

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENTSUBMIT IN TRIPLICATE  
(Other instructions on  
reverse side)FORM APPROVED  
OMB NO 1004-0136  
Expires February 28, 1995

## APPLICATION FOR PERMIT TO DRILL OR DEEPEN

1a. TYPE OF WORK Drill <input checked="" type="checkbox"/> Deepen <input type="checkbox"/>		5. LEASE DESIGNATION AND SERIAL NO. MDA 701-98-0013	
b. TYPE OF WELL Oil Well <input type="checkbox"/> Gas Well <input checked="" type="checkbox"/> Other <input type="checkbox"/> Single Zone <input type="checkbox"/> Multiple Zone <input type="checkbox"/>		6. IF INDIAN, ALLOTTEE OR TRIBE NAME Jicarilla Apache	
2. NAME OF OPERATOR Mallon Oil Company		7. UNIT AGREEMENT NAME N/A	
3. ADDRESS AND TELEPHONE NO. P.O. Box 2797 Durango, CO 81302 (970) 382-9100		8. FARM OR LEASE NAME, WELL NO. Jicarilla 29-02-07 No. 4	
4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements) At surface 765' FNL and 1990' FEL (NW/NE) Unit B		9. API WELL NO. 30-039-26861	
At proposed prod. zon 765' FNL and 1990' FEL (NW/NE) Unit B		10. FIELD AND POOL, OR WILDCAT E. Blanco, Pictured Cliffs	
14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE 70 miles east of Bloomfield, New Mexico		11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA Sec. 7, T29N-R02W	
15. DISTANCE FROM PROPOSED LOCATION TO NEAREST PROPERTY OR LEASE LINE, FT. (Also to nearest drlg. unit line, if any) 6,030' to edge of IMDA		12. COUNTY OR PARISH Rio Arriba	
16. NO. OF ACRES IN LEASE 39,360		13. STATE NM	
18. DISTANCE FROM PROPOSED LOCATION* TO NEAREST WELL, DRILLING, COMPLETED, OR APPLIED FOR, ON THIS LEASE, FT. 2,276' Jic29-02-07 SJ #2		17. NO. OF ACRES ASSIGNED TO THIS WELL 160 NE 1/4	
21. ELEVATIONS (SHOW WHETHER DF, RT, GR, Etc.) 7,430' GR		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
12-1/4"	8-5/8"	24#	250'
7-7/8"	5-1/2"	15.5#	4000'
			175 sxs
			140 sxs, circ. to surface.
			900 sxs, 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.

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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: 1st David R. Sitzer DATE: Acting AFM

\*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 cemented  
(2) Increase surface cement to 175 sxs for well areas  
(3) Attached  
HOLD C104 FOR NSL

DISTRICT I  
P.O. Box 1980, Hobbs, N.M. 88241-1980  
DISTRICT II  
P.O. Drawer DD, Artesia, N.M. 88211-0719  
DISTRICT III  
1000 Rio Brazos Rd., Aztec, N.M. 87410  
DISTRICT IV  
PO Box 2088, Santa Fe, NM 87504-2088

State of New Mexico  
Energy, Minerals & Natural Resources Department

OIL CONSERVATION DIVISION

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

Form C-102  
Revised February 21, 1994  
Instructions on back  
Submit to Appropriate District Office  
State Lease - 4 Copies  
Fee Lease - 3 Copies

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

*API Number 30-039,26861		*Pool Code 72400	*Pool Name East Blanco; Pictured Cliffs	
*Property Code 27471	*Property Name JICARILLA 29-02-07		*Well Number 4	
*OGRID No. 013925	*Operator Name MALLON OIL COMPANY		*Elevation 7430	

10 Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
B	7	29-N	2-W		765	NORTH	1990	EAST	RIO ARriba

11 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 <del>352.2</del> 160			*Joint or Infill		*Consolidation Code		*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

SEC. CORNER FD. GLO BC 1917	N 89-52-17 W 5134.4' (M)	765'	MARKED STONE	17 OPERATOR CERTIFICATION I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief Signature Terry Lindeman Printed Name Operations Superintendent Title 6/5/01 Date
LAT. 36°44'41" N LONG. 107°04'57" W	556'	717'	1990'	
	537'			
				18 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 4-19-01 Date of Survey Signature and Seal of Professional Surveyor: 8894 Certificate Number
			SEC. CORNER FD. P & C I.S. 8894	

Jicarilla 29-02-07 No. 4  
Exhibit A

