

ATS-11-21

OCD-ARTESIA

Form 3160-3  
(April 2004)

FORM APPROVED  
OMB No 1004-0137  
Expires March 31, 2007

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

|                                           |                                        |
|-------------------------------------------|----------------------------------------|
| 5. Lease Serial No                        | NM-19423                               |
| 6. If Indian, Allottee or Tribe Name      |                                        |
| 7. If Unit or CA Agreement, Name and No   |                                        |
| 8. Lease Name and Well No.                | Seldom Seen 15 Federal No. 5 H         |
| 9. API Well No.                           | 30-015- 39291                          |
| 10. Field and Pool, or Exploratory        | (97801) Wildcat S252622A - Bone Spring |
| 11. Sec, T R M or Blk. and Survey or Area | 15-25S-26E                             |
| 12. County or Parish                      | Eddy                                   |
| 13. State                                 | NM                                     |

|                                                                                                                                                                                                                        |                                                   |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------|
| 1a. Type of Work. <input checked="" type="checkbox"/> DRILL <input type="checkbox"/> REENTER                                                                                                                           |                                                   |
| 1b. Type of Well. <input type="checkbox"/> Oil Well <input checked="" type="checkbox"/> Gas Well <input type="checkbox"/> Other <input checked="" type="checkbox"/> Single Zone <input type="checkbox"/> Multiple Zone |                                                   |
| 2. Name of Operator<br>162683) Cimarex Energy Co. of Colorado                                                                                                                                                          |                                                   |
| 3a. Address<br>600 N. Marienfeld St., Ste. 600; Midland, TX 79701                                                                                                                                                      | 3b. Phone No. (include area code)<br>432-571-7800 |
| 4. Location of Well (Report location clearly and in accordance with any State requirements. *)<br>At Surface 560 FSL & 660 FEL<br>At proposed prod Zone 760 FSL & 330 FWL Horizontal Bone Spring Test                  |                                                   |
| 14. Distance in miles and direction from nearest town or post office*                                                                                                                                                  |                                                   |
| 15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig unit line if any) 560                                                                                                | 16. No of acres in lease 2560                     |
| 18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft 90                                                                                                           | 19. Proposed Depth MD 10314, TVD 6020             |
| 21. Elevations (Show whether DF, KDB, RT, GL, etc.) 3334' GR                                                                                                                                                           | 22. Approximate date work will start* 07.15.11    |
| 23. Estimated duration 25-35 days                                                                                                                                                                                      |                                                   |
| 24. Attachments                                                                                                                                                                                                        |                                                   |

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

- |                                                                                                                                                |                                                                                                   |
|------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------|
| 1. Well plat certified by a registered surveyor                                                                                                | 4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above).   |
| 2. A Drilling Plan                                                                                                                             | 5. Operator Certification                                                                         |
| 3. A Surface Use Plan (if the location is on National Forest System Lands, the SUPO shall be filed with the appropriate Forest Service Office) | 6. Such other site specific information and/or plans as may be required by the authorized officer |

|                                             |                                     |                     |
|---------------------------------------------|-------------------------------------|---------------------|
| 25. Signature<br>Zeno Farris                | Name (Printed/Typed)<br>Zeno Farris | Date<br>05.03.11    |
| Title<br>Manager Operations Administration  |                                     |                     |
| Approved By (Signature)<br>/s/ Don Peterson | Name (Printed/Typed)                | Date<br>JUL 25 2011 |
| Title<br>FIELD MANAGER                      | Office<br>CARLSBAD FIELD OFFICE     |                     |

Application approval does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.

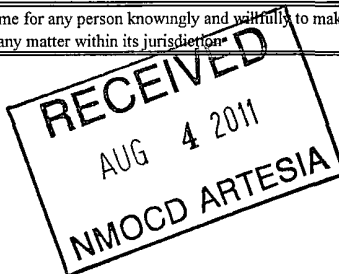
Conditions of approval, if any, are attached.

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

\*(Instructions on page 2)

APPROVAL FOR TWO YEARS

SEE ATTACHED FOR  
CONDITIONS OF APPROVAL



Carlsbad Controlled Water Basin

Approval Subject to General Requirements  
& Special Stipulations Attached

Application to Drill  
**Seldom Seen 15 Federal No. 5**  
Cimarex Energy Co. of Colorado  
Unit P, Section 15  
T25S-R26E, Eddy County, NM

In response to questions asked under Section II B of Bulletin NTL-6, the following information is provided for your consideration:

1. Location: SHL 560 FSL & 660 FEL  
BHL 760 FSL & 330 FWL
2. Elevation above sea level: 3334' GR
3. Geologic name of surface formation: Quaternary Alluvium Deposits
4. Drilling tools and associated equipment: Conventional rotary drilling rig using fluid as a circulating medium for solids removal.
5. Proposed drilling depth: MD 10314, TVD 6020
6. Estimated tops of geological markers:

|                     |           |
|---------------------|-----------|
| Rustler             | NA/Spotty |
| Top Salt            | 1095      |
| Base Salt           | 1700      |
| Bell Canyon         | 1907      |
| Cherry Canyon       | 2877      |
| Lower Brushy Canyon | 3878      |
| Bone Spring         | 5420      |
7. Possible mineral bearing formations:

|             |     |
|-------------|-----|
| Bone Spring | Oil |
| Delaware    | Oil |

8. Proposed drilling Plan

After setting and cementing surface and intermediate casing, drill 8¾" hole to KOP @ 5866 and kick off 8¾" lateral. Land curve @ 6230 and drill to TD @ 10314 MD, 6020 TVD. Run 5½" casing from 0-10314 and cement.

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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 <del>5,816'</del> 1900 | 10        | 28-29 | NC         | Saturated Brine. Sweep as needed to clean hole.                                 |
| 5,816' to 10,314'              | 9.0 - 11  | 28-29 | NC         | Cut Brine                                                                       |

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      | 17½"      | 0' to 440'                  | New 13½"  | 48#    | STC    | H-40  |
| Intermediate | 12¼"      | 0' to <del>1900</del> 5816' | New 9½"   | 40#    | LTC    | J-55  |
| Production   | 8¾"       | 0' to 10314'                | New 5½"   | 17#    | LTC    | P-110 |

