

## OCD-ARTESIA

ATS-11-975  
30-015-39725Form 3160-3  
(February 2005)UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

## APPLICATION FOR PERMIT TO DRILL OR REENTER

FORM APPROVED

OMB No 1004-0137

Expires March 31, 2007 EA1342

5 Lease Serial No.  
SHL NM LC 063642-A & NM 0557729 BHL

6 If Indian, Allottee or Tribe Name

7 If Unit or CA Agreement, Name and No

8 Lease Name and Well No.

Rigel 20 Federal Com 3H [38797]

9 API Well No.

30-015-39725

10 Field and Pool, or Exploratory

Hackberry; Bone Spring, [29345]

11 Sec, T R M or Blk and Survey or Area

Sec 20-T19S-R31E

1a. Type of work ☒ DRILL ☐ REENTER1b. Type of Well: ☒ Oil Well ☐ Gas Well ☐ Other ☒ Single Zone ☐ Multiple Zone2 Name of Operator  
Devon Energy Production Co., LP [6137]3a Address 20 North Broadway  
OKC, OK 731023b. Phone No. (include area code)  
(405)-552-7802

4. Location of Well (Report location clearly and in accordance with any State requirements.)\*

At surface NWSW 1800' FSL &amp; 330' FWL Lot L

At proposed prod zone NESE 1700' FSL &amp; 330' FEL Lot I

14 Distance in miles and direction from nearest town or post office\*  
Approximately 10 miles south of Loco Hills, NM.

12 County or Parish

Eddy

13 State

NM

15 Distance from proposed\*  
location to nearest  
property or lease line, ft  
(Also to nearest drig unit line, if any) 330'16 No of acres in lease  
SL: 160 BHL: 32017. Spacing Unit dedicated to this well  
16018 Distance from proposed location\*  
to nearest well, drilling, completed,  
applied for, on this lease, ft. SL: 50' BHL: 1300'19. Proposed Depth  
MTVD 8900' MD 13254'  
PH 922020 BLM/BIA Bond No. on file  
PH: 9220' CO-110421 Elevations (Show whether DF, KDB, RT, GL, etc)  
3404.9' GL22 Approximate date work will start\*  
11/15/201123 Estimated duration  
45 days

## 24. Attachments

The following, completed in accordance with the requirements of Onshore Oil and Gas Order No 1, must be attached to this form

- Well plat certified by a registered surveyor
- A Drilling Plan
- A Surface Use Plan (if the location is on National Forest System Lands, the SUPO must be filed with the appropriate Forest Service Office)

- Bond to cover the operations unless covered by an existing bond on file (see Item 20 above)
- Operator certification
- Such other site specific information and/or plans as may be required by the BLM.

25. Signature [Signature]  
Title Sr. Staff Engineering TechnicianName (Printed/Typed)  
Stephanie A. YsasagaDate  
08/30/2011Approved by (Signature) [Signature]  
James A. Amos

Name (Printed/Typed)

Date NOV 25 2011

Title [Signature] FIELD MANAGER

Office

CARLSBAD FIELD OFFICE

Application approval does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon  
Conditions of approval, if any, are attached.

APPROVAL FOR TWO YEARS

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

\*(Instructions on page 2)

Capitan Controlled Water Basin

Approval Subject to General Requirements  
& Special Stipulations AttachedSEE ATTACHED FOR  
CONDITIONS OF APPROVAL

## DRILLING PROGRAM

Devon Energy Production Company, LP

### **Rigel 20 Federal Com 3H**

Surface Location: 1800' FSL & 330' FWL, Unit L, Sec 20 T19S R31E, Eddy, NM

Bottom hole Location: 1700' FSL & 330' FEL, Unit I, Sec 20 T19S R31E, Eddy, NM

#### **1. Geologic Name of Surface Formation**

- a. Permian

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

|                                               |                     |             |
|-----------------------------------------------|---------------------|-------------|
| a. Quaternary Alluvium                        | 95'                 | Fresh Water |
| b. Rustler                                    | 335'                | Barren      |
| c. Salado                                     | 600'                | Barren      |
| d. Tansil Dolomite                            | 1975'               | Barren      |
| e. Yates                                      | 2115'               | Oil         |
| f. Seven Rivers                               | 2465'               | Oil         |
| g. Capitan                                    | 2745'               | Barren      |
| h. Queen                                      | 3235'               | Barren      |
| i. San Andres                                 | 3775'               | Oil         |
| j. Delaware                                   | 4370'               | Oil         |
| k. Lower Brushy Canyon                        | 6190'               | Oil         |
| l. Bone Springs Lm                            | 6490'               | Oil         |
| m. 1 <sup>st</sup> Bone Spring Ss             | 7815'               | Oil         |
| n. 2 <sup>nd</sup> Bone Spring Lime           | 8140'               | Oil         |
| o. 2 <sup>nd</sup> Bone Spring Ss             | 8680'               | Oil         |
| p. 2 <sup>nd</sup> Bone Spring Middle Ss      | 8820'               | Oil         |
| q. 2 <sup>nd</sup> Bone Spring Middle Ss Base | 8910'               | Oil         |
| r. 3 <sup>rd</sup> Bone Springs Lm            | 9095'               | Oil         |
| s. PTD (Pilot Hole)                           | 9220'               |             |
| t. Total Depth                                | TVD 8900' MD 13254' |             |

No other formations are expected to yield oil, gas or fresh water in measurable volumes. The surface fresh water sands will be protected by setting 13 3/8" casing at 400' and circulating cement back to surface. The fresh water sands will be protected by setting 9 5/8" casing at ~~3300'~~ and circulating cement to surface. The Delaware intervals will be isolated by setting 5 1/2" casing to total depth and circulating cement above the base of the 9 5/8" casing. All casing is new and API approved.

#### **3. Casing Program:**

| <u>Hole Size</u> | <u>Hole Interval</u>         | <u>OD Csg</u> | <u>Casing Interval</u> | <u>Weight</u> | <u>Collar</u> | <u>Grade</u> |
|------------------|------------------------------|---------------|------------------------|---------------|---------------|--------------|
| 17 1/2"          | 0'-400'                      | 13 3/8"       | 0'-400'                | 48#           | STC           | H-40         |
| 12 1/4"          | 400'- <del>3300'</del> 3550' | 9 5/8"        | 0'- <del>3300'</del>   | 40#           | LTC           | J-55         |
| 8 3/4"           | <del>3300'</del> 3550'-8100' | 5 1/2"        | 0'-8100'               | 17#           | LTC           | HCP-110      |
| 8 3/4"           | 8100'-13254'                 | 5 1/2"        | 8100'-13264'           | 17#           | BTC           | HCP-110      |

See  
COP

**Design Parameter Factors:**

| <u>Casing Size</u> | <u>Collapse Design</u> | <u>Burst Design</u> | <u>Tension Design</u> |
|--------------------|------------------------|---------------------|-----------------------|
|                    | <u>Factor</u>          | <u>Factor</u>       | <u>Factor</u>         |
| 13 3/8"            | 4.11                   | 9.24                | 16.77                 |
| 9 5/8"             | 1.49                   | 2.30                | 3.94                  |
| 5 1/2" LTC         | 1.97                   | 2.81                | 1.97                  |
| 5 1/2" BTC         | 1.77                   | 2.53                | 6.22                  |

**NOTE: THIS WELL WILL BE DRILLED WITH A PILOT HOLE (PH)**

An 8-3/4" pilot hole will be drilled to 9,220 ft and plugged back to KOP with approx 400 sxs, Class H, 15.6 ppg, 1.18 cf/sk cement.

**4. Cement Program: (Note: All cement volumes are calculated with 25% excesses.)**

- a. 13 3/8" Conductor **Lead:** 250 sacks Class C Cement + 2% bwoc Calcium Chloride + 0.125 lbs/sack Cello Flake + 4% bwoc Bentonite + 81.4% Fresh Water, 13.5 ppg. **Yield:** 1.75 cf/sk
- Tail:** 250 sacks Class C Cement + 2% bwoc Calcium Chloride + 0.125 lbs/sack Cello Flake + 56.3% Fresh Water, 14.8 ppg. **Yield:** 1.35 cf/sk.. **TOC @ surface.**
- b. 9 5/8" Intermediate **Lead:** 750 sacks (35:65) Poz (Fly Ash):Class C Cement + 5% bwow Sodium Chloride + 0.125 lbs/sack Cello Flake + 6% bwoc Bentonite + 107.8% Fresh Water, 12.5 ppg. **Yield:** 1.96 cf/sk
- Tail:** 300 sacks Class C Cement + 5% bwow Sodium Chloride + 0.125 lbs/sack Cello Flake + 0.4% bwoc Sodium Metasilicate + 4% bwoc MPA-5 + 52.7% Water, 14.8 ppg. **Yield:** 1.34 cf/sk. **TOC @ surface.**
- c. 5 1/2" Production **1<sup>st</sup> Stage**
- Lead:** 900 sacks (35:65) Poz (Fly Ash):Class H Cement + 5% bwow Sodium Chloride + 0.3% bwoc CD-32 + 0.5% bwoc FL-25 + 2% bwoc Bentonite + 0.6% bwoc Sodium Metasilicate + 0.5% bwoc FL-52A + 102.5% Fresh Water, 12.5 ppg. **Yield:** 2.00 cf/sk
- Tail:** 1,400 sacks (50:50) Poz (Fly Ash):Class H Cement + 1% bwow Sodium Chloride + 0.2% bwoc R-3 + 0.125 lbs/sack Cello Flake + 0.5% bwoc BA-10A + 4% bwoc MPA-5 + 58.3% Fresh Water, 14.2 ppg. **Yield:** 1.28 cf/sk
- DV TOOL at ~4,500 ft**

**2<sup>nd</sup> Stage**

**Lead:** 250 sacks Class C Cement + 1% bwow Calcium Chloride + 0.125 lbs/sack Cello Flake + 157.8% Fresh Water, 11.4 ppg. **Yield:** 2.89 cf/sk

**Tail:** 150 sacks (60:40) Poz (Fly Ash):Class C Cement + 1% bwow Sodium Chloride + 0.2% bwoc R-3 + 0.125 lbs/sack Cello Flake + 0.5% bwoc BA-10A + 4% bwoc MPA-5 + 63.2% Fresh Water, 13.8 ppg. **Yield:** 1.37cf/sk. **TOC @ 2,800 ft** ← See COA

8-3/4" Pilot Hole Plug

400 sacks Class H, 18.0 ppg, 0.9 cf/sk  
 Top of Plug 8,305 ft (KOP)  
 Bottom of Plug 9,220 ft (pilot hole TD)

**TOC for All Strings:**

Surface: 0'  
 Intermediate: 0'  
 Production: 2,800' See COA

The above cement volumes could be revised pending the caliper measurement from the open hole logs. Actual cement volumes will be adjusted bases on fluid caliper and caliper log data.

**5. Pressure Control Equipment:**

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

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

The pipe rams will be operated and checked each 24 hour period and each time the drill pipe is out of the hole. These tests will be logged in the daily driller's log. A 2" kill line and 3" choke line will be incorporated into the drilling spool below the ram BOP. In addition to the rams and annular preventer, additional BOP accessories include a kelly cock, floor safety valve, choke lines, and choke manifold rated at 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). The line will be kept as straight as possible with minimal turns.

**6. Proposed Mud Circulation System**

| <u>Depth</u>                 | <u>Mud Wt.</u> | <u>Visc</u> | <u>Fluid Loss</u> | <u>Type System</u> |
|------------------------------|----------------|-------------|-------------------|--------------------|
| 0' - 400'                    | 8.4-9.0        | 30-34       | NC                | Fresh Water        |
| 400' - 3300' <sup>3550</sup> | 9.8-10.0       | 28-32       | NC                | Brine              |
| <del>3300'</del> - 13254'    | 8.6-9.0        | 28-32       | NC-12             | Fresh Water        |

The necessary mud products for weight addition and fluid loss control will be on location at all times.

**7. 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.
- c. Hydrogen Sulfide detection equipment will be in operation after drilling out the 13 3/8" casing shoe until the 5 1/2" casing is cemented. Breathing equipment will be on location upon drilling the 13 3/8" shoe until total depth is reached.

**8. Logging, Coring, and Testing Program:** *See COA*

- 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. The open hole electrical logging program will be:
  - i. Total Depth to Intermediate Casing                      Dual Laterolog-Micro Laterolog with SP and Gamma Ray. Compensated Neutron – Z Density log with Gamma Ray and Caliper.
  - ii. Total Depth to Surface                                      Compensated Neutron with Gamma Ray
  - iii. No coring program is planned
  - iv. Additional testing will be initiated subsequent to setting the 5 1/2" production casing. Specific intervals will be targeted based on log evaluation, geological sample shows and drill stem tests.

**9. Potential Hazards:**

- a. No abnormal pressures or temperatures are expected. There is no known presence of H<sub>2</sub>S in this area. If H<sub>2</sub>S 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 of equipment being used to drill this well. Estimated BHP 3800 psi and Estimated BHT 140°. No H<sub>2</sub>S is anticipated to be encountered.

