

5-3-11 DATE IN	SUSPENSE	ENGINEER DB	LOGGED IN	TYPE NSL	APP NO. 1112357673
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ABOVE THIS LINE FOR DIVISION USE ONLY

NEW MEXICO OIL CONSERVATION DIVISION
 - Engineering Bureau -
 1220 South St. Francis Drive, Santa Fe, NM 87505



Devon
 Thistle U#32H
 6382

ADMINISTRATIVE APPLICATION CHECKLIST

30-025-40616

THIS CHECKLIST IS MANDATORY FOR ALL ADMINISTRATIVE APPLICATIONS FOR EXCEPTIONS TO DIVISION RULES AND REGULATIONS WHICH REQUIRE PROCESSING AT THE DIVISION LEVEL IN SANTA FE

Application Acronyms:

[NSL-Non-Standard Location] [NSP-Non-Standard Proration Unit] [SD-Simultaneous Dedication]
 [DHC-Downhole Commingling] [CTB-Lease Commingling] [PLC-Pool/Lease Commingling]
 [PC-Pool Commingling] [OLS - Off-Lease Storage] [OLM-Off-Lease Measurement]
 [WFX-Waterflood Expansion] [PMX-Pressure Maintenance Expansion]
 [SWD-Salt Water Disposal] [IPI-Injection Pressure Increase]
 [EOR-Qualified Enhanced Oil Recovery Certification] [PPR-Positive Production Response]

[1] TYPE OF APPLICATION - Check Those Which Apply for [A]

- [A] Location - Spacing Unit - Simultaneous Dedication
☒ NSL ☐ NSP ☐ SD

Check One Only for [B] or [C]

- [B] Commingling - Storage - Measurement
☐ DHC ☐ CTB ☐ PLC ☐ PC ☐ OLS ☐ OLM
- [C] Injection - Disposal - Pressure Increase - Enhanced Oil Recovery
☐ WFX ☐ PMX ☐ SWD ☐ IPI ☐ EOR ☐ PPR

- [D] Other: Specify _____

[2] NOTIFICATION REQUIRED TO: - Check Those Which Apply, or ☐ Does Not Apply

- [A] ☒ Working, Royalty or Overriding Royalty Interest Owners
- [B] ☒ Offset Operators, Leaseholders or Surface Owner
- [C] ☐ Application is One Which Requires Published Legal Notice
- [D] ☐ Notification and/or Concurrent Approval by BLM or SLO
U.S. Bureau of Land Management - Commissioner of Public Lands, State Land Office
- [E] ☐ For all of the above, Proof of Notification or Publication is Attached, and/or,
- [F] ☐ Waivers are Attached

[3] SUBMIT ACCURATE AND COMPLETE INFORMATION REQUIRED TO PROCESS THE TYPE OF APPLICATION INDICATED ABOVE.

[4] **CERTIFICATION:** I hereby certify that the information submitted with this application for administrative approval is **accurate** and **complete** to the best of my knowledge. I also understand that **no action** will be taken on this application until the required information and notifications are submitted to the Division.

Note: Statement must be completed by an individual with managerial and/or supervisory capacity.

Katie A. McDonnell
 Print or Type Name

Katie A. McDonnell
 Signature

Landman
 Title

05-03-2011
 Date

Katie.mcdonnell@devn.com
 e-mail Address

RECEIVED OGD
 2011 MAY -3 A 9:02



RECEIVED OCD

2011 MAY -3 A 9:02

Devon Energy Corporation
20 North Broadway
Oklahoma City, Oklahoma 73102-8260
Fax: 405-552-8113

FAX

**To: David Brooks
NMOCD**

**From: Katie McDonnell
Office: 405-552-8040**

Fax: 505-476-3462

Date: May 3, 2011

Phone: 505-476-3450

Pages: 18 (including cover page)

Re: NSL Application: Thistle Unit 32H

☐ Urgent

☐ For Review

☐ Please Comment

☐ Please Reply

☐ Please Recycle

● Comments:



Devon Energy Corporation
20 North Broadway
Oklahoma City, OK 73102-8260

405 235 3611 Phone
www.devonenergy.com

May 3, 2011

New Mexico Oil Conservation Division
1220 South St. Francis Drive
Santa Fe, NM 87505
Attn: David Brooks

RE: Thistle Unit #32H
Section 33-T23S-R33E
Lea County, New Mexico

Gentlemen:

Devon Energy Production Company, L.P. ("Devon"), as Operator, intends to drill the referenced horizontal Delaware well to a total vertical depth of 8,975' with a total measured depth of 13,891'. As reflected on the attached C-102, the well has been permitted at a surface location of 150' FSL and 150' FEL with a permitted bottom hole location of 150' FNL and 1,170' FEL of Section 33. We will penetrate the top of the Delaware formation at an unorthodox location of 150' FSL and 150' FEL (surface hole location), although the highest perforation in the well will not be closer than 330' to the outer boundary of the project area.

The surface hole location and bottom hole location will be non-standard in order to maximize the length of the horizontal portion of the wellbore within the target Delaware interval. By spotting the surface hole location 150' from the section line, this allows room to build the curve and land horizontally at a standard location within the target Delaware interval. By spotting the bottom hole location 150' from the section line, this allows room to drill sufficient rathole for casing shoe joints. Perforations in the horizontal wellbore in the target Delaware interval will be at least 330' from the section lines. If the surface hole location and bottom hole location were placed at standard locations (330' from the section lines), this would reduce the productive horizontal interval. With the proposed well plan, the productive interval of the horizontal wellbore within the target Delaware interval is maximized.

Inasmuch as the referenced well will penetrate the top of the Delaware formation at an unorthodox location from that permitted by the Statewide Pool Rules, Devon respectfully requests that the Commission administratively approve this application for an unorthodox location in accordance with Division Rule 104(F)(3). At the surface hole location, this unorthodox location affects the leasehold owners/operators in Unit letter M of section 34, Unit letter D of section 3-T24S-R33E, and Unit letter A of section 4-T24S-R33E. At the bottom hole location, this unorthodox location affects the leasehold owners/operators in Unit letter B of said section 33, as well as Unit letters O & P of section 28-T23S-R33E. Devon is the operator of that portion of the Thistle Unit comprised of sections 28, 33, and 34. EOG Resources is the operator of the Jackson 3 State Com #2 well, a Wolfcamp gas well with a project area comprised of the N/2 of section 3-T24S-R33E. Devon is the only partner in this well. EOG is also the operator of the Brininstool 4 State #1, a Wolfcamp gas well with a project area comprised of the E/2 of section 4-T24S-R33E. Murchison Oil & Gas, Inc. is the only partner in this well. In accordance with NMOC Rules, the affected leasehold operators and working interest owners in said affected Unit letters have been given notice of this application. Additionally, Devon requests Commission approval to designate a 160 acre project area

NMOCD- David Brooks

Page 2

5/3/2011

consisting of four (4) standard oil spacing units comprised of the E/2 E/2 (Unit letters A, H, I, & P) of said Section 33.