See COA

11. Cementing Program:

|              |                                                                                                                                                                                                                                                                                                                                                                                          |
|--------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Surface      | Lead: 191SKS Halcem C + 4% Bentomite + 2% CaCl 13.5ppg 1.75yield 100% Excess<br>Tail: 235SKS Halcem C + 2% CaCl 14.2ppg 1.34 yield 50% Excess<br><b>TOC Surface Centralizers per Onshorder 2.III.B.1.f</b>                                                                                                                                                                               |
| Intermediate | Lead: 1347SKS EconoCem + 5% salt + 5 lbm gilsonite 14.6ppg 1.54yield 70% Excess<br>Tail: 172SKS HalCem + 1% CaCl 14.8ppg 1.34 yield 25% Excess<br><b>TOC Surface</b>                                                                                                                                                                                                                     |
| Production   | Lead: 1139SKS EconoCem - H + 0.2 % HR-601 2.44 11.9ppg 2.44 yield 50% Excess<br>Tail: 138SKS Versacem - H + 0.5% Halad(R)-344 + 0.4% CFR-3 + 1 lbm/sk salt + 0.1% HR-601 14.5ppg 1.22 yield 25% Excess<br><b>TOC Surface Centralizers every 3rd joint in lateral to provide adequate cement coverage every 100' unless lateral doglegs require greater spacing between centralizers.</b> |

Office of the State Engineer indicates depth to ground water in the area is 19'. Fresh water zones will be protected by setting 9½" casing at 440 and cementing to surface. Hydrocarbon zones will be protected by setting 9½" casing at 5816 and 5½" at 10314 and cementing to surface.

|                        |                     |                       |
|------------------------|---------------------|-----------------------|
| <u>Collapse Factor</u> | <u>Burst Factor</u> | <u>Tension Factor</u> |
| 1.125                  | 1.125               | 1.6                   |

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Unit P, Section 15  
T25S-R26E, Eddy County, NM

12. Pressure control Equipment:

A 13 $\frac{3}{8}$ " 5000 PSI working pressure BOP tested to 3000 psi consisting of one set of blind rams and one set of pipe rams and a 5000# annular type preventer. A choke manifold and 120 gallon accumulator with floor and remote operating stations and auxiliary power system. Rotating head as needed. A kelly cock will be installed and maintained in operable condition and a drill string safety valve in the open position will be available on the rig floor. Mud gas separator to be used when drilling in H2S areas.

BOP unit will be hydraulically operated. BOP will be nipped up and operated at least once a day while drilling and the blind rams will be operated when out of hole during trips. No abnormal pressure or temperature is expected while drilling. From the base of the 13 $\frac{3}{8}$ " casing through the running of production casing, the well will be equipped with a 5000 psi BOP system tested to 3000 psi.

BOPs will be tested by an independent service company to 250 psi low and 3000 psi high. Hydril will be tested to 250 psi low and 1500 psi high.

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

- A. Mud logging program: No mud logging program.
- B. Electric logging program: CNL / LDT / CAL / GR, DLL / CAL / GR
- C. DSTs or Cores:

14. Potential Hazards:

No abnormal pressures or temperatures are expected. In accordance with Onshore Order 6, Cimarex has encountered H<sub>2</sub>S in a one-time encounter in an Intra-salt Pocket and while drilling and completing wells in the Delaware Mountain Group. In this regard, attached is an H<sub>2</sub>S Drilling Operations Plan. The ROEs encountered do not meet the BLM's minimum requirements for the submission of a "Public Protection Plan" for the drilling and completion of this well. Adequate flare lines will be installed off the mud / gas separator where gas may be flared safely. All personnel will be familiar with all aspects of safe operation of equipment being used.

Estimated BHP                      **3000 psi**                      Estimated BHT                      **115°**

15. Road and location construction will begin after BLM approval of APD. Anticipated spud date as soon as approved.

Drilling expected to take                      25-35 days

If production casing is run an additional 30 days will be required to complete and construct surface facilities.

16. Other Facets of Operations:

After running casing, cased hole gamma ray neutron collar logs will be run from total depth over possible pay intervals.

Bone Spring pay will be perforated and stimulated.

The proposed well will be tested and potentialized as                      **an oil well.**



## **Cimarex Energy Co.**

**Eddy County (NM83E)**

**Sec 15 - T25S - R26E**

**Seldom Seen 15 #5**

**Wellbore #1**

**Plan: Plan #1**

## **Standard Planning Report**

**23 February, 2011**



# Great White Directional Services

## Planning Report

|           |                           |                              |                                        |
|-----------|---------------------------|------------------------------|----------------------------------------|
| Database: | EDM 5000.1 Single User Db | Local Co-ordinate Reference: | Well Seldom Seen 15 #5                 |
| Company:  | Cimarex Energy Co.        | TVD Reference:               | WELL @ 3365.0usft (Original Well Elev) |
| Project:  | Eddy County (NM83E)       | MD Reference:                | WELL @ 3365.0usft (Original Well Elev) |
| Site:     | Sec 15 - T25S - R26E      | North Reference:             | Grid                                   |
| Well:     | Seldom Seen 15 #5         | Survey Calculation Method:   | Minimum Curvature                      |
| Wellbore: | Wellbore #1               |                              |                                        |
| Design:   | Plan #1                   |                              |                                        |

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

|                       |                      |                   |                   |
|-----------------------|----------------------|-------------------|-------------------|
| Site                  | Sec 15 - T25S - R26E |                   |                   |
| Site Position:        | Map                  | Northing:         | 408,993.20 usft   |
| From:                 |                      | Easting:          | 559,652.50 usft   |
| Position Uncertainty: | 0.0 usft             | Slot Radius:      | 13-3/16 "         |
|                       |                      | Latitude:         | 32° 7' 27.795 N   |
|                       |                      | Longitude:        | 104° 16' 27.013 W |
|                       |                      | Grid Convergence: | 0.03 °            |

|                      |                   |                     |                   |
|----------------------|-------------------|---------------------|-------------------|
| Well                 | Seldom Seen 15 #5 |                     |                   |
| Well Position        | +N/-S             | -100.2 usft         | Northing:         |
|                      | +E/-W             | 1.2 usft            | Easting:          |
| Position Uncertainty | 0.0 usft          | Wellhead Elevation: |                   |
|                      |                   | Latitude:           | 32° 7' 26.803 N   |
|                      |                   | Longitude:          | 104° 16' 27.000 W |
|                      |                   | Ground Level:       | 3,335.0 usft      |

|           |             |             |                |
|-----------|-------------|-------------|----------------|
| Wellbore  | Wellbore #1 |             |                |
| Magnetics | Model Name  | Sample Date | Declination    |
|           |             |             | (°)            |
|           | IGRF200510  | 02/21/11    | 7.92           |
|           |             |             | Dip Angle      |
|           |             |             | (°)            |
|           |             |             | 60.00          |
|           |             |             | Field Strength |
|           |             |             | (mT)           |
|           |             |             | 48,545         |

