

Submit 3 Copies To Appropriate District Office  
District I  
1625 N. French Dr., Hobbs, NM 88240  
District II  
1301 W Grand Ave., Artesia, NM 88210  
District III  
1000 Rio Brazos Rd., Aztec, NM 87410  
District IV  
1220 S St. Francis Dr., Santa Fe, NM 87505

State of New Mexico  
Energy, Minerals and Natural Resources

Form C-103  
May 27, 2004

OIL CONSERVATION DIVISION  
1220 South St. Francis Dr.  
Santa Fe, NM 87505



|                                                                                                     |              |
|-----------------------------------------------------------------------------------------------------|--------------|
| WELL API NO.                                                                                        | 30-005-63928 |
| 5. Indicate Type of Lease<br>STATE <input checked="" type="checkbox"/> FEE <input type="checkbox"/> |              |
| 6. State Oil & Gas Lease No.                                                                        |              |
| 7. Lease Name or Unit Agreement Name<br>Old Rosebud 1524-36 A State                                 |              |
| 8. Well Number 1                                                                                    |              |
| 9. OGRID Number 230387                                                                              |              |
| 10. Pool name or Wildcat (75260)<br>Cottonwood Creek; Wolfcamp West                                 |              |

FEB 06 2008

OCD-ARTESIA

**SUNDRY NOTICES AND REPORTS ON WELLS**  
(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.)

1. Type of Well: Oil Well ☐ Gas Well ☒ Other ☐

2. Name of Operator Parallel Petroleum Corporation

3. Address of Operator 1004 N. Big Spring Street, Suite 400  
Midland, Texas 79701

4. Well Location  
Unit Letter P : 290 feet from the South line and 150 feet from the East line  
Section 36 Township 15S Range 24E NMPM Chaves County

11. Elevation (Show whether DR, RKB, RT, GR, etc.)  
3504' GR

Pit or Below-grade Tank Application ☐ or Closure ☐

Pit type lined Depth to Groundwater \_\_\_\_\_ Distance from nearest fresh water well 800' Distance from nearest surface water 6000'

Pit Liner Thickness: 20 mil Below-Grade Tank: Volume 25,000 bbls; Construction Material caliche

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

NOTICE OF INTENTION TO:

PERFORM REMEDIAL WORK ☐ PLUG AND ABANDON ☐  
TEMPORARILY ABANDON ☐ CHANGE PLANS ☐  
PULL OR ALTER CASING ☐ MULTIPLE COMPL ☐

SUBSEQUENT REPORT OF:

REMEDIAL WORK ☐ ALTERING CASING ☐  
COMMENCE DRILLING OPNS. ☐ P AND A ☐  
CASING/CEMENT JOB ☐

OTHER: Change surface location and directional plan ☒

OTHER: ☐

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 1103. For Multiple Completions: Attach wellbore diagram of proposed completion or recompletion.

Changed surface location to decrease the amount of agriculture effected. Changed directional plan to adjust for the new surface location. The penetration point is standard location and the BHL is unchanged and standard. See the Pathfinder directional drilling plan attached. Drilling plans approved April 24, 2007 are unchanged.

I hereby certify that the information above is true and complete to the best of my knowledge and belief. I further certify that any pit or below-grade tank has been/will be constructed or closed according to NMOCD guidelines ☒ , a general permit ☐ or an (attached) alternative OCD-approved plan ☐.

SIGNATURE Deane Durham TITLE Engineer DATE 2-4-2008

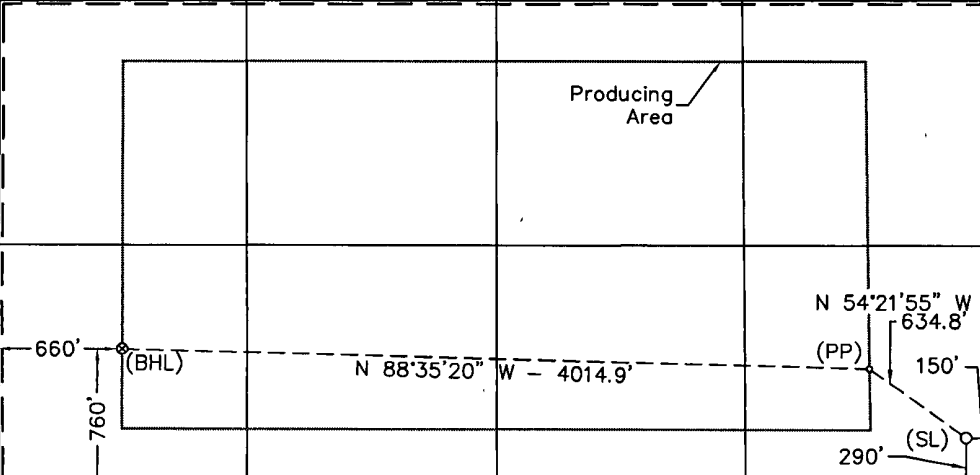
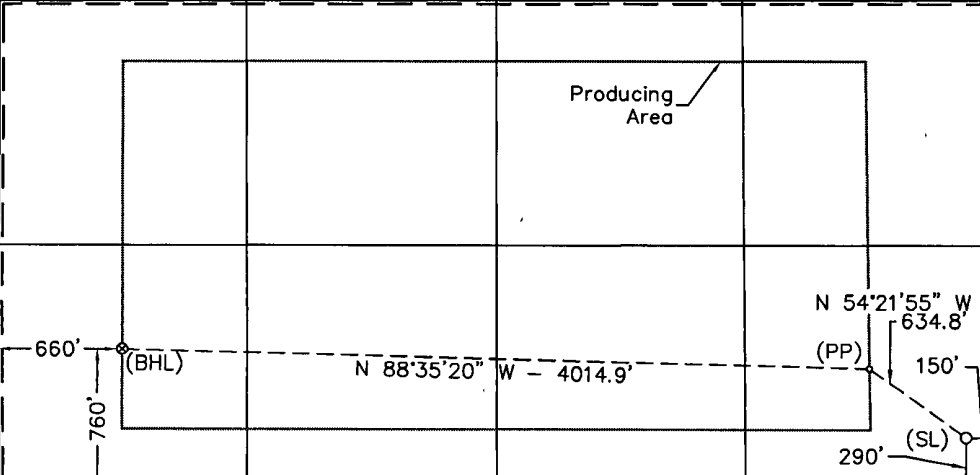
Type or print name Deane Durham E-mail address: ddurham@plll.com Telephone No. (432) 684-3727

For State Use Only BRYAN G. ARANT

APPROVED BY: DISTRICT II GEOLOGIST

TITLE \_\_\_\_\_ DATE FEB 07 2008

Conditions of Approval (if any):