Attached for your review you will find a land plat, copies of letters of notification to the affected parties, a structure map covering the Top Delaware formation, a State of New Mexico form C-102, and a Well Profile Planning Report prepared by Pathfinder Energy Services.

Feel free to contact the undersigned at (405)552-8040 if there are any concerns or questions regarding this application.

Yours very truly,

DEVON ENERGY PRODUCTION COMPANY, L.P.

A handwritten signature in black ink that reads "Katie A. McDonnell". The signature is written in a cursive, flowing style.

Katie A. McDonnell
Landman

District I

1625 N. French Dr., Hobbs, NM 88240

District II

1301 W. Grand Avenue, Artesia, NM 88210

District III

1000 Rio Brazos Rd., Aztec, NM 87410

District IV

1220 S. St. Francis Dr., Santa Fe, NM 87505

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

Form C-102

Revised October 15, 2009

Submit one copy to appropriate

District Office

☐ AMENDED REPORT**WELL LOCATION AND ACREAGE DEDICATION PLAT**

¹ API Number	² Pool Code	³ Pool Name <i>under Brinninstool Dlev</i>
⁴ Property Code	⁵ Property Name THISTLE UNIT	⁶ Well Number 32H
⁷ OGRID No. 6137	⁸ Operator Name DEVON ENERGY PRODUCTION COMPANY, L.P.	⁹ Elevation 3644.4

¹⁰ Surface Location

UL or lot no. P	Section 33	Township 23 S	Range 33 E	Lot Idn	Feet from the 150	North/South line SOUTH	Feet from the 150	East/West line EAST	County LEA
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¹¹ Bottom Hole Location If Different From Surface

UL or lot no. A	Section 33	Township 23 S	Range 33 E	Lot Idn	Feet from the 150	North/South line NORTH	Feet from the 1170	East/West line EAST	County LEA
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¹² Dedicated Acres	¹³ Joint or Infill	¹⁴ Consolidation Code	¹⁵ Order No.
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No allowable will be assigned to this completion until all interests have been consolidated or a non-standard unit has been approved by the division.

N. Q. CORNER SEC. 33 LAT. = 32°16'06.36"N LONG. = 103°33'36.80"W NMSP EAST (FT) N = 462199.47 E = 780317.75	BOTTOM OF HOLE LAT. = 32°16'04.92"N LONG. = 103°34'21.17"W NMSP EAST (FT) N = 462026.76 E = 776508.39	1170' BOTTOM OF HOLE	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 in 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.
		NE CORNER SEC. 33 LAT. = 32°16'06.39"N LONG. = 103°34'07.55"W NMSP EAST (FT) N = 462183.62 E = 777677.23	
		SE CORNER SEC. 33 LAT. = 32°15'14.06"N LONG. = 103°34'07.52"W NMSP EAST (FT) N = 456883.46 E = 777717.59	
SW CORNER SEC. 33 LAT. = 32°15'14.11"N LONG. = 103°35'08.94"W NMSP EAST (FT) N = 456861.33 E = 772441.83	THISTLE UNIT #32H ELEV. = 3644.4' LAT. = 32°15'15.54"N (NAD83) LONG. = 103°34'09.27"W NMSP EAST (FT) N = 457042.52 E = 777566.44	SURFACE LOCATION 150'	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 13 2010 STATE OF NEW MEXICO Surveyor Signature and Seal of Professional Surveyor Certificate Number: 12797 SURVEY NO. 302



Devon Energy Corporation
20 North Broadway
Oklahoma City, OK 73102-8260

405 235 3611 Phone
www.devonenergy.com

May 3, 2011

Attn: Doug Hurlbut
EOG Resources Inc
4000 N Big Spring Ste 500
Midland, Texas 79705

Re: Thistle Unit #32H
Section 33-T23S-R33E
Lea County, NM

Gentlemen:

Attached you will find Devon Energy Production Company, L.P.'s administrative application for approval of an unorthodox well location covering the referenced well. Our records indicate that EOG Resources Inc, as the designated operator of the Brininstool 4 State #1 well, located in Section 4-T24S-R33E, as well as the Jackson 3 State Com #2 well, located in Section 3-T24S-R33E, is an affected owner of an offset spacing unit and is entitled to notice of this application in accordance with Division Rule 104(f). In accordance with NMOC rules, objections to this application must be filed with the New Mexico Oil Conservation Division within 20 days from the date the OCD receives the application. If you have no objection to this application, please so indicate by signing and returning one copy of this letter to the undersigned via facsimile to 405-552-8113.

If there are any questions or if additional information is required, feel free to call me at (405) 552-8040.

Yours very truly,

DEVON ENERGY PRODUCTION COMPANY, L.P.

A handwritten signature in black ink that reads "Katie A. McDonnell". The signature is written in a cursive, flowing style.

Katie A. McDonnell
Landman

EOG Resources Inc. has no objection to this administrative application for unorthodox location.

By: _____

Title: _____

Date: _____



Devon Energy Corporation
20 North Broadway
Oklahoma City, OK 73102-8260

405 235 3611 Phone
www.devonenergy.com

May 3, 2011

Attn: Mike Heathington
Murchison Oil & Gas, Inc.
414 W Texas Ave #405
Midland, TX 79701-4415

Re: Thistle Unit #32H
Section 33-T23S-R33E
Lea County, NM

Gentlemen:

Attached you will find Devon Energy Production Company, L.P.'s administrative application for approval of an unorthodox well location covering the referenced well. Our records indicate that Murchison Oil & Gas, Inc. as a working interest owner in the Brininstool 4 State #1 well, located in Section 4-T24S-R33E is an affected owner of an offset spacing unit and is entitled to notice of this application in accordance with Division Rule 104(f). In accordance with NMOCD Rules, objections to this application must be filed with the New Mexico Oil Conservation Division within 20 days from the date the OCD receives the application. If you have no objection to this application, please so indicate by signing and returning one copy of this letter to the undersigned via facsimile to 405-552-8113.

If there are any questions or if additional information is required, feel free to call me at (405) 552-8040.

Yours very truly,

DEVON ENERGY PRODUCTION COMPANY, L.P.

A handwritten signature in cursive script that reads "Katie A. McDonnell".