|                   |                  |        |               |
|-------------------|------------------|--------|---------------|
| Design            | Plan #1          |        |               |
| Audit Notes:      |                  |        |               |
| Version:          | Phase:           | PLAN   | Tie On Depth: |
|                   |                  |        | 0.0           |
| Vertical Section: | Depth From (TVD) | +N/-S  | +E/-W         |
|                   | (usft)           | (usft) | (usft)        |
|                   | 0.0              | 0.0    | 0.0           |
|                   |                  |        | Direction     |
|                   |                  |        | (°)           |
|                   |                  |        | 273.40        |

|               |             |         |          |        |          |             |             |             |        |                |
|---------------|-------------|---------|----------|--------|----------|-------------|-------------|-------------|--------|----------------|
| Plan Sections |             |         |          |        |          |             |             |             |        |                |
| Measured      | Inclination | Azimuth | Vertical | +N/-S  | +E/-W    | Dogleg      | Build       | Turn        | TFO    | Target         |
| Depth         | (°)         | (°)     | Depth    | (usft) | (usft)   | Rate        | Rate        | Rate        | (°)    |                |
| (usft)        |             |         | (usft)   |        |          | (°/100usft) | (°/100usft) | (°/100usft) |        |                |
| 0.0           | 0.00        | 0.00    | 0.0      | 0.0    | 0.0      | 0.00        | 0.00        | 0.00        | 0.00   |                |
| 5,866.0       | 0.00        | 0.00    | 5,866.0  | 0.0    | 0.0      | 0.00        | 0.00        | 0.00        | 0.00   |                |
| 6,230.2       | 91.05       | 273.40  | 6,095.1  | 13.8   | -233.0   | 25.00       | 25.00       | 0.00        | 273.40 |                |
| 10,313.8      | 91.05       | 273.40  | 6,020.3  | 256.0  | -4,308.7 | 0.00        | 0.00        | 0.00        | 0.00   | Seldom Seen #5 |



# Great White Directional Services Planning Report

|           |                           |                              |                                        |
|-----------|---------------------------|------------------------------|----------------------------------------|
| Database: | EDM 5000.1 Single User Db | Local Co-ordinate Reference: | Well Seldom Seen 15 #5                 |
| Company:  | Cimarex Energy Co.        | TVD Reference:               | WELL @ 3365.0usft (Original Well Elev) |
| Project:  | Eddy County (NM83E)       | MD Reference:                | WELL @ 3365.0usft (Original Well Elev) |
| Site:     | Sec 15 - T25S - R26E      | North Reference:             | Grid.                                  |
| Well:     | Seldom Seen 15 #5         | Survey Calculation Method:   | Minimum Curvature                      |
| Wellbore: | Wellbore #1               |                              |                                        |
| Design:   | Plan #1                   |                              |                                        |

