

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

## APPLICATION FOR PERMIT TO DRILL OR DEEPEN

## 1a. TYPE OF WORK

Drill ☒Deepen ☐

## b. TYPE OF WELL

Oil Well ☐Gas Well ☒Other ☐Single Zone ☐Multiple Zone ☐

## 2. NAME OF OPERATOR

Mallon Oil Company

## 3. ADDRESS AND TELEPHONE NO.

P.O. Box 2797

Durango, CO 81302

(970) 382-9100

## 4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements)

At surface 2045' FNL and 860' FEL (SE/NE) Unit H

At proposed prod. zone 2045' FNL and 860' FEL (SE/NE) Unit H

## 14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE\*

70 miles east of Bloomfield, New Mexico

## 15. DISTANCE FROM PROPOSED\*

LOCATION TO NEAREST

PROPERTY OR LEASE LINE, FT. 2,218' to edge of IMDA

(Also to nearest drlg. unit line, if any)

## 18. DISTANCE FROM PROPOSED LOCATION\*

TO NEAREST WELL, DRILLING, COMPLETED,

OR APPLIED FOR, ON THIS LEASE, FT.

1,750'

Jic29-03-01 #1

## 21. ELEVATIONS (SHOW WHETHER DF, RT, GR, Etc.)

7,321' GR

## 16. NO. OF ACRES IN LEASE

39,360

## 19. PROPOSED DEPTH

4000'

## 17. NO. OF ACRES ASSIGNED

TO THIS WELL

160

NE 1/4

## 20. ROTARY OR CABLE TOOLS

Rotary

## 22. APPROX. DATE WORK WILL START

07/15/01

## 23. PROPOSED CASING AND CEMENTING PROGRAM

| SIZE OF HOLE | GRADE, SIZE OF CASING | WEIGHT PER FOOT | SETTING DEPTH | QUANTITY OF CEMENT           |
|--------------|-----------------------|-----------------|---------------|------------------------------|
| 12-1/4"      | 8-5/8"                | 24#             | 250'          | 175 40 sx, circ. to surface. |
| 7-7/8"       | 5-1/2"                | 15.5#           | 4000'         | 900 sx, circ. to surface.    |
|              |                       |                 |               |                              |
|              |                       |                 |               |                              |

Mallon Oil Company proposes to drill to a depth sufficient to test the Pictured Cliffs formation. If productive, 5-1/2" casing will be cemented at TD. If non-productive, the well will be plugged and abandoned in a manner consistent with Federal regulations. Specific programs as per on-shore Oil and Gas Order No. 1 are outlined in the following attachments:

## Drilling Program

Exhibit 1: Blow Out Preventor Equipment/Plan  
Exhibit A: Location and Elevation Plat  
Exhibit B: Roads and Pipelines  
Exhibit C: One Mile Radius Map

Exhibit D: Drilling Site Layout  
Exhibit E: Production Facilities  
Exhibit F: H2S Contingency Plan  
Exhibit G: Environmental Assessment

IN ABOVE SPACE DESCRIBE PROPOSED PROGRAM: If proposal is to deepen, give data on present productive zone and proposed new productive zone. If proposal is to drill or deepen directionally, give pertinent data on subsurface locations and measured and true vertical depths. Give blowout preventer program, if any.

24

SIGNED:

Terry Lindeman

TITLE: Operations Superintendent

DATE

06/5/2001

(This space for Federal or State office use)

PERMIT NO.

APPROVAL DATE

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:

APPROVED BY

/s/ David R. Sitzler

TITLE

Acting Asst Field Mgr

DATE

OCT 30 2001

\*See Instructions On Reverse Side

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.

- 1) All casing strings will be centralized  
2) Increase surface cement to 175 sx for 100% excess  
3) Attached
- HOLD C104 FOR NSL

DISTRICT I  
P.O. Box 1980, Hobbs, N.M. 88241-1980

State of New Mexico  
Energy, Minerals & Natural Resources Department

Form C-102  
Revised February 21, 1994

DISTRICT II  
P.O. Drawer DD, Artesia, N.M. 88211-0719

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

DISTRICT III  
1000 Rio Brazos Rd., Aztec, N.M. 87410

OIL CONSERVATION DIVISION

P.O. Box 2088  
Santa Fe, NM 87504-2088

DISTRICT IV  
PO Box 2088, Santa Fe, NM 87504-2088

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

|   |  |  |
|---|--|--|
| <sup>1</sup> API Number<br>30-039-26866 | <sup>2</sup> Pool Code<br>72400                  | <sup>3</sup> Pool Name<br>East Blanco; Pictured Cliffs |
| <sup>4</sup> Property Code<br>27474     | <sup>5</sup> Property Name<br>JICARILLA 29-03-01 | <sup>6</sup> Well Number<br>2                          |
| <sup>7</sup> GRID No.<br>013925         | <sup>8</sup> Operator Name<br>MALLON OIL COMPANY | <sup>9</sup> Elevation<br>7321'                        |