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                       |                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |  |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| <p>NOTE:</p> <p>1) Plane Coordinates shown hereon are Transverse Mercator Grid and Conform to the "New Mexico Coordinate System", New Mexico East Zone, North American Datum of 1927. Distances shown hereon are mean horizontal surface values.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                       |                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |  |
| <p><u>Bottom Hole Location</u><br/> <u>Plane Coordinate</u><br/> X = 447,208.1<br/> Y = 715,260.6<br/> <u>Geodetic Coordinate</u><br/> Lat. 32°57'58.34" N<br/> Long. 104°30'19.66" W<br/> (NAD '27)</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | <p><u>Penetration Point</u><br/> <u>Plane Coordinate</u><br/> X = 451,220.7<br/> Y = 715,161.8<br/> <u>Geodetic Coordinate</u><br/> Lat. 32°57'57.42" N<br/> Long. 104°29'32.56" W<br/> (NAD '27)</p> | <p><u>Surface Location</u><br/> <u>Plane Coordinate</u><br/> X = 451,736.6<br/> Y = 714,792.0<br/> <u>Geodetic Coordinate</u><br/> Lat. 32°57'53.77" N<br/> Long. 104°29'26.50" W<br/> (NAD '27)</p> | <div style="border: 1px solid black; padding: 5px;"> <p style="text-align: center;"><b>OPERATOR CERTIFICATION</b></p> <p>I hereby certify the the information contained hereon is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.</p> <div style="display: flex; justify-content: space-between;"> <div style="width: 60%;"> <p style="font-size: 1.2em; font-family: cursive;">Deane Durham 1-29-08</p> <p>Signature</p> </div> <div style="width: 35%;"> <p>Date</p> </div> </div> <div style="display: flex; justify-content: space-between;"> <div style="width: 60%;"> <p style="font-size: 1.2em; font-family: cursive;">Deane Durham</p> <p>Printed Name</p> </div> <div style="width: 35%;"></div> </div> </div> |  |
| <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;"> <p>Project Area</p>  </div> <div style="text-align: center;"> <p>Producing Area</p>  </div> </div>                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                       |                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |  |
| <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;"> <p>660'</p> <p>760'</p> <p>(BHL)</p> </div> <div style="text-align: center;"> <p>N 88°35'20" W - 4014.9'</p> </div> <div style="text-align: center;"> <p>N 54°21'55" W<br/>634.8'</p> <p>(PP)</p> <p>150'</p> <p>290' (SL)</p> </div> </div>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                       |                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |  |
| <div style="border: 1px solid black; padding: 5px;"> <p style="text-align: center;"><b>SURVEYOR CERTIFICATION</b></p> <p>I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision and that the same is true and correct to the best of my belief.</p> <div style="display: flex; justify-content: space-between;"> <div style="width: 60%;"> <p style="font-size: 1.2em; font-family: cursive;">[Signature]</p> <p>Signature &amp; Seal of Professional Surveyor</p> </div> <div style="width: 35%;"> <p>Date of Survey</p> </div> </div> <div style="display: flex; justify-content: space-between;"> <div style="width: 60%;"> <p>W.O. Num.: 2008-0067</p> </div> <div style="width: 35%;"> <p>Certificate No. MACON McDONALD 12185</p> </div> </div> </div> |                                                                                                                                                                                                       |                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |  |

# **Parallel Petroleum Corp.**

**Chaves County**

**S/2 Sec., 36 T-15-S, R-24-E**

**Old Rosebud 1524-36 A State #1**

**Original Hole**

**Plan: Plan #1**

## **Pathfinder Survey Report**

**30 January, 2008**

# WHS

## Pathfinder Survey Report

|                  |                                |                                     |                                     |
|------------------|--------------------------------|-------------------------------------|-------------------------------------|
| <b>Company:</b>  | Parallel Petroleum Corp.       | <b>Local Co-ordinate Reference:</b> | Well Old Rosebud 1524-36 A State #1 |
| <b>Project:</b>  | Chaves County                  | <b>TVD Reference:</b>               | EST RKB @ 3504.00ft                 |
| <b>Site:</b>     | S/2 Sec., 36 T-15-S, R-24-E    | <b>MD Reference:</b>                | EST RKB @ 3504.00ft                 |
| <b>Well:</b>     | Old Rosebud 1524-36 A State #1 | <b>North Reference:</b>             | Grid                                |
| <b>Wellbore:</b> | Original Hole                  | <b>Survey Calculation Method:</b>   | Minimum Curvature                   |
| <b>Design:</b>   | Plan #1                        | <b>Database:</b>                    | EDM 2003.16 Single User Db          |

|                    |                                      |                      |                |
|--------------------|--------------------------------------|----------------------|----------------|
| <b>Project</b>     | Chaves County, New Mexico            |                      |                |
| <b>Map System:</b> | US State Plane 1927 (Exact solution) | <b>System Datum:</b> | Mean Sea Level |
| <b>Geo Datum:</b>  | NAD 1927 (NADCON CONUS)              |                      |                |
| <b>Map Zone:</b>   | New Mexico East 3001                 |                      |                |

|                              |                             |                          |                   |
|------------------------------|-----------------------------|--------------------------|-------------------|
| <b>Site</b>                  | S/2 Sec., 36 T-15-S, R-24-E |                          |                   |
| <b>Site Position:</b>        |                             | <b>Northing:</b>         | 714,792.000 ft    |
| <b>From:</b>                 | Map                         | <b>Easting:</b>          | 451,736.600 ft    |
| <b>Position Uncertainty:</b> | 0.00 ft                     | <b>Slot Radius:</b>      | "                 |
|                              |                             | <b>Latitude:</b>         | 32° 57' 53.769 N  |
|                              |                             | <b>Longitude:</b>        | 104° 29' 26.500 W |
|                              |                             | <b>Grid Convergence:</b> | -0.09 °           |

|                             |                                |         |                            |
|-----------------------------|--------------------------------|---------|----------------------------|
| <b>Well</b>                 | Old Rosebud 1524-36 A State #1 |         |                            |
| <b>Well Position</b>        | <b>+N/-S</b>                   | 0.00 ft | <b>Northing:</b>           |
|                             | <b>+E/-W</b>                   | 0.00 ft | <b>Easting:</b>            |
| <b>Position Uncertainty</b> |                                | 0.00 ft | <b>Wellhead Elevation:</b> |
|                             |                                |         | ft                         |
|                             |                                |         | <b>Latitude:</b>           |
|                             |                                |         | 32° 57' 53.769 N           |
|                             |                                |         | <b>Longitude:</b>          |
|                             |                                |         | 104° 29' 26.500 W          |
|                             |                                |         | <b>Ground Level:</b>       |
|                             |                                |         | 3,504.00 ft                |

