

**District I**  
1625 N. French Dr., Hobbs, NM 88240  
Phone:(575) 393-6161 Fax:(575) 393-0720  
**District II**  
811 S. First St., Artesia, NM 88210  
Phone:(575) 748-1283 Fax:(575) 748-9720  
**District III**  
1000 Rio Brazos Rd., Aztec, NM 87410  
Phone:(505) 334-6178 Fax:(505) 334-6170  
**District IV**  
1220 S. St Francis Dr., Santa Fe, NM 87505  
Phone:(505) 476-3470 Fax:(505) 476-3462

**State of New Mexico**  
**Energy, Minerals and Natural Resources**  
**Oil Conservation Division**  
**1220 S. St Francis Dr.**  
**Santa Fe, NM 87505**

Form C-101  
August 1, 2011  
Permit 167561

**APPLICATION FOR PERMIT TO DRILL, RE-ENTER, DEEPEN, PLUGBACK, OR ADD A ZONE**

|   |                                     |  |
|---|-------------------------------------|--|
| 1. Operator Name and Address<br>COG OPERATING LLC<br>One Concho Center<br>Midland, TX 79701 |                                     | 2. OGRID Number<br>229137<br><br>3. API Number<br>30-025-41193 |
| 4. Property Code<br>39915   | 5. Property Name<br>GREY HAWK STATE | 6. Well No.<br>001H  |

**7. Surface Location**

| UL - Lot | Section | Township | Range | Lot Idn | Feet From | N/S Line | Feet From | E/W Line | County |
|----------|---------|----------|-------|---------|-----------|----------|-----------|----------|--------|
| O        | 31      | 21S      | 34E   | O       | 190       | S        | 2310      | E        | LEA    |

**8. Proposed Bottom Hole Location**

| UL - Lot | Section | Township | Range | Lot Idn | Feet From | N/S Line | Feet From | E/W Line | County |
|----------|---------|----------|-------|---------|-----------|----------|-----------|----------|--------|
| B        | 31      | 21S      | 34E   | B       | 330       | N        | 2260      | E        | Lea    |

**9. Pool Information**

|                                  |       |
|----------------------------------|-------|
| WC-025 G-07 S213430M;BONE SPRING | 97962 |
|----------------------------------|-------|

**Additional Well Information**

|                           |                             |  |                         |                                    |
|---------------------------|-----------------------------|--|-------------------------|------------------------------------|
| 11. Work Type<br>New Well | 12. Well Type<br>OIL        | 13. Cable/Rotary                       | 14. Lease Type<br>State | 15. Ground Level Elevation<br>3630 |
| 16. Multiple<br>N         | 17. Proposed Depth<br>16644 | 18. Formation<br>Bone Spring           | 19. Contractor          | 20. Spud Date<br>5/28/2013         |
| Depth to Ground water     |                             | Distance from nearest fresh water well |                         | Distance to nearest surface water  |

**21. Proposed Casing and Cement Program**

| Type | Hole Size | Casing Type | Casing Weight/ft | Setting Depth | Sacks of Cement | Estimated TOC |
|------|-----------|-------------|------------------|---------------|-----------------|---------------|
| Surf | 17.5      | 13.375      | 54.5             | 1850          | 1085            |               |
| Int1 | 12.25     | 9.625       | 36               | 5290          | 1630            |               |
| Prod | 7.875     | 5.5         | 17               | 16644         | 1820            | 4990          |

**Casing/Cement Program: Additional Comments**

Drill 17-1/2" hole to ~1850' w/ fresh water spud mud. Run 13-3/8" 54.5# J55 STC casing to TD and cement to surface in one stage. Will use 1" tubing and Class C w/ 2% CaCl2 to cement to surface, if necessary. Drill 12-1/4" hole to ~5290' with saturated brine water. If losses occur in the Reef, will switch to fresh water to interval TD. Run 9-5/8" 36# J55 & 40# N80 BTC casing to TD with a DV tool placed ~100' above the Reef. Plan to circulate cement on both stages. Drill 7-7/8" pilot hole to 12400', log and plug back with 380 sx cement plug # 11400' - 12400'. Drill 7-7/8" curve and lateral to 16644' with cut brine. Run 5-1/2" 17# P110 LTC casing to TD and cement to 4990' (300' overlap) in one stage.

