

# BLM-CARLSBAD FIELD OFFICE

Form 3160-3  
(April 2004)

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

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

## APPLICATION FOR PERMIT TO DRILL OR REENTER

|   |  |
|---|--|
| 5. Lease Serial No.<br><b>NMNM-120349</b>   |  |
| 6. If Indian, Allottee or Tribe Name  |  |
| 7. If Unit or CA Agreement, Name and No.  |  |
| 8. Lease Name and Well No.<br><b>Elf Federal #1</b>   |  |
| 9. API Well No.<br><b>30-015-25047</b>  |  |
| 10. Field and Pool, or Exploratory<br><b>Dog Canyon; San Andres</b>   |  |
| 11. Sec., T. R. M. or Blk. and Survey or Area<br><b>Sec. 24 T16S R27E</b>   |  |
| 12. County or Parish<br><b>Eddy</b>   |  |
| 13. State<br><b>NM</b>  |  |
| 14. Distance in miles and direction from nearest town or post office*<br><b>11 miles northeast of Artesia, NM</b>     | 15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drlg. unit line, if any) <b>660</b> |
| 16. No. of acres in lease<br><b>800</b>   | 17. Spacing Unit dedicated to this well<br><b>40 acres</b>   |
| 18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. <b>N/A</b> | 19. Proposed Depth<br><b>2800'</b>   |
| 20. BLM/BIA Bond No. on file<br><b>NMB000286</b>  | 21. Elevations (Show whether DF, KDB, RT, GL, etc.)<br><b>3537' GL</b>   |
| 22. Approximate date work will start*<br><b>9/1/08</b>  | 23. Estimated duration<br><b>3 days</b>  |

### 24. Attachments

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

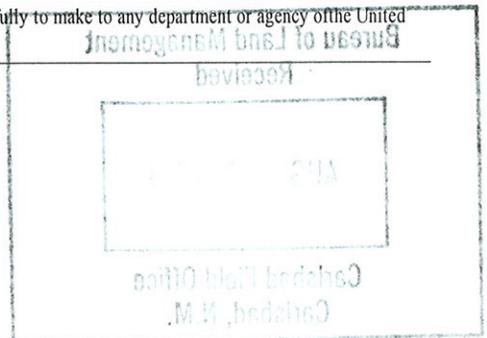
- |  |  |
|--|--|
| 1. Well plat certified by a registered surveyor.<br>2. A Drilling Plan.<br>3. A Surface Use Plan (if the location is on National Forest System Lands, the SUPO shall be filed with the appropriate Forest Service Office). | 4. Bond to cover the operations unless covered by an existing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

|                                  |  |                        |
|----------------------------------|--|------------------------|
| 25. Signature<br>                | Name (Printed/Typed)<br><b>Jerry W. Sherrell</b> | Date<br><b>7/31/08</b> |
| Title<br><b>Production Clerk</b> |  |                        |
| Approved by (Signature)          | Name (Printed/Typed)                             | Date                   |
| Title<br>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.C. 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)



District I  
1625 N. French Dr., Hobbs, NM 88240  
District II  
811 South First, Artesia, NM 88210  
District III  
1000 Rio Brazos Rd., Aztec, NM 87410  
District IV  
2040 South Pacheco, Santa Fe, NM 87505

State of New Mexico  
EnerRy, Minerals & Natural Resources

Form C-102  
Revised March 17, 1999

OIL CONSERVATION DIVISION  
2040 South Pacheco  
Santa Fe, NM 87505

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

AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

|                             |   |                                     |
|-----------------------------|---|-------------------------------------|
| 'API Number<br>30-015-25047 | 'Pool Code<br>17960                       | 'Pool Name<br>Dog Canyon;San Andres |
| 'Property Code              | 'Property Name<br>Elf Federal             | 'Well Number<br>1                   |
| 'GRID No.<br>013837         | 'Operator Name<br>Mack Energy Corporation | 'Elevation<br>3537' GL              |

HI Surface Location

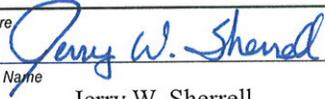
| UL or lot no. | Section | Township | Range | Lot Idn | Feet from the | North/South line | Feet from the | East/West line | County |
|---------------|---------|----------|-------|---------|---------------|------------------|---------------|----------------|--------|
| N             | 24      | 16S      | 27E   |         | 660           | South            | 1980          | West           | Eddy   |

