

NM OIL CONSERVATION ARTESIA DISTRICT

AUG 27 2014

Form C-102

District I
1625 N. French Dr., Hobbs, NM 88240
Phone: (575) 393-6161 Fax: (575) 393-0720
District II
811 S. First St., Artesia, NM 88210
Phone: (575) 748-1233 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

Revised August 1, 2011
Submit one copy to appropriate
District Office

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

1. API Number 30-015-42610		2. Pool Code 96437 98056		3. Well Name WC-015 G-04 S26E23N28M	
4. Property Code 40253		5. Property Name BOSS HOGG 15 STATE COM		6. Well Number 4H	
7. OGRID No. 6137		8. Operator Name DEVON ENERGY PRODUCTION COMPANY, L.P.		9. Elevation 3298.8	

10. Surface Location

UL or lot no.	Section	Township	Range	Lot Idn.	Feet from the	North/South line	Feet from the	East/West line	County
A	15	23 S	26 E		25	NORTH	660	EAST	EDDY

11 Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn.	Feet from the	North/South line	Feet from the	East/West line	County
P	15	23 S	26 E		330	SOUTH	660	EAST	EDDY

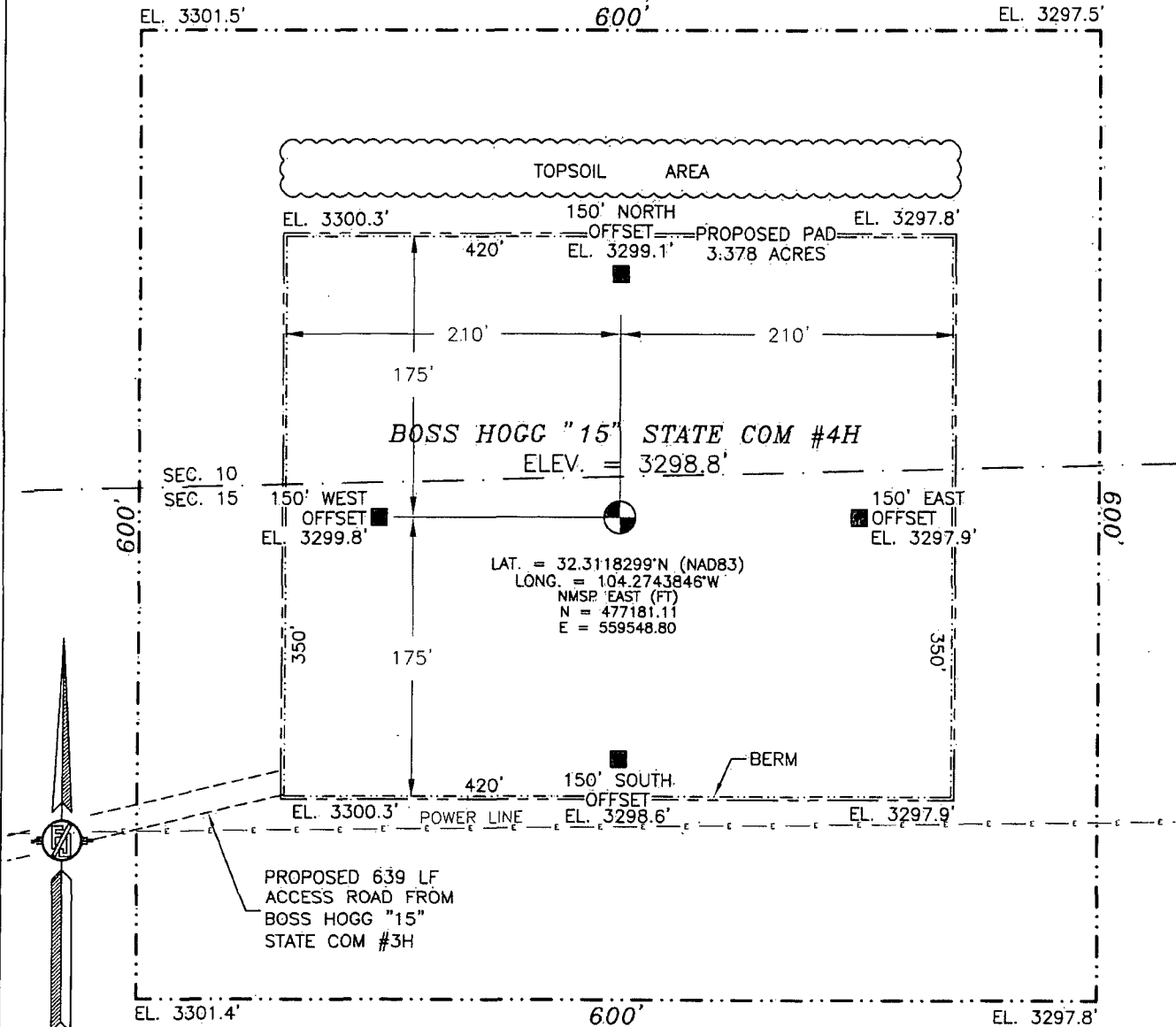
12. Dedicated Acres	13. Joint or Infill	14. Consolidation Code	15. Order No.
160.00			

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.

N88°34'29"E 2691.55 FT N88°36'40"E 2691.49 FT NW CORNER SEC. 15 LAT. = 32°31'15.857"N LONG. = 104°28'96.638"W NMSP EAST (FT) N = 477089.98 E = 554828.56 N.O. CORNER SEC. 15 LAT. = 32°31'17.663"N LONG. = 104°28'09.562"W NMSP EAST (FT) N = 477156.92 E = 555181.61 NE CORNER SEC. 15 LAT. = 32°31'19.177"N LONG. = 104°27'22.486"W NMSP EAST (FT) N = 477222.14 E = 560208.65 NOTE: LATITUDE AND LONGITUDE COORDINATES ARE SHOWN USING THE NORTH AMERICAN DATUM OF 1983 (NAD83). LISTED NEW MEXICO STATE PLANE EAST COORDINATES ARE GRID (NAD83) BASIS OF BEARING AND DISTANCES USED ARE NEW MEXICO STATE PLANE EAST COORDINATES MODIFIED TO THE SURFACE. BOSS HOGG 15 STATE COM #4H ELEV. = 3298.8 LAT. = 32°31'18.299"N (NAD83) LONG. = 104°27'43.846"W NMSP EAST (FT) N = 477181.11 E = 559548.80 W.O. CORNER SEC. 15 LAT. = 32°30'42.571"N LONG. = 104°28'96.589"W NMSP EAST (FT) N = 474423.96 E = 554831.17 SW CORNER SEC. 15 LAT. = 32°29'69.263"N LONG. = 104°28'96.540"W NMSP EAST (FT) N = 471757.42 E = 554833.76 S.O. CORNER SEC. 15 LAT. = 32°29'71.409"N LONG. = 104°28'09.519"W NMSP EAST (FT) N = 471836.41 E = 555722.55 SE CORNER SEC. 15 LAT. = 32°29'35.755"N LONG. = 104°27'22.497"W NMSP EAST (FT) N = 471916.62 E = 560211.33 S88°18'39"W 2690.63 FT S88°17'29"W 2690.65 FT		17. OPERATOR CERTIFICATION I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division: 8/25/2014 Signature: Linda Good Printed Name: Linda Good E-mail Address: linda.good@devn.com 18. SURVEYOR CERTIFICATION I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief. OCTOBER 27 2013 Date of Survey: 12797 Signature and Seal of Professional Surveyor: PHAMON F. JARAMILLO Certificate Number: PHAMON F. JARAMILLO: PLS 12797 SURVEY NO. 2418
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SECTION 15, TOWNSHIP 23 SOUTH, RANGE 26 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO
SITE MAP

NOTE: LATITUDE AND LONGITUDE COORDINATES ARE SHOWN USING THE NORTH AMERICAN DATUM OF 1983 (NAD83). LISTED NEW MEXICO STATE PLANE EAST COORDINATES ARE GRID (NAD83). BASIS OF BEARING AND DISTANCES USED ARE NEW MEXICO STATE PLANE EAST COORDINATES MODIFIED TO THE SURFACE



0 10 50 100 200
SCALE 1" = 100'

DIRECTIONS TO LOCATION

FROM MILE MARKER 28 ON NATIONAL PARKS HIGHWAY GO SOUTH APPROX. 0.9 MILES TO LEASE ROAD ON RIGHT (WEST) TURN WEST GO APPROX. 0.9 MILES, PASS CALICHE PIT ON RIGHT (NORTH) TO A ROAD LATH ON RIGHT (NORTH) OF LEASE ROAD WITH RED AND WHITE FLAGGING. FOLLOW ROAD LATHS GOING NORTH APPROX. 0.31 MILES TO BOSS HOGG "15" STATE COM #1H, CENTERLINE PROPOSED ROAD LATHS CONTINUES GOING EAST APPROX. 0.2 MILES TO BOSS HOGG "15" STATE COM #2H. FROM SOUTHEAST PAD CORNER GO EAST APPROX. 0.24 MILES TO BOSS HOGG "15" STATE COM #3H. FROM SOUTHEAST PAD CORNER GO EAST 639' TO SOUTHWEST PAD CORNER FOR THIS LOCATION.

DEVON ENERGY PRODUCTION COMPANY, L.P.
BOSS HOGG "15" STATE COM #4H
LOCATED 25 FT. FROM THE NORTH LINE
AND 660 FT. FROM THE EAST LINE OF
SECTION 15, TOWNSHIP 23 SOUTH,
RANGE 26 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO

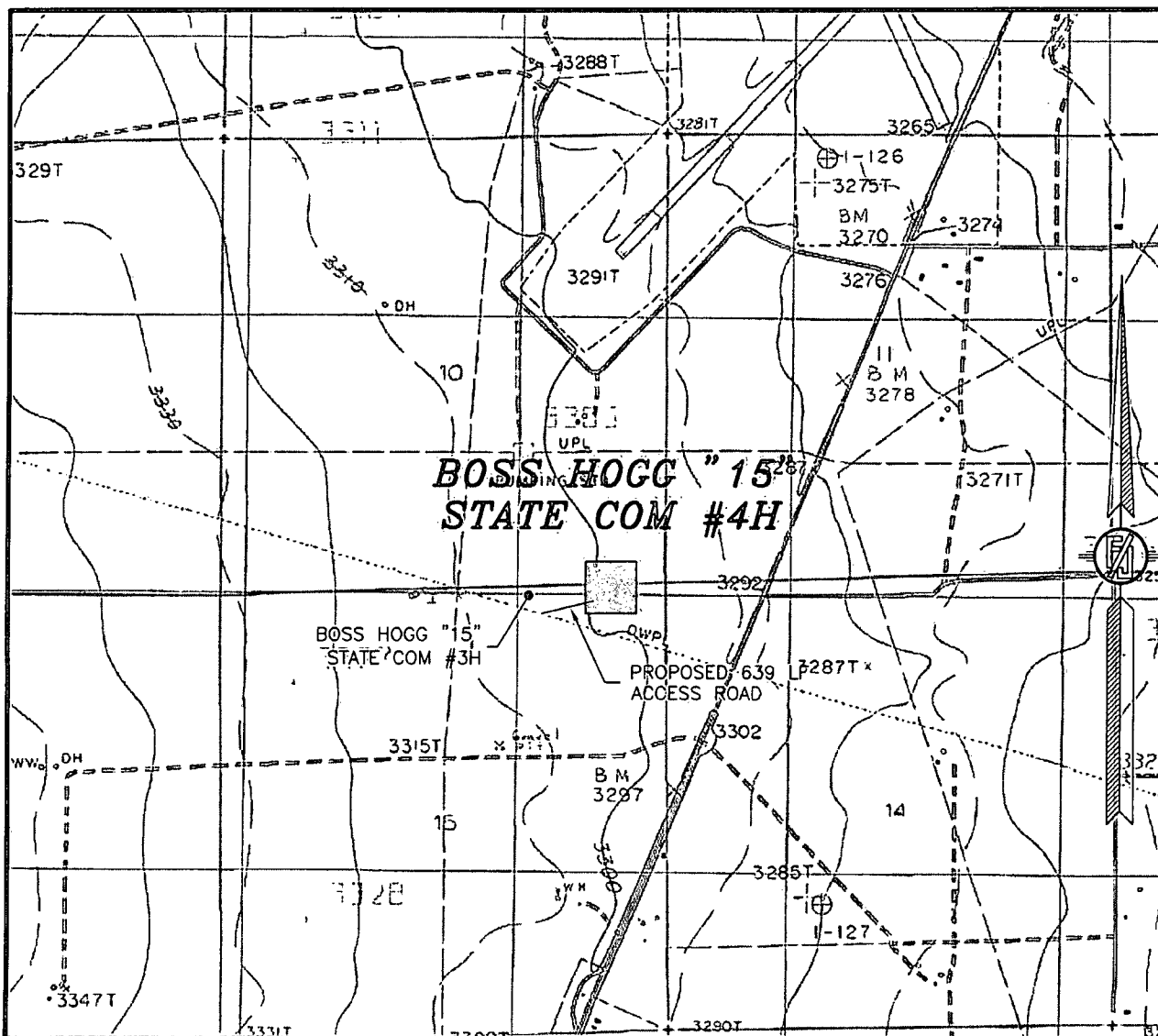
OCTOBER 27, 2013

SURVEY NO. 2418

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

CARLSBAD, NEW MEXICO

SECTION 15, TOWNSHIP 23 SOUTH, RANGE 26 EAST, N.M.P.M.
 EDDY COUNTY, STATE OF NEW MEXICO
 LOCATION VERIFICATION MAP



USGS QUAD MAP:
 KITCHEN COVE

NOT TO SCALE

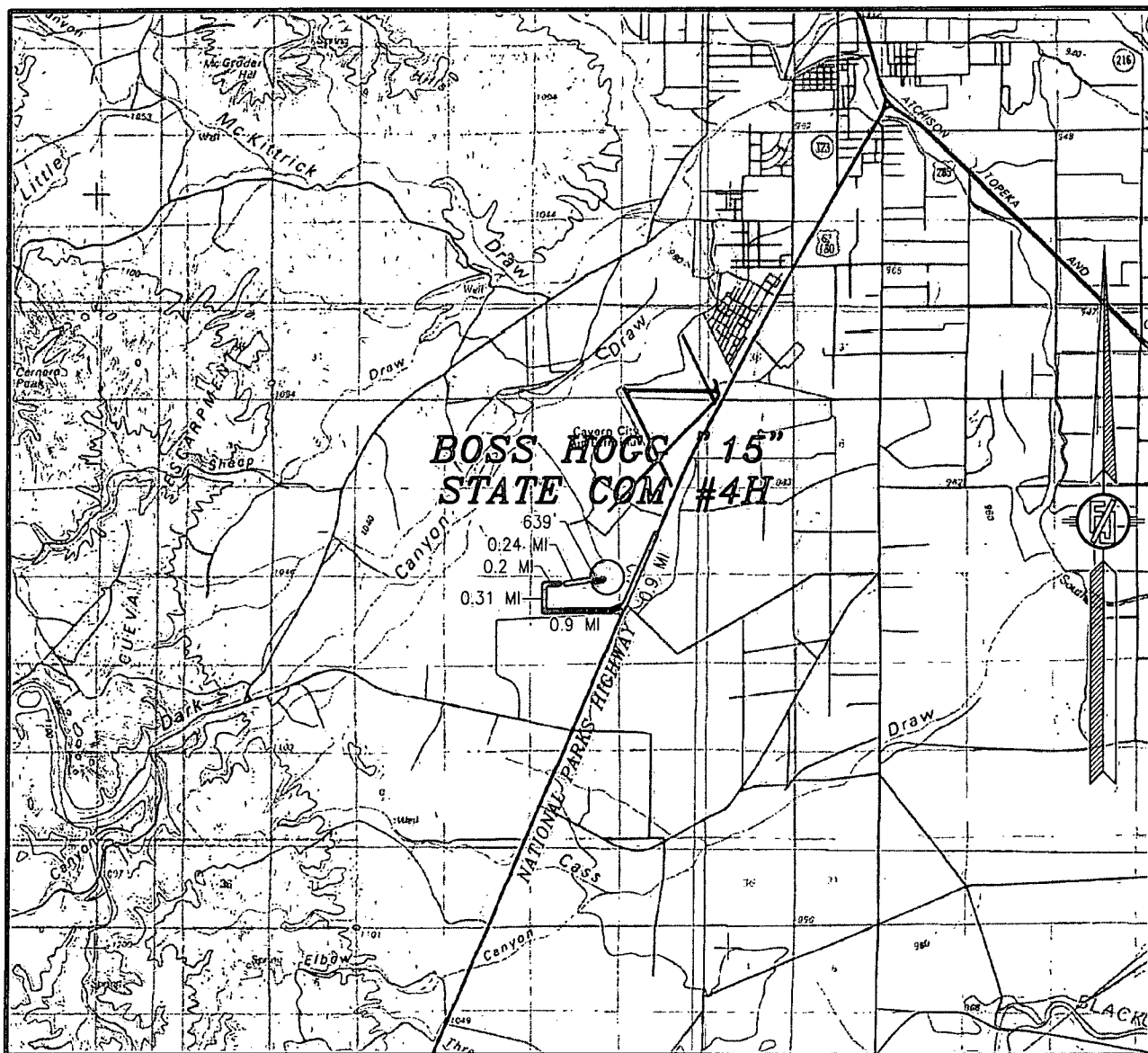
DEVON ENERGY PRODUCTION COMPANY, L.P.
BOSS HOGG "15" STATE COM #4H
 LOCATED 25 FT. FROM THE NORTH LINE
 AND 660 FT. FROM THE EAST LINE OF
 SECTION 15, TOWNSHIP 23 SOUTH,
 RANGE 26 EAST, N.M.P.M.
 EDDY COUNTY, STATE OF NEW MEXICO

OCTOBER 27, 2013

SURVEY NO. 2418

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

SECTION 15, TOWNSHIP 23 SOUTH, RANGE 26 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO
VICINITY MAP



NOT TO SCALE

DEVON ENERGY PRODUCTION COMPANY, L.P.

BOSS HOGG "15" STATE COM #4H

LOCATED 25 FT. FROM THE NORTH LINE
AND 660 FT. FROM THE EAST LINE OF
SECTION 15, TOWNSHIP 23 SOUTH,
RANGE 26 EAST, N.M.P.M.

EDDY COUNTY, STATE OF NEW MEXICO

OCTOBER 27, 2013

DIRECTIONS TO LOCATION

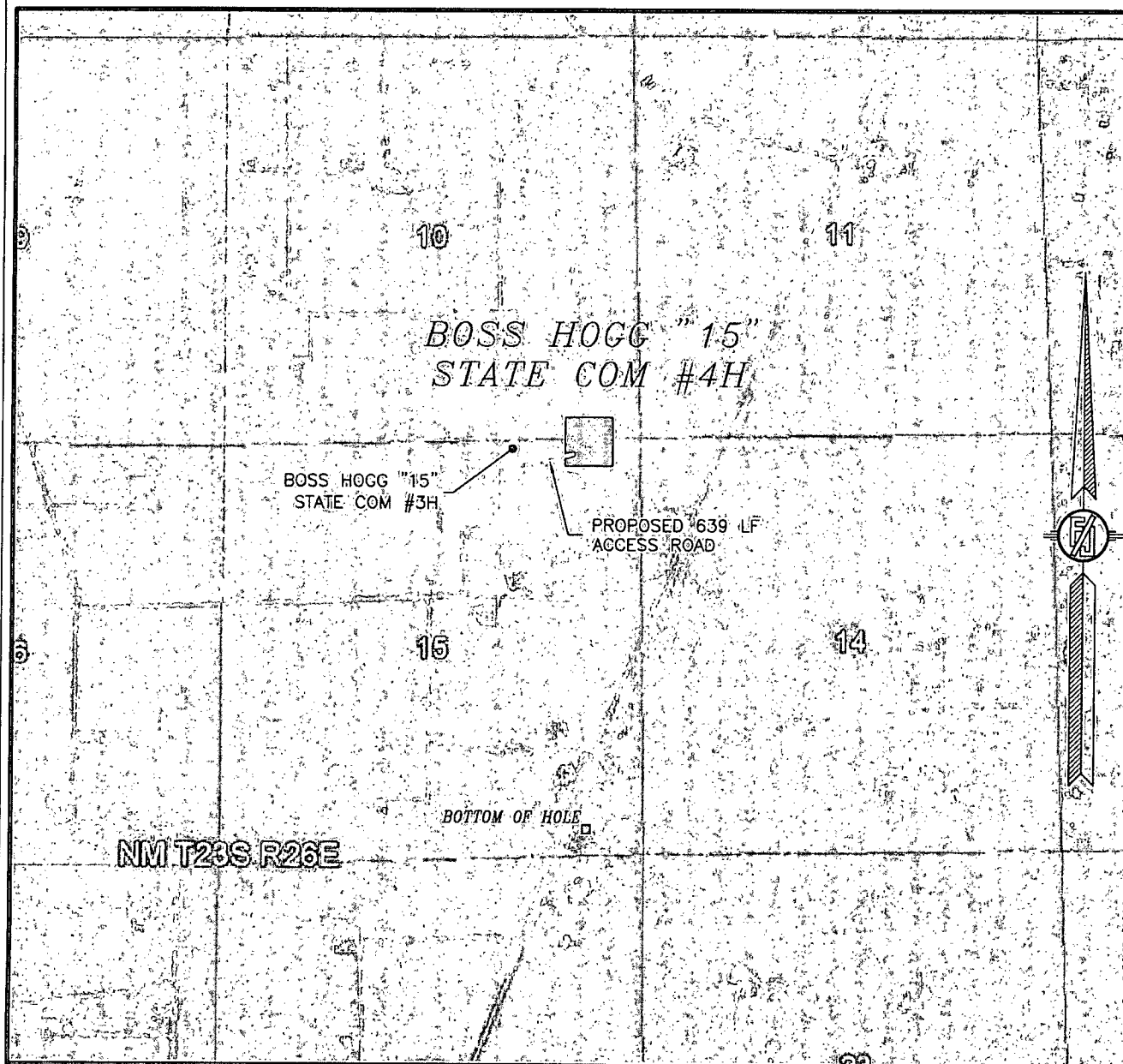
FROM MILE MARKER 28 ON NATIONAL PARKS HIGHWAY GO SOUTH APPROX. 0.9 MILES TO LEASE ROAD ON RIGHT (WEST) TURN WEST GO APPROX. 0.9 MILES, PASS CALICHE PIT ON RIGHT (NORTH) TO A ROAD LATH ON RIGHT (NORTH) OF LEASE ROAD WITH RED AND WHITE FLAGGING. FOLLOW ROAD LATHS GOING NORTH APPROX. 0.31 MILES TO BOSS HOGG "15" STATE COM #1H, CENTERLINE PROPOSED ROAD LATHS CONTINUES GOING EAST APPROX. 0.2 MILES TO BOSS HOGG "15" STATE COM #2H. FROM SOUTHEAST PAD CORNER GO EAST APPROX. 0.24 MILES TO BOSS HOGG "15" STATE COM #3H, FROM SOUTHEAST PAD CORNER GO EAST 639' TO SOUTHWEST PAD CORNER FOR THIS LOCATION.

