

District I – (575) 393-6161  
1625 N. French Dr., Hobbs, NM 88240  
District II – (575) 748-1283  
811 S. First St., Artesia, NM 88210  
District III – (505) 334-6178  
1000 Rio Brazos Rd., Aztec, NM 87410  
District IV – (505) 476-3460  
1220 S. St. Francis Dr., Santa Fe, NM  
87505

**HOBBS OIL CONSERVATION DIVISION**  
1220 South St. Francis Dr.  
Santa Fe, NM 87505  
OCT 04 2013

|                                                                                                                                                                                                                                                                                                                                                 |  |                                                                                                                                                                       |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>SUNDRY NOTICES AND REPORTS ON WELLS</b><br>(DO NOT USE THIS FORM FOR PROPOSALS TO DRILL OR TO DEEPEN OR PLUG BACK TO A DIFFERENT RESERVOIR. USE "APPLICATION FOR PERMIT" (FORM C-101) FOR SUCH PROPOSALS.)<br>1. Type of Well: Oil Well <input checked="" type="checkbox"/> Gas Well <input type="checkbox"/> Other <input type="checkbox"/> |  | WELL API NO.<br>30-025-41245 ✓<br>5. Indicate Type of Lease<br>STATE <input checked="" type="checkbox"/> FEE <input type="checkbox"/><br>6. State Oil & Gas Lease No. |
| 2. Name of Operator<br>Devon Energy Production Company, LP 405-228-7203                                                                                                                                                                                                                                                                         |  | 7. Lease Name or Unit Agreement Name<br>Ironhouse 19 State Com ✓<br>8. Well Number<br>4H ✓                                                                            |
| 3. Address of Operator<br>333 West. Sheridan Avenue<br>Oklahoma City, OK 73102-5015 405-228-7203                                                                                                                                                                                                                                                |  | 9. OGRID Number<br>6137 ✓<br>10. Pool name or Wildcat<br>WC-025 G-06 S183518A; Bone Spring                                                                            |
| 4. Well Location<br>Lot Number 4 : 150 feet from the SOUTH line and 1215 feet from the WEST line<br>Section 19 Township 18S Range 35E NMPM Lea County                                                                                                                                                                                           |  |                                                                                                                                                                       |
| 11. Elevation (Show whether DR, RKB, RT, GR, etc.)<br>3958                                                                                                                                                                                                                                                                                      |  |                                                                                                                                                                       |

12. Check Appropriate Box to Indicate Nature of Notice, Report or Other Data

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |  |                                                                                                                                                                                                                                                                                       |  |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| <b>NOTICE OF INTENTION TO:</b><br>PERFORM REMEDIAL WORK <input type="checkbox"/> PLUG AND ABANDON <input type="checkbox"/><br>TEMPORARILY ABANDON <input type="checkbox"/> CHANGE PLANS <input type="checkbox"/><br>PULL OR ALTER CASING <input type="checkbox"/> MULTIPLE COMPL <input type="checkbox"/><br>DOWNHOLE COMMINGLE <input type="checkbox"/><br>CLOSED-LOOP SYSTEM <input type="checkbox"/><br>OTHER: Set Whipstock <input checked="" type="checkbox"/> |  | <b>SUBSEQUENT REPORT OF:</b><br>REMEDIAL WORK <input type="checkbox"/> ALTERING CASING <input type="checkbox"/><br>COMMENCE DRILLING OPNS. <input type="checkbox"/> P AND A <input type="checkbox"/><br>CASING/CEMENT JOB <input type="checkbox"/><br>OTHER: <input type="checkbox"/> |  |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|

13. Describe proposed or completed operations. (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work). SEE RULE 19.15.7.14 NMAC. For Multiple Completions: Attach wellbore diagram of proposed completion or recompletion.

Devon Energy Production Company, L.P. respectfully requests to set a Whipstock and 250' isolation plug in order to re-drill the curve section of this well (API #: 30-025-41245).

Attached is the new side-track directional Plan and cement slurry for cementing the whip-stock in place and isolation plug 250' below the whipstock.