**10. 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 32 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, Inc.**

Eddy County

Rigel 20 Federal Com

3H

OH

Plan: Plan #1

## **Pathfinder X & Y Report**

29 August, 2011

# Pathfinder

## Pathfinder X & Y Report

|                  |                      |                                     |                                   |
|------------------|----------------------|-------------------------------------|-----------------------------------|
| <b>Company:</b>  | Devon Energy, Inc.   | <b>Local Co-ordinate Reference:</b> | Well 3H                           |
| <b>Project:</b>  | Eddy County          | <b>TVD Reference:</b>               | KB = 26.2 @ 3432.70usft (H&P 300) |
| <b>Site:</b>     | Rigel 20 Federal Com | <b>MD Reference:</b>                | KB = 26.2 @ 3432.70usft (H&P 300) |
| <b>Well:</b>     | 3H                   | <b>North Reference:</b>             | Grid                              |
| <b>Wellbore:</b> | OH                   | <b>Survey Calculation Method:</b>   | Minimum Curvature                 |
| <b>Design:</b>   | Plan #1              | <b>Database:</b>                    | EDM 5000.1, Single User Db        |

|                    |                           |                      |                |
|--------------------|---------------------------|----------------------|----------------|
| <b>Project</b>     | Eddy County               |                      |                |
| <b>Map System:</b> | US State Plane 1983       | <b>System Datum:</b> | Mean Sea Level |
| <b>Geo Datum:</b>  | North American Datum 1983 |                      |                |
| <b>Map Zone:</b>   | New Mexico Eastern Zone   |                      |                |

|                              |                      |                          |                   |
|------------------------------|----------------------|--------------------------|-------------------|
| <b>Site</b>                  | Rigel 20 Federal Com |                          |                   |
| <b>Site Position:</b>        |                      | <b>Northing:</b>         | 598,138.050 usft  |
| <b>From:</b>                 | Map                  | <b>Easting:</b>          | 675,052.990 usft  |
| <b>Position Uncertainty:</b> | 0.00 usft            | <b>Slot Radius:</b>      | 13-3/16 "         |
|                              |                      | <b>Latitude:</b>         | 32° 38' 36.881 N  |
|                              |                      | <b>Longitude:</b>        | 103° 53' 56.099 W |
|                              |                      | <b>Grid Convergence:</b> | 0.23 °            |

|                             |              |           |                            |
|-----------------------------|--------------|-----------|----------------------------|
| <b>Well</b>                 | 3H           |           |                            |
| <b>Well Position</b>        | <b>+N/-S</b> | 0.00 usft | <b>Northing:</b>           |
|                             | <b>+E/-W</b> | 0.00 usft | <b>Easting:</b>            |
| <b>Position Uncertainty</b> |              | 0.00 usft | <b>Wellhead Elevation:</b> |
|                             |              |           | usft                       |
|                             |              |           | <b>Latitude:</b>           |
|                             |              |           | 32° 38' 36.881 N           |
|                             |              |           | <b>Longitude:</b>          |
|                             |              |           | 103° 53' 56.099 W          |
|                             |              |           | <b>Ground Level:</b>       |
|                             |              |           | 3,406.50 usft              |

|                  |                   |                    |                    |
|------------------|-------------------|--------------------|--------------------|
| <b>Wellbore</b>  | OH                |                    |                    |
| <b>Magnetics</b> | <b>Model Name</b> | <b>Sample Date</b> | <b>Declination</b> |
|                  |                   |                    | (°)                |
|                  | IGRF200510        | 8/29/2011          | 7.73               |
|                  |                   |                    | Dip Angle          |
|                  |                   |                    | (°)                |
|                  |                   |                    | 60.54              |
|                  |                   |                    | Field Strength     |
|                  |                   |                    | (nT)               |
|                  |                   |                    | 48,849             |

|                         |                         |              |                      |
|-------------------------|-------------------------|--------------|----------------------|
| <b>Design</b>           | Plan #1                 |              |                      |
| <b>Audit Notes:</b>     |                         |              |                      |
| <b>Version:</b>         | <b>Phase:</b>           | PROTOTYPE    | <b>Tie On Depth:</b> |
|                         |                         |              | 0.00                 |
| <b>Vertical Section</b> | <b>Depth From (TVD)</b> | <b>+N/-S</b> | <b>+E/-W</b>         |
|                         | (usft)                  | (usft)       | (usft)               |
|                         | 0.00                    | 0.00         | 0.00                 |
|                         |                         |              | <b>Direction</b>     |
|                         |                         |              | (°)                  |
|                         |                         |              | 90.89                |

|                            |                |                          |                    |
|----------------------------|----------------|--------------------------|--------------------|
| <b>Survey Tool Program</b> | Date 8/29/2011 |                          |                    |
| <b>From</b>                | <b>To</b>      | <b>Survey (Wellbore)</b> | <b>Tool Name</b>   |
| (usft)                     | (usft)         |                          |                    |
| 0.00                       | 13,253.78      | Plan #1 (OH)             | Pathfinder         |
|                            |                |                          | <b>Description</b> |
|                            |                |                          | Pathfinder MWD     |

# Pathfinder

## Pathfinder X & Y Report

|                  |                      |                                     |                                   |
|------------------|----------------------|-------------------------------------|-----------------------------------|
| <b>Company:</b>  | Devon Energy, Inc.   | <b>Local Co-ordinate Reference:</b> | Well 3H                           |
| <b>Project:</b>  | Eddy County          | <b>TVD Reference:</b>               | KB = 26.2 @ 3432.70usft (H&P 300) |
| <b>Site:</b>     | Rigel 20 Federal Com | <b>MD Reference:</b>                | KB = 26.2 @ 3432.70usft (H&P 300) |
| <b>Well:</b>     | 3H                   | <b>North Reference:</b>             | Grid                              |
| <b>Wellbore:</b> | OH                   | <b>Survey Calculation Method:</b>   | Minimum Curvature                 |
| <b>Design:</b>   | Plan #1              | <b>Database:</b>                    | EDM 5000.1 Single User Db         |

| Planned Survey |            |                      |               |                 |               |               |                  |                     |                    |                   |  |
|----------------|------------|----------------------|---------------|-----------------|---------------|---------------|------------------|---------------------|--------------------|-------------------|--|
| MD<br>(usft)   | Inc<br>(°) | Azi (azimuth)<br>(°) | TVD<br>(usft) | TVDSS<br>(usft) | N/S<br>(usft) | E/W<br>(usft) | V. Sec<br>(usft) | DLeg<br>(°/100usft) | Northing<br>(usft) | Easting<br>(usft) |  |
| 0.00           | 0.00       | 0.00                 | 0.00          | -3,432.70       | 0.00          | 0.00          | 0.00             | 0.00                | 598,138.05         | 675,052.99        |  |
| 50.00          | 0.00       | 0.00                 | 50.00         | -3,382.70       | 0.00          | 0.00          | 0.00             | 0.00                | 598,138.05         | 675,052.99        |  |
| 100.00         | 0.00       | 0.00                 | 100.00        | -3,332.70       | 0.00          | 0.00          | 0.00             | 0.00                | 598,138.05         | 675,052.99        |  |
| 150.00         | 0.00       | 0.00                 | 150.00        | -3,282.70       | 0.00          | 0.00          | 0.00             | 0.00                | 598,138.05         | 675,052.99        |  |
| 200.00         | 0.00       | 0.00                 | 200.00        | -3,232.70       | 0.00          | 0.00          | 0.00             | 0.00                | 598,138.05         | 675,052.99        |  |
| 250.00         | 0.00       | 0.00                 | 250.00        | -3,182.70       | 0.00          | 0.00          | 0.00             | 0.00                | 598,138.05         | 675,052.99        |  |
| 300.00         | 0.00       | 0.00                 | 300.00        | -3,132.70       | 0.00          | 0.00          | 0.00             | 0.00                | 598,138.05         | 675,052.99        |  |
| 350.00         | 0.00       | 0.00                 | 350.00        | -3,082.70       | 0.00          | 0.00          | 0.00             | 0.00                | 598,138.05         | 675,052.99        |  |
| 400.00         | 0.00       | 0.00                 | 400.00        | -3,032.70       | 0.00          | 0.00          | 0.00             | 0.00                | 598,138.05         | 675,052.99        |  |
| 450.00         | 0.00       | 0.00                 | 450.00        | -2,982.70       | 0.00          | 0.00          | 0.00             | 0.00                | 598,138.05         | 675,052.99        |  |
| 500.00         | 0.00       | 0.00                 | 500.00        | -2,932.70       | 0.00          | 0.00          | 0.00             | 0.00                | 598,138.05         | 675,052.99        |  |
| 550.00         | 0.00       | 0.00                 | 550.00        | -2,882.70       | 0.00          | 0.00          | 0.00             | 0.00                | 598,138.05         | 675,052.99        |  |
| 600.00         | 0.00       | 0.00                 | 600.00        | -2,832.70       | 0.00          | 0.00          | 0.00             | 0.00                | 598,138.05         | 675,052.99        |  |
| 650.00         | 0.00       | 0.00                 | 650.00        | -2,782.70       | 0.00          | 0.00          | 0.00             | 0.00                | 598,138.05         | 675,052.99        |  |
| 700.00         | 0.00       | 0.00                 | 700.00        | -2,732.70       | 0.00          | 0.00          | 0.00             | 0.00                | 598,138.05         | 675,052.99        |  |
| 750.00         | 0.00       | 0.00                 | 750.00        | -2,682.70       | 0.00          | 0.00          | 0.00             | 0.00                | 598,138.05         | 675,052.99        |  |
| 800.00         | 0.00       | 0.00                 | 800.00        | -2,632.70       | 0.00          | 0.00          | 0.00             | 0.00                | 598,138.05         | 675,052.99        |  |
| 850.00         | 0.00       | 0.00                 | 850.00        | -2,582.70       | 0.00          | 0.00          | 0.00             | 0.00                | 598,138.05         | 675,052.99        |  |
| 900.00         | 0.00       | 0.00                 | 900.00        | -2,532.70       | 0.00          | 0.00          | 0.00             | 0.00                | 598,138.05         | 675,052.99        |  |
| 950.00         | 0.00       | 0.00                 | 950.00        | -2,482.70       | 0.00          | 0.00          | 0.00             | 0.00                | 598,138.05         | 675,052.99        |  |
| 1,000.00       | 0.00       | 0.00                 | 1,000.00      | -2,432.70       | 0.00          | 0.00          | 0.00             | 0.00                | 598,138.05         | 675,052.99        |  |
| 1,050.00       | 0.00       | 0.00                 | 1,050.00      | -2,382.70       | 0.00          | 0.00          | 0.00             | 0.00                | 598,138.05         | 675,052.99        |  |
| 1,100.00       | 0.00       | 0.00                 | 1,100.00      | -2,332.70       | 0.00          | 0.00          | 0.00             | 0.00                | 598,138.05         | 675,052.99        |  |
| 1,150.00       | 0.00       | 0.00                 | 1,150.00      | -2,282.70       | 0.00          | 0.00          | 0.00             | 0.00                | 598,138.05         | 675,052.99        |  |
| 1,200.00       | 0.00       | 0.00                 | 1,200.00      | -2,232.70       | 0.00          | 0.00          | 0.00             | 0.00                | 598,138.05         | 675,052.99        |  |
| 1,250.00       | 0.00       | 0.00                 | 1,250.00      | -2,182.70       | 0.00          | 0.00          | 0.00             | 0.00                | 598,138.05         | 675,052.99        |  |
| 1,300.00       | 0.00       | 0.00                 | 1,300.00      | -2,132.70       | 0.00          | 0.00          | 0.00             | 0.00                | 598,138.05         | 675,052.99        |  |



# Pathfinder Pathfinder X & Y Report

|                  |                      |                                     |                                   |
|------------------|----------------------|-------------------------------------|-----------------------------------|
| <b>Company:</b>  | Devon Energy, Inc.   | <b>Local Co-ordinate Reference:</b> | Well 3H                           |
| <b>Project:</b>  | Eddy County          | <b>TVD Reference:</b>               | KB = 26.2 @ 3432.70usft (H&P 300) |
| <b>Site:</b>     | Rigel 20 Federal Com | <b>MD Reference:</b>                | KB = 26.2 @ 3432.70usft (H&P 300) |
| <b>Well:</b>     | 3H                   | <b>North Reference:</b>             | Grid                              |
| <b>Wellbore:</b> | OH                   | <b>Survey Calculation Method:</b>   | Minimum Curvature                 |
| <b>Design:</b>   | Plan #1              | <b>Database:</b>                    | EDM 5000.1 Single User Db         |