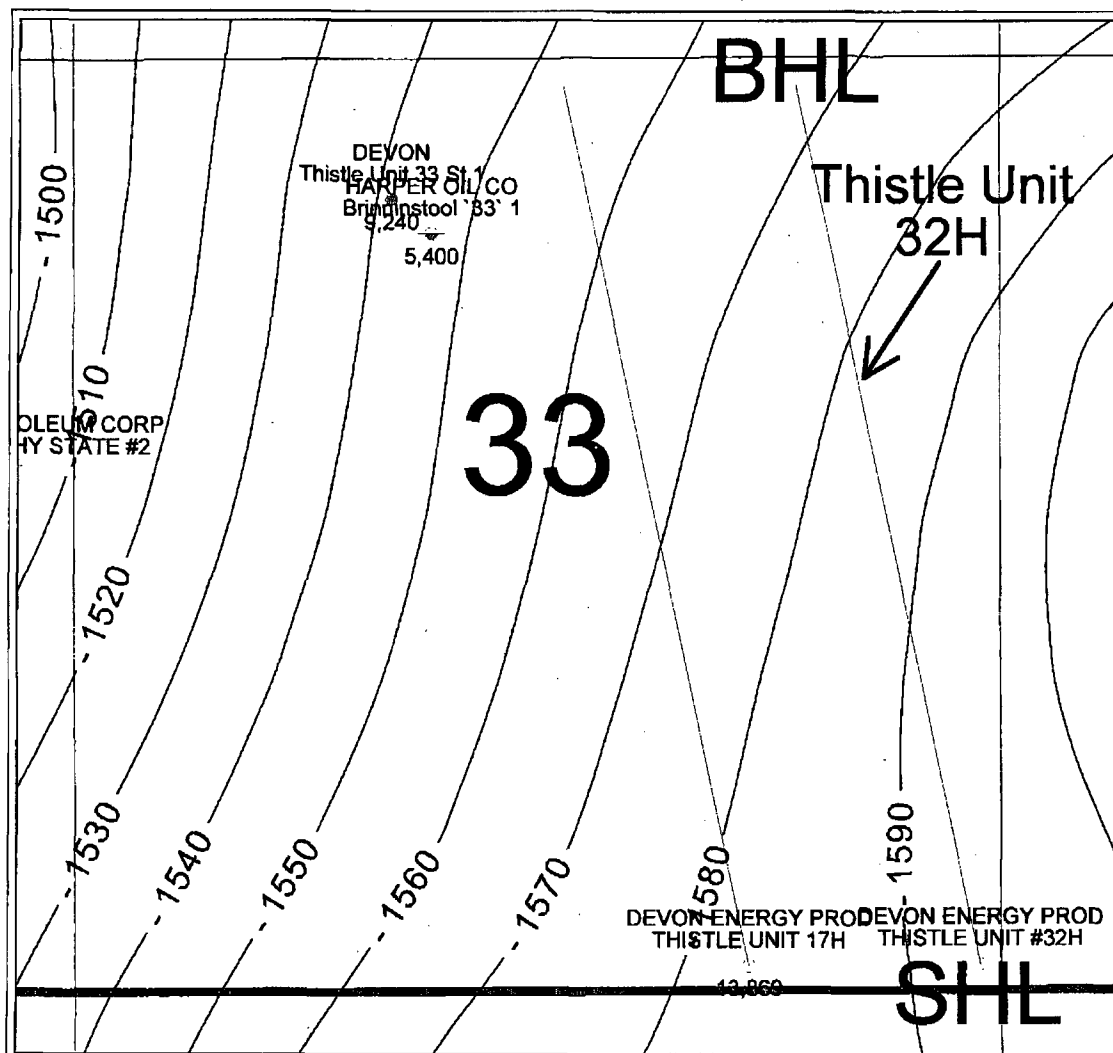
Katie A. McDonnell
Landman

Murchison Oil & Gas, Inc. has no objection to this administrative application for unorthodox location.

By: _____

Title: _____

Date: _____



PETRA 3/9/2011 1:27:23 PM

Devon Energy

Thistle Unit 32H

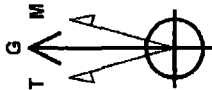
Non-Standard Location

Structure - Top Delaware

0 1,000
FEET

PATHFINDER

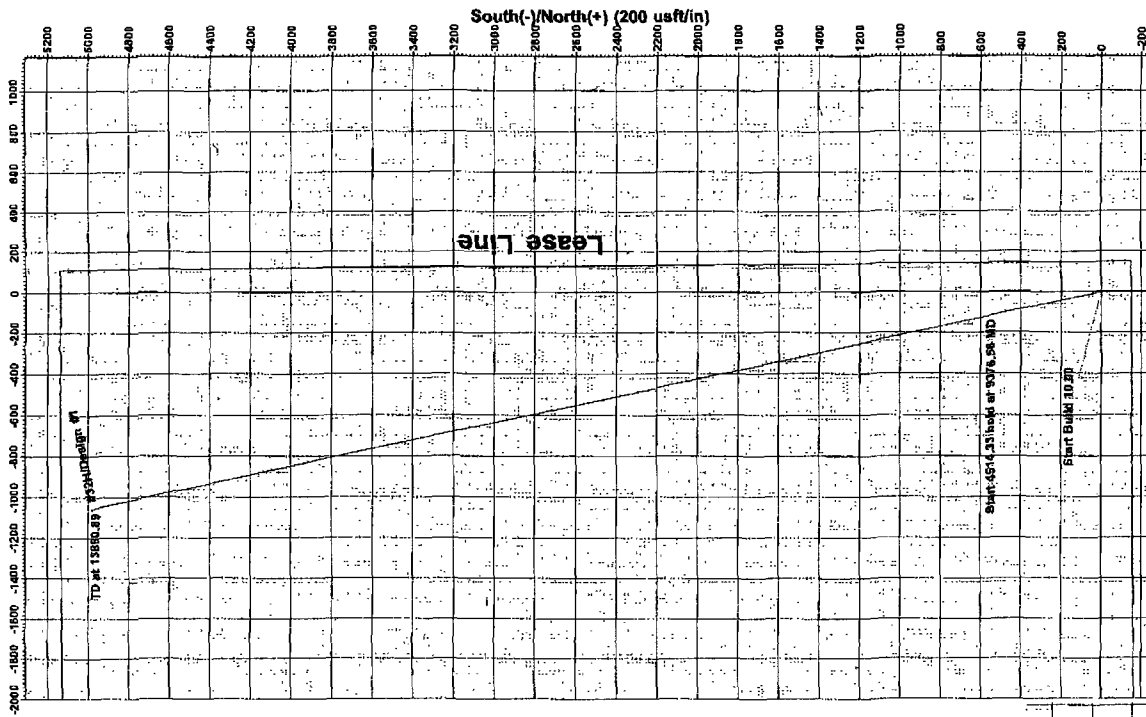
A Schlumberger Company



PROJECT DETAILS: Lea County
 Geodetic System: US State Plane 1983
 Datum: North American Datum 1983
 Ellipsoid: GRS 1980
 Zone: New Mexico Eastern Zone
 System Datum: Mean Sea Level
 Local North: Grid