I hereby certify that the information above is true and complete to the best of my knowledge and belief.

SIGNATURE Trina C. Couch TITLE: Regulatory Associate DATE 10/3/2013  
 Type or print name: Trina C. Couch E-mail address: trina.couch@dvn.com PHONE: 405-228-7203

**For State Use Only**

APPROVED BY: [Signature] TITLE: Petroleum Engineer DATE OCT 07 2013  
 Conditions of Approval (if any):

OCT 07 2013

**Ironhouse 19State Com 4H**  
(API# 30-025-41245)

**WhipStock/Plug Cement Design**

**Cement Details:**

HALCEM (TM) SYSTEM

0.2 % Halad(R)-9 (Additive Material)

0.25 % HR-601 (Retarder)

|                     |                          |
|---------------------|--------------------------|
| Fluid Weight        | 15.60 lbm/gal            |
| Slurry Yield:       | 1.19 ft <sup>3</sup> /sk |
| Total Mixing Fluid: | 5.40 Gal/sk              |
| Top of Fluid:       | 8750 ft                  |
| Calculated Fill:    | 700 ft                   |
| Volume:             | 38.28 bbl                |
| Calculated Sacks:   | 180 sks                  |
| Proposed Sacks:     | 180 sks                  |

**Plug Details:**

|                   |       |
|-------------------|-------|
| Top of Plug:      | 8750' |
| Top of Whipstock: | 9187' |
| KOP:              | 9200' |
| Bottom of Plug:   | 9450' |



Azimuths to Grid North  
True North: -0.45°  
Magnetic North: 6.97°

Magnetic Field  
Strength: 48657.1snT  
Dip Angle: 60.57°  
Date: 10/2/2013  
Model: BGGM2012



A Schlumberger Company

Project: Lea County (NAD83)  
Site: Ironhouse 19 State Com  
Well: #4H  
Stk 2  
Design #1

#### WELL DETAILS: #4H

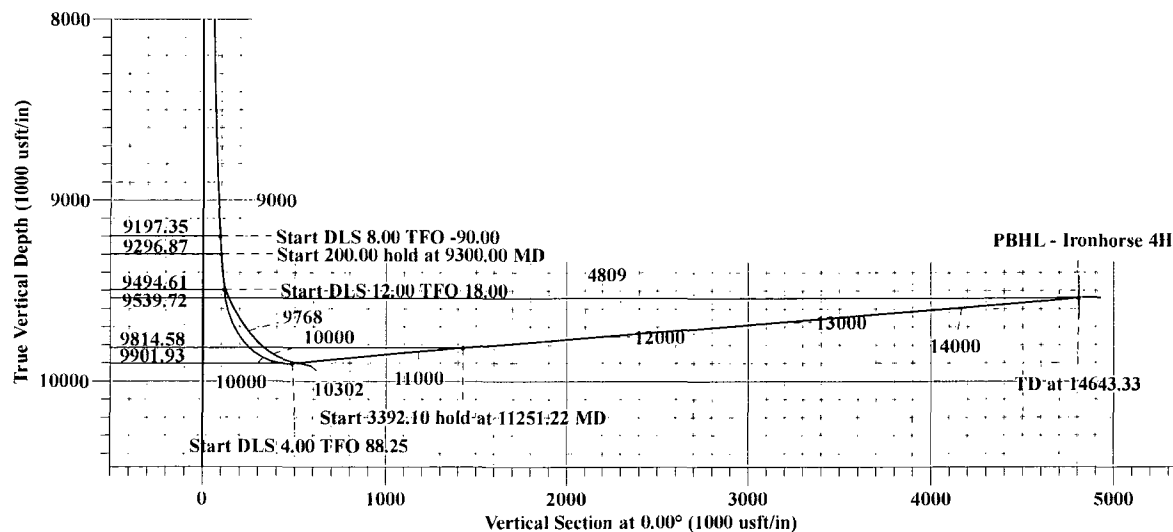
|                                              |           |                  |
|----------------------------------------------|-----------|------------------|
| GL + 26.5' RKB @ 3980.50usft (Patterson 228) |           | 3954.00          |
| +N/-S                                        | +E/-W     |                  |
| 0.00                                         | 0.00      |                  |
| Northing                                     | Easting   | Latitude         |
| 629021.91                                    | 797202.73 | 32° 43' 35.254 N |
|                                              |           | Longitude        |
|                                              |           | 103° 30' 4.734 W |