|                  |                   |                    |                       |
|------------------|-------------------|--------------------|-----------------------|
| <b>Wellbore</b>  | Original Hole     |                    |                       |
| <b>Magnetics</b> | <b>Model Name</b> | <b>Sample Date</b> | <b>Declination</b>    |
|                  | IGRF200510        | 1/30/2008          | (°)                   |
|                  |                   |                    | 8.45                  |
|                  |                   |                    | <b>Dip Angle</b>      |
|                  |                   |                    | (°)                   |
|                  |                   |                    | 60.80                 |
|                  |                   |                    | <b>Field Strength</b> |
|                  |                   |                    | (nT)                  |
|                  |                   |                    | 49,316                |

|                          |                         |              |                      |
|--------------------------|-------------------------|--------------|----------------------|
| <b>Design</b>            | Plan #1                 |              |                      |
| <b>Audit Notes:</b>      |                         |              |                      |
| <b>Version:</b>          | <b>Phase:</b>           | PLAN         | <b>Tie On Depth:</b> |
|                          |                         |              | 0.00                 |
| <b>Vertical Section:</b> | <b>Depth From (TVD)</b> | <b>+N/-S</b> | <b>+E/-W</b>         |
|                          | (ft)                    | (ft)         | (ft)                 |
|                          | 0.00                    | 0.00         | 0.00                 |
|                          |                         |              | <b>Direction</b>     |
|                          |                         |              | (°)                  |
|                          |                         |              | 275.91               |

|                            |                 |                          |                    |
|----------------------------|-----------------|--------------------------|--------------------|
| <b>Survey Tool Program</b> | Date: 1/30/2008 |                          |                    |
| <b>From</b>                | <b>To</b>       | <b>Survey (Wellbore)</b> | <b>Tool Name</b>   |
| (ft)                       | (ft)            |                          |                    |
| 0.00                       | 9,147.52        | Plan #1 (Original Hole)  | MWD                |
|                            |                 |                          | <b>Description</b> |
|                            |                 |                          | MWD - Standard     |

# WHS

## Pathfinder Survey Report

|                  |                                |                                     |                                     |
|------------------|--------------------------------|-------------------------------------|-------------------------------------|
| <b>Company:</b>  | Parallel Petroleum Corp.       | <b>Local Co-ordinate Reference:</b> | Well Old Rosebud 1524-36 A State #1 |
| <b>Project:</b>  | Chaves County                  | <b>TVD Reference:</b>               | EST RKB @ 3504.00ft                 |
| <b>Site:</b>     | S/2 Sec., 36 T-15-S, R-24-E    | <b>MD Reference:</b>                | EST RKB @ 3504.00ft                 |
| <b>Well:</b>     | Old Rosebud 1524-36 A State #1 | <b>North Reference:</b>             | Grid                                |
| <b>Wellbore:</b> | Original Hole                  | <b>Survey Calculation Method:</b>   | Minimum Curvature                   |
| <b>Design:</b>   | Plan #1                        | <b>Database:</b>                    | EDM 2003.16 Single User Db          |

| Planned Survey |            |            |             |               |             |             |                |                   |              |  |
|----------------|------------|------------|-------------|---------------|-------------|-------------|----------------|-------------------|--------------|--|
| MD<br>(ft)     | Inc<br>(°) | Azi<br>(°) | TVD<br>(ft) | TVDSS<br>(ft) | N/S<br>(ft) | E/W<br>(ft) | V. Sec<br>(ft) | DLeg<br>(°/100ft) | TFace<br>(°) |  |
| 0.00           | 0.00       | 0.00       | 0.00        | -3,504.00     | 0.00        | 0.00        | 0.00           | 0.00              | 0.00         |  |
| 100.00         | 0.00       | 0.00       | 100.00      | -3,404.00     | 0.00        | 0.00        | 0.00           | 0.00              | 0.00         |  |
| 200.00         | 0.00       | 0.00       | 200.00      | -3,304.00     | 0.00        | 0.00        | 0.00           | 0.00              | 0.00         |  |
| 300.00         | 0.00       | 0.00       | 300.00      | -3,204.00     | 0.00        | 0.00        | 0.00           | 0.00              | 0.00         |  |
| 400.00         | 0.00       | 0.00       | 400.00      | -3,104.00     | 0.00        | 0.00        | 0.00           | 0.00              | 0.00         |  |
| 500.00         | 0.00       | 0.00       | 500.00      | -3,004.00     | 0.00        | 0.00        | 0.00           | 0.00              | 0.00         |  |
| 600.00         | 0.00       | 0.00       | 600.00      | -2,904.00     | 0.00        | 0.00        | 0.00           | 0.00              | 0.00         |  |
| 700.00         | 0.00       | 0.00       | 700.00      | -2,804.00     | 0.00        | 0.00        | 0.00           | 0.00              | 0.00         |  |
| 800.00         | 0.00       | 0.00       | 800.00      | -2,704.00     | 0.00        | 0.00        | 0.00           | 0.00              | 0.00         |  |
| 900.00         | 0.00       | 0.00       | 900.00      | -2,604.00     | 0.00        | 0.00        | 0.00           | 0.00              | 0.00         |  |
| 1,000.00       | 0.00       | 0.00       | 1,000.00    | -2,504.00     | 0.00        | 0.00        | 0.00           | 0.00              | 0.00         |  |
| 1,100.00       | 0.00       | 0.00       | 1,100.00    | -2,404.00     | 0.00        | 0.00        | 0.00           | 0.00              | 0.00         |  |
| 1,200.00       | 0.00       | 0.00       | 1,200.00    | -2,304.00     | 0.00        | 0.00        | 0.00           | 0.00              | 0.00         |  |
| 1,300.00       | 0.00       | 0.00       | 1,300.00    | -2,204.00     | 0.00        | 0.00        | 0.00           | 0.00              | 0.00         |  |
| 1,400.00       | 0.00       | 0.00       | 1,400.00    | -2,104.00     | 0.00        | 0.00        | 0.00           | 0.00              | 0.00         |  |
| 1,500.00       | 0.00       | 0.00       | 1,500.00    | -2,004.00     | 0.00        | 0.00        | 0.00           | 0.00              | 0.00         |  |
| 1,600.00       | 0.00       | 0.00       | 1,600.00    | -1,904.00     | 0.00        | 0.00        | 0.00           | 0.00              | 0.00         |  |
| 1,700.00       | 0.00       | 0.00       | 1,700.00    | -1,804.00     | 0.00        | 0.00        | 0.00           | 0.00              | 0.00         |  |
| 1,800.00       | 0.00       | 0.00       | 1,800.00    | -1,704.00     | 0.00        | 0.00        | 0.00           | 0.00              | 0.00         |  |
| 1,900.00       | 0.00       | 0.00       | 1,900.00    | -1,604.00     | 0.00        | 0.00        | 0.00           | 0.00              | 0.00         |  |
| 2,000.00       | 0.00       | 0.00       | 2,000.00    | -1,504.00     | 0.00        | 0.00        | 0.00           | 0.00              | 0.00         |  |
| 2,100.00       | 0.00       | 0.00       | 2,100.00    | -1,404.00     | 0.00        | 0.00        | 0.00           | 0.00              | 0.00         |  |
| 2,200.00       | 0.00       | 0.00       | 2,200.00    | -1,304.00     | 0.00        | 0.00        | 0.00           | 0.00              | 0.00         |  |
| 2,300.00       | 0.00       | 0.00       | 2,300.00    | -1,204.00     | 0.00        | 0.00        | 0.00           | 0.00              | 0.00         |  |
| 2,400.00       | 0.00       | 0.00       | 2,400.00    | -1,104.00     | 0.00        | 0.00        | 0.00           | 0.00              | 0.00         |  |
| 2,500.00       | 0.00       | 0.00       | 2,500.00    | -1,004.00     | 0.00        | 0.00        | 0.00           | 0.00              | 0.00         |  |
| 2,600.00       | 0.00       | 0.00       | 2,600.00    | -904.00       | 0.00        | 0.00        | 0.00           | 0.00              | 0.00         |  |