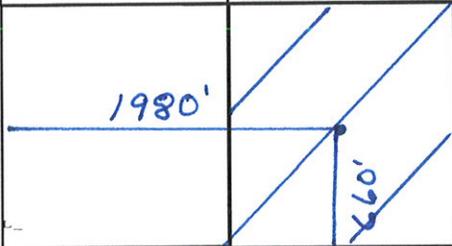
" Bottom Hole Location If Different From Surface

| UL or lot no. | Section | Township | Range | Lot Idn | Feet from the | North/South line | Feet from the | East/West line | County |
|---------------|---------|----------|-------|---------|---------------|------------------|---------------|----------------|--------|
|               |         |          |       |         |               |                  |               |                |        |

|                         |                   |                      |             |
|-------------------------|-------------------|----------------------|-------------|
| " Dedicated Acres<br>40 | " joint or Infill | " Consolidation Code | " Order No. |
|-------------------------|-------------------|----------------------|-------------|

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

|    |  |  |  |  |  |  |
|----|--|--|--|--|--|--|
| 16 |  |  |  | <b>OPERATOR CERTIFICATION</b>  |  |  |
|    |  |  |  | <i>I hereby certify that the information 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 or has a right to drill this well at this location pursuant to a contract with an owner of such mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.</i> |  |  |
|    |  |  |  | Signature   |  |  |
|    |  |  |  | Printed Name<br>Jerry W. Sherrell  |  |  |
|    |  |  | Title<br>Production Clerk  |  |  |  |
|    |  |  | Date<br>7/31/08  |  |  |  |
|    |  |  | <b>"SURVEYOR CERTIFICATION</b>   |  |  |  |
|    |  |  | <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> |  |  |  |
|    |  |  | Date of Survey   |  |  |  |
|    |  |  | Signature and Seal of Professional Surveyer.   |  |  |  |
|    |  |  | Certificate Number   |  |  |  |



## DRILLING PROGRAM

### Re-entry

#### 1. Geologic Name of Surface Formation

Quaternary

#### 2. Estimated Tops of Important Geologic Markers:

|            |         |
|------------|---------|
| Quaternary | Surface |
| Grayburg   | 1230'   |
| San Andres | 1648'   |
| Glorieta   | 3100'   |

#### 3. Estimated Depths of Anticipated Fresh Water, Oil and Gas:

|            |       |             |
|------------|-------|-------------|
| Water Sand | 150'  | Fresh Water |
| Grayburg   | 1230' | Oil/Gas     |
| San Andres | 1648' | Oil/Gas     |
| Glorieta   | 3100' | Oil/Gas     |

#### 4. Casing Program: Existing

13 3/8" 54#, set @ 420' w/425sx, circulated  
8 5/8" 24#, set 2154' w/1200sx, circulated  
5 1/2" 15.5, 17#, set @ 3097' w/325sx, est. TOC 597'

#### 5. Cement Program:

N/A

#### 6. Minimum Specifications for Pressure Control:

The blowout preventer equipment (BOP) will consist of a double ram-type 7 1/16 5000# Model T-81 preventer(attached). This unit will be manually operated and the ram type preventer will be equipped with blind rams on top of 2 7/8" tubing rams on bottom. The BOP will be nipped up on the 5 1/2" wellhead and used continuously until completed.

#### 7. Types and Characteristics of the Proposed Mud System:

The well will be drilled with a **closed loop system** to TD with a combination of cut brine and polymer mud system. The depths and properties of this system are as follows:

| DEPTH | TYPE      | WEIGHT | VISCOSITY | WATERLOSS |
|-------|-----------|--------|-----------|-----------|
| 0-TD  | Cut Brine | 9.1    | 29        | N.C.      |

Attached to Form 3160-3  
Mack Energy Corporation  
Elf Federal #1 NMNM-120349  
660 FSL & 1980 FWL Unit N, Sec. 24 T16S R27E  
Eddy County, NM

**8. Abnormal Conditions, Pressures, Temperatures and Potential Hazards:**

No abnormal pressures or temperatures are anticipated. The estimated bottom hole at TD is 100 degrees and estimated maximum bottom hole pressure is 620 psig. Low levels of Hydrogen sulfide have been found in producing wells in the area.