#### SECTION DETAILS

| Sec | MD       | Inc   | Azi    | TVD     | +N/-S   | +E/-W   | Dleg  | TFace  | VFace   | Target              |
|-----|----------|-------|--------|---------|---------|---------|-------|--------|---------|---------------------|
| 1   | 9200.00  | 3.22  | 8.82   | 9197.35 | 96.17   | 140.02  | 0.00  | 0.00   | 96.17   |                     |
| 2   | 9300.00  | 8.62  | 300.61 | 9296.87 | 102.77  | 133.99  | 8.00  | -90.00 | 102.77  |                     |
| 3   | 9500.00  | 8.62  | 300.61 | 9494.61 | 118.03  | 108.19  | 0.00  | 0.00   | 118.03  |                     |
| 4   | 10220.43 | 94.65 | 318.63 | 9901.93 | 487.95  | -245.32 | 12.00 | 18.00  | 487.95  |                     |
| 5   | 11251.10 | 94.65 | 360.00 | 9814.59 | 1427.98 | -600.23 | 4.00  | 88.25  | 1427.98 |                     |
| 6   | 14643.33 | 94.65 | 360.00 | 9539.71 | 4809.05 | -600.23 | 0.00  | 0.00   | 4809.05 | PBHL - Ironhorse 4H |

#### LEGEND

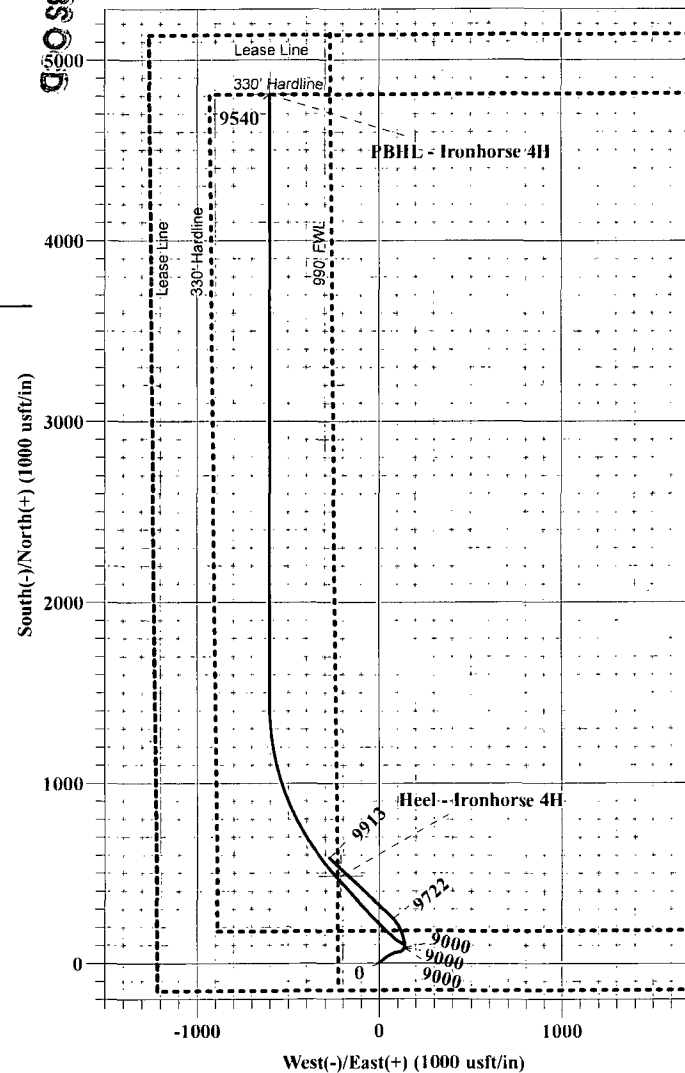
- ± #4H, Stk, Stk V0
- #4H, Original Hole, Original Hole V0
- Design #1



OCT 04 2013

RECEIVED

HOBBS O.D.