| Planned Survey                |                 |             |                       |              |              |                         |                         |                        |                       |
|-------------------------------|-----------------|-------------|-----------------------|--------------|--------------|-------------------------|-------------------------|------------------------|-----------------------|
| Measured Depth (usft)         | Inclination (°) | Azimuth (°) | Vertical Depth (usft) | +N/-S (usft) | +E/-W (usft) | Vertical Section (usft) | Dogleg Rate (°/100usft) | Build Rate (°/100usft) | Turn Rate (°/100usft) |
| 5,866.0                       | 0.00            | 0.00        | 5,866.0               | 0.0          | 0.0          | 0.0                     | 0.00                    | 0.00                   | 0.00                  |
| KOP 25°/100 DLS @ 273.40° AZI |                 |             |                       |              |              |                         |                         |                        |                       |
| 5,875.0                       | 2.25            | 273.40      | 5,875.0               | 0.0          | -0.2         | 0.2                     | 25.00                   | 25.00                  | 0.00                  |
| 1st Bone Spring C             |                 |             |                       |              |              |                         |                         |                        |                       |
| 5,880.0                       | 3.50            | 273.40      | 5,880.0               | 0.0          | -0.4         | 0.4                     | 25.00                   | 25.00                  | 0.00                  |
| 5,900.0                       | 8.50            | 273.40      | 5,899.9               | 0.1          | -2.5         | 2.5                     | 25.00                   | 25.00                  | 0.00                  |
| 5,920.0                       | 13.50           | 273.40      | 5,919.5               | 0.4          | -6.3         | 6.3                     | 25.00                   | 25.00                  | 0.00                  |
| 5,940.0                       | 18.50           | 273.40      | 5,938.7               | 0.7          | -11.8        | 11.8                    | 25.00                   | 25.00                  | 0.00                  |
| 5,960.0                       | 23.50           | 273.40      | 5,957.4               | 1.1          | -19.0        | 19.0                    | 25.00                   | 25.00                  | 0.00                  |
| 5,980.0                       | 28.50           | 273.40      | 5,975.4               | 1.6          | -27.7        | 27.8                    | 25.00                   | 25.00                  | 0.00                  |
| 6,000.0                       | 33.50           | 273.40      | 5,992.5               | 2.3          | -38.0        | 38.1                    | 25.00                   | 25.00                  | 0.00                  |
| 6,020.0                       | 38.50           | 273.40      | 6,008.7               | 3.0          | -49.7        | 49.8                    | 25.00                   | 25.00                  | 0.00                  |
| 6,040.0                       | 43.50           | 273.40      | 6,023.8               | 3.7          | -62.8        | 62.9                    | 25.00                   | 25.00                  | 0.00                  |
| 6,060.0                       | 48.50           | 273.40      | 6,037.6               | 4.6          | -77.2        | 77.3                    | 25.00                   | 25.00                  | 0.00                  |
| 6,080.0                       | 53.50           | 273.40      | 6,050.2               | 5.5          | -92.7        | 92.9                    | 25.00                   | 25.00                  | 0.00                  |
| 6,100.0                       | 58.50           | 273.40      | 6,061.4               | 6.5          | -109.2       | 109.4                   | 25.00                   | 25.00                  | 0.00                  |
| 6,120.0                       | 63.50           | 273.40      | 6,071.1               | 7.5          | -126.7       | 126.9                   | 25.00                   | 25.00                  | 0.00                  |
| 6,140.0                       | 68.50           | 273.40      | 6,079.2               | 8.6          | -144.9       | 145.2                   | 25.00                   | 25.00                  | 0.00                  |
| 6,160.0                       | 73.50           | 273.40      | 6,085.7               | 9.7          | -163.8       | 164.1                   | 25.00                   | 25.00                  | 0.00                  |
| 6,180.0                       | 78.50           | 273.40      | 6,090.6               | 10.9         | -183.2       | 183.5                   | 25.00                   | 25.00                  | 0.00                  |
| 6,200.0                       | 83.50           | 273.40      | 6,093.7               | 12.1         | -202.9       | 203.2                   | 25.00                   | 25.00                  | 0.00                  |
| 6,220.0                       | 88.50           | 273.40      | 6,095.1               | 13.2         | -222.8       | 223.2                   | 25.00                   | 25.00                  | 0.00                  |
| 6,230.2                       | 91.05           | 273.40      | 6,095.1               | 13.8         | -233.0       | 233.4                   | 25.00                   | 25.00                  | 0.00                  |
| EOC - Hold to TD              |                 |             |                       |              |              |                         |                         |                        |                       |
| 6,300.0                       | 91.05           | 273.40      | 6,093.9               | 18.0         | -302.6       | 303.2                   | 0.00                    | 0.00                   | 0.00                  |
| 6,400.0                       | 91.05           | 273.40      | 6,092.0               | 23.9         | -402.4       | 403.2                   | 0.00                    | 0.00                   | 0.00                  |
| 6,500.0                       | 91.05           | 273.40      | 6,090.2               | 29.8         | -502.3       | 503.1                   | 0.00                    | 0.00                   | 0.00                  |
| 6,600.0                       | 91.05           | 273.40      | 6,088.4               | 35.8         | -602.1       | 603.1                   | 0.00                    | 0.00                   | 0.00                  |
| 6,700.0                       | 91.05           | 273.40      | 6,086.5               | 41.7         | -701.9       | 703.1                   | 0.00                    | 0.00                   | 0.00                  |
| 6,800.0                       | 91.05           | 273.40      | 6,084.7               | 47.6         | -801.7       | 803.1                   | 0.00                    | 0.00                   | 0.00                  |
| 6,900.0                       | 91.05           | 273.40      | 6,082.9               | 53.6         | -901.5       | 903.1                   | 0.00                    | 0.00                   | 0.00                  |
| 7,000.0                       | 91.05           | 273.40      | 6,081.0               | 59.5         | -1,001.3     | 1,003.1                 | 0.00                    | 0.00                   | 0.00                  |
| 7,100.0                       | 91.05           | 273.40      | 6,079.2               | 65.4         | -1,101.1     | 1,103.0                 | 0.00                    | 0.00                   | 0.00                  |
| 7,200.0                       | 91.05           | 273.40      | 6,077.4               | 71.3         | -1,200.9     | 1,203.0                 | 0.00                    | 0.00                   | 0.00                  |
| 7,300.0                       | 91.05           | 273.40      | 6,075.5               | 77.3         | -1,300.7     | 1,303.0                 | 0.00                    | 0.00                   | 0.00                  |
| 7,400.0                       | 91.05           | 273.40      | 6,073.7               | 83.2         | -1,400.5     | 1,403.0                 | 0.00                    | 0.00                   | 0.00                  |
| 7,500.0                       | 91.05           | 273.40      | 6,071.9               | 89.1         | -1,500.3     | 1,503.0                 | 0.00                    | 0.00                   | 0.00                  |
| 7,600.0                       | 91.05           | 273.40      | 6,070.0               | 95.1         | -1,600.1     | 1,603.0                 | 0.00                    | 0.00                   | 0.00                  |
| 7,700.0                       | 91.05           | 273.40      | 6,068.2               | 101.0        | -1,699.9     | 1,702.9                 | 0.00                    | 0.00                   | 0.00                  |
| 7,800.0                       | 91.05           | 273.40      | 6,066.4               | 106.9        | -1,799.7     | 1,802.9                 | 0.00                    | 0.00                   | 0.00                  |
| 7,900.0                       | 91.05           | 273.40      | 6,064.5               | 112.9        | -1,899.6     | 1,902.9                 | 0.00                    | 0.00                   | 0.00                  |
| 8,000.0                       | 91.05           | 273.40      | 6,062.7               | 118.8        | -1,999.4     | 2,002.9                 | 0.00                    | 0.00                   | 0.00                  |
| 8,100.0                       | 91.05           | 273.40      | 6,060.9               | 124.7        | -2,099.2     | 2,102.9                 | 0.00                    | 0.00                   | 0.00                  |
| 8,200.0                       | 91.05           | 273.40      | 6,059.0               | 130.6        | -2,199.0     | 2,202.9                 | 0.00                    | 0.00                   | 0.00                  |
| 8,300.0                       | 91.05           | 273.40      | 6,057.2               | 136.6        | -2,298.8     | 2,302.8                 | 0.00                    | 0.00                   | 0.00                  |
| 8,400.0                       | 91.05           | 273.40      | 6,055.4               | 142.5        | -2,398.6     | 2,402.8                 | 0.00                    | 0.00                   | 0.00                  |
| 8,500.0                       | 91.05           | 273.40      | 6,053.6               | 148.4        | -2,498.4     | 2,502.8                 | 0.00                    | 0.00                   | 0.00                  |
| 8,600.0                       | 91.05           | 273.40      | 6,051.7               | 154.4        | -2,598.2     | 2,602.8                 | 0.00                    | 0.00                   | 0.00                  |
| 8,700.0                       | 91.05           | 273.40      | 6,049.9               | 160.3        | -2,698.0     | 2,702.8                 | 0.00                    | 0.00                   | 0.00                  |
| 8,800.0                       | 91.05           | 273.40      | 6,048.1               | 166.2        | -2,797.8     | 2,802.8                 | 0.00                    | 0.00                   | 0.00                  |
| 8,900.0                       | 91.05           | 273.40      | 6,046.2               | 172.2        | -2,897.6     | 2,902.7                 | 0.00                    | 0.00                   | 0.00                  |
| 9,000.0                       | 91.05           | 273.40      | 6,044.4               | 178.1        | -2,997.4     | 3,002.7                 | 0.00                    | 0.00                   | 0.00                  |
| 9,100.0                       | 91.05           | 273.40      | 6,042.6               | 184.0        | -3,097.2     | 3,102.7                 | 0.00                    | 0.00                   | 0.00                  |



