

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

FORM APPROVED  
OMB No. 1004-0136  
Expires November 30, 2000

APPLICATION FOR PERMIT TO DRILL OR REENTER

1a. Type of Work: ☒ DRILL ☐ REENTER

**CONFIDENTIAL**

1b. Type of Well: ☐ Oil Well ☒ Gas Well ☐ Other ☒ Single Zone ☐ Multiple Zone

2. Name of Operator  
MALLON OIL COMPANY  
Contact: ROBERT BLAYLOCK  
E-Mail: rblaylock@bhep.com

3a. Address  
350 INDIANA STREET, SUITE 400  
GOLDEN, CO 80401

3b. Phone No. (include area code)  
Ph: 720.210.1300  
Fx: 720.210.1301

4. Location of Well (Report location clearly and in accordance with any State requirements.)

At surface NWNW 735FNL 705FWL

At proposed prod. zone NWNW 735FNL 705FWL

14. Distance in miles and direction from nearest town or post office\*  
56 MILES EAST OF BLOOMFIELD, NEW MEXICO

15. Distance from proposed location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any)  
735 FEET

16. No. of Acres in Lease  
2560.00

18. Distance from proposed location to nearest well, drilling, completed, applied for, on this lease, ft.  
2,400 FEET - JIC. 451 #1

19. Proposed Depth  
4000 MD

21. Elevations (Show whether DF, KB, RT, GL, etc.)  
7037 GL

22. Approximate date work will start  
05/05/2004

5. Lease Serial No.  
451

6. If Indian, Allottee or Tribe Name  
JICARILLA

7. If Unit or CA Agreement, Name and No.

8. Lease Name and Well No.  
JIC 451-9 11

9. API Well No.  
30039-27799

10. Field and Pool, or Exploratory  
E. BLANCO/PICTURED CLIFFS

11. Sec., T., R., M., or Blk. and Survey or Area

Sec 9 T29N R3W Mer NMP  
SME: BIA

12. County or Parish  
RIO ARRIBA

13. State  
NM

17. Spacing Unit dedicated to this well

160.00 NW/4

20. BLM/BIA Bond No. on file  
1318288

AFMSS

Adjud	AMJ
Engr	
Geol	
Surf	
Appvl	

24. Attachments

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

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

25. Signature  
(Electronic Submission)

Name (Printed/Typed)  
KATHY L. SCHNEEBECK Ph: 303.820.4480

Date  
04/02/2004

Title  
AGENT

Approved by (Signature)  
*[Signature]*

Name (Printed/Typed)

Date  
JUN 22 2004

Title  
Assistant Field Manager

Application approval does not warrant or certify 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.

Additional Operator Remarks (see next page)

Electronic Submission #29172 verified by the BLM Well Information System  
For MALLON OIL COMPANY, sent to the Rio Puerco  
Committed to AFMSS for processing by ANGIE MEDINA-JONES on 04/05/2004 ()

Adjud	AMJ
Engr	
Geol	
Surf	
Appvl	

\*\* OPERATOR-SUBMITTED \*\* OPERATOR-SUBMITTED \*\* OPERATOR-SUBMITTED \*\*

DISTRICT I  
1625 W. French Dr., Hobbs, N.M. 88240

DISTRICT II  
1301 W. Grand Ave., Artesia, N.M. 88210

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

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

State of New Mexico  
Energy, Minerals & Natural Resources Department

OIL CONSERVATION DIVISION

1220 South St. Francis Dr.  
Santa Fe, NM 87505

Form C-102  
Revised June 10, 2003

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

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

*API Number 30039-27799		*Pool Code 72400	*Pool Name East Blanco/Pictured Cliffs
*Property Code 24245 34110	*Property Name JICARILLA 451-9		*Well Number 11
*OGRID No. 013925	*Operator Name MALLON OIL COMPANY		*Elevation 7037'

<sup>10</sup> Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
D	9	29-N	3-W		735	NORTH	705	WEST	RIO ARRIBA

<sup>11</sup> 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
<sup>12</sup> Dedicated Acres 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

