North Reference:	Grid
Well:	15 Fed Com 3H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/S (usft)	+E/W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
8,700.00	0.00	0.00	8,610.06	0.00	1,057.00	0.00	0.00	0.00	0.00
8,800.00	0.00	0.00	8,710.06	0.00	1,057.00	0.00	0.00	0.00	0.00
8,900.00	0.00	0.00	8,810.06	0.00	1,057.00	0.00	0.00	0.00	0.00
9,000.00	0.00	0.00	8,910.06	0.00	1,057.00	0.00	0.00	0.00	0.00
9,100.00	0.00	0.00	9,010.06	0.00	1,057.00	0.00	0.00	0.00	0.00
9,200.00	0.00	0.00	9,110.06	0.00	1,057.00	0.00	0.00	0.00	0.00
9,300.00	0.00	0.00	9,210.06	0.00	1,057.00	0.00	0.00	0.00	0.00
9,400.00	0.00	0.00	9,310.06	0.00	1,057.00	0.00	0.00	0.00	0.00
9,408.94	0.00	0.00	9,319.00	0.00	1,057.00	0.00	0.00	0.00	0.00
1st Bone Spring Sand									
9,500.00	0.00	0.00	9,410.06	0.00	1,057.00	0.00	0.00	0.00	0.00
9,600.00	0.00	0.00	9,510.06	0.00	1,057.00	0.00	0.00	0.00	0.00
9,700.00	0.00	0.00	9,610.06	0.00	1,057.00	0.00	0.00	0.00	0.00
9,800.00	0.00	0.00	9,710.06	0.00	1,057.00	0.00	0.00	0.00	0.00
9,896.99	0.00	0.00	9,807.05	0.00	1,057.00	0.00	0.00	0.00	0.00
Curve KOP Start Build 10.00									
9,900.00	0.30	153.97	9,810.06	-0.01	1,057.00	0.01	10.00	10.00	0.00
9,950.00	5.30	153.97	9,859.98	-2.20	1,058.08	2.20	10.00	10.00	0.00
10,000.00	10.30	153.97	9,909.50	-8.30	1,061.05	8.30	10.00	10.00	0.00
10,050.00	15.30	153.97	9,958.25	-18.25	1,065.91	18.25	10.00	10.00	0.00
10,060.14	16.31	153.97	9,968.00	-20.73	1,067.12	20.73	10.00	10.00	0.00
2nd Bone Spring Sand									
10,100.00	20.30	153.97	10,005.84	-31.98	1,072.62	31.98	10.00	10.00	0.00
10,150.00	25.30	153.97	10,051.92	-49.39	1,081.12	49.39	10.00	10.00	0.00
10,200.00	30.30	153.97	10,096.13	-70.33	1,091.35	70.33	10.00	10.00	0.00
10,250.00	35.30	153.97	10,138.15	-94.67	1,103.23	94.67	10.00	10.00	0.00
10,300.00	40.30	153.97	10,177.64	-122.19	1,116.67	122.19	10.00	10.00	0.00
10,350.00	45.30	153.97	10,214.31	-152.71	1,131.58	152.71	10.00	10.00	0.00
10,400.00	50.30	153.97	10,247.89	-185.99	1,147.82	185.99	10.00	10.00	0.00
10,450.00	55.30	153.97	10,278.11	-221.76	1,165.29	221.76	10.00	10.00	0.00
10,500.00	60.30	153.97	10,304.74	-259.77	1,183.85	259.77	10.00	10.00	0.00
10,550.00	65.30	153.97	10,327.59	-299.72	1,203.36	299.72	10.00	10.00	0.00
10,600.00	70.30	153.97	10,346.48	-341.30	1,223.67	341.30	10.00	10.00	0.00
10,650.00	75.30	153.97	10,361.26	-384.21	1,244.62	384.21	10.00	10.00	0.00
10,700.00	80.30	153.97	10,371.82	-428.11	1,266.06	428.11	10.00	10.00	0.00
10,750.00	85.30	153.97	10,378.08	-472.67	1,287.82	472.67	10.00	10.00	0.00
10,793.29	89.63	153.97	10,380.00	-511.52	1,306.80	511.52	10.00	10.00	0.00
EOC Start DLS 2.00 TFO 90.09									
10,800.00	89.63	154.11	10,380.04	-517.55	1,309.73	517.55	2.00	0.00	2.00
10,900.00	89.63	156.11	10,380.69	-608.26	1,351.82	608.26	2.00	0.00	2.00
11,000.00	89.62	158.11	10,381.34	-700.37	1,390.72	700.37	2.00	0.00	2.00
11,100.00	89.62	160.11	10,382.00	-793.79	1,426.38	793.79	2.00	0.00	2.00
11,200.00	89.62	162.11	10,382.66	-888.40	1,458.76	888.40	2.00	0.00	2.00
11,300.00	89.62	164.11	10,383.32	-984.07	1,487.82	984.07	2.00	0.00	2.00
11,400.00	89.62	166.11	10,383.98	-1,080.71	1,513.52	1,080.71	2.00	0.00	2.00
11,500.00	89.62	168.11	10,384.64	-1,178.18	1,535.83	1,178.18	2.00	0.00	2.00
11,600.00	89.62	170.11	10,385.30	-1,276.37	1,554.73	1,276.37	2.00	0.00	2.00
11,700.00	89.62	172.11	10,385.97	-1,375.16	1,570.19	1,375.16	2.00	0.00	2.00
11,800.00	89.62	174.11	10,386.62	-1,474.43	1,582.19	1,474.43	2.00	0.00	2.00
11,900.00	89.63	176.11	10,387.28	-1,574.06	1,590.72	1,574.06	2.00	0.00	2.00
12,000.00	89.63	178.11	10,387.93	-1,673.92	1,595.77	1,673.92	2.00	0.00	2.00

LEAM Drilling Systems LLC

Planning Report

Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well 15 Fed Com 3H
Company:	DEVON ENERGY	TVD Reference:	GE 3384' + KB 25' @ 3409:00usft (Permitting)
Project:	Eddy County, NM (NAD-83)	MD Reference:	GE 3384' + KB 25' @ 3409:00usft (Permitting)
Site:	Cotton Draw	North Reference:	Grid
Well:	15 Fed Com 3H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1		

Planned Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
12,094.67	89.63	180.00	10,388.55	-1,768.57	1,597.33	1,768.57	2.00	0.00	2.00	
EOT: Start 2859.53 hold at 12094.67 MD										
12,100.00	89.63	180.00	10,388.58	-1,773.90	1,597.33	1,773.90	0.00	0.00	0.00	
12,200.00	89.63	180.00	10,389.22	-1,873.90	1,597.33	1,873.90	0.00	0.00	0.00	
12,300.00	89.63	180.00	10,389.87	-1,973.90	1,597.33	1,973.90	0.00	0.00	0.00	
12,400.00	89.63	180.00	10,390.52	-2,073.90	1,597.33	2,073.90	0.00	0.00	0.00	
12,500.00	89.63	180.00	10,391.16	-2,173.90	1,597.33	2,173.90	0.00	0.00	0.00	
12,600.00	89.63	180.00	10,391.81	-2,273.89	1,597.33	2,273.89	0.00	0.00	0.00	
12,700.00	89.63	180.00	10,392.45	-2,373.89	1,597.33	2,373.89	0.00	0.00	0.00	
12,800.00	89.63	180.00	10,393.10	-2,473.89	1,597.33	2,473.89	0.00	0.00	0.00	
12,900.00	89.63	180.00	10,393.74	-2,573.89	1,597.33	2,573.89	0.00	0.00	0.00	
13,000.00	89.63	180.00	10,394.39	-2,673.89	1,597.33	2,673.89	0.00	0.00	0.00	
13,100.00	89.63	180.00	10,395.03	-2,773.88	1,597.33	2,773.88	0.00	0.00	0.00	
13,200.00	89.63	180.00	10,395.68	-2,873.88	1,597.33	2,873.88	0.00	0.00	0.00	
13,300.00	89.63	180.00	10,396.32	-2,973.88	1,597.33	2,973.88	0.00	0.00	0.00	
13,400.00	89.63	180.00	10,396.97	-3,073.88	1,597.33	3,073.88	0.00	0.00	0.00	
13,500.00	89.63	180.00	10,397.61	-3,173.88	1,597.33	3,173.88	0.00	0.00	0.00	
13,600.00	89.63	180.00	10,398.26	-3,273.87	1,597.33	3,273.87	0.00	0.00	0.00	
13,700.00	89.63	180.00	10,398.91	-3,373.87	1,597.33	3,373.87	0.00	0.00	0.00	
13,800.00	89.63	180.00	10,399.55	-3,473.87	1,597.33	3,473.87	0.00	0.00	0.00	
13,900.00	89.63	180.00	10,400.20	-3,573.87	1,597.33	3,573.87	0.00	0.00	0.00	
14,000.00	89.63	180.00	10,400.84	-3,673.87	1,597.33	3,673.87	0.00	0.00	0.00	
14,100.00	89.63	180.00	10,401.49	-3,773.86	1,597.33	3,773.86	0.00	0.00	0.00	
14,200.00	89.63	180.00	10,402.13	-3,873.86	1,597.33	3,873.86	0.00	0.00	0.00	
14,300.00	89.63	180.00	10,402.78	-3,973.86	1,597.33	3,973.86	0.00	0.00	0.00	
14,400.00	89.63	180.00	10,403.42	-4,073.86	1,597.33	4,073.86	0.00	0.00	0.00	
14,500.00	89.63	180.00	10,404.07	-4,173.85	1,597.33	4,173.85	0.00	0.00	0.00	
14,600.00	89.63	180.00	10,404.71	-4,273.85	1,597.33	4,273.85	0.00	0.00	0.00	
14,700.00	89.63	180.00	10,405.36	-4,373.85	1,597.33	4,373.85	0.00	0.00	0.00	
14,800.00	89.63	180.00	10,406.01	-4,473.85	1,597.33	4,473.85	0.00	0.00	0.00	
14,900.00	89.63	180.00	10,406.65	-4,573.85	1,597.33	4,573.85	0.00	0.00	0.00	
14,954.20	89.63	180.00	10,407.00	-4,628.04	1,597.33	4,628.04	0.00	0.00	0.00	
TD at 14954.20" MD										

