

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

OCD-ARTESIA

MAR 10 2009

FORM APPROVED  
OMB No. 1004-0135  
Expires July 31, 1996

**SUNDRY NOTICES AND REPORTS ON WELLS**  
**Do not use this form for proposals to drill or to re-enter an**  
**abandoned well. Use form 3160-3 (APD) for such proposals.**

**SUBMIT IN TRIPLICATE - Other instructions on reverse side**

|                                                                                                                                                           |  |                                                                                             |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------|--|---------------------------------------------------------------------------------------------|
| 1. Type of Well<br><input checked="" type="checkbox"/> Oil Well <input type="checkbox"/> Gas Well <input type="checkbox"/> Other                          |  | 5. Lease Serial No.<br><b>NM-19423</b>                                                      |
| 2. Name of Operator<br><b>Cimarex Energy Co. of Colorado</b>                                                                                              |  | 6. If Indian, Allottee or Tribe Name                                                        |
| 3a. Address<br><b>PO Box 140907; Irving, TX 75014-0907</b>                                                                                                |  | 7. If Unit or CA/Agreement, Name and/or No                                                  |
| 3b. Phone No. (include area code)<br><b>972-401-3111</b>                                                                                                  |  | 8. Well Name and No.<br><b>White City 14 Federal No. 7</b>                                  |
| 4. Location of Well (Footage, Sec., T., R., M., or Survey Description)<br><b>SHL 330 FNL &amp; 660 FEL 14-25S-26E</b><br><b>BHL 330 FSL &amp; 660 FEL</b> |  | 9. API Well No.<br><b>30-015- 36919</b>                                                     |
|                                                                                                                                                           |  | 10. Field and Pool, or Exploratory Area<br><b>Suphale; Cottonwood Draw; Delaware, North</b> |
|                                                                                                                                                           |  | 11. County or Parish, State<br><b>Eddy County, NM</b>                                       |

**12. CHECK APPROPRIATE BOX(ES) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA**

| TYPE OF SUBMISSION                                   | TYPE OF ACTION                                |                                           |                                                    |                                                             |
|------------------------------------------------------|-----------------------------------------------|-------------------------------------------|----------------------------------------------------|-------------------------------------------------------------|
| <input checked="" type="checkbox"/> Notice of Intent | <input type="checkbox"/> Acidize              | <input type="checkbox"/> Deepen           | <input type="checkbox"/> Production (Start/Resume) | <input type="checkbox"/> Water Shut-Off                     |
| <input type="checkbox"/> Subsequent Report           | <input type="checkbox"/> Alter Casing         | <input type="checkbox"/> Fracture Treat   | <input type="checkbox"/> Reclamation               | <input type="checkbox"/> Well Integrity                     |
| <input type="checkbox"/> Final Abandonment Notice    | <input type="checkbox"/> Casing Repair        | <input type="checkbox"/> New Construction | <input type="checkbox"/> Recomplete                | <input checked="" type="checkbox"/> Other <b>Change BHL</b> |
|                                                      | <input type="checkbox"/> Change Plans         | <input type="checkbox"/> Plug and Abandon | <input type="checkbox"/> Temporarily Abandon       |                                                             |
|                                                      | <input type="checkbox"/> Convert to Injection | <input type="checkbox"/> Plug Back        | <input type="checkbox"/> Water Disposal            |                                                             |

13. Describe Proposed or Completed Operation (clearly state all pertinent details, included estimated starting date of any proposed work and approximate duration thereof. If the proposal is to deepen directionally or recompleat horizontally, give subsurface locations and measured and true vertical depths of all pertinent markers and zones. Attach the bond under which the work will be performed or provide the Bond No on file with BLM/BIA. Required subsequent reports shall be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompleat in a new interval, a Form 3160-4 shall be filed once testing has been completed. Final Abandonment Notices shall be filed only after all requirements, including reclamation, have been completed, and the operator has determined that the site is ready for final inspection )

In order to gain structural elevation in the target zone, Cimarex proposes to change the BHL of this well as shown below.

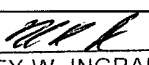
Previous Location

SHL 330 FNL & 660 FEL  
BHL 330 FSL & 660 FEL  
14-25S-26E

New Location

SHL 330 FNL & 660 FEL  
**BHL 330 FSL & 990 FEL**  
14-25S-26E

Please see attached revised C-102, revised preliminary directional plan, and revised drilling plan.