<sup>16</sup> FD. U.S.G.L.O. 2 1/2" BC. 1917 735' 705'		N 89-56-41 E 2638.93' (M)		FD. U.S.G.L.O. 2 1/2" BC. 1917		<sup>17</sup> OPERATOR CERTIFICATION I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief  Kathy L. Schneebeck Signature Kathy L. Schneebeck Printed Name Agent for Mallon Oil Company Title April 2, 2004 Date	
S 00-03-09 E 2640.54' (M)		LAT. 36°44'41"N (NAD 83) LONG. 107°09'46"W					
FD. U.S.G.L.O. 2 1/2" BC. 1917							
						<sup>18</sup> SURVEYOR CERTIFICATION 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.  12 Date of Survey Signature and Seal of Professional Surveyor 14827 14827 Certificate Number	

Jicarilla 451-09 #11  
 735' FNL 705' FEL ( NW /4 NW /4)  
 Sec. 9 T 29N R 3W  
 Rio Arriba County, New Mexico  
 Jic Contract 451

### SURFACE CASING AND CENTRALIZER DESIGN

Proposed Total Depth: 4,000 '  
 Proposed Depth of Surface Casing: 250 '  
 Estimated Pressure Gradient: 0.31 psi/ft  
 Bottom Hole Pressure at 4,000 '  
 $0.31 \text{ psi/ft} \times 4,000' = 1,240 \text{ psi}$   
 Hydrostatic Head of gas/oil mud: 0.22 psi/ft  
 $0.22 \text{ psi/ft} \times 4,000' = 880 \text{ psi}$

#### Maximum Design Surface Pressure

Bottom Hole Pressure - Hydrostatic Head =  
 $( 0.31 \text{ psi/ft} \times 4,000' ) - ( 0.22 \text{ psi/ft} \times 4,000' ) =$   
 $1,240 \text{ psi} - 880 \text{ psi} = 360 \text{ psi}$

#### Casing Strengths 8-5/8" J-55 24# ST&C

Wt.	Tension (lbs)	Burst (psi)	Collapse (psi)
24 #	244,000	2,950	1,370
32 #	372,000	3,930	2,530

#### Safety Factors

Tension (Dry): 1.8 Burst: 1.0 Collapse: 1.125  
 Tension (Dry):  $24 \text{ # / ft} \times 250' = 6,000 \text{ #}$   
 Safety Factor =  $\frac{244,000}{6,000} = 40.67$  ok  
 Burst: Safety Factor =  $\frac{2,950 \text{ psi}}{360 \text{ psi}} = 8.19$  ok  
 Collapse: Hydrostatic =  $0.052 \times 9.0 \text{ ppg} \times 250' = 117 \text{ psi}$   
 Safety Factor =  $\frac{1,370 \text{ psi}}{117 \text{ psi}} = 11.71$  ok

Use 250' 8-5/8" J-55 24# ST&C

Use 2,000 psi minimum casinghead and BOP's but will test to 1,000 psi

#### Centralizers

8 Total  
 1 near surface at 160'  
 3 middle of bottom joint, second joint, third joint  
 4 every other joint  $\pm 80'$

Total centralized  $\pm 440' ( -190' - 250' )$

Note that field experience indicates that additional centralizers greatly increase the chance of "sticking" the surface casing prior to reaching surface casing total depth.

CASING PROGRAM

Depth	Hole Diameter	Casing Diameter	Casing Weight and Grade	Cement
0' - 250'	12-1/4"	8-5/8"	J-55 24# ST&C New	To surface ( <del>±175</del> <sup>200</sup> sxs Class B) <i>incl-100% x 0.55</i>
0' - T.D.	7-7/8"	5-1/2"	J-55 15.5# LT&C New	TD to surface (±630 sxs lite or 65:35 poz and ±270 sxs 50:50 poz)*

\* Actual cement volume to be determined by caliper log.

Yields: Class B yield = 1.18 ft<sup>3</sup>/sx  
 65:35 Poz yield = 1.62 ft<sup>3</sup>/sx  
 50:50 Poz yield = 1.26 ft<sup>3</sup>/sx

All fresh water and prospectively valuable minerals encountered during drilling, will be recorded by depth and protected.