SURVEY NO. 2418

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

CARLSBAD, NEW MEXICO

SECTION 15, TOWNSHIP 23 SOUTH, RANGE 26 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO
AERIAL PHOTO



NOT TO SCALE
AERIAL PHOTO:
GOOGLE EARTH
APRIL 2013

DEVON ENERGY PRODUCTION COMPANY, L.P.
BOSS HOGG "15" STATE COM #4H
LOCATED 25 FT. FROM THE NORTH LINE
AND 660 FT. FROM THE EAST LINE OF
SECTION 15, TOWNSHIP 23 SOUTH,
RANGE 26 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO

OCTOBER 27, 2013

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

SURVEY NO. 2418

DRILLING PROGRAM

Devon Energy Production Company, L.P.
Boss Hogg 15 State Com 4H

1. **Geologic Name of Surface Formation:** Quaternary

2. **Estimated Tops of Geological Markers & Depths of Anticipated FW, Oil, or Gas:**

a. Fresh Water	400'		
b. Rustler	1290'	Barren	
c. Top of Salt	1770'	Barren	
d. Base of Salt	5090'	Barren	
e. Delaware	5190'	Oil / Gas	
f. Cherry Canyon	6060'	Oil / Gas	
g. Brushy Canyon	7640'	Oil / Gas	
h. Bone Spring Lime	9070'	Oil / Gas	
i. 1 st Bone Spring SS	10065'	Oil / Gas	
j. 2 nd Bone Spring SS	10771'	Oil / Gas	
Total Depth	6741' TVD	11530' MD	7015' PH

3. Pressure Control Equipment:

A 3M 13-5/8" BOP system (Double Ram and Annular preventer) will be installed and tested prior to drilling out the surface casing shoe. The BOP system used to drill the intermediate hole will be tested per BLM Onshore Oil and Gas Order 2.

A 3M 13-5/8" BOP system (Double Ram and Annular preventer) will be installed and tested prior to drilling out the intermediate casing shoe. The BOP system used to drill the production hole will be tested per BLM Onshore Oil and Gas Order 2.

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 requests a variance to use a flexible line with flanged ends between the BOP and the choke manifold (choke line); **if an H&P rig drills this well. Otherwise no flex line is needed.** The line will be kept as straight as possible with minimal turns.

Auxiliary Well Control and Monitoring Equipment:

- a. A Kelly cock will be in the drill string at all times.
- b. A full opening drill pipe stabbing valve having the appropriate connections will be on the rig floor at all times.

4. Casing Program:

Hole Size	Hole Interval	Casing OD	Casing Interval	Weight (lb/ft)	Collar	Grade	Collapse Design Factor	Burst Design Factor	Tension Design Factor
17-1/2"	0 - 620'	13-3/8"	0 - 620'	48	STC	H-40	2.78	6.24	18.18
12-1/4"	620-1950'	9-5/8"	0-1950'	36	LTC	J-55	1.99	3.47	6.45
8-3/4"	1950-11530	5-1/2"	0-11530	17	BTC	P-110	2.64	3.28	4.93

Casing Notes:

- All casing is new and API approved

Maximum Lateral TVD: 6781'

A pilot hole will be drilled to 7015' and plugged back with the cement volumes below.

5. Proposed mud Circulations System:

Depth	Mud Weight	Viscosity	Fluid Loss	Type System
0-620'	8.4-9.0	30-34	N/C	FW
620-1950'	10.0	28-32	N/C	Brine
1950-13873'	8.6-9.0	28-32	N/C	FW

The necessary mud products for weight addition and fluid loss control will be on location at all times. Visual mud monitoring equipment will be in place to detect volume changes indicating loss or gain of circulating fluid volume. If abnormal pressures are encountered, electronic/mechanical mud monitoring equipment will be installed.

6. Cementing Table:

String	Number of sx	Weight lbs/gal	Water Volume g/sx	Yield cf/sx	Stage; Lead/Tail	Slurry Description
13-3/8" Surface	430	13.5	8.92	1.72	Lead	Class C Cement + 4% BWOC Bentonite + 2% BWOC CaCl ₂
	80	14.8	6.32	1.33	Tail	Class C Cement + 0.125 lbs/sack Poly-E-Flake + 63.5% Fresh Water
9-5/8" Intermediate Single Stage	560	12.9	9.81	1.85	Lead	(65:35) Class C Cement: Poz (Fly Ash): 6% BWOC Bentonite + 5% BWOW Sodium Chloride + 0.125 lbs/sack Poly-E-Flake + 70.9 % Fresh Water
	300	14.8	6.32	1.33	Tail	Class C Cement + 0.125 lbs/sack Poly-E-Flake + 63.5% Fresh Water
9-5/8" Intermediate 2-Stage Option	310	13.7	8.66	1.67	Tail	Class C Cement + 0.4% BWOC LAP-1 + 0.2% BWOC HR-601 + 0.2 lb/sk D-Air 5000 + 4% BWOC Bentonite + 69.3% Fresh Water
	DV Tool at 1000ft					
	110	12.9	9.81	1.85	Lead	(65:35) Class C Cement: Poz (Fly Ash): 6% BWOC Bentonite + 5% BWOW Sodium Chloride + 0.125 lbs/sack Poly-E-Flake + 70.9 % Fresh Water
	190	14.8	6.32	1.33	Tail	Class C Cement + 0.125 lbs/sack Poly-E-Flake + 63.5% Fresh Water
Pilot Hole Plug Back	100	15.6	5.39	1.19	Plug Cement	Class H Cement + 0.2% Halad-9 + 0.2% HR-601 + 60.5 % Fresh Water
5-1/2" Production Casing Single Stage	750	11.9	12.89	2.26	Lead	(50:50) Class H Cement: Poz (Fly Ash) + 10% BWOC Bentonite + 1 lb/sk of Kol-Seal + 0.3% BWOC HR-601 + 0.5lb/sk D-Air 5000 + 76.4% Fresh Water
	260	12.5	10.86	1.96	Lead	(65:35) Class H Cement: Poz (Fly Ash) + 6% BWOC Bentonite + 0.25% BWOC HR-601 + 0.125 lbs/sack Poly-E-Flake + 74.1 % Fresh Water
	780	14.5	5.38	1.22	Tail	(50:50) Class H Cement: Poz (Fly Ash) + 1 lb/sk Sodium Chloride + 0.5% bwoc HALAD-344 + 0.4% bwoc CFR-3 + 0.2% bwoc HR-601 + 2% bwoc Bentonite + 58.8% Fresh Water
5-1/2" Production Casing 2-Stage Option	290	12.5	10.86	1.96	Lead	(65:35) Class H Cement: Poz (Fly Ash) + 6% BWOC Bentonite + 0.25% BWOC HR-601 + 0.125 lbs/sack Poly-E-Flake + 74.1 % Fresh Water
	1370	14.5	5.38	1.22	Tail	(50:50) Class H Cement: Poz (Fly Ash) + 1 lb/sk Sodium Chloride + 0.5% bwoc HALAD-344 + 0.4% bwoc CFR-3 + 0.2% bwoc HR-601 + 2% bwoc Bentonite + 58.8% Fresh Water
	DV Tool at 4500ft					
	360	11.9	12.89	2.26	Lead	(50:50) Class H Cement: Poz (Fly Ash) + 10% BWOC Bentonite + 1 lb/sk of Kol-Seal + 0.3% BWOC HR-601 + 0.5lb/sk D-Air 5000 + 76.4% Fresh Water
	120	14.8	6.32	1.33	Tail	Class C Cement + 0.125 lbs/sack Poly-E-Flake + 63.5% Fresh Water

TOC for all Strings:

Surface	@	0'
Intermediate	@	0'
Production	@	1450'

Notes:

- Cement volumes Surface 100%, Intermediate 50%, Pilot Hole 10%, and Production based on at least 25% excess
- Actual cement volumes will be adjusted based on fluid caliper and/or caliper log data
- If lost circulation is encountered while drilling the production and/or the intermediate wellbores, a DV tool will be installed a minimum of 50' below the previous casing shoe and of 200' above the current shoe. If the DV tool has to be moved, the cement volumes will be adjusted proportionately.

7. Logging, Coring, and Testing Program:

- a. Drill stem tests will be based on geological sample shows.
- b. If a drill stem test is anticipated, a procedure, equipment to be used, and safety measures will be provided via sundry notice to the BLM.
- c. Resistivity and porosity logs are planned below the intermediate casing point. Stated logs run will be named in the Completion Report and submitted to the BLM
- d. No coring program is planned
- e. Additional Testing will be initiated subsequent to setting the production casing. Specific intervals will be targeted based on log evaluation, geological sample shows, and drill stem tests.

8. Potential Hazards:

- a. No abnormal pressures or temperatures are expected. There is no known presence of H₂S in this area, and none is anticipated to be encountered. If H₂S is encountered the operator will comply with the provisions of Onshore Oil and Gas Order No. 6. No lost circulation is expected to occur. All personnel will be familiar with all aspects of safe operation being used to drill this well. Estimated BHP: 3033 psi, and estimated BHT: 116 degrees.
- b. Hydrogen Sulfide detection equipment will be in operation after drilling out the surface casing shoe until the production string is cemented. Breathing equipment will be on location upon drilling the surface casing shoe until total depth is reached.

9. Anticipated Starting Date and Duration of Operations:

- a. Road and location construction will begin after the BLM has approved the APD. Anticipated spud date will be as soon after BLM approval and as soon as a rig will be available. Move in operations and drilling is expected to take 20 days. If production casing is run then an additional 30 days will be needed to complete well and construct surface facilities and/or lay flow lines in order to place well on production.

DEVON ENERGY

Project: Eddy County, NM (NAD-83)
Site: Boss Hogg 15 State Com
Well: 4H
Wellbore: OH
Design: Plan #1 Draft 1



Azimuths to Grid North
True North: -0.03°
Magnetic North: 7.67°

Magnetic Field
Strength: 48295.9nT
Dip Angle: 60.06°
Date: 02/20/2014
Model: BGGM2013

devon

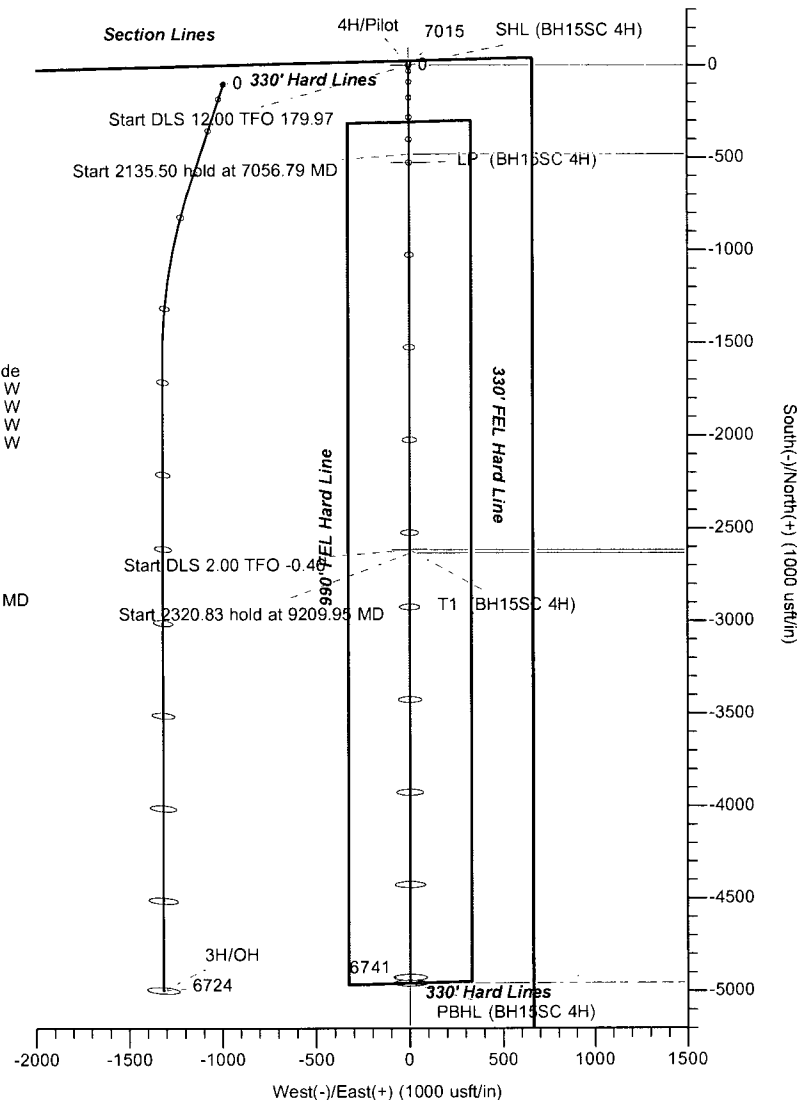
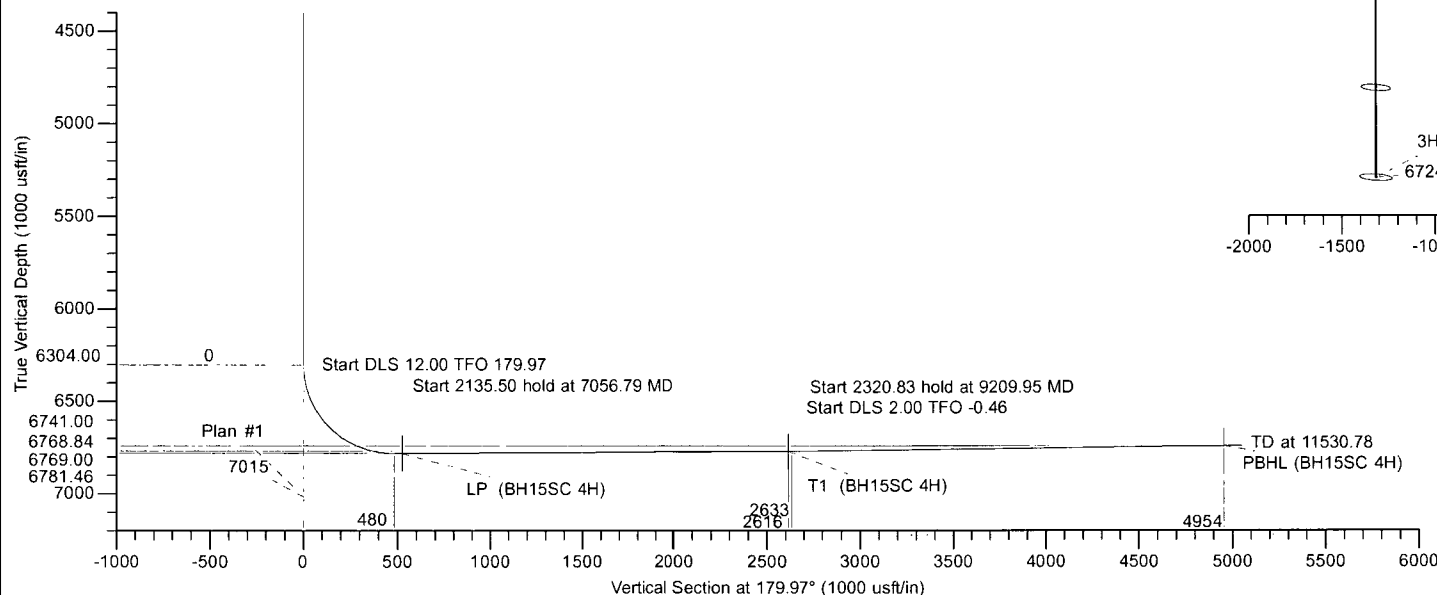
PROJECT DETAILS: Eddy County, NM (NAD-83)
Geodetic System: US State Plane 1983
Datum: North American Datum 1983
Ellipsoid: GRS 1980
Zone: New Mexico Eastern Zone

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
SHL (BH15SC 4H)	0.00	0.00	0.00	477181.11	559548.80	32° 18' 42.588 N	104° 16' 27.784 W
PBHL (BH15SC 4H)	6741.00	-4954.04	2.37	472227.07	559551.17	32° 17' 53.563 N	104° 16' 27.789 W
T1 (BH15SC 4H)	6769.00	-2615.71	1.19	474565.40	559549.99	32° 18' 16.703 N	104° 16' 27.787 W
LP (BH15SC 4H)	6781.00	-525.13	0.14	476655.98	559548.94	32° 18' 37.391 N	104° 16' 27.786 W

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	Vsect	Annotation
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2	6304.00	0.00	0.00	6304.00	0.00	0.00	0.00	0.00	0.00	KOP: Start DLS 12.00 TFO 179.97
3	7056.79	90.33	179.97	6781.46	-480.25	0.22	12.00	179.97	480.25	EOC: Start 2135.50 hold at 7056.79 MD
4	9192.29	90.33	179.97	6769.00	-2615.71	1.19	0.00	0.00	2615.72	Start DLS 2.00 TFO -0.46
5	9209.95	90.69	179.97	6768.84	-2633.37	1.20	2.00	-0.46	2633.37	Start 2320.83 hold at 9209.95 MD
6	11530.78	90.69	179.97	6741.00	-4954.04	2.37	0.00	0.00	4954.04	TD at 11530.78' MD



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

Plan: Plan #1 Draft 1 (4H/OH)
Boss Hogg 15 State Com
Created By: Heber Claros
Date: 12.43, February 20 2014
Approved: _____
Date: _____

DEVON ENERGY

Eddy County, NM (NAD-83)

Boss Hogg 15 State Com

4H

OH

Plan: Plan #1 Draft 1

Standard Planning Report

20 February, 2014

Leam Drilling Systems LLC

Planning Report

Database:	EDM 5000.1 Single User.Db	Local Co-ordinate Reference:	Well: 4H
Company:	DEVON ENERGY	TVD Reference:	GE 3299' + KB 25' @ 3324.00usft
Project:	Eddy County, NM (NAD-83)	MD Reference:	GE 3299' + KB 25' @ 3324.00usft
Site:	Boss Hogg 15 State Com	North Reference:	Grid:
Well:	4H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1 Draft 1		

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

Site						Boss Hogg 15 State Com											
Site Position:			Northing:			476,931.39 usft			Latitude:			32° 18' 40.136 N					
From:		Lat/Long		Easting:			555,488.56 usft			Longitude:		104° 17' 15.099 W					
Position Uncertainty:			0.00 usft			Slot Radius:			13-3/16 "			Grid Convergence:			0.02 °		

Well	4H					
Well Position	+N/-S	249.72 usft	Northing:	477,181.11 usft	Latitude:	32° 18' 42.588 N
	+E/-W	4,060.24 usft	Easting:	559,548.80 usft	Longitude:	104° 16' 27.784 W
Position Uncertainty		0.00 usft	Wellhead Elevation:	0.00 usft	Ground Level:	3,299.00 usft

Wellbore:	OH
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Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	BGGM2013	02/20/14	7.70	60.06	48,296

Design					Plan #1 Draft 1				
Audit Notes:									
Version:		Phase:		PROTOTYPE		Tie On Depth:		0.00	
Vertical Section:		Depth From (TVD)		+N/-S		+E/-W		Direction	
		(usft)		(usft)		(usft)		(°)	
		0.00		0.00		0.00		179.97	

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	
6,304.00	0.00	0.00	6,304.00	0.00	0.00	0.00	0.00	0.00	0.00	
7,056.79	90.33	179.97	6,781.46	-480.25	0.22	12.00	12.00	23.91	179.97	
9,192.29	90.33	179.97	6,769.00	-2,615.72	1.19	0.00	0.00	0.00	0.00	T1 (BH15SC 4H)
9,209.95	90.69	179.97	6,768.84	-2,633.37	1.20	2.00	2.00	-0.02	-0.46	
11,530.78	90.69	179.97	6,741.00	-4,954.04	2.37	0.00	0.00	0.00	0.00	PBHL (BH15SC 4H)