# WHS

## Pathfinder Survey Report

|                  |                                |                                     |                                     |
|------------------|--------------------------------|-------------------------------------|-------------------------------------|
| <b>Company:</b>  | Parallel Petroleum Corp.       | <b>Local Co-ordinate Reference:</b> | Well Old Rosebud 1524-36 A State #1 |
| <b>Project:</b>  | Chaves County                  | <b>TVD Reference:</b>               | EST RKB @ 3504.00ft                 |
| <b>Site:</b>     | S/2 Sec., 36 T-15-S, R-24-E    | <b>MD Reference:</b>                | EST RKB @ 3504.00ft                 |
| <b>Well:</b>     | Old Rosebud 1524-36 A State #1 | <b>North Reference:</b>             | Grid                                |
| <b>Wellbore:</b> | Original Hole                  | <b>Survey Calculation Method:</b>   | Minimum Curvature                   |
| <b>Design:</b>   | Plan #1                        | <b>Database:</b>                    | EDM 2003.16 Single User Db          |

| Planned Survey |            |            |             |               |             |             |                |                   |              |      |
|----------------|------------|------------|-------------|---------------|-------------|-------------|----------------|-------------------|--------------|------|
| MD<br>(ft)     | Inc<br>(°) | Azi<br>(°) | TVD<br>(ft) | TVDSS<br>(ft) | N/S<br>(ft) | E/W<br>(ft) | V. Sec<br>(ft) | DLeg<br>(°/100ft) | TFace<br>(°) |      |
| 2,700.00       | 0.00       | 0.00       | 2,700.00    | -804.00       | 0.00        | 0.00        | 0.00           | 0.00              | 0.00         | 0.00 |
| 2,800.00       | 0.00       | 0.00       | 2,800.00    | -704.00       | 0.00        | 0.00        | 0.00           | 0.00              | 0.00         | 0.00 |
| 2,900.00       | 0.00       | 0.00       | 2,900.00    | -604.00       | 0.00        | 0.00        | 0.00           | 0.00              | 0.00         | 0.00 |
| 3,000.00       | 0.00       | 0.00       | 3,000.00    | -504.00       | 0.00        | 0.00        | 0.00           | 0.00              | 0.00         | 0.00 |
| 3,100.00       | 0.00       | 0.00       | 3,100.00    | -404.00       | 0.00        | 0.00        | 0.00           | 0.00              | 0.00         | 0.00 |
| 3,200.00       | 0.00       | 0.00       | 3,200.00    | -304.00       | 0.00        | 0.00        | 0.00           | 0.00              | 0.00         | 0.00 |
| 3,300.00       | 0.00       | 0.00       | 3,300.00    | -204.00       | 0.00        | 0.00        | 0.00           | 0.00              | 0.00         | 0.00 |
| 3,400.00       | 0.00       | 0.00       | 3,400.00    | -104.00       | 0.00        | 0.00        | 0.00           | 0.00              | 0.00         | 0.00 |
| 3,500.00       | 0.00       | 0.00       | 3,500.00    | -4.00         | 0.00        | 0.00        | 0.00           | 0.00              | 0.00         | 0.00 |
| 3,600.00       | 0.00       | 0.00       | 3,600.00    | 96.00         | 0.00        | 0.00        | 0.00           | 0.00              | 0.00         | 0.00 |
| 3,700.00       | 0.00       | 0.00       | 3,700.00    | 196.00        | 0.00        | 0.00        | 0.00           | 0.00              | 0.00         | 0.00 |
| 3,800.00       | 0.00       | 0.00       | 3,800.00    | 296.00        | 0.00        | 0.00        | 0.00           | 0.00              | 0.00         | 0.00 |
| 3,900.00       | 0.00       | 0.00       | 3,900.00    | 396.00        | 0.00        | 0.00        | 0.00           | 0.00              | 0.00         | 0.00 |
| 4,000.00       | 0.00       | 0.00       | 4,000.00    | 496.00        | 0.00        | 0.00        | 0.00           | 0.00              | 0.00         | 0.00 |
| 4,050.00       | 0.00       | 0.00       | 4,050.00    | 546.00        | 0.00        | 0.00        | 0.00           | 0.00              | 0.00         | 0.00 |
| 4,100.00       | 5.07       | 348.22     | 4,099.93    | 595.93        | 2.16        | -0.45       | 0.67           | 10.14             | 348.22       |      |
| 4,150.00       | 10.14      | 348.22     | 4,149.48    | 645.48        | 8.64        | -1.80       | 2.68           | 10.14             | 0.00         |      |
| 4,200.00       | 15.21      | 348.22     | 4,198.24    | 694.24        | 19.38       | -4.04       | 6.01           | 10.14             | 0.00         |      |
| 4,250.00       | 20.28      | 348.22     | 4,245.85    | 741.85        | 34.29       | -7.15       | 10.64          | 10.14             | 0.00         |      |
| 4,300.00       | 25.35      | 348.22     | 4,291.92    | 787.92        | 53.27       | -11.10      | 16.53          | 10.14             | 0.00         |      |
| 4,350.00       | 30.42      | 348.22     | 4,336.10    | 832.10        | 76.16       | -15.88      | 23.63          | 10.14             | 0.00         |      |
| 4,398.09       | 35.30      | 348.22     | 4,376.48    | 872.48        | 101.70      | -21.20      | 31.56          | 10.14             | 0.00         |      |
| 4,400.00       | 35.30      | 348.22     | 4,378.04    | 874.04        | 102.78      | -21.42      | 31.89          | 0.00              | 0.00         |      |
| 4,411.53       | 35.30      | 348.22     | 4,387.45    | 883.45        | 109.30      | -22.78      | 33.91          | 0.00              | 0.00         |      |
| 4,425.00       | 35.64      | 345.61     | 4,398.42    | 894.42        | 116.91      | -24.55      | 36.46          | 11.54             | -78.61       |      |
| 4,450.00       | 36.40      | 340.88     | 4,418.64    | 914.64        | 130.98      | -28.79      | 42.12          | 11.54             | -76.48       |      |
| 4,475.00       | 37.35      | 336.34     | 4,438.65    | 934.65        | 144.94      | -34.27      | 49.00          | 11.54             | -72.66       |      |