|                                                                                                                                                                                                                                                            |       |                                                                                                                                                                                           |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 14. I hereby certify that the foregoing is true and correct<br>Name (Printed/Typed)<br><b>Natalie Krueger</b>                                                                                                                                              |       | Title<br><b>Regulatory Analyst</b>                                                                                                                                                        |
| Signature<br>                                                                                                                                                            |       | Date<br><b>March 4, 2009</b>                                                                                                                                                              |
| <b>THIS SPACE FOR FEDERAL OR STATE OFFICE USE</b>                                                                                                                                                                                                          |       |                                                                                                                                                                                           |
| Approved by                                                                                                                                                                                                                                                | Title | <b>APPROVED</b><br><br><b>MAR 9 2009</b><br><br><b>WESLEY W. INGRAM</b><br><b>PETROLEUM ENGINEER</b> |
| Conditions of Approval, if any, are attached. Approval of this notice does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.  |       |                                                                                                                                                                                           |
| Title 18 U.S.C. Section 1001, makes it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction. |       |                                                                                                                                                                                           |

(Instructions on reverse)

Revised Drilling Plan - New Well Location

**White City 14 Federal No. 7**

Cimarex Energy Co. of Colorado

14-25S-26E

SHL 330 FNL & 660 FEL

BHL 330 FSL & 990 FEL

Eddy County, NM

**8. Proposed drilling Plan**

In 12¼" hole, set 8⅝" casing @ 440' and cement to surface. In 7⅝" hole, drill to 3400.' Run open hole logs. Set 5½" casing to 2725' and cross over to 2⅝" 2000 psi IJ fiberglass tubing to 3400.' Cement to surface.

Drill out of the bottom of the 5½" casing with a 4⅞" bit and through cement and fiberglass tubing to KOP @ 2786' and kick off to drill the lateral. The fiberglass tubing will effectively circulate cement to surface and plugs back the open hole.

**9. Mud Circulating System:**

| Depth            | Mud Wt     | Visc  | Fluid Loss | Type Mud                                                                        |
|------------------|------------|-------|------------|---------------------------------------------------------------------------------|
| 0' to 440'       | 8.4 - 8.6  | 30-32 | NC         | FW spud mud. Add FW to control weight & viscosity and paper to prevent seepage. |
| 440' to 3,400'   | 9.9 - 10.0 | 28-29 | NC         | Saturated Brine. Sweep as needed to clean hole.                                 |
| 2,786' to 7,562' | 9.5 - 9.8  | 28-30 | NC         | Cut brine. Sweep as needed to clean hole.                                       |

Sufficient mud materials will be kept on location at all times in order to combat lost circulation or unexpected kicks. In order to run DSTs, open hole logs, and casing, the viscosity and water loss may have to be adjusted in order to meet these needs.

**10. Casing Program:**

|                | Hole Size | Depth          | Casing OD | Weight     | Collar | Grade |
|----------------|-----------|----------------|-----------|------------|--------|-------|
| Surface        | 12¼"      | 0' to 440'     | New 8⅝"   | 24#        | STC    | J-55  |
| Production     | 7⅝"       | 0' to 2725'    | New 5½"   | 17#        | J-55   | LTC   |
| Fiberglass tbg | 7⅝"       | 2725' to 3400' | New 2⅝"   | Fiberglass |        | IJ    |
| Lateral        | 4⅞"       | 2686' to 7562' | New 2⅝"   | 6.5#       | EUE    | L-80  |

**11. Cementing Program:**

|                                         |                                                                                                                                                                                                                                                                                       |
|-----------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Surface Casing                          | <b>Lead:</b> 150 sx 10:2 RFC (Class A) + 4 pps D24 + 0.125 pps D130, 14.20 ppg, 1.62 cuft/sx, 7.5 gps.<br><b>Tail:</b> 150 sx Class C + 2% S1 + 0.125 pps D130, 14.80 ppg, 1.34 cuft/sx, 6.29 gps.<br><b>TOC Surface</b>                                                              |
| Production casing and Fiberglass tubing | <b>Lead:</b> 550 sx 50:50 Poz:Class H + 5% D44 (bwow) + 6% D20 + 0.2% D46 + 0.125 pps D130, 11.90 ppg, 2.38 cuft/sx, 13.68 gps.<br><b>Tail:</b> 400 sx TXI Lightweight + 1.33% D44 (bwow) + 0.1% D167 + 0.1% D65 + 0.1% D13, 13.00 ppg, 1.40 cuft/sx, 7.24 gps.<br><b>TOC Surface</b> |
| Lateral                                 | PEAK completion assembly will be used, so no cement is required.                                                                                                                                                                                                                      |

Fresh water zones will be protected by setting 8⅝" casing at 440' and cementing to surface. Hydrocarbon zones will be protected by setting 5½" casing at 2725' and 2⅝" fiberglass tubing at 3400' and cementing to surface.