Leam Drilling Systems LLC

Planning Report

Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well 4H
Company:	DEVON ENERGY	TVD Reference:	GE 3299' + KB 25' @ 3324.00usft
Project:	Eddy County, NM (NAD-83)	MD Reference:	GE 3299' + KB 25' @ 3324.00usft
Site:	Boss Hogg 15 State Com	North Reference:	Grid
Well:	4H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1 Draft 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)
6,304.00	0.00	0.00	6,304.00	0.00	0.00	0.00	0.00	0.00	0.00
KOP: Start DLS 12.00 TFO 179.97									
6,325.00	2.52	179.97	6,324.99	-0.46	0.00	0.46	12.00	12.00	0.00
6,350.00	5.52	179.97	6,349.93	-2.21	0.00	2.21	12.00	12.00	0.00
6,375.00	8.52	179.97	6,374.74	-5.27	0.00	5.27	12.00	12.00	0.00
6,400.00	11.52	179.97	6,399.35	-9.62	0.00	9.62	12.00	12.00	0.00
6,425.00	14.52	179.97	6,423.71	-15.25	0.01	15.25	12.00	12.00	0.00
6,450.00	17.52	179.97	6,447.74	-22.15	0.01	22.15	12.00	12.00	0.00
6,475.00	20.52	179.97	6,471.37	-30.30	0.01	30.30	12.00	12.00	0.00
6,500.00	23.52	179.97	6,494.54	-39.67	0.02	39.67	12.00	12.00	0.00
6,525.00	26.52	179.97	6,517.19	-50.24	0.02	50.24	12.00	12.00	0.00
6,550.00	29.52	179.97	6,539.26	-61.98	0.03	61.98	12.00	12.00	0.00
6,575.00	32.52	179.97	6,560.68	-74.86	0.03	74.86	12.00	12.00	0.00
6,600.00	35.52	179.97	6,581.40	-88.85	0.04	88.85	12.00	12.00	0.00
6,625.00	38.52	179.97	6,601.36	-103.90	0.05	103.90	12.00	12.00	0.00
6,650.00	41.52	179.97	6,620.50	-119.98	0.05	119.98	12.00	12.00	0.00
6,675.00	44.52	179.97	6,638.78	-137.03	0.06	137.03	12.00	12.00	0.00
6,700.00	47.52	179.97	6,656.14	-155.02	0.07	155.02	12.00	12.00	0.00
6,725.00	50.52	179.97	6,672.53	-173.89	0.08	173.89	12.00	12.00	0.00
6,750.00	53.52	179.97	6,687.91	-193.59	0.09	193.59	12.00	12.00	0.00
6,775.00	56.52	179.97	6,702.24	-214.07	0.10	214.07	12.00	12.00	0.00
6,800.00	59.52	179.97	6,715.48	-235.28	0.11	235.28	12.00	12.00	0.00
6,825.00	62.52	179.97	6,727.59	-257.14	0.12	257.14	12.00	12.00	0.00
6,850.00	65.52	179.97	6,738.54	-279.62	0.13	279.62	12.00	12.00	0.00
6,875.00	68.52	179.97	6,748.30	-302.63	0.14	302.63	12.00	12.00	0.00
6,900.00	71.52	179.97	6,756.84	-326.12	0.15	326.12	12.00	12.00	0.00
6,925.00	74.52	179.97	6,764.14	-350.03	0.16	350.03	12.00	12.00	0.00
6,950.00	77.52	179.97	6,770.18	-374.29	0.17	374.29	12.00	12.00	0.00
6,975.00	80.52	179.97	6,774.94	-398.82	0.18	398.82	12.00	12.00	0.00
7,000.00	83.52	179.97	6,778.41	-423.58	0.19	423.58	12.00	12.00	0.00
7,025.00	86.52	179.97	6,780.58	-448.48	0.20	448.48	12.00	12.00	0.00
7,050.00	89.52	179.97	6,781.45	-473.46	0.22	473.46	12.00	12.00	0.00
7,056.79	90.33	179.97	6,781.46	-480.25	0.22	480.25	12.00	12.00	0.00
EOC: Start 2135.50 hold at 7056.79 MD									
7,100.00	90.33	179.97	6,781.20	-523.46	0.24	523.46	0.00	0.00	0.00
7,101.66	90.33	179.97	6,781.20	-525.13	0.24	525.13	0.00	0.00	0.00
LP (BH15SC 4H)									
7,200.00	90.33	179.97	6,780.62	-623.46	0.28	623.46	0.00	0.00	0.00
7,300.00	90.33	179.97	6,780.04	-723.46	0.33	723.46	0.00	0.00	0.00
7,400.00	90.33	179.97	6,779.45	-823.46	0.38	823.46	0.00	0.00	0.00
7,500.00	90.33	179.97	6,778.87	-923.46	0.42	923.46	0.00	0.00	0.00
7,600.00	90.33	179.97	6,778.29	-1,023.46	0.47	1,023.46	0.00	0.00	0.00
7,700.00	90.33	179.97	6,777.70	-1,123.45	0.51	1,123.45	0.00	0.00	0.00
7,800.00	90.33	179.97	6,777.12	-1,223.45	0.56	1,223.45	0.00	0.00	0.00
7,900.00	90.33	179.97	6,776.54	-1,323.45	0.60	1,323.45	0.00	0.00	0.00
8,000.00	90.33	179.97	6,775.95	-1,423.45	0.65	1,423.45	0.00	0.00	0.00
8,100.00	90.33	179.97	6,775.37	-1,523.45	0.69	1,523.45	0.00	0.00	0.00
8,200.00	90.33	179.97	6,774.79	-1,623.45	0.74	1,623.45	0.00	0.00	0.00
8,300.00	90.33	179.97	6,774.20	-1,723.44	0.79	1,723.44	0.00	0.00	0.00
8,400.00	90.33	179.97	6,773.62	-1,823.44	0.83	1,823.44	0.00	0.00	0.00
8,500.00	90.33	179.97	6,773.04	-1,923.44	0.88	1,923.44	0.00	0.00	0.00
8,600.00	90.33	179.97	6,772.46	-2,023.44	0.92	2,023.44	0.00	0.00	0.00
8,700.00	90.33	179.97	6,771.87	-2,123.44	0.97	2,123.44	0.00	0.00	0.00

Leam Drilling Systems LLC

Planning Report

Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well 4H
Company:	DEVON ENERGY	TVD Reference:	GE 3299' + KB 25' @ 3324.00usft
Project:	Eddy County, NM (NAD-83)	MD Reference:	GE 3299' + KB 25' @ 3324.00usft
Site:	Boss Hogg 15 State Com	North Reference:	Grid
Well:	4H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1 Draft 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)	
8,800.00	90.33	179.97	6,771.29	-2,223.43	1.01	2,223.44	0.00	0.00	0.00	
8,900.00	90.33	179.97	6,770.71	-2,323.43	1.06	2,323.43	0.00	0.00	0.00	
9,000.00	90.33	179.97	6,770.12	-2,423.43	1.10	2,423.43	0.00	0.00	0.00	
9,100.00	90.33	179.97	6,769.54	-2,523.43	1.15	2,523.43	0.00	0.00	0.00	
9,192.29	90.33	179.97	6,769.00	-2,615.72	1.19	2,615.72	0.00	0.00	0.00	
Start DLS 2.00 TFO -0.46 - T1 (BH15SC 4H)										
9,209.95	90.69	179.97	6,768.84	-2,633.37	1.20	2,633.37	2.00	2.00	-0.02	
Start 2320.83 hold at 9209.95 MD										
9,300.00	90.69	179.97	6,767.76	-2,723.42	1.25	2,723.42	0.00	0.00	0.00	
9,400.00	90.69	179.97	6,766.56	-2,823.41	1.30	2,823.41	0.00	0.00	0.00	
9,500.00	90.69	179.97	6,765.36	-2,923.41	1.35	2,923.41	0.00	0.00	0.00	
9,600.00	90.69	179.97	6,764.16	-3,023.40	1.40	3,023.40	0.00	0.00	0.00	
9,700.00	90.69	179.97	6,762.96	-3,123.39	1.45	3,123.39	0.00	0.00	0.00	
9,800.00	90.69	179.97	6,761.76	-3,223.39	1.50	3,223.39	0.00	0.00	0.00	
9,900.00	90.69	179.97	6,760.56	-3,323.38	1.55	3,323.38	0.00	0.00	0.00	
10,000.00	90.69	179.97	6,759.36	-3,423.37	1.60	3,423.37	0.00	0.00	0.00	
10,100.00	90.69	179.97	6,758.16	-3,523.36	1.65	3,523.36	0.00	0.00	0.00	
10,200.00	90.69	179.97	6,756.97	-3,623.36	1.70	3,623.36	0.00	0.00	0.00	
10,300.00	90.69	179.97	6,755.77	-3,723.35	1.75	3,723.35	0.00	0.00	0.00	
10,400.00	90.69	179.97	6,754.57	-3,823.34	1.80	3,823.34	0.00	0.00	0.00	
10,500.00	90.69	179.97	6,753.37	-3,923.33	1.85	3,923.34	0.00	0.00	0.00	
10,600.00	90.69	179.97	6,752.17	-4,023.33	1.90	4,023.33	0.00	0.00	0.00	
10,700.00	90.69	179.97	6,750.97	-4,123.32	1.95	4,123.32	0.00	0.00	0.00	
10,800.00	90.69	179.97	6,749.77	-4,223.31	2.00	4,223.31	0.00	0.00	0.00	
10,900.00	90.69	179.97	6,748.57	-4,323.31	2.05	4,323.31	0.00	0.00	0.00	
11,000.00	90.69	179.97	6,747.37	-4,423.30	2.10	4,423.30	0.00	0.00	0.00	
11,100.00	90.69	179.97	6,746.17	-4,523.29	2.16	4,523.29	0.00	0.00	0.00	
11,200.00	90.69	179.97	6,744.97	-4,623.28	2.21	4,623.28	0.00	0.00	0.00	
11,300.00	90.69	179.97	6,743.77	-4,723.28	2.26	4,723.28	0.00	0.00	0.00	
11,400.00	90.69	179.97	6,742.57	-4,823.27	2.31	4,823.27	0.00	0.00	0.00	
11,500.00	90.69	179.97	6,741.37	-4,923.26	2.36	4,923.26	0.00	0.00	0.00	
11,530.78	90.69	179.97	6,741.00	-4,954.04	2.37	4,954.04	0.00	0.00	0.00	
TD at 11530.78' MD - PBHL (BH15SC 4H)										

Design Targets										
Target Name	Dip Angle (°)	Dip Dir (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude	
SHL (BH15SC 4H)	0.00	0.00	0.00	0.00	0.00	477,181.11	559,548.80	32° 18' 42.588 N	104° 16' 27.784 W	
- plan misses target center by 6304.00usft at 6304.00usft MD (6304.00 TVD, 0.00 N, 0.00 E)										
- Point										
PBHL (BH15SC 4H)	0.00	0.00	6,741.00	-4,954.04	2.37	472,227.07	559,551.18	32° 17' 53.563 N	104° 16' 27.789 W	
- plan hits target center										
- Point										
T1 (BH15SC 4H)	0.00	0.00	6,769.00	-2,615.72	1.19	474,565.40	559,549.99	32° 18' 16.703 N	104° 16' 27.787 W	
- plan hits target center										
- Point										
LP (BH15SC 4H)	0.00	0.00	6,781.00	-525.13	0.14	476,655.98	559,548.94	32° 18' 37.391 N	104° 16' 27.786 W	
- plan misses target center by 0.22usft at 7101.66usft MD (6781.19 TVD, -525.13 N, 0.24 E)										
- Point										

Leam Drilling Systems LLC

Planning Report

Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well 4H
Company:	DEVON ENERGY	TVD Reference:	GE 3299' + KB 25' @ 3324.00usft
Project:	Eddy County, NM (NAD-83)	MD Reference:	GE 3299' + KB 25' @ 3324.00usft
Site:	Boss Hogg 15 State Com	North Reference:	Grid
Well:	4H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1 Draft 1		

Plan Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates			
		+N/-S (usft)	+E/-W (usft)	Comment	
6,304.00	6,304.00	0.00	0.00	KOP: Start DLS 12.00 TFO 179.97	
7,056.79	6,781.46	-480.25	0.22	EOC: Start 2135.50 hold at 7056.79 MD	
9,192.29	6,769.00	-2,615.72	1.19	Start DLS 2.00 TFO -0.46	
9,209.95	6,768.84	-2,633.37	1.20	Start 2320.83 hold at 9209.95 MD	
11,530.78	6,741.00	-4,954.04	2.37	TD at 11530.78' MD	

DEVON ENERGY

Eddy County, NM (NAD-83)
Boss Hogg 15 State Com
4H

OH
Plan #1 Draft 1

Anticollision Report

20 February, 2014

Leam Drilling Systems LLC

Anticollision Report

Company:	DEVON ENERGY	Local Co-ordinate Reference:	Well 4H
Project:	Eddy County NM (NAD-83)	TVD Reference:	GE 3299' + KB 25' @ 3324.00usft
Reference Site:	Boss Hogg 15 State Com	MD Reference:	GE 3299' + KB 25' @ 3324.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	4H	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 Draft 1	Offset TVD Reference:	Reference Datum

Reference:	Plan #1 Draft 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 11,530.78usft	Scan Method:	Closest Approach 3D
Results Limited by:	Maximum center-center distance of 10,000.00 usft	Error Surface:	Elliptical Conic
Warning Levels Evaluated at:	2.00 Sigma	Casing Method:	Not applied

From (usft)	To (usft)	Date	Survey (Wellbore)	Tool Name	Description
					()

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						
Boss Hogg 15 State Com						
1H - OH - Plan #1 Draft 1	11,530.78	11,185.09	4,059.09	3,880.67	22.751	CC, ES, SF
2H - OH - Plan #1 Draft 1	11,530.78	11,229.61	2,737.87	2,559.21	15.324	CC, ES, SF
3H - OH - Plan #1 Draft 1	6,214.33	6,221.33	994.63	966.96	35.946	CC, ES
3H - OH - Plan #1 Draft 1	11,530.78	11,444.32	1,320.10	1,141.11	7.375	SF
4H - Pilot - Plan #1	6,304.00	6,304.00	0.00	-28.06	0.000	Level 1, CC, ES, SF

Offset Design												Offset Site Error:	0.00 usft
Boss Hogg 15 State Com - 1H - OH - Plan #1 Draft 1												Offset Well Error:	0.00 usft
Survey Program:	0-LEAM MWD-ADJ												
Reference	Vertical	Measured	Vertical	Reference	Offset	Semi Major Axis	Highside	Offset Wellbore Centre	Between	Between	Minimum	Separation	Warning
Depth (usft)	Depth (usft)	Depth (usft)	Depth (usft)	Depth (usft)	Depth (usft)	Footcandle (°)	Footcandle (°)	N/S (usft)	E/W (usft)	Centres (usft)	Ellipses (usft)	Separation (usft)	Factor
0.00	0.00	28.00	0.00	0.00	0.02	-93.52		-249.72	-4,060.24	4,067.91			
100.00	100.00	128.00	100.00	0.08	0.15	-93.52		-249.72	-4,060.24	4,067.91	4,067.68	0.23	N/A
200.00	200.00	228.00	200.00	0.31	0.37	-93.52		-249.72	-4,060.24	4,067.91	4,067.23	0.68	5,973.077
300.00	300.00	328.00	300.00	0.53	0.60	-93.52		-249.72	-4,060.24	4,067.91	4,066.78	1.13	3,598.097
400.00	400.00	428.00	400.00	0.75	0.82	-93.52		-249.72	-4,060.24	4,067.91	4,066.33	1.58	2,574.456
500.00	500.00	528.00	500.00	0.98	1.05	-93.52		-249.72	-4,060.24	4,067.91	4,065.88	2.03	2,004.256
600.00	600.00	628.00	600.00	1.21	1.27	-93.52		-249.72	-4,060.24	4,067.91	4,065.43	2.48	1,640.837
700.00	700.00	728.00	700.00	1.43	1.50	-93.52		-249.72	-4,060.24	4,067.91	4,064.98	2.93	1,388.981
800.00	800.00	828.00	800.00	1.66	1.72	-93.52		-249.72	-4,060.24	4,067.91	4,064.53	3.38	1,204.154
900.00	900.00	928.00	900.00	1.88	1.95	-93.52		-249.72	-4,060.24	4,067.91	4,064.08	3.83	1,062.738
1,000.00	1,000.00	1,028.00	1,000.00	2.11	2.17	-93.52		-249.72	-4,060.24	4,067.91	4,063.63	4.28	951.047
1,100.00	1,100.00	1,128.00	1,100.00	2.33	2.39	-93.52		-249.72	-4,060.24	4,067.91	4,063.19	4.73	860.600
1,200.00	1,200.00	1,228.00	1,200.00	2.56	2.62	-93.52		-249.72	-4,060.24	4,067.91	4,062.74	5.18	785.863
1,300.00	1,300.00	1,328.00	1,300.00	2.78	2.84	-93.52		-249.72	-4,060.24	4,067.91	4,062.29	5.63	723.069
1,400.00	1,400.00	1,428.00	1,400.00	3.01	3.07	-93.52		-249.72	-4,060.24	4,067.91	4,061.84	6.08	669.568
1,500.00	1,500.00	1,528.00	1,500.00	3.23	3.29	-93.52		-249.72	-4,060.24	4,067.91	4,061.39	6.52	623.439
1,600.00	1,600.00	1,628.00	1,600.00	3.46	3.52	-93.52		-249.72	-4,060.24	4,067.91	4,060.94	6.97	583.256
1,700.00	1,700.00	1,728.00	1,700.00	3.68	3.74	-93.52		-249.72	-4,060.24	4,067.91	4,060.49	7.42	547.939
1,800.00	1,800.00	1,828.00	1,800.00	3.91	3.97	-93.52		-249.72	-4,060.24	4,067.91	4,060.04	7.87	516.655
1,900.00	1,900.00	1,928.00	1,900.00	4.13	4.19	-93.52		-249.72	-4,060.24	4,067.91	4,059.59	8.32	488.750
2,000.00	2,000.00	2,028.00	2,000.00	4.35	4.42	-93.52		-249.72	-4,060.24	4,067.91	4,059.14	8.77	463.706
2,100.00	2,100.00	2,128.00	2,100.00	4.58	4.64	-93.52		-249.72	-4,060.24	4,067.91	4,058.69	9.22	441.102

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 4H
Project:	Eddy County, NM.(NAD-83)	TVD Reference:	GE 3299' + KB 25' @ 3324.00usft
Reference Site:	Boss Hogg 15 State Com	MD Reference:	GE 3299' + KB 25' @ 3324.00usft
Site Error:	0.00'usft	North Reference:	Grid
Reference Well:	4H	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, Draft 1	Offset TVD Reference:	Reference Datum

Offset Design: Boss Hogg 15 State Com - 4H - OH - Plan #1 Draft 1												Offset Site Error:	0.00 usft
Survey Program: D-LEAM MWD-ADJ												Offset Well Error:	0.00 usft
Reference		Offset		Semi-Major Axis		Highside Toolface (°)	Offset Wellbore Centre:		Distance		Minimum Separation (usft)	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		N-S (usft)	E-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
2,200.00	2,200.00	2,228.00	2,200.00	4.80	4.87	-93.52	-249.72	-4,060.24	4,067.91	4,058.24	9.67	420.600	
2,300.00	2,300.00	2,328.00	2,300.00	5.03	5.09	-93.52	-249.72	-4,060.24	4,067.91	4,057.79	10.12	401.919	
2,400.00	2,400.00	2,428.00	2,400.00	5.25	5.32	-93.52	-249.72	-4,060.24	4,067.91	4,057.34	10.57	384.827	
2,500.00	2,500.00	2,528.00	2,500.00	5.48	5.54	-93.52	-249.72	-4,060.24	4,067.91	4,056.89	11.02	369.130	
2,600.00	2,600.00	2,628.00	2,600.00	5.70	5.77	-93.52	-249.72	-4,060.24	4,067.91	4,056.44	11.47	354.663	
2,700.00	2,700.00	2,728.00	2,700.00	5.93	5.99	-93.52	-249.72	-4,060.24	4,067.91	4,055.99	11.92	341.287	
2,800.00	2,800.00	2,828.00	2,800.00	6.15	6.22	-93.52	-249.72	-4,060.24	4,067.91	4,055.54	12.37	328.883	
2,900.00	2,900.00	2,928.00	2,900.00	6.38	6.44	-93.52	-249.72	-4,060.24	4,067.91	4,055.09	12.82	317.349	
3,000.00	3,000.00	3,028.00	3,000.00	6.60	6.67	-93.52	-249.72	-4,060.24	4,067.91	4,054.64	13.27	306.597	
3,100.00	3,100.00	3,128.00	3,100.00	6.83	6.89	-93.52	-249.72	-4,060.24	4,067.91	4,054.19	13.72	296.550	
3,200.00	3,200.00	3,228.00	3,200.00	7.05	7.11	-93.52	-249.72	-4,060.24	4,067.91	4,053.75	14.17	287.140	
3,300.00	3,300.00	3,328.00	3,300.00	7.28	7.34	-93.52	-249.72	-4,060.24	4,067.91	4,053.30	14.62	278.309	
3,400.00	3,400.00	3,428.00	3,400.00	7.50	7.56	-93.52	-249.72	-4,060.24	4,067.91	4,052.85	15.07	270.005	
3,500.00	3,500.00	3,528.00	3,500.00	7.73	7.79	-93.52	-249.72	-4,060.24	4,067.91	4,052.40	15.52	262.182	
3,600.00	3,600.00	3,628.00	3,600.00	7.95	8.01	-93.52	-249.72	-4,060.24	4,067.91	4,051.95	15.97	254.800	
3,700.00	3,700.00	3,728.00	3,700.00	8.18	8.24	-93.52	-249.72	-4,060.24	4,067.91	4,051.50	16.41	247.822	
3,800.00	3,800.00	3,828.00	3,800.00	8.40	8.46	-93.52	-249.72	-4,060.24	4,067.91	4,051.05	16.86	241.216	
3,900.00	3,900.00	3,928.00	3,900.00	8.63	8.69	-93.52	-249.72	-4,060.24	4,067.91	4,050.60	17.31	234.953	
4,000.00	4,000.00	4,028.00	4,000.00	8.85	8.91	-93.52	-249.72	-4,060.24	4,067.91	4,050.15	17.76	229.007	
4,100.00	4,100.00	4,128.00	4,100.00	9.07	9.14	-93.52	-249.72	-4,060.24	4,067.91	4,049.70	18.21	223.355	
4,200.00	4,200.00	4,228.00	4,200.00	9.30	9.36	-93.52	-249.72	-4,060.24	4,067.91	4,049.25	18.66	217.975	
4,300.00	4,300.00	4,328.00	4,300.00	9.52	9.59	-93.52	-249.72	-4,060.24	4,067.91	4,048.80	19.11	212.848	
4,400.00	4,400.00	4,428.00	4,400.00	9.75	9.81	-93.52	-249.72	-4,060.24	4,067.91	4,048.35	19.56	207.956	
4,500.00	4,500.00	4,528.00	4,500.00	9.97	10.04	-93.52	-249.72	-4,060.24	4,067.91	4,047.90	20.01	203.285	
4,600.00	4,600.00	4,628.00	4,600.00	10.20	10.26	-93.52	-249.72	-4,060.24	4,067.91	4,047.45	20.46	198.818	
4,700.00	4,700.00	4,728.00	4,700.00	10.42	10.49	-93.52	-249.72	-4,060.24	4,067.91	4,047.00	20.91	194.544	
4,800.00	4,800.00	4,828.00	4,800.00	10.65	10.71	-93.52	-249.72	-4,060.24	4,067.91	4,046.55	21.36	190.450	
4,900.00	4,900.00	4,928.00	4,900.00	10.87	10.94	-93.52	-249.72	-4,060.24	4,067.91	4,046.10	21.81	186.524	
5,000.00	5,000.00	5,028.00	5,000.00	11.10	11.16	-93.52	-249.72	-4,060.24	4,067.91	4,045.65	22.26	182.757	
5,100.00	5,100.00	5,128.00	5,100.00	11.32	11.39	-93.52	-249.72	-4,060.24	4,067.91	4,045.20	22.71	179.139	
5,200.00	5,200.00	5,228.00	5,200.00	11.55	11.61	-93.52	-249.72	-4,060.24	4,067.91	4,044.75	23.16	175.662	
5,300.00	5,300.00	5,328.00	5,300.00	11.77	11.84	-93.52	-249.72	-4,060.24	4,067.91	4,044.31	23.61	172.317	
5,400.00	5,400.00	5,428.00	5,400.00	12.00	12.06	-93.52	-249.72	-4,060.24	4,067.91	4,043.86	24.06	169.097	
5,500.00	5,500.00	5,528.00	5,500.00	12.22	12.28	-93.52	-249.72	-4,060.24	4,067.91	4,043.41	24.51	165.995	
5,600.00	5,600.00	5,628.00	5,600.00	12.45	12.51	-93.52	-249.72	-4,060.24	4,067.91	4,042.96	24.96	163.005	
5,700.00	5,700.00	5,728.00	5,700.00	12.67	12.73	-93.52	-249.72	-4,060.24	4,067.91	4,042.51	25.41	160.121	
5,800.00	5,800.00	5,828.00	5,800.00	12.90	12.96	-93.52	-249.72	-4,060.24	4,067.91	4,042.06	25.85	157.337	
5,900.00	5,900.00	5,928.00	5,900.00	13.12	13.18	-93.52	-249.72	-4,060.24	4,067.91	4,041.61	26.30	154.648	
6,000.00	6,000.00	6,028.00	6,000.00	13.35	13.41	-93.52	-249.72	-4,060.24	4,067.91	4,041.16	26.75	152.049	
6,100.00	6,100.00	6,128.00	6,100.00	13.57	13.63	-93.52	-249.72	-4,060.24	4,067.91	4,040.71	27.20	149.537	
6,136.02	6,136.02	6,164.02	6,136.02	13.65	13.71	-93.52	-249.72	-4,060.24	4,067.91	4,040.55	27.37	148.652	
6,200.00	6,200.00	6,212.58	6,184.55	13.80	13.81	-93.53	-250.74	-4,060.24	4,068.00	4,040.40	27.60	147.369	
6,300.00	6,300.00	6,279.35	6,250.75	14.02	13.93	-93.65	-259.17	-4,060.23	4,068.79	4,040.86	27.94	145.646	
6,304.00	6,304.00	6,281.97	6,253.32	14.03	13.93	-93.66	-259.67	-4,060.23	4,068.84	4,040.89	27.95	145.579	
6,325.00	6,324.99	6,300.00	6,270.94	14.07	13.96	86.29	-263.48	-4,060.23	4,069.10	4,041.08	28.02	145.228	
6,350.00	6,349.93	6,311.99	6,282.58	14.11	13.98	86.23	-266.35	-4,060.22	4,069.36	4,041.29	28.08	144.929	
6,375.00	6,374.74	6,328.27	6,298.27	14.16	14.01	86.17	-270.68	-4,060.22	4,069.61	4,041.46	28.14	144.600	
6,400.00	6,399.35	6,350.00	6,319.00	14.20	14.05	86.11	-277.22	-4,060.21	4,069.82	4,041.60	28.22	144.229	
6,425.00	6,423.71	6,360.76	6,329.15	14.24	14.07	86.07	-280.77	-4,060.21	4,069.99	4,041.71	28.27	143.945	
6,450.00	6,447.74	6,376.98	6,344.32	14.29	14.10	86.03	-286.53	-4,060.20	4,070.13	4,041.78	28.34	143.614	
6,475.00	6,471.37	6,400.00	6,365.52	14.33	14.14	86.00	-295.49	-4,060.19	4,070.24	4,041.82	28.42	143.223	
6,500.00	6,494.54	6,409.39	6,374.05	14.38	14.15	85.99	-299.42	-4,060.19	4,070.29	4,041.82	28.48	142.933	