# WHS

## Pathfinder Survey Report

|                  |                                |                                     |                                     |
|------------------|--------------------------------|-------------------------------------|-------------------------------------|
| <b>Company:</b>  | Parallel Petroleum Corp.       | <b>Local Co-ordinate Reference:</b> | Well Old Rosebud 1524-36 A State #1 |
| <b>Project:</b>  | Chaves County                  | <b>TVD Reference:</b>               | EST RKB @ 3504.00ft                 |
| <b>Site:</b>     | S/2 Sec., 36 T-15-S, R-24-E    | <b>MD Reference:</b>                | EST RKB @ 3504.00ft                 |
| <b>Well:</b>     | Old Rosebud 1524-36 A State #1 | <b>North Reference:</b>             | Grid                                |
| <b>Wellbore:</b> | Original Hole                  | <b>Survey Calculation Method:</b>   | Minimum Curvature                   |
| <b>Design:</b>   | Plan #1                        | <b>Database:</b>                    | EDM 2003.16 Single User Db          |

| Planned Survey |            |            |             |               |             |             |                |                   |              |
|----------------|------------|------------|-------------|---------------|-------------|-------------|----------------|-------------------|--------------|
| MD<br>(ft)     | Inc<br>(°) | Azi<br>(°) | TVD<br>(ft) | TVDSS<br>(ft) | N/S<br>(ft) | E/W<br>(ft) | V. Sec<br>(ft) | DLeg<br>(°/100ft) | TFace<br>(°) |
| 4,500.00       | 38.46      | 332.01     | 4,458.37    | 954.37        | 158.75      | -40.96      | 57.08          | 11.54             | -69.03       |
| 4,525.00       | 39.73      | 327.90     | 4,477.78    | 973.78        | 172.39      | -48.86      | 66.34          | 11.54             | -65.61       |
| 4,550.00       | 41.13      | 324.01     | 4,496.81    | 992.81        | 185.81      | -57.94      | 76.75          | 11.54             | -62.42       |
| 4,575.00       | 42.66      | 320.35     | 4,515.42    | 1,011.42      | 198.99      | -68.18      | 88.30          | 11.54             | -59.46       |
| 4,600.00       | 44.29      | 316.89     | 4,533.57    | 1,029.57      | 211.89      | -79.55      | 100.93         | 11.54             | -56.73       |
| 4,625.00       | 46.02      | 313.64     | 4,551.20    | 1,047.20      | 224.47      | -92.03      | 114.64         | 11.54             | -54.22       |
| 4,650.00       | 47.84      | 310.58     | 4,568.27    | 1,064.27      | 236.71      | -105.58     | 129.38         | 11.54             | -51.93       |
| 4,675.00       | 49.74      | 307.69     | 4,584.74    | 1,080.74      | 248.57      | -120.17     | 145.11         | 11.54             | -49.83       |
| 4,700.00       | 51.71      | 304.96     | 4,600.57    | 1,096.57      | 260.03      | -135.76     | 161.80         | 11.54             | -47.93       |
| 4,725.00       | 53.73      | 302.38     | 4,615.72    | 1,111.72      | 271.05      | -152.31     | 179.40         | 11.54             | -46.20       |
| 4,750.00       | 55.81      | 299.93     | 4,630.14    | 1,126.14      | 281.61      | -169.79     | 197.87         | 11.54             | -44.64       |
| 4,775.00       | 57.93      | 297.60     | 4,643.80    | 1,139.80      | 291.68      | -188.14     | 217.16         | 11.54             | -43.23       |
| 4,800.00       | 60.09      | 295.38     | 4,656.68    | 1,152.68      | 301.23      | -207.32     | 237.22         | 11.54             | -41.95       |
| 4,825.00       | 62.29      | 293.25     | 4,668.72    | 1,164.72      | 310.25      | -227.28     | 258.01         | 11.54             | -40.81       |
| 4,850.00       | 64.53      | 291.21     | 4,679.91    | 1,175.91      | 318.70      | -247.97     | 279.46         | 11.54             | -39.78       |
| 4,875.00       | 66.78      | 289.24     | 4,690.22    | 1,186.22      | 326.57      | -269.34     | 301.53         | 11.54             | -38.87       |
| 4,900.00       | 69.07      | 287.34     | 4,699.61    | 1,195.61      | 333.83      | -291.34     | 324.15         | 11.54             | -38.06       |
| 4,925.00       | 71.37      | 285.49     | 4,708.08    | 1,204.08      | 340.48      | -313.90     | 347.28         | 11.54             | -37.34       |
| 4,950.00       | 73.69      | 283.69     | 4,715.58    | 1,211.58      | 346.48      | -336.98     | 370.85         | 11.54             | -36.72       |
| 4,975.00       | 76.02      | 281.94     | 4,722.11    | 1,218.11      | 351.83      | -360.51     | 394.81         | 11.54             | -36.18       |
| 5,000.00       | 78.37      | 280.22     | 4,727.65    | 1,223.65      | 356.51      | -384.43     | 419.08         | 11.54             | -35.72       |
| 5,025.00       | 80.73      | 278.53     | 4,732.19    | 1,228.19      | 360.52      | -408.68     | 443.62         | 11.54             | -35.34       |
| 5,050.00       | 83.09      | 276.87     | 4,735.71    | 1,231.71      | 363.83      | -433.21     | 468.36         | 11.54             | -35.03       |
| 5,075.00       | 85.46      | 275.21     | 4,738.20    | 1,234.20      | 366.45      | -457.94     | 493.23         | 11.54             | -34.80       |
| 5,100.00       | 87.84      | 273.58     | 4,739.66    | 1,235.66      | 368.36      | -482.82     | 518.17         | 11.54             | -34.63       |
| 5,125.00       | 90.21      | 271.94     | 4,740.09    | 1,236.09      | 369.56      | -507.79     | 543.13         | 11.54             | -34.53       |
| 5,133.11       | 90.98      | 271.41     | 4,740.00    | 1,236.00      | 369.80      | -515.90     | 551.22         | 11.54             | -34.51       |