PRESSURE CONTROL

BOPs and choke manifold will be installed and pressure tested before drilling out under surface casing (subsequent pressure test will be performed whenever pressure seals are broken), and then will be checked daily as to mechanical operating condition. BOP's will be pressure tested at least once every 30 days. Ram type preventors and related pressure control equipment will be pressure tested to 1,000 psi. Annular type preventor will be pressure tested to 50% of the rated working pressure, not to exceed 1,000 psi. All casing strings will be pressure tested to 0.22 psi/ft. or 1,000 psi, whichever is greater, not to exceed 70% of internal yield.

BOP to be either double gate rams or an annular preventor as per Onshore Order No. 2.

Statement on Accumulator System and Location of Hydraulic Controls

The drilling rig has not yet been selected for this well. Selection will take place after approval of this application. Manual and/or hydraulic controls will be in compliance with Onshore Order No. 2 for 2M systems.

A remote accumulator will be used. Pressures, capacities, location of remote hydraulic and manual controls will be identified at the time of the BLM supervised BOP test.

MUD PROGRAM

0' -	250'	Fresh water - M.W. 8.5 ppg, Vis 30-33
250' -	TD	Fresh water - Low solids non-dispersed
		M.W. 8.5 - 9.2 ppg
		Vis - 28 - 50 sec
		W.L. 15cc or less

Sufficient mud materials to maintain mud properties, control lost circulation and to contain "kick" will be available at wellsite.