Collapse Factor  
1.125

Burst Factor  
1.125

Tension Factor  
1.6

DISTRICT I  
1625 N. French Dr., Hobbs, NM 88240

DISTRICT II  
1301 W. Grand Avenue, Artesia, NM 88210

DISTRICT III  
1000 Rio Brazos Rd., Aztec, NM 87410

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

State of New Mexico  
Energy, Minerals and Natural Resources Department

Form C-102  
Revised October 12, 2005

Submit to Appropriate District Office  
State Lease - 4 Copies  
Fee Lease - 3 Copies

**OIL CONSERVATION DIVISION**  
1220 South St. Francis Dr.  
Santa Fe, New Mexico 87505

**WELL LOCATION AND ACREAGE DEDICATION PLAT**

☐ AMENDED REPORT

|                                   |                                                        |                                                                  |
|-----------------------------------|--------------------------------------------------------|------------------------------------------------------------------|
| API Number<br><b>30-015-36919</b> | Pool Code<br><b>57845</b><br><del>96697</del>          | Pool Name<br><b>Subphak</b><br>Cottonwood Draw; Delaware Wildcat |
| Property Code<br><b>300600</b>    | Property Name<br><b>WHITE CITY "14" FEDERAL</b>        | Well Number<br><b>7</b>                                          |
| OGRID No.<br><b>162683</b>        | Operator Name<br><b>CIMAREX ENERGY CO. OF COLORADO</b> | Elevation<br><b>3265'</b>                                        |

**Surface Location**

| UL or lot No. | Section | Township | Range | Lot Idn | Feet from the | North/South line | Feet from the | East/West line | County |
|---------------|---------|----------|-------|---------|---------------|------------------|---------------|----------------|--------|
| A             | 14      | 25 S     | 26 E  |         | 330           | NORTH            | 660           | EAST           | EDDY   |

**Bottom Hole Location If Different From Surface**

| UL or lot No. | Section | Township | Range | Lot Idn | Feet from the | North/South line | Feet from the | East/West line | County |
|---------------|---------|----------|-------|---------|---------------|------------------|---------------|----------------|--------|
| P             | 14      | 25 S     | 26 E  |         | 330           | SOUTH            | 990           | EAST           | EDDY   |

| Dedicated Acres | Joint or Infill | Consolidation Code | Order No. |
|-----------------|-----------------|--------------------|-----------|
| 160             |                 |                    |           |

NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED  
OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION

|                                                                                                     |                                                                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|-----------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>SHL 330 FNL &amp; 660 FEL</p> <p>P.P. 330 FNL &amp; 660 FEL</p> <p>BHL 330 FSL &amp; 990 FEL</p> | <p><b>SURFACE LOCATION</b><br/>Lat - N32°08'10.78"<br/>Long - W104°15'25.79"<br/>NMSPCE- N 413340.0<br/>E 564914.6<br/>(NAD-83)</p>         | <p><b>OPERATOR CERTIFICATION</b><br/>I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location 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.<br/><br/>Signature: <u>Natalie Krueger</u> Date: <u>3/4/2009</u><br/><br/>Printed Name: <u>Natalie Krueger</u></p> |
|                                                                                                     | <p><b>BOTTOM HOLE LOCATION</b><br/>Lat - N32°07'24.91"<br/>Long - W104°15'29.37"<br/>NMSPCE- N 408704.561<br/>E 564609.160<br/>(NAD-83)</p> | <p><b>SURVEYOR CERTIFICATION</b><br/>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.<br/><br/>DECEMBER 16, 2008<br/>Date Surveyed: <u>12/16/08</u><br/>Signature: <u>[Signature]</u><br/>Professional Surveyor<br/>Certificate No. <u>7977</u><br/><br/>Basin Surveys</p>                                                                                                                                                                       |

# **Cimarex Energy Co.**

**Eddy County (NM83E)**

**Sec 14-T25S-R26E**

**White City 14 Federal #7**

**Wellbore #1**

**Plan: 2-26-09**

## **Standard Planning Report**

**26 February, 2009**

# Quantum

## Planning Report

|           |                            |                              |                                   |
|-----------|----------------------------|------------------------------|-----------------------------------|
| Database: | EDM 2003.16 Single User Db | Local Co-ordinate Reference: | Well White City 14 Federal #7     |
| Company:  | Cimarex Energy Co.         | TVD Reference:               | WELL @ 0.0ft (Original Well Elev) |
| Project:  | Eddy County (NM83E)        | MD Reference:                | WELL @ 0.0ft (Original Well Elev) |
| Site:     | Sec 14-T25S-R26E           | North Reference:             | Grid                              |
| Well:     | White City 14 Federal #7   | Survey Calculation Method:   | Minimum Curvature                 |
| Wellbore: | Wellbore #1                |                              |                                   |
| Design:   | 2-26-09                    |                              |                                   |

|                              |                           |
|------------------------------|---------------------------|
| Project: Eddy County (NM83E) |                           |
| Map System:                  | US State Plane 1983       |
| Geo Datum:                   | North American Datum 1983 |
| Map Zone:                    | New Mexico Eastern Zone   |
| System Datum:                | Mean Sea Level            |