Design Targets										
Target Name	hit/miss target	Dip Angle (°)	Dip Dir (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
SHL(CD-15-FC 3H) - plan hits target center - Point		0.00	0.00	0.00	0.00	0.00	413,963.40	717,733.70	32° 8' 12.413 N	103° 45' 48.412 W
PBHL(CD-15-FC 3H) - plan hits target center - Point		0.00	0.00	10,407.00	-4,628.04	1,597.33	409,335.36	719,331.02	32° 7' 26.531 N	103° 45' 30.123 W

LEAM Drilling Systems LLC

Planning Report

Database:	EDM 5000.1 Single User Db	Local/Co-ordinate/Reference:	Well: 15 Fed Com 3H
Company:	DEVON ENERGY	TVD Reference:	GE 3384' + KB 25' @ 3409.00usft
Project:	Eddy County, NM (NAD-83)	MD Reference:	(Permitting) GE 3384' + KB 25' @ 3409.00usft
Site:	Cotton Draw	North Reference:	(Permitting) Grid
Well:	15 Fed Com 3H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1		

Formations					
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction
685.00	685.00	RUSTLER			
984.00	984.00	TOP SALT			
4,200.37	4,172.00	BASE SALT			
4,426.82	4,395.00	DELAWARE			
8,508.93	8,419.00	Bone Spring Lime			
9,408.94	9,319.00	1st Bone Spring Sand			
10,060.14	9,968.00	2nd Bone Spring Sand			

Plan Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates			
		+N/-S (usft)	+E/-W (usft)	Comment	
2,000.00	2,000.00	0.00	0.00	Tangent KOP: Start Build 2.00	
2,500.07	2,497.54	0.00	43.54	Start 5584.80 hold at 2500.07 MD	
8,084.87	7,997.46	0.00	1,013.46	Start Drop -2.00	
8,584.94	8,495.00	0.00	1,057.00	Start 1312.05 hold at 8584.94 MD	
9,896.99	9,807.05	0.00	1,057.00	Curve KOP: Start Build 10.00	
10,793.29	10,380.00	-511.52	1,306.80	EOC: Start DLS 2.00 TFO 90.09	
12,094.67	10,388.55	-1,768.57	1,597.33	EOT: Start 2859.53 hold at 12094.67 MD	
14,954.20	10,407.00	-4,628.04	1,597.33	TD at 14954.20' MD	

LEAM Drilling Systems LLC

Anticollision Report

Company:	DEVON ENERGY	Local Co-ordinate Reference:	Well: 15 Fed Com 3H
Project:	Eddy County, NM (NAD-83)	TVD Reference:	GE 3384' + KB 25' @ 3409.00usft (Permitting)
Reference Site:	Cotton Draw	MD Reference:	GE 3384' + KB 25' @ 3409.00usft (Permitting)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	15 Fed Com 3H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at:	2.00 sigma
Reference Wellbore:	OH	Database:	EDM 5000.1 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Reference Datum

Reference:	Plan #1		
Filter type:	NO GLOBAL FILTER: Using user defined selection & filtering criteria		
Interpolation Method:	MD + Stations Interval 100.00usft	Error Model:	ISCWSA
Depth Range:	0.00 to 14,954.78usft	Scan Method:	Closest Approach 3D
Results Limited by:	Maximum center-center distance of 2,000,000.00 usft	Error Surface:	Elliptical Conic
Warning Levels Evaluated at:	2.00 Sigma	Casing Method:	Not applied

Survey/Tool Program:	Date:	03/22/13
From (usft):	To (usft):	Survey (Wellbore)
0.00	14,954.20	Plan #1 (OH)
		Tool Name
		LEAM MWD
		Description
		MWD - Standard

Summary						
Site Name	Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Separation Factor	Warning
Offset Well: Wellbore - Design						
Cotton Draw						
15 Fed Com 1H - OH - Plan #1	2,000.00	1,991.00	50.00	41.30	5.748	CC, ES
15 Fed Com 1H - OH - Plan #1	2,100.00	2,090.98	51.75	42.62	5.688	SF
15 Fed Com 2H - OH - Plan #1	2,000.00	2,000.00	100.10	91.37	11.456	CC, ES
15 Fed Com 2H - OH - Plan #1	2,100.00	2,096.51	103.53	94.38	11.318	SF

Offset Design: Cotton Draw - 15 Fed Com 1H - OH - Plan #1											Offset Site Error: 0.00 usft		
Survey Program: 0-LEAM MWD											Offset Well Error: 0.00 usft		
Reference		Offset		Semi-Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		N-S (usft)	E-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
0.00	0.00	0.00	9.00	0.00	0.00	-90.34	-0.30	-50.00	50.80				
100.00	100.00	91.00	100.00	0.08	0.08	-90.34	-0.30	-50.00	50.00	49.83	0.17	295.565	
200.00	200.00	191.00	200.00	0.31	0.30	-90.34	-0.30	-50.00	50.00	49.39	0.61	82.392	
300.00	300.00	291.00	300.00	0.53	0.52	-90.34	-0.30	-50.00	50.00	48.94	1.06	47.331	
400.00	400.00	391.00	400.00	0.76	0.75	-90.34	-0.30	-50.00	50.00	48.49	1.51	33.203	
500.00	500.00	491.00	500.00	0.98	0.97	-90.34	-0.30	-50.00	50.00	48.05	1.96	25.570	
600.00	600.00	591.00	600.00	1.21	1.20	-90.34	-0.30	-50.00	50.00	47.60	2.40	20.790	
700.00	700.00	691.00	700.00	1.43	1.42	-90.34	-0.30	-50.00	50.00	47.15	2.85	17.516	
800.00	800.00	791.00	800.00	1.66	1.65	-90.34	-0.30	-50.00	50.00	46.70	3.30	15.133	
900.00	900.00	891.00	900.00	1.88	1.87	-90.34	-0.30	-50.00	50.00	46.25	3.75	13.321	
1,000.00	1,000.00	991.00	1,000.00	2.11	2.10	-90.34	-0.30	-50.00	50.00	45.80	4.20	11.896	
1,100.00	1,100.00	1,091.00	1,100.00	2.33	2.32	-90.34	-0.30	-50.00	50.00	45.35	4.65	10.747	
1,200.00	1,200.00	1,191.00	1,200.00	2.56	2.55	-90.34	-0.30	-50.00	50.00	44.90	5.10	9.800	
1,300.00	1,300.00	1,291.00	1,300.00	2.78	2.77	-90.34	-0.30	-50.00	50.00	44.45	5.55	9.006	
1,400.00	1,400.00	1,391.00	1,400.00	3.01	3.00	-90.34	-0.30	-50.00	50.00	44.00	6.00	8.332	
1,500.00	1,500.00	1,491.00	1,500.00	3.23	3.22	-90.34	-0.30	-50.00	50.00	43.55	6.45	7.751	
1,600.00	1,600.00	1,591.00	1,600.00	3.46	3.44	-90.34	-0.30	-50.00	50.00	43.10	6.90	7.246	
1,700.00	1,700.00	1,691.00	1,700.00	3.68	3.67	-90.34	-0.30	-50.00	50.00	42.65	7.35	6.803	
1,800.00	1,800.00	1,791.00	1,800.00	3.91	3.89	-90.34	-0.30	-50.00	50.00	42.20	7.80	6.411	
1,900.00	1,900.00	1,891.00	1,900.00	4.13	4.12	-90.34	-0.30	-50.00	50.00	41.75	8.25	6.062	
2,000.00	2,000.00	1,991.00	2,000.00	4.35	4.34	-90.34	-0.30	-50.00	50.00	41.30	8.70	5.748 CC, ES	

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

LEAM Drilling Systems LLC

Anticollision Report

Company:	DEVON ENERGY	Local Co-ordinate Reference:	Well 15 Fed Com 3H
Project:	Eddy County, NM (NAD-83)	TVD Reference:	GE 3384' + KB 25' @ 3409:00usft
Reference Site:	Cotton Draw	MDI Reference:	(Permitting)
Site Error:	0.00 usft	North Reference:	GE 3384' + KB 25' @ 3409:00usft
Reference Well:	15 Fed Com 3H	Survey Calculation Method:	(Permitting)
Well Error:	0.00 usft	Output errors are at:	Grid
Reference Wellbore:	OH	Database:	Minimum Curvature
Reference Design:	Plan #1	Offset TVD Reference:	2.00 sigma
			EDM 5000:1 Single User Db
			Reference Datum