<sup>10</sup> Surface Location

| UL or lot no. | Section | Township | Range | Lot ldn | Feet from the | North/South line | Feet from the | East/West line | County     |
|---------------|---------|----------|-------|---------|---------------|------------------|---------------|----------------|------------|
| H             | 1       | 29-N     | 3-W   |         | 2045'         | NORTH            | 860'          | EAST           | RIO ARRIBA |

<sup>11</sup> Bottom Hole Location If Different From Surface

| UL or lot no.                        | Section | Township                      | Range | Lot ldn                          | Feet from the | North/South line        | Feet from the | East/West line | County |
|--------------------------------------|---------|-------------------------------|-------|----------------------------------|---------------|-------------------------|---------------|----------------|--------|
|                                      |         |                               |       |                                  |               |                         |               |                |        |
| <sup>12</sup> Dedicated Acres<br>160 |         | <sup>13</sup> Joint or Infill |       | <sup>14</sup> Consolidation Code |               | <sup>15</sup> 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

|       |                  |                                      |                        |  |
|-------|------------------|--------------------------------------|------------------------|--|
| 16    | FD. MARKED STONE | S 89-59-28 W<br>2627.60'             | FD. 17                 | OPERATOR CERTIFICATION<br>I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief<br>Signature<br>Terry Lindeman<br>Printed Name<br>Operations Superintendent<br>Title<br>06/05/01<br>Date  |
| LOT 4 | LOT 3            | LOT 2                                | LOT 1                  |  |
|       |                  | LAT. 36°45'22"N<br>LONG. 107°05'45"W | 2045'                  |  |
|       |                  | 721'                                 | 860'                   |  |
|       |                  | 454'                                 | 603'                   |  |
|       |                  |                                      | U.S.G.L.O. BC 1917     |  |
|       |                  |                                      | FD. U.S.G.L.O. BC 1917 |  |
|       |                  |                                      | 18                     | SURVEYOR CERTIFICATION<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>Date of Survey<br>Signature and Seal of Professional Surveyor<br>8894<br>Certificate Number |