Plan: Design #1 (#4H/Stk 2)

Created By: Jenise Kirkpatrick Date: 11:49, October 02 2013

# **Devon Energy, Inc.**

Lea County (NAD83)

Ironhouse 19 State Com

#4H

Stk 2

Plan: Design #1

## **Standard Planning Report**

02 October, 2013

# Pathfinder - A Schlumberger Company

## Planning Report

|           |                           |                              |                                              |
|-----------|---------------------------|------------------------------|----------------------------------------------|
| Database: | EDM 5000.1 Single User Db | Local Co-ordinate Reference: | Well #4H                                     |
| Company:  | Devon Energy, Inc.        | TVD Reference:               | GL + 26.5' RKB @ 3980.50usft (Patterson 228) |
| Project:  | Lea County (NAD83)        | MD Reference:                | GL + 26.5' RKB @ 3980.50usft (Patterson 228) |
| Site:     | Ironhouse 19 State Com    | North Reference:             | Grid                                         |
| Well:     | #4H                       | Survey Calculation Method:   | Minimum Curvature                            |
| Wellbore: | Stk 2                     |                              |                                              |
| Design:   | Design #1                 |                              |                                              |

|             |                           |               |                |
|-------------|---------------------------|---------------|----------------|
| Project     | Lea County (NAD83)        |               |                |
| Map System: | US State Plane 1983       | System Datum: | Mean Sea Level |
| Geo Datum:  | North American Datum 1983 |               |                |
| Map Zone:   | New Mexico Eastern Zone   |               |                |

|                       |                        |                   |                   |
|-----------------------|------------------------|-------------------|-------------------|
| Site                  | Ironhouse 19 State Com |                   |                   |
| Site Position:        |                        | Northing:         | 629,074.70 usft   |
| From:                 | Map                    | Easting:          | 797,786.70 usft   |
| Position Uncertainty: | 0.00 usft              | Slot Radius:      | 13-3/16 "         |
|                       |                        | Latitude:         | 32° 43' 35.731 N  |
|                       |                        | Longitude:        | 103° 29' 57.894 W |
|                       |                        | Grid Convergence: | 0.45 °            |

|                      |           |                     |                  |
|----------------------|-----------|---------------------|------------------|
| Well                 | #4H       |                     |                  |
| Well Position        | +N/-S     | -52.79 usft         | Northing:        |
|                      | +E/-W     | -583.97 usft        | Easting:         |
| Position Uncertainty | 0.00 usft | Wellhead Elevation: | 26.50 usft       |
|                      |           | Latitude:           | 32° 43' 35.254 N |
|                      |           | Longitude:          | 103° 30' 4.734 W |
|                      |           | Ground Level:       | 3,954.00 usft    |

|           |            |             |                     |
|-----------|------------|-------------|---------------------|
| Wellbore  | Stk 2      |             |                     |
| Magnetics | Model Name | Sample Date | Declination (°)     |
|           | BGGM2012   | 10/2/2013   | 7.42                |
|           |            |             | Dip Angle (°)       |
|           |            |             | 60.57               |
|           |            |             | Field Strength (nT) |
|           |            |             | 48,657              |

|                   |                         |              |               |
|-------------------|-------------------------|--------------|---------------|
| Design            | Design #1               |              |               |
| Audit Notes:      |                         |              |               |
| Version:          | Phase:                  | PROTOTYPE    | Tie On Depth: |
|                   |                         |              | 9,200.00      |
| Vertical Section: | Depth From (TVD) (usft) | +N/-S (usft) | +E/-W (usft)  |
|                   | 0.00                    | 0.00         | 0.00          |
|                   |                         |              | Direction (°) |
|                   |                         |              | 0.00          |