Offset Design: Cotton Draw - 15 Fed Com 1H - OH - Plan #1													Offset Site Error: 10.00 usft
Survey Program: Q-LEAM MWD													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	
2,100.00	2,099.98	2,090.98	2,099.98	4.57	4.57	179.67	-0.30	-50.00	51.75	42.62	9.13	5.668 SF	
2,200.00	2,199.84	2,190.84	2,199.84	4.77	4.79	179.70	-0.30	-50.00	56.98	47.44	9.54	5.974	
2,300.00	2,299.45	2,290.45	2,299.45	4.98	5.02	179.74	-0.30	-50.00	65.69	55.76	9.94	6.611	
2,400.00	2,398.70	2,389.70	2,398.70	5.20	5.24	179.78	-0.30	-50.00	77.88	67.55	10.33	7.542	
2,500.07	2,497.54	2,488.54	2,497.54	5.44	5.46	179.81	-0.30	-50.00	93.54	82.83	10.71	8.737	
2,600.00	2,595.95	2,586.95	2,595.95	5.70	5.68	179.84	-0.30	-50.00	110.89	99.76	11.13	9.959	
2,700.00	2,694.43	2,685.43	2,694.43	5.97	5.90	179.86	-0.30	-50.00	128.26	116.69	11.57	11.089	
2,800.00	2,792.91	2,783.91	2,792.91	6.26	6.13	179.88	-0.30	-50.00	145.62	133.62	12.00	12.133	
2,900.00	2,891.39	2,882.39	2,891.39	6.55	6.35	179.89	-0.30	-50.00	162.99	150.55	12.44	13.101	
3,000.00	2,989.87	2,980.87	2,989.87	6.86	6.57	179.90	-0.30	-50.00	180.36	167.48	12.88	14.001	
3,100.00	3,088.35	3,079.35	3,088.35	7.17	6.79	179.91	-0.30	-50.00	197.73	184.40	13.33	14.838	
3,200.00	3,186.83	3,177.83	3,186.83	7.49	7.01	179.92	-0.30	-50.00	215.09	201.32	13.77	15.618	
3,300.00	3,285.31	3,276.31	3,285.31	7.82	7.23	179.92	-0.30	-50.00	232.46	218.24	14.22	16.348	
3,400.00	3,383.79	3,374.79	3,383.79	8.15	7.45	179.93	-0.30	-50.00	249.83	235.16	14.67	17.030	
3,500.00	3,482.27	3,473.27	3,482.27	8.49	7.68	179.93	-0.30	-50.00	267.20	252.08	15.12	17.671	
3,600.00	3,580.75	3,571.75	3,580.75	8.83	7.90	179.94	-0.30	-50.00	284.56	268.99	15.57	18.272	
3,700.00	3,679.23	3,670.23	3,679.23	9.17	8.12	179.94	-0.30	-50.00	301.93	285.90	16.03	18.838	
3,800.00	3,777.71	3,768.71	3,777.71	9.52	8.34	179.95	-0.30	-50.00	319.30	302.81	16.48	19.371	
3,900.00	3,876.19	3,867.19	3,876.19	9.87	8.56	179.95	-0.30	-50.00	336.67	319.73	16.94	19.875	
4,000.00	3,974.67	3,965.67	3,974.67	10.22	8.78	179.95	-0.30	-50.00	354.03	336.64	17.40	20.350	
4,100.00	4,073.15	4,064.15	4,073.15	10.58	9.00	179.95	-0.30	-50.00	371.40	353.54	17.86	20.801	
4,200.00	4,171.63	4,162.63	4,171.63	10.94	9.22	179.96	-0.30	-50.00	388.77	370.45	18.31	21.227	
4,300.00	4,270.11	4,261.11	4,270.11	11.29	9.45	179.96	-0.30	-50.00	406.13	387.36	18.77	21.632	
4,400.00	4,368.59	4,359.59	4,368.59	11.66	9.67	179.96	-0.30	-50.00	423.50	404.27	19.24	22.017	
4,500.00	4,467.07	4,458.07	4,467.07	12.02	9.89	179.96	-0.30	-50.00	440.87	421.17	19.70	22.382	
4,600.00	4,565.55	4,556.55	4,565.55	12.38	10.11	179.96	-0.30	-50.00	458.24	438.08	20.16	22.731	
4,700.00	4,664.03	4,655.03	4,664.03	12.75	10.33	179.96	-0.30	-50.00	475.60	454.98	20.62	23.063	
4,800.00	4,762.51	4,753.51	4,762.51	13.12	10.55	179.96	-0.30	-50.00	492.97	471.89	21.09	23.380	
4,900.00	4,860.99	4,851.99	4,860.99	13.49	10.77	179.97	-0.30	-50.00	510.34	488.79	21.55	23.682	
5,000.00	4,959.47	4,950.47	4,959.47	13.85	11.00	179.97	-0.30	-50.00	527.71	505.69	22.01	23.972	
5,100.00	5,057.95	5,048.95	5,057.95	14.23	11.22	179.97	-0.30	-50.00	545.07	522.59	22.48	24.249	
5,200.00	5,156.43	5,147.43	5,156.43	14.60	11.44	179.97	-0.30	-50.00	562.44	539.50	22.94	24.514	
5,300.00	5,254.91	5,245.91	5,254.91	14.97	11.66	179.97	-0.30	-50.00	579.81	556.40	23.41	24.768	
5,400.00	5,353.40	5,344.40	5,353.40	15.34	11.88	179.97	-0.30	-50.00	597.18	573.30	23.88	25.012	
5,500.00	5,451.88	5,442.88	5,451.88	15.71	12.10	179.97	-0.30	-50.00	614.54	590.20	24.34	25.247	
5,600.00	5,550.36	5,541.36	5,550.36	16.09	12.32	179.97	-0.30	-50.00	631.91	607.10	24.81	25.472	
5,700.00	5,648.84	5,639.84	5,648.84	16.46	12.54	179.97	-0.30	-50.00	649.28	624.00	25.28	25.688	
5,800.00	5,747.32	5,738.32	5,747.32	16.84	12.77	179.97	-0.30	-50.00	666.64	640.90	25.74	25.896	
5,900.00	5,845.80	5,836.80	5,845.80	17.21	12.99	179.97	-0.30	-50.00	684.01	657.80	26.21	26.097	
6,000.00	5,944.28	5,935.28	5,944.28	17.59	13.21	179.98	-0.30	-50.00	701.38	674.70	26.68	26.290	
6,100.00	6,042.76	6,033.76	6,042.76	17.97	13.43	179.98	-0.30	-50.00	718.75	691.60	27.15	26.477	
6,200.00	6,141.24	6,132.24	6,141.24	18.35	13.65	179.98	-0.30	-50.00	736.11	708.50	27.61	26.657	
6,300.00	6,239.72	6,230.72	6,239.72	18.72	13.87	179.98	-0.30	-50.00	753.48	725.40	28.08	26.831	
6,400.00	6,338.20	6,329.20	6,338.20	19.10	14.09	179.98	-0.30	-50.00	770.85	742.30	28.55	26.998	
6,500.00	6,436.68	6,427.68	6,436.68	19.48	14.32	179.98	-0.30	-50.00	788.22	759.19	29.02	27.160	
6,600.00	6,535.16	6,526.16	6,535.16	19.86	14.54	179.98	-0.30	-50.00	805.58	776.09	29.49	27.317	
6,700.00	6,633.64	6,624.64	6,633.64	20.24	14.76	179.98	-0.30	-50.00	822.95	792.99	29.96	27.469	
6,800.00	6,732.12	6,723.12	6,732.12	20.62	14.98	179.98	-0.30	-50.00	840.32	809.89	30.43	27.616	
6,900.00	6,830.60	6,821.60	6,830.60	21.00	15.20	179.98	-0.30	-50.00	857.68	826.79	30.90	27.758	
7,000.00	6,929.08	6,920.08	6,929.08	21.38	15.42	179.98	-0.30	-50.00	875.05	843.68	31.37	27.896	
7,100.00	7,027.56	7,018.56	7,027.56	21.76	15.64	179.98	-0.30	-50.00	892.42	860.58	31.84	28.030	

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: 15 Fed Com 3H
Project:	Eddy County, NM (NAD:83)	TVD Reference:	GE 3384' + KB 25' @ 3409'00usft (Permitting)
Reference Site:	Cotton Draw	MD Reference:	GE 3384' + KB 25' @ 3409'00usft (Permitting)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	15 Fed Com 3H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at:	2'00" sigma
Reference Wellbore:	OH	Database:	EDM 5000.1 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Reference Datum