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 4H
Project:	Eddy County, NM (NAD-83)	TVD Reference:	GE 3299' + KB 25' @ 3324.00usft
Reference Site:	Boss Hogg 15 State Com	MD Reference:	GE 3299' + KB 25' @ 3324.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	4H	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 Draft 1	Offset TVD Reference:	Reference Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-LEAM MWD-ADJ													Offset Well Error:	0.00 usft
Reference	Offset	Semi-Major Axis		Distance		Minimum		Separation		Warning				
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N-S (usft)	+E-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
6,525.00	6,517.19	6,425.59	6,388.59	14.42	14.18	85.98	-306.55	-4,060.18	4,070.32	4,041.77	28.55	142.571		
6,550.00	6,539.26	6,450.00	6,410.07	14.46	14.22	85.99	-318.15	-4,060.17	4,070.32	4,041.68	28.64	142.119		
6,575.00	6,560.88	6,450.00	6,410.07	14.51	14.22	85.99	-318.15	-4,060.17	4,070.27	4,041.59	28.69	141.880		
6,600.00	6,581.40	6,474.19	6,430.79	14.55	14.27	86.02	-330.61	-4,060.16	4,070.18	4,041.38	28.79	141.359		
6,625.00	6,601.36	6,490.40	6,444.35	14.61	14.30	86.05	-339.50	-4,060.15	4,070.06	4,041.17	28.89	140.900		
6,650.00	6,620.50	6,500.00	6,452.25	14.67	14.32	86.07	-344.96	-4,060.14	4,069.91	4,040.94	28.97	140.485		
6,675.00	6,638.78	6,522.86	6,470.64	14.74	14.38	86.13	-358.55	-4,060.13	4,069.71	4,040.61	29.10	139.851		
6,700.00	6,656.14	6,539.12	6,483.34	14.82	14.42	86.19	-368.70	-4,060.12	4,069.48	4,040.26	29.22	139.266		
6,725.00	6,672.53	6,550.00	6,491.66	14.91	14.45	86.24	-375.70	-4,060.11	4,069.23	4,039.89	29.34	138.713		
6,750.00	6,687.91	6,571.72	6,507.82	15.01	14.52	86.33	-390.20	-4,060.10	4,068.93	4,039.43	29.50	137.930		
6,775.00	6,702.24	6,588.06	6,519.58	15.12	14.57	86.41	-401.55	-4,060.09	4,068.61	4,038.96	29.66	137.188		
6,800.00	6,715.48	6,600.00	6,527.94	15.23	14.61	86.49	-410.07	-4,060.08	4,068.27	4,038.46	29.81	136.470		
6,825.00	6,727.59	6,620.85	6,542.07	15.36	14.69	86.60	-425.41	-4,060.06	4,067.90	4,037.88	30.02	135.519		
6,850.00	6,738.54	6,637.31	6,552.78	15.50	14.75	86.70	-437.90	-4,060.05	4,067.51	4,037.29	30.22	134.606		
6,875.00	6,748.30	6,650.00	6,560.77	15.65	14.80	86.80	-447.77	-4,060.04	4,067.10	4,036.68	30.42	133.718		
6,900.00	6,756.84	6,670.38	6,573.08	15.81	14.89	86.94	-464.00	-4,060.02	4,066.67	4,036.00	30.67	132.598		
6,925.00	6,764.14	6,687.00	6,582.65	15.98	14.97	87.06	-477.59	-4,060.01	4,066.23	4,035.31	30.92	131.521		
6,950.00	6,770.18	6,700.00	6,589.83	16.16	15.03	87.17	-488.43	-4,060.00	4,065.78	4,034.62	31.16	130.487		
6,975.00	6,774.94	6,720.45	6,600.57	16.35	15.14	87.33	-505.83	-4,059.98	4,065.32	4,033.85	31.46	129.213		
7,000.00	6,778.41	6,737.29	6,608.89	16.55	15.23	87.47	-520.47	-4,059.97	4,064.85	4,033.10	31.76	128.004		
7,025.00	6,780.58	6,750.00	6,614.85	16.76	15.29	87.60	-531.69	-4,059.96	4,064.39	4,032.36	32.04	126.869		
7,050.00	6,781.45	6,771.23	6,624.21	16.98	15.43	87.77	-550.75	-4,059.94	4,063.93	4,031.54	32.39	125.470		
7,056.79	6,781.46	6,775.87	6,626.14	17.04	15.46	87.82	-554.97	-4,059.93	4,063.81	4,031.33	32.48	125.117		
7,100.00	6,781.20	6,806.18	6,637.88	17.44	15.65	87.98	-582.91	-4,059.90	4,063.11	4,030.03	33.08	122.829		
7,200.00	6,780.62	6,881.64	6,659.89	18.47	16.21	88.30	-655.02	-4,059.83	4,062.03	4,027.36	34.67	117.149		
7,300.00	6,780.04	6,962.54	6,671.65	19.62	16.91	88.47	-734.98	-4,059.75	4,061.54	4,025.02	36.52	111.212		
7,400.00	6,779.45	7,054.35	6,672.47	20.86	17.83	88.49	-826.75	-4,059.66	4,061.45	4,022.77	38.68	105.006		
7,500.00	6,778.87	7,154.35	6,671.73	22.19	18.93	88.49	-926.75	-4,059.56	4,061.39	4,020.29	41.10	98.809		
7,600.00	6,778.29	7,254.34	6,670.89	23.58	20.14	88.49	-1,026.75	-4,059.46	4,061.34	4,017.64	43.70	92.933		
7,700.00	6,777.70	7,354.34	6,670.25	25.03	21.43	88.48	-1,126.74	-4,059.36	4,061.29	4,014.85	46.45	87.442		
7,800.00	6,777.12	7,454.34	6,669.51	26.52	22.80	88.48	-1,226.74	-4,059.26	4,061.24	4,011.93	49.31	82.362		
7,900.00	6,776.54	7,554.34	6,668.76	28.06	24.23	88.48	-1,326.74	-4,059.16	4,061.19	4,008.92	52.27	77.689		
8,000.00	6,775.95	7,654.34	6,668.02	29.63	25.71	88.48	-1,426.73	-4,059.06	4,061.14	4,005.82	55.32	73.407		
8,100.00	6,775.37	7,754.34	6,667.28	31.22	27.24	88.48	-1,526.73	-4,058.95	4,061.09	4,002.65	58.44	69.487		
8,200.00	6,774.79	7,854.34	6,666.54	32.85	28.80	88.47	-1,626.73	-4,058.85	4,061.04	3,999.41	61.62	65.900		
8,300.00	6,774.20	7,954.34	6,665.80	34.49	30.39	88.47	-1,726.73	-4,058.75	4,060.99	3,996.13	64.86	62.616		
8,400.00	6,773.62	8,054.34	6,665.06	36.15	32.00	88.47	-1,826.72	-4,058.65	4,060.94	3,992.81	68.13	59.605		
8,500.00	6,773.04	8,154.34	6,664.32	37.82	33.64	88.47	-1,926.72	-4,058.55	4,060.89	3,989.44	71.44	56.841		
8,600.00	6,772.46	8,254.34	6,663.58	39.51	35.30	88.46	-2,026.72	-4,058.45	4,060.83	3,986.05	74.79	54.298		
8,700.00	6,771.87	8,354.34	6,662.84	41.22	36.97	88.46	-2,126.71	-4,058.35	4,060.78	3,982.62	78.16	51.954		
8,800.00	6,771.29	8,454.34	6,662.10	42.93	38.66	88.46	-2,226.71	-4,058.25	4,060.73	3,979.17	81.56	49.788		
8,900.00	6,770.71	8,554.34	6,661.36	44.65	40.36	88.46	-2,326.71	-4,058.15	4,060.68	3,975.70	84.98	47.784		
9,000.00	6,770.12	8,654.34	6,660.62	46.38	42.07	88.45	-2,426.71	-4,058.05	4,060.63	3,972.21	88.42	45.925		
9,100.00	6,769.54	8,754.34	6,659.87	48.12	43.79	88.45	-2,526.70	-4,057.95	4,060.58	3,968.71	91.88	44.197		
9,192.29	6,769.00	8,846.63	6,659.19	49.73	45.38	88.45	-2,618.99	-4,057.86	4,060.53	3,965.46	95.08	42.707		
9,200.00	6,768.94	8,854.34	6,659.13	49.86	45.52	88.45	-2,626.70	-4,057.85	4,060.53	3,965.18	95.35	42.587		
9,209.95	6,768.84	8,864.29	6,659.06	50.04	45.69	88.45	-2,636.64	-4,057.84	4,060.52	3,964.83	95.69	42.433		
9,300.00	6,767.76	8,954.34	6,658.39	51.61	47.25	88.46	-2,726.70	-4,057.75	4,060.47	3,961.63	98.83	41.084		
9,400.00	6,766.56	9,054.34	6,657.65	53.37	49.00	88.46	-2,826.69	-4,057.65	4,060.41	3,958.07	102.33	39.679		
9,500.00	6,765.36	9,154.34	6,656.91	55.13	50.75	88.47	-2,926.69	-4,057.55	4,060.34	3,954.50	105.84	38.363		
9,600.00	6,764.16	9,254.34	6,656.17	56.89	52.50	88.48	-3,026.68	-4,057.45	4,060.28	3,950.92	109.36	37.128		
9,700.00	6,762.96	9,354.34	6,655.43	58.66	54.26	88.48	-3,126.68	-4,057.34	4,060.22	3,947.33	112.89	35.967		

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 4H
Project:	Eddy County, NM (NAD-83)	TVD Reference:	GE 3299' + KB 25' @ 3324.00usft
Reference Site:	Boss Hogg 15 State Com	MD Reference:	GE 3299' + KB 25' @ 3324.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	4H	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 Draft 1	Offset TVD Reference:	Reference Datum

Offset Design: Boss Hogg 15 State Com - 1H - OH - Plan #1 Draft 1												Offset Site Error:	0.00 usft
Survey Program: O-LEAM MWD-ADJ												Offset Well Error:	0.00 usft
Reference	Offset	Semi Major Axis		Distance		Minimum Separation		Separation Factor		Warning			
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre N-S (usft)	E-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
9,800.00	6,781.76	9,454.34	6,654.69	60.43	56.02	88.49	-3,226.68	-4,057.24	4,060.16	3,943.73	116.42	34.874	
9,900.00	6,760.56	9,554.34	6,653.95	62.21	57.79	88.50	-3,326.67	-4,057.14	4,060.09	3,940.13	119.97	33.844	
10,000.00	6,759.36	9,654.33	6,653.21	63.99	59.57	88.50	-3,426.67	-4,057.04	4,060.03	3,936.52	123.52	32.870	
10,100.00	6,758.16	9,754.33	6,652.47	65.77	61.34	88.51	-3,526.66	-4,056.94	4,059.97	3,932.90	127.07	31.950	
10,200.00	6,756.97	9,854.33	6,651.73	67.55	63.12	88.51	-3,626.66	-4,056.84	4,059.91	3,929.27	130.63	31.078	
10,300.00	6,755.77	9,954.33	6,650.98	69.34	64.90	88.52	-3,726.66	-4,056.74	4,059.85	3,925.64	134.20	30.252	
10,400.00	6,754.57	10,054.33	6,650.24	71.13	66.69	88.53	-3,826.65	-4,056.64	4,059.78	3,922.01	137.77	29.467	
10,500.00	6,753.37	10,154.33	6,649.50	72.92	68.47	88.53	-3,926.65	-4,056.54	4,059.72	3,918.37	141.35	28.721	
10,600.00	6,752.17	10,254.33	6,648.76	74.71	70.26	88.54	-4,026.65	-4,056.44	4,059.66	3,914.73	144.93	28.011	
10,700.00	6,750.97	10,354.33	6,648.02	76.51	72.05	88.55	-4,126.64	-4,056.34	4,059.60	3,911.08	148.52	27.334	
10,800.00	6,749.77	10,454.33	6,647.28	78.30	73.84	88.55	-4,226.64	-4,056.24	4,059.54	3,907.43	152.10	26.689	
10,900.00	6,748.57	10,554.32	6,646.54	80.10	75.64	88.56	-4,326.63	-4,056.14	4,059.48	3,903.78	155.70	26.073	
11,000.00	6,747.37	10,654.32	6,645.80	81.90	77.44	88.57	-4,426.63	-4,056.04	4,059.41	3,900.12	159.29	25.484	
11,100.00	6,746.17	10,754.32	6,645.06	83.70	79.23	88.57	-4,526.63	-4,055.94	4,059.35	3,896.46	162.89	24.921	
11,200.00	6,744.97	10,854.32	6,644.32	85.50	81.03	88.58	-4,626.62	-4,055.84	4,059.29	3,892.80	166.49	24.382	
11,300.00	6,743.77	10,954.32	6,643.58	87.30	82.83	88.59	-4,726.62	-4,055.73	4,059.23	3,889.14	170.09	23.865	
11,400.00	6,742.57	11,054.32	6,642.84	89.11	84.64	88.59	-4,826.61	-4,055.63	4,059.17	3,885.47	173.70	23.369	
11,500.00	6,741.37	11,154.32	6,642.10	90.91	86.44	88.60	-4,926.61	-4,055.53	4,059.11	3,881.80	177.30	22.893	
11,530.78	6,741.00	11,185.09	6,641.87	91.47	86.99	88.60	-4,957.39	-4,055.50	4,059.09	3,880.67	178.41	22.751	CC, ES, SF

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 4H
Project:	Eddy County, NM (NAD-83)	TVD Reference:	GE 3299' + KB 25' @ 3324.00usft
Reference Site:	Boss Hogg 15 State Com	MD Reference:	GE 3299' + KB 25' @ 3324.00usft
Site Error:	0.00 usft	North Reference:	Gnd
Reference Well:	4H	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 Draft 1	Offset TVD Reference:	Reference Datum

Offset Design: Boss Hogg 15 State Com - 2H - OH - Plan #1 Draft 1													Offset Site Error:	0.00 usft
Survey Program: 0-LEAM MWD-ADJ													Offset Well Error:	0.00 usft
Reference	Offset	Semi Major Axis		Distance		Warning								
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre N-S (usft)	Offset Wellbore Centre E-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
0.00	0.00	19.00	0.00	0.00	0.02	-94.53	-216.89	-2,740.56	2,749.13					
100.00	100.00	119.00	100.00	0.08	0.13	-94.53	-216.89	-2,740.56	2,749.13	2,748.92	0.21	N/A		
200.00	200.00	219.00	200.00	0.31	0.35	-94.53	-216.89	-2,740.56	2,749.13	2,748.47	0.66	4,160.226		
300.00	300.00	319.00	300.00	0.53	0.58	-94.53	-216.89	-2,740.56	2,749.13	2,748.02	1.11	2,475.925		
400.00	400.00	419.00	400.00	0.76	0.80	-94.53	-216.89	-2,740.56	2,749.13	2,747.57	1.56	1,762.402		
500.00	500.00	519.00	500.00	0.98	1.03	-94.53	-216.89	-2,740.56	2,749.13	2,747.12	2.01	1,368.128		
600.00	600.00	619.00	600.00	1.21	1.25	-94.53	-216.89	-2,740.56	2,749.13	2,746.67	2.46	1,118.014		
700.00	700.00	719.00	700.00	1.43	1.48	-94.53	-216.89	-2,740.56	2,749.13	2,746.22	2.91	945.214		
800.00	800.00	819.00	800.00	1.66	1.70	-94.53	-216.89	-2,740.56	2,749.13	2,745.77	3.36	818.679		
900.00	900.00	919.00	900.00	1.88	1.93	-94.53	-216.89	-2,740.56	2,749.13	2,745.32	3.81	722.023		
1,000.00	1,000.00	1,019.00	1,000.00	2.11	2.15	-94.53	-216.89	-2,740.56	2,749.13	2,744.87	4.26	645.780		
1,100.00	1,100.00	1,119.00	1,100.00	2.33	2.37	-94.53	-216.89	-2,740.56	2,749.13	2,744.42	4.71	584.101		
1,200.00	1,200.00	1,219.00	1,200.00	2.56	2.60	-94.53	-216.89	-2,740.56	2,749.13	2,743.97	5.16	533.177		
1,300.00	1,300.00	1,319.00	1,300.00	2.78	2.82	-94.53	-216.89	-2,740.56	2,749.13	2,743.52	5.61	490.420		
1,400.00	1,400.00	1,419.00	1,400.00	3.01	3.05	-94.53	-216.89	-2,740.56	2,749.13	2,743.07	6.06	454.011		
1,500.00	1,500.00	1,519.00	1,500.00	3.23	3.27	-94.53	-216.89	-2,740.56	2,749.13	2,742.62	6.50	422.635		
1,600.00	1,600.00	1,619.00	1,600.00	3.46	3.50	-94.53	-216.89	-2,740.56	2,749.13	2,742.17	6.95	395.316		
1,700.00	1,700.00	1,719.00	1,700.00	3.68	3.72	-94.53	-216.89	-2,740.56	2,749.13	2,741.73	7.40	371.314		
1,800.00	1,800.00	1,819.00	1,800.00	3.91	3.95	-94.53	-216.89	-2,740.56	2,749.13	2,741.28	7.85	350.059		
1,900.00	1,900.00	1,919.00	1,900.00	4.13	4.17	-94.53	-216.89	-2,740.56	2,749.13	2,740.83	8.30	331.106		
2,000.00	2,000.00	2,019.00	2,000.00	4.35	4.40	-94.53	-216.89	-2,740.56	2,749.13	2,740.38	8.75	314.100		
2,100.00	2,100.00	2,119.00	2,100.00	4.58	4.62	-94.53	-216.89	-2,740.56	2,749.13	2,739.93	9.20	298.756		
2,200.00	2,200.00	2,219.00	2,200.00	4.80	4.85	-94.53	-216.89	-2,740.56	2,749.13	2,739.48	9.65	284.841		
2,300.00	2,300.00	2,319.00	2,300.00	5.03	5.07	-94.53	-216.89	-2,740.56	2,749.13	2,739.03	10.10	272.164		
2,400.00	2,400.00	2,419.00	2,400.00	5.25	5.30	-94.53	-216.89	-2,740.56	2,749.13	2,738.58	10.55	260.568		
2,500.00	2,500.00	2,519.00	2,500.00	5.48	5.52	-94.53	-216.89	-2,740.56	2,749.13	2,738.13	11.00	249.920		
2,600.00	2,600.00	2,619.00	2,600.00	5.70	5.75	-94.53	-216.89	-2,740.56	2,749.13	2,737.68	11.45	240.107		
2,700.00	2,700.00	2,719.00	2,700.00	5.93	5.97	-94.53	-216.89	-2,740.56	2,749.13	2,737.23	11.90	231.036		
2,800.00	2,800.00	2,819.00	2,800.00	6.15	6.20	-94.53	-216.89	-2,740.56	2,749.13	2,736.78	12.35	222.626		
2,900.00	2,900.00	2,919.00	2,900.00	6.38	6.42	-94.53	-216.89	-2,740.56	2,749.13	2,736.33	12.80	214.806		
3,000.00	3,000.00	3,019.00	3,000.00	6.60	6.65	-94.53	-216.89	-2,740.56	2,749.13	2,735.88	13.25	207.517		
3,100.00	3,100.00	3,119.00	3,100.00	6.83	6.87	-94.53	-216.89	-2,740.56	2,749.13	2,735.43	13.70	200.707		
3,200.00	3,200.00	3,219.00	3,200.00	7.05	7.09	-94.53	-216.89	-2,740.56	2,749.13	2,734.98	14.15	194.329		
3,300.00	3,300.00	3,319.00	3,300.00	7.28	7.32	-94.53	-216.89	-2,740.56	2,749.13	2,734.53	14.60	188.344		
3,400.00	3,400.00	3,419.00	3,400.00	7.50	7.54	-94.53	-216.89	-2,740.56	2,749.13	2,734.08	15.05	182.717		
3,500.00	3,500.00	3,519.00	3,500.00	7.73	7.77	-94.53	-216.89	-2,740.56	2,749.13	2,733.63	15.50	177.416		
3,600.00	3,600.00	3,619.00	3,600.00	7.95	7.99	-94.53	-216.89	-2,740.56	2,749.13	2,733.18	15.94	172.414		
3,700.00	3,700.00	3,719.00	3,700.00	8.18	8.22	-94.53	-216.89	-2,740.56	2,749.13	2,732.73	16.39	167.687		
3,800.00	3,800.00	3,819.00	3,800.00	8.40	8.44	-94.53	-216.89	-2,740.56	2,749.13	2,732.29	16.84	163.211		
3,900.00	3,900.00	3,919.00	3,900.00	8.63	8.67	-94.53	-216.89	-2,740.56	2,749.13	2,731.84	17.29	158.969		
4,000.00	4,000.00	4,019.00	4,000.00	8.85	8.89	-94.53	-216.89	-2,740.56	2,749.13	2,731.39	17.74	154.941		
4,100.00	4,100.00	4,119.00	4,100.00	9.07	9.12	-94.53	-216.89	-2,740.56	2,749.13	2,730.94	18.19	151.113		
4,200.00	4,200.00	4,219.00	4,200.00	9.30	9.34	-94.53	-216.89	-2,740.56	2,749.13	2,730.49	18.64	147.469		
4,300.00	4,300.00	4,319.00	4,300.00	9.52	9.57	-94.53	-216.89	-2,740.56	2,749.13	2,730.04	19.09	143.997		
4,400.00	4,400.00	4,419.00	4,400.00	9.75	9.79	-94.53	-216.89	-2,740.56	2,749.13	2,729.59	19.54	140.684		
4,500.00	4,500.00	4,519.00	4,500.00	9.97	10.02	-94.53	-216.89	-2,740.56	2,749.13	2,729.14	19.99	137.520		
4,600.00	4,600.00	4,619.00	4,600.00	10.20	10.24	-94.53	-216.89	-2,740.56	2,749.13	2,728.69	20.44	134.496		
4,700.00	4,700.00	4,719.00	4,700.00	10.42	10.47	-94.53	-216.89	-2,740.56	2,749.13	2,728.24	20.89	131.602		
4,800.00	4,800.00	4,819.00	4,800.00	10.65	10.69	-94.53	-216.89	-2,740.56	2,749.13	2,727.79	21.34	128.829		
4,900.00	4,900.00	4,919.00	4,900.00	10.87	10.92	-94.53	-216.89	-2,740.56	2,749.13	2,727.34	21.79	126.172		
5,000.00	5,000.00	5,019.00	5,000.00	11.10	11.14	-94.53	-216.89	-2,740.56	2,749.13	2,726.89	22.24	123.621		
5,100.00	5,100.00	5,119.00	5,100.00	11.32	11.37	-94.53	-216.89	-2,740.56	2,749.13	2,726.44	22.69	121.172		