| Planned Survey |            |                      |               |                 |               |               |                  |                     |                    |                   |  |
|----------------|------------|----------------------|---------------|-----------------|---------------|---------------|------------------|---------------------|--------------------|-------------------|--|
| MD<br>(usft)   | Inc<br>(%) | Azi (azimuth)<br>(°) | TVD<br>(usft) | TVDSS<br>(usft) | N/S<br>(usft) | E/W<br>(usft) | V. Sec<br>(usft) | DLeg<br>(°/100usft) | Northing<br>(usft) | Easting<br>(usft) |  |
| 1,350.00       | 0.00       | 0.00                 | 1,350.00      | -2,082.70       | 0.00          | 0.00          | 0.00             | 0.00                | 598,138.05         | 675,052.99        |  |
| 1,400.00       | 0.00       | 0.00                 | 1,400.00      | -2,032.70       | 0.00          | 0.00          | 0.00             | 0.00                | 598,138.05         | 675,052.99        |  |
| 1,450.00       | 0.00       | 0.00                 | 1,450.00      | -1,982.70       | 0.00          | 0.00          | 0.00             | 0.00                | 598,138.05         | 675,052.99        |  |
| 1,500.00       | 0.00       | 0.00                 | 1,500.00      | -1,932.70       | 0.00          | 0.00          | 0.00             | 0.00                | 598,138.05         | 675,052.99        |  |
| 1,550.00       | 0.00       | 0.00                 | 1,550.00      | -1,882.70       | 0.00          | 0.00          | 0.00             | 0.00                | 598,138.05         | 675,052.99        |  |
| 1,600.00       | 0.00       | 0.00                 | 1,600.00      | -1,832.70       | 0.00          | 0.00          | 0.00             | 0.00                | 598,138.05         | 675,052.99        |  |
| 1,650.00       | 0.00       | 0.00                 | 1,650.00      | -1,782.70       | 0.00          | 0.00          | 0.00             | 0.00                | 598,138.05         | 675,052.99        |  |
| 1,700.00       | 0.00       | 0.00                 | 1,700.00      | -1,732.70       | 0.00          | 0.00          | 0.00             | 0.00                | 598,138.05         | 675,052.99        |  |
| 1,750.00       | 0.00       | 0.00                 | 1,750.00      | -1,682.70       | 0.00          | 0.00          | 0.00             | 0.00                | 598,138.05         | 675,052.99        |  |
| 1,800.00       | 0.00       | 0.00                 | 1,800.00      | -1,632.70       | 0.00          | 0.00          | 0.00             | 0.00                | 598,138.05         | 675,052.99        |  |
| 1,850.00       | 0.00       | 0.00                 | 1,850.00      | -1,582.70       | 0.00          | 0.00          | 0.00             | 0.00                | 598,138.05         | 675,052.99        |  |
| 1,900.00       | 0.00       | 0.00                 | 1,900.00      | -1,532.70       | 0.00          | 0.00          | 0.00             | 0.00                | 598,138.05         | 675,052.99        |  |
| 1,950.00       | 0.00       | 0.00                 | 1,950.00      | -1,482.70       | 0.00          | 0.00          | 0.00             | 0.00                | 598,138.05         | 675,052.99        |  |
| 2,000.00       | 0.00       | 0.00                 | 2,000.00      | -1,432.70       | 0.00          | 0.00          | 0.00             | 0.00                | 598,138.05         | 675,052.99        |  |
| 2,050.00       | 0.00       | 0.00                 | 2,050.00      | -1,382.70       | 0.00          | 0.00          | 0.00             | 0.00                | 598,138.05         | 675,052.99        |  |
| 2,100.00       | 0.00       | 0.00                 | 2,100.00      | -1,332.70       | 0.00          | 0.00          | 0.00             | 0.00                | 598,138.05         | 675,052.99        |  |
| 2,150.00       | 0.00       | 0.00                 | 2,150.00      | -1,282.70       | 0.00          | 0.00          | 0.00             | 0.00                | 598,138.05         | 675,052.99        |  |
| 2,200.00       | 0.00       | 0.00                 | 2,200.00      | -1,232.70       | 0.00          | 0.00          | 0.00             | 0.00                | 598,138.05         | 675,052.99        |  |
| 2,250.00       | 0.00       | 0.00                 | 2,250.00      | -1,182.70       | 0.00          | 0.00          | 0.00             | 0.00                | 598,138.05         | 675,052.99        |  |
| 2,300.00       | 0.00       | 0.00                 | 2,300.00      | -1,132.70       | 0.00          | 0.00          | 0.00             | 0.00                | 598,138.05         | 675,052.99        |  |
| 2,350.00       | 0.00       | 0.00                 | 2,350.00      | -1,082.70       | 0.00          | 0.00          | 0.00             | 0.00                | 598,138.05         | 675,052.99        |  |
| 2,400.00       | 0.00       | 0.00                 | 2,400.00      | -1,032.70       | 0.00          | 0.00          | 0.00             | 0.00                | 598,138.05         | 675,052.99        |  |
| 2,450.00       | 0.00       | 0.00                 | 2,450.00      | -982.70         | 0.00          | 0.00          | 0.00             | 0.00                | 598,138.05         | 675,052.99        |  |
| 2,500.00       | 0.00       | 0.00                 | 2,500.00      | -932.70         | 0.00          | 0.00          | 0.00             | 0.00                | 598,138.05         | 675,052.99        |  |
| 2,550.00       | 0.00       | 0.00                 | 2,550.00      | -882.70         | 0.00          | 0.00          | 0.00             | 0.00                | 598,138.05         | 675,052.99        |  |
| 2,600.00       | 0.00       | 0.00                 | 2,600.00      | -832.70         | 0.00          | 0.00          | 0.00             | 0.00                | 598,138.05         | 675,052.99        |  |
| 2,650.00       | 0.00       | 0.00                 | 2,650.00      | -782.70         | 0.00          | 0.00          | 0.00             | 0.00                | 598,138.05         | 675,052.99        |  |

# Pathfinder

## Pathfinder X & Y Report

|                  |                      |                                     |                                   |
|------------------|----------------------|-------------------------------------|-----------------------------------|
| <b>Company:</b>  | Devon Energy, Inc.   | <b>Local Co-ordinate Reference:</b> | Well 3H                           |
| <b>Project:</b>  | Eddy County          | <b>TVD Reference:</b>               | KB = 26.2 @ 3432.70usft (H&P 300) |
| <b>Site:</b>     | Rigel 20 Federal Com | <b>MD Reference:</b>                | KB = 26.2 @ 3432.70usft (H&P 300) |
| <b>Well:</b>     | 3H                   | <b>North Reference:</b>             | Grid                              |
| <b>Wellbore:</b> | OH                   | <b>Survey Calculation Method:</b>   | Minimum Curvature                 |
| <b>Design:</b>   | Plan #1              | <b>Database:</b>                    | EDM 5000.1 Single User Db         |

| Planned Survey |            |                      |               |                 |               |               |                  |                     |                    |                   |  |
|----------------|------------|----------------------|---------------|-----------------|---------------|---------------|------------------|---------------------|--------------------|-------------------|--|
| MD<br>(usft)   | Inc<br>(°) | Azi (azimuth)<br>(°) | TVD<br>(usft) | TVDSS<br>(usft) | N/S<br>(usft) | E/W<br>(usft) | V. Sec<br>(usft) | DLeg<br>(°/100usft) | Northing<br>(usft) | Easting<br>(usft) |  |
| 2,700.00       | 0.00       | 0.00                 | 2,700.00      | -732.70         | 0.00          | 0.00          | 0.00             | 0.00                | 598,138.05         | 675,052.99        |  |
| 2,750.00       | 0.00       | 0.00                 | 2,750.00      | -682.70         | 0.00          | 0.00          | 0.00             | 0.00                | 598,138.05         | 675,052.99        |  |
| 2,800.00       | 0.00       | 0.00                 | 2,800.00      | -632.70         | 0.00          | 0.00          | 0.00             | 0.00                | 598,138.05         | 675,052.99        |  |
| 2,850.00       | 0.00       | 0.00                 | 2,850.00      | -582.70         | 0.00          | 0.00          | 0.00             | 0.00                | 598,138.05         | 675,052.99        |  |
| 2,900.00       | 0.00       | 0.00                 | 2,900.00      | -532.70         | 0.00          | 0.00          | 0.00             | 0.00                | 598,138.05         | 675,052.99        |  |
| 2,950.00       | 0.00       | 0.00                 | 2,950.00      | -482.70         | 0.00          | 0.00          | 0.00             | 0.00                | 598,138.05         | 675,052.99        |  |
| 3,000.00       | 0.00       | 0.00                 | 3,000.00      | -432.70         | 0.00          | 0.00          | 0.00             | 0.00                | 598,138.05         | 675,052.99        |  |
| 3,050.00       | 0.00       | 0.00                 | 3,050.00      | -382.70         | 0.00          | 0.00          | 0.00             | 0.00                | 598,138.05         | 675,052.99        |  |
| 3,100.00       | 0.00       | 0.00                 | 3,100.00      | -332.70         | 0.00          | 0.00          | 0.00             | 0.00                | 598,138.05         | 675,052.99        |  |
| 3,150.00       | 0.00       | 0.00                 | 3,150.00      | -282.70         | 0.00          | 0.00          | 0.00             | 0.00                | 598,138.05         | 675,052.99        |  |
| 3,200.00       | 0.00       | 0.00                 | 3,200.00      | -232.70         | 0.00          | 0.00          | 0.00             | 0.00                | 598,138.05         | 675,052.99        |  |
| 3,250.00       | 0.00       | 0.00                 | 3,250.00      | -182.70         | 0.00          | 0.00          | 0.00             | 0.00                | 598,138.05         | 675,052.99        |  |
| 3,300.00       | 0.00       | 0.00                 | 3,300.00      | -132.70         | 0.00          | 0.00          | 0.00             | 0.00                | 598,138.05         | 675,052.99        |  |
| 3,350.00       | 0.00       | 0.00                 | 3,350.00      | -82.70          | 0.00          | 0.00          | 0.00             | 0.00                | 598,138.05         | 675,052.99        |  |
| 3,400.00       | 0.00       | 0.00                 | 3,400.00      | -32.70          | 0.00          | 0.00          | 0.00             | 0.00                | 598,138.05         | 675,052.99        |  |
| 3,450.00       | 0.00       | 0.00                 | 3,450.00      | 17.30           | 0.00          | 0.00          | 0.00             | 0.00                | 598,138.05         | 675,052.99        |  |
| 3,500.00       | 0.00       | 0.00                 | 3,500.00      | 67.30           | 0.00          | 0.00          | 0.00             | 0.00                | 598,138.05         | 675,052.99        |  |
| 3,550.00       | 0.00       | 0.00                 | 3,550.00      | 117.30          | 0.00          | 0.00          | 0.00             | 0.00                | 598,138.05         | 675,052.99        |  |
| 3,600.00       | 0.00       | 0.00                 | 3,600.00      | 167.30          | 0.00          | 0.00          | 0.00             | 0.00                | 598,138.05         | 675,052.99        |  |
| 3,650.00       | 0.00       | 0.00                 | 3,650.00      | 217.30          | 0.00          | 0.00          | 0.00             | 0.00                | 598,138.05         | 675,052.99        |  |
| 3,700.00       | 0.00       | 0.00                 | 3,700.00      | 267.30          | 0.00          | 0.00          | 0.00             | 0.00                | 598,138.05         | 675,052.99        |  |
| 3,750.00       | 0.00       | 0.00                 | 3,750.00      | 317.30          | 0.00          | 0.00          | 0.00             | 0.00                | 598,138.05         | 675,052.99        |  |
| 3,800.00       | 0.00       | 0.00                 | 3,800.00      | 367.30          | 0.00          | 0.00          | 0.00             | 0.00                | 598,138.05         | 675,052.99        |  |
| 3,850.00       | 0.00       | 0.00                 | 3,850.00      | 417.30          | 0.00          | 0.00          | 0.00             | 0.00                | 598,138.05         | 675,052.99        |  |
| 3,900.00       | 0.00       | 0.00                 | 3,900.00      | 467.30          | 0.00          | 0.00          | 0.00             | 0.00                | 598,138.05         | 675,052.99        |  |
| 3,950.00       | 0.00       | 0.00                 | 3,950.00      | 517.30          | 0.00          | 0.00          | 0.00             | 0.00                | 598,138.05         | 675,052.99        |  |
| 4,000.00       | 0.00       | 0.00                 | 4,000.00      | 567.30          | 0.00          | 0.00          | 0.00             | 0.00                | 598,138.05         | 675,052.99        |  |

# Pathfinder

## Pathfinder X & Y Report

|                  |                      |                                     |                                   |
|------------------|----------------------|-------------------------------------|-----------------------------------|
| <b>Company:</b>  | Devon Energy, Inc.   | <b>Local Co-ordinate Reference:</b> | Well 3H                           |
| <b>Project:</b>  | Eddy County          | <b>TVD Reference:</b>               | KB = 26.2 @ 3432.70usft (H&P 300) |
| <b>Site:</b>     | Rigel 20 Federal Com | <b>MD Reference:</b>                | KB = 26.2 @ 3432.70usft (H&P 300) |
| <b>Well:</b>     | 3H                   | <b>North Reference:</b>             | Grid                              |
| <b>Wellbore:</b> | OH                   | <b>Survey Calculation Method:</b>   | Minimum Curvature                 |
| <b>Design:</b>   | Plan #1              | <b>Database:</b>                    | EDM 5000.1 Single User Db         |