# Great White Directional Services

## Planning Report

|           |                           |                              |                                        |
|-----------|---------------------------|------------------------------|----------------------------------------|
| Database: | EDM 5000.1 Single User Db | Local Co-ordinate Reference: | Well Seldom Seen 15 #5.                |
| Company:  | Cimarex Energy Co.        | TVD Reference:               | WELL @ 3365.0usft (Original Well Elev) |
| Project:  | Eddy County (NM83E)       | MD Reference:                | WELL @ 3365.0usft (Original Well Elev) |
| Site:     | Sec 15 - T25S - R26E      | North Reference:             | Grid                                   |
| Well:     | Seldom Seen 15 #5         | Survey Calculation Method:   | Minimum Curvature                      |
| Wellbore: | Wellbore #1               |                              |                                        |
| Design:   | Plan #1                   |                              |                                        |

| Planned Survey        |                 |             |                       |              |              |                         |                         |                        |                       |  |
|-----------------------|-----------------|-------------|-----------------------|--------------|--------------|-------------------------|-------------------------|------------------------|-----------------------|--|
| Measured Depth (usft) | Inclination (°) | Azimuth (°) | Vertical Depth (usft) | +N/-S (usft) | +E/-W (usft) | Vertical Section (usft) | Dogleg Rate (°/100usft) | Build Rate (°/100usft) | Turn Rate (°/100usft) |  |
| 9,200.0               | 91.05           | 273.40      | 6,040.7               | 189.9        | -3,197.0     | 3,202.7                 | 0.00                    | 0.00                   | 0.00                  |  |
| 9,300.0               | 91.05           | 273.40      | 6,038.9               | 195.9        | -3,296.9     | 3,302.7                 | 0.00                    | 0.00                   | 0.00                  |  |
| 9,400.0               | 91.05           | 273.40      | 6,037.1               | 201.8        | -3,396.7     | 3,402.7                 | 0.00                    | 0.00                   | 0.00                  |  |
| 9,500.0               | 91.05           | 273.40      | 6,035.2               | 207.7        | -3,496.5     | 3,502.6                 | 0.00                    | 0.00                   | 0.00                  |  |
| 9,600.0               | 91.05           | 273.40      | 6,033.4               | 213.7        | -3,596.3     | 3,602.6                 | 0.00                    | 0.00                   | 0.00                  |  |
| 9,700.0               | 91.05           | 273.40      | 6,031.6               | 219.6        | -3,696.1     | 3,702.6                 | 0.00                    | 0.00                   | 0.00                  |  |
| 9,800.0               | 91.05           | 273.40      | 6,029.7               | 225.5        | -3,795.9     | 3,802.6                 | 0.00                    | 0.00                   | 0.00                  |  |
| 9,900.0               | 91.05           | 273.40      | 6,027.9               | 231.4        | -3,895.7     | 3,902.6                 | 0.00                    | 0.00                   | 0.00                  |  |
| 10,000.0              | 91.05           | 273.40      | 6,026.1               | 237.4        | -3,995.5     | 4,002.5                 | 0.00                    | 0.00                   | 0.00                  |  |
| 10,100.0              | 91.05           | 273.40      | 6,024.2               | 243.3        | -4,095.3     | 4,102.5                 | 0.00                    | 0.00                   | 0.00                  |  |
| 10,200.0              | 91.05           | 273.40      | 6,022.4               | 249.2        | -4,195.1     | 4,202.5                 | 0.00                    | 0.00                   | 0.00                  |  |
| 10,300.0              | 91.05           | 273.40      | 6,020.6               | 255.2        | -4,294.9     | 4,302.5                 | 0.00                    | 0.00                   | 0.00                  |  |
| 10,313.8              | 91.05           | 273.40      | 6,020.3               | 256.0        | -4,308.7     | 4,316.3                 | 0.00                    | 0.00                   | 0.00                  |  |

| Design Targets                                                                            |               |              |            |              |              |                 |                |                 |                   |  |
|-------------------------------------------------------------------------------------------|---------------|--------------|------------|--------------|--------------|-----------------|----------------|-----------------|-------------------|--|
| Target Name                                                                               | Dip Angle (°) | Dip Dir. (°) | TVD (usft) | +N/-S (usft) | +E/-W (usft) | Northing (usft) | Easting (usft) | Latitude        | Longitude         |  |
| - hit/miss target                                                                         |               |              |            |              |              |                 |                |                 |                   |  |
| - Shape                                                                                   |               |              |            |              |              |                 |                |                 |                   |  |
| Seldom Seen #5                                                                            | 0.00          | 0.00         | 6,020.0    | 256.0        | -4,308.7     | 409,148.96      | 555,345.03     | 32° 7' 29.357 N | 104° 17' 17.105 W |  |
| - plan misses target center by 0.3usft at 10313.8usft MD (6020.3 TVD, 256.0 N, -4308.7 E) |               |              |            |              |              |                 |                |                 |                   |  |
| - Point                                                                                   |               |              |            |              |              |                 |                |                 |                   |  |

| Formations            |                       |                     |           |         |                   |  |
|-----------------------|-----------------------|---------------------|-----------|---------|-------------------|--|
| Measured Depth (usft) | Vertical Depth (usft) | Name                | Lithology | Dip (°) | Dip Direction (°) |  |
| 1,095.0               | 1,095.0               | Top Salt            |           | 0.00    |                   |  |
| 1,700.0               | 1,700.0               | Base Salt           |           | 0.00    |                   |  |
| 1,907.0               | 1,907.0               | Bell Canyon         |           | 0.00    |                   |  |
| 2,877.0               | 2,877.0               | Cherry Canyon       |           | 0.00    |                   |  |
| 3,878.0               | 3,878.0               | Brushy Canyon       |           | 0.00    |                   |  |
| 5,150.0               | 5,150.0               | Lower Brushy Canyon |           | 0.00    |                   |  |
| 5,420.0               | 5,420.0               | Bone Spring         |           | 0.00    |                   |  |
| 5,629.0               | 5,629.0               | 1st Bone Spring A   |           | 0.00    |                   |  |
| 5,799.0               | 5,799.0               | 1st Bone Spring B   |           | 0.00    |                   |  |
| 5,875.0               | 5,875.0               | 1st Bone Spring C   |           | 0.00    |                   |  |

| Plan Annotations      |                       |                   |              |                               |  |
|-----------------------|-----------------------|-------------------|--------------|-------------------------------|--|
| Measured Depth (usft) | Vertical Depth (usft) | Local Coordinates |              | Comment                       |  |
|                       |                       | +N/-S (usft)      | +E/-W (usft) |                               |  |
| 5,866.0               | 5,866.0               | 0.0               | 0.0          | KOP 25°/100 DLS @ 273.40° AZI |  |
| 6,230.2               | 6,095.1               | 13.8              | -233.0       | EOC - Hold to TD              |  |
| 10,313.8              | 6,020.3               | 256.0             | -4,308.7     | TD at 10313.8                 |  |



## WELL DETAILS: Seldom Seen 15 #5



+N/-S +E/-W Northing Easting 3335.0 Latitude Longitude  
0.0 408893.00 559653.70 32° 7' 26.803 N 104° 16' 27.000 W  
SHL: 560' FSL / 660' FEL  
BHL: 760' FSL / 330' FWL