Jicarilla 29-03-01 No. 2

Exhibit A

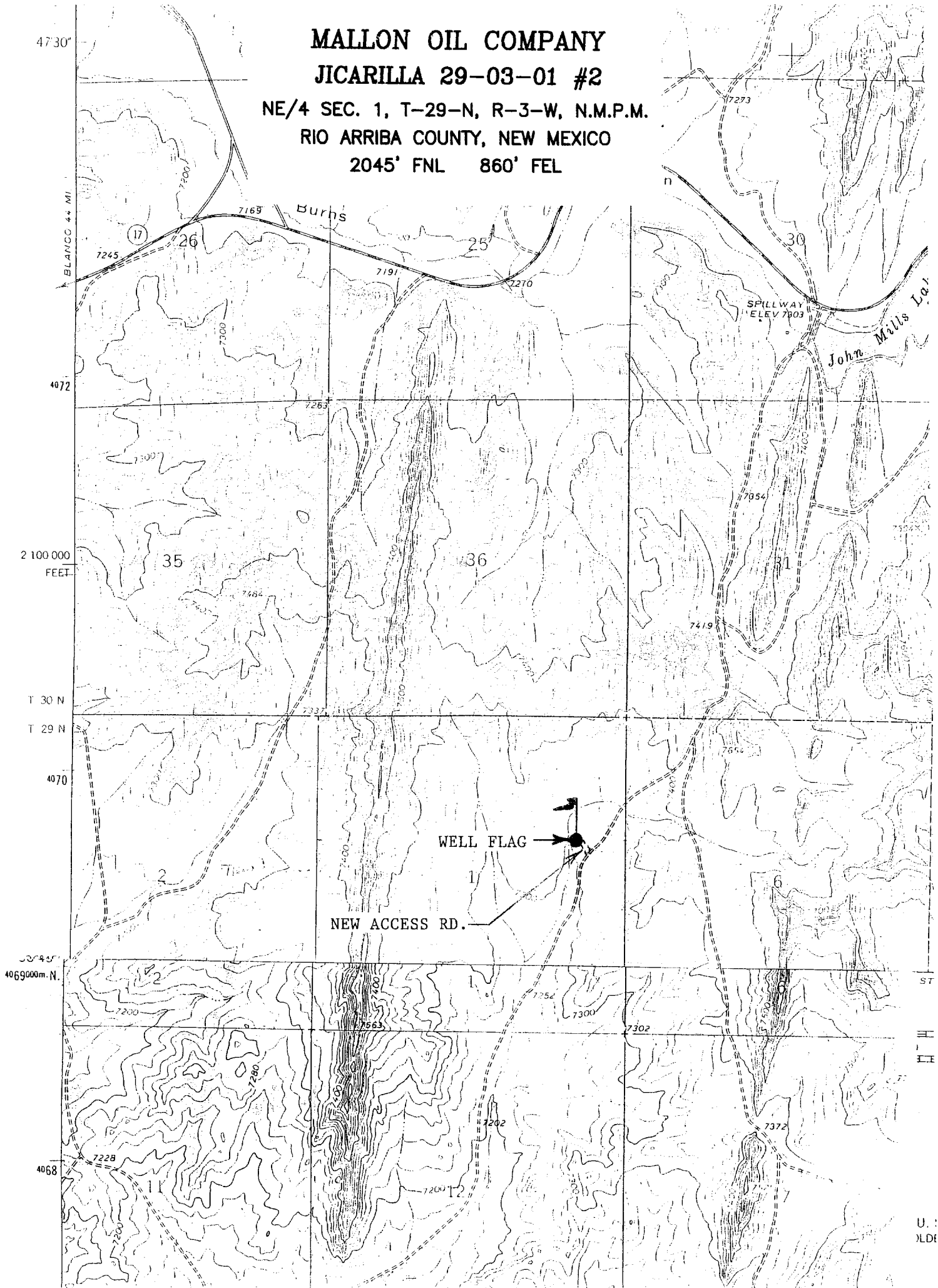
# MALLON OIL COMPANY

## JICARILLA 29-03-01 #2

NE/4 SEC. 1, T-29-N, R-3-W, N.M.P.M.

RIO ARriba COUNTY, NEW MEXICO

2045' FNL 860' FEL



## DRILLING PROGRAM

Attached to Form 3160-3

Mallon Oil Company

**Jicarilla 29-03-01 No. 2**

2045' FNL and 860' FEL (SE/NE) Unit H

Sec. 1, T29N- R03W

Rio Arriba County, New Mexico

**LEASE NUMBER: MDA 701-98-0013**

**1. Geologic name of surface formation:** San Jose

**2. Estimated tops of important geologic markers:**

|                 |         |
|-----------------|---------|
| San Jose        | Surface |
| Nacimiento      | 2600'   |
| Ojo Alamo       | 3030'   |
| Kirtland        | 3358'   |
| Fruitland       | 3468'   |
| Pictured Cliffs | 3660'   |
| Lewis           | 3800'   |
| Total Depth     | 4000'   |

**3. Estimated depths of anticipated fresh water, oil, or gas:**

|                 |       |     |
|-----------------|-------|-----|
| San Jose        | 1300' | Gas |
| Nacimiento      | 2600' | Gas |
| Ojo Alamo       | 3030' | Gas |
| Fruitland       | 3468' | Gas |
| Pictured Cliffs | 3660' | Gas |

No other formations are expected to produce oil, gas, or fresh water in measurable quantities. The surface fresh water sands will be protected by setting 8-5/8" casing at 250' and circulating cement back to surface.

**4. Proposed casing program:**

| <u>Hole Size</u> | <u>Interval</u> | <u>Casing OD</u> | <u>Casing weight, grade, and thread</u> |
|------------------|-----------------|------------------|---|
| 12-1/4"          | 0-250'          | 8-5/8"           | 24 lb/ft, K55, ST&C                     |
| 7-7/8"           | 0-4000'         | 5-1/2"           | 15.5 lb/ft, K55, LT&C                   |

**Cement program:**

8-5/8" surface casing: Cemented to surface with 110 sx Class B, or Type III cement containing 2% CaCl<sub>2</sub>, 1/4 lb/sk Celloflake, slurry to be mixed at 15.6 lb/gal, yield 1.18 cu ft/sk. Circulate cement to surface.

5-1/2" production casing: 900 sks 50/50 POZ 2% Gel, with 6-1/4 lb/sk Gilsonite, 3% KCl, mixed at 13.7 lb/gal, 1.26 cu ft/sk, 30% excess. Circulate cement to surface.