| Planned Survey |            |                      |               |                 |               |               |                  |                     |                    |                   |  |
|----------------|------------|----------------------|---------------|-----------------|---------------|---------------|------------------|---------------------|--------------------|-------------------|--|
| MD<br>(usft)   | Inc<br>(°) | Azi (azimuth)<br>(°) | TVD<br>(usft) | TVDSS<br>(usft) | N/S<br>(usft) | E/W<br>(usft) | V. Sec<br>(usft) | DLeg<br>(°/100usft) | Northing<br>(usft) | Easting<br>(usft) |  |
| 4,050.00       | 0.00       | 0.00                 | 4,050.00      | 617.30          | 0.00          | 0.00          | 0.00             | 0.00                | 598,138.05         | 675,052.99        |  |
| 4,100.00       | 0.00       | 0.00                 | 4,100.00      | 667.30          | 0.00          | 0.00          | 0.00             | 0.00                | 598,138.05         | 675,052.99        |  |
| 4,150.00       | 0.00       | 0.00                 | 4,150.00      | 717.30          | 0.00          | 0.00          | 0.00             | 0.00                | 598,138.05         | 675,052.99        |  |
| 4,200.00       | 0.00       | 0.00                 | 4,200.00      | 767.30          | 0.00          | 0.00          | 0.00             | 0.00                | 598,138.05         | 675,052.99        |  |
| 4,250.00       | 0.00       | 0.00                 | 4,250.00      | 817.30          | 0.00          | 0.00          | 0.00             | 0.00                | 598,138.05         | 675,052.99        |  |
| 4,300.00       | 0.00       | 0.00                 | 4,300.00      | 867.30          | 0.00          | 0.00          | 0.00             | 0.00                | 598,138.05         | 675,052.99        |  |
| 4,350.00       | 0.00       | 0.00                 | 4,350.00      | 917.30          | 0.00          | 0.00          | 0.00             | 0.00                | 598,138.05         | 675,052.99        |  |
| 4,400.00       | 0.00       | 0.00                 | 4,400.00      | 967.30          | 0.00          | 0.00          | 0.00             | 0.00                | 598,138.05         | 675,052.99        |  |
| 4,450.00       | 0.00       | 0.00                 | 4,450.00      | 1,017.30        | 0.00          | 0.00          | 0.00             | 0.00                | 598,138.05         | 675,052.99        |  |
| 4,500.00       | 0.00       | 0.00                 | 4,500.00      | 1,067.30        | 0.00          | 0.00          | 0.00             | 0.00                | 598,138.05         | 675,052.99        |  |
| 4,550.00       | 0.00       | 0.00                 | 4,550.00      | 1,117.30        | 0.00          | 0.00          | 0.00             | 0.00                | 598,138.05         | 675,052.99        |  |
| 4,600.00       | 0.00       | 0.00                 | 4,600.00      | 1,167.30        | 0.00          | 0.00          | 0.00             | 0.00                | 598,138.05         | 675,052.99        |  |
| 4,650.00       | 0.00       | 0.00                 | 4,650.00      | 1,217.30        | 0.00          | 0.00          | 0.00             | 0.00                | 598,138.05         | 675,052.99        |  |
| 4,700.00       | 0.00       | 0.00                 | 4,700.00      | 1,267.30        | 0.00          | 0.00          | 0.00             | 0.00                | 598,138.05         | 675,052.99        |  |
| 4,750.00       | 0.00       | 0.00                 | 4,750.00      | 1,317.30        | 0.00          | 0.00          | 0.00             | 0.00                | 598,138.05         | 675,052.99        |  |
| 4,800.00       | 0.00       | 0.00                 | 4,800.00      | 1,367.30        | 0.00          | 0.00          | 0.00             | 0.00                | 598,138.05         | 675,052.99        |  |
| 4,850.00       | 0.00       | 0.00                 | 4,850.00      | 1,417.30        | 0.00          | 0.00          | 0.00             | 0.00                | 598,138.05         | 675,052.99        |  |
| 4,900.00       | 0.00       | 0.00                 | 4,900.00      | 1,467.30        | 0.00          | 0.00          | 0.00             | 0.00                | 598,138.05         | 675,052.99        |  |
| 4,950.00       | 0.00       | 0.00                 | 4,950.00      | 1,517.30        | 0.00          | 0.00          | 0.00             | 0.00                | 598,138.05         | 675,052.99        |  |
| 5,000.00       | 0.00       | 0.00                 | 5,000.00      | 1,567.30        | 0.00          | 0.00          | 0.00             | 0.00                | 598,138.05         | 675,052.99        |  |
| 5,050.00       | 0.00       | 0.00                 | 5,050.00      | 1,617.30        | 0.00          | 0.00          | 0.00             | 0.00                | 598,138.05         | 675,052.99        |  |
| 5,100.00       | 0.00       | 0.00                 | 5,100.00      | 1,667.30        | 0.00          | 0.00          | 0.00             | 0.00                | 598,138.05         | 675,052.99        |  |
| 5,150.00       | 0.00       | 0.00                 | 5,150.00      | 1,717.30        | 0.00          | 0.00          | 0.00             | 0.00                | 598,138.05         | 675,052.99        |  |
| 5,200.00       | 0.00       | 0.00                 | 5,200.00      | 1,767.30        | 0.00          | 0.00          | 0.00             | 0.00                | 598,138.05         | 675,052.99        |  |
| 5,250.00       | 0.00       | 0.00                 | 5,250.00      | 1,817.30        | 0.00          | 0.00          | 0.00             | 0.00                | 598,138.05         | 675,052.99        |  |
| 5,300.00       | 0.00       | 0.00                 | 5,300.00      | 1,867.30        | 0.00          | 0.00          | 0.00             | 0.00                | 598,138.05         | 675,052.99        |  |
| 5,350.00       | 0.00       | 0.00                 | 5,350.00      | 1,917.30        | 0.00          | 0.00          | 0.00             | 0.00                | 598,138.05         | 675,052.99        |  |

# Pathfinder

## Pathfinder X & Y Report

|                  |                      |                                     |                                   |
|------------------|----------------------|-------------------------------------|-----------------------------------|
| <b>Company:</b>  | Devon Energy, Inc.   | <b>Local Co-ordinate Reference:</b> | Well 3H                           |
| <b>Project:</b>  | Eddy County          | <b>TVD Reference:</b>               | KB = 26.2 @ 3432.70usft (H&P 300) |
| <b>Site:</b>     | Rigel 20 Federal Com | <b>MD Reference:</b>                | KB = 26.2 @ 3432.70usft (H&P 300) |
| <b>Well:</b>     | 3H                   | <b>North Reference:</b>             | Grid                              |
| <b>Wellbore:</b> | OH                   | <b>Survey Calculation Method:</b>   | Minimum Curvature                 |
| <b>Design:</b>   | Plan #1              | <b>Database:</b>                    | EDM 5000.1 Single User Db         |

| Planned Survey |            |                      |               |                 |               |               |                  |                     |                    |                   |  |
|----------------|------------|----------------------|---------------|-----------------|---------------|---------------|------------------|---------------------|--------------------|-------------------|--|
| MD<br>(usft)   | Inc<br>(°) | Azi (azimuth)<br>(°) | TVD<br>(usft) | TVDSS<br>(usft) | N/S<br>(usft) | E/W<br>(usft) | V. Sec<br>(usft) | DLeg<br>(°/100usft) | Northing<br>(usft) | Easting<br>(usft) |  |
| 5,400.00       | 0.00       | 0.00                 | 5,400.00      | 1,967.30        | 0.00          | 0.00          | 0.00             | 0.00                | 598,138.05         | 675,052.99        |  |
| 5,450.00       | 0.00       | 0.00                 | 5,450.00      | 2,017.30        | 0.00          | 0.00          | 0.00             | 0.00                | 598,138.05         | 675,052.99        |  |
| 5,500.00       | 0.00       | 0.00                 | 5,500.00      | 2,067.30        | 0.00          | 0.00          | 0.00             | 0.00                | 598,138.05         | 675,052.99        |  |
| 5,550.00       | 0.00       | 0.00                 | 5,550.00      | 2,117.30        | 0.00          | 0.00          | 0.00             | 0.00                | 598,138.05         | 675,052.99        |  |
| 5,600.00       | 0.00       | 0.00                 | 5,600.00      | 2,167.30        | 0.00          | 0.00          | 0.00             | 0.00                | 598,138.05         | 675,052.99        |  |
| 5,650.00       | 0.00       | 0.00                 | 5,650.00      | 2,217.30        | 0.00          | 0.00          | 0.00             | 0.00                | 598,138.05         | 675,052.99        |  |
| 5,700.00       | 0.00       | 0.00                 | 5,700.00      | 2,267.30        | 0.00          | 0.00          | 0.00             | 0.00                | 598,138.05         | 675,052.99        |  |
| 5,750.00       | 0.00       | 0.00                 | 5,750.00      | 2,317.30        | 0.00          | 0.00          | 0.00             | 0.00                | 598,138.05         | 675,052.99        |  |
| 5,800.00       | 0.00       | 0.00                 | 5,800.00      | 2,367.30        | 0.00          | 0.00          | 0.00             | 0.00                | 598,138.05         | 675,052.99        |  |
| 5,850.00       | 0.00       | 0.00                 | 5,850.00      | 2,417.30        | 0.00          | 0.00          | 0.00             | 0.00                | 598,138.05         | 675,052.99        |  |
| 5,900.00       | 0.00       | 0.00                 | 5,900.00      | 2,467.30        | 0.00          | 0.00          | 0.00             | 0.00                | 598,138.05         | 675,052.99        |  |
| 5,950.00       | 0.00       | 0.00                 | 5,950.00      | 2,517.30        | 0.00          | 0.00          | 0.00             | 0.00                | 598,138.05         | 675,052.99        |  |
| 6,000.00       | 0.00       | 0.00                 | 6,000.00      | 2,567.30        | 0.00          | 0.00          | 0.00             | 0.00                | 598,138.05         | 675,052.99        |  |
| 6,050.00       | 0.00       | 0.00                 | 6,050.00      | 2,617.30        | 0.00          | 0.00          | 0.00             | 0.00                | 598,138.05         | 675,052.99        |  |
| 6,100.00       | 0.00       | 0.00                 | 6,100.00      | 2,667.30        | 0.00          | 0.00          | 0.00             | 0.00                | 598,138.05         | 675,052.99        |  |
| 6,150.00       | 0.00       | 0.00                 | 6,150.00      | 2,717.30        | 0.00          | 0.00          | 0.00             | 0.00                | 598,138.05         | 675,052.99        |  |
| 6,200.00       | 0.00       | 0.00                 | 6,200.00      | 2,767.30        | 0.00          | 0.00          | 0.00             | 0.00                | 598,138.05         | 675,052.99        |  |
| 6,250.00       | 0.00       | 0.00                 | 6,250.00      | 2,817.30        | 0.00          | 0.00          | 0.00             | 0.00                | 598,138.05         | 675,052.99        |  |
| 6,300.00       | 0.00       | 0.00                 | 6,300.00      | 2,867.30        | 0.00          | 0.00          | 0.00             | 0.00                | 598,138.05         | 675,052.99        |  |
| 6,350.00       | 0.00       | 0.00                 | 6,350.00      | 2,917.30        | 0.00          | 0.00          | 0.00             | 0.00                | 598,138.05         | 675,052.99        |  |
| 6,400.00       | 0.00       | 0.00                 | 6,400.00      | 2,967.30        | 0.00          | 0.00          | 0.00             | 0.00                | 598,138.05         | 675,052.99        |  |
| 6,450.00       | 0.00       | 0.00                 | 6,450.00      | 3,017.30        | 0.00          | 0.00          | 0.00             | 0.00                | 598,138.05         | 675,052.99        |  |
| 6,500.00       | 0.00       | 0.00                 | 6,500.00      | 3,067.30        | 0.00          | 0.00          | 0.00             | 0.00                | 598,138.05         | 675,052.99        |  |
| 6,550.00       | 0.00       | 0.00                 | 6,550.00      | 3,117.30        | 0.00          | 0.00          | 0.00             | 0.00                | 598,138.05         | 675,052.99        |  |
| 6,600.00       | 0.00       | 0.00                 | 6,600.00      | 3,167.30        | 0.00          | 0.00          | 0.00             | 0.00                | 598,138.05         | 675,052.99        |  |
| 6,650.00       | 0.00       | 0.00                 | 6,650.00      | 3,217.30        | 0.00          | 0.00          | 0.00             | 0.00                | 598,138.05         | 675,052.99        |  |
| 6,700.00       | 0.00       | 0.00                 | 6,700.00      | 3,267.30        | 0.00          | 0.00          | 0.00             | 0.00                | 598,138.05         | 675,052.99        |  |

# Pathfinder

## Pathfinder X & Y Report

|                  |                      |                                     |                                   |
|------------------|----------------------|-------------------------------------|-----------------------------------|
| <b>Company:</b>  | Devon Energy, Inc.   | <b>Local Co-ordinate Reference:</b> | Well 3H                           |
| <b>Project:</b>  | Eddy County          | <b>TVD Reference:</b>               | KB = 26.2 @ 3432.70usft (H&P 300) |
| <b>Site:</b>     | Rigel 20 Federal Com | <b>MD Reference:</b>                | KB = 26.2 @ 3432.70usft (H&P 300) |
| <b>Well:</b>     | 3H                   | <b>North Reference:</b>             | Grid                              |
| <b>Wellbore:</b> | OH                   | <b>Survey/Calculation Method:</b>   | Minimum Curvature                 |
| <b>Design:</b>   | Plan #1              | <b>Database:</b>                    | EDM 5000 1 Single User Db         |