| Plan Sections         |                 |             |                       |              |              |                         |                        |                       |         |                     |
|-----------------------|-----------------|-------------|-----------------------|--------------|--------------|-------------------------|------------------------|-----------------------|---------|---------------------|
| Measured Depth (usft) | Inclination (°) | Azimuth (°) | Vertical Depth (usft) | +N/-S (usft) | +E/-W (usft) | Dogleg Rate (°/100usft) | Build Rate (°/100usft) | Turn Rate (°/100usft) | TFO (°) | Target              |
| 9,200.00              | 3.22            | 8.82        | 9,197.35              | 96.17        | 140.02       | 0.00                    | 0.00                   | 0.00                  | 0.00    |                     |
| 9,300.00              | 8.62            | 300.61      | 9,296.87              | 102.77       | 133.99       | 8.00                    | 5.40                   | -68.21                | -90.00  |                     |
| 9,500.00              | 8.62            | 300.61      | 9,494.61              | 118.03       | 108.19       | 0.00                    | 0.00                   | 0.00                  | 0.00    |                     |
| 10,220.43             | 94.65           | 318.63      | 9,901.93              | 487.95       | -245.32      | 12.00                   | 11.94                  | 2.50                  | 18.00   |                     |
| 11,251.10             | 94.65           | 360.00      | 9,814.59              | 1,427.98     | -600.23      | 4.00                    | 0.00                   | 4.01                  | 88.25   |                     |
| 14,643.33             | 94.65           | 360.00      | 9,539.71              | 4,809.05     | -600.23      | 0.00                    | 0.00                   | 0.00                  | 0.00    | PBHL - Ironhorse 4H |

# Pathfinder - A Schlumberger Company

## Planning Report

|                  |                           |                                     |                                              |
|------------------|---------------------------|-------------------------------------|----------------------------------------------|
| <b>Database:</b> | EDM 5000.1 Single User Db | <b>Local Co-ordinate Reference:</b> | Well #4H                                     |
| <b>Company:</b>  | Devon Energy, Inc.        | <b>TVD Reference:</b>               | GL + 26.5' RKB @ 3980.50usft (Patterson 228) |
| <b>Project:</b>  | Lea County (NAD83)        | <b>MD Reference:</b>                | GL + 26.5' RKB @ 3980.50usft (Patterson 228) |
| <b>Site:</b>     | Ironhouse 19 State Com    | <b>North Reference:</b>             | Grid                                         |
| <b>Well:</b>     | #4H                       | <b>Survey Calculation Method:</b>   | Minimum Curvature                            |
| <b>Wellbore:</b> | Stk 2                     |                                     |                                              |
| <b>Design:</b>   | Design #1                 |                                     |                                              |