Offset Design: Cotton Draw - 15 Fed Com 1H - OH - Plan #1												Offset Site Error:	0.00 usft
Survey Program: 0-LEAM MWD												Offset Well Error:	0.00 usft
Reference	Offset	Semi-Major Axis		Distance		Minimum		Separation		Warning			
Measured Vertical Depth (usft)	Measured Vertical Depth (usft)	Reference Depth (usft)	Offset Depth (usft)	Reference Depth (usft)	Offset Depth (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
7,200.00	7,126.04	7,117.04	7,126.04	22.14	15.87	179.98	-0.30	-50.00	909.79	877.48	32.31	28.160	
7,300.00	7,224.52	7,215.52	7,224.52	22.52	16.09	179.98	-0.30	-50.00	927.15	894.38	32.78	28.285	
7,400.00	7,323.00	7,314.00	7,323.00	22.90	16.31	179.98	-0.30	-50.00	944.52	911.27	33.25	28.408	
7,500.00	7,421.48	7,412.48	7,421.48	23.28	16.53	179.98	-0.30	-50.00	961.89	928.17	33.72	28.526	
7,600.00	7,519.96	7,510.96	7,519.96	23.66	16.75	179.98	-0.30	-50.00	979.26	945.07	34.19	28.642	
7,700.00	7,618.44	7,609.44	7,618.44	24.04	16.97	179.98	-0.30	-50.00	996.62	961.96	34.66	28.754	
7,800.00	7,716.92	7,707.92	7,716.92	24.43	17.19	179.98	-0.30	-50.00	1,013.99	978.86	35.13	28.863	
7,900.00	7,815.40	7,806.40	7,815.40	24.81	17.41	179.98	-0.30	-50.00	1,031.36	995.76	35.60	28.969	
8,000.00	7,913.88	7,904.88	7,913.88	25.19	17.64	179.98	-0.30	-50.00	1,048.73	1,012.65	36.07	29.072	
8,084.87	7,997.46	7,988.46	7,997.46	25.51	17.82	179.98	-0.30	-50.00	1,063.46	1,026.99	36.47	29.157	
8,100.00	8,012.37	8,003.37	8,012.37	25.57	17.86	179.98	-0.30	-50.00	1,066.05	1,029.49	36.56	29.159	
8,200.00	8,111.22	8,102.22	8,111.22	25.85	18.08	179.98	-0.30	-50.00	1,081.18	1,044.09	37.08	29.154	
8,300.00	8,210.53	8,201.53	8,210.53	26.09	18.30	179.98	-0.30	-50.00	1,092.84	1,055.28	37.56	29.095	
8,400.00	8,310.19	8,301.19	8,310.19	26.30	18.53	179.98	-0.30	-50.00	1,101.03	1,063.04	37.99	28.983	
8,500.00	8,410.07	8,401.07	8,410.07	26.47	18.75	179.98	-0.30	-50.00	1,105.74	1,067.38	38.36	28.823	
8,584.94	8,495.00	8,486.00	8,495.00	26.59	18.94	-90.02	-0.30	-50.00	1,107.00	1,065.20	41.80	26.486	
8,600.00	8,510.06	8,501.06	8,510.06	26.61	18.98	-90.02	-0.30	-50.00	1,107.00	1,065.14	41.86	26.448	
8,700.00	8,610.06	8,601.06	8,610.06	26.76	19.20	-90.02	-0.30	-50.00	1,107.00	1,064.74	42.26	26.193	
8,800.00	8,710.06	8,701.06	8,710.06	26.91	19.43	-90.02	-0.30	-50.00	1,107.00	1,064.33	42.67	25.943	
8,900.00	8,810.06	8,801.06	8,810.06	27.06	19.65	-90.02	-0.30	-50.00	1,107.00	1,063.92	43.08	25.698	
9,000.00	8,910.06	8,901.06	8,910.06	27.22	19.88	-90.02	-0.30	-50.00	1,107.00	1,063.51	43.49	25.456	
9,100.00	9,010.06	9,001.06	9,010.06	27.37	20.10	-90.02	-0.30	-50.00	1,107.00	1,063.10	43.90	25.219	
9,200.00	9,110.06	9,101.06	9,110.06	27.52	20.32	-90.02	-0.30	-50.00	1,107.00	1,062.69	44.31	24.985	
9,300.00	9,210.06	9,201.06	9,210.06	27.68	20.55	-90.02	-0.30	-50.00	1,107.00	1,062.28	44.72	24.756	
9,400.00	9,310.06	9,301.06	9,310.06	27.83	20.77	-90.02	-0.30	-50.00	1,107.00	1,061.87	45.13	24.530	
9,500.00	9,410.06	9,401.06	9,410.06	27.99	21.00	-90.02	-0.30	-50.00	1,107.00	1,061.46	45.54	24.308	
9,600.00	9,510.06	9,501.06	9,510.06	28.15	21.22	-90.02	-0.30	-50.00	1,107.00	1,061.05	45.95	24.089	
9,700.00	9,610.06	9,601.06	9,610.06	28.31	21.45	-90.02	-0.30	-50.00	1,107.00	1,060.63	46.37	23.875	
9,800.00	9,710.06	9,701.06	9,710.06	28.46	21.67	-90.02	-0.30	-50.00	1,107.00	1,060.22	46.78	23.663	
9,896.99	9,807.05	9,798.05	9,807.05	28.62	21.89	-90.02	-0.30	-50.00	1,107.00	1,059.82	47.18	23.461	
9,900.00	9,810.06	9,801.05	9,810.05	28.62	21.90	116.01	-0.31	-50.00	1,107.00	1,062.82	44.19	25.053	
9,950.00	9,859.88	9,850.94	9,859.87	28.71	21.98	115.90	-2.74	-50.00	1,108.08	1,063.65	44.43	24.941	
10,000.00	9,909.50	9,900.71	9,909.17	28.82	22.06	115.60	-9.47	-50.01	1,111.06	1,066.44	44.61	24.903	
10,050.00	9,958.25	9,950.26	9,957.47	28.95	22.15	115.10	-20.40	-50.01	1,115.93	1,071.16	44.76	24.930	
10,100.00	10,005.84	9,999.47	10,004.35	29.11	22.23	114.42	-35.34	-50.02	1,122.65	1,077.75	44.89	25.007	
10,150.00	10,051.92	10,048.27	10,049.40	29.29	22.31	113.55	-54.08	-50.03	1,131.16	1,086.12	45.04	25.115	
10,200.00	10,096.13	10,096.60	10,092.27	29.49	22.38	112.50	-76.34	-50.05	1,141.42	1,096.19	45.23	25.235	
10,250.00	10,138.15	10,144.41	10,132.69	29.72	22.46	111.27	-101.84	-50.06	1,153.33	1,107.82	45.51	25.344	
10,300.00	10,177.64	10,191.66	10,170.42	29.98	22.56	109.87	-130.27	-50.08	1,166.80	1,120.91	45.89	25.425	
10,350.00	10,214.31	10,238.36	10,205.28	30.26	22.67	108.32	-161.32	-50.10	1,181.74	1,135.33	46.41	25.464	
10,400.00	10,247.89	10,284.51	10,237.14	30.58	22.80	106.62	-194.70	-50.12	1,198.03	1,150.96	47.06	25.456	
10,450.00	10,278.11	10,330.16	10,265.90	30.92	22.94	104.79	-230.13	-50.14	1,215.53	1,167.68	47.85	25.404	
10,500.00	10,304.74	10,375.35	10,291.51	31.29	23.10	102.84	-267.35	-50.17	1,234.12	1,185.37	48.75	25.317	
10,550.00	10,327.59	10,420.16	10,313.93	31.70	23.27	100.78	-306.13	-50.19	1,253.65	1,203.92	49.72	25.213	
10,600.00	10,346.48	10,464.66	10,333.13	32.13	23.47	98.64	-346.27	-50.22	1,273.97	1,223.23	50.74	25.109	
10,650.00	10,361.26	10,508.95	10,349.08	32.59	23.69	96.45	-387.57	-50.24	1,294.93	1,243.17	51.75	25.021	
10,700.00	10,371.82	10,553.13	10,361.78	33.09	23.93	94.21	-429.88	-50.27	1,316.37	1,263.64	52.73	24.965	
10,750.00	10,378.08	10,597.33	10,371.18	33.60	24.19	91.96	-473.06	-50.30	1,338.14	1,284.50	53.63	24.950	
10,793.29	10,380.00	10,635.71	10,376.62	34.06	24.44	90.02	-511.04	-50.32	1,357.12	1,302.78	54.34	24.974	
10,800.00	10,380.04	10,641.68	10,377.24	34.13	24.48	90.05	-516.98	-50.32	1,360.06	1,305.63	54.43	24.986	

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 15 Fed Com 3H
Project:	Eddy County, NM (NAD 83)	TVD Reference:	GE 3384 + KB 25' @ 3409.00usft (Permitting)
Reference Site:	Cotton Draw	MD Reference:	GE 3384 + KB 25' @ 3409.00usft (Permitting)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	15 Fed Com 3H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at:	2.00 sigma
Reference Wellbore:	OH	Database:	EDM 5000.1 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Reference Datum

Offset Design: Cotton Draw - 15 Fed Com 3H - OH - I Plan #1													Offset Site Error:	0.00 usft
Survey Program: 0-LEAMMWD													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	Offset	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	
10,900.00	10,380.69	10,732.18	10,380.25	35.13	25.13	90.15	-607.38	-50.38	1,402.20	1,346.38	55.82	25.119		
11,000.00	10,381.34	10,824.27	10,380.86	36.18	25.87	90.13	-699.48	-50.44	1,441.16	1,383.78	57.38	25.116		
11,100.00	10,382.00	10,917.67	10,381.48	37.25	26.71	90.12	-792.87	-50.50	1,476.88	1,417.76	59.12	24.979		
11,200.00	10,382.66	11,012.26	10,382.11	38.35	27.63	90.10	-887.46	-50.55	1,509.32	1,448.34	60.97	24.753		
11,300.00	10,383.32	11,107.92	10,382.74	39.48	28.65	90.09	-983.12	-50.61	1,538.44	1,475.52	62.91	24.453		
11,400.00	10,383.98	11,204.54	10,383.38	40.62	29.74	90.07	-1,079.73	-50.67	1,564.20	1,499.27	64.93	24.090		
11,500.00	10,384.64	11,302.00	10,384.03	41.77	30.90	90.06	-1,177.19	-50.74	1,586.57	1,519.57	67.00	23.679		
11,600.00	10,385.30	11,400.18	10,384.68	42.93	32.13	90.04	-1,275.37	-50.80	1,605.53	1,536.41	69.12	23.229		
11,700.00	10,385.97	11,498.96	10,385.34	44.10	33.42	90.03	-1,374.15	-50.86	1,621.05	1,549.79	71.26	22.750		
11,800.00	10,386.62	11,598.23	10,385.99	45.27	34.76	90.02	-1,473.41	-50.92	1,633.11	1,559.71	73.40	22.249		
11,900.00	10,387.28	11,697.85	10,386.66	46.43	36.15	90.00	-1,573.04	-50.98	1,641.70	1,566.17	75.54	21.733		
12,000.00	10,387.93	11,797.72	10,387.32	47.59	37.57	89.99	-1,672.90	-51.05	1,646.81	1,569.16	77.65	21.208		
12,094.67	10,388.55	11,892.36	10,387.95	48.69	38.96	89.98	-1,767.54	-51.10	1,648.44	1,568.82	79.62	20.705		
12,100.00	10,388.58	11,897.70	10,387.98	48.75	39.03	89.98	-1,772.88	-51.11	1,648.44	1,568.67	79.77	20.665		
12,200.00	10,389.22	11,997.70	10,388.65	49.94	40.52	89.98	-1,872.88	-51.17	1,648.50	1,565.86	82.64	19.947		
12,300.00	10,389.87	12,097.70	10,389.31	51.16	42.04	89.98	-1,972.87	-51.23	1,648.57	1,562.99	85.58	19.264		
12,400.00	10,390.52	12,197.70	10,389.97	52.41	43.58	89.98	-2,072.87	-51.30	1,648.63	1,560.06	88.57	18.615		
12,500.00	10,391.16	12,297.70	10,390.64	53.69	45.14	89.98	-2,172.87	-51.36	1,648.69	1,557.09	91.60	17.999		
12,600.00	10,391.81	12,397.70	10,391.30	55.01	46.72	89.98	-2,272.87	-51.42	1,648.75	1,554.08	94.68	17.415		
12,700.00	10,392.45	12,497.70	10,391.96	56.34	48.31	89.98	-2,372.86	-51.48	1,648.81	1,551.02	97.79	16.860		
12,800.00	10,393.10	12,597.70	10,392.63	57.71	49.92	89.98	-2,472.86	-51.55	1,648.88	1,547.93	100.94	16.335		
12,900.00	10,393.74	12,697.70	10,393.29	59.09	51.55	89.98	-2,572.86	-51.61	1,648.94	1,544.81	104.12	15.836		
13,000.00	10,394.39	12,797.70	10,393.95	60.50	53.19	89.99	-2,672.86	-51.67	1,649.00	1,541.67	107.34	15.363		
13,100.00	10,395.03	12,897.70	10,394.62	61.93	54.83	89.99	-2,772.86	-51.73	1,649.06	1,538.49	110.57	14.914		
13,200.00	10,395.68	12,997.70	10,395.28	63.38	56.49	89.99	-2,872.85	-51.80	1,649.13	1,535.29	113.84	14.487		
13,300.00	10,396.32	13,097.70	10,395.94	64.84	58.16	89.99	-2,972.85	-51.86	1,649.19	1,532.07	117.12	14.081		
13,400.00	10,396.97	13,197.70	10,396.61	66.33	59.84	89.99	-3,072.85	-51.92	1,649.25	1,528.83	120.43	13.695		
13,500.00	10,397.61	13,297.70	10,397.27	67.83	61.53	89.99	-3,172.85	-51.98	1,649.31	1,525.56	123.75	13.328		
13,600.00	10,398.26	13,397.70	10,397.94	69.34	63.22	89.99	-3,272.84	-52.05	1,649.38	1,522.29	127.09	12.978		
13,700.00	10,398.91	13,497.70	10,398.60	70.87	64.92	89.99	-3,372.84	-52.11	1,649.44	1,518.99	130.45	12.645		
13,800.00	10,399.55	13,597.70	10,399.26	72.41	66.63	89.99	-3,472.84	-52.17	1,649.50	1,515.68	133.82	12.326		
13,900.00	10,400.20	13,697.70	10,399.93	73.96	68.34	89.99	-3,572.84	-52.23	1,649.56	1,512.36	137.20	12.023		
14,000.00	10,400.84	13,797.70	10,400.59	75.52	70.06	89.99	-3,672.84	-52.30	1,649.63	1,509.02	140.60	11.733		
14,100.00	10,401.49	13,897.70	10,401.25	77.10	71.78	89.99	-3,772.83	-52.36	1,649.69	1,505.68	144.01	11.455		
14,200.00	10,402.13	13,997.70	10,401.92	78.69	73.51	89.99	-3,872.83	-52.42	1,649.75	1,502.32	147.43	11.190		
14,300.00	10,402.78	14,097.70	10,402.58	80.28	75.24	89.99	-3,972.83	-52.48	1,649.81	1,498.95	150.86	10.936		
14,400.00	10,403.42	14,197.70	10,403.24	81.89	76.98	89.99	-4,072.83	-52.55	1,649.88	1,495.57	154.31	10.692		
14,500.00	10,404.07	14,297.70	10,403.91	83.50	78.71	89.99	-4,172.82	-52.61	1,649.94	1,492.18	157.76	10.459		
14,600.00	10,404.71	14,397.70	10,404.57	85.12	80.46	90.00	-4,272.82	-52.67	1,650.00	1,488.79	161.21	10.235		
14,700.00	10,405.36	14,497.70	10,405.24	86.75	82.20	90.00	-4,372.82	-52.73	1,650.06	1,485.38	164.68	10.020		
14,800.00	10,406.01	14,597.70	10,405.90	88.39	83.95	90.00	-4,472.82	-52.80	1,650.13	1,481.97	168.15	9.813		
14,900.00	10,406.65	14,697.70	10,406.56	90.03	85.71	90.00	-4,572.82	-52.86	1,650.19	1,478.55	171.63	9.615		
14,954.20	10,407.00	14,751.89	10,406.92	90.93	86.66	90.00	-4,627.01	-52.89	1,650.22	1,476.70	173.52	9.510		
14,954.78	10,407.00	14,752.48	10,406.93	90.99	86.67	90.00	-4,627.60	-52.89	1,650.22	1,476.68	173.54	9.509		