Project: Lea County
Site: Thistle Unit
Well: #32H
Wellbore: OH
Plan: Design #1 (#32H/OH)

West(-)/East(+) (200 usft/in)



Azimuths to Grid North
 True North: -0.41°
 Magnetic North: 7.23°
 Magnetic Field
 Strength: 48721.35nT
 Dip Angle: 60.25°
 Date: 12/07/2010
 Model: IGRF200510

SECTION DETAILS

Sec	MD	Inc	Adj	TVD	+N/-S	+E/-W	Disg	TFace	Vsect	Target
1	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	24658.20	0.00	0.00	8488.20	0.00	0.00	0.00	0.00	0.00	0.00
	5172.50	95.00	0.00	5172.50	0.00	0.00	0.00	0.00	0.00	0.00
	4387.00	95.00	0.00	4387.00	0.00	0.00	0.00	0.00	0.00	0.00
	4387.00	95.00	0.00	4387.00	0.00	0.00	0.00	0.00	0.00	0.00
	4387.00	95.00	0.00	4387.00	0.00	0.00	0.00	0.00	0.00	0.00
	4387.00	95.00	0.00	4387.00	0.00	0.00	0.00	0.00	0.00	0.00
	4387.00	95.00	0.00	4387.00	0.00	0.00	0.00	0.00	0.00	0.00
	4387.00	95.00	0.00	4387.00	0.00	0.00	0.00	0.00	0.00	0.00
	4387.00	95.00	0.00	4387.00	0.00	0.00	0.00	0.00	0.00	0.00

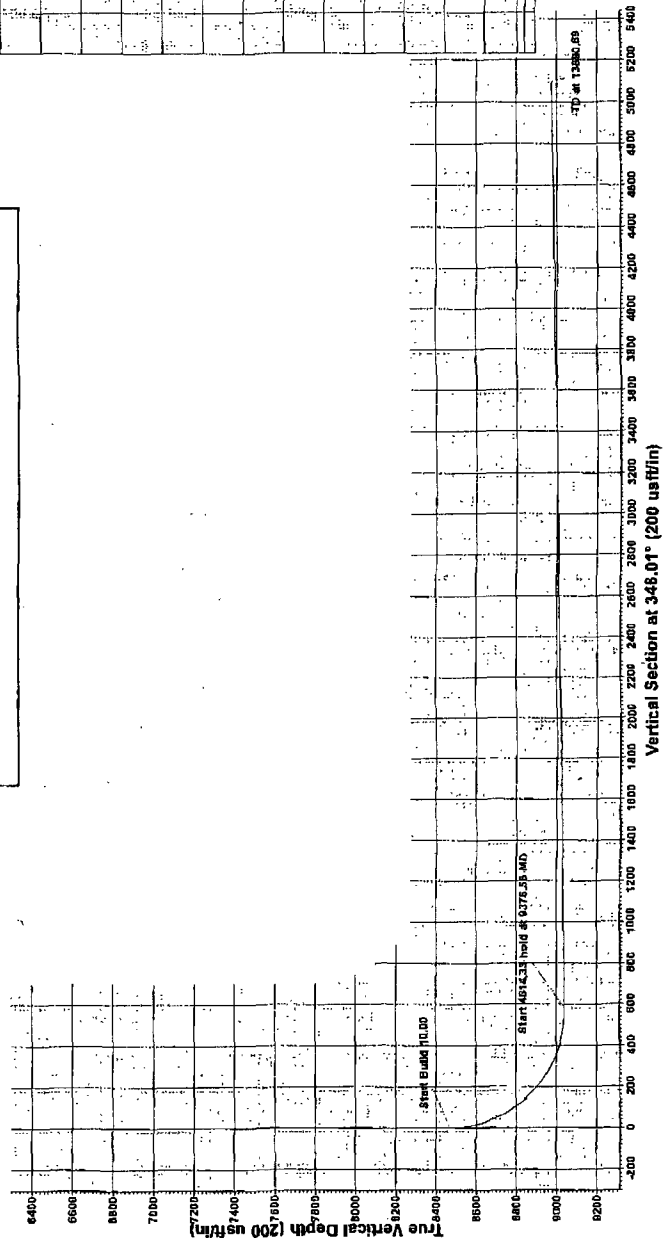
WELL DETAILS: #32H

Ground Elevation: 3544.40
 RVD: 3544.40
 Rig Name: 10' KB Connection

North: 45762.220
 East: 77768.440
 Length: 103' 34" 9.510 W
 Slot

WELLBORE TARGET DETAILS (MAP CO-ORDINATES)

Name: PBH(TUR32)1975.00
 TVD: 4954.24
 North: 41228.300
 East: 77570.150
 Shape: Point



Vertical Section at 348.01° (200 usft/in)

Plan: Design #1 (#32H/OH)

Created By: Jane Singleton Date: 14 Jul, December 01 2010



Devon Energy Production Company, L.P.

Lea County
Thistle Unit
#32H
OH

Plan: Design #1

Pathfinder X & Y Planning Report

01 December, 2010





Pathfinder Pathfinder X & Y Planning Report

PATHFINDER
A Schlumberger Company

Company: Devon Energy Production Company, L.P.
Project: Lea County
Site: Thistle Unit
Well: #32H
Wellbore: OH
Design: Design #1

Local Co-ordinate Reference:
TVD Reference:
MWD Reference:
North Reference:
Survey Calculation Method:
Database:
Minimum Curvature
EDM 5000.1 Single User Db

Site Thistle Unit
WELL @ 3663.40usft (19' KB Correction)
WELL @ 3663.40usft (19' KB Correction)
Grid

Project: Lea County

Map System: US State Plane 1983
Geo Datum: North American Datum 1983
Map Zone: New Mexico Eastern Zone

System Datum: Mean Sea Level

Site: Thistle Unit

Site Position: Northing: 457,314.060 usft Latitude: 32° 15' 56.649 N
From: Easting: 777,788.180 usft Longitude: 103° 34' 5.575 W
Position Uncertainty: Slot Radius: 13.3/16 " Grid Convergence: 0.41 °

Well: #32H
Well Position: +N-S -10,271.54 usft Latitude: 32° 15' 15.026 N
+E-W -221.74 usft Longitude: 103° 34' 9.010 W
Position Uncertainty: Wellhead Elevation: 0.00 usft Ground Level: 3,644.40 usft