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

Leam Drilling Systems LLC

Anticollision Report

Company:	DEVONENERGY	Local Co-ordinate Reference:	Well 4H
Project:	Eddy County, NM (NAD-83)	TVD Reference:	GE 3299' + KB 25' @ 3324.00usft
Reference Site:	Boss Hogg 15 State Corn	MD Reference:	GE 3299' + KB 25' @ 3324.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	4H	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 Draft 1	Offset TVD Reference:	Reference Datum

Offset Design: Boss Hogg 15 State Corn - 2H - OH - Plan #1 Draft 1													Offset Site Error:
Survey Program: 0-LEAM.MWD-ADJ													Offset Well Error:
Reference	Offset	Semi Major Axis		Reference	Offset	Highside	Offset Wellbore Centre		Distance		Minimum	Separation	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Toolface (°)	N-S (usft)	E-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Separation (usft)	Factor	
5,200.00	5,200.00	5,219.00	5,200.00	11.55	11.59	-94.53	-216.89	-2,740.56	2,749.13	2,725.99	23.14	118.817	
5,300.00	5,300.00	5,319.00	5,300.00	11.77	11.81	-94.53	-216.89	-2,740.56	2,749.13	2,725.54	23.59	115.553	
5,400.00	5,400.00	5,419.00	5,400.00	12.00	12.04	-94.53	-216.89	-2,740.56	2,749.13	2,725.09	24.04	114.373	
5,500.00	5,500.00	5,519.00	5,500.00	12.22	12.26	-94.53	-216.89	-2,740.56	2,749.13	2,724.64	24.49	112.273	
5,600.00	5,600.00	5,619.00	5,600.00	12.45	12.49	-94.53	-216.89	-2,740.56	2,749.13	2,724.19	24.94	110.249	
5,700.00	5,700.00	5,719.00	5,700.00	12.67	12.71	-94.53	-216.89	-2,740.56	2,749.13	2,723.74	25.39	108.297	
5,800.00	5,800.00	5,819.00	5,800.00	12.90	12.94	-94.53	-216.89	-2,740.56	2,749.13	2,723.29	25.83	106.413	
5,900.00	5,900.00	5,919.00	5,900.00	13.12	13.16	-94.53	-216.89	-2,740.56	2,749.13	2,722.84	26.28	104.593	
6,000.00	6,000.00	6,019.00	6,000.00	13.35	13.39	-94.53	-216.89	-2,740.56	2,749.13	2,722.40	26.73	102.834	
6,100.00	6,100.00	6,119.00	6,100.00	13.57	13.61	-94.53	-216.89	-2,740.56	2,749.13	2,721.95	27.18	101.133	
6,153.97	6,153.97	6,172.97	6,153.97	13.69	13.73	-94.53	-216.89	-2,740.56	2,749.13	2,721.70	27.43	100.239	
6,200.00	6,200.00	6,210.98	6,191.96	13.80	13.81	-94.53	-217.26	-2,740.56	2,749.17	2,721.56	27.61	99.589	
6,300.00	6,300.00	6,280.98	6,261.54	14.02	13.93	-94.68	-224.57	-2,740.55	2,750.01	2,722.06	27.94	98.415	
6,304.00	6,304.00	6,283.73	6,264.25	14.03	13.94	-94.69	-225.05	-2,740.55	2,750.06	2,722.11	27.96	98.370	
6,325.00	6,324.99	6,300.00	6,280.22	14.07	13.96	85.24	-228.17	-2,740.55	2,750.36	2,722.33	28.02	98.147	
6,350.00	6,349.93	6,315.27	6,295.11	14.11	13.99	85.16	-231.55	-2,740.54	2,750.67	2,722.58	28.09	97.933	
6,375.00	6,374.74	6,332.36	6,311.65	14.16	14.02	85.08	-235.85	-2,740.54	2,750.95	2,722.79	28.15	97.713	
6,400.00	6,399.35	6,350.00	6,328.56	14.20	14.05	85.01	-240.85	-2,740.53	2,751.19	2,722.97	28.22	97.492	
6,425.00	6,423.71	6,366.47	6,344.19	14.24	14.08	84.95	-246.04	-2,740.53	2,751.38	2,723.10	28.28	97.275	
6,450.00	6,447.74	6,383.49	6,360.17	14.29	14.11	84.91	-251.91	-2,740.52	2,751.54	2,723.19	28.35	97.056	
6,475.00	6,471.37	6,400.00	6,375.47	14.33	14.14	84.87	-258.11	-2,740.51	2,751.65	2,723.23	28.42	96.838	
6,500.00	6,494.54	6,417.50	6,391.47	14.38	14.17	84.85	-265.20	-2,740.50	2,751.72	2,723.23	28.49	96.600	
6,525.00	6,517.19	6,434.49	6,406.76	14.42	14.20	84.85	-272.59	-2,740.50	2,751.74	2,723.18	28.56	96.361	
6,550.00	6,539.26	6,450.00	6,420.51	14.46	14.23	84.85	-279.78	-2,740.49	2,751.72	2,723.09	28.63	96.121	
6,575.00	6,560.68	6,468.48	6,436.60	14.51	14.26	84.87	-288.87	-2,740.48	2,751.65	2,722.94	28.71	95.836	
6,600.00	6,581.40	6,485.49	6,451.11	14.55	14.29	84.90	-297.73	-2,740.47	2,751.54	2,722.74	28.80	95.546	
6,625.00	6,601.36	6,500.00	6,463.26	14.61	14.32	84.94	-305.66	-2,740.46	2,751.39	2,722.51	28.88	95.258	
6,650.00	6,620.50	6,519.54	6,479.26	14.67	14.36	84.99	-316.88	-2,740.44	2,751.19	2,722.20	28.99	94.889	
6,675.00	6,638.78	6,536.59	6,492.87	14.74	14.41	85.06	-327.15	-2,740.43	2,750.95	2,721.85	29.10	94.519	
6,700.00	6,656.14	6,550.00	6,503.34	14.82	14.44	85.12	-335.53	-2,740.42	2,750.68	2,721.47	29.21	94.155	
6,725.00	6,672.53	6,570.79	6,519.12	14.91	14.50	85.22	-349.05	-2,740.41	2,750.36	2,721.00	29.36	93.670	
6,750.00	6,687.91	6,587.93	6,531.72	15.01	14.55	85.32	-360.68	-2,740.39	2,750.01	2,720.50	29.51	93.194	
6,775.00	6,702.24	6,600.00	6,540.36	15.12	14.59	85.41	-369.10	-2,740.38	2,749.63	2,719.98	29.65	92.738	
6,800.00	6,715.48	6,622.35	6,555.84	15.23	14.67	85.56	-385.23	-2,740.36	2,749.21	2,719.36	29.85	92.110	
6,825.00	6,727.59	6,639.64	6,567.33	15.36	14.74	85.69	-398.14	-2,740.35	2,748.77	2,718.73	30.04	91.513	
6,850.00	6,738.54	6,650.00	6,574.00	15.50	14.77	85.79	-406.07	-2,740.34	2,748.31	2,718.10	30.21	90.967	
6,875.00	6,748.30	6,674.38	6,589.09	15.65	14.88	85.98	-425.22	-2,740.32	2,747.81	2,717.34	30.47	90.181	
6,900.00	6,756.84	6,691.86	6,599.34	15.81	14.96	86.14	-439.38	-2,740.30	2,747.31	2,716.60	30.71	89.464	
6,925.00	6,764.14	6,709.41	6,609.15	15.98	15.04	86.31	-453.93	-2,740.29	2,746.79	2,715.82	30.97	88.703	
6,950.00	6,770.18	6,727.05	6,618.51	16.16	15.13	86.49	-468.88	-2,740.27	2,746.26	2,715.02	31.24	87.903	
6,975.00	6,774.94	6,750.00	6,629.92	16.35	15.25	86.71	-488.79	-2,740.24	2,745.74	2,714.18	31.56	87.008	
7,000.00	6,778.41	6,762.61	6,635.81	16.55	15.33	86.86	-499.94	-2,740.23	2,745.20	2,713.36	31.84	86.225	
7,025.00	6,780.58	6,780.55	6,643.72	16.76	15.44	87.06	-516.04	-2,740.21	2,744.66	2,712.50	32.16	85.343	
7,050.00	6,781.45	6,800.00	6,651.67	16.98	15.55	87.28	-533.79	-2,740.19	2,744.14	2,711.64	32.50	84.432	
7,056.79	6,781.46	6,800.00	6,651.67	17.04	15.55	87.29	-533.79	-2,740.19	2,744.01	2,711.44	32.56	84.270	
7,100.00	6,781.20	6,835.71	6,664.52	17.44	15.80	87.57	-567.10	-2,740.15	2,743.22	2,710.01	33.22	82.585	
7,200.00	6,780.62	6,915.46	6,684.79	18.47	16.42	88.00	-644.15	-2,740.06	2,742.10	2,707.23	34.87	78.635	
7,300.00	6,780.04	7,000.00	6,693.18	19.62	17.17	88.19	-728.18	-2,739.97	2,741.68	2,704.90	36.78	74.551	
7,400.00	6,779.45	7,097.60	6,692.42	20.86	18.17	88.18	-825.77	-2,739.85	2,741.61	2,702.60	39.01	70.271	
7,500.00	6,778.87	7,197.60	6,691.43	22.19	19.31	88.17	-925.77	-2,739.74	2,741.55	2,700.08	41.48	66.098	
7,600.00	6,778.29	7,297.60	6,690.44	23.58	20.55	88.16	-1,025.76	-2,739.62	2,741.50	2,697.39	44.11	62.156	
7,700.00	6,777.70	7,397.59	6,689.45	25.03	21.87	88.16	-1,125.75	-2,739.51	2,741.44	2,694.57	46.88	58.483	

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 4H
Project:	Eddy County, NM (NAD-83)	TVD Reference:	GE 3299' + KB 25' @ 3324.00usft
Reference Site:	Boss Hogg 15' State Com	MD Reference:	GE 3299' + KB 25' @ 3324.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	4H	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 Draft 1	Offset TVD Reference:	Reference Datum

Offset Design													Boss Hogg 15 State Com - 2H - OH - Plan #1 Draft 1		Offset Site Error: 0.00 usft	
Survey Program: 0-LEAM MWD-ADJ													Offset Well Error: 0.00 usft			
Reference		Offset		Semi Major Axis		Distance										
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			
7,800.00	6,777.12	7,497.59	6,688.45	26.52	23.26	88.15	-1,225.75	-2,739.39	2,741.38	2,691.62	49.76	55.091				
7,900.00	6,776.54	7,597.59	6,687.46	28.06	24.71	88.14	-1,325.74	-2,739.27	2,741.33	2,688.58	52.74	51.976				
8,000.00	6,775.95	7,697.59	6,686.47	29.63	26.21	88.13	-1,425.74	-2,739.16	2,741.27	2,685.46	55.81	49.121				
8,100.00	6,775.37	7,797.59	6,685.48	31.22	27.74	88.12	-1,525.73	-2,739.04	2,741.21	2,682.27	58.94	46.510				
8,200.00	6,774.79	7,897.59	6,684.49	32.85	29.31	88.11	-1,625.72	-2,738.93	2,741.16	2,679.03	62.13	44.122				
8,300.00	6,774.20	7,997.59	6,683.49	34.49	30.91	88.10	-1,725.72	-2,738.81	2,741.10	2,675.73	65.37	41.934				
8,400.00	6,773.62	8,097.59	6,682.50	36.15	32.53	88.10	-1,825.71	-2,738.70	2,741.04	2,672.39	68.65	39.929				
8,500.00	6,773.04	8,197.59	6,681.51	37.82	34.18	88.09	-1,925.71	-2,738.58	2,740.99	2,669.02	71.97	38.087				
8,600.00	6,772.46	8,297.59	6,680.52	39.51	35.84	88.08	-2,025.70	-2,738.46	2,740.93	2,665.61	75.32	36.392				
8,700.00	6,771.87	8,397.59	6,679.53	41.22	37.52	88.07	-2,125.70	-2,738.35	2,740.87	2,662.18	78.69	34.830				
8,800.00	6,771.29	8,497.59	6,678.53	42.93	39.21	88.06	-2,225.69	-2,738.23	2,740.82	2,658.72	82.09	33.386				
8,900.00	6,770.71	8,597.58	6,677.54	44.65	40.91	88.05	-2,325.68	-2,738.12	2,740.76	2,655.24	85.52	32.049				
9,000.00	6,770.12	8,697.58	6,676.55	46.38	42.62	88.04	-2,425.68	-2,738.00	2,740.70	2,651.74	88.96	30.809				
9,100.00	6,769.54	8,797.58	6,675.56	48.12	44.35	88.04	-2,525.67	-2,737.88	2,740.65	2,648.23	92.42	29.655				
9,192.29	6,769.00	8,898.87	6,674.64	49.73	45.95	88.03	-2,617.95	-2,737.78	2,740.59	2,644.97	95.62	28.661				
9,200.00	6,768.94	8,897.58	6,674.57	49.86	46.08	88.03	-2,625.67	-2,737.77	2,740.59	2,644.70	95.89	28.580				
9,209.95	6,768.84	8,907.53	6,674.47	50.04	46.25	88.03	-2,635.61	-2,737.76	2,740.58	2,644.35	96.24	28.478				
9,300.00	6,767.76	8,998.85	6,673.90	51.61	47.76	88.04	-2,726.93	-2,737.65	2,740.51	2,641.18	99.33	27.591				
9,400.00	6,766.56	9,100.99	6,676.19	53.37	49.26	88.11	-2,829.04	-2,737.55	2,740.34	2,637.77	102.57	26.716				
9,500.00	6,765.36	9,200.89	6,679.49	55.13	51.00	88.21	-2,928.89	-2,737.45	2,740.15	2,634.07	106.08	25.830				
9,600.00	6,764.16	9,300.79	6,682.78	56.89	52.76	88.30	-3,028.73	-2,737.36	2,739.97	2,630.36	109.61	24.998				
9,700.00	6,762.96	9,400.69	6,686.08	58.66	54.51	88.39	-3,128.58	-2,737.26	2,739.79	2,626.66	113.13	24.217				
9,800.00	6,761.76	9,500.59	6,689.37	60.43	56.28	88.49	-3,228.42	-2,737.16	2,739.62	2,622.95	116.67	23.481				
9,900.00	6,760.56	9,600.49	6,692.67	62.21	58.04	88.58	-3,328.26	-2,737.07	2,739.46	2,619.24	120.22	22.788				
10,000.00	6,759.36	9,700.38	6,695.96	63.99	59.81	88.67	-3,428.11	-2,736.97	2,739.31	2,615.54	123.77	22.132				
10,100.00	6,758.16	9,800.28	6,699.26	65.77	61.58	88.77	-3,527.95	-2,736.87	2,739.16	2,611.83	127.33	21.513				
10,200.00	6,756.97	9,900.18	6,702.55	67.55	63.36	88.86	-3,627.80	-2,736.78	2,739.02	2,608.13	130.89	20.926				
10,300.00	6,755.77	10,000.08	6,705.85	69.34	65.14	88.96	-3,727.64	-2,736.68	2,738.89	2,604.43	134.46	20.370				
10,400.00	6,754.57	10,099.98	6,709.14	71.13	66.92	89.05	-3,827.49	-2,736.58	2,738.77	2,600.73	138.03	19.842				
10,500.00	6,753.37	10,199.88	6,712.43	72.92	68.70	89.14	-3,927.33	-2,736.49	2,738.65	2,597.04	141.61	19.339				
10,600.00	6,752.17	10,299.78	6,715.73	74.71	70.49	89.24	-4,027.18	-2,736.39	2,738.54	2,593.35	145.19	18.862				
10,700.00	6,750.97	10,399.68	6,719.02	76.51	72.28	89.33	-4,127.02	-2,736.29	2,738.44	2,589.66	148.78	18.406				
10,800.00	6,749.77	10,499.58	6,722.32	78.30	74.07	89.43	-4,226.86	-2,736.20	2,738.34	2,585.98	152.36	17.972				
10,900.00	6,748.57	10,599.47	6,725.61	80.10	75.86	89.52	-4,326.71	-2,736.10	2,738.25	2,582.30	155.96	17.558				
11,000.00	6,747.37	10,699.37	6,728.91	81.90	77.65	89.61	-4,426.55	-2,736.00	2,738.17	2,578.62	159.55	17.162				
11,100.00	6,746.17	10,799.27	6,732.20	83.70	79.45	89.71	-4,526.40	-2,735.91	2,738.10	2,574.95	163.15	16.783				
11,200.00	6,744.97	10,899.17	6,735.50	85.50	81.25	89.80	-4,626.24	-2,735.81	2,738.04	2,571.29	166.75	16.420				
11,300.00	6,743.77	10,999.07	6,738.79	87.30	83.04	89.90	-4,726.09	-2,735.72	2,737.98	2,567.63	170.35	16.073				
11,400.00	6,742.57	11,098.97	6,742.09	89.11	84.84	89.99	-4,825.93	-2,735.62	2,737.93	2,563.98	173.95	15.740				
11,500.00	6,741.37	11,198.87	6,745.38	90.91	86.64	90.08	-4,925.78	-2,735.52	2,737.88	2,560.33	177.56	15.420				
11,530.78	6,741.00	11,229.61	6,746.39	91.47	87.20	90.11	-4,956.50	-2,735.49	2,737.87	2,559.21	178.67	15.324	CC, ES, SF			

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

Leam Drilling Systems LLC

Anticollision Report

Company:	DEVON ENERGY	Local Co-ordinate Reference:	Well 4H
Project:	Eddy County, NM (NAD-83)	TVD Reference:	GE 3299' + KB 25' @ 3324.00usft
Reference Site:	Boss Hogg 15 State Com	MD Reference:	GE 3299' + KB 25' @ 3324.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	4H	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 Draft 1	Offset TVD Reference:	Reference Datum