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: 15 Fed Com 3H
Project:	Eddy County, NM (NAD-83)	TVD Reference:	GE 3384' + KB 25' @ 3409:00usft
Reference Site:	Cotton Draw	MD Reference:	(Permitting)
Site Error:	0.00'usft	North Reference:	GE 3384' + KB 25' @ 3409:00usft
Reference Well:	15 Fed Com 3H	Survey Calculation Method:	(Permitting)
Well Error:	0.00'usft	Output errors are at:	Grid
Reference Wellbore:	OH	Database:	Minimum Curvature
Reference Design:	Plan #1	Offset TVD Reference:	2:00'sigma
			EDM 5000.1 Single User Db
			Reference Datum

Offset Design: Cotton Draw - 15 Fed Com 2H - OH - Plan #1											Offset Site Error:
Survey Program: 0: LEAM MWD											Offset Well Error:
Reference	Offset	Same Major Axis	Distance	Minimum Separation	Warning						
Measured Vertical Depth (usft)	Measured Vertical Depth (usft)	Reference Depth (usft)	Offset Depth (usft)	Highside Toolface (°)	Offset Wellbore Centre N-S (usft)	Offset Wellbore Centre E-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
0.00	0.00	0.00	0.00	0.00	0.00	-90.46	-0.80	-100.10	100.10		
100.00	100.00	100.00	100.00	0.08	0.11	-90.46	-0.80	-100.10	100.10	99.91	0.20 508.990
200.00	200.00	200.00	200.00	0.31	0.34	-90.46	-0.80	-100.10	100.10	99.46	0.65 154.910
300.00	300.00	300.00	300.00	0.53	0.56	-90.46	-0.80	-100.10	100.10	99.01	1.10 91.357
400.00	400.00	400.00	400.00	0.76	0.79	-90.46	-0.80	-100.10	100.10	98.56	1.55 64.781
500.00	500.00	500.00	500.00	0.98	1.01	-90.46	-0.80	-100.10	100.10	98.11	1.99 50.182
600.00	600.00	600.00	600.00	1.21	1.24	-90.46	-0.80	-100.10	100.10	97.66	2.44 40.953
700.00	700.00	700.00	700.00	1.43	1.46	-90.46	-0.80	-100.10	100.10	97.21	2.89 34.592
800.00	800.00	800.00	800.00	1.66	1.69	-90.46	-0.80	-100.10	100.10	96.76	3.34 29.941
900.00	900.00	900.00	900.00	1.88	1.91	-90.46	-0.80	-100.10	100.10	96.31	3.79 26.392
1,000.00	1,000.00	1,000.00	1,000.00	2.11	2.14	-90.46	-0.80	-100.10	100.10	95.86	4.24 23.596
1,100.00	1,100.00	1,100.00	1,100.00	2.33	2.36	-90.46	-0.80	-100.10	100.10	95.41	4.69 21.335
1,200.00	1,200.00	1,200.00	1,200.00	2.56	2.58	-90.46	-0.80	-100.10	100.10	94.96	5.14 19.470
1,300.00	1,300.00	1,300.00	1,300.00	2.78	2.81	-90.46	-0.80	-100.10	100.10	94.51	5.59 17.904
1,400.00	1,400.00	1,400.00	1,400.00	3.01	3.03	-90.46	-0.80	-100.10	100.10	94.06	6.04 16.572
1,500.00	1,500.00	1,500.00	1,500.00	3.23	3.26	-90.46	-0.80	-100.10	100.10	93.61	6.49 15.424
1,600.00	1,600.00	1,600.00	1,600.00	3.46	3.48	-90.46	-0.80	-100.10	100.10	93.16	6.94 14.425
1,700.00	1,700.00	1,700.00	1,700.00	3.68	3.71	-90.46	-0.80	-100.10	100.10	92.71	7.39 13.547
1,800.00	1,800.00	1,800.00	1,800.00	3.91	3.93	-90.46	-0.80	-100.10	100.10	92.26	7.84 12.770
1,900.00	1,900.00	1,900.00	1,900.00	4.13	4.16	-90.46	-0.80	-100.10	100.10	91.81	8.29 12.078
2,000.00	2,000.00	2,000.00	2,000.00	4.35	4.38	-90.46	-0.80	-100.10	100.10	91.37	8.74 11.456 CC, ES
2,100.00	2,099.98	2,096.51	2,096.49	4.57	4.59	179.56	-0.80	-101.73	103.53	94.38	9.15 11.318 SF
2,200.00	2,199.84	2,192.35	2,192.20	4.77	4.78	179.59	-0.80	-106.55	113.79	104.27	9.53 11.946
2,300.00	2,299.45	2,286.86	2,286.38	4.98	4.98	179.64	-0.80	-114.45	130.80	120.91	9.90 13.218
2,400.00	2,398.70	2,379.42	2,378.31	5.20	5.18	179.69	-0.80	-125.19	154.42	144.17	10.26 15.057
2,500.07	2,497.54	2,469.53	2,467.43	5.44	5.39	179.74	-0.80	-138.49	184.50	173.90	10.60 17.399
2,600.00	2,595.95	2,561.47	2,558.00	5.70	5.63	179.78	-0.80	-154.30	218.51	207.51	11.00 19.862
2,700.00	2,694.43	2,655.43	2,650.54	5.97	5.88	179.81	-0.80	-170.62	252.72	241.31	11.40 22.163
2,800.00	2,792.91	2,749.40	2,743.08	6.26	6.14	179.83	-0.80	-186.94	286.92	275.11	11.81 24.290
2,900.00	2,891.39	2,843.37	2,835.62	6.55	6.42	179.85	-0.80	-203.26	321.13	308.90	12.22 26.269
3,000.00	2,889.87	2,837.34	2,828.15	6.86	6.70	179.86	-0.80	-219.58	355.34	342.69	12.64 28.107
3,100.00	3,088.35	3,031.30	3,020.69	7.17	6.99	179.87	-0.80	-235.90	389.54	376.48	13.06 29.817
3,200.00	3,186.83	3,125.27	3,113.23	7.49	7.29	179.88	-0.80	-252.22	423.75	410.26	13.49 31.410
3,300.00	3,285.31	3,219.24	3,205.77	7.82	7.59	179.89	-0.80	-268.53	457.96	444.04	13.92 32.897
3,400.00	3,383.79	3,313.21	3,298.31	8.15	7.90	179.90	-0.80	-284.85	492.16	477.81	14.35 34.287
3,500.00	3,482.27	3,407.17	3,390.85	8.49	8.21	179.91	-0.80	-301.17	526.37	511.58	14.79 35.587
3,600.00	3,580.75	3,501.14	3,483.39	8.83	8.53	179.91	-0.80	-317.49	560.58	545.35	15.23 36.807
3,700.00	3,679.23	3,595.11	3,575.93	9.17	8.85	179.92	-0.80	-333.81	594.78	579.11	15.67 37.951
3,800.00	3,777.71	3,689.08	3,668.47	9.52	9.17	179.92	-0.80	-350.13	628.99	612.87	16.12 39.027
3,900.00	3,876.19	3,783.04	3,761.01	9.87	9.50	179.93	-0.80	-366.45	663.20	646.63	16.56 40.040
4,000.00	3,974.67	3,877.01	3,853.55	10.22	9.83	179.93	-0.80	-382.77	697.40	680.39	17.01 40.994
4,100.00	4,073.15	3,970.98	3,946.09	10.58	10.16	179.93	-0.80	-399.09	731.61	714.15	17.46 41.896
4,200.00	4,171.63	4,064.95	4,038.63	10.94	10.50	179.94	-0.80	-415.41	765.82	747.90	17.91 42.747
4,300.00	4,270.11	4,158.91	4,131.17	11.29	10.84	179.94	-0.80	-431.73	800.02	781.66	18.37 43.554
4,400.00	4,368.59	4,252.88	4,223.71	11.66	11.17	179.94	-0.80	-448.05	834.23	815.41	18.82 44.317
4,500.00	4,467.07	4,346.85	4,316.25	12.02	11.51	179.94	-0.80	-464.37	868.44	849.16	19.28 45.042
4,600.00	4,565.55	4,440.82	4,408.79	12.38	11.86	179.95	-0.80	-480.69	902.64	882.91	19.74 45.730
4,700.00	4,664.03	4,534.78	4,501.33	12.75	12.20	179.95	-0.80	-497.01	936.85	916.65	20.20 46.384
4,800.00	4,762.51	4,628.75	4,593.87	13.12	12.54	179.95	-0.80	-513.33	971.06	950.40	20.66 47.006
4,900.00	4,860.99	4,722.72	4,686.41	13.49	12.89	179.95	-0.80	-529.65	1,005.26	984.15	21.12 47.599
5,000.00	4,959.47	4,816.69	4,778.95	13.85	13.24	179.95	-0.80	-545.97	1,039.47	1,017.89	21.58 48.165