| Planned Survey |            |                      |               |                 |               |               |                  |                     |                    |                   |  |
|----------------|------------|----------------------|---------------|-----------------|---------------|---------------|------------------|---------------------|--------------------|-------------------|--|
| MD<br>(usft)   | Inc<br>(°) | Azi (azimuth)<br>(°) | TVD<br>(usft) | TVDSS<br>(usft) | N/S<br>(usft) | E/W<br>(usft) | V. Sec<br>(usft) | DLeg<br>(°/100usft) | Northing<br>(usft) | Easting<br>(usft) |  |
| 6,750.00       | 0.00       | 0.00                 | 6,750.00      | 3,317.30        | 0.00          | 0.00          | 0.00             | 0.00                | 598,138.05         | 675,052.99        |  |
| 6,800.00       | 0.00       | 0.00                 | 6,800.00      | 3,367.30        | 0.00          | 0.00          | 0.00             | 0.00                | 598,138.05         | 675,052.99        |  |
| 6,850.00       | 0.00       | 0.00                 | 6,850.00      | 3,417.30        | 0.00          | 0.00          | 0.00             | 0.00                | 598,138.05         | 675,052.99        |  |
| 6,900.00       | 0.00       | 0.00                 | 6,900.00      | 3,467.30        | 0.00          | 0.00          | 0.00             | 0.00                | 598,138.05         | 675,052.99        |  |
| 6,950.00       | 0.00       | 0.00                 | 6,950.00      | 3,517.30        | 0.00          | 0.00          | 0.00             | 0.00                | 598,138.05         | 675,052.99        |  |
| 7,000.00       | 0.00       | 0.00                 | 7,000.00      | 3,567.30        | 0.00          | 0.00          | 0.00             | 0.00                | 598,138.05         | 675,052.99        |  |
| 7,050.00       | 0.00       | 0.00                 | 7,050.00      | 3,617.30        | 0.00          | 0.00          | 0.00             | 0.00                | 598,138.05         | 675,052.99        |  |
| 7,100.00       | 0.00       | 0.00                 | 7,100.00      | 3,667.30        | 0.00          | 0.00          | 0.00             | 0.00                | 598,138.05         | 675,052.99        |  |
| 7,150.00       | 0.00       | 0.00                 | 7,150.00      | 3,717.30        | 0.00          | 0.00          | 0.00             | 0.00                | 598,138.05         | 675,052.99        |  |
| 7,200.00       | 0.00       | 0.00                 | 7,200.00      | 3,767.30        | 0.00          | 0.00          | 0.00             | 0.00                | 598,138.05         | 675,052.99        |  |
| 7,250.00       | 0.00       | 0.00                 | 7,250.00      | 3,817.30        | 0.00          | 0.00          | 0.00             | 0.00                | 598,138.05         | 675,052.99        |  |
| 7,300.00       | 0.00       | 0.00                 | 7,300.00      | 3,867.30        | 0.00          | 0.00          | 0.00             | 0.00                | 598,138.05         | 675,052.99        |  |
| 7,350.00       | 0.00       | 0.00                 | 7,350.00      | 3,917.30        | 0.00          | 0.00          | 0.00             | 0.00                | 598,138.05         | 675,052.99        |  |
| 7,400.00       | 0.00       | 0.00                 | 7,400.00      | 3,967.30        | 0.00          | 0.00          | 0.00             | 0.00                | 598,138.05         | 675,052.99        |  |
| 7,450.00       | 0.00       | 0.00                 | 7,450.00      | 4,017.30        | 0.00          | 0.00          | 0.00             | 0.00                | 598,138.05         | 675,052.99        |  |
| 7,500.00       | 0.00       | 0.00                 | 7,500.00      | 4,067.30        | 0.00          | 0.00          | 0.00             | 0.00                | 598,138.05         | 675,052.99        |  |
| 7,550.00       | 0.00       | 0.00                 | 7,550.00      | 4,117.30        | 0.00          | 0.00          | 0.00             | 0.00                | 598,138.05         | 675,052.99        |  |
| 7,600.00       | 0.00       | 0.00                 | 7,600.00      | 4,167.30        | 0.00          | 0.00          | 0.00             | 0.00                | 598,138.05         | 675,052.99        |  |
| 7,650.00       | 0.00       | 0.00                 | 7,650.00      | 4,217.30        | 0.00          | 0.00          | 0.00             | 0.00                | 598,138.05         | 675,052.99        |  |
| 7,700.00       | 0.00       | 0.00                 | 7,700.00      | 4,267.30        | 0.00          | 0.00          | 0.00             | 0.00                | 598,138.05         | 675,052.99        |  |
| 7,750.00       | 0.00       | 0.00                 | 7,750.00      | 4,317.30        | 0.00          | 0.00          | 0.00             | 0.00                | 598,138.05         | 675,052.99        |  |
| 7,800.00       | 0.00       | 0.00                 | 7,800.00      | 4,367.30        | 0.00          | 0.00          | 0.00             | 0.00                | 598,138.05         | 675,052.99        |  |
| 7,850.00       | 0.00       | 0.00                 | 7,850.00      | 4,417.30        | 0.00          | 0.00          | 0.00             | 0.00                | 598,138.05         | 675,052.99        |  |
| 7,900.00       | 0.00       | 0.00                 | 7,900.00      | 4,467.30        | 0.00          | 0.00          | 0.00             | 0.00                | 598,138.05         | 675,052.99        |  |
| 7,950.00       | 0.00       | 0.00                 | 7,950.00      | 4,517.30        | 0.00          | 0.00          | 0.00             | 0.00                | 598,138.05         | 675,052.99        |  |
| 8,000.00       | 0.00       | 0.00                 | 8,000.00      | 4,567.30        | 0.00          | 0.00          | 0.00             | 0.00                | 598,138.05         | 675,052.99        |  |
| 8,050.00       | 0.00       | 0.00                 | 8,050.00      | 4,617.30        | 0.00          | 0.00          | 0.00             | 0.00                | 598,138.05         | 675,052.99        |  |

# Pathfinder

## Pathfinder X & Y Report

|                  |                      |                                     |                                   |
|------------------|----------------------|-------------------------------------|-----------------------------------|
| <b>Company:</b>  | Devon Energy, Inc.   | <b>Local Co-ordinate Reference:</b> | Well 3H                           |
| <b>Project:</b>  | Eddy County          | <b>TVD Reference:</b>               | KB = 26.2 @ 3432.70usft (H&P 300) |
| <b>Site:</b>     | Rigel 20 Federal Com | <b>MD Reference:</b>                | KB = 26.2 @ 3432.70usft (H&P 300) |
| <b>Well:</b>     | 3H                   | <b>North Reference:</b>             | Grid                              |
| <b>Wellbore:</b> | OH                   | <b>Survey Calculation Method:</b>   | Minimum Curvature                 |
| <b>Design:</b>   | Plan #1              | <b>Database:</b>                    | EDM 5000.1 Single User Db         |

| Planned Survey |            |                      |               |                 |               |               |                  |                    |                    |                   |  |
|----------------|------------|----------------------|---------------|-----------------|---------------|---------------|------------------|--------------------|--------------------|-------------------|--|
| MD<br>(usft)   | Inc<br>(°) | Azi (azimuth)<br>(°) | TVD<br>(usft) | TVDSS<br>(usft) | N/S<br>(usft) | E/W<br>(usft) | V. Sec<br>(usft) | DLeg<br>(±100usft) | Northing<br>(usft) | Easting<br>(usft) |  |
| 8,100.00       | 0.00       | 0.00                 | 8,100.00      | 4,667.30        | 0.00          | 0.00          | 0.00             | 0.00               | 598,138.05         | 675,052.99        |  |
| 8,150.00       | 0.00       | 0.00                 | 8,150.00      | 4,717.30        | 0.00          | 0.00          | 0.00             | 0.00               | 598,138.05         | 675,052.99        |  |
| 8,200.00       | 0.00       | 0.00                 | 8,200.00      | 4,767.30        | 0.00          | 0.00          | 0.00             | 0.00               | 598,138.05         | 675,052.99        |  |
| 8,250.00       | 0.00       | 0.00                 | 8,250.00      | 4,817.30        | 0.00          | 0.00          | 0.00             | 0.00               | 598,138.05         | 675,052.99        |  |
| 8,300.00       | 0.00       | 0.00                 | 8,300.00      | 4,867.30        | 0.00          | 0.00          | 0.00             | 0.00               | 598,138.05         | 675,052.99        |  |
| 8,305.05       | 0.00       | 0.00                 | 8,305.05      | 4,872.35        | 0.00          | 0.00          | 0.00             | 0.00               | 598,138.05         | 675,052.99        |  |
| 8,350.00       | 4.50       | 90.89                | 8,349.95      | 4,917.25        | -0.03         | 1.76          | 1.76             | 10.00              | 598,138.02         | 675,054.75        |  |
| 8,400.00       | 9.50       | 90.89                | 8,399.57      | 4,966.87        | -0.12         | 7.85          | 7.85             | 10.00              | 598,137.93         | 675,060.84        |  |
| 8,450.00       | 14.50      | 90.89                | 8,448.46      | 5,015.76        | -0.28         | 18.24         | 18.24            | 10.00              | 598,137.77         | 675,071.23        |  |
| 8,500.00       | 19.50      | 90.89                | 8,496.26      | 5,063.56        | -0.51         | 32.84         | 32.85            | 10.00              | 598,137.54         | 675,085.83        |  |
| 8,550.00       | 24.50      | 90.89                | 8,542.61      | 5,109.91        | -0.81         | 51.56         | 51.57            | 10.00              | 598,137.24         | 675,104.55        |  |
| 8,600.00       | 29.50      | 90.89                | 8,587.14      | 5,154.44        | -1.16         | 74.25         | 74.26            | 10.00              | 598,136.89         | 675,127.24        |  |
| 8,650.00       | 34.50      | 90.89                | 8,629.54      | 5,196.84        | -1.57         | 100.73        | 100.74           | 10.00              | 598,136.48         | 675,153.72        |  |
| 8,700.00       | 39.50      | 90.89                | 8,669.46      | 5,236.76        | -2.04         | 130.80        | 130.82           | 10.00              | 598,136.01         | 675,183.79        |  |
| 8,750.00       | 44.50      | 90.89                | 8,706.61      | 5,273.91        | -2.57         | 164.24        | 164.26           | 10.00              | 598,135.48         | 675,217.23        |  |
| 8,800.00       | 49.50      | 90.89                | 8,740.70      | 5,308.00        | -3.14         | 200.79        | 200.81           | 10.00              | 598,134.91         | 675,253.78        |  |
| 8,850.00       | 54.50      | 90.89                | 8,771.47      | 5,338.77        | -3.75         | 240.17        | 240.20           | 10.00              | 598,134.30         | 675,293.16        |  |
| 8,900.00       | 59.50      | 90.89                | 8,798.70      | 5,366.00        | -4.41         | 282.08        | 282.12           | 10.00              | 598,133.64         | 675,335.07        |  |
| 8,950.00       | 64.50      | 90.89                | 8,822.17      | 5,389.47        | -5.10         | 326.21        | 326.25           | 10.00              | 598,132.95         | 675,379.20        |  |
| 9,000.00       | 69.50      | 90.89                | 8,841.71      | 5,409.01        | -5.81         | 372.21        | 372.26           | 10.00              | 598,132.24         | 675,425.20        |  |
| 9,050.00       | 74.50      | 90.89                | 8,857.16      | 5,424.46        | -6.56         | 419.74        | 419.79           | 10.00              | 598,131.49         | 675,472.73        |  |
| 9,100.00       | 79.50      | 90.89                | 8,868.40      | 5,435.70        | -7.32         | 468.44        | 468.50           | 10.00              | 598,130.73         | 675,521.43        |  |
| 9,150.00       | 84.50      | 90.89                | 8,875.37      | 5,442.67        | -8.09         | 517.93        | 517.99           | 10.00              | 598,129.96         | 675,570.92        |  |
| 9,200.00       | 89.50      | 90.89                | 8,877.99      | 5,445.29        | -8.87         | 567.84        | 567.91           | 10.00              | 598,129.18         | 675,620.83        |  |
| 9,201.85       | 89.68      | 90.89                | 8,878.00      | 5,445.30        | -8.90         | 569.69        | 569.76           | 10.00              | 598,129.15         | 675,622.68        |  |
| 9,250.00       | 89.68      | 90.89                | 8,878.27      | 5,445.57        | -9.65         | 617.83        | 617.91           | 0.00               | 598,128.40         | 675,670.82        |  |
| 9,300.00       | 89.68      | 90.89                | 8,878.55      | 5,445.85        | -10.43        | 667.82        | 667.91           | 0.00               | 598,127.62         | 675,720.81        |  |