Offset Design													Offset Site Error:
Boss Hogg 15 State Com - 3H - OH - Plan #1 Draft 1													0.00 usft
Survey Program: 0-LEAM MWD-ADJ													Offset Well Error: 0.00 usft
Reference	Offset	Semi Major Axis		Distance		Warning							
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N-S (usft)	Offset Wellbore Centre +E-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	
0.00	0.00	7.00	0.00	0.00	0.01	-95.71	-98.99	-989.69	994.63	994.45	0.18	5,396.552	
100.00	100.00	107.00	100.00	0.08	0.10	-95.71	-98.99	-989.69	994.63	994.00	0.63	1,569.212	
200.00	200.00	207.00	200.00	0.31	0.32	-95.71	-98.99	-989.69	994.63	993.55	1.08	918.087	
300.00	300.00	307.00	300.00	0.53	0.55	-95.71	-98.99	-989.69	994.63	993.10	1.53	648.853	
400.00	400.00	407.00	400.00	0.76	0.77	-95.71	-98.99	-989.69	994.63	992.65	1.98	501.721	
500.00	500.00	507.00	500.00	0.98	1.00	-95.71	-98.99	-989.69	994.63	992.20	2.43	408.981	
600.00	600.00	607.00	600.00	1.21	1.22	-95.71	-98.99	-989.69	994.63	991.75	2.88	345.178	
700.00	700.00	707.00	700.00	1.43	1.45	-95.71	-98.99	-989.69	994.63	991.30	3.33	298.595	
800.00	800.00	807.00	800.00	1.66	1.67	-95.71	-98.99	-989.69	994.63	990.85	3.78	263.090	
900.00	900.00	907.00	900.00	1.88	1.90	-95.71	-98.99	-989.69	994.63	990.40	4.23	235.132	
1,000.00	1,000.00	1,007.00	1,000.00	2.11	2.12	-95.71	-98.99	-989.69	994.63	989.95	4.68	212.545	
1,100.00	1,100.00	1,107.00	1,100.00	2.33	2.35	-95.71	-98.99	-989.69	994.63	989.50	5.13	193.917	
1,200.00	1,200.00	1,207.00	1,200.00	2.56	2.57	-95.71	-98.99	-989.69	994.63	989.05	5.58	178.291	
1,300.00	1,300.00	1,307.00	1,300.00	2.78	2.80	-95.71	-98.99	-989.69	994.63	988.60	6.03	164.995	
1,400.00	1,400.00	1,407.00	1,400.00	3.01	3.02	-95.71	-98.99	-989.69	994.63	988.15	6.48	153.545	
1,500.00	1,500.00	1,507.00	1,500.00	3.23	3.25	-95.71	-98.99	-989.69	994.63	987.70	6.93	143.581	
1,600.00	1,600.00	1,607.00	1,600.00	3.46	3.47	-95.71	-98.99	-989.69	994.63	987.25	7.38	134.832	
1,700.00	1,700.00	1,707.00	1,700.00	3.68	3.70	-95.71	-98.99	-989.69	994.63	986.80	7.83	127.087	
1,800.00	1,800.00	1,807.00	1,800.00	3.91	3.92	-95.71	-98.99	-989.69	994.63	986.35	8.28	120.184	
1,900.00	1,900.00	1,907.00	1,900.00	4.13	4.15	-95.71	-98.99	-989.69	994.63	985.90	8.73	113.992	
2,000.00	2,000.00	2,007.00	2,000.00	4.35	4.37	-95.71	-98.99	-989.69	994.63	985.45	9.17	108.407	
2,100.00	2,100.00	2,107.00	2,100.00	4.58	4.60	-95.71	-98.99	-989.69	994.63	985.01	9.62	103.344	
2,200.00	2,200.00	2,207.00	2,200.00	4.80	4.82	-95.71	-98.99	-989.69	994.63	984.56	10.07	98.732	
2,300.00	2,300.00	2,307.00	2,300.00	5.03	5.04	-95.71	-98.99	-989.69	994.63	984.11	10.52	94.515	
2,400.00	2,400.00	2,407.00	2,400.00	5.25	5.27	-95.71	-98.99	-989.69	994.63	983.66	10.97	90.643	
2,500.00	2,500.00	2,507.00	2,500.00	5.48	5.49	-95.71	-98.99	-989.69	994.63	983.21	11.42	87.076	
2,600.00	2,600.00	2,607.00	2,600.00	5.70	5.72	-95.71	-98.99	-989.69	994.63	982.76	11.87	83.778	
2,700.00	2,700.00	2,707.00	2,700.00	5.93	5.94	-95.71	-98.99	-989.69	994.63	982.31	12.32	80.722	
2,800.00	2,800.00	2,807.00	2,800.00	6.15	6.17	-95.71	-98.99	-989.69	994.63	981.86	12.77	77.881	
2,900.00	2,900.00	2,907.00	2,900.00	6.38	6.39	-95.71	-98.99	-989.69	994.63	981.41	13.22	75.233	
3,000.00	3,000.00	3,007.00	3,000.00	6.60	6.62	-95.71	-98.99	-989.69	994.63	980.96	13.67	72.759	
3,100.00	3,100.00	3,107.00	3,100.00	6.83	6.84	-95.71	-98.99	-989.69	994.63	980.51	14.12	70.442	
3,200.00	3,200.00	3,207.00	3,200.00	7.05	7.07	-95.71	-98.99	-989.69	994.63	980.06	14.57	68.269	
3,300.00	3,300.00	3,307.00	3,300.00	7.28	7.29	-95.71	-98.99	-989.69	994.63	979.61	15.02	66.225	
3,400.00	3,400.00	3,407.00	3,400.00	7.50	7.52	-95.71	-98.99	-989.69	994.63	979.16	15.47	64.301	
3,500.00	3,500.00	3,507.00	3,500.00	7.73	7.74	-95.71	-98.99	-989.69	994.63	978.71	15.92	62.485	
3,600.00	3,600.00	3,607.00	3,600.00	7.95	7.97	-95.71	-98.99	-989.69	994.63	978.26	16.37	60.769	
3,700.00	3,700.00	3,707.00	3,700.00	8.18	8.19	-95.71	-98.99	-989.69	994.63	977.81	16.82	59.144	
3,800.00	3,800.00	3,807.00	3,800.00	8.40	8.42	-95.71	-98.99	-989.69	994.63	977.36	17.27	57.605	
3,900.00	3,900.00	3,907.00	3,900.00	8.63	8.64	-95.71	-98.99	-989.69	994.63	976.91	17.72	56.143	
4,000.00	4,000.00	4,007.00	4,000.00	8.85	8.87	-95.71	-98.99	-989.69	994.63	976.46	18.17	54.754	
4,100.00	4,100.00	4,107.00	4,100.00	9.07	9.09	-95.71	-98.99	-989.69	994.63	976.01	18.62	53.431	
4,200.00	4,200.00	4,207.00	4,200.00	9.30	9.32	-95.71	-98.99	-989.69	994.63	975.57	19.06	52.171	
4,300.00	4,300.00	4,307.00	4,300.00	9.52	9.54	-95.71	-98.99	-989.69	994.63	975.12	19.51	50.970	
4,400.00	4,400.00	4,407.00	4,400.00	9.75	9.76	-95.71	-98.99	-989.69	994.63	974.67	19.96	49.822	
4,500.00	4,500.00	4,507.00	4,500.00	9.97	9.99	-95.71	-98.99	-989.69	994.63	974.22	20.41	48.725	
4,600.00	4,600.00	4,607.00	4,600.00	10.20	10.21	-95.71	-98.99	-989.69	994.63	973.77	20.86	47.675	
4,700.00	4,700.00	4,707.00	4,700.00	10.42	10.44	-95.71	-98.99	-989.69	994.63	973.32	21.31	46.669	
4,800.00	4,800.00	4,807.00	4,800.00	10.65	10.66	-95.71	-98.99	-989.69	994.63	972.87	21.76	45.705	
4,900.00	4,900.00	4,907.00	4,900.00	10.87	10.89	-95.71	-98.99	-989.69	994.63	972.42	22.21	44.780	
5,000.00	5,000.00	5,007.00	5,000.00	11.10	11.11	-95.71	-98.99	-989.69	994.63	971.97	22.66	43.892	
5,100.00	5,100.00	5,107.00	5,100.00	11.32	11.34	-95.71	-98.99	-989.69	994.63				

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 4H
Project:	Eddy County, NM (NAD-83)	TVD Reference:	GE 3299' + KB 25' @ 3324.00usft
Reference Site:	Boss Hogg 15 State Com	MD Reference:	GE 3299' + KB 25' @ 3324.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	4H	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 Draft 1	Offset TVD Reference:	Reference Datum

Offset Design													Offset Site Error:
Survey Program: 0-LEAM MWD-ADJ													0.00 usft
Reference													Offset Well Error:
Offset													0.00 usft
Semi-Major Axis													
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N-S (usft)	+E-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
5,200.00	5,200.00	5,207.00	5,200.00	11.55	11.56	-95.71	-98.99	-989.69	994.63	971.52	23.11	43.038	
5,300.00	5,300.00	5,307.00	5,300.00	11.77	11.79	-95.71	-98.99	-989.69	994.63	971.07	23.56	42.217	
5,400.00	5,400.00	5,407.00	5,400.00	12.00	12.01	-95.71	-98.99	-989.69	994.63	970.62	24.01	41.426	
5,500.00	5,500.00	5,507.00	5,500.00	12.22	12.24	-95.71	-98.99	-989.69	994.63	970.17	24.46	40.665	
5,600.00	5,600.00	5,607.00	5,600.00	12.45	12.46	-95.71	-98.99	-989.69	994.63	969.72	24.91	39.931	
5,700.00	5,700.00	5,707.00	5,700.00	12.67	12.69	-95.71	-98.99	-989.69	994.63	969.27	25.36	39.223	
5,800.00	5,800.00	5,807.00	5,800.00	12.90	12.91	-95.71	-98.99	-989.69	994.63	968.82	25.81	38.540	
5,900.00	5,900.00	5,907.00	5,900.00	13.12	13.14	-95.71	-98.99	-989.69	994.63	968.37	26.26	37.880	
6,000.00	6,000.00	6,007.00	6,000.00	13.35	13.36	-95.71	-98.99	-989.69	994.63	967.92	26.71	37.243	
6,100.00	6,100.00	6,107.00	6,100.00	13.57	13.59	-95.71	-98.99	-989.69	994.63	967.47	27.16	36.626	
6,200.00	6,200.00	6,207.00	6,200.00	13.80	13.81	-95.71	-98.99	-989.69	994.63	967.02	27.61	36.030	
6,214.33	6,214.33	6,221.33	6,214.33	13.83	13.84	-95.71	-98.99	-989.69	994.63	966.96	27.67	35.946 CC, ES	
6,300.00	6,300.00	6,280.21	6,273.19	14.02	13.96	-95.77	-100.06	-990.05	995.45	967.48	27.98	35.583	
6,304.00	6,304.00	6,282.45	6,275.42	14.03	13.96	-95.78	-100.21	-990.10	995.56	967.58	27.99	35.571	
6,325.00	6,324.99	6,300.00	6,292.90	14.07	13.99	84.12	-101.66	-990.57	996.25	968.19	28.06	35.507	
6,350.00	6,349.93	6,300.00	6,292.90	14.11	13.99	84.01	-101.66	-990.57	997.19	969.09	28.10	35.490	
6,375.00	6,374.74	6,322.19	6,314.92	14.16	14.03	83.88	-104.29	-991.45	998.17	970.00	28.17	35.431	
6,400.00	6,399.35	6,336.17	6,328.71	14.20	14.05	83.76	-106.40	-992.14	999.36	971.13	28.23	35.398	
6,425.00	6,423.71	6,350.00	6,342.31	14.24	14.08	83.65	-108.84	-992.95	1,000.67	972.38	28.29	35.371	
6,450.00	6,447.74	6,364.07	6,356.06	14.29	14.10	83.54	-111.67	-993.89	1,002.12	973.77	28.35	35.348	
6,475.00	6,471.37	6,378.00	6,369.59	14.33	14.13	83.44	-114.82	-994.93	1,003.70	975.29	28.41	35.331	
6,500.00	6,494.54	6,400.00	6,390.76	14.38	14.17	83.41	-120.49	-996.80	1,005.46	976.98	28.48	35.303	
6,525.00	6,517.19	6,400.00	6,390.76	14.42	14.17	83.20	-120.49	-996.80	1,007.26	978.74	28.52	35.321	
6,550.00	6,539.26	6,419.65	6,409.45	14.46	14.20	83.18	-126.27	-998.71	1,009.19	980.50	28.59	35.298	
6,575.00	6,560.68	6,433.49	6,422.46	14.51	14.23	83.10	-130.73	-1,000.19	1,011.27	982.61	28.66	35.290	
6,600.00	6,581.40	6,450.00	6,437.81	14.55	14.26	83.07	-136.49	-1,002.09	1,013.48	984.75	28.73	35.276	
6,625.00	6,601.36	6,461.07	6,448.00	14.61	14.28	82.96	-140.61	-1,003.45	1,015.81	987.01	28.80	35.271	
6,650.00	6,620.50	6,474.81	6,460.51	14.67	14.30	82.90	-146.01	-1,005.23	1,018.27	989.39	28.88	35.258	
6,675.00	6,638.78	6,488.52	6,472.84	14.74	14.33	82.84	-151.70	-1,007.12	1,020.86	991.89	28.97	35.242	
6,700.00	6,656.14	6,500.00	6,483.03	14.82	14.35	82.74	-156.70	-1,008.77	1,023.58	994.53	29.06	35.227	
6,725.00	6,672.53	6,515.83	6,496.90	14.91	14.37	82.73	-163.95	-1,011.16	1,026.43	997.26	29.17	35.191	
6,750.00	6,687.91	6,529.43	6,508.62	15.01	14.40	82.68	-170.49	-1,013.33	1,029.41	1,000.13	29.28	35.156	
6,775.00	6,702.24	6,550.00	6,526.01	15.12	14.44	82.80	-180.94	-1,016.78	1,032.57	1,003.14	29.42	35.093	
6,800.00	6,715.48	6,550.00	6,526.01	15.23	14.44	82.41	-180.94	-1,016.78	1,035.81	1,006.30	29.52	35.091	
6,825.00	6,727.59	6,569.97	6,542.45	15.36	14.49	82.53	-191.69	-1,020.33	1,039.17	1,009.49	29.69	35.003	
6,850.00	6,738.54	6,583.39	6,553.25	15.50	14.52	82.47	-199.25	-1,022.83	1,042.71	1,012.86	29.85	34.935	
6,875.00	6,748.30	6,600.00	6,566.34	15.65	14.56	82.51	-208.97	-1,026.04	1,046.39	1,016.36	30.03	34.846	
6,900.00	6,756.84	6,610.09	6,574.12	15.81	14.59	82.36	-215.07	-1,028.06	1,050.21	1,020.00	30.20	34.772	
6,925.00	6,764.14	6,623.37	6,584.17	15.98	14.63	82.29	-223.30	-1,030.78	1,054.18	1,023.78	30.40	34.676	
6,950.00	6,770.18	6,636.60	6,593.96	16.16	14.67	82.22	-231.75	-1,033.57	1,058.30	1,027.69	30.61	34.573	
6,975.00	6,774.94	6,650.00	6,603.65	16.35	14.71	82.16	-240.54	-1,036.48	1,062.57	1,031.74	30.83	34.465	
7,000.00	6,778.41	6,662.89	6,612.74	16.55	14.76	82.06	-249.22	-1,039.35	1,067.00	1,035.94	31.07	34.346	
7,025.00	6,780.58	6,675.96	6,621.71	16.76	14.81	81.97	-258.23	-1,042.33	1,071.59	1,040.28	31.31	34.223	
7,050.00	6,781.45	6,688.96	6,630.41	16.98	14.85	81.87	-267.41	-1,045.36	1,076.34	1,044.77	31.57	34.097	
7,056.79	6,781.46	6,692.48	6,632.72	17.04	14.87	81.84	-269.93	-1,046.19	1,077.65	1,046.02	31.64	34.062	
7,100.00	6,781.20	6,715.74	6,647.55	17.44	14.96	82.68	-286.95	-1,051.82	1,086.57	1,054.40	32.17	33.775	
7,200.00	6,780.62	6,776.56	6,682.38	18.47	15.25	84.65	-334.25	-1,067.45	1,110.57	1,077.02	33.55	33.104	
7,300.00	6,780.04	6,850.00	6,716.36	19.62	15.67	86.55	-396.00	-1,087.86	1,138.18	1,103.04	35.14	32.391	
7,400.00	6,779.45	6,928.69	6,742.23	20.86	16.23	87.97	-466.49	-1,111.16	1,168.04	1,131.11	36.93	31.629	
7,500.00	6,778.87	7,017.11	6,757.60	22.19	16.99	88.82	-548.06	-1,138.45	1,199.02	1,160.08	38.95	30.785	
7,600.00	6,778.29	7,110.26	6,759.91	23.58	17.89	88.99	-637.44	-1,167.66	1,230.40	1,189.23	41.17	29.885	
7,700.00	6,777.70	7,261.88	6,760.55	25.03	19.51	89.10	-782.27	-1,212.48	1,260.18	1,216.06	44.13	28.558	

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 4H
Project:	Eddy County, NM (NAD-83)	TVD Reference:	GE 3299' + KB 25' @ 3324.00usft
Reference Site:	Boss Hogg 15 State Com	MD Reference:	GE 3299' + KB 25' @ 3324.00usft
Site Error:	0.00' usft	North Reference:	Grid
Reference Well:	4H	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 Draft 1	Offset TVD Reference:	Reference Datum

Offset Design														Offset Site Error:	0.00 usft
Survey Program: 0-LEAM MWD-ADJ														Offset Well Error:	0.00 usft
Reference															
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	Warning	
7,800.00	6,777.12	7,436.44	6,761.28	26.52	21.57	89.20		-951.64	-1,254.61	1,284.36	1,236.77	47.59	26.989		
7,900.00	6,776.54	7,615.73	6,762.04	28.06	23.90	89.30		-1,127.94	-1,287.06	1,302.50	1,251.11	51.40	25.342		
8,000.00	6,775.95	7,798.51	6,762.81	29.63	26.43	89.40		-1,309.40	-1,308.72	1,314.40	1,258.92	55.48	23.691		
8,100.00	6,775.37	7,983.35	6,763.58	31.22	29.10	89.48		-1,493.93	-1,318.82	1,319.90	1,260.12	59.78	22.080		
8,200.00	6,774.79	8,113.66	6,764.12	32.85	31.02	89.54		-1,624.23	-1,319.50	1,320.29	1,256.94	63.35	20.840		
8,300.00	6,774.20	8,213.66	6,764.54	34.49	32.50	89.58		-1,724.23	-1,319.45	1,320.27	1,253.77	66.50	19.855		
8,400.00	6,773.62	8,313.65	6,764.95	36.15	34.01	89.62		-1,824.22	-1,319.39	1,320.25	1,250.56	69.69	18.944		
8,500.00	6,773.04	8,413.65	6,765.37	37.82	35.56	89.67		-1,924.22	-1,319.34	1,320.23	1,247.30	72.93	18.103		
8,600.00	6,772.46	8,513.64	6,765.78	39.51	37.13	89.71		-2,024.21	-1,319.28	1,320.22	1,244.01	76.21	17.324		
8,700.00	6,771.87	8,613.64	6,766.19	41.22	38.72	89.75		-2,124.21	-1,319.22	1,320.20	1,240.68	79.52	16.602		
8,800.00	6,771.29	8,713.63	6,766.61	42.93	40.33	89.80		-2,224.20	-1,319.17	1,320.19	1,237.33	82.86	15.933		
8,900.00	6,770.71	8,813.63	6,767.02	44.65	41.96	89.84		-2,324.19	-1,319.11	1,320.17	1,233.95	86.23	15.311		
9,000.00	6,770.12	8,913.62	6,767.44	46.38	43.60	89.88		-2,424.19	-1,319.05	1,320.16	1,230.55	89.61	14.731		
9,100.00	6,769.54	9,013.62	6,767.85	48.12	45.26	89.93		-2,524.18	-1,319.00	1,320.15	1,227.12	93.02	14.191		
9,192.29	6,769.00	9,105.88	6,767.66	49.73	46.80	89.94		-2,618.44	-1,318.94	1,320.14	1,223.95	96.19	13.725		
9,200.00	6,768.94	9,113.59	6,767.53	49.86	46.93	89.94		-2,624.15	-1,318.94	1,320.14	1,223.68	96.45	13.687		
9,209.95	6,768.84	9,123.53	6,767.35	50.04	47.10	89.94		-2,634.09	-1,318.93	1,320.14	1,223.34	96.80	13.638		
9,300.00	6,767.76	9,213.59	6,765.69	51.61	48.62	89.91		-2,724.13	-1,318.88	1,320.13	1,220.23	99.90	13.215		
9,400.00	6,766.56	9,313.58	6,763.86	53.37	50.31	89.88		-2,824.11	-1,318.83	1,320.13	1,216.77	103.36	12.772		
9,500.00	6,765.36	9,413.58	6,762.02	55.13	52.01	89.85		-2,924.09	-1,318.77	1,320.12	1,213.29	106.83	12.357		
9,600.00	6,764.16	9,513.58	6,760.18	56.89	53.73	89.83		-3,024.07	-1,318.71	1,320.12	1,209.80	110.32	11.966		
9,700.00	6,762.96	9,613.58	6,758.35	58.66	55.44	89.80		-3,124.05	-1,318.66	1,320.11	1,206.30	113.82	11.598		
9,800.00	6,761.76	9,713.58	6,756.51	60.43	57.17	89.77		-3,224.03	-1,318.60	1,320.11	1,202.79	117.33	11.252		
9,900.00	6,760.56	9,813.57	6,754.67	62.21	58.90	89.74		-3,324.01	-1,318.55	1,320.11	1,199.27	120.84	10.924		
10,000.00	6,759.36	9,913.57	6,752.83	63.99	60.64	89.72		-3,424.00	-1,318.49	1,320.11	1,195.74	124.37	10.615		
10,100.00	6,758.16	10,013.57	6,751.00	65.77	62.38	89.69		-3,523.98	-1,318.43	1,320.10	1,192.20	127.90	10.322		
10,200.00	6,756.97	10,113.57	6,749.16	67.55	64.13	89.66		-3,623.96	-1,318.38	1,320.10	1,188.66	131.44	10.044		
10,300.00	6,755.77	10,213.57	6,747.32	69.34	65.88	89.63		-3,723.94	-1,318.32	1,320.10	1,185.12	134.98	9.780		
10,400.00	6,754.57	10,313.56	6,745.49	71.13	67.64	89.61		-3,823.92	-1,318.26	1,320.10	1,181.56	138.53	9.529		
10,500.00	6,753.37	10,413.56	6,743.65	72.92	69.40	89.58		-3,923.90	-1,318.21	1,320.10	1,178.01	142.09	9.291		
10,600.00	6,752.17	10,513.56	6,741.81	74.71	71.16	89.55		-4,023.88	-1,318.15	1,320.09	1,174.44	145.65	9.063		
10,700.00	6,750.97	10,613.56	6,739.98	76.51	72.93	89.52		-4,123.86	-1,318.09	1,320.09	1,170.88	149.22	8.847		
10,800.00	6,749.77	10,713.55	6,738.14	78.30	74.70	89.50		-4,223.84	-1,318.04	1,320.09	1,167.30	152.79	8.640		
10,895.13	6,748.63	10,808.69	6,736.39	80.01	76.39	89.47		-4,318.96	-1,317.98	1,320.09	1,163.90	156.19	8.452		
10,900.00	6,748.57	10,813.55	6,736.30	80.10	76.47	89.47		-4,323.83	-1,317.98	1,320.09	1,163.73	156.36	8.442		
11,000.00	6,747.37	10,913.55	6,734.47	81.90	78.25	89.44		-4,423.81	-1,317.92	1,320.09	1,160.15	159.94	8.254		
11,100.00	6,746.17	11,013.55	6,732.63	83.70	80.03	89.41		-4,523.79	-1,317.87	1,320.09	1,156.57	163.52	8.073		
11,200.00	6,744.97	11,113.55	6,730.79	85.50	81.81	89.38		-4,623.77	-1,317.81	1,320.09	1,152.98	167.11	7.900		
11,300.00	6,743.77	11,213.54	6,728.95	87.30	83.59	89.36		-4,723.75	-1,317.76	1,320.10	1,149.40	170.70	7.733		
11,400.00	6,742.57	11,313.54	6,727.12	89.11	85.37	89.33		-4,823.73	-1,317.70	1,320.10	1,145.81	174.29	7.574		
11,500.00	6,741.37	11,413.54	6,725.28	90.91	87.16	89.30		-4,923.71	-1,317.64	1,320.10	1,142.21	177.88	7.421		
11,530.78	6,741.00	11,444.32	6,724.72	91.47	87.71	89.29		-4,954.48	-1,317.63	1,320.10	1,141.11	178.99	7.375 SF		