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 15 Fed Corn 3H
Project:	Eddy County, NM (NAD-83)	TVD Reference:	GE 3384' + KB 25' @ 3409'00usft
Reference Site:	Cotton Draw	MD Reference:	(Permitting)
Site Error:	0.00 usft	North Reference:	GE 3384' + KB 25' @ 3409'00usft
Reference Well:	15 Fed Corn 3H	Survey Calculation Method:	(Permitting)
Well Error:	0.00 usft	Output errors are at:	Grid
Reference Wellbore:	OH	Database:	Minimum Curvature
Reference Design:	Plan #1	Offset TVD/Reference:	2.00 sigma
			EDM: 5000.1 Single User Db
			Reference Datum

Offset Design: Cotton Draw - 15 Fed Corn 2H - OH - Plan #1												Offset Site Error:	0.00 usft
Survey Program: O-LEAM/MWD												Offset Well Error:	0.00 usft
Reference	Offset	Semi-Major Axis	Distance	Warning	Reference	Offset	Highside	Offset Wellbore Centre	Between Centres	Between Ellipses	Minimum Separation	Warning	Factor
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Toolface (°)	Offset Wellbore Centre (usft)	Offset Wellbore Centre (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Warning	Factor
5,100.00	5,057.95	4,910.65	4,871.49	14.23	13.58	179.95	-0.80	-562.29	1,073.68	1,051.63	22.04	48.705	
5,200.00	5,156.43	5,004.62	4,964.02	14.60	13.93	179.96	-0.80	-578.61	1,107.88	1,085.38	22.51	49.220	
5,300.00	5,254.91	5,098.59	5,056.56	14.97	14.28	179.96	-0.80	-594.93	1,142.09	1,119.12	22.97	49.713	
5,400.00	5,353.40	5,192.56	5,149.10	15.34	14.63	179.96	-0.80	-611.25	1,176.30	1,152.86	23.44	50.185	
5,500.00	5,451.88	5,286.52	5,241.64	15.71	14.98	179.96	-0.80	-627.57	1,210.51	1,186.60	23.91	50.637	
5,600.00	5,550.36	5,380.49	5,334.18	16.09	15.34	179.96	-0.80	-643.89	1,244.71	1,220.34	24.37	51.070	
5,700.00	5,648.84	5,474.46	5,426.72	16.46	15.69	179.96	-0.80	-660.21	1,278.92	1,254.08	24.84	51.486	
5,800.00	5,747.32	5,568.43	5,519.26	16.84	16.04	179.96	-0.80	-676.53	1,313.13	1,287.82	25.31	51.885	
5,900.00	5,845.80	5,662.39	5,611.80	17.21	16.39	179.96	-0.80	-692.85	1,347.33	1,321.56	25.78	52.269	
6,000.00	5,944.28	5,756.36	5,704.34	17.59	16.75	179.96	-0.80	-709.17	1,381.54	1,355.29	26.25	52.637	
6,100.00	6,042.76	5,850.33	5,796.88	17.97	17.10	179.97	-0.80	-725.48	1,415.75	1,389.03	26.72	52.992	
6,200.00	6,141.24	5,944.30	5,889.42	18.35	17.46	179.97	-0.80	-741.80	1,449.95	1,422.77	27.19	53.334	
6,300.00	6,239.72	6,038.26	5,981.96	18.72	17.81	179.97	-0.80	-758.12	1,484.16	1,456.50	27.66	53.663	
6,400.00	6,338.20	6,132.23	6,074.50	19.10	18.17	179.97	-0.80	-774.44	1,518.37	1,490.24	28.13	53.980	
6,500.00	6,436.68	6,226.20	6,167.04	19.48	18.53	179.97	-0.80	-790.76	1,552.57	1,523.97	28.60	54.286	
6,600.00	6,535.16	6,320.17	6,259.58	19.86	18.88	179.97	-0.80	-807.08	1,586.78	1,557.71	29.07	54.581	
6,700.00	6,633.64	6,414.13	6,352.12	20.24	19.24	179.97	-0.80	-823.40	1,620.99	1,591.44	29.54	54.866	
6,800.00	6,732.12	6,508.10	6,444.66	20.62	19.60	179.97	-0.80	-839.72	1,655.19	1,625.18	30.02	55.142	
6,900.00	6,830.60	6,602.07	6,537.20	21.00	19.95	179.97	-0.80	-856.04	1,689.40	1,658.91	30.49	55.408	
7,000.00	6,929.08	6,696.04	6,629.74	21.38	20.31	179.97	-0.80	-872.36	1,723.61	1,692.64	30.96	55.666	
7,100.00	7,027.56	6,790.00	6,722.28	21.76	20.67	179.97	-0.80	-888.68	1,757.81	1,726.38	31.44	55.915	
7,200.00	7,126.04	6,883.97	6,814.82	22.14	21.03	179.97	-0.80	-905.00	1,792.02	1,760.11	31.91	56.157	
7,300.00	7,224.52	6,977.94	6,907.35	22.52	21.39	179.97	-0.80	-921.32	1,826.23	1,793.84	32.39	56.390	
7,400.00	7,323.00	7,071.91	6,999.89	22.90	21.75	179.97	-0.80	-937.64	1,860.43	1,827.57	32.86	56.617	
7,500.00	7,421.48	7,165.87	7,092.43	23.28	22.11	179.97	-0.80	-953.96	1,894.64	1,861.31	33.33	56.837	
7,600.00	7,519.96	7,259.84	7,184.97	23.66	22.46	179.97	-0.80	-970.28	1,928.85	1,895.04	33.81	57.050	
7,700.00	7,618.44	7,353.81	7,277.51	24.04	22.82	179.98	-0.80	-986.60	1,963.05	1,928.77	34.29	57.257	
7,800.00	7,716.92	7,447.78	7,370.05	24.43	23.18	179.98	-0.80	-1,002.92	1,997.26	1,962.50	34.76	57.458	
7,900.00	7,815.40	7,541.74	7,462.59	24.81	23.54	179.98	-0.80	-1,019.24	2,031.47	1,996.23	35.24	57.653	
8,000.00	7,913.88	7,635.71	7,555.13	25.19	23.90	179.98	-0.80	-1,035.56	2,065.68	2,029.96	35.71	57.842	
8,084.87	7,997.46	7,715.46	7,633.67	25.51	24.21	179.98	-0.80	-1,049.41	2,094.71	2,058.59	36.12	57.999	
8,100.00	8,012.37	7,729.69	7,647.68	25.57	24.26	179.98	-0.80	-1,051.88	2,099.84	2,063.63	36.22	57.982	
8,200.00	8,111.22	7,824.41	7,740.96	25.85	24.63	179.98	-0.80	-1,068.33	2,131.90	2,095.08	36.83	57.891	
8,300.00	8,210.53	7,920.19	7,835.28	26.09	25.00	179.98	-0.80	-1,084.96	2,160.64	2,123.25	37.39	57.781	
8,400.00	8,310.19	8,016.91	7,930.53	26.30	25.37	179.98	-0.80	-1,101.76	2,186.01	2,148.10	37.92	57.655	
8,500.00	8,410.07	8,213.84	8,124.93	26.47	25.99	179.98	-0.80	-1,133.10	2,207.33	2,168.75	38.58	57.212	
8,584.94	8,495.00	8,584.94	8,495.00	26.59	26.70	-90.02	-0.80	-1,157.10	2,214.10	2,169.00	45.10	49.090	
8,600.00	8,510.06	8,600.00	8,510.06	26.61	26.72	-90.02	-0.80	-1,157.10	2,214.10	2,168.95	45.15	49.033	
8,700.00	8,610.06	8,700.00	8,610.06	26.76	26.87	-90.02	-0.80	-1,157.10	2,214.10	2,168.58	45.52	48.645	
8,800.00	8,710.06	8,800.00	8,710.06	26.91	27.02	-90.02	-0.80	-1,157.10	2,214.10	2,168.22	45.88	48.261	
8,900.00	8,810.06	8,900.00	8,810.06	27.06	27.17	-90.02	-0.80	-1,157.10	2,214.10	2,167.86	46.24	47.881	
9,000.00	8,910.06	9,000.00	8,910.06	27.22	27.32	-90.02	-0.80	-1,157.10	2,214.10	2,167.49	46.61	47.505	
9,100.00	9,010.06	9,100.00	9,010.06	27.37	27.47	-90.02	-0.80	-1,157.10	2,214.10	2,167.13	46.97	47.134	
9,200.00	9,110.06	9,200.00	9,110.06	27.52	27.62	-90.02	-0.80	-1,157.10	2,214.10	2,166.76	47.34	46.767	
9,300.00	9,210.06	9,300.00	9,210.06	27.68	27.78	-90.02	-0.80	-1,157.10	2,214.10	2,166.39	47.71	46.404	
9,400.00	9,310.06	9,400.00	9,310.06	27.83	27.93	-90.02	-0.80	-1,157.10	2,214.10	2,166.02	48.08	46.046	
9,500.00	9,410.06	9,500.00	9,410.06	27.99	28.09	-90.02	-0.80	-1,157.10	2,214.10	2,165.64	48.46	45.691	
9,600.00	9,510.06	9,600.00	9,510.06	28.15	28.25	-90.02	-0.80	-1,157.10	2,214.10	2,165.27	48.83	45.341	
9,700.00	9,610.06	9,700.00	9,610.06	28.31	28.41	-90.02	-0.80	-1,157.10	2,214.10	2,164.89	49.21	44.995	
9,800.00	9,710.06	9,800.00	9,710.06	28.46	28.56	-90.02	-0.80	-1,157.10	2,214.10	2,164.52	49.58	44.653	