Azimuths to Grid North  
Total Correction: 7.89°

Magnetic Field  
Strength: 48544.9nT  
Dip Angle: 60.00°  
Date: 02/21/2011  
Model: IGRF200510

Project: Eddy County (NM83E)  
Site: Sec 15 - T25S - R26E  
Well: Seldom Seen 15 #5  
Wellbore: Wellbore #1  
Design: Plan #1

## WELLBORE TARGET DETAILS

| Name           | TVD    | +N/-S | +E/-W   | Northing  | Easting   |
|----------------|--------|-------|---------|-----------|-----------|
| Seldom Seen #5 | 6020.0 | 256.0 | -4308.7 | 409148.96 | 555345.02 |

## PLAN DETAILS

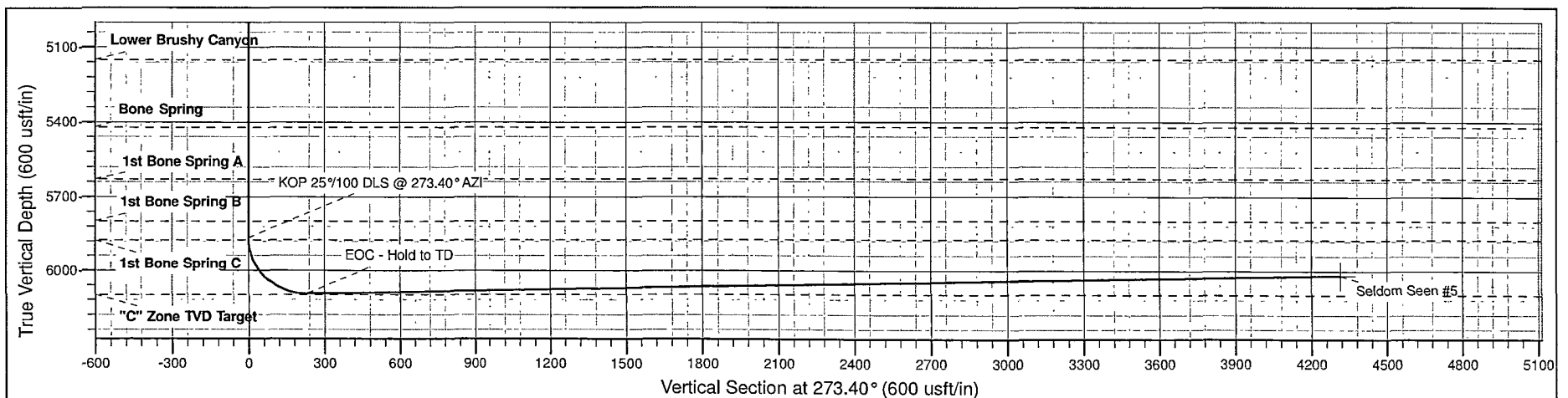
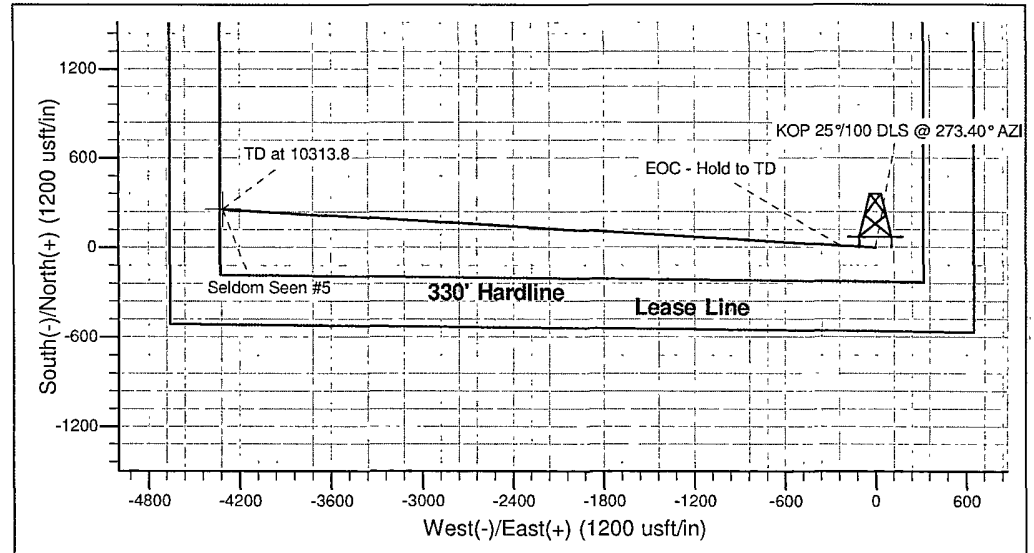
| Sec | MD    | Inc   | Azi    | TVD    | +N/-S | +E/-W   | Dleg  | TFace  | Vsect  | Target         |
|-----|-------|-------|--------|--------|-------|---------|-------|--------|--------|----------------|
| 1   | 0.0   | 0.00  | 0.00   | 0.0    | 0.0   | 0.0     | 0.00  | 0.00   | 0.0    |                |
| 2   | 866.0 | 0.00  | 0.00   | 5866.0 | 0.0   | 0.0     | 0.00  | 0.00   | 0.0    |                |
| 3   | 230.2 | 91.05 | 273.40 | 6095.1 | 13.8  | -233.0  | 25.00 | 273.40 | 233.4  |                |
| 4   | 313.8 | 91.05 | 273.40 | 6020.3 | 256.0 | -4308.7 | 0.00  | 0.00   | 4316.3 | Seldom Seen #5 |

## ANNOTATIONS

| TV    | MD      | Inc   | Azi    | +N/-S | +E/-W   | Vsect  | Departure | Annotation                    |
|-------|---------|-------|--------|-------|---------|--------|-----------|-------------------------------|
| 866.0 | 5866.0  | 0.00  | 0.00   | 0.0   | 0.0     | 0.0    | 0.0       | KOP 25°/100 DLS @ 273.40° AZI |
| 095.0 | 6230.2  | 91.05 | 273.40 | 13.8  | -233.0  | 233.4  | 233.4     | EOC - Hold to TD              |
| 020.0 | 10313.8 | 91.05 | 273.40 | 256.0 | -4308.7 | 4316.3 | 4316.3    | TD at 10313.8                 |