### Planned Survey

| Measured Depth (usft) | Inclination (°) | Azimuth (°) | Vertical Depth (usft) | +N/-S (usft) | +E/-W (usft) | Vertical Section (usft) | Dogleg Rate (°/100usft) | Build Rate (°/100usft) | Turn Rate (°/100usft) |
|-----------------------|-----------------|-------------|-----------------------|--------------|--------------|-------------------------|-------------------------|------------------------|-----------------------|
| 9,200.00              | 3.22            | 8.82        | 9,197.35              | 96.17        | 140.02       | 96.17                   | 0.00                    | 0.00                   | 0.00                  |
| 9,300.00              | 8.62            | 300.61      | 9,296.87              | 102.77       | 133.99       | 102.77                  | 8.00                    | 5.40                   | -68.21                |
| 9,400.00              | 8.62            | 300.61      | 9,395.74              | 110.40       | 121.09       | 110.40                  | 0.00                    | 0.00                   | 0.00                  |
| 9,500.00              | 8.62            | 300.61      | 9,494.61              | 118.03       | 108.19       | 118.03                  | 0.00                    | 0.00                   | 0.00                  |
| 9,600.00              | 20.37           | 311.24      | 9,591.27              | 133.38       | 88.58        | 133.38                  | 12.00                   | 11.75                  | 10.64                 |
| 9,700.00              | 32.30           | 314.21      | 9,680.73              | 163.59       | 56.23        | 163.59                  | 12.00                   | 11.93                  | 2.97                  |
| 9,800.00              | 44.27           | 315.69      | 9,759.09              | 207.35       | 12.53        | 207.35                  | 12.00                   | 11.97                  | 1.48                  |
| 9,900.00              | 56.24           | 316.64      | 9,822.91              | 262.75       | -40.58       | 262.75                  | 12.00                   | 11.98                  | 0.95                  |
| 10,000.00             | 68.23           | 317.35      | 9,869.40              | 327.37       | -100.80      | 327.37                  | 12.00                   | 11.98                  | 0.71                  |
| 10,100.00             | 80.21           | 317.96      | 9,896.55              | 398.37       | -165.49      | 398.37                  | 12.00                   | 11.99                  | 0.60                  |
| 10,200.00             | 92.20           | 318.52      | 9,903.15              | 472.67       | -231.83      | 472.67                  | 12.00                   | 11.99                  | 0.56                  |
| 10,220.43             | 94.65           | 318.63      | 9,901.93              | 487.95       | -245.32      | 487.95                  | 12.00                   | 11.99                  | 0.56                  |
| 10,300.00             | 94.74           | 321.82      | 9,895.41              | 548.90       | -296.05      | 548.90                  | 4.00                    | 0.11                   | 4.01                  |
| 10,400.00             | 94.83           | 325.84      | 9,887.07              | 629.33       | -354.85      | 629.33                  | 4.00                    | 0.09                   | 4.01                  |
| 10,500.00             | 94.90           | 329.85      | 9,878.58              | 713.66       | -407.87      | 713.66                  | 4.00                    | 0.07                   | 4.01                  |
| 10,600.00             | 94.95           | 333.86      | 9,869.99              | 801.50       | -454.85      | 801.50                  | 4.00                    | 0.04                   | 4.01                  |
| 10,700.00             | 94.97           | 337.88      | 9,861.35              | 892.40       | -495.57      | 892.40                  | 4.00                    | 0.02                   | 4.01                  |
| 10,800.00             | 94.96           | 341.89      | 9,852.69              | 985.93       | -529.82      | 985.93                  | 4.00                    | 0.00                   | 4.02                  |
| 10,900.00             | 94.93           | 345.91      | 9,844.06              | 1,081.63     | -557.44      | 1,081.63                | 4.00                    | -0.03                  | 4.01                  |
| 11,000.00             | 94.88           | 349.92      | 9,835.50              | 1,179.04     | -578.29      | 1,179.04                | 4.00                    | -0.05                  | 4.01                  |
| 11,100.00             | 94.81           | 353.94      | 9,827.05              | 1,277.67     | -592.28      | 1,277.67                | 4.00                    | -0.08                  | 4.01                  |
| 11,200.00             | 94.71           | 357.95      | 9,818.76              | 1,377.06     | -599.32      | 1,377.06                | 4.00                    | -0.10                  | 4.01                  |
| 11,251.10             | 94.65           | 360.00      | 9,814.59              | 1,427.98     | -600.23      | 1,427.98                | 4.00                    | -0.12                  | 4.01                  |
| 11,300.00             | 94.65           | 360.00      | 9,810.63              | 1,476.72     | -600.23      | 1,476.72                | 0.00                    | 0.00                   | 0.00                  |
| 11,400.00             | 94.65           | 360.00      | 9,802.52              | 1,576.39     | -600.23      | 1,576.39                | 0.00                    | 0.00                   | 0.00                  |