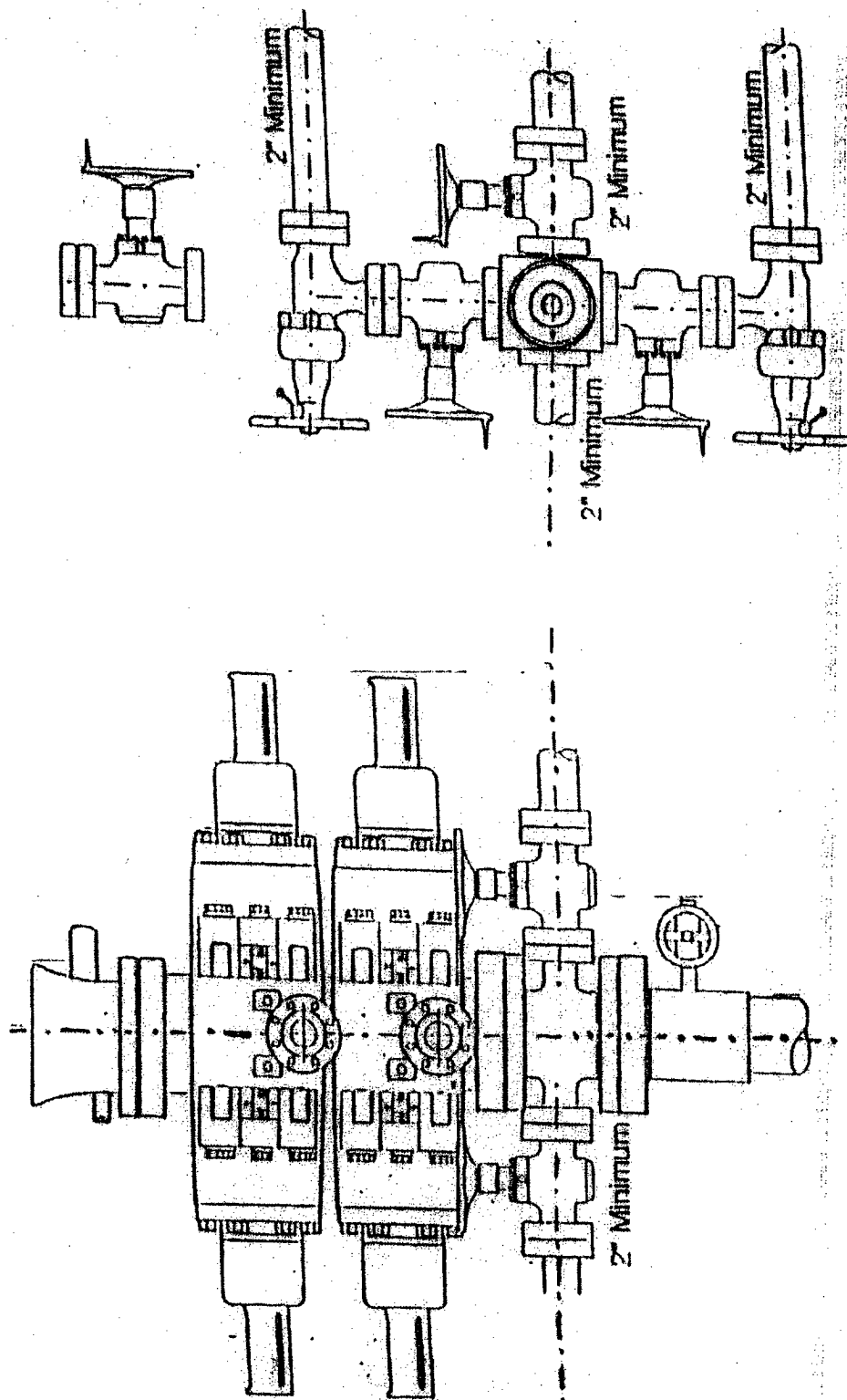
AUXILIARY EQUIPMENT

- A) A Kelly cock will be kept in the drill string at all times
- B) Inside BOP or stab-in valve (available on rig floor)
- C) Mud monitoring will be visually observed

# 2-M SYSTEM

MALLON OIL COMPANY

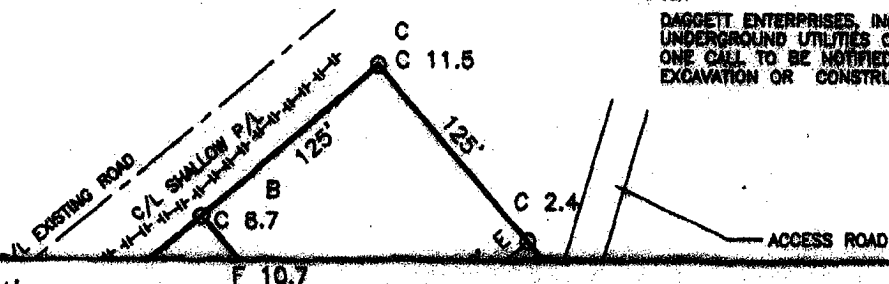
ANNULAR PREVENTOR MAY BE SUBSTITUTED FOR DOUBLE GATE PREVENTORS  
BOP PRESSURE TEST TO 1,000 PSI



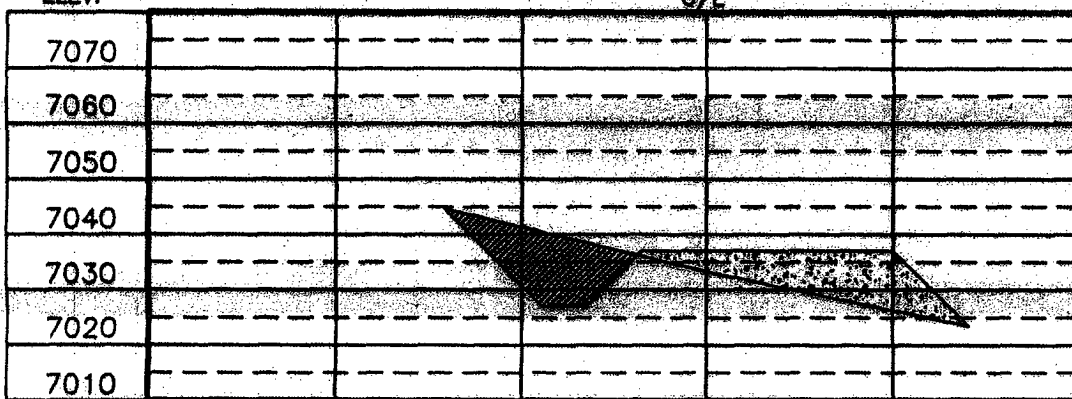
COMPANY: MALLON OIL COMPANY  
 LEASE: JICARILLA 451-9 No. 11  
 FOOTAGE: 735' FNL 705' FWL  
 SEC.: 9 TWN: 29-N RNG: 3-W NMPM  
 ELEVATION: 7037'