# Pathfinder

## Pathfinder X & Y Report

|                  |                      |                                     |                                   |
|------------------|----------------------|-------------------------------------|-----------------------------------|
| <b>Company:</b>  | Devon Energy, Inc.   | <b>Local Co-ordinate Reference:</b> | Well 3H                           |
| <b>Project:</b>  | Eddy County          | <b>TVD Reference:</b>               | KB = 26.2 @ 3432.70usft (H&P 300) |
| <b>Site:</b>     | Rigel 20 Federal Com | <b>MD Reference:</b>                | KB = 26.2 @ 3432.70usft (H&P 300) |
| <b>Well:</b>     | 3H                   | <b>North Reference:</b>             | Grid                              |
| <b>Wellbore:</b> | OH                   | <b>Survey Calculation Method:</b>   | Minimum Curvature                 |
| <b>Design:</b>   | Plan #1              | <b>Database:</b>                    | EDM 5000.1 Single User Db         |

| Planned Survey |            |                      |               |                 |               |               |                  |                     |                    |                   |
|----------------|------------|----------------------|---------------|-----------------|---------------|---------------|------------------|---------------------|--------------------|-------------------|
| MD<br>(usft)   | Inc<br>(°) | Azi (azimuth)<br>(°) | TVD<br>(usft) | TVDSS<br>(usft) | N/S<br>(usft) | E/W<br>(usft) | V. Sec<br>(usft) | DLeg<br>(°/100usft) | Northing<br>(usft) | Easting<br>(usft) |
| 9,350.00       | 89.68      | 90.89                | 8,878.83      | 5,446.13        | -11.21        | 717.82        | 717.91           | 0.00                | 598,126.84         | 675,770.81        |
| 9,400.00       | 89.68      | 90.89                | 8,879.11      | 5,446.41        | -11.99        | 767.81        | 767.90           | 0.00                | 598,126.06         | 675,820.80        |
| 9,450.00       | 89.68      | 90.89                | 8,879.38      | 5,446.68        | -12.77        | 817.80        | 817.90           | 0.00                | 598,125.28         | 675,870.79        |
| 9,500.00       | 89.68      | 90.89                | 8,879.66      | 5,446.96        | -13.55        | 867.80        | 867.90           | 0.00                | 598,124.50         | 675,920.79        |
| 9,550.00       | 89.68      | 90.89                | 8,879.94      | 5,447.24        | -14.34        | 917.79        | 917.90           | 0.00                | 598,123.71         | 675,970.78        |
| 9,600.00       | 89.68      | 90.89                | 8,880.22      | 5,447.52        | -15.12        | 967.78        | 967.90           | 0.00                | 598,122.93         | 676,020.77        |
| 9,650.00       | 89.68      | 90.89                | 8,880.50      | 5,447.80        | -15.90        | 1,017.78      | 1,017.90         | 0.00                | 598,122.15         | 676,070.77        |
| 9,700.00       | 89.68      | 90.89                | 8,880.78      | 5,448.08        | -16.68        | 1,067.77      | 1,067.90         | 0.00                | 598,121.37         | 676,120.76        |
| 9,750.00       | 89.68      | 90.89                | 8,881.06      | 5,448.36        | -17.46        | 1,117.76      | 1,117.90         | 0.00                | 598,120.59         | 676,170.75        |
| 9,800.00       | 89.68      | 90.89                | 8,881.34      | 5,448.64        | -18.24        | 1,167.76      | 1,167.90         | 0.00                | 598,119.81         | 676,220.75        |
| 9,850.00       | 89.68      | 90.89                | 8,881.62      | 5,448.92        | -19.02        | 1,217.75      | 1,217.90         | 0.00                | 598,119.03         | 676,270.74        |
| 9,900.00       | 89.68      | 90.89                | 8,881.90      | 5,449.20        | -19.80        | 1,267.74      | 1,267.90         | 0.00                | 598,118.25         | 676,320.73        |
| 9,950.00       | 89.68      | 90.89                | 8,882.18      | 5,449.48        | -20.58        | 1,317.74      | 1,317.90         | 0.00                | 598,117.47         | 676,370.73        |
| 10,000.00      | 89.68      | 90.89                | 8,882.46      | 5,449.76        | -21.36        | 1,367.73      | 1,367.90         | 0.00                | 598,116.69         | 676,420.72        |
| 10,050.00      | 89.68      | 90.89                | 8,882.74      | 5,450.04        | -22.14        | 1,417.72      | 1,417.89         | 0.00                | 598,115.91         | 676,470.71        |
| 10,100.00      | 89.68      | 90.89                | 8,883.02      | 5,450.32        | -22.93        | 1,467.71      | 1,467.89         | 0.00                | 598,115.12         | 676,520.70        |
| 10,150.00      | 89.68      | 90.89                | 8,883.29      | 5,450.59        | -23.71        | 1,517.71      | 1,517.89         | 0.00                | 598,114.34         | 676,570.70        |
| 10,200.00      | 89.68      | 90.89                | 8,883.57      | 5,450.87        | -24.49        | 1,567.70      | 1,567.89         | 0.00                | 598,113.56         | 676,620.69        |
| 10,250.00      | 89.68      | 90.89                | 8,883.85      | 5,451.15        | -25.27        | 1,617.69      | 1,617.89         | 0.00                | 598,112.78         | 676,670.68        |
| 10,300.00      | 89.68      | 90.89                | 8,884.13      | 5,451.43        | -26.05        | 1,667.69      | 1,667.89         | 0.00                | 598,112.00         | 676,720.68        |
| 10,350.00      | 89.68      | 90.89                | 8,884.41      | 5,451.71        | -26.83        | 1,717.68      | 1,717.89         | 0.00                | 598,111.22         | 676,770.67        |
| 10,400.00      | 89.68      | 90.89                | 8,884.69      | 5,451.99        | -27.61        | 1,767.67      | 1,767.89         | 0.00                | 598,110.44         | 676,820.66        |
| 10,450.00      | 89.68      | 90.89                | 8,884.97      | 5,452.27        | -28.39        | 1,817.67      | 1,817.89         | 0.00                | 598,109.66         | 676,870.66        |
| 10,500.00      | 89.68      | 90.89                | 8,885.25      | 5,452.55        | -29.17        | 1,867.66      | 1,867.89         | 0.00                | 598,108.88         | 676,920.65        |
| 10,550.00      | 89.68      | 90.89                | 8,885.53      | 5,452.83        | -29.95        | 1,917.65      | 1,917.89         | 0.00                | 598,108.10         | 676,970.64        |
| 10,600.00      | 89.68      | 90.89                | 8,885.81      | 5,453.11        | -30.73        | 1,967.65      | 1,967.89         | 0.00                | 598,107.32         | 677,020.64        |
| 10,650.00      | 89.68      | 90.89                | 8,886.09      | 5,453.39        | -31.52        | 2,017.64      | 2,017.89         | 0.00                | 598,106.53         | 677,070.63        |

# Pathfinder

## Pathfinder X & Y Report

|                  |                      |                                     |                                   |
|------------------|----------------------|-------------------------------------|-----------------------------------|
| <b>Company:</b>  | Devon Energy, Inc.   | <b>Local Co-ordinate Reference:</b> | Well 3H                           |
| <b>Project:</b>  | Eddy County          | <b>TVD Reference:</b>               | KB = 26.2 @ 3432.70usft (H&P 300) |
| <b>Site:</b>     | Rigel 20 Federal Com | <b>MD Reference:</b>                | KB = 26.2 @ 3432.70usft (H&P 300) |
| <b>Well:</b>     | 3H                   | <b>North Reference:</b>             | Grid                              |
| <b>Wellbore:</b> | OH                   | <b>Survey Calculation Method:</b>   | Minimum Curvature                 |
| <b>Design:</b>   | Plan #1              | <b>Database:</b>                    | EDM 5000.1 Single User Db         |

| Planned Survey |            |                      |               |                 |               |               |                  |                     |                    |                   |  |
|----------------|------------|----------------------|---------------|-----------------|---------------|---------------|------------------|---------------------|--------------------|-------------------|--|
| MD<br>(usft)   | Inc<br>(°) | Azi (azimuth)<br>(°) | TVD<br>(usft) | TVDSS<br>(usft) | N/S<br>(usft) | E/W<br>(usft) | V. Sec<br>(usft) | DLeg<br>(°/100usft) | Northing<br>(usft) | Easting<br>(usft) |  |
| 10,700.00      | 89.68      | 90.89                | 8,886.37      | 5,453.67        | -32.30        | 2,067.63      | 2,067.88         | 0.00                | 598,105.75         | 677,120.62        |  |
| 10,750.00      | 89.68      | 90.89                | 8,886.65      | 5,453.95        | -33.08        | 2,117.63      | 2,117.88         | 0.00                | 598,104.97         | 677,170.62        |  |
| 10,800.00      | 89.68      | 90.89                | 8,886.92      | 5,454.22        | -33.86        | 2,167.62      | 2,167.88         | 0.00                | 598,104.19         | 677,220.61        |  |
| 10,850.00      | 89.68      | 90.89                | 8,887.20      | 5,454.50        | -34.64        | 2,217.61      | 2,217.88         | 0.00                | 598,103.41         | 677,270.60        |  |
| 10,900.00      | 89.68      | 90.89                | 8,887.48      | 5,454.78        | -35.42        | 2,267.60      | 2,267.88         | 0.00                | 598,102.63         | 677,320.59        |  |
| 10,950.00      | 89.68      | 90.89                | 8,887.76      | 5,455.06        | -36.20        | 2,317.60      | 2,317.88         | 0.00                | 598,101.85         | 677,370.59        |  |
| 11,000.00      | 89.68      | 90.89                | 8,888.04      | 5,455.34        | -36.98        | 2,367.59      | 2,367.88         | 0.00                | 598,101.07         | 677,420.58        |  |
| 11,050.00      | 89.68      | 90.89                | 8,888.32      | 5,455.62        | -37.76        | 2,417.58      | 2,417.88         | 0.00                | 598,100.29         | 677,470.57        |  |
| 11,100.00      | 89.68      | 90.89                | 8,888.60      | 5,455.90        | -38.54        | 2,467.58      | 2,467.88         | 0.00                | 598,099.51         | 677,520.57        |  |
| 11,150.00      | 89.68      | 90.89                | 8,888.88      | 5,456.18        | -39.32        | 2,517.57      | 2,517.88         | 0.00                | 598,098.73         | 677,570.56        |  |
| 11,200.00      | 89.68      | 90.89                | 8,889.16      | 5,456.46        | -40.10        | 2,567.56      | 2,567.88         | 0.00                | 598,097.95         | 677,620.55        |  |
| 11,250.00      | 89.68      | 90.89                | 8,889.44      | 5,456.74        | -40.89        | 2,617.56      | 2,617.88         | 0.00                | 598,097.16         | 677,670.55        |  |
| 11,300.00      | 89.68      | 90.89                | 8,889.72      | 5,457.02        | -41.67        | 2,667.55      | 2,667.88         | 0.00                | 598,096.38         | 677,720.54        |  |
| 11,350.00      | 89.68      | 90.89                | 8,890.00      | 5,457.30        | -42.45        | 2,717.54      | 2,717.87         | 0.00                | 598,095.60         | 677,770.53        |  |
| 11,400.00      | 89.68      | 90.89                | 8,890.28      | 5,457.58        | -43.23        | 2,767.54      | 2,767.87         | 0.00                | 598,094.82         | 677,820.53        |  |
| 11,450.00      | 89.68      | 90.89                | 8,890.55      | 5,457.85        | -44.01        | 2,817.53      | 2,817.87         | 0.00                | 598,094.04         | 677,870.52        |  |
| 11,500.00      | 89.68      | 90.89                | 8,890.83      | 5,458.13        | -44.79        | 2,867.52      | 2,867.87         | 0.00                | 598,093.26         | 677,920.51        |  |
| 11,550.00      | 89.68      | 90.89                | 8,891.11      | 5,458.41        | -45.57        | 2,917.52      | 2,917.87         | 0.00                | 598,092.48         | 677,970.51        |  |
| 11,600.00      | 89.68      | 90.89                | 8,891.39      | 5,458.69        | -46.35        | 2,967.51      | 2,967.87         | 0.00                | 598,091.70         | 678,020.50        |  |
| 11,650.00      | 89.68      | 90.89                | 8,891.67      | 5,458.97        | -47.13        | 3,017.50      | 3,017.87         | 0.00                | 598,090.92         | 678,070.49        |  |
| 11,700.00      | 89.68      | 90.89                | 8,891.95      | 5,459.25        | -47.91        | 3,067.49      | 3,067.87         | 0.00                | 598,090.14         | 678,120.48        |  |
| 11,750.00      | 89.68      | 90.89                | 8,892.23      | 5,459.53        | -48.69        | 3,117.49      | 3,117.87         | 0.00                | 598,089.36         | 678,170.48        |  |
| 11,800.00      | 89.68      | 90.89                | 8,892.51      | 5,459.81        | -49.48        | 3,167.48      | 3,167.87         | 0.00                | 598,088.57         | 678,220.47        |  |
| 11,850.00      | 89.68      | 90.89                | 8,892.79      | 5,460.09        | -50.26        | 3,217.47      | 3,217.87         | 0.00                | 598,087.79         | 678,270.46        |  |
| 11,900.00      | 89.68      | 90.89                | 8,893.07      | 5,460.37        | -51.04        | 3,267.47      | 3,267.87         | 0.00                | 598,087.01         | 678,320.46        |  |
| 11,950.00      | 89.68      | 90.89                | 8,893.35      | 5,460.65        | -51.82        | 3,317.46      | 3,317.86         | 0.00                | 598,086.23         | 678,370.45        |  |
| 12,000.00      | 89.68      | 90.89                | 8,893.63      | 5,460.93        | -52.60        | 3,367.45      | 3,367.86         | 0.00                | 598,085.45         | 678,420.44        |  |