**9. Anticipated Starting Date and Duration of Operations:**

As soon as approved. Once approved, drilling should be finished in appr. 3 days.

**SURFACE USE AND OPERATING PLAN**

**1. Existing & Proposed Access Roads**

- A. This is an existing P & A'd well, therefore no new construction is anticipated. Re-surfacing of road and location will be necessary.
- B. Routine grading and maintenance of existing roads will be conducted as necessary to maintain their condition as long as any operations continue on this lease.

**2. Proposed Access Road:**

- A. Surfacing material will consist of native caliche. Caliche will be obtained from the nearest BLM approved caliche pit or reserve pit area.

**3. Location of Existing and/or Proposed Facilities:**

- A. Mack Energy Corporation does not operate a production facility on this lease.
- B. If the well is productive, contemplated facilities will be as follows:
  - 1) San Andres Completion: Will be sent to the Elf Federal TB located at the #1 well. The Facility is shown in Exhibit #5.
  - 2) The tank battery and facilities including all flow lines and piping will be installed according to API specifications.
  - 3) Any additional caliche will be obtained from a BLM approved caliche pit. Any additional construction materials will be purchased from contractors.
  - 4) It will be necessary to run electric power if this well is productive. Power will be run by CVE and they will send in a separate plan for power.



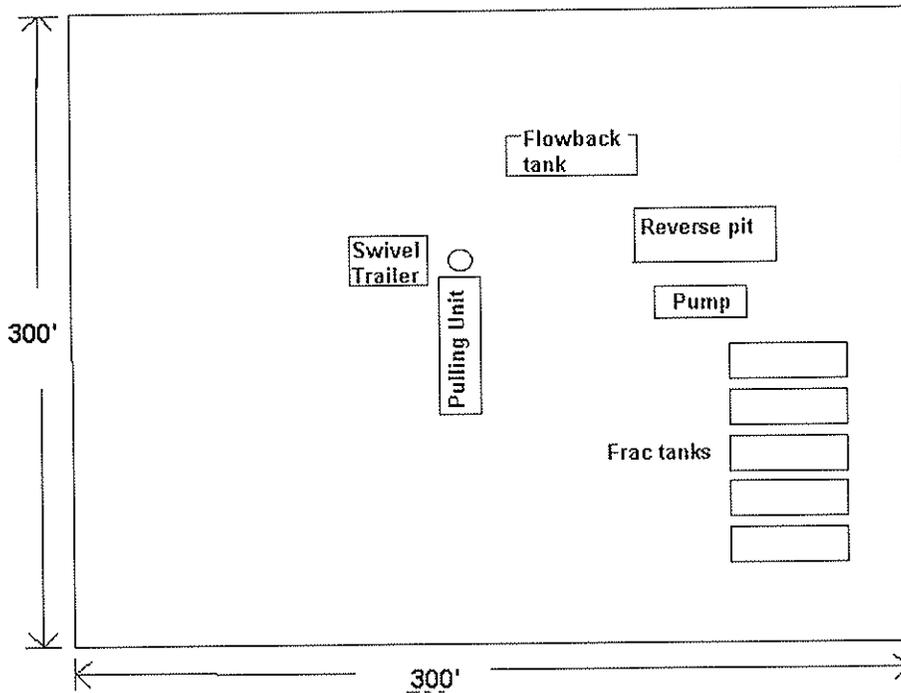


Exhibit #6

**7. Plans for Restoration of the Surface:**

- A. In the event of a dry hole. Location will be recontoured to its original natural level and reseeded as per BLM specifications.

**8. Surface Ownership:**

The well site and lease is located entirely on Federal surface. We have notified the surface lessee of the impending operations. According to BLM the lessee is Bogel Limited Company, Lewis Derrick, P.O. Box 460 Dexter, NM 88230.

**9. Other Information:**

- A. A Cultural Resources Examination has been completed by previous operator.

**10. Lessee's and Operator's Representative:**

The Mack Energy Corporation representative responsible for assuring compliance with the surface use plan is as follows:

Jerry W. Sherrell  
Mack Energy Corporation  
P.O. Box 960  
Artesia, NM 88211-0960  
Phone (505) 748-1288 (office)

## **Mack Energy Corporation**

### **Hydrogen Sulfide Drilling Operation Plan**

#### **I. HYDROGEN SULFIDE TRAINING**

All personnel, whether regularly assigned, contracted, or employed on an unscheduled basis, will receive training from a qualified instructor in the following areas prior to commencing drilling operations on this well:

1. The hazards and characteristics of hydrogen sulfide (H<sub>2</sub>S)
2. The proper use and maintenance of personal protective equipment and life support systems.
3. The proper use of H<sub>2</sub>S detectors, alarms, warning systems, briefing areas, evacuation procedures, and prevailing winds.
4. The proper techniques for first aid and rescue procedures.