# WHS

## Pathfinder Survey Report

**Company:** Parallel Petroleum Corp.  
**Project:** Chaves County  
**Site:** S/2 Sec., 36 T-15-S, R-24-E  
**Well:** Old Rosebud 1524-36 A State #1  
**Wellbore:** Original Hole  
**Design:** Plan #1

**Local Co-ordinate Reference:**  
**TVD Reference:**  
**MD Reference:**  
**North Reference:**  
**Survey Calculation Method:**  
**Database:**

Well Old Rosebud 1524-36 A State #1  
 EST RKB @ 3504.00ft  
 EST RKB @ 3504.00ft  
 Grid  
 Minimum Curvature  
 EDM 2003.16 Single User Db

### Planned Survey

| MD<br>(ft) | Inc<br>(°) | Azi<br>(°) | TVD<br>(ft) | TVDSS<br>(ft) | N/S<br>(ft) | E/W<br>(ft) | V. Sec<br>(ft) | DLeg<br>(°/100ft) | TFace<br>(°) |
|------------|------------|------------|-------------|---------------|-------------|-------------|----------------|-------------------|--------------|
| 5,200.00   | 90.98      | 271.41     | 4,738.85    | 1,234.85      | 371.45      | -582.76     | 617.89         | 0.00              | 0.00         |
| 5,300.00   | 90.98      | 271.41     | 4,737.13    | 1,233.13      | 373.91      | -682.71     | 717.57         | 0.00              | 0.00         |
| 5,333.11   | 90.98      | 271.41     | 4,736.56    | 1,232.56      | 374.72      | -715.81     | 750.58         | 0.00              | 0.00         |
| 5,400.00   | 90.98      | 271.41     | 4,735.41    | 1,231.41      | 376.37      | -782.66     | 817.25         | 0.00              | 0.00         |
| 5,500.00   | 90.98      | 271.41     | 4,733.69    | 1,229.69      | 378.83      | -882.62     | 916.92         | 0.00              | 0.00         |
| 5,600.00   | 90.98      | 271.41     | 4,731.98    | 1,227.98      | 381.29      | -982.57     | 1,016.60       | 0.00              | 0.00         |
| 5,700.00   | 90.98      | 271.41     | 4,730.26    | 1,226.26      | 383.75      | -1,082.53   | 1,116.28       | 0.00              | 0.00         |
| 5,800.00   | 90.98      | 271.41     | 4,728.54    | 1,224.54      | 386.21      | -1,182.48   | 1,215.96       | 0.00              | 0.00         |
| 5,900.00   | 90.98      | 271.41     | 4,726.82    | 1,222.82      | 388.67      | -1,282.44   | 1,315.63       | 0.00              | 0.00         |
| 6,000.00   | 90.98      | 271.41     | 4,725.10    | 1,221.10      | 391.14      | -1,382.39   | 1,415.31       | 0.00              | 0.00         |
| 6,100.00   | 90.98      | 271.41     | 4,723.38    | 1,219.38      | 393.60      | -1,482.35   | 1,514.99       | 0.00              | 0.00         |
| 6,200.00   | 90.98      | 271.41     | 4,721.66    | 1,217.66      | 396.06      | -1,582.30   | 1,614.67       | 0.00              | 0.00         |
| 6,300.00   | 90.98      | 271.41     | 4,719.94    | 1,215.94      | 398.52      | -1,682.26   | 1,714.34       | 0.00              | 0.00         |
| 6,400.00   | 90.98      | 271.41     | 4,718.22    | 1,214.22      | 400.98      | -1,782.21   | 1,814.02       | 0.00              | 0.00         |
| 6,500.00   | 90.98      | 271.41     | 4,716.51    | 1,212.51      | 403.44      | -1,882.17   | 1,913.70       | 0.00              | 0.00         |
| 6,600.00   | 90.98      | 271.41     | 4,714.79    | 1,210.79      | 405.90      | -1,982.12   | 2,013.38       | 0.00              | 0.00         |
| 6,700.00   | 90.98      | 271.41     | 4,713.07    | 1,209.07      | 408.36      | -2,082.08   | 2,113.05       | 0.00              | 0.00         |
| 6,800.00   | 90.98      | 271.41     | 4,711.35    | 1,207.35      | 410.82      | -2,182.03   | 2,212.73       | 0.00              | 0.00         |
| 6,900.00   | 90.98      | 271.41     | 4,709.63    | 1,205.63      | 413.29      | -2,281.99   | 2,312.41       | 0.00              | 0.00         |
| 7,000.00   | 90.98      | 271.41     | 4,707.91    | 1,203.91      | 415.75      | -2,381.94   | 2,412.08       | 0.00              | 0.00         |
| 7,100.00   | 90.98      | 271.41     | 4,706.19    | 1,202.19      | 418.21      | -2,481.90   | 2,511.76       | 0.00              | 0.00         |
| 7,200.00   | 90.98      | 271.41     | 4,704.47    | 1,200.47      | 420.67      | -2,581.85   | 2,611.44       | 0.00              | 0.00         |
| 7,300.00   | 90.98      | 271.41     | 4,702.76    | 1,198.76      | 423.13      | -2,681.81   | 2,711.12       | 0.00              | 0.00         |
| 7,400.00   | 90.98      | 271.41     | 4,701.04    | 1,197.04      | 425.59      | -2,781.76   | 2,810.79       | 0.00              | 0.00         |
| 7,500.00   | 90.98      | 271.41     | 4,699.32    | 1,195.32      | 428.05      | -2,881.72   | 2,910.47       | 0.00              | 0.00         |
| 7,600.00   | 90.98      | 271.41     | 4,697.60    | 1,193.60      | 430.51      | -2,981.67   | 3,010.15       | 0.00              | 0.00         |
| 7,700.00   | 90.98      | 271.41     | 4,695.88    | 1,191.88      | 432.97      | -3,081.63   | 3,109.83       | 0.00              | 0.00         |