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

Leam Drilling Systems LLC

Anticollision Report

Company:	DEVON ENERGY	Local Co-ordinate Reference:	Well 4H
Project:	Eddy County, NM (NAD-83)	TVD Reference:	GE 3299' + KB 25' @ 3324.00usft
Reference Site:	Boss Hogg 15 State Com.	MD Reference:	GE 3299' + KB 25' @ 3324.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	4H	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 Draft 1	Offset TVD Reference:	Reference Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-LEAM MWD-ADJ													Offset Well Error:	0.00 usft
Reference	Offset	Semi Major Axis		Distance		Minimum Separation		Warning						
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +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	0.00	0.00	0.00	0.00	0.00	0.17	0.000	Level 1	
100.00	100.00	100.00	100.00	0.08	0.08	0.00	0.00	0.00	0.00	-0.17	0.17	0.000	Level 1	
200.00	200.00	200.00	200.00	0.31	0.31	0.00	0.00	0.00	0.00	-0.62	0.62	0.000	Level 1	
300.00	300.00	300.00	300.00	0.53	0.53	0.00	0.00	0.00	0.00	-1.07	1.07	0.000	Level 1	
400.00	400.00	400.00	400.00	0.76	0.76	0.00	0.00	0.00	0.00	-1.52	1.52	0.000	Level 1	
500.00	500.00	500.00	500.00	0.98	0.98	0.00	0.00	0.00	0.00	-1.97	1.97	0.000	Level 1	
600.00	600.00	600.00	600.00	1.21	1.21	0.00	0.00	0.00	0.00	-2.42	2.42	0.000	Level 1	
700.00	700.00	700.00	700.00	1.43	1.43	0.00	0.00	0.00	0.00	-2.87	2.87	0.000	Level 1	
800.00	800.00	800.00	800.00	1.66	1.66	0.00	0.00	0.00	0.00	-3.32	3.32	0.000	Level 1	
900.00	900.00	900.00	900.00	1.88	1.88	0.00	0.00	0.00	0.00	-3.76	3.76	0.000	Level 1	
1,000.00	1,000.00	1,000.00	1,000.00	2.11	2.11	0.00	0.00	0.00	0.00	-4.21	4.21	0.000	Level 1	
1,100.00	1,100.00	1,100.00	1,100.00	2.33	2.33	0.00	0.00	0.00	0.00	-4.66	4.66	0.000	Level 1	
1,200.00	1,200.00	1,200.00	1,200.00	2.56	2.56	0.00	0.00	0.00	0.00	-5.11	5.11	0.000	Level 1	
1,300.00	1,300.00	1,300.00	1,300.00	2.78	2.78	0.00	0.00	0.00	0.00	-5.56	5.56	0.000	Level 1	
1,400.00	1,400.00	1,400.00	1,400.00	3.01	3.01	0.00	0.00	0.00	0.00	-6.01	6.01	0.000	Level 1	
1,500.00	1,500.00	1,500.00	1,500.00	3.23	3.23	0.00	0.00	0.00	0.00	-6.46	6.46	0.000	Level 1	
1,600.00	1,600.00	1,600.00	1,600.00	3.46	3.46	0.00	0.00	0.00	0.00	-6.91	6.91	0.000	Level 1	
1,700.00	1,700.00	1,700.00	1,700.00	3.68	3.68	0.00	0.00	0.00	0.00	-7.36	7.36	0.000	Level 1	
1,800.00	1,800.00	1,800.00	1,800.00	3.91	3.91	0.00	0.00	0.00	0.00	-7.81	7.81	0.000	Level 1	
1,900.00	1,900.00	1,900.00	1,900.00	4.13	4.13	0.00	0.00	0.00	0.00	-8.26	8.26	0.000	Level 1	
2,000.00	2,000.00	2,000.00	2,000.00	4.35	4.35	0.00	0.00	0.00	0.00	-8.71	8.71	0.000	Level 1	
2,100.00	2,100.00	2,100.00	2,100.00	4.58	4.58	0.00	0.00	0.00	0.00	-9.16	9.16	0.000	Level 1	
2,200.00	2,200.00	2,200.00	2,200.00	4.80	4.80	0.00	0.00	0.00	0.00	-9.61	9.61	0.000	Level 1	
2,300.00	2,300.00	2,300.00	2,300.00	5.03	5.03	0.00	0.00	0.00	0.00	-10.06	10.06	0.000	Level 1	
2,400.00	2,400.00	2,400.00	2,400.00	5.25	5.25	0.00	0.00	0.00	0.00	-10.51	10.51	0.000	Level 1	
2,500.00	2,500.00	2,500.00	2,500.00	5.48	5.48	0.00	0.00	0.00	0.00	-10.96	10.96	0.000	Level 1	
2,600.00	2,600.00	2,600.00	2,600.00	5.70	5.70	0.00	0.00	0.00	0.00	-11.41	11.41	0.000	Level 1	
2,700.00	2,700.00	2,700.00	2,700.00	5.93	5.93	0.00	0.00	0.00	0.00	-11.86	11.86	0.000	Level 1	
2,800.00	2,800.00	2,800.00	2,800.00	6.15	6.15	0.00	0.00	0.00	0.00	-12.31	12.31	0.000	Level 1	
2,900.00	2,900.00	2,900.00	2,900.00	6.38	6.38	0.00	0.00	0.00	0.00	-12.76	12.76	0.000	Level 1	
3,000.00	3,000.00	3,000.00	3,000.00	6.60	6.60	0.00	0.00	0.00	0.00	-13.21	13.21	0.000	Level 1	
3,100.00	3,100.00	3,100.00	3,100.00	6.83	6.83	0.00	0.00	0.00	0.00	-13.65	13.65	0.000	Level 1	
3,200.00	3,200.00	3,200.00	3,200.00	7.05	7.05	0.00	0.00	0.00	0.00	-14.10	14.10	0.000	Level 1	
3,300.00	3,300.00	3,300.00	3,300.00	7.28	7.28	0.00	0.00	0.00	0.00	-14.55	14.55	0.000	Level 1	
3,400.00	3,400.00	3,400.00	3,400.00	7.50	7.50	0.00	0.00	0.00	0.00	-15.00	15.00	0.000	Level 1	
3,500.00	3,500.00	3,500.00	3,500.00	7.73	7.73	0.00	0.00	0.00	0.00	-15.45	15.45	0.000	Level 1	
3,600.00	3,600.00	3,600.00	3,600.00	7.95	7.95	0.00	0.00	0.00	0.00	-15.90	15.90	0.000	Level 1	
3,700.00	3,700.00	3,700.00	3,700.00	8.18	8.18	0.00	0.00	0.00	0.00	-16.35	16.35	0.000	Level 1	
3,800.00	3,800.00	3,800.00	3,800.00	8.40	8.40	0.00	0.00	0.00	0.00	-16.80	16.80	0.000	Level 1	
3,900.00	3,900.00	3,900.00	3,900.00	8.63	8.63	0.00	0.00	0.00	0.00	-17.25	17.25	0.000	Level 1	
4,000.00	4,000.00	4,000.00	4,000.00	8.85	8.85	0.00	0.00	0.00	0.00	-17.70	17.70	0.000	Level 1	
4,100.00	4,100.00	4,100.00	4,100.00	9.07	9.07	0.00	0.00	0.00	0.00	-18.15	18.15	0.000	Level 1	
4,200.00	4,200.00	4,200.00	4,200.00	9.30	9.30	0.00	0.00	0.00	0.00	-18.60	18.60	0.000	Level 1	
4,300.00	4,300.00	4,300.00	4,300.00	9.52	9.52	0.00	0.00	0.00	0.00	-19.05	19.05	0.000	Level 1	
4,400.00	4,400.00	4,400.00	4,400.00	9.75	9.75	0.00	0.00	0.00	0.00	-19.50	19.50	0.000	Level 1	
4,500.00	4,500.00	4,500.00	4,500.00	9.97	9.97	0.00	0.00	0.00	0.00	-19.95	19.95	0.000	Level 1	
4,600.00	4,600.00	4,600.00	4,600.00	10.20	10.20	0.00	0.00	0.00	0.00	-20.40	20.40	0.000	Level 1	
4,700.00	4,700.00	4,700.00	4,700.00	10.42	10.42	0.00	0.00	0.00	0.00	-20.85	20.85	0.000	Level 1	
4,800.00	4,800.00	4,800.00	4,800.00	10.65	10.65	0.00	0.00	0.00	0.00	-21.30	21.30	0.000	Level 1	
4,900.00	4,900.00	4,900.00	4,900.00	10.87	10.87	0.00	0.00	0.00	0.00	-21.75	21.75	0.000	Level 1	
5,000.00	5,000.00	5,000.00	5,000.00	11.10	11.10	0.00	0.00	0.00	0.00	-22.20	22.20	0.000	Level 1	
5,100.00	5,100.00	5,100.00	5,100.00	11.32	11.32	0.00	0.00	0.00	0.00	-22.65	22.65	0.000	Level 1	

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 4H
Project:	Eddy County, NM (NAD-83)	TVD Reference:	GE 3299' + KB 25' @ 3324.00usft
Reference Site:	Boss Hogg 15 State Com	MD Reference:	GE 3299' + KB 25' @ 3324.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	4H	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 Draft 1	Offset TVD Reference:	Reference Datum

Offset Design Boss Hogg 15 State Com - 4H - Pilot - Plan #1														Offset Site Error:	0.00 usft
Survey Program: D-LEAM MWD-ADJ														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 (ft)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning		
5,200.00	5,200.00	5,200.00	5,200.00	11.55	11.55	0.00	0.00	0.00	0.00	-23.09	23.09	0.000	Level 1		
5,300.00	5,300.00	5,300.00	5,300.00	11.77	11.77	0.00	0.00	0.00	0.00	-23.54	23.54	0.000	Level 1		
5,400.00	5,400.00	5,400.00	5,400.00	12.00	12.00	0.00	0.00	0.00	0.00	-23.99	23.99	0.000	Level 1		
5,500.00	5,500.00	5,500.00	5,500.00	12.22	12.22	0.00	0.00	0.00	0.00	-24.44	24.44	0.000	Level 1		
5,600.00	5,600.00	5,600.00	5,600.00	12.45	12.45	0.00	0.00	0.00	0.00	-24.89	24.89	0.000	Level 1		
5,700.00	5,700.00	5,700.00	5,700.00	12.67	12.67	0.00	0.00	0.00	0.00	-25.34	25.34	0.000	Level 1		
5,800.00	5,800.00	5,800.00	5,800.00	12.90	12.90	0.00	0.00	0.00	0.00	-25.79	25.79	0.000	Level 1		
5,900.00	5,900.00	5,900.00	5,900.00	13.12	13.12	0.00	0.00	0.00	0.00	-26.24	26.24	0.000	Level 1		
6,000.00	6,000.00	6,000.00	6,000.00	13.35	13.35	0.00	0.00	0.00	0.00	-26.69	26.69	0.000	Level 1		
6,100.00	6,100.00	6,100.00	6,100.00	13.57	13.57	0.00	0.00	0.00	0.00	-27.14	27.14	0.000	Level 1		
6,200.00	6,200.00	6,200.00	6,200.00	13.80	13.80	0.00	0.00	0.00	0.00	-27.59	27.59	0.000	Level 1		
6,300.00	6,300.00	6,300.00	6,300.00	14.02	14.02	0.00	0.00	0.00	0.00	-28.04	28.04	0.000	Level 1		
6,304.00	6,304.00	6,304.00	6,304.00	14.03	14.03	0.00	0.00	0.00	0.00	-28.06	28.06	0.000	Level 1, CC, ES, SF		
6,312.42	6,312.42	6,312.42	6,312.42	14.05	14.05	180.00	0.00	0.00	0.07	-28.01	28.09	0.003	Level 1		
6,325.00	6,324.99	6,324.99	6,324.99	14.07	14.08	180.00	0.00	0.00	0.46	-27.66	28.12	0.016	Level 1		
6,350.00	6,349.93	6,349.93	6,349.93	14.11	14.13	180.00	0.00	0.00	2.21	-25.91	28.13	0.079	Level 1		
6,375.00	6,374.74	6,374.74	6,374.74	14.16	14.19	180.00	0.00	0.00	5.27	-22.80	28.07	0.188	Level 1		
6,400.00	6,399.35	6,399.35	6,399.35	14.20	14.24	180.00	0.00	0.00	9.62	-18.31	27.93	0.344	Level 1		
6,425.00	6,423.71	6,423.71	6,423.71	14.24	14.30	180.00	0.00	0.00	15.25	-12.48	27.73	0.550	Level 1		
6,450.00	6,447.74	6,447.74	6,447.74	14.29	14.35	180.00	0.00	0.00	22.15	-5.32	27.47	0.806	Level 1		
6,475.00	6,471.37	6,471.37	6,471.37	14.33	14.40	180.00	0.00	0.00	30.30	3.16	27.13	1.117	Level 2		
6,500.00	6,494.54	6,494.54	6,494.54	14.38	14.46	180.00	0.00	0.00	39.67	12.94	26.73	1.484	Level 3		
6,525.00	6,517.19	6,517.19	6,517.19	14.42	14.51	180.00	0.00	0.00	50.24	23.97	26.27	1.913			
6,550.00	6,539.26	6,539.26	6,539.26	14.46	14.56	180.00	0.00	0.00	61.98	36.24	25.74	2.408			
6,575.00	6,560.68	6,560.68	6,560.68	14.51	14.61	180.00	0.00	0.00	74.86	49.71	25.16	2.976			
6,600.00	6,581.40	6,581.40	6,581.40	14.55	14.65	180.00	0.00	0.00	88.85	64.33	24.52	3.624			
6,625.00	6,601.36	6,601.36	6,601.36	14.61	14.70	180.00	0.00	0.00	103.90	80.08	23.82	4.361			
6,650.00	6,620.50	6,620.50	6,620.50	14.67	14.74	180.00	0.00	0.00	119.98	96.89	23.08	5.198			
6,675.00	6,638.78	6,638.78	6,638.78	14.74	14.78	180.00	0.00	0.00	137.03	114.73	22.30	6.146			
6,700.00	6,656.14	6,656.14	6,656.14	14.82	14.82	180.00	0.00	0.00	155.02	133.55	21.47	7.220			
6,725.00	6,672.53	6,672.53	6,672.53	14.91	14.86	180.00	0.00	0.00	173.89	153.28	20.61	8.436			
6,750.00	6,687.91	6,687.91	6,687.91	15.01	14.89	180.00	0.00	0.00	193.59	173.86	19.73	9.813			
6,775.00	6,702.24	6,702.24	6,702.24	15.12	14.92	180.00	0.00	0.00	214.07	195.25	18.82	11.372			
6,800.00	6,715.48	6,715.48	6,715.48	15.23	14.95	180.00	0.00	0.00	235.28	217.36	17.91	13.135			
6,825.00	6,727.59	6,727.59	6,727.59	15.36	14.98	180.00	0.00	0.00	257.14	240.14	17.00	15.123			
6,850.00	6,738.54	6,738.54	6,738.54	15.50	15.01	180.00	0.00	0.00	279.62	263.51	16.11	17.359			
6,875.00	6,748.30	6,748.30	6,748.30	15.65	15.03	180.00	0.00	0.00	302.63	287.39	15.24	19.855			
6,900.00	6,756.84	6,756.84	6,756.84	15.81	15.05	180.00	0.00	0.00	326.12	311.70	14.42	22.611			
6,925.00	6,764.14	6,764.14	6,764.14	15.98	15.06	180.00	0.00	0.00	350.03	336.36	13.67	25.604			
6,950.00	6,770.18	6,770.18	6,770.18	16.16	15.08	180.00	0.00	0.00	374.29	361.28	13.01	28.775			
6,975.00	6,774.94	6,774.94	6,774.94	16.35	15.09	180.00	0.00	0.00	398.82	386.37	12.46	32.019			
7,000.00	6,778.41	6,778.41	6,778.41	16.55	15.10	180.00	0.00	0.00	423.58	411.54	12.04	35.182			
7,025.00	6,780.58	6,780.58	6,780.58	16.76	15.10	180.00	0.00	0.00	448.48	436.70	11.78	38.073			
7,050.00	6,781.45	6,781.45	6,781.45	16.98	15.10	180.00	0.00	0.00	473.46	461.78	11.69	40.503			
7,056.79	6,781.46	6,781.46	6,781.46	17.04	15.10	0.00	0.00	0.00	480.25	468.55	11.70	41.063			
7,100.00	6,781.20	6,781.20	6,781.20	17.44	15.10	0.00	0.00	0.00	523.46	511.62	11.85	44.180			
7,200.00	6,780.62	6,780.62	6,780.62	18.47	15.10	0.00	0.00	0.00	623.46	611.21	12.25	50.904			
7,300.00	6,780.04	6,780.04	6,780.04	19.62	15.10	0.00	0.00	0.00	723.46	710.76	12.70	56.958			
7,400.00	6,779.45	6,779.45	6,779.45	20.86	15.10	0.00	0.00	0.00	823.46	810.26	13.20	62.383			
7,500.00	6,778.87	6,778.87	6,778.87	22.19	15.10	0.00	0.00	0.00	923.46	909.72	13.73	67.236			
7,600.00	6,778.29	6,778.29	6,778.29	23.58	15.09	0.00	0.00	0.00	1,023.46	1,009.16	14.30	71.578			
7,700.00	6,777.70	6,777.70	6,777.70	25.03	15.09	0.00	0.00	0.00	1,123.45	1,108.57	14.89	75.469			

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 4H
Project:	Eddy County, NM (NAD-83)	TVD Reference:	GE 3299' + KB 25' @ 3324.00usft
Reference Site:	Boss Hogg 15 State Com	MD Reference:	GE 3299' + KB 25' @ 3324.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	4H	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 Draft 1	Offset TVD Reference:	Reference Datum