| 11,500.00             | 94.65           | 360.00      | 9,794.42              | 1,676.06     | -600.23      | 1,676.06                | 0.00                    | 0.00                   | 0.00                  |
| 11,600.00             | 94.65           | 360.00      | 9,786.32              | 1,775.73     | -600.23      | 1,775.73                | 0.00                    | 0.00                   | 0.00                  |
| 11,700.00             | 94.65           | 360.00      | 9,778.22              | 1,875.40     | -600.23      | 1,875.40                | 0.00                    | 0.00                   | 0.00                  |
| 11,800.00             | 94.65           | 360.00      | 9,770.11              | 1,975.07     | -600.23      | 1,975.07                | 0.00                    | 0.00                   | 0.00                  |
| 11,900.00             | 94.65           | 360.00      | 9,762.01              | 2,074.74     | -600.23      | 2,074.74                | 0.00                    | 0.00                   | 0.00                  |
| 12,000.00             | 94.65           | 360.00      | 9,753.91              | 2,174.42     | -600.23      | 2,174.42                | 0.00                    | 0.00                   | 0.00                  |
| 12,100.00             | 94.65           | 360.00      | 9,745.80              | 2,274.09     | -600.23      | 2,274.09                | 0.00                    | 0.00                   | 0.00                  |
| 12,200.00             | 94.65           | 360.00      | 9,737.70              | 2,373.76     | -600.23      | 2,373.76                | 0.00                    | 0.00                   | 0.00                  |
| 12,300.00             | 94.65           | 360.00      | 9,729.60              | 2,473.43     | -600.23      | 2,473.43                | 0.00                    | 0.00                   | 0.00                  |
| 12,400.00             | 94.65           | 360.00      | 9,721.49              | 2,573.10     | -600.23      | 2,573.10                | 0.00                    | 0.00                   | 0.00                  |
| 12,500.00             | 94.65           | 360.00      | 9,713.39              | 2,672.77     | -600.23      | 2,672.77                | 0.00                    | 0.00                   | 0.00                  |
| 12,600.00             | 94.65           | 360.00      | 9,705.29              | 2,772.44     | -600.23      | 2,772.44                | 0.00                    | 0.00                   | 0.00                  |
| 12,700.00             | 94.65           | 360.00      | 9,697.18              | 2,872.11     | -600.23      | 2,872.11                | 0.00                    | 0.00                   | 0.00                  |
| 12,800.00             | 94.65           | 360.00      | 9,689.08              | 2,971.78     | -600.23      | 2,971.78                | 0.00                    | 0.00                   | 0.00                  |
| 12,900.00             | 94.65           | 360.00      | 9,680.98              | 3,071.46     | -600.23      | 3,071.46                | 0.00                    | 0.00                   | 0.00                  |
| 13,000.00             | 94.65           | 360.00      | 9,672.87              | 3,171.13     | -600.23      | 3,171.13                | 0.00                    | 0.00                   | 0.00                  |
| 13,100.00             | 94.65           | 360.00      | 9,664.77              | 3,270.80     | -600.23      | 3,270.80                | 0.00                    | 0.00                   | 0.00                  |
| 13,200.00             | 94.65           | 360.00      | 9,656.67              | 3,370.47     | -600.23      | 3,370.47                | 0.00                    | 0.00                   | 0.00                  |
| 13,300.00             | 94.65           | 360.00      | 9,648.56              | 3,470.14     | -600.23      | 3,470.14                | 0.00                    | 0.00                   | 0.00                  |
| 13,400.00             | 94.65           | 360.00      | 9,640.46              | 3,569.81     | -600.23      | 3,569.81                | 0.00                    | 0.00                   | 0.00                  |
| 13,500.00             | 94.65           | 360.00      | 9,632.36              | 3,669.48     | -600.23      | 3,669.48                | 0.00                    | 0.00                   | 0.00                  |
| 13,600.00             | 94.65           | 360.00      | 9,624.25              | 3,769.15     | -600.23      | 3,769.15                | 0.00                    | 0.00                   | 0.00                  |
| 13,700.00             | 94.65           | 360.00      | 9,616.15              | 3,868.82     | -600.23      | 3,868.82                | 0.00                    | 0.00                   | 0.00                  |
| 13,800.00             | 94.65           | 360.00      | 9,608.05              | 3,968.50     | -600.23      | 3,968.50                | 0.00                    | 0.00                   | 0.00                  |
| 13,900.00             | 94.65           | 360.00      | 9,599.94              | 4,068.17     | -600.23      | 4,068.17                | 0.00                    | 0.00                   | 0.00                  |
| 14,000.00             | 94.65           | 360.00      | 9,591.84              | 4,167.84     | -600.23      | 4,167.84                | 0.00                    | 0.00                   | 0.00                  |
| 14,100.00             | 94.65           | 360.00      | 9,583.74              | 4,267.51     | -600.23      | 4,267.51                | 0.00                    | 0.00                   | 0.00                  |