**22. Proposed Blowout Prevention Program**

| Type      | Working Pressure | Test Pressure | Manufacturer |
|-----------|------------------|---------------|--------------|
| DoubleRam | 5000             | 5000          | Hydrill      |

|   |  |
|---|--|
| 23. I hereby certify that the information given above is true and complete to the best of my knowledge and belief.<br>I further certify I have complied with 19.15.14.9 (A) NMAC <input checked="" type="checkbox"/> and/or 19.15.14.9 (B) NMAC <input checked="" type="checkbox"/> , if applicable.<br>Signature: _____<br>Printed Name: Electronically filed by Diane Kuykendall<br>Title: Production Reporting Mgr<br>Email Address: dkuykendall@conchoresources.com<br>Date: 5/21/2013      Phone: 432-683-7443 | <b>OIL CONSERVATION DIVISION</b><br>Approved By: Paul Kautz<br>Title: Geologist<br>Approved Date: 5/22/2013      Expiration Date: 5/22/2015<br>Conditions of Approval Attached |
|---|--|

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**State of New Mexico**  
**Energy, Minerals and Natural Resources**  
**Oil Conservation Division**  
**1220 S. St Francis Dr.**  
**Santa Fe, NM 87505**

Form C-102  
August 1, 2011  
Permit 167561

**WELL LOCATION AND ACREAGE DEDICATION PLAT**

|                               |                                       |  |
|-------------------------------|---------------------------------------|--|
| 1. API Number<br>30-025-41193 | 2. Pool Code<br>97962                 | 3. Pool Name<br>WC-025 G-07 S213430M;BONE SPRING |
| 4. Property Code<br>39915     | 5. Property Name<br>GREY HAWK STATE   | 6. Well No.<br>001H                              |
| 7. OGRID No.<br>229137        | 8. Operator Name<br>COG OPERATING LLC | 9. Elevation<br>3630                             |

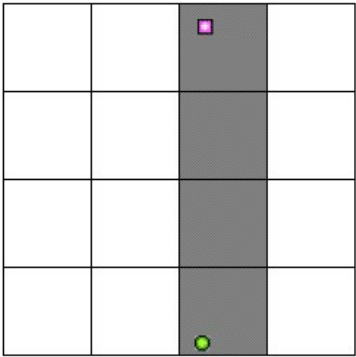
**10. Surface Location**

|               |               |                 |              |              |                  |               |                   |               |               |
|---------------|---------------|-----------------|--------------|--------------|------------------|---------------|-------------------|---------------|---------------|
| UL - Lot<br>O | Section<br>31 | Township<br>21S | Range<br>34E | Lot Idn<br>B | Feet From<br>190 | N/S Line<br>S | Feet From<br>2310 | E/W Line<br>E | County<br>LEA |
|---------------|---------------|-----------------|--------------|--------------|------------------|---------------|-------------------|---------------|---------------|

**11. Bottom Hole Location If Different From Surface**

|                               |               |                     |              |                        |                  |               |                   |               |               |
|-------------------------------|---------------|---------------------|--------------|------------------------|------------------|---------------|-------------------|---------------|---------------|
| UL - Lot<br>B                 | Section<br>31 | Township<br>21S     | Range<br>34E | Lot Idn<br>B           | Feet From<br>330 | N/S Line<br>N | Feet From<br>2260 | E/W Line<br>E | County<br>LEA |
| 12. Dedicated Acres<br>160.00 |               | 13. Joint or Infill |              | 14. Consolidation Code |                  |               | 15. Order No.     |               |               |

**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 style="text-align: center;"><b>OPERATOR CERTIFICATION</b></p> <p><i>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(s) or has a right to drill this well at this location pursuant to a contract with an owner of such a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.</i></p> <p>E-Signed By: Diane Kuykendall<br/>Title: Production Reporting Mgr<br/>Date: 5/21/2013</p> <hr/> <p style="text-align: center;"><b>SURVEYOR CERTIFICATION</b></p> <p><i>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.</i></p> <p>Surveyed By: Chad Harcrow<br/>Date of Survey: 3/26/2013<br/>Certificate Number: 17777</p> |
|--|--|

## Permit Comments

**Operator:** COG OPERATING LLC , 229137

**Well:** GREY HAWK STATE #001H

**API:** 30-025-41193

| Created By | Comment  | Comment Date |
|------------|--|--------------|
| mreyes1    | OIL: COG Operating has conducted a review to determine if an H2S contingency plan is required for the above referenced well. We were able to conclude that any potential hazardous volume would be minimal. H2S concentrations of wells in this area from surface to TD are low enough; therefore we do not believe that an H2S Contingency Plan would be necessary. | 5/21/2013    |
| CHERRERA   | OCD RECEIVED FORM C144 CLEZ. OCD PERMIT # P1-06257   | 5/22/2013    |
| pkautz     | Land s/S   | 5/22/2013    |

## Permit Conditions of Approval

Operator: COG OPERATING LLC , 229137

Well: GREY HAWK STATE #001H

API: 30-025-41193

| OCD<br>Reviewer | Condition  |
|-----------------|--|
| pkautz          | In order to seal off protectable water, surface casing must be set 25' top of Rustler Anhydrite.   |
| pkautz          | Once the well is spud, to prevent ground water contamination through whole or partial conduits from the surface, the operator shall drill without interruption through the fresh water zone or zones and shall immediately set in cement the water protection string |