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 15 Fed Com 3H
Project:	Eddy County, NM (NAD-83)	TVD Reference:	GE 3384' + KB 25' @ 3409.00usft (Permitting)
Reference Site:	Cotton Draw	MD Reference:	GE 3384' + KB 25' @ 3409.00usft (Permitting)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	15 Fed Com 3H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore:	OH	Database:	EDM 5000.1 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Reference Datum

Offset Design: Cotton Draw - 15 Fed Com 2H - OH - Plan #1													Offset Site Error: 0.00 usft
Survey Program: 10-LEAM MWD													Offset Well Error: 0.00 usft
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Semi-Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning
				Reference (usft)	Offset (usft)		N-S (usft)	E-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
9,896.99	9,807.05	9,896.99	9,807.05	28.62	28.72	-90.02	-0.80	-1,157.10	2,214.10	2,164.15	49.95	44.325	
9,900.00	9,810.06	9,898.08	9,808.14	28.62	28.72	116.01	-0.80	-1,157.10	2,214.10	2,169.52	44.59	49.656	
9,950.00	9,859.98	9,916.12	9,826.17	28.71	28.75	115.89	-1.08	-1,157.25	2,215.58	2,170.89	44.69	49.579	
10,000.00	9,909.50	9,950.00	9,859.98	28.82	28.81	115.59	-2.98	-1,158.22	2,219.83	2,175.06	44.77	49.586	
10,050.00	9,958.25	9,950.00	9,859.98	28.95	28.81	115.00	-2.98	-1,158.22	2,226.35	2,181.60	44.76	49.745	
10,100.00	10,005.84	9,969.37	9,879.23	29.11	28.85	114.24	-4.86	-1,159.19	2,235.56	2,190.77	44.78	49.918	
10,150.00	10,051.92	10,000.00	9,909.50	29.29	28.92	113.33	-9.01	-1,161.32	2,247.32	2,202.45	44.87	50.087	
10,200.00	10,096.13	10,000.00	9,909.50	29.49	28.92	112.00	-9.01	-1,161.32	2,261.22	2,216.22	45.00	50.245	
10,250.00	10,138.15	10,019.60	9,928.72	29.72	28.97	110.58	-12.42	-1,163.08	2,277.45	2,232.16	45.29	50.284	
10,300.00	10,177.64	10,050.00	9,958.25	29.98	29.06	109.06	-18.86	-1,166.39	2,295.91	2,250.17	45.73	50.202	
10,350.00	10,214.31	10,050.00	9,958.25	30.26	29.06	106.96	-18.86	-1,166.39	2,316.06	2,269.68	46.38	49.937	
10,400.00	10,247.89	10,050.00	9,958.25	30.58	29.06	104.58	-18.86	-1,166.39	2,338.25	2,291.02	47.23	49.506	
10,450.00	10,278.11	10,078.26	9,985.31	30.92	29.14	102.41	-26.09	-1,170.11	2,361.81	2,313.63	48.18	49.022	
10,500.00	10,304.74	10,100.00	10,005.84	31.29	29.21	99.95	-32.45	-1,173.38	2,386.96	2,337.72	49.24	48.478	
10,550.00	10,327.59	10,100.00	10,005.84	31.70	29.21	96.89	-32.45	-1,173.38	2,413.27	2,362.89	50.38	47.899	
10,600.00	10,346.48	10,100.00	10,005.84	32.13	29.21	93.61	-32.45	-1,173.38	2,440.76	2,389.30	51.45	47.437	
10,650.00	10,361.26	10,123.09	10,027.32	32.59	29.30	90.71	-39.96	-1,177.24	2,468.90	2,416.57	52.33	47.178	
10,700.00	10,371.82	10,131.56	10,035.12	33.09	29.33	87.38	-42.91	-1,178.76	2,497.78	2,444.78	53.00	47.131	
10,750.00	10,378.08	10,150.00	10,051.92	33.60	29.40	84.24	-49.67	-1,182.24	2,527.16	2,473.77	53.39	47.333	
10,793.29	10,380.00	10,150.00	10,051.92	34.06	29.40	81.10	-49.67	-1,182.24	2,552.70	2,499.27	53.43	47.779	
10,800.00	10,380.04	10,150.00	10,051.92	34.13	29.40	81.12	-49.67	-1,182.24	2,556.66	2,503.19	53.47	47.813	
10,900.00	10,380.69	10,150.00	10,051.92	35.13	29.40	81.33	-49.67	-1,182.24	2,615.65	2,561.54	54.10	48.347	
11,000.00	10,381.34	10,169.20	10,069.13	36.18	29.48	82.01	-57.22	-1,186.13	2,674.19	2,619.33	54.86	48.747	
11,100.00	10,382.00	10,184.10	10,082.29	37.25	29.54	82.55	-63.44	-1,189.33	2,732.25	2,676.62	55.62	49.121	
11,200.00	10,382.66	10,200.00	10,096.13	38.35	29.60	83.07	-70.40	-1,192.91	2,789.73	2,733.32	56.41	49.454	
11,300.00	10,383.32	10,220.83	10,113.92	39.48	29.70	83.68	-80.04	-1,197.87	2,846.54	2,789.30	57.23	49.735	
11,400.00	10,383.98	10,250.00	10,138.15	40.62	29.84	84.41	-94.48	-1,205.30	2,902.59	2,844.50	58.10	49.963	
11,500.00	10,384.64	10,270.08	10,154.32	41.77	29.94	84.91	-105.05	-1,210.73	2,957.75	2,898.82	58.93	50.189	
11,600.00	10,385.30	10,300.00	10,177.64	42.93	30.09	85.56	-121.72	-1,219.31	3,011.92	2,952.11	59.80	50.363	
11,700.00	10,385.97	10,337.45	10,205.39	44.10	30.31	86.27	-144.08	-1,230.81	3,064.93	3,004.22	60.71	50.486	
11,800.00	10,386.62	10,380.35	10,235.08	45.27	30.57	86.98	-171.59	-1,244.97	3,116.60	3,054.96	61.64	50.562	
11,900.00	10,387.28	10,430.91	10,266.98	46.43	30.90	87.71	-206.46	-1,262.90	3,166.70	3,104.09	62.61	50.576	
12,000.00	10,387.93	10,490.24	10,299.84	47.59	31.33	88.42	-250.36	-1,285.49	3,214.96	3,151.31	63.65	50.511	
12,094.67	10,388.55	10,555.17	10,329.73	48.69	31.84	89.03	-301.58	-1,311.84	3,258.65	3,193.94	64.71	50.354	
12,100.00	10,388.58	10,559.09	10,331.32	48.75	31.88	89.06	-304.76	-1,313.48	3,261.06	3,196.25	64.81	50.318	
12,200.00	10,389.22	10,636.53	10,357.68	49.94	32.55	89.58	-369.45	-1,346.76	3,306.36	3,239.77	66.59	49.650	
12,300.00	10,389.87	12,310.87	10,389.87	51.16	50.09	90.00	-1,973.89	-1,734.89	3,332.22	3,246.34	85.87	38.804	
12,400.00	10,390.52	12,410.87	10,390.51	52.41	51.29	90.00	-2,073.89	-1,734.89	3,332.22	3,243.50	88.72	37.559	
12,500.00	10,391.16	12,510.87	10,391.15	53.69	52.51	90.00	-2,173.89	-1,734.89	3,332.22	3,240.60	91.62	36.369	
12,600.00	10,391.81	12,610.87	10,391.79	55.01	53.77	90.00	-2,273.89	-1,734.89	3,332.22	3,237.64	94.58	35.233	
12,700.00	10,392.45	12,710.87	10,392.43	56.34	55.06	90.00	-2,373.88	-1,734.89	3,332.22	3,234.64	97.58	34.149	
12,800.00	10,393.10	12,810.87	10,393.07	57.71	56.37	90.00	-2,473.88	-1,734.89	3,332.22	3,231.60	100.62	33.117	
12,900.00	10,393.74	12,910.87	10,393.71	59.09	57.71	90.00	-2,573.88	-1,734.89	3,332.22	3,228.52	103.70	32.132	
13,000.00	10,394.39	13,010.87	10,394.35	60.50	59.08	90.00	-2,673.88	-1,734.89	3,332.22	3,225.40	106.82	31.195	
13,100.00	10,395.03	13,110.87	10,394.99	61.93	60.46	90.00	-2,773.88	-1,734.89	3,332.22	3,222.25	109.97	30.301	
13,200.00	10,395.68	13,210.87	10,395.63	63.38	61.87	90.00	-2,873.87	-1,734.89	3,332.22	3,219.07	113.15	29.450	
13,300.00	10,396.32	13,310.87	10,396.27	64.84	63.30	90.00	-2,973.87	-1,734.89	3,332.22	3,215.87	116.35	28.638	
13,400.00	10,396.97	13,410.87	10,396.91	66.33	64.75	90.00	-3,073.87	-1,734.89	3,332.22	3,212.63	119.59	27.865	
13,500.00	10,397.61	13,510.87	10,397.55	67.83	66.22	90.00	-3,173.87	-1,734.89	3,332.22	3,209.38	122.84	27.126	
13,600.00	10,398.26	13,610.87	10,398.19	69.34	67.70	90.00	-3,273.87	-1,734.89	3,332.22	3,206.11	126.12	26.422	
13,700.00	10,398.91	13,710.87	10,398.83	70.87	69.20	90.00	-3,373.86	-1,734.89	3,332.22	3,202.81	129.41	25.749	