Wellbore: OH

Magnetics: Model Name: Simple Data: 12/01/10
Dip Angle: 7.64 Field Strength: 48,721
IGRF200510 60.25

Design: Design #1

Audit Notes:

Version: Phase: PLAN Tie On Depth: 0.00

Vertical Section: Depth From (TVD) 0.00
Direction: Direction: 348.01
Tie On Depth: 0.00

Survey Tool Program: Date: 12/01/10

From: To: Survey Wellbore
Tool Name: Description
0.00 13,890.65 Design #1 (OH)



Pathfinder Pathfinder X & Y Planning Report



A Schlumberger Company

Company
Project
Site
Well
Wellbore
Design

Devon Energy Production Company, L.P.
Lea County
Thistle Unit
#32H
OH
Design #1

Local Coordinate Reference
TVD Reference
MD Reference
North Reference
Survey Calculation Method
Database

Site Thistle Unit
WELL @ 3663.40ust (19' KB Correction)
WELL @ 3663.40ust (19' KB Correction)
Ghd
Minimum Curvature
EDM 5000.1 Single User Db

Planned Survey

MD (ust)	Inc (°)	AZ (°)	TVD (ust)	TVDSS (ust)	N/S (ust)	E/W (ust)	V. Sec (ust)	DLag (100ust)	North (ust)	East (ust)
0.00	0.00	0.00	0.00	3,663.40	0.00	0.00	0.00	0.00	467,314.06	777,788.18
100.00	0.00	0.00	100.00	3,563.40	0.00	0.00	0.00	0.00	467,314.06	777,788.18
200.00	0.00	0.00	200.00	3,463.40	0.00	0.00	0.00	0.00	467,314.06	777,788.18
300.00	0.00	0.00	300.00	3,363.40	0.00	0.00	0.00	0.00	467,314.06	777,788.18
400.00	0.00	0.00	400.00	3,263.40	0.00	0.00	0.00	0.00	467,314.06	777,788.18
500.00	0.00	0.00	500.00	3,163.40	0.00	0.00	0.00	0.00	467,314.06	777,788.18
600.00	0.00	0.00	600.00	3,063.40	0.00	0.00	0.00	0.00	467,314.06	777,788.18
700.00	0.00	0.00	700.00	2,963.40	0.00	0.00	0.00	0.00	467,314.06	777,788.18
800.00	0.00	0.00	800.00	2,863.40	0.00	0.00	0.00	0.00	467,314.06	777,788.18
900.00	0.00	0.00	900.00	2,763.40	0.00	0.00	0.00	0.00	467,314.06	777,788.18
1,000.00	0.00	0.00	1,000.00	2,663.40	0.00	0.00	0.00	0.00	467,314.06	777,788.18
1,100.00	0.00	0.00	1,100.00	2,563.40	0.00	0.00	0.00	0.00	467,314.06	777,788.18
1,200.00	0.00	0.00	1,200.00	2,463.40	0.00	0.00	0.00	0.00	467,314.06	777,788.18
1,300.00	0.00	0.00	1,300.00	2,363.40	0.00	0.00	0.00	0.00	467,314.06	777,788.18
1,400.00	0.00	0.00	1,400.00	2,263.40	0.00	0.00	0.00	0.00	467,314.06	777,788.18
1,500.00	0.00	0.00	1,500.00	2,163.40	0.00	0.00	0.00	0.00	467,314.06	777,788.18
1,600.00	0.00	0.00	1,600.00	2,063.40	0.00	0.00	0.00	0.00	467,314.06	777,788.18
1,700.00	0.00	0.00	1,700.00	1,963.40	0.00	0.00	0.00	0.00	467,314.06	777,788.18
1,800.00	0.00	0.00	1,800.00	1,863.40	0.00	0.00	0.00	0.00	467,314.06	777,788.18
1,900.00	0.00	0.00	1,900.00	1,763.40	0.00	0.00	0.00	0.00	467,314.06	777,788.18
2,000.00	0.00	0.00	2,000.00	1,663.40	0.00	0.00	0.00	0.00	467,314.06	777,788.18
2,100.00	0.00	0.00	2,100.00	1,563.40	0.00	0.00	0.00	0.00	467,314.06	777,788.18
2,200.00	0.00	0.00	2,200.00	1,463.40	0.00	0.00	0.00	0.00	467,314.06	777,788.18
2,300.00	0.00	0.00	2,300.00	1,363.40	0.00	0.00	0.00	0.00	467,314.06	777,788.18
2,400.00	0.00	0.00	2,400.00	1,263.40	0.00	0.00	0.00	0.00	467,314.06	777,788.18
2,500.00	0.00	0.00	2,500.00	1,163.40	0.00	0.00	0.00	0.00	467,314.06	777,788.18
2,600.00	0.00	0.00	2,600.00	1,063.40	0.00	0.00	0.00	0.00	467,314.06	777,788.18



Pathfinder Pathfinder X & Y Planning Report

PATHFINDER
A Schlumberger Company

Company: Devon Energy Production Company, L.P.
Project: Lea County
Sheet: Thistle Unit
Well: #32H
Wellbore: OH
Design: Design #1

Site Thistle Unit
WELL @ 3663.40ust (19' KB Correction)
WELL @ 3663.40ust (19' KB Correction)
Grid
Minimum Curvature
EDM 5000.1 Single User Db

Local Coordinates Reference
TVD Reference
MB Reference
North Reference
Survey Calculation Method
Datum: NAD83