## FORMATION TOP DETAILS

| TVDPATH | MDPATH | Formation           | DipAngle | DipDir |
|---------|--------|---------------------|----------|--------|
| 1095.0  | 1095.0 | Top Salt            | 0.00     |        |
| 1700.0  | 1700.0 | Base Salt           | 0.00     |        |
| 1907.0  | 1907.0 | Bell Canyon         | 0.00     |        |
| 2877.0  | 2877.0 | Cherry Canyon       | 0.00     |        |
| 3878.0  | 3878.0 | Brushy Canyon       | 0.00     |        |
| 5150.0  | 5150.0 | Lower Brushy Canyon | 0.00     |        |
| 5420.0  | 5420.0 | Bone Spring         | 0.00     |        |
| 5629.0  | 5629.0 | 1st Bone Spring A   | 0.00     |        |
| 5799.0  | 5799.0 | 1st Bone Spring B   | 0.00     |        |
| 5875.0  | 5875.0 | 1st Bone Spring C   | 0.00     |        |



SR & A

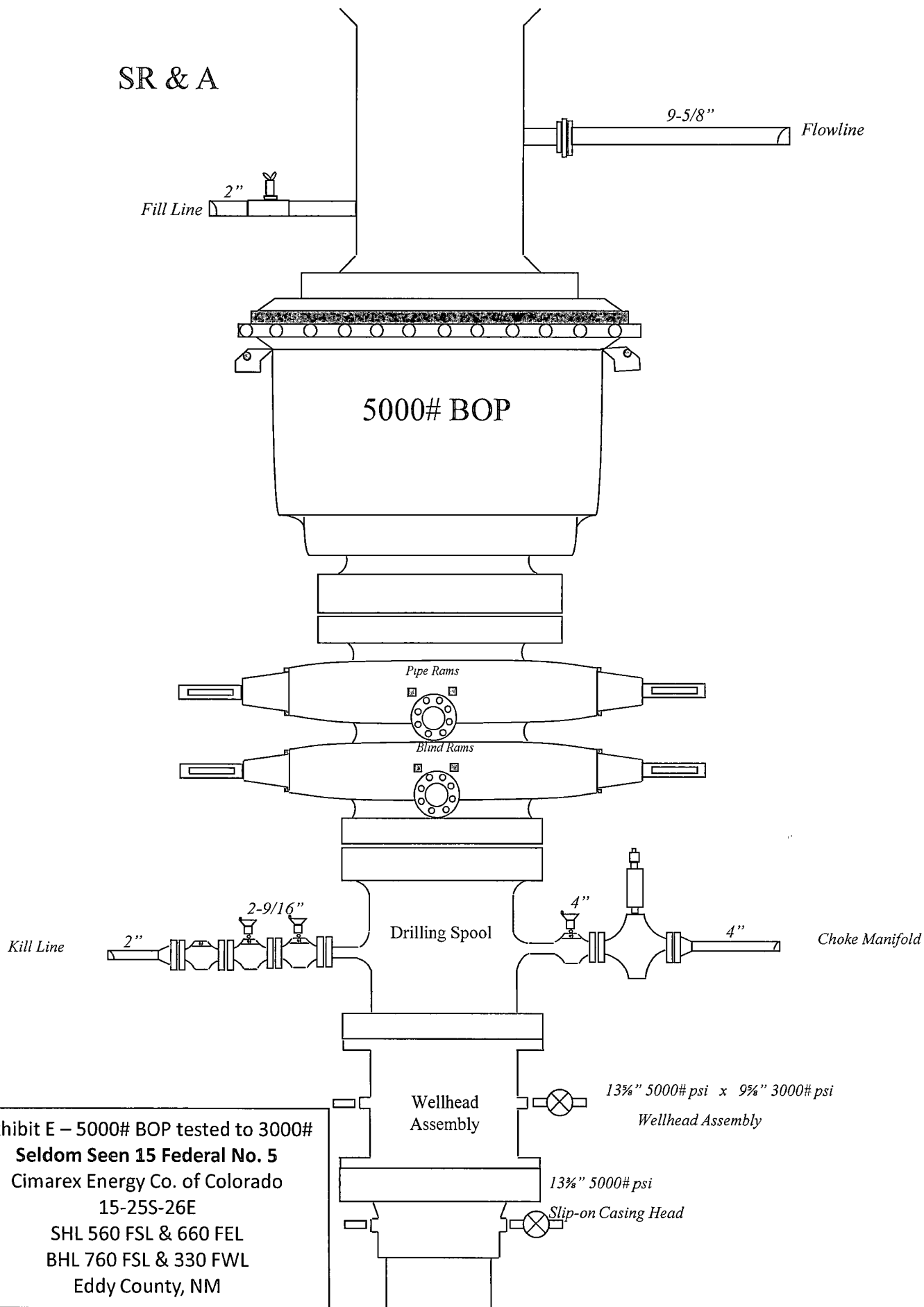
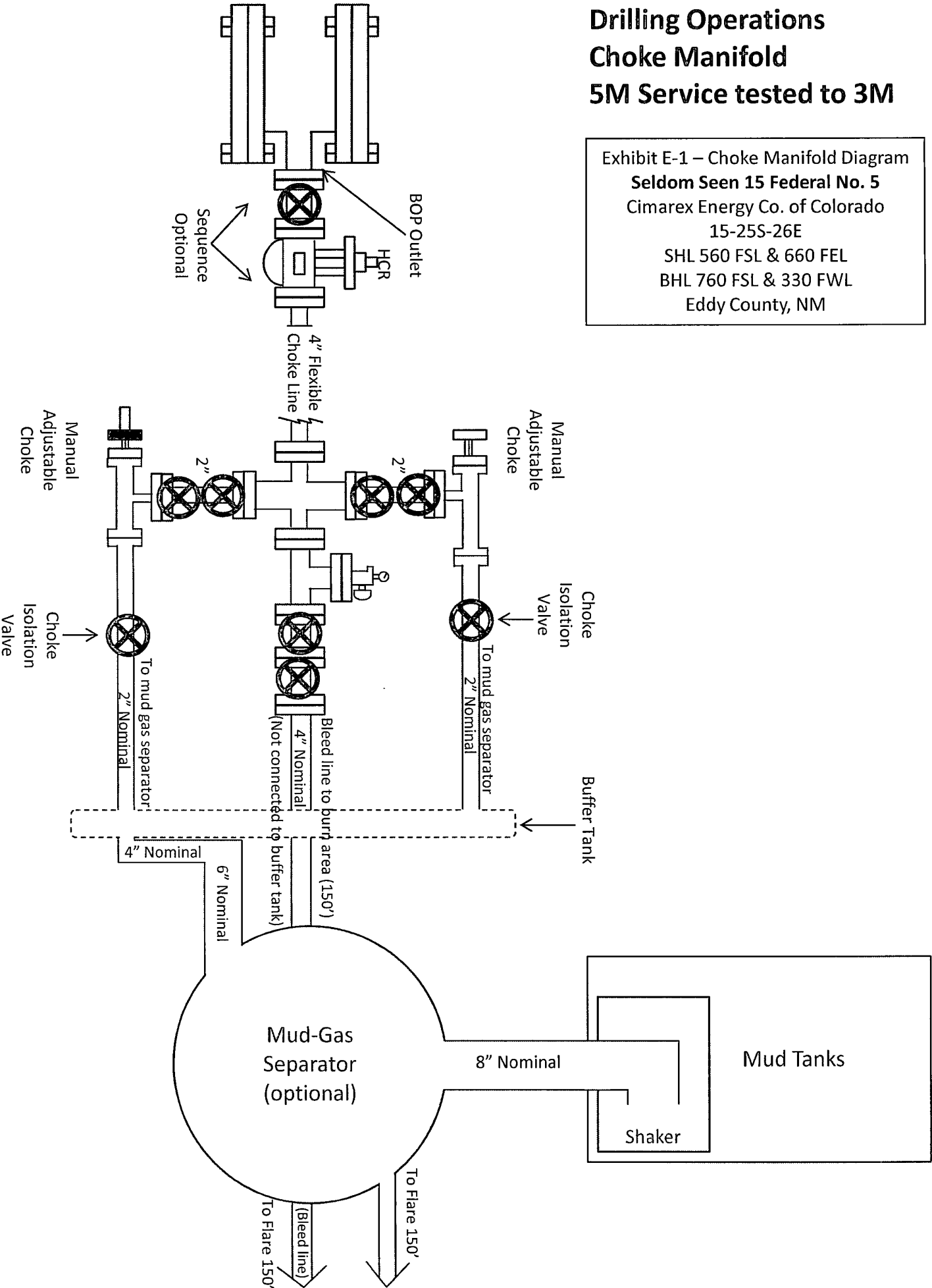