# Pathfinder

## Pathfinder X & Y Report

|                  |                      |                                     |                                   |
|------------------|----------------------|-------------------------------------|-----------------------------------|
| <b>Company:</b>  | Devon Energy, Inc.   | <b>Local Co-ordinate Reference:</b> | Well 3H                           |
| <b>Project:</b>  | Eddy County          | <b>TVD Reference:</b>               | KB = 26.2 @ 3432.70usft (H&P 300) |
| <b>Site:</b>     | Rigel 20 Federal Com | <b>MD Reference:</b>                | KB = 26.2 @ 3432.70usft (H&P 300) |
| <b>Well:</b>     | 3H                   | <b>North Reference:</b>             | Grid                              |
| <b>Wellbore:</b> | OH                   | <b>Survey Calculation Method:</b>   | Minimum Curvature                 |
| <b>Design:</b>   | Plan #1              | <b>Database:</b>                    | EDM 5000.1 Single User Db         |

| Planned Survey |            |                      |               |                 |               |               |                  |                     |                    |                   |
|----------------|------------|----------------------|---------------|-----------------|---------------|---------------|------------------|---------------------|--------------------|-------------------|
| MD<br>(usft)   | Inc<br>(°) | Azi (azimuth)<br>(°) | TVD<br>(usft) | TVDSS<br>(usft) | N/S<br>(usft) | E/W<br>(usft) | V. Sec<br>(usft) | DLeg<br>(°/100usft) | Northing<br>(usft) | Easting<br>(usft) |
| 12,050.00      | 89.68      | 90.89                | 8,893.91      | 5,461.21        | -53.38        | 3,417.45      | 3,417.86         | 0.00                | 598,084.67         | 678,470.44        |
| 12,100.00      | 89.68      | 90.89                | 8,894.19      | 5,461.49        | -54.16        | 3,467.44      | 3,467.86         | 0.00                | 598,083.89         | 678,520.43        |
| 12,150.00      | 89.68      | 90.89                | 8,894.46      | 5,461.76        | -54.94        | 3,517.43      | 3,517.86         | 0.00                | 598,083.11         | 678,570.42        |
| 12,200.00      | 89.68      | 90.89                | 8,894.74      | 5,462.04        | -55.72        | 3,567.43      | 3,567.86         | 0.00                | 598,082.33         | 678,620.42        |
| 12,250.00      | 89.68      | 90.89                | 8,895.02      | 5,462.32        | -56.50        | 3,617.42      | 3,617.86         | 0.00                | 598,081.55         | 678,670.41        |
| 12,300.00      | 89.68      | 90.89                | 8,895.30      | 5,462.60        | -57.28        | 3,667.41      | 3,667.86         | 0.00                | 598,080.77         | 678,720.40        |
| 12,350.00      | 89.68      | 90.89                | 8,895.58      | 5,462.88        | -58.07        | 3,717.41      | 3,717.86         | 0.00                | 598,079.98         | 678,770.40        |
| 12,400.00      | 89.68      | 90.89                | 8,895.86      | 5,463.16        | -58.85        | 3,767.40      | 3,767.86         | 0.00                | 598,079.20         | 678,820.39        |
| 12,450.00      | 89.68      | 90.89                | 8,896.14      | 5,463.44        | -59.63        | 3,817.39      | 3,817.86         | 0.00                | 598,078.42         | 678,870.38        |
| 12,500.00      | 89.68      | 90.89                | 8,896.42      | 5,463.72        | -60.41        | 3,867.38      | 3,867.86         | 0.00                | 598,077.64         | 678,920.37        |
| 12,550.00      | 89.68      | 90.89                | 8,896.70      | 5,464.00        | -61.19        | 3,917.38      | 3,917.86         | 0.00                | 598,076.86         | 678,970.37        |
| 12,600.00      | 89.68      | 90.89                | 8,896.98      | 5,464.28        | -61.97        | 3,967.37      | 3,967.85         | 0.00                | 598,076.08         | 679,020.36        |
| 12,650.00      | 89.68      | 90.89                | 8,897.26      | 5,464.56        | -62.75        | 4,017.36      | 4,017.85         | 0.00                | 598,075.30         | 679,070.35        |
| 12,700.00      | 89.68      | 90.89                | 8,897.54      | 5,464.84        | -63.53        | 4,067.36      | 4,067.85         | 0.00                | 598,074.52         | 679,120.35        |
| 12,750.00      | 89.68      | 90.89                | 8,897.82      | 5,465.12        | -64.31        | 4,117.35      | 4,117.85         | 0.00                | 598,073.74         | 679,170.34        |
| 12,800.00      | 89.68      | 90.89                | 8,898.09      | 5,465.39        | -65.09        | 4,167.34      | 4,167.85         | 0.00                | 598,072.96         | 679,220.33        |
| 12,850.00      | 89.68      | 90.89                | 8,898.37      | 5,465.67        | -65.87        | 4,217.34      | 4,217.85         | 0.00                | 598,072.18         | 679,270.33        |
| 12,900.00      | 89.68      | 90.89                | 8,898.65      | 5,465.95        | -66.65        | 4,267.33      | 4,267.85         | 0.00                | 598,071.40         | 679,320.32        |
| 12,950.00      | 89.68      | 90.89                | 8,898.93      | 5,466.23        | -67.44        | 4,317.32      | 4,317.85         | 0.00                | 598,070.61         | 679,370.31        |
| 13,000.00      | 89.68      | 90.89                | 8,899.21      | 5,466.51        | -68.22        | 4,367.32      | 4,367.85         | 0.00                | 598,069.83         | 679,420.31        |
| 13,050.00      | 89.68      | 90.89                | 8,899.49      | 5,466.79        | -69.00        | 4,417.31      | 4,417.85         | 0.00                | 598,069.05         | 679,470.30        |
| 13,100.00      | 89.68      | 90.89                | 8,899.77      | 5,467.07        | -69.78        | 4,467.30      | 4,467.85         | 0.00                | 598,068.27         | 679,520.29        |
| 13,150.00      | 89.68      | 90.89                | 8,900.05      | 5,467.35        | -70.56        | 4,517.30      | 4,517.85         | 0.00                | 598,067.49         | 679,570.29        |
| 13,200.00      | 89.68      | 90.89                | 8,900.33      | 5,467.63        | -71.34        | 4,567.29      | 4,567.85         | 0.00                | 598,066.71         | 679,620.28        |
| 13,250.00      | 89.68      | 90.89                | 8,900.61      | 5,467.91        | -72.12        | 4,617.28      | 4,617.84         | 0.00                | 598,065.93         | 679,670.27        |
| 13,253.78      | 89.68      | 90.89                | 8,900.63      | 5,467.93        | -72.18        | 4,621.06      | 4,621.62         | 0.00                | 598,065.87         | 679,674.05        |

**Pathfinder**  
Pathfinder X & Y Report

|                  |                      |                                     |                                   |
|------------------|----------------------|-------------------------------------|-----------------------------------|
| <b>Company:</b>  | Devon Energy, Inc.   | <b>Local Co-ordinate Reference:</b> | Well 3H                           |
| <b>Project:</b>  | Eddy County          | <b>TVD Reference:</b>               | KB = 26.2 @ 3432.70usft (H&P 300) |
| <b>Site:</b>     | Rigel 20 Federal Com | <b>MD Reference:</b>                | KB = 26.2 @ 3432.70usft (H&P 300) |
| <b>Well:</b>     | 3H                   | <b>North Reference:</b>             | Grid                              |
| <b>Wellbore:</b> | OH                   | <b>Survey Calculation Method:</b>   | Minimum Curvature                 |
| <b>Design:</b>   | Plan #1              | <b>Database:</b>                    | EDM 5000.1 Single User Db         |

|                   |                    |             |
|-------------------|--------------------|-------------|
| Checked By: _____ | Approved By: _____ | Date: _____ |
|-------------------|--------------------|-------------|



Project: Eddy County  
Site: Rigel 20 Federal Com  
Well: 3H  
Wellbore: OH  
Plan: Plan #1 (3H/OH)

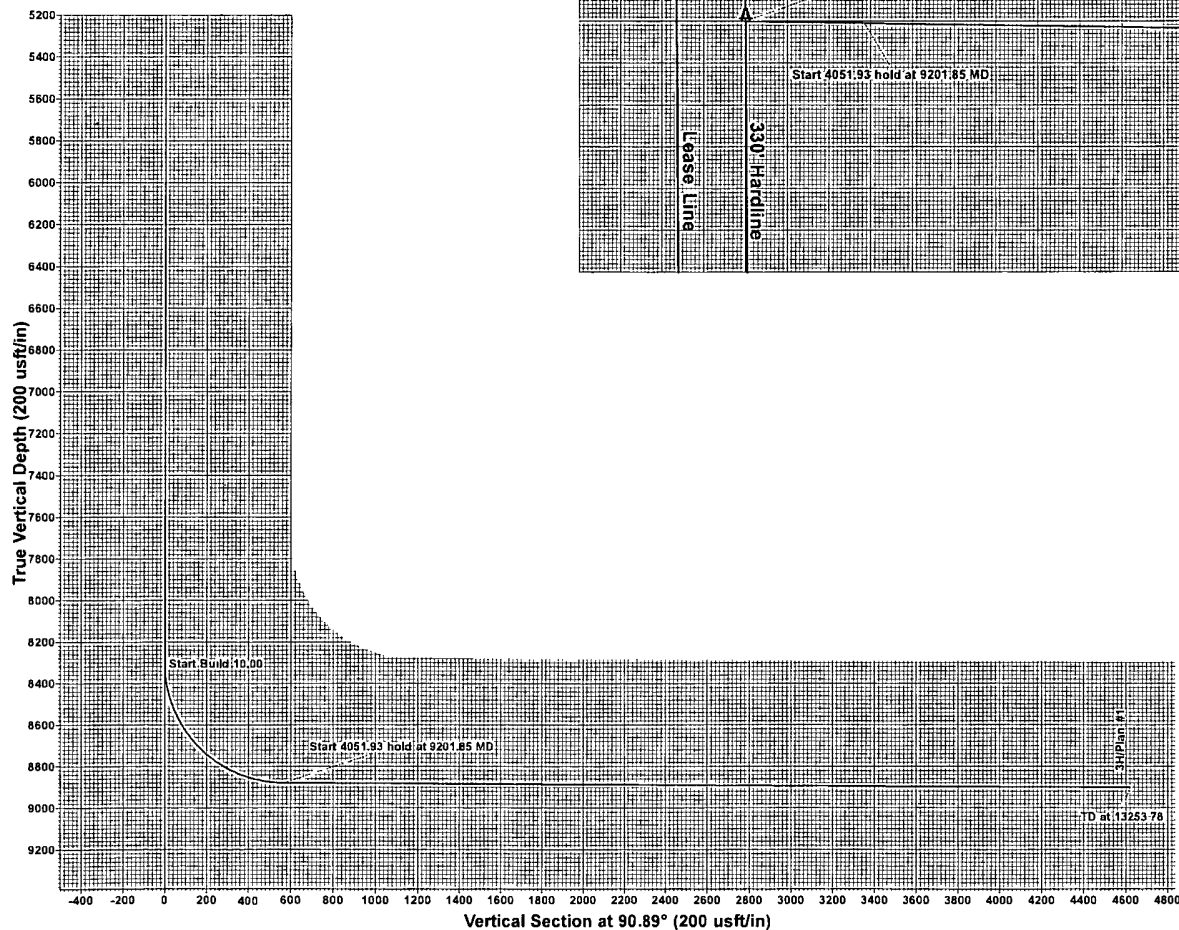
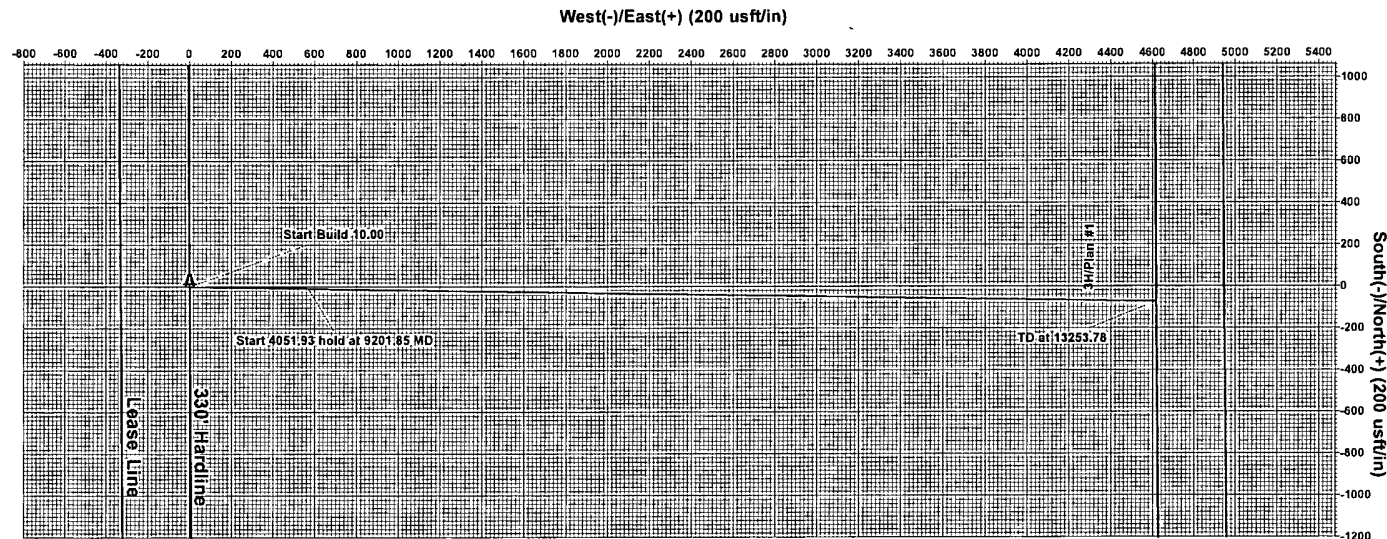


Azimuths to Grid North  
True North: -0.23°  
Magnetic North: 7.50°

Magnetic Field  
Strength: 48849.4snT  
Dip Angle: 60.54°  
Date: 8/29/2011  
Model: IGRF200510