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

LEAM Drilling Systems LLC

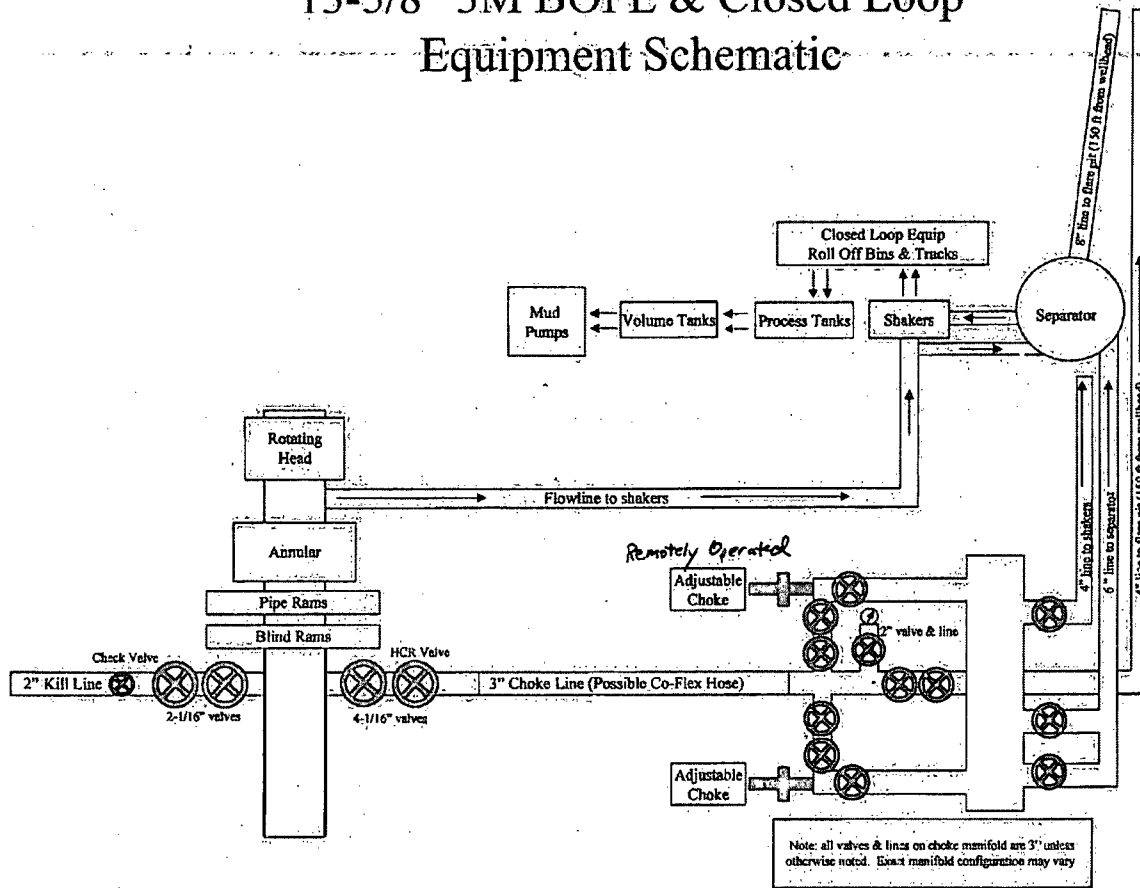
Anticollision Report

Company:	DEVON ENERGY	Local Co-ordinate Reference:	Well 15 Fed Com 3H
Project:	Eddy County, NM (NAD:83)	TVD Reference:	GE 3384' + KB 25' @ 3409.00usft (Permitting)
Reference Site:	Cotton Draw	MD Reference:	GE 3384' + KB 25' @ 3409.00usft (Permitting)
Site Error:	0.00usft	North Reference:	Grid
Reference Well:	15 Fed Com 3H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00usft	Output errors are at:	2'00: sigma
Reference Wellbore:	OH	Database:	EDM 5000.1 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Reference Datum

Offset Design Cotton Draw - 15 Fed Com 2H - OH - Plan #1										Offset Site Error 0.00 usft			
Survey Program 0-LEAM MWD										Offset Well Error 0.00 usft			
Reference		Offset		Semi-Major Axis		Distance							
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/S (usft)	Offset Wellbore Centre +E/W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
13,800.00	10,399.55	13,810.87	10,399.47	72.41	70.71	90.00	-3,473.86	-1,734.89	3,332.22	3,199.50	132.72	25.107	
13,900.00	10,400.20	13,910.87	10,400.11	73.96	72.24	90.00	-3,573.86	-1,734.89	3,332.22	3,196.17	136.05	24.492	
14,000.00	10,400.84	14,010.87	10,400.75	75.52	73.78	90.00	-3,673.86	-1,734.89	3,332.22	3,192.82	139.40	23.904	
14,100.00	10,401.49	14,110.87	10,401.39	77.10	75.33	90.00	-3,773.86	-1,734.89	3,332.22	3,189.46	142.76	23.342	
14,200.00	10,402.13	14,210.87	10,402.03	78.69	76.90	90.00	-3,873.85	-1,734.89	3,332.22	3,186.09	146.13	22.803	
14,300.00	10,402.78	14,310.87	10,402.67	80.28	78.47	90.00	-3,973.85	-1,734.89	3,332.22	3,182.70	149.52	22.287	
14,400.00	10,403.42	14,410.87	10,403.31	81.89	80.06	90.00	-4,073.85	-1,734.89	3,332.22	3,179.31	152.92	21.791	
14,500.00	10,404.07	14,510.87	10,403.95	83.50	81.65	90.00	-4,173.85	-1,734.89	3,332.22	3,175.90	156.32	21.316	
14,600.00	10,404.71	14,610.87	10,404.59	85.12	83.26	90.00	-4,273.85	-1,734.89	3,332.22	3,172.48	159.74	20.860	
14,700.00	10,405.36	14,710.87	10,405.23	86.75	84.87	90.00	-4,373.84	-1,734.89	3,332.22	3,169.05	163.17	20.422	
14,800.00	10,406.01	14,810.87	10,405.87	88.39	86.49	90.00	-4,473.84	-1,734.89	3,332.22	3,165.61	166.61	20.000	
14,900.00	10,406.65	14,910.87	10,406.51	90.03	88.12	90.00	-4,573.84	-1,734.89	3,332.22	3,162.17	170.05	19.595	
14,954.20	10,407.00	14,965.07	10,406.86	90.93	89.01	90.00	-4,628.03	-1,734.89	3,332.22	3,160.30	171.92	19.382	
14,954.78	10,407.00	14,965.65	10,406.86	90.99	89.02	90.00	-4,628.62	-1,734.89	3,332.22	3,160.28	171.94	19.380	

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

13-5/8" 3M BOPE & Closed Loop Equipment Schematic



CONDITIONS OF APPROVAL

Sundry Dated 03/26/2013

OPERATOR'S NAME:	DEVON ENERGY
LEASE NO.:	LC061862
WELL NAME & NO.:	3H-COTTON DRAW 15 FED COM -30-015-40747
SURFACE HOLE FOOTAGE:	330'/N. & 1930'/E.
BOTTOM HOLE FOOTAGE:	330'/S. & 330'/S.
LOCATION:	Section 15, T. 25 S., R. 31 E., NMPM
COUNTY:	Eddy County, New Mexico

Original COA still applies with the following changes:

A. CASING

Wait on cement (WOC) time prior to drilling out for a primary cement job will be a minimum 18 hours for a water basin, 24 hours in the potash area, or 500 pounds compressive strength, whichever is greater for all casing strings. DURING THIS WOC TIME, NO DRILL PIPE, ETC. SHALL BE RUN IN THE HOLE. Provide compressive strengths including hours to reach required 500 pounds compressive strength prior to cementing each casing string. See individual casing strings for details regarding lead cement slurry requirements.

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

**Possible water and brine flows in the Salado, Castile, Delaware, and Bone Spring.
Possible lost circulation in the Delaware and Bone Spring.**

1. The 13-3/8 inch surface casing shall be set at approximately **725 feet (in a competent bed below the Magenta Dolomite, a Member of the Rustler, and if salt is encountered, set casing at least 25 feet above the salt)** and cemented to the surface. **Freshwater mud to be used to setting depth.**
 - 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.

2. The minimum required fill of cement behind the **9-5/8** inch intermediate casing **which shall be set at approximately 4200' as proposed**, is:
 - ☒ Cement to surface. If cement does not circulate see B.1.a, c-d above.
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.
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.

B. PRESSURE CONTROL

1. All blowout preventer (BOP) and related equipment (BOPE) shall comply with well control requirements as described in Onshore Oil and Gas Order No. 2 and API RP 53 Sec. 17.
2. Variance approved to use flex line from BOP to choke manifold. Check condition of flexible line from BOP to choke manifold, replace if exterior is damaged or if line fails test. Line to be as straight as possible with no hard bends and is to be anchored according to Manufacturer's requirements. The flexible hose can be exchanged with a hose of equal size and equal or greater pressure rating. **Anchor requirements, specification sheet and hydrostatic pressure test certification matching the hose in service, to be onsite for review.** If the BLM inspector questions the straightness of the hose, a BLM engineer will be contacted and will review in the field or via picture supplied by inspector to determine if changes are required (operator shall expect delays if this occurs).
3. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be **3000 (3M) psi**.
 - a. **For surface casing only:** If the BOP/BOPE is to be tested against casing, the wait on cement (WOC) time for that casing is to be met (see WOC statement at start of casing section). Independent Service Company required.
4. The appropriate BLM office shall be notified a minimum of 4 hours in advance for a representative to witness the tests.
 - a. In a water basin, for all casing strings utilizing slips, these are to be set as soon as the crew and rig are ready and any fallback cement remediation has been done. The casing cut-off and BOP installation can be initiated four hours after installing the slips, which will be approximately six hours after bumping the

plug. For those casing strings not using slips, the minimum wait time before cut-off is eight hours after bumping the plug. BOP/BOPE testing can begin after cut-off or once cement reaches 500 psi compressive strength (including lead when specified), whichever is greater. However, if the float does not hold, cut-off cannot be initiated until cement reaches 500 psi compressive strength (including lead when specified).

- b. The tests shall be done by an independent service company utilizing a test plug **not a cup or J-packer**. The operator also has the option of utilizing an independent tester to test without a plug (i.e. against the casing) pursuant to Onshore Order 2 with the pressure not to exceed 70% of the burst rating for the casing. Any test against the casing must meet the WOC time for water basin (18 hours) or potash (24 hours) or 500 pounds compressive strength, whichever is greater, prior to initiating the test (see casing segment as lead cement may be critical item).
- c. The results of the test shall be reported to the appropriate BLM office.
- d. All tests are required to be recorded on a calibrated test chart. **A copy of the BOP/BOPE test chart and a copy of independent service company test will be submitted to the appropriate BLM office.**
- e. The BOP/BOPE test shall include a low pressure test from 250 to 300 psi. The test will be held for a minimum of 10 minutes if test is done with a test plug and 30 minutes without a test plug.

C. DRILL STEM TEST

If drill stem tests are performed, Onshore Order 2.III.D shall be followed.

D. WASTE MATERIAL AND FLUIDS

All waste (i.e. drilling fluids, trash, salts, chemicals, sewage, gray water, etc.) created as a result of drilling operations and completion operations shall be safely contained and disposed of properly at a waste disposal facility. No waste material or fluid shall be disposed of on the well location or surrounding area.

Porto-johns and trash containers will be on-location during fracturing operations or any other crew-intensive operations.