**5. Minimum specifications for pressure control (2M System):**

The blowout preventor equipment (BOP) shown in Exhibit 1 will consist of a double ram-type (2000 psi WP) preventor. The unit will be hydraulically operated and the ram-type preventor will be equipped with blind rams on top and drill pipe rams on bottom. The BOP will be nipped up on the 8-5/8" surface casing and used continuously until TD is reached. BOP and accessory equipment will be tested to 1000 psi before drilling out of surface casing. Pipe rams will be operationally checked on each trip out of the hole. These checks will be noted on the daily tour sheets. A 2" kill line and 2" choke line will be included in the drilling spool located below the ram-type BOP. Other accessories to the BOP equipment will include a kelly cock and floor safety valve, and choke lines and choke manifold with 2000 psi WP rating.

**6. Types and characteristics of the proposed mud system:**

The well will be drilled to TD with a combination of fresh water and fresh water polymer mud system. The applicable depths and properties of this system are as follows:

| <u>Depth</u> | <u>Type</u>      | <u>Weight</u><br>(ppg) | <u>Viscosity</u><br>(sec) | <u>Water loss</u><br>(cc) |
|--------------|------------------|------------------------|---------------------------|---------------------------|
| 0-250'       | FW               | ± 8.5                  | 30-33                     | NC                        |
| 250' - TD    | FW (Gel polymer) | ± 9.0                  | 32-35                     | 10 - 20 cc                |

**7. Auxiliary well control and monitoring equipment:**

- A. A kelly cock will be kept in the drill string at all times.
- B. A full-opening drill pipe stabbing valve (inside BOP) with proper drill pipe connections will be on the rig floor at all times.
- C. The drilling fluids systems will be visually monitored at all times.

**8. Testing, logging, and coring program:**

|                   |   |
|-------------------|---|
| Drill stem tests: | None anticipated  |
| Logging:          | TD to surface casing, Open Hole GR, SP, Neutron, Density, Induction |
| Coring:           | None planned  |

**9. Abnormal conditions, pressures, temperatures, and potential hazards:**

No abnormal pressures or temperatures are anticipated. The proposed mud program will be modified to control excess pressure if abnormal pressures are encountered. The estimated bottom-hole pressure (BHP) is 1200 psig. Hydrogen sulfide gas is potentially present in the San Jose and Ojo Alamo formation and an H<sub>2</sub>S drilling plan is attached.

**10. Anticipated starting date: July 1, 2001**

Anticipated completion of drilling operations: Expected duration of 6 days

# Hydrogen Sulfide Drilling Operations 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 ( $H_2S$ ).
2. The proper use and maintenance of personal protective equipment and life support systems.
3. The proper use of  $H_2S$  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  $H_2S$  on metal components. If high tensile tubulars 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  $H_2S$  Drilling Operations Plan and the Public Protection Plan.

There will be an initial training session just prior to encountering a known or probable  $H_2S$  zone (within 3 days or 500 feet) and weekly  $H_2S$  and well control drills for all personnel in each crew. The initial training session shall include a review of the site specific  $H_2S$  Drilling Operations Plan and the Public Protection Plan. This plan shall be available at the well site. All personnel will be required to carry documentation that they have received the proper training.

## II. $H_2S$ Safety Equipment and Systems

Note: All  $H_2S$  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 reasonably expected to contain  $H_2S$ .

### A. Well control equipment:

1. Choke manifold with a minimum of one remote choke.
2. Blind rams and pipe rams to accommodate all pipe sizes with properly sized closing unit.

### B. Protective equipment for essential personnel:

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

C. H<sub>2</sub>S detection and monitoring equipment:

1. Two portable H<sub>2</sub>S monitors positioned on location for best coverage and response. These units have warning lights and audible sirens when H<sub>2</sub>S levels of 20 ppm are reached.

D. Visual warning systems:

1. Wind direction indicators as shown on well site diagram.
2. Caution/Danger signs 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.

E. Mud program:

1. The mud program has been designed to minimize the volume of H<sub>2</sub>S circulated to the surface. Proper mud weight, safe drilling practices, and the use of H<sub>2</sub>S scavengers will minimize hazards when penetrating H<sub>2</sub>S bearing zones.

F. Metallurgy:

1. All drill strings, casings, tubing, wellhead, blowout preventers, drilling spool, kill lines, choke manifold and lines, and valves shall be suitable for H<sub>2</sub>S service.
2. All elastomers used for packing and seals shall be H<sub>2</sub>S trim.

G. Communication:

1. Cellular telephone communications in company vehicles.

H. Well testing:

1. Drill stem testing will be performed with a minimum number of personnel in the immediate vicinity which are necessary to safely and adequately conduct the test. The drill stem testing will be conducted during daylight hours and formation fluids will not be flowed to the surface. All drill stem testing operations conducted in an H<sub>2</sub>S environment will use the closed chamber method of testing.