**PATHFINDER®**  
A Schlumberger Company

PROJECT DETAILS: Eddy 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



| SECTION DETAILS |       |       |         |        |         |       |       |         |      |        |
|-----------------|-------|-------|---------|--------|---------|-------|-------|---------|------|--------|
| Sec             | MD    | Inc   | Azi     | TVD    | +N/-S   | +E/-W | Dleg  | TFace   | VSec | Target |
| 1               | 0.00  | 0.00  | 0.00    | 0.00   | 0.00    | 0.00  | 0.00  | 0.00    | 0.00 | 0.00   |
| 28305.05        | 0.00  | 0.00  | 8305.05 | 0.00   | 0.00    | 0.00  | 0.00  | 0.00    | 0.00 | 0.00   |
| 39201.65        | 69.68 | 90.89 | 8878.00 | -8.50  | 569.69  | 10.00 | 90.89 | 569.76  | PBHL |        |
| 43253.78        | 89.68 | 90.89 | 8900.63 | -72.18 | 4621.06 | 0.00  | 0.00  | 4621.62 | PBHL |        |

| WELL DETAILS 3H                                 |       |            |            |                  |                   |      |  |  |  |  |
|-------------------------------------------------|-------|------------|------------|------------------|-------------------|------|--|--|--|--|
| Ground Elevation 3406.50                        |       |            |            |                  |                   |      |  |  |  |  |
| RKB Elevation KB = 26.2 @ 3432.70usft (H&P 300) |       |            |            |                  |                   |      |  |  |  |  |
| Rig Name H&P 300                                |       |            |            |                  |                   |      |  |  |  |  |
| +N/-S                                           | +E/-W | Northing   | Easting    | Latitude         | Longitude         | Slot |  |  |  |  |
| 0.00                                            | 0.00  | 598138.050 | 675052.990 | 32° 38' 36.881 N | 103° 53' 56.099 W |      |  |  |  |  |

| WELLBORE TARGET DETAILS (MAP CO-ORDINATES) |         |        |         |            |            |       |
|--------------------------------------------|---------|--------|---------|------------|------------|-------|
| Name                                       | TVD     | +N/-S  | +E/-W   | Northing   | Easting    | Shape |
| PBHL                                       | 8900.00 | -72.18 | 4621.06 | 598065.870 | 679674.050 | Point |

Plan Plan #1 (3H/OH)  
Created By: Sam Biffle Date: 16 35, August 28 2011  
Checked: \_\_\_\_\_ Date: \_\_\_\_\_

Attachment to Exhibit #1  
NOTES REGARDING BLOWOUT PREVENTERS  
Devon Energy Production Company, LP

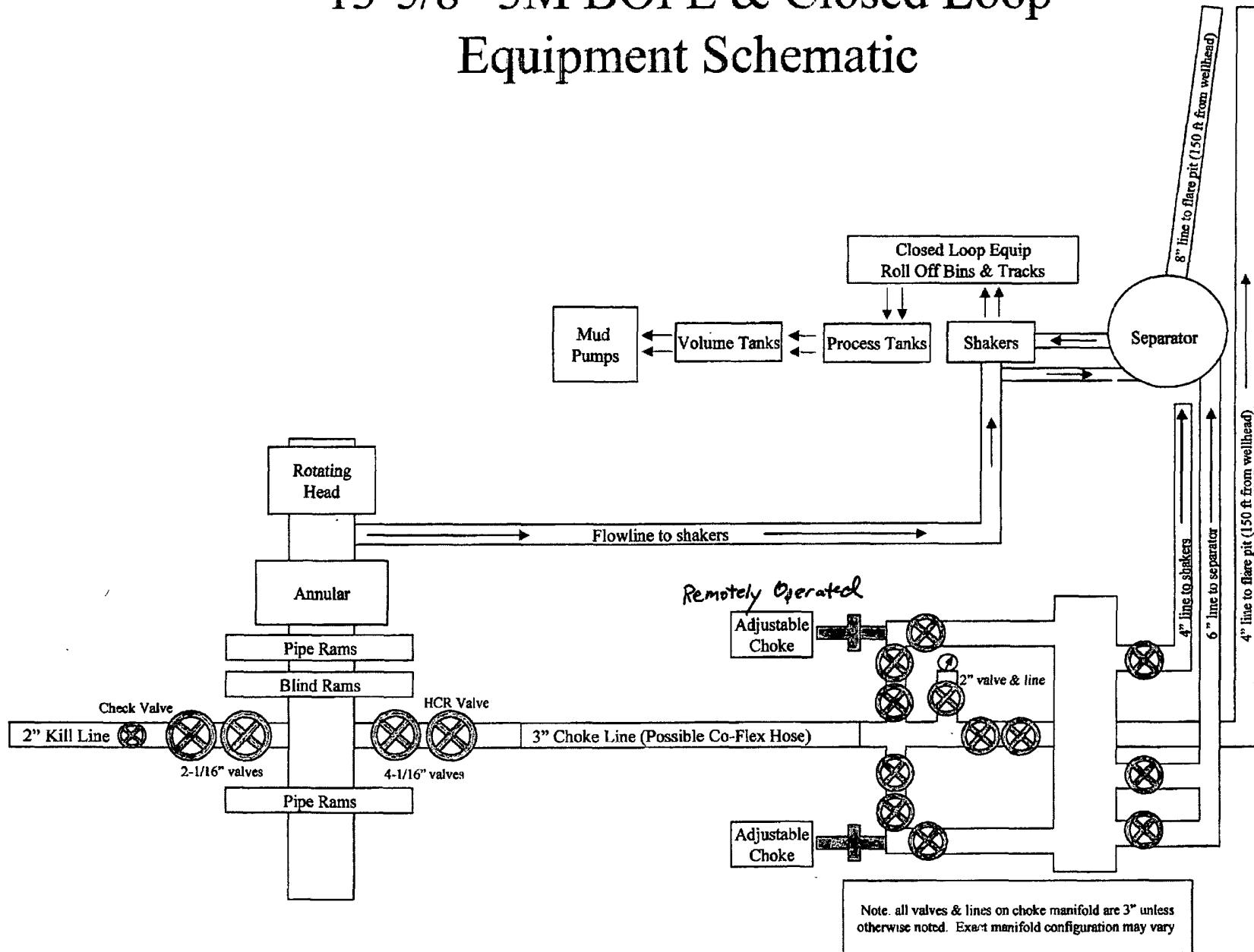
**Rigel 20 Federal Com 3H**

Surface Location: 1800' FSL & 330' FWL, Unit L, Sec 20 T19S R31E, Eddy, NM

Bottom hole Location: 1700' FSL & 330' FEL, Unit I, Sec 20 T19S R31E, Eddy, NM

1. Drilling nipple will be constructed so it can be removed mechanically without the aid of a welder. The minimum internal diameter will equal BOP bore.
2. Wear ring will be properly installed in head.
3. Blowout preventer and all associated fittings will be in operable condition to withstand a minimum 3000 psi working pressure.
4. All fittings will be flanged.
5. A full bore safety valve tested to a minimum 3000 psi WP with proper thread connections will be available on the rotary rig floor at all times.
6. All choke lines will be anchored to prevent movement.
7. All BOP equipment will be equal to or larger in bore than the internal diameter of the last casing string.
8. Will maintain a kelly cock attached to the kelly.
9. Hand wheels and wrenches will be properly installed and tested for safe operation.
10. Hydraulic floor control for blowout preventer will be located as near in proximity to driller's controls as possible.
11. All BOP equipment will meet API standards and include a minimum 40 gallon accumulator having two independent means of power to initiate closing operation.

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



# Hydrostatic Test Certificate

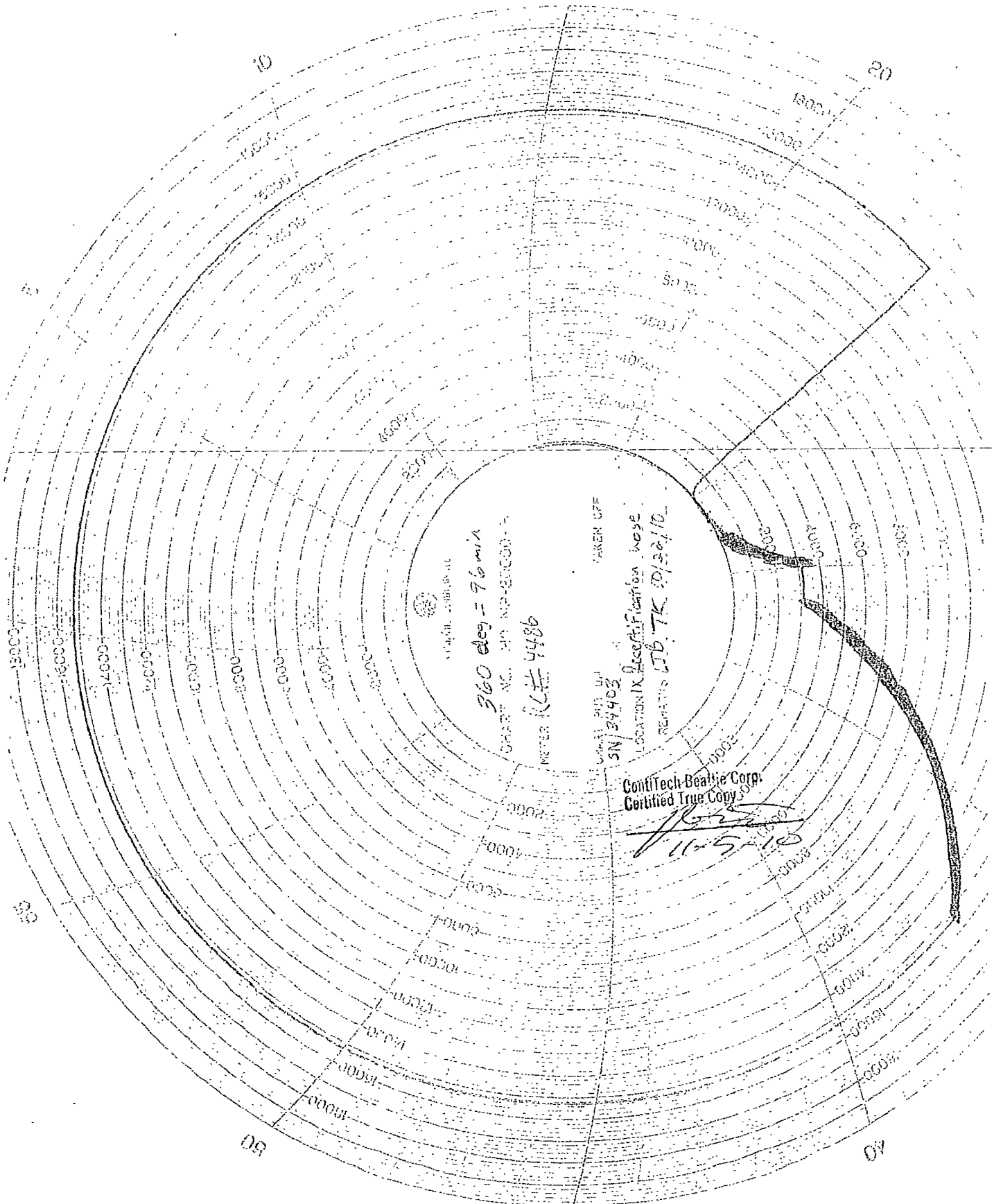
Continental  
CONTITECH

|                                                                                    |                                          |                                                                             |  |
|------------------------------------------------------------------------------------|------------------------------------------|-----------------------------------------------------------------------------|--|
| Certificate Number: 4520                                                           | PBC No: 10321                            | Customer Name & Address                                                     |  |
| Customer Purchase Order No: RIG 300                                                |                                          | HELMERICH & PAYNE INTL DRILLING CO<br>1437 SOUTH BOULDER<br>TULSA, OK 74119 |  |
| Project:                                                                           |                                          |                                                                             |  |
| Test Centre Address                                                                | Accepted by ContiTech Beattie Inspection | Accepted by Client Inspection                                               |  |
| ContiTech Beattie Corp.<br>11535 Brittmoore Park Drive<br>Houston, TX 77041<br>USA | Signed: Josh Sims<br>Date: 10/27/10      |                                                                             |  |

We certify that the goods detailed hereon have been inspected by our Quality Management System, and to the best of our knowledge are found to conform to relevant industrial standards within the requirements of the purchase order as issued to ContiTech Beattie Corporation.

These goods were made in the United States of America.

| Item | Part No. | Description                                                                                                                                                                                                                   | Qty | Serial Number | As-Built Length (m) | Work Press | Test Press | Test Time (minutes) |
|------|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|---------------|---------------------|------------|------------|---------------------|
| 1    |          | 3" ID 10K Choke & Kill Hose x 35ft OAL<br>End A: 4.1/16" 10Kpsi API Spec 6A Type 6BX Flange<br>End B: 4.1/16" 10Kpsi API Spec 6A Type 6BX Flange<br>Working Pressure: 10,000psi<br>Test Pressure: 15,000psi<br>Serial#: 49106 | 1   | 49106         |                     | 10 kpsi    | 15 kpsi    | 60                  |





## Fluid Technology

ContiTech Beattie Corp.  
Website: [www.contitechbeattie.com](http://www.contitechbeattie.com)

Monday, June 14, 2010

RE: Drilling & Production Hoses  
Lifting & Safety Equipment

To Helmerich & Payne,

A Continental ContiTech hose assembly can perform as intended and suitable for the application regardless of whether the hose is secured or unsecured in its configuration. As a manufacturer of High Pressure Hose Assemblies for use in Drilling & Production, we do offer the corresponding lifting and safety equipment, this has the added benefit of easing the lifting and handling of each hose assembly whilst affording hose longevity by ensuring correct handling methods and procedures as well as securing the hose in the unlikely event of a failure; but in no way does the lifting and safety equipment affect the performance of the hoses providing the hoses have been handled and installed correctly. It is good practice to use lifting & safety equipment but not mandatory.

Should you have any questions or require any additional information/clarifications then please do not hesitate to contact us.

ContiTech Beattie is part of the Continental AG Corporation and can offer the full support resources associated with a global organization.

Best regards,

Robin Hodgson  
Sales Manager  
ContiTech Beattie Corp

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