Planned Survey	MB (ust)	INC (ft)	AZ (ft)	TVD (ust)	TPSS (ust)	NS (ust)	EW (ust)	V-SEC (ust)	0-Log (ft)	Northing (ust)	Easting (ust)
	2,700.00	0.00	0.00	2,700.00	963.40	0.00	0.00	0.00	0.00	467,314.06	777,788.18
	2,800.00	0.00	0.00	2,800.00	863.40	0.00	0.00	0.00	0.00	467,314.06	777,788.18
	2,900.00	0.00	0.00	2,900.00	763.40	0.00	0.00	0.00	0.00	467,314.06	777,788.18
	3,000.00	0.00	0.00	3,000.00	663.40	0.00	0.00	0.00	0.00	467,314.06	777,788.18
	3,100.00	0.00	0.00	3,100.00	563.40	0.00	0.00	0.00	0.00	467,314.06	777,788.18
	3,200.00	0.00	0.00	3,200.00	463.40	0.00	0.00	0.00	0.00	467,314.06	777,788.18
	3,300.00	0.00	0.00	3,300.00	363.40	0.00	0.00	0.00	0.00	467,314.06	777,788.18
	3,400.00	0.00	0.00	3,400.00	263.40	0.00	0.00	0.00	0.00	467,314.06	777,788.18
	3,500.00	0.00	0.00	3,500.00	163.40	0.00	0.00	0.00	0.00	467,314.06	777,788.18
	3,600.00	0.00	0.00	3,600.00	63.40	0.00	0.00	0.00	0.00	467,314.06	777,788.18
	3,700.00	0.00	0.00	3,700.00	-36.60	0.00	0.00	0.00	0.00	467,314.06	777,788.18
	3,800.00	0.00	0.00	3,800.00	-136.60	0.00	0.00	0.00	0.00	467,314.06	777,788.18
	3,900.00	0.00	0.00	3,900.00	-236.60	0.00	0.00	0.00	0.00	467,314.06	777,788.18
	4,000.00	0.00	0.00	4,000.00	-336.60	0.00	0.00	0.00	0.00	467,314.06	777,788.18
	4,100.00	0.00	0.00	4,100.00	-436.60	0.00	0.00	0.00	0.00	467,314.06	777,788.18
	4,200.00	0.00	0.00	4,200.00	-536.60	0.00	0.00	0.00	0.00	467,314.06	777,788.18
	4,300.00	0.00	0.00	4,300.00	-636.60	0.00	0.00	0.00	0.00	467,314.06	777,788.18
	4,400.00	0.00	0.00	4,400.00	-736.60	0.00	0.00	0.00	0.00	467,314.06	777,788.18
	4,500.00	0.00	0.00	4,500.00	-836.60	0.00	0.00	0.00	0.00	467,314.06	777,788.18
	4,600.00	0.00	0.00	4,600.00	-936.60	0.00	0.00	0.00	0.00	467,314.06	777,788.18
	4,700.00	0.00	0.00	4,700.00	-1,036.60	0.00	0.00	0.00	0.00	467,314.06	777,788.18
	4,800.00	0.00	0.00	4,800.00	-1,136.60	0.00	0.00	0.00	0.00	467,314.06	777,788.18
	4,900.00	0.00	0.00	4,900.00	-1,236.60	0.00	0.00	0.00	0.00	467,314.06	777,788.18
	5,000.00	0.00	0.00	5,000.00	-1,336.60	0.00	0.00	0.00	0.00	467,314.06	777,788.18
	5,100.00	0.00	0.00	5,100.00	-1,436.60	0.00	0.00	0.00	0.00	467,314.06	777,788.18
	5,200.00	0.00	0.00	5,200.00	-1,536.60	0.00	0.00	0.00	0.00	467,314.06	777,788.18
	5,300.00	0.00	0.00	5,300.00	-1,636.60	0.00	0.00	0.00	0.00	467,314.06	777,788.18



Pathfinder

Pathfinder X & Y Planning Report



Company: Devon Energy Production Company, L.P.

Project: Lea County

Site: Thistle Unit

Well: #32H

Wellbore: OH

Design: Design #1

Local Coordinate Reference

TVD Reference

MD Reference

North Reference

Survey Calculation Method

Database

Site Thistle Unit

WELL @ 3663.40ust (19' KB Correction)

WELL @ 3663.40ust (19' KB Correction)

Grid

Minimum Curvature

EDM 5000.1 Single User Db

Planned Survey

MD (ust)	Ad (')	Ine (')	TVD (ust)	TVDSS (ust)	NIS (ust)	EW (ust)	V. Sec (ust)	Diag (770 bush)	Northing (ust)	Easting (ust)
5,400.00	0.00	0.00	5,400.00	-1,736.60	0.00	0.00	0.00	0.00	467,314.06	777,788.18
5,500.00	0.00	0.00	5,500.00	-1,836.60	0.00	0.00	0.00	0.00	467,314.06	777,788.18
5,600.00	0.00	0.00	5,600.00	-1,936.60	0.00	0.00	0.00	0.00	467,314.06	777,788.18
5,700.00	0.00	0.00	5,700.00	-2,036.60	0.00	0.00	0.00	0.00	467,314.06	777,788.18
5,800.00	0.00	0.00	5,800.00	-2,136.60	0.00	0.00	0.00	0.00	467,314.06	777,788.18
5,900.00	0.00	0.00	5,900.00	-2,236.60	0.00	0.00	0.00	0.00	467,314.06	777,788.18
6,000.00	0.00	0.00	6,000.00	-2,336.60	0.00	0.00	0.00	0.00	467,314.06	777,788.18
6,100.00	0.00	0.00	6,100.00	-2,436.60	0.00	0.00	0.00	0.00	467,314.06	777,788.18
6,200.00	0.00	0.00	6,200.00	-2,536.60	0.00	0.00	0.00	0.00	467,314.06	777,788.18
6,300.00	0.00	0.00	6,300.00	-2,636.60	0.00	0.00	0.00	0.00	467,314.06	777,788.18
6,400.00	0.00	0.00	6,400.00	-2,736.60	0.00	0.00	0.00	0.00	467,314.06	777,788.18
6,500.00	0.00	0.00	6,500.00	-2,836.60	0.00	0.00	0.00	0.00	467,314.06	777,788.18
6,600.00	0.00	0.00	6,600.00	-2,936.60	0.00	0.00	0.00	0.00	467,314.06	777,788.18
6,700.00	0.00	0.00	6,700.00	-3,036.60	0.00	0.00	0.00	0.00	467,314.06	777,788.18
6,800.00	0.00	0.00	6,800.00	-3,136.60	0.00	0.00	0.00	0.00	467,314.06	777,788.18
6,900.00	0.00	0.00	6,900.00	-3,236.60	0.00	0.00	0.00	0.00	467,314.06	777,788.18
7,000.00	0.00	0.00	7,000.00	-3,336.60	0.00	0.00	0.00	0.00	467,314.06	777,788.18
7,100.00	0.00	0.00	7,100.00	-3,436.60	0.00	0.00	0.00	0.00	467,314.06	777,788.18
7,200.00	0.00	0.00	7,200.00	-3,536.60	0.00	0.00	0.00	0.00	467,314.06	777,788.18
7,300.00	0.00	0.00	7,300.00	-3,636.60	0.00	0.00	0.00	0.00	467,314.06	777,788.18
7,400.00	0.00	0.00	7,400.00	-3,736.60	0.00	0.00	0.00	0.00	467,314.06	777,788.18
7,500.00	0.00	0.00	7,500.00	-3,836.60	0.00	0.00	0.00	0.00	467,314.06	777,788.18
7,600.00	0.00	0.00	7,600.00	-3,936.60	0.00	0.00	0.00	0.00	467,314.06	777,788.18
7,700.00	0.00	0.00	7,700.00	-4,036.60	0.00	0.00	0.00	0.00	467,314.06	777,788.18
7,800.00	0.00	0.00	7,800.00	-4,136.60	0.00	0.00	0.00	0.00	467,314.06	777,788.18
7,900.00	0.00	0.00	7,900.00	-4,236.60	0.00	0.00	0.00	0.00	467,314.06	777,788.18
8,000.00	0.00	0.00	8,000.00	-4,336.60	0.00	0.00	0.00	0.00	467,314.06	777,788.18