|                       |        |                  |              |                   |                  |
|-----------------------|--------|------------------|--------------|-------------------|------------------|
| Site:                 |        | Sec 14-T25S-R26E |              |                   |                  |
| Site Position:        |        | Northing:        | 410,644.04ft | Latitude:         | 32° 7' 44.123 N  |
| From:                 | Map    | Easting:         | 561,282.04ft | Longitude:        | 104° 16' 8.052 W |
| Position Uncertainty: | 0.0 ft | Slot Radius:     | "            | Grid Convergence: | 0.03 °           |

|                      |                          |        |                     |               |               |                   |
|----------------------|--------------------------|--------|---------------------|---------------|---------------|-------------------|
| Well:                | White City 14 Federal #7 |        |                     |               |               |                   |
| Well Position        | +N/-S                    | 0.0 ft | Northing:           | 413,340.00 ft | Latitude:     | 32° 8' 10.779 N   |
|                      | +E/-W                    | 0.0 ft | Easting:            | 564,914.60 ft | Longitude:    | 104° 15' 25.784 W |
| Position Uncertainty |                          | 0.0 ft | Wellhead Elevation: | ft            | Ground Level: | 0.0 ft            |

|           |            |             |                 |               |                     |
|-----------|------------|-------------|-----------------|---------------|---------------------|
| Wellbore  |            | Wellbore #1 |                 |               |                     |
| Magnetics | Model Name | Sample Date | Declination (°) | Dip Angle (°) | Field Strength (nT) |
|           | IGRF200510 | 2008/11/24  | 8.18            | 60.06         | 48,792              |

|                   |                  |        |       |               |     |
|-------------------|------------------|--------|-------|---------------|-----|
| Design:           | 2-26-09          |        |       |               |     |
| Audit Notes:      |                  |        |       |               |     |
| Version:          | 1.0              | Phase: | PLAN  | Tie On Depth: | 0.0 |
| Vertical Section: | Depth From (TVD) | +N/-S  | +E/-W | Direction     |     |
|                   | (ft)             | (ft)   | (ft)  | (°)           |     |
|                   | 0.0              | 0.0    | 0.0   | 183.77        |     |

| Plan Sections             |                    |                |                           |               |               |                             |                            |                           |            |                    |
|---------------------------|--------------------|----------------|---------------------------|---------------|---------------|-----------------------------|----------------------------|---------------------------|------------|--------------------|
| Measured<br>Depth<br>(ft) | Inclination<br>(°) | Azimuth<br>(°) | Vertical<br>Depth<br>(ft) | +N/-S<br>(ft) | +E/-W<br>(ft) | Dogleg<br>Rate<br>(°/100ft) | Build<br>Rate<br>(°/100ft) | Turn<br>Rate<br>(°/100ft) | TFO<br>(°) | Target             |
| 0.0                       | 0.00               | 0.00           | 0.0                       | 0.0           | 0.0           | 0.00                        | 0.00                       | 0.00                      | 0.00       |                    |
| 2,785.8                   | 0.00               | 0.00           | 2,785.8                   | 0.0           | 0.0           | 0.00                        | 0.00                       | 0.00                      | 0.00       |                    |
| 3,145.8                   | 90.00              | 183.77         | 3,015.0                   | -228.7        | -15.1         | 25.00                       | 25.00                      | 0.00                      | 183.77     |                    |
| 7,562.1                   | 90.00              | 183.77         | 3,015.0                   | -4,635.4      | -305.4        | 0.00                        | 0.00                       | 0.00                      | 0.00       | PBHL White City 14 |

# Quantum Planning Report

|                  |                            |                                     |                                   |
|------------------|----------------------------|-------------------------------------|-----------------------------------|
| <b>Database:</b> | EDM 2003.16 Single User Db | <b>Local Co-ordinate Reference:</b> | Well White City 14 Federal #7     |
| <b>Company:</b>  | Cimarex Energy Co.         | <b>TVD Reference:</b>               | WELL @ 0.0ft (Original Well Elev) |
| <b>Project:</b>  | Eddy County (NM83E)        | <b>MD Reference:</b>                | WELL @ 0.0ft (Original Well Elev) |
| <b>Site:</b>     | Sec 14-T25S-R26E           | <b>North Reference:</b>             | Grid                              |
| <b>Well:</b>     | White City 14 Federal #7   | <b>Survey Calculation Method:</b>   | Minimum Curvature                 |
| <b>Wellbore:</b> | Wellbore #1                |                                     |                                   |
| <b>Design:</b>   | 2-26-09                    |                                     |                                   |