In addition, supervisory personnel will be trained in the following areas:

1. The effects of H<sub>2</sub>S on metal components. If high tensile tubular are to be used, personnel will be trained in their special maintenance requirements.
2. Corrective action and shut-in procedures when drilling or reworking a well and blowout prevention and well control procedures.
3. The contents and requirements of the H<sub>2</sub>S Drilling Operations Plan and Public Protection Plan.

There will be an initial training session just prior to encountering a known or probable H<sub>2</sub>S zone (within 3 days or 500 feet) and weekly H<sub>2</sub>S and well control drills for all personnel in each crew. The initial training session shall include a review of the site specific H<sub>2</sub>S Drilling Operations Plan and the Public Protection Plan. The concentrations of H<sub>2</sub>S of wells in this area from surface to TD are low enough that a contingency plan is not required.

#### **II. H<sub>2</sub>S SAFETY EQUIPMENT AND SYSTEMS**

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Note: All H2S safety equipment and systems will be installed, tested, and operational when drilling reaches a depth of 500 feet above, or three days prior to penetrating the first zone containing or reasonable expected to contain H2S.

**1. Well Control Equipment:**

- A. Flare line.
- B. Choke manifold.
- C. Blind rams and pipe rams to accommodate all pipe sizes with properly sized closing unit.

**2. Protective equipment for essential personnel:**

- A. Mark II Survive air 30-minute units located in the doghouse and at briefing areas, as indicated on well site diagram.

**3. H2S detection and monitoring equipment:**

- A. 1 portable H2S monitors positioned on location for best coverage and response. These units have warning lights and audible sirens when H2S levels of 20 PPM are reached.

**4. Visual warning systems:**

- A. Wind direction indicators as shown on well site diagram (Exhibit #8).
- B. Caution/Danger signs (Exhibit #7) shall be posted on roads providing direct access to location. Signs will be painted a high visibility yellow with black lettering of sufficient size to be readable at a reasonable distance from the immediate location. Bilingual signs will be used, when appropriate. See example attached.

**5. Mud program:**

- A. The mud program has been designed to minimize the volume of H2S circulated to surface. Proper mud weight, safe operating practices, and the use of H2S scavengers will minimize hazards when penetrating H2S bearing zones.

**6. Metallurgy:**

- A. All drill strings, tubing, wellhead, blowout preventer, kill lines, choke manifold and lines, and valves shall be suitable for H2S service.
- B. All elastomers used for packing and seals shall be H2S trim.

**7. Communication:**

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Attached to Form 3160-3  
Mack Energy Corporation  
Elf Federal #1 NMNM-120349  
660 FSL & 1980 FWL Unit N, Sec. 24 T16S R27E  
Eddy County, NM

- A. Radio communications in company vehicles including cellular telephone and 2-way radio.
- B. Land line (telephone) communication at Office.

### EXHIBIT #7

## WARNING

### YOU ARE ENTERING AN H2S AUTHORIZED PERSONNEL ONLY

1. BEARDS OR CONTACT LENSES NOT ALLOWED
2. HARD HATS REQUIRED
3. SMOKING IN DESIGNATED AREAS ONLY
4. BE WIND CONSCIOUS AT ALL TIMES
5. CHECK WITH MACK ENERGY FOREMAN AT OFFICE

**MACK ENERGY CORPORATION**

**1-505-748-1288**

#### CERTIFICATION

I hereby certify that I, or person under my direct supervision, have inspected the proposed drill site and access route; that I am familiar with the conditions which currently exist; that the statements made in this APD are to the best of my knowledge, true and correct; and the work associated with the operations proposed herein will be performed by Mack Energy Corporation and its contractors and subcontractors in conformity with this plan and the terms and conditions which it is approved. This statement is subject to the provisions of 18 U.S.C. 1001 for the filing of a false statement.

Date: 8-1-08

Signed: \_\_\_\_\_

  
Jerry W. Sherrell