Offset Design													Offset Site Error:
Boss Hogg 15 State Com - 4H - Pilot - Plan #1													0.00 usft
Survey Program: D-LEAM.MWD-ADJ													Offset Well Error:
													0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre: +N-S (usft)	+E-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	
7,800.00	6,777.12	6,777.12	6,777.12	26.52	15.09	0.00	0.00	0.00	1,223.45	1,207.96	15.49	78.965	
7,900.00	6,776.54	6,776.54	6,776.54	28.06	15.09	0.00	0.00	0.00	1,323.45	1,307.33	16.12	82.114	
8,000.00	6,775.95	6,775.95	6,775.95	29.63	15.09	0.00	0.00	0.00	1,423.45	1,406.69	16.75	84.960	
8,100.00	6,775.37	6,775.37	6,775.37	31.22	15.09	0.00	0.00	0.00	1,523.45	1,506.04	17.40	87.542	
8,200.00	6,774.79	6,774.79	6,774.79	32.85	15.09	0.00	0.00	0.00	1,623.45	1,605.39	18.06	89.891	
8,300.00	6,774.20	6,774.20	6,774.20	34.49	15.09	0.00	0.00	0.00	1,723.44	1,704.72	18.73	92.036	
8,400.00	6,773.62	6,773.62	6,773.62	36.15	15.08	0.00	0.00	0.00	1,823.44	1,804.04	19.40	94.000	
8,500.00	6,773.04	6,773.04	6,773.04	37.82	15.08	0.00	0.00	0.00	1,923.44	1,903.36	20.08	95.805	
8,600.00	6,772.46	6,772.46	6,772.46	39.51	15.08	0.00	0.00	0.00	2,023.44	2,002.68	20.76	97.467	
8,700.00	6,771.87	6,771.87	6,771.87	41.22	15.08	0.00	0.00	0.00	2,123.44	2,101.99	21.45	99.004	
8,800.00	6,771.29	6,771.29	6,771.29	42.93	15.08	0.00	0.00	0.00	2,223.44	2,201.30	22.14	100.427	
8,900.00	6,770.71	6,770.71	6,770.71	44.65	15.08	0.00	0.00	0.00	2,323.43	2,300.60	22.83	101.749	
9,000.00	6,770.12	6,770.12	6,770.12	46.38	15.08	0.00	0.00	0.00	2,423.43	2,399.90	23.53	102.980	
9,100.00	6,769.54	6,769.54	6,769.54	48.12	15.08	0.00	0.00	0.00	2,523.43	2,499.20	24.23	104.129	
9,192.29	6,769.00	6,769.00	6,769.00	49.73	15.07	0.00	0.00	0.00	2,615.72	2,590.83	24.88	105.122	
9,200.00	6,768.94	6,768.94	6,768.94	49.86	15.07	-0.15	0.00	0.00	2,623.43	2,598.49	24.94	105.207	
9,209.95	6,768.84	6,768.84	6,768.84	50.04	15.07	-0.24	0.00	0.00	2,633.37	2,608.37	25.00	105.315	
9,300.00	6,767.76	6,767.76	6,767.76	51.61	15.07	-0.23	0.00	0.00	2,723.42	2,697.78	25.64	106.223	
9,400.00	6,766.56	6,766.56	6,766.56	53.37	15.07	-0.22	0.00	0.00	2,823.41	2,797.07	26.34	107.173	
9,500.00	6,765.36	6,765.36	6,765.36	55.13	15.07	-0.21	0.00	0.00	2,923.41	2,896.36	27.05	108.067	
9,600.00	6,764.16	6,764.16	6,764.16	56.89	15.06	-0.21	0.00	0.00	3,023.40	2,995.64	27.76	108.908	
9,700.00	6,762.96	6,762.96	6,762.96	58.66	15.06	-0.20	0.00	0.00	3,123.39	3,094.92	28.47	109.702	
9,800.00	6,761.76	6,761.76	6,761.76	60.43	15.06	-0.19	0.00	0.00	3,223.39	3,194.20	29.18	110.453	
9,900.00	6,760.56	6,760.56	6,760.56	62.21	15.05	-0.19	0.00	0.00	3,323.38	3,293.48	29.90	111.164	
10,000.00	6,759.36	6,759.36	6,759.36	63.99	15.05	-0.18	0.00	0.00	3,423.37	3,392.76	30.61	111.837	
10,100.00	6,758.16	6,758.16	6,758.16	65.77	15.05	-0.18	0.00	0.00	3,523.36	3,492.04	31.33	112.477	
10,200.00	6,756.97	6,756.97	6,756.97	67.55	15.05	-0.17	0.00	0.00	3,623.36	3,591.32	32.04	113.085	
10,300.00	6,755.77	6,755.77	6,755.77	69.34	15.04	-0.17	0.00	0.00	3,723.35	3,690.59	32.76	113.663	
10,400.00	6,754.57	6,754.57	6,754.57	71.13	15.04	-0.16	0.00	0.00	3,823.34	3,789.87	33.48	114.214	
10,500.00	6,753.37	6,753.37	6,753.37	72.92	15.04	-0.16	0.00	0.00	3,923.34	3,889.14	34.19	114.739	
10,600.00	6,752.17	6,752.17	6,752.17	74.71	15.04	-0.15	0.00	0.00	4,023.33	3,988.42	34.91	115.241	
10,700.00	6,750.97	6,750.97	6,750.97	76.51	15.03	-0.15	0.00	0.00	4,123.32	4,087.69	35.63	115.720	
10,800.00	6,749.77	6,749.77	6,749.77	78.30	15.03	-0.15	0.00	0.00	4,223.31	4,186.96	36.35	116.179	
10,900.00	6,748.57	6,748.57	6,748.57	80.10	15.03	-0.14	0.00	0.00	4,323.31	4,286.23	37.07	116.618	
11,000.00	6,747.37	6,747.37	6,747.37	81.90	15.03	-0.14	0.00	0.00	4,423.30	4,385.51	37.79	117.039	
11,100.00	6,746.17	6,746.17	6,746.17	83.70	15.02	-0.14	0.00	0.00	4,523.29	4,484.78	38.51	117.443	
11,200.00	6,744.97	6,744.97	6,744.97	85.50	15.02	-0.13	0.00	0.00	4,623.28	4,584.05	39.24	117.830	
11,300.00	6,743.77	6,743.77	6,743.77	87.30	15.02	-0.13	0.00	0.00	4,723.28	4,683.32	39.96	118.203	
11,400.00	6,742.57	6,742.57	6,742.57	89.11	15.01	-0.13	0.00	0.00	4,823.27	4,782.59	40.68	118.561	
11,500.00	6,741.37	6,741.37	6,741.37	90.91	15.01	-0.13	0.00	0.00	4,923.26	4,881.86	41.40	118.905	
11,530.78	6,741.00	6,741.00	6,741.00	91.47	15.01	-0.13	0.00	0.00	4,954.04	4,912.41	41.63	119.008	

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

Leam Drilling Systems LLC

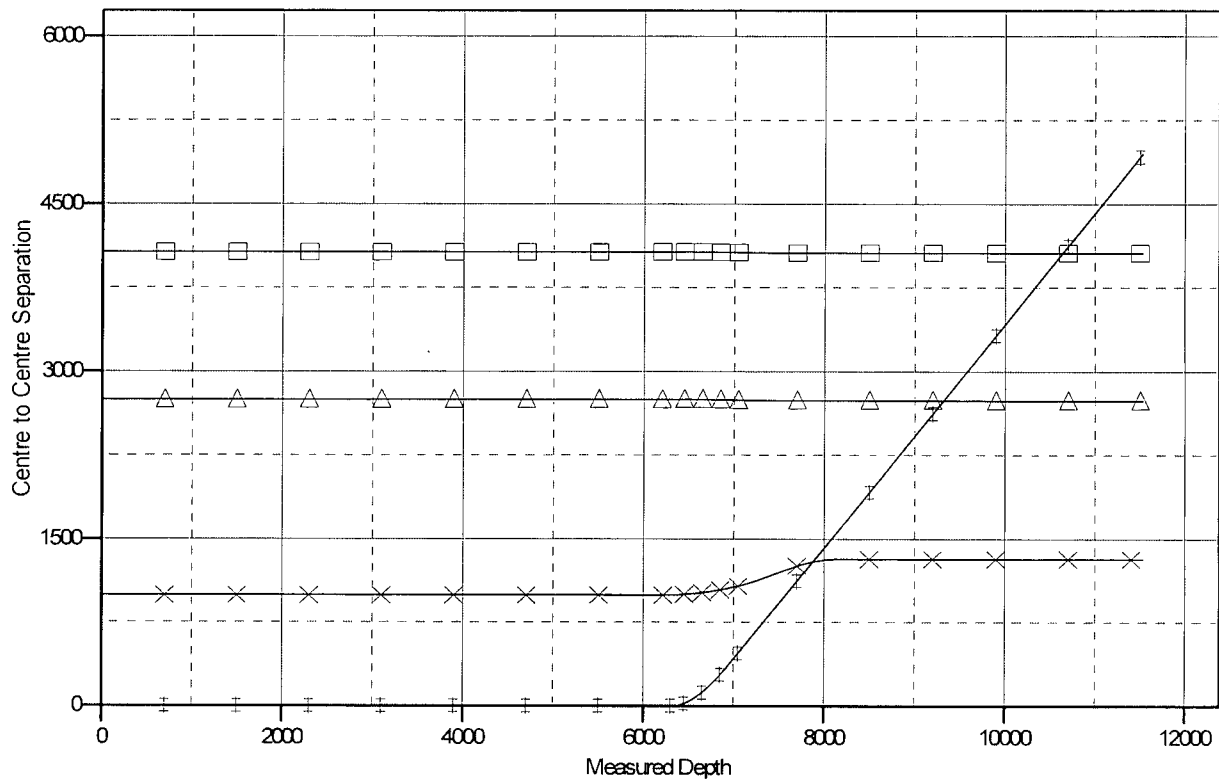
Anticollision Report

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Reference Site:	Boss Hogg 15 State,Com	MD Reference:	GE 3299' + KB 25' @ 3324.00usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	4H	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 Draft 1	Offset TVD Reference:	Reference Datum

Reference Depths are relative to GE 3299' + KB 25' @ 3324.00usft
Offset Depths are relative to Offset Datum
Central Meridian is 104° 20' 0.000 W

Coordinates are relative to: 4H
Coordinate System is US State Plane 1983, New Mexico Eastern Zone
Grid Convergence at Surface is: 0.03°

Ladder Plot



LEGEND

- 1H, OH, Plan #1 Draft 1 V0
- △ 2H, OH, Plan #1 Draft 1 V0
- ✕ 3H, OH, Plan #1 Draft 1 V0
- ⊕ 4H, Pilot, Plan #1 V0

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

Leam Drilling Systems LLC

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Reference Well:	4H	Survey Calculation Method:	Minimum Curvature
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Reference Design:	Plan #1 Draft 1	Offset TVD Reference:	Reference Datum

Reference Depths are relative to GE 3299' + KB 25' @ 3324.00usft

Offset Depths are relative to Offset Datum

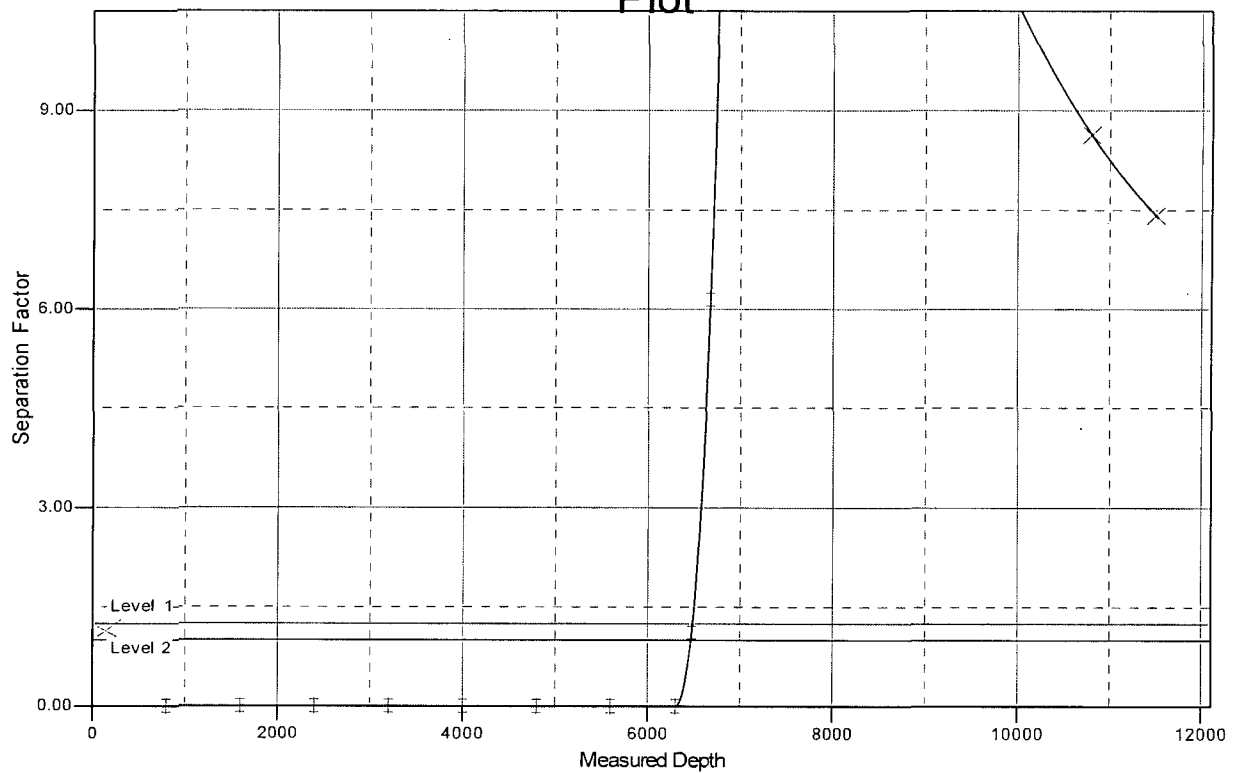
Central Meridian is 104° 20' 0.000 W

Coordinates are relative to: 4H

Coordinate System is US State Plane 1983, New Mexico Eastern Zone

Grid Convergence at Surface is: 0.03°

Separation Factor Plot



LEGEND

- 1H, OH, Plan #1 Draft 1 V0
- 2H, OH, Plan #1 Draft 1 V0
- 3H, OH, Plan #1 Draft 1 V0
- 4H, Pilot, Plan #1 V0

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

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

4600.00	0.00	0.00	4600.00	0.00	0.00	0.00	0.00	0.00	0.00
4700.00	0.00	0.00	4700.00	0.00	0.00	0.00	0.00	0.00	0.00
4800.00	0.00	0.00	4800.00	0.00	0.00	0.00	0.00	0.00	0.00
4900.00	0.00	0.00	4900.00	0.00	0.00	0.00	0.00	0.00	0.00
5000.00	0.00	0.00	5000.00	0.00	0.00	0.00	0.00	0.00	0.00
5100.00	0.00	0.00	5100.00	0.00	0.00	0.00	0.00	0.00	0.00
5200.00	0.00	0.00	5200.00	0.00	0.00	0.00	0.00	0.00	0.00
5300.00	0.00	0.00	5300.00	0.00	0.00	0.00	0.00	0.00	0.00
5400.00	0.00	0.00	5400.00	0.00	0.00	0.00	0.00	0.00	0.00
5500.00	0.00	0.00	5500.00	0.00	0.00	0.00	0.00	0.00	0.00
5600.00	0.00	0.00	5600.00	0.00	0.00	0.00	0.00	0.00	0.00
5700.00	0.00	0.00	5700.00	0.00	0.00	0.00	0.00	0.00	0.00
5800.00	0.00	0.00	5800.00	0.00	0.00	0.00	0.00	0.00	0.00
5900.00	0.00	0.00	5900.00	0.00	0.00	0.00	0.00	0.00	0.00
6000.00	0.00	0.00	6000.00	0.00	0.00	0.00	0.00	0.00	0.00
6100.00	0.00	0.00	6100.00	0.00	0.00	0.00	0.00	0.00	0.00
6200.00	0.00	0.00	6200.00	0.00	0.00	0.00	0.00	0.00	0.00
6304.00	0.00	0.00	6304.00	0.00	0.00	0.00	0.00	0.00	0.00
6325.00	2.52	179.97	6324.99	-0.46	0.00	12.00	12.00	0.00	0.46
6350.00	5.52	179.97	6349.93	-2.21	0.00	12.00	12.00	0.00	2.21
6375.00	8.52	179.97	6374.74	-5.27	0.00	12.00	12.00	0.00	5.27
6400.00	11.52	179.97	6399.35	-9.62	0.00	12.00	12.00	0.00	9.62
6425.00	14.52	179.97	6423.71	-15.25	0.01	12.00	12.00	0.00	15.25
6450.00	17.52	179.97	6447.74	-22.15	0.01	12.00	12.00	0.00	22.15
6475.00	20.52	179.97	6471.37	-30.30	0.01	12.00	12.00	0.00	30.30
6500.00	23.52	179.97	6494.54	-39.67	0.02	12.00	12.00	0.00	39.67
6525.00	26.52	179.97	6517.19	-50.24	0.02	12.00	12.00	0.00	50.24
6550.00	29.52	179.97	6539.26	-61.98	0.03	12.00	12.00	0.00	61.98
6575.00	32.52	179.97	6560.68	-74.86	0.03	12.00	12.00	0.00	74.86
6600.00	35.52	179.97	6581.40	-88.85	0.04	12.00	12.00	0.00	88.85
6625.00	38.52	179.97	6601.36	-103.90	0.05	12.00	12.00	0.00	103.90
6650.00	41.52	179.97	6620.50	-119.98	0.05	12.00	12.00	0.00	119.98
6675.00	44.52	179.97	6638.78	-137.03	0.06	12.00	12.00	0.00	137.03
6700.00	47.52	179.97	6656.14	-155.02	0.07	12.00	12.00	0.00	155.02
6725.00	50.52	179.97	6672.53	-173.89	0.08	12.00	12.00	0.00	173.89
6750.00	53.52	179.97	6687.91	-193.59	0.09	12.00	12.00	0.00	193.59
6775.00	56.52	179.97	6702.24	-214.07	0.10	12.00	12.00	0.00	214.07
6800.00	59.52	179.97	6715.48	-235.28	0.11	12.00	12.00	0.00	235.28
6825.00	62.52	179.97	6727.59	-257.14	0.12	12.00	12.00	0.00	257.14
6850.00	65.52	179.97	6738.54	-279.62	0.13	12.00	12.00	0.00	279.62
6875.00	68.52	179.97	6748.30	-302.63	0.14	12.00	12.00	0.00	302.63
6900.00	71.52	179.97	6756.84	-326.12	0.15	12.00	12.00	0.00	326.12
6925.00	74.52	179.97	6764.14	-350.03	0.16	12.00	12.00	0.00	350.03
6950.00	77.52	179.97	6770.18	-374.29	0.17	12.00	12.00	0.00	374.29
6975.00	80.52	179.97	6774.94	-398.82	0.18	12.00	12.00	0.00	398.82
7000.00	83.52	179.97	6778.41	-423.58	0.19	12.00	12.00	0.00	423.58
7025.00	86.52	179.97	6780.58	-448.48	0.20	12.00	12.00	0.00	448.48

7050.00	89.52	179.97	6781.45	-473.46	0.22	12.00	12.00	0.00	473.46
7056.79	90.33	179.97	6781.46	-480.25	0.22	12.00	12.00	0.00	480.25
7100.00	90.33	179.97	6781.20	-523.46	0.24	0.00	0.00	0.00	523.46
7200.00	90.33	179.97	6780.62	-623.46	0.28	0.00	0.00	0.00	623.46
7300.00	90.33	179.97	6780.04	-723.46	0.33	0.00	0.00	0.00	723.46
7400.00	90.33	179.97	6779.45	-823.46	0.38	0.00	0.00	0.00	823.46
7500.00	90.33	179.97	6778.87	-923.46	0.42	0.00	0.00	0.00	923.46
7600.00	90.33	179.97	6778.29	-1023.46	0.47	0.00	0.00	0.00	1023.46
7700.00	90.33	179.97	6777.70	-1123.45	0.51	0.00	0.00	0.00	1123.45
7800.00	90.33	179.97	6777.12	-1223.45	0.56	0.00	0.00	0.00	1223.45
7900.00	90.33	179.97	6776.54	-1323.45	0.60	0.00	0.00	0.00	1323.45
8000.00	90.33	179.97	6775.95	-1423.45	0.65	0.00	0.00	0.00	1423.45
8100.00	90.33	179.97	6775.37	-1523.45	0.69	0.00	0.00	0.00	1523.45
8200.00	90.33	179.97	6774.79	-1623.45	0.74	0.00	0.00	0.00	1623.45
8300.00	90.33	179.97	6774.20	-1723.44	0.79	0.00	0.00	0.00	1723.44
8400.00	90.33	179.97	6773.62	-1823.44	0.83	0.00	0.00	0.00	1823.44
8500.00	90.33	179.97	6773.04	-1923.44	0.88	0.00	0.00	0.00	1923.44
8600.00	90.33	179.97	6772.45	-2023.44	0.92	0.00	0.00	0.00	2023.44
8700.00	90.33	179.97	6771.87	-2123.44	0.97	0.00	0.00	0.00	2123.44
8800.00	90.33	179.97	6771.29	-2223.43	1.01	0.00	0.00	0.00	2223.44
8900.00	90.33	179.97	6770.70	-2323.43	1.06	0.00	0.00	0.00	2323.43
9000.00	90.33	179.97	6770.12	-2423.43	1.10	0.00	0.00	0.00	2423.43
9100.00	90.33	179.97	6769.54	-2523.43	1.15	0.00	0.00	0.00	2523.43
9192.29	90.33	179.97	6769.00	-2615.71	1.19	0.00	0.00	0.00	2615.72
9209.95	90.69	179.97	6768.84	-2633.37	1.20	2.00	2.00	-0.02	2633.37
9300.00	90.69	179.97	6767.76	-2723.42	1.25	0.00	0.00	0.00	2723.42
9400.00	90.69	179.97	6766.56	-2823.41	1.30	0.00	0.00	0.00	2823.41
9500.00	90.69	179.97	6765.36	-2923.41	1.35	0.00	0.00	0.00	2923.41
9600.00	90.69	179.97	6764.16	-3023.40	1.40	0.00	0.00	0.00	3023.40
9700.00	90.69	179.97	6762.96	-3123.39	1.45	0.00	0.00	0.00	3123.39
9800.00	90.69	179.97	6761.76	-3223.38	1.50	0.00	0.00	0.00	3223.39
9900.00	90.69	179.97	6760.56	-3323.38	1.55	0.00	0.00	0.00	3323.38
10000.00	90.69	179.97	6759.36	-3423.37	1.60	0.00	0.00	0.00	3423.37
10100.00	90.69	179.97	6758.16	-3523.36	1.65	0.00	0.00	0.00	3523.36
10200.00	90.69	179.97	6756.97	-3623.36	1.70	0.00	0.00	0.00	3623.36
10300.00	90.69	179.97	6755.77	-3723.35	1.75	0.00	0.00	0.00	3723.35
10400.00	90.69	179.97	6754.57	-3823.34	1.80	0.00	0.00	0.00	3823.34
10500.00	90.69	179.97	6753.37	-3923.33	1.85	0.00	0.00	0.00	3923.33
10600.00	90.69	179.97	6752.17	-4023.33	1.90	0.00	0.00	0.00	4023.33
10700.00	90.69	179.97	6750.97	-4123.32	1.95	0.00	0.00	0.00	4123.32
10800.00	90.69	179.97	6749.77	-4223.31	2.00	0.00	0.00	0.00	4223.31
10900.00	90.69	179.97	6748.57	-4323.31	2.05	0.00	0.00	0.00	4323.31
11000.00	90.69	179.97	6747.37	-4423.30	2.10	0.00	0.00	0.00	4423.30
11100.00	90.69	179.97	6746.17	-4523.29	2.16	0.00	0.00	0.00	4523.29
11200.00	90.69	179.97	6744.97	-4623.28	2.21	0.00	0.00	0.00	4623.28
11300.00	90.69	179.97	6743.77	-4723.28	2.26	0.00	0.00	0.00	4723.28
11400.00	90.69	179.97	6742.57	-4823.27	2.31	0.00	0.00	0.00	4823.27

11500.00	90.69	179.97	6741.37	-4923.26	2.36	0.00	0.00	0.00	4923.26
11530.78	90.69	179.97	6741.00	-4954.04	2.37	0.00	0.00	0.00	4954.04