Pathfinder

Pathfinder X & Y Planning Report

A Schlumberger Company

Client: Devon Energy Production Company, L.P.
 Project: Lea County
 Site: Thistle Unit
 Well: #32H
 Wellbore: OH
 Design: #1

Local Coordinate Reference:
 TWD Reference
 MD Reference
 Azimuth Reference
 Survey Calculation Method:
 Database

Site Thistle Unit
 WELL @ 3663.40.usft (19' KB Correction)
 WELL @ 3663.40.usft (19' KB Correction)
 Grid
 Minimum Curvature
 EDM 5000.1 Single User Db

Planned Survey

MD (usft)	Inc (°)	Az (°)	TWD (usft)	TVSS (usft)	N/S (usft)	EW (usft)	V. Sec (usft)	Drop (°/100usft)	North (usft)	East (usft)
8,100.00	0.00	0.00	8,100.00	-4,436.50	0.00	0.00	0.00	0.00	467,314.06	777,788.18
8,200.00	0.00	0.00	8,200.00	-4,536.50	0.00	0.00	0.00	0.00	467,314.06	777,788.18
8,300.00	0.00	0.00	8,300.00	-4,636.50	0.00	0.00	0.00	0.00	467,314.06	777,788.18
8,400.00	0.00	0.00	8,400.00	-4,736.50	0.00	0.00	0.00	0.00	467,314.06	777,788.18
8,468.00	0.00	0.00	8,468.00	-4,804.60	0.00	0.00	0.00	0.00	467,314.06	777,788.18
8,500.00	3.20	348.01	8,499.98	-4,836.58	0.87	-0.19	0.89	10.00	467,314.93	777,787.99
8,550.00	8.20	348.01	8,549.72	-4,886.32	5.73	-1.22	5.86	10.00	467,319.79	777,786.96
8,600.00	13.20	348.01	8,598.84	-4,935.44	14.81	-3.14	15.14	10.00	467,328.87	777,785.04
8,650.00	18.20	348.01	8,646.96	-4,983.56	28.03	-5.95	28.66	10.00	467,342.09	777,782.23
8,700.00	23.20	348.01	8,693.71	-5,030.31	45.31	-8.62	46.32	10.00	467,359.37	777,778.56
8,750.00	28.19	348.01	8,738.76	-5,075.36	66.51	-14.13	68.00	10.00	467,380.57	777,774.05
8,800.00	33.19	348.01	8,781.74	-5,118.34	91.47	-19.43	93.51	10.00	467,405.53	777,768.75
8,850.00	38.19	348.01	8,822.33	-5,158.93	120.00	-25.48	122.67	10.00	467,434.06	777,762.70
8,900.00	43.19	348.01	8,860.23	-5,196.83	151.88	-32.25	155.26	10.00	467,465.94	777,755.93
8,950.00	48.19	348.01	8,895.15	-5,231.75	186.88	-39.69	191.03	10.00	467,500.92	777,748.49
9,000.00	53.19	348.01	8,926.81	-5,265.41	224.70	-47.72	229.71	10.00	467,538.76	777,740.46
9,050.00	58.19	348.01	8,954.99	-5,291.59	265.08	-56.30	270.99	10.00	467,579.14	777,731.88
9,100.00	63.19	348.01	8,979.46	-5,316.06	307.72	-65.35	314.58	10.00	467,621.78	777,722.83
9,150.00	68.19	348.01	9,000.03	-5,336.53	352.27	-74.81	360.13	10.00	467,666.33	777,713.37
9,200.00	73.19	348.01	9,016.56	-5,353.16	398.42	-84.61	407.30	10.00	467,712.48	777,703.57
9,250.00	78.19	348.01	9,028.92	-5,365.52	445.79	-94.67	455.73	10.00	467,759.85	777,693.51
9,300.00	83.18	348.01	9,037.01	-5,373.61	494.04	-104.92	505.06	10.00	467,808.10	777,683.26
9,350.00	88.18	348.01	9,040.77	-5,377.37	542.80	-115.28	554.90	10.00	467,856.86	777,672.90
9,376.56	90.84	348.01	9,041.00	-5,377.80	588.78	-120.79	581.46	10.00	467,882.84	777,667.39
9,400.00	90.84	348.01	9,040.86	-5,377.26	591.70	-125.66	604.90	0.00	467,905.76	777,662.52
9,500.00	90.84	348.01	9,039.19	-5,375.79	689.51	-146.43	704.88	0.00	468,003.57	777,641.75
9,600.00	90.84	348.01	9,037.72	-5,374.32	787.32	-167.21	804.87	0.00	468,101.38	777,620.97