NOTE:

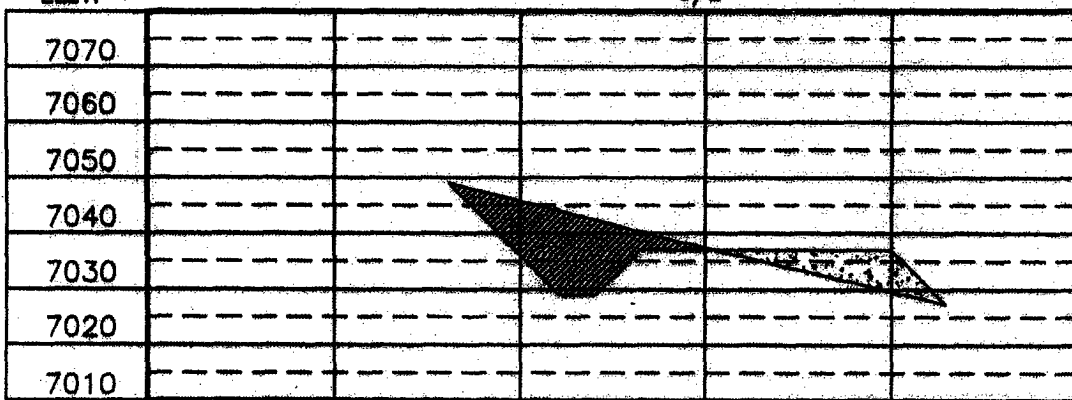
DAGGETT ENTERPRISES, INC. IS NOT LIABLE FOR  
 UNDERGROUND UTILITIES OR PIPELINES. NEW MEXICO  
 ONE CALL TO BE NOTIFIED 48 HOURS PRIOR TO  
 EXCAVATION OR CONSTRUCTION.



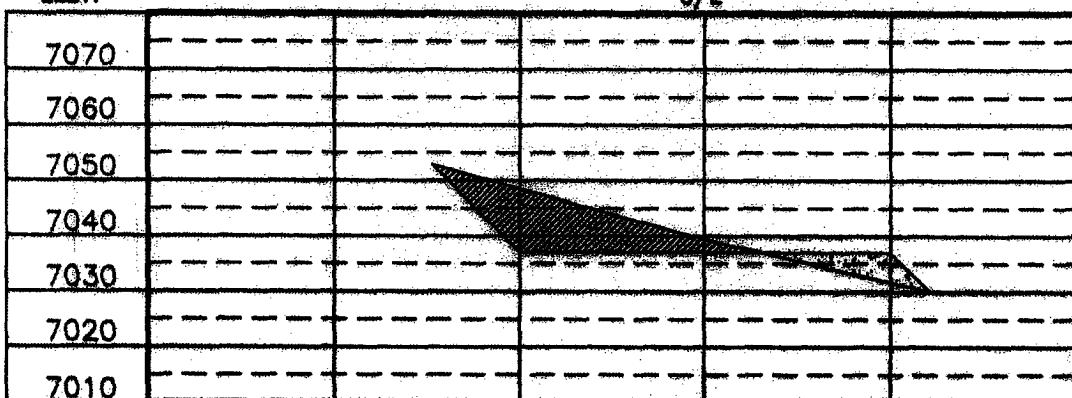
ELEV. A-A'



ELEV. B-B'



ELEV. C-C'



REVISION: CORRECT FOOTAGES BY: B.L. DATE: 12/30/03

Daggett Enterprises, Inc.  
 Surveying and Oil Field Services  
 P. O. Box 15065 Farmington, NM 87401  
 Phone (505) 326-1772 Fax (505) 326-6019



DRAWN BY: B.L.

R.O.W.#: MN269

CAD FILE: MN269CF8

DATE: 12/16/03

# 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 10 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.