# WHS

## Pathfinder Survey Report

|                  |                                |                                     |                                     |
|------------------|--------------------------------|-------------------------------------|-------------------------------------|
| <b>Company:</b>  | Parallel Petroleum Corp.       | <b>Local Co-ordinate Reference:</b> | Well Old Rosebud 1524-36 A State #1 |
| <b>Project:</b>  | Chaves County                  | <b>TVD Reference:</b>               | EST RKB @ 3504.00ft                 |
| <b>Site:</b>     | S/2 Sec., 36 T-15-S, R-24-E    | <b>MD Reference:</b>                | EST RKB @ 3504.00ft                 |
| <b>Well:</b>     | Old Rosebud 1524-36 A State #1 | <b>North Reference:</b>             | Grid                                |
| <b>Wellbore:</b> | Original Hole                  | <b>Survey Calculation Method:</b>   | Minimum Curvature                   |
| <b>Design:</b>   | Plan #1                        | <b>Database:</b>                    | EDM 2003.16 Single User Db          |

| Planned Survey |            |            |             |               |             |             |                |                   |              |  |
|----------------|------------|------------|-------------|---------------|-------------|-------------|----------------|-------------------|--------------|--|
| MD<br>(ft)     | Inc<br>(°) | Azi<br>(°) | TVD<br>(ft) | TVDSS<br>(ft) | N/S<br>(ft) | E/W<br>(ft) | V. Sec<br>(ft) | DLeg<br>(°/100ft) | TFace<br>(°) |  |
| 7,800.00       | 90.98      | 271.41     | 4,694.16    | 1,190.16      | 435.44      | -3,181.58   | 3,209.50       | 0.00              | 0.00         |  |
| 7,900.00       | 90.98      | 271.41     | 4,692.44    | 1,188.44      | 437.90      | -3,281.54   | 3,309.18       | 0.00              | 0.00         |  |
| 8,000.00       | 90.98      | 271.41     | 4,690.72    | 1,186.72      | 440.36      | -3,381.49   | 3,408.86       | 0.00              | 0.00         |  |
| 8,100.00       | 90.98      | 271.41     | 4,689.00    | 1,185.00      | 442.82      | -3,481.45   | 3,508.54       | 0.00              | 0.00         |  |
| 8,200.00       | 90.98      | 271.41     | 4,687.29    | 1,183.29      | 445.28      | -3,581.40   | 3,608.21       | 0.00              | 0.00         |  |
| 8,300.00       | 90.98      | 271.41     | 4,685.57    | 1,181.57      | 447.74      | -3,681.36   | 3,707.89       | 0.00              | 0.00         |  |
| 8,400.00       | 90.98      | 271.41     | 4,683.85    | 1,179.85      | 450.20      | -3,781.31   | 3,807.57       | 0.00              | 0.00         |  |
| 8,500.00       | 90.98      | 271.41     | 4,682.13    | 1,178.13      | 452.66      | -3,881.27   | 3,907.25       | 0.00              | 0.00         |  |
| 8,600.00       | 90.98      | 271.41     | 4,680.41    | 1,176.41      | 455.12      | -3,981.22   | 4,006.92       | 0.00              | 0.00         |  |
| 8,700.00       | 90.98      | 271.41     | 4,678.69    | 1,174.69      | 457.59      | -4,081.18   | 4,106.60       | 0.00              | 0.00         |  |
| 8,800.00       | 90.98      | 271.41     | 4,676.97    | 1,172.97      | 460.05      | -4,181.13   | 4,206.28       | 0.00              | 0.00         |  |
| 8,900.00       | 90.98      | 271.41     | 4,675.25    | 1,171.25      | 462.51      | -4,281.09   | 4,305.95       | 0.00              | 0.00         |  |
| 9,000.00       | 90.98      | 271.41     | 4,673.54    | 1,169.54      | 464.97      | -4,381.04   | 4,405.63       | 0.00              | 0.00         |  |
| 9,100.00       | 90.98      | 271.41     | 4,671.82    | 1,167.82      | 467.43      | -4,481.00   | 4,505.31       | 0.00              | 0.00         |  |
| 9,147.52       | 90.98      | 271.41     | 4,671.00    | 1,167.00      | 468.60      | -4,528.50   | 4,552.68       | 0.00              | 0.00         |  |

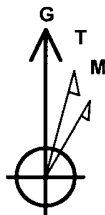
# WHS

## Pathfinder Survey Report

|                  |                                |                                     |                                     |
|------------------|--------------------------------|-------------------------------------|-------------------------------------|
| <b>Company:</b>  | Parallel Petroleum Corp.       | <b>Local Co-ordinate Reference:</b> | Well Old Rosebud 1524-36 A State #1 |
| <b>Project:</b>  | Chaves County                  | <b>TVD Reference:</b>               | EST RKB @ 3504.00ft                 |
| <b>Site:</b>     | S/2 Sec., 36 T-15-S, R-24-E    | <b>MD Reference:</b>                | EST RKB @ 3504.00ft                 |
| <b>Well:</b>     | Old Rosebud 1524-36 A State #1 | <b>North Reference:</b>             | Grid                                |
| <b>Wellbore:</b> | Original Hole                  | <b>Survey Calculation Method:</b>   | Minimum Curvature                   |
| <b>Design:</b>   | Plan #1                        | <b>Database:</b>                    | EDM 2003.16 Single User Db          |

| Targets                                     |                  |                 |             |               |               |                  |                 |                  |                   |
|---------------------------------------------|------------------|-----------------|-------------|---------------|---------------|------------------|-----------------|------------------|-------------------|
| Target Name<br>- hit/miss target<br>- Shape | Dip Angle<br>(°) | Dip Dir.<br>(°) | TVD<br>(ft) | +N/-S<br>(ft) | +E/-W<br>(ft) | Northing<br>(ft) | Easting<br>(ft) | Latitude         | Longitude         |
| PBHL<br>- plan hits target<br>- Point       | 0.00             | 0.00            | 4,671.00    | 468.60        | -4,528.50     | 715,260.600      | 447,208.100     | 32° 57' 58.336 N | 104° 30' 19.663 W |
| PP<br>- plan hits target<br>- Point         | 0.00             | 0.00            | 4,740.00    | 369.80        | -515.90       | 715,161.800      | 451,220.700     | 32° 57' 57.420 N | 104° 29' 32.562 W |

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



Azimuths to Grid North  
True North: 0.09°  
Magnetic North: 8.54°

Magnetic Field  
Strength: 49315.9snT  
Dip Angle: 60.80°  
Date: 1/30/2008  
Model: IGRF200510