Pathfinder Pathfinder X & Y Planning Report

PATHFINDER
A Schlumberger Company

Company				Local Co-ordinate Reference				Site Thistle Unit			
Project				TVD Reference				WELL @ 3663.40ust (19' KB Correction)			
Site				MD Reference				WELL @ 3663.40ust (19' KB Correction)			
Well				North Magnetic				Grid			
Wellbore				Survey Calculation Method				Minimum Curvature			
Design				Database				EDM 5000.1 Single User Db			
Planned Survey											
MD	Inc	Asl	TVD	TVDSS	N/S	E/W	V/Bac	Drop	Northing	Eastng	
(feet)	(°)	(ft)	(ust)	(ust)	(ust)	(ust)	(ust)	(1000ust)	(ust)	(ust)	(ust)
9,700.00	90.84	348.01	9,036.26	-5,372.86	885.12	-187.96	904.86	0.00	468,199.18	777,500.20	
9,800.00	90.84	348.01	9,034.78	-5,371.39	982.93	-208.75	1,004.85	0.00	468,296.99	777,579.43	
9,900.00	90.84	348.01	9,033.33	-5,369.93	1,080.74	-229.52	1,104.84	0.00	468,394.80	777,558.66	
10,000.00	90.84	348.01	9,031.86	-5,368.46	1,178.55	-250.29	1,204.83	0.00	468,492.61	777,537.89	
10,100.00	90.84	348.01	9,030.39	-5,366.99	1,276.35	-271.06	1,304.82	0.00	468,590.41	777,517.12	
10,200.00	90.84	348.01	9,028.93	-5,365.53	1,374.16	-291.84	1,404.81	0.00	468,688.22	777,496.34	
10,300.00	90.84	348.01	9,027.46	-5,364.06	1,471.97	-312.61	1,504.80	0.00	468,786.03	777,475.57	
10,400.00	90.84	348.01	9,026.00	-5,362.60	1,569.78	-333.38	1,604.79	0.00	468,883.84	777,454.80	
10,500.00	90.84	348.01	9,024.53	-5,361.13	1,667.59	-354.15	1,704.78	0.00	468,981.65	777,434.03	
10,600.00	90.84	348.01	9,023.06	-5,359.66	1,765.39	-374.92	1,804.77	0.00	469,079.45	777,413.26	
10,700.00	90.84	348.01	9,021.60	-5,358.20	1,863.20	-395.70	1,904.76	0.00	469,177.26	777,392.48	
10,800.00	90.84	348.01	9,020.13	-5,356.73	1,961.01	-416.47	2,004.75	0.00	469,275.07	777,371.71	
10,900.00	90.84	348.01	9,018.67	-5,355.27	2,058.82	-437.24	2,104.73	0.00	469,372.88	777,350.94	
11,000.00	90.84	348.01	9,017.20	-5,353.80	2,156.63	-458.01	2,204.72	0.00	469,470.69	777,330.17	
11,100.00	90.84	348.01	9,015.73	-5,352.33	2,254.43	-478.78	2,304.71	0.00	469,568.49	777,309.40	
11,200.00	90.84	348.01	9,014.27	-5,350.87	2,352.24	-499.56	2,404.70	0.00	469,666.30	777,288.62	
11,300.00	90.84	348.01	9,012.80	-5,349.40	2,450.05	-520.33	2,504.69	0.00	469,764.11	777,267.85	
11,400.00	90.84	348.01	9,011.34	-5,347.94	2,547.86	-541.10	2,604.68	0.00	469,861.92	777,247.08	
11,500.00	90.84	348.01	9,009.87	-5,346.47	2,645.66	-561.87	2,704.67	0.00	469,959.72	777,226.31	
11,600.00	90.84	348.01	9,008.40	-5,345.00	2,743.47	-582.64	2,804.66	0.00	470,057.53	777,205.54	
11,700.00	90.84	348.01	9,006.94	-5,343.54	2,841.28	-603.41	2,904.65	0.00	470,155.34	777,184.77	
11,800.00	90.84	348.01	9,005.47	-5,342.07	2,939.09	-624.19	3,004.64	0.00	470,253.15	777,163.99	
11,900.00	90.84	348.01	9,004.01	-5,340.61	3,036.90	-644.96	3,104.63	0.00	470,350.96	777,143.22	
12,000.00	90.84	348.01	9,002.54	-5,339.14	3,134.70	-665.73	3,204.62	0.00	470,448.76	777,122.45	
12,100.00	90.84	348.01	9,001.07	-5,337.67	3,232.51	-686.50	3,304.61	0.00	470,546.57	777,101.68	
12,200.00	90.84	348.01	8,999.61	-5,336.21	3,330.32	-707.27	3,404.59	0.00	470,644.38	777,080.91	
12,300.00	90.84	348.01	8,998.14	-5,334.74	3,428.13	-728.05	3,504.58	0.00	470,742.19	777,060.13	



A Schlumberger Company

Pathfinder

Pathfinder X & Y Planning Report



Company: Devon Energy Production Company, L.P.
 Project: Lees County
 Well: Thistle Unit
 Wellbore: #32H
 Design: OH
 Design #: Design #1

Local Coordinates Reference:
 TVD Reference:
 MD Reference:
 North Reference:
 Survey Calculation Method:
 Database:

Site Thistle Unit
 WELL @ 3663.40usft (19' KB Correction)
 WELL @ 3663.40usft (19' KB Correction)
 Grid
 Minimum Curvature
 EDM 5000.1 Single User Db

Pathfinder Survey	MD (usft)	AP (ft)	INC (°)	TVD (usft)	TVDSS (usft)	N/S (usft)	EW (usft)	V. Sec (usft)	DI. SD (1000usft)	Northing (usft)	Easting (usft)
	12,400.00	348.01	90.84	8,996.68	-5,333.28	3,525.94	-748.82	3,604.57	0.00	470,840.00	777,039.36
	12,500.00	348.01	90.84	8,995.21	-5,331.81	3,523.74	-769.59	3,704.56	0.00	470,937.80	777,018.59
	12,600.00	348.01	90.84	8,993.74	-5,330.34	3,721.55	-790.36	3,804.55	0.00	471,035.51	776,987.82
	12,700.00	348.01	90.84	8,992.28	-5,328.88	3,819.36	-811.13	3,904.54	0.00	471,133.42	776,977.05
	12,800.00	348.01	90.84	8,990.81	-5,327.41	3,917.17	-831.91	4,004.53	0.00	471,231.23	776,956.27
	12,900.00	348.01	90.84	8,989.35	-5,325.95	4,014.97	-852.68	4,104.52	0.00	471,329.03	776,935.50
	13,000.00	348.01	90.84	8,987.88	-5,324.48	4,112.78	-873.45	4,204.51	0.00	471,426.84	776,914.73
	13,100.00	348.01	90.84	8,986.41	-5,323.01	4,210.59	-894.22	4,304.50	0.00	471,524.65	776,893.96
	13,200.00	348.01	90.84	8,984.95	-5,321.55	4,308.40	-914.99	4,404.49	0.00	471,622.46	776,873.19
	13,300.00	348.01	90.84	8,983.48	-5,320.08	4,406.21	-935.76	4,504.48	0.00	471,720.27	776,852.42
	13,400.00	348.01	90.84	8,982.02	-5,318.62	4,504.01	-956.54	4,604.47	0.00	471,818.07	776,831.64
	13,500.00	348.01	90.84	8,980.55	-5,317.15	4,601.82	-977.31	4,704.46	0.00	471,915.88	776,810.87
	13,600.00	348.01	90.84	8,979.08	-5,315.68	4,699.63	-998.08	4,804.44	0.00	472,013.69	776,790.10
	13,700.00	348.01	90.84	8,977.62	-5,314.22	4,797.44	-1,018.85	4,904.43	0.00	472,111.50	776,769.33
	13,800.00	348.01	90.84	8,976.15	-5,312.75	4,895.25	-1,039.62	5,004.42	0.00	472,209.31	776,748.56
	13,900.89	348.01	90.84	8,974.82	-5,311.42	4,984.14	-1,058.50	5,085.30	0.00	472,298.20	776,729.88

PBHL(TU#32)

Checked By: _____

Approved By: _____

Date: _____