Exhibit E – 5000# BOP tested to 3000#  
**Seldom Seen 15 Federal No. 5**  
Cimarex Energy Co. of Colorado  
15-25S-26E  
SHL 560 FSL & 660 FEL  
BHL 760 FSL & 330 FWL  
Eddy County, NM

Drilling Operations  
Choke Manifold  
5M Service tested to 3M

Exhibit E-1 – Choke Manifold Diagram  
Seldom Seen 15 Federal No. 5  
Cimarex Energy Co. of Colorado  
15-25S-26E  
SHL 560 FSL & 660 FEL  
BHL 760 FSL & 330 FWL  
Eddy County, NM



Key 880

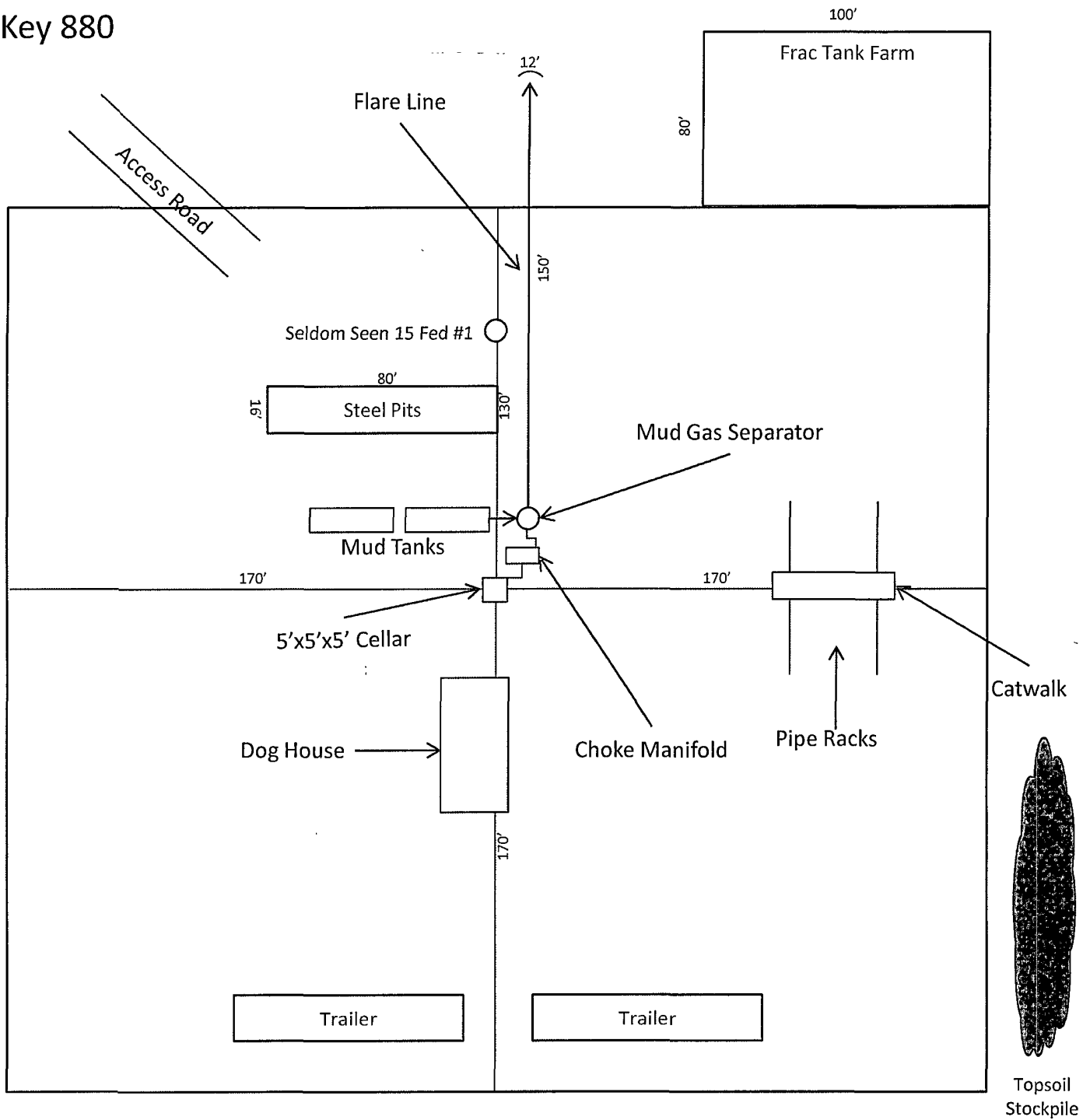


Exhibit D – Rig Diagram  
**Seldom Seen 15 Federal No. 5**  
Cimarex Energy Co. of Colorado  
15-25S-26E  
SHL 560 FSL & 660 FEL  
BHL 760 FSL & 330 FWL  
Eddy County, NM