### WELL DETAILS- Old Rosebud 1524-36 A State #1

Ground Elevation:: 3504.00  
RKB Elevation EST RKB @ 3504.00ft  
Rig Name:

| +N/-S | +E/-W | Northing   | Easting    | Latitude         | Longitude         | Slot |
|-------|-------|------------|------------|------------------|-------------------|------|
| 0.00  | 0.00  | 714792.000 | 451736.600 | 32° 57' 53.769 N | 104° 29' 26.500 W |      |

Project: Chaves County  
Site: S/2 Sec., 36 T-15-S, R-24-E  
Well: Old Rosebud 1524-36 A State #1  
Wellbore: Original Hole

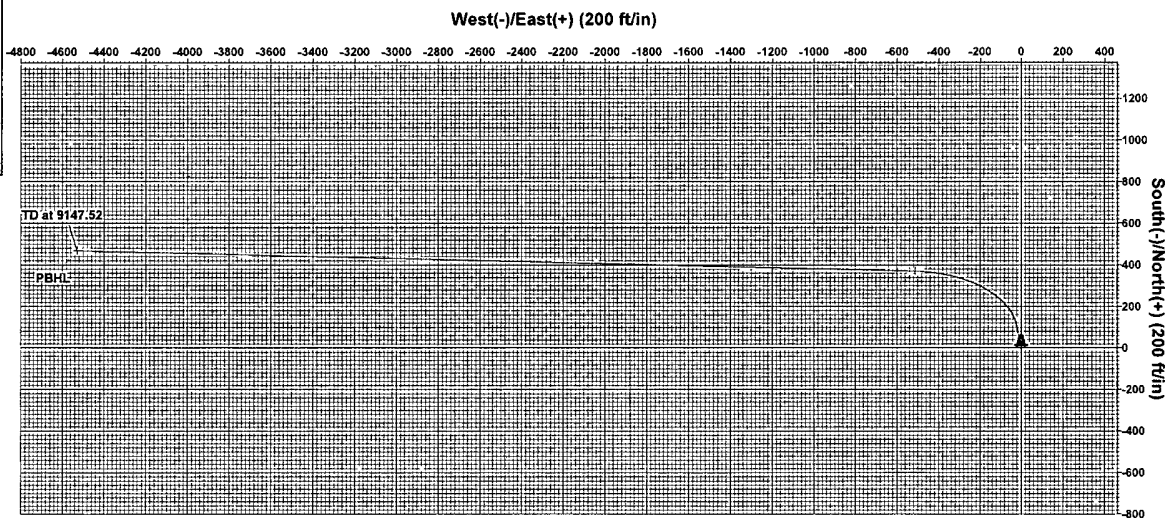
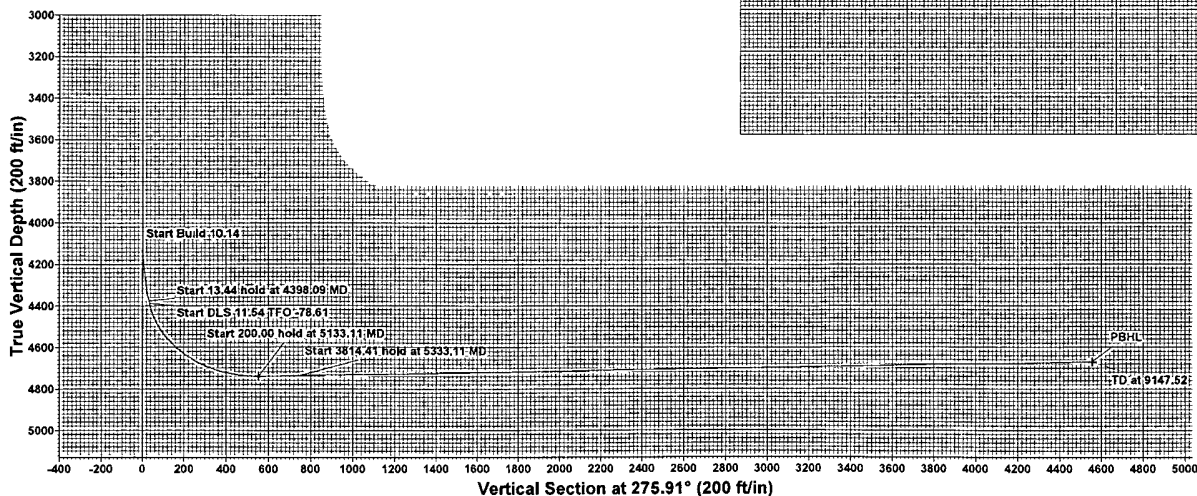
Plan: Plan #1 (Old Rosebud 1524-36 A State #1/Original Hole)

### 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    |        |
| 2   | 4050.00 | 0.00  | 0.00   | 4050.00 | 0.00   | 0.00     | 0.00  | 0.00   | 0.00    |        |
| 3   | 4398.09 | 35.30 | 348.22 | 4376.48 | 101.70 | -21.20   | 10.14 | 348.22 | 31.56   |        |
| 4   | 4411.53 | 35.30 | 348.22 | 4387.45 | 109.30 | -22.78   | 0.00  | 0.00   | 33.91   |        |
| 5   | 5133.11 | 90.98 | 271.41 | 4740.00 | 369.80 | -515.90  | 11.54 | -78.61 | 551.22  | PP     |
| 6   | 5333.11 | 90.98 | 271.41 | 4736.56 | 374.72 | -715.81  | 0.00  | 0.00   | 750.58  |        |
| 7   | 9147.52 | 90.98 | 271.41 | 4671.00 | 468.60 | -4528.50 | 0.00  | 0.00   | 4552.68 | PBHL   |

### WELLBORE TARGET DETAILS (MAP CO-ORDINATES)

| Name | TVD     | +N/-S  | +E/-W    | Northing   | Easting    | Shape |
|------|---------|--------|----------|------------|------------|-------|
| PBHL | 4671.00 | 468.60 | -4528.50 | 715260.600 | 447208.100 | Point |
| PP   | 4740.00 | 369.80 | -515.90  | 715161.800 | 451220.700 | Point |



PROJECT DETAILS- Chaves County  
Geodetic System: US State Plane 1927 (Exact solution)  
Datum: NAD 1927 (NADCON CONUS)  
Ellipsoid: Clarke 1866  
Zone: New Mexico East 3001

System Datum: Mean Sea Level  
Local North: Grd

Plan: Plan #1 (Old Rosebud 1524-36 A State #1/Original Hole)

Created By: Mark Freeman Date: 10/09, January 30, 2008

Checked: \_\_\_\_\_ Date: \_\_\_\_\_