| Planned Survey                                  |                 |             |                     |            |            |                       |                       |                      |                     |
|-------------------------------------------------|-----------------|-------------|---------------------|------------|------------|-----------------------|-----------------------|----------------------|---------------------|
| Measured Depth (ft)                             | Inclination (°) | Azimuth (°) | Vertical Depth (ft) | +N/-S (ft) | +E/-W (ft) | Vertical Section (ft) | Dogleg Rate (°/100ft) | Build Rate (°/100ft) | Turn Rate (°/100ft) |
| 0.0                                             | 0.00            | 0.00        | 0.0                 | 0.0        | 0.0        | 0.0                   | 0.00                  | 0.00                 | 0.00                |
| 1,130.0                                         | 0.00            | 0.00        | 1,130.0             | 0.0        | 0.0        | 0.0                   | 0.00                  | 0.00                 | 0.00                |
| <b>Top Salt</b>                                 |                 |             |                     |            |            |                       |                       |                      |                     |
| 1,681.0                                         | 0.00            | 0.00        | 1,681.0             | 0.0        | 0.0        | 0.0                   | 0.00                  | 0.00                 | 0.00                |
| <b>Base Salt</b>                                |                 |             |                     |            |            |                       |                       |                      |                     |
| 1,910.0                                         | 0.00            | 0.00        | 1,910.0             | 0.0        | 0.0        | 0.0                   | 0.00                  | 0.00                 | 0.00                |
| <b>Bell Canyon</b>                              |                 |             |                     |            |            |                       |                       |                      |                     |
| 2,785.8                                         | 0.00            | 0.00        | 2,785.8             | 0.0        | 0.0        | 0.0                   | 0.00                  | 0.00                 | 0.00                |
| <b>KOP - Begin Build 25°/100' @ 183.77° AZI</b> |                 |             |                     |            |            |                       |                       |                      |                     |
| 2,800.0                                         | 3.55            | 183.77      | 2,800.0             | -0.4       | 0.0        | 0.4                   | 25.00                 | 25.00                | 0.00                |
| 2,850.9                                         | 16.27           | 183.77      | 2,850.0             | -9.2       | -0.6       | 9.2                   | 25.00                 | 25.00                | 0.00                |
| <b>Cherry Canyon</b>                            |                 |             |                     |            |            |                       |                       |                      |                     |
| 2,900.0                                         | 28.55           | 183.77      | 2,895.3             | -27.8      | -1.8       | 27.9                  | 25.00                 | 25.00                | 0.00                |
| 2,932.9                                         | 36.77           | 183.77      | 2,923.0             | -45.5      | -3.0       | 45.6                  | 25.00                 | 25.00                | 0.00                |
| <b>Cherry Canyon M</b>                          |                 |             |                     |            |            |                       |                       |                      |                     |
| 3,000.0                                         | 53.55           | 183.77      | 2,970.1             | -92.8      | -6.1       | 93.0                  | 25.00                 | 25.00                | 0.00                |
| 3,037.8                                         | 63.00           | 183.77      | 2,990.0             | -124.9     | -8.2       | 125.1                 | 25.00                 | 25.00                | 0.00                |
| <b>Cherry Canyon M3</b>                         |                 |             |                     |            |            |                       |                       |                      |                     |
| 3,100.0                                         | 78.55           | 183.77      | 3,010.4             | -183.3     | -12.1      | 183.7                 | 25.00                 | 25.00                | 0.00                |
| 3,145.8                                         | 90.00           | 183.77      | 3,015.0             | -228.7     | -15.1      | 229.2                 | 25.00                 | 25.00                | 0.00                |
| <b>EOC - Begin Hold to TD - M3 TVD Target</b>   |                 |             |                     |            |            |                       |                       |                      |                     |
| 3,200.0                                         | 90.00           | 183.77      | 3,015.0             | -282.8     | -18.6      | 283.4                 | 0.00                  | 0.00                 | 0.00                |
| 3,300.0                                         | 90.00           | 183.77      | 3,015.0             | -382.6     | -25.2      | 383.4                 | 0.00                  | 0.00                 | 0.00                |
| 3,400.0                                         | 90.00           | 183.77      | 3,015.0             | -482.3     | -31.8      | 483.4                 | 0.00                  | 0.00                 | 0.00                |
| 3,500.0                                         | 90.00           | 183.77      | 3,015.0             | -582.1     | -38.4      | 583.4                 | 0.00                  | 0.00                 | 0.00                |
| 3,600.0                                         | 90.00           | 183.77      | 3,015.0             | -681.9     | -44.9      | 683.4                 | 0.00                  | 0.00                 | 0.00                |
| 3,700.0                                         | 90.00           | 183.77      | 3,015.0             | -781.7     | -51.5      | 783.4                 | 0.00                  | 0.00                 | 0.00                |
| 3,800.0                                         | 90.00           | 183.77      | 3,015.0             | -881.5     | -58.1      | 883.4                 | 0.00                  | 0.00                 | 0.00                |
| 3,900.0                                         | 90.00           | 183.77      | 3,015.0             | -981.3     | -64.7      | 983.4                 | 0.00                  | 0.00                 | 0.00                |
| 4,000.0                                         | 90.00           | 183.77      | 3,015.0             | -1,081.0   | -71.2      | 1,083.4               | 0.00                  | 0.00                 | 0.00                |
| 4,100.0                                         | 90.00           | 183.77      | 3,015.0             | -1,180.8   | -77.8      | 1,183.4               | 0.00                  | 0.00                 | 0.00                |
| 4,200.0                                         | 90.00           | 183.77      | 3,015.0             | -1,280.6   | -84.4      | 1,283.4               | 0.00                  | 0.00                 | 0.00                |
| 4,300.0                                         | 90.00           | 183.77      | 3,015.0             | -1,380.4   | -91.0      | 1,383.4               | 0.00                  | 0.00                 | 0.00                |
| 4,400.0                                         | 90.00           | 183.77      | 3,015.0             | -1,480.2   | -97.5      | 1,483.4               | 0.00                  | 0.00                 | 0.00                |
| 4,500.0                                         | 90.00           | 183.77      | 3,015.0             | -1,580.0   | -104.1     | 1,583.4               | 0.00                  | 0.00                 | 0.00                |
| 4,600.0                                         | 90.00           | 183.77      | 3,015.0             | -1,679.7   | -110.7     | 1,683.4               | 0.00                  | 0.00                 | 0.00                |
| 4,700.0                                         | 90.00           | 183.77      | 3,015.0             | -1,779.5   | -117.3     | 1,783.4               | 0.00                  | 0.00                 | 0.00                |
| 4,800.0                                         | 90.00           | 183.77      | 3,015.0             | -1,879.3   | -123.8     | 1,883.4               | 0.00                  | 0.00                 | 0.00                |
| 4,900.0                                         | 90.00           | 183.77      | 3,015.0             | -1,979.1   | -130.4     | 1,983.4               | 0.00                  | 0.00                 | 0.00                |
| 5,000.0                                         | 90.00           | 183.77      | 3,015.0             | -2,078.9   | -137.0     | 2,083.4               | 0.00                  | 0.00                 | 0.00                |
| 5,100.0                                         | 90.00           | 183.77      | 3,015.0             | -2,178.7   | -143.6     | 2,183.4               | 0.00                  | 0.00                 | 0.00                |
| 5,200.0                                         | 90.00           | 183.77      | 3,015.0             | -2,278.4   | -150.1     | 2,283.4               | 0.00                  | 0.00                 | 0.00                |
| 5,300.0                                         | 90.00           | 183.77      | 3,015.0             | -2,378.2   | -156.7     | 2,383.4               | 0.00                  | 0.00                 | 0.00                |
| 5,400.0                                         | 90.00           | 183.77      | 3,015.0             | -2,478.0   | -163.3     | 2,483.4               | 0.00                  | 0.00                 | 0.00                |
| 5,500.0                                         | 90.00           | 183.77      | 3,015.0             | -2,577.8   | -169.9     | 2,583.4               | 0.00                  | 0.00                 | 0.00                |
| 5,600.0                                         | 90.00           | 183.77      | 3,015.0             | -2,677.6   | -176.4     | 2,683.4               | 0.00                  | 0.00                 | 0.00                |
| 5,700.0                                         | 90.00           | 183.77      | 3,015.0             | -2,777.4   | -183.0     | 2,783.4               | 0.00                  | 0.00                 | 0.00                |
| 5,800.0                                         | 90.00           | 183.77      | 3,015.0             | -2,877.1   | -189.6     | 2,883.4               | 0.00                  | 0.00                 | 0.00                |
| 5,900.0                                         | 90.00           | 183.77      | 3,015.0             | -2,976.9   | -196.2     | 2,983.4               | 0.00                  | 0.00                 | 0.00                |
| 6,000.0                                         | 90.00           | 183.77      | 3,015.0             | -3,076.7   | -202.7     | 3,083.4               | 0.00                  | 0.00                 | 0.00                |
| 6,100.0                                         | 90.00           | 183.77      | 3,015.0             | -3,176.5   | -209.3     | 3,183.4               | 0.00                  | 0.00                 | 0.00                |
| 6,200.0                                         | 90.00           | 183.77      | 3,015.0             | -3,276.3   | -215.9     | 3,283.4               | 0.00                  | 0.00                 | 0.00                |
| 6,300.0                                         | 90.00           | 183.77      | 3,015.0             | -3,376.1   | -222.5     | 3,383.4               | 0.00                  | 0.00                 | 0.00                |

# Quantum Planning Report

|                  |                            |                                     |                                   |
|------------------|----------------------------|-------------------------------------|-----------------------------------|
| <b>Database:</b> | EDM 2003.16 Single User Db | <b>Local Co-ordinate Reference:</b> | Well White City 14 Federal #7     |
| <b>Company:</b>  | Cimarex Energy Co.         | <b>TVD Reference:</b>               | WELL @ 0.0ft (Original Well Elev) |
| <b>Project:</b>  | Eddy County (NM83E)        | <b>MD Reference:</b>                | WELL @ 0.0ft (Original Well Elev) |
| <b>Site:</b>     | Sec 14-T25S-R26E           | <b>North Reference:</b>             | Grid                              |
| <b>Well:</b>     | White City 14 Federal #7   | <b>Survey Calculation Method:</b>   | Minimum Curvature                 |
| <b>Wellbore:</b> | Wellbore #1                |                                     |                                   |
| <b>Design:</b>   | 2-26-09                    |                                     |                                   |

| Planned Survey                               |                 |             |                     |            |            |                       |                       |                      |                     |  |
|----------------------------------------------|-----------------|-------------|---------------------|------------|------------|-----------------------|-----------------------|----------------------|---------------------|--|
| Measured Depth (ft)                          | Inclination (°) | Azimuth (°) | Vertical Depth (ft) | +N/-S (ft) | +E/-W (ft) | Vertical Section (ft) | Dogleg Rate (°/100ft) | Build Rate (°/100ft) | Turn Rate (°/100ft) |  |
| 6,400.0                                      | 90.00           | 183.77      | 3,015.0             | -3,475.8   | -229.0     | 3,483.4               | 0.00                  | 0.00                 | 0.00                |  |
| 6,500.0                                      | 90.00           | 183.77      | 3,015.0             | -3,575.6   | -235.6     | 3,583.4               | 0.00                  | 0.00                 | 0.00                |  |
| 6,600.0                                      | 90.00           | 183.77      | 3,015.0             | -3,675.4   | -242.2     | 3,683.4               | 0.00                  | 0.00                 | 0.00                |  |
| 6,700.0                                      | 90.00           | 183.77      | 3,015.0             | -3,775.2   | -248.8     | 3,783.4               | 0.00                  | 0.00                 | 0.00                |  |
| 6,800.0                                      | 90.00           | 183.77      | 3,015.0             | -3,875.0   | -255.3     | 3,883.4               | 0.00                  | 0.00                 | 0.00                |  |
| 6,900.0                                      | 90.00           | 183.77      | 3,015.0             | -3,974.8   | -261.9     | 3,983.4               | 0.00                  | 0.00                 | 0.00                |  |
| 7,000.0                                      | 90.00           | 183.77      | 3,015.0             | -4,074.5   | -268.5     | 4,083.4               | 0.00                  | 0.00                 | 0.00                |  |
| 7,100.0                                      | 90.00           | 183.77      | 3,015.0             | -4,174.3   | -275.1     | 4,183.4               | 0.00                  | 0.00                 | 0.00                |  |
| 7,200.0                                      | 90.00           | 183.77      | 3,015.0             | -4,274.1   | -281.6     | 4,283.4               | 0.00                  | 0.00                 | 0.00                |  |
| 7,300.0                                      | 90.00           | 183.77      | 3,015.0             | -4,373.9   | -288.2     | 4,383.4               | 0.00                  | 0.00                 | 0.00                |  |
| 7,400.0                                      | 90.00           | 183.77      | 3,015.0             | -4,473.7   | -294.8     | 4,483.4               | 0.00                  | 0.00                 | 0.00                |  |
| 7,500.0                                      | 90.00           | 183.77      | 3,015.0             | -4,573.5   | -301.4     | 4,583.4               | 0.00                  | 0.00                 | 0.00                |  |
| 7,562.1                                      | 90.00           | 183.77      | 3,015.0             | -4,635.4   | -305.4     | 4,645.5               | 0.00                  | 0.00                 | 0.00                |  |
| TD at 7562.1 - PBHL White City 14 Federal #7 |                 |             |                     |            |            |                       |                       |                      |                     |  |

| Targets              |                    |               |              |          |            |            |               |              |                 |                   |
|----------------------|--------------------|---------------|--------------|----------|------------|------------|---------------|--------------|-----------------|-------------------|
| Target Name          | - hit/miss target  | Dip Angle (°) | Dip Dir. (°) | TVD (ft) | +N/-S (ft) | +E/-W (ft) | Northing (ft) | Easting (ft) | Latitude        | Longitude         |
| PBHL White City 14 F | - plan hits target | 0.00          | 359.97       | 3,015.0  | -4,635.4   | -305.4     | 408,704.56    | 564,609.16   | 32° 7' 24.908 N | 104° 15' 29.374 W |
|                      | - Point            |               |              |          |            |            |               |              |                 |                   |

| Formations          |                     |                  |           |         |                   |  |
|---------------------|---------------------|------------------|-----------|---------|-------------------|--|
| Measured Depth (ft) | Vertical Depth (ft) | Name             | Lithology | Dip (°) | Dip Direction (°) |  |
| 1,130.0             | 1,130.0             | Top Salt         |           | 0.00    |                   |  |
|                     | 3,130.0             | Cherry Canyon L  |           | 0.00    |                   |  |
|                     | 3,195.0             | Cherry Canyon K  |           | 0.00    |                   |  |
| 1,681.0             | 1,681.0             | Base Salt        |           | 0.00    |                   |  |
| 3,145.8             | 3,015.0             | M3 TVD Target    |           | 0.00    |                   |  |
| 3,037.8             | 2,990.0             | Cherry Canyon M3 |           | 0.00    |                   |  |
| 2,850.9             | 2,850.0             | Cherry Canyon    |           | 0.00    |                   |  |
|                     | 3,400.0             | TD (Pilot Hole)  |           | 0.00    |                   |  |
| 2,932.9             | 2,923.0             | Cherry Canyon M  |           | 0.00    |                   |  |
| 1,910.0             | 1,910.0             | Bell Canyon      |           | 0.00    |                   |  |

| Plan Annotations    |                     |                   |            |                                          |  |
|---------------------|---------------------|-------------------|------------|------------------------------------------|--|
| Measured Depth (ft) | Vertical Depth (ft) | Local Coordinates |            |                                          |  |
|                     |                     | +N/-S (ft)        | +E/-W (ft) | Comment                                  |  |
| 2,785.8             | 2,785.8             | 0.0               | 0.0        | KOP - Begin Build 25°/100' @ 183.77° AZI |  |
| 3,145.8             | 3,015.0             | -228.7            | -15.1      | EOC - Begin Hold to TD                   |  |
| 7,562.1             | 3,015.0             | -4,635.4          | -305.4     | TD at 7562.1                             |  |

# Cimarex Energy Co.

Project: Eddy County (NM83E)  
Site: Sec 14-T25S-R26E  
Well: White City 14 Federal #7  
Wellbore: Wellbore #1  
Design: 2-26-09  
Plan Version: 1.0

## WELL DETAILS: White City 14 Federal #7

+N/-SE/-W    Northing    Easting    Latitude    Longitude  
0.0   0.0   413340.00   564914.60   32° 8' 10.779 N 104° 15' 25.784 W

GL: 3275.0' KB ELEV: 3295.0'

**QUANTUM**  
DRILLING MOTORS  
& DIRECTIONAL SERVICES



Azimuths to Grid North  
True North: -0.04°  
Magnetic North: 8.14°

Magnetic Field  
Strength: 48792.3nT  
Dip Angle: 60.06°  
Date: 2008/11/24  
Model: IGRF200510

### WELLBORE TARGET DETAILS

| Name                          | TVD    | +N/-S   | +E/-W  | Northing  | Easting   |
|-------------------------------|--------|---------|--------|-----------|-----------|
| PBHL White City 14 Federal #7 | 3015.0 | -4635.4 | -305.4 | 408704.56 | 564609.16 |

### PLAN DETAILS

| MD     | Inc   | Azi    | TVD    | +N/-S   | +E/-W  | DLeg  | TFace  | VSec   | Target                        |
|--------|-------|--------|--------|---------|--------|-------|--------|--------|-------------------------------|
| 0.0    | 0.00  | 0.00   | 0.0    | 0.0     | 0.0    | 0.00  | 0.00   | 0.0    |                               |
| 2785.8 | 0.00  | 0.00   | 2785.8 | 0.0     | 0.0    | 0.00  | 0.00   | 0.0    |                               |
| 3145.8 | 90.00 | 183.77 | 3015.0 | -228.7  | -15.1  | 25.00 | 183.77 | 229.2  |                               |
| 7562.1 | 90.00 | 183.77 | 3015.0 | -4635.4 | -305.4 | 0.00  | 0.00   | 4645.5 | PBHL White City 14 Federal #7 |

### ANNOTATIONS

| TVD    | MD     | Annotation                               |
|--------|--------|------------------------------------------|
| 2785.8 | 2785.8 | KOP - Begin Build 25°/100' @ 183.77° AZI |
| 3015.0 | 3145.8 | EOC - Begin Hold to TD                   |
| 3015.0 | 7562.1 | TD at 7562.1                             |

### FORMATION TOP DETAILS

| TVDP   | MDP    | Formation        |
|--------|--------|------------------|
|        |        | Cherry Canyon K  |
|        |        | Cherry Canyon L  |
|        |        | TD (Pilot Hole)  |
| 1130.0 | 1130.0 | Top Salt         |
| 1681.0 | 1681.0 | Base Salt        |
| 1910.0 | 1910.0 | Bell Canyon      |
| 2850.0 | 2850.9 | Cherry Canyon    |
| 2923.0 | 2932.9 | Cherry Canyon M  |
| 2990.0 | 3037.8 | Cherry Canyon M3 |
| 3015.0 | 3145.8 | M3 TVD Target    |