# Pathfinder - A Schlumberger Company

## Planning Report

|                  |                           |                                     |                                              |
|------------------|---------------------------|-------------------------------------|----------------------------------------------|
| <b>Database:</b> | EDM 5000.1 Single User Db | <b>Local Co-ordinate Reference:</b> | Well #4H                                     |
| <b>Company:</b>  | Devon Energy, Inc.        | <b>TVD Reference:</b>               | GL + 26.5' RKB @ 3980.50usft (Patterson 228) |
| <b>Project:</b>  | Lea County (NAD83)        | <b>MD Reference:</b>                | GL + 26.5' RKB @ 3980.50usft (Patterson 228) |
| <b>Site:</b>     | Ironhouse 19 State Com    | <b>North Reference:</b>             | Grid                                         |
| <b>Well:</b>     | #4H                       | <b>Survey Calculation Method:</b>   | Minimum Curvature                            |
| <b>Wellbore:</b> | Stk 2                     |                                     |                                              |
| <b>Design:</b>   | Design #1                 |                                     |                                              |

| Planned Survey        |                 |             |                       |              |              |                         |                         |                        |                       |
|-----------------------|-----------------|-------------|-----------------------|--------------|--------------|-------------------------|-------------------------|------------------------|-----------------------|
| Measured Depth (usft) | Inclination (°) | Azimuth (°) | Vertical Depth (usft) | +N/-S (usft) | +E/-W (usft) | Vertical Section (usft) | Dogleg Rate (°/100usft) | Build Rate (°/100usft) | Turn Rate (°/100usft) |
| 14,200.00             | 94.65           | 360.00      | 9,575.63              | 4,367.18     | -600.23      | 4,367.18                | 0.00                    | 0.00                   | 0.00                  |
| 14,300.00             | 94.65           | 360.00      | 9,567.53              | 4,466.85     | -600.23      | 4,466.85                | 0.00                    | 0.00                   | 0.00                  |
| 14,400.00             | 94.65           | 360.00      | 9,559.43              | 4,566.52     | -600.23      | 4,566.52                | 0.00                    | 0.00                   | 0.00                  |
| 14,500.00             | 94.65           | 360.00      | 9,551.32              | 4,666.19     | -600.23      | 4,666.19                | 0.00                    | 0.00                   | 0.00                  |
| 14,600.00             | 94.65           | 360.00      | 9,543.22              | 4,765.87     | -600.23      | 4,765.87                | 0.00                    | 0.00                   | 0.00                  |
| 14,643.33             | 94.65           | 360.00      | 9,539.71              | 4,809.05     | -600.23      | 4,809.05                | 0.00                    | 0.00                   | 0.00                  |

| Design Targets                                                                                 |               |              |            |              |              |                 |                |                  |                   |
|------------------------------------------------------------------------------------------------|---------------|--------------|------------|--------------|--------------|-----------------|----------------|------------------|-------------------|
| Target Name                                                                                    | Dip Angle (°) | Dip Dir. (°) | TVD (usft) | +N/-S (usft) | +E/-W (usft) | Northing (usft) | Easting (usft) | Latitude         | Longitude         |
| - hit/miss target                                                                              |               |              |            |              |              |                 |                |                  |                   |
| - Shape                                                                                        |               |              |            |              |              |                 |                |                  |                   |
| PBHL - Ironhorse 4H                                                                            | 0.00          | 0.00         | 9,538.59   | 4,809.05     | -599.05      | 633,830.96      | 796,603.68     | 32° 44' 22.882 N | 103° 30' 11.305 W |
| - plan misses target center by 1.63usft at 14643.33usft MD (9539.71 TVD, 4809.05 N, -600.23 E) |               |              |            |              |              |                 |                |                  |                   |
| - Point                                                                                        |               |              |            |              |              |                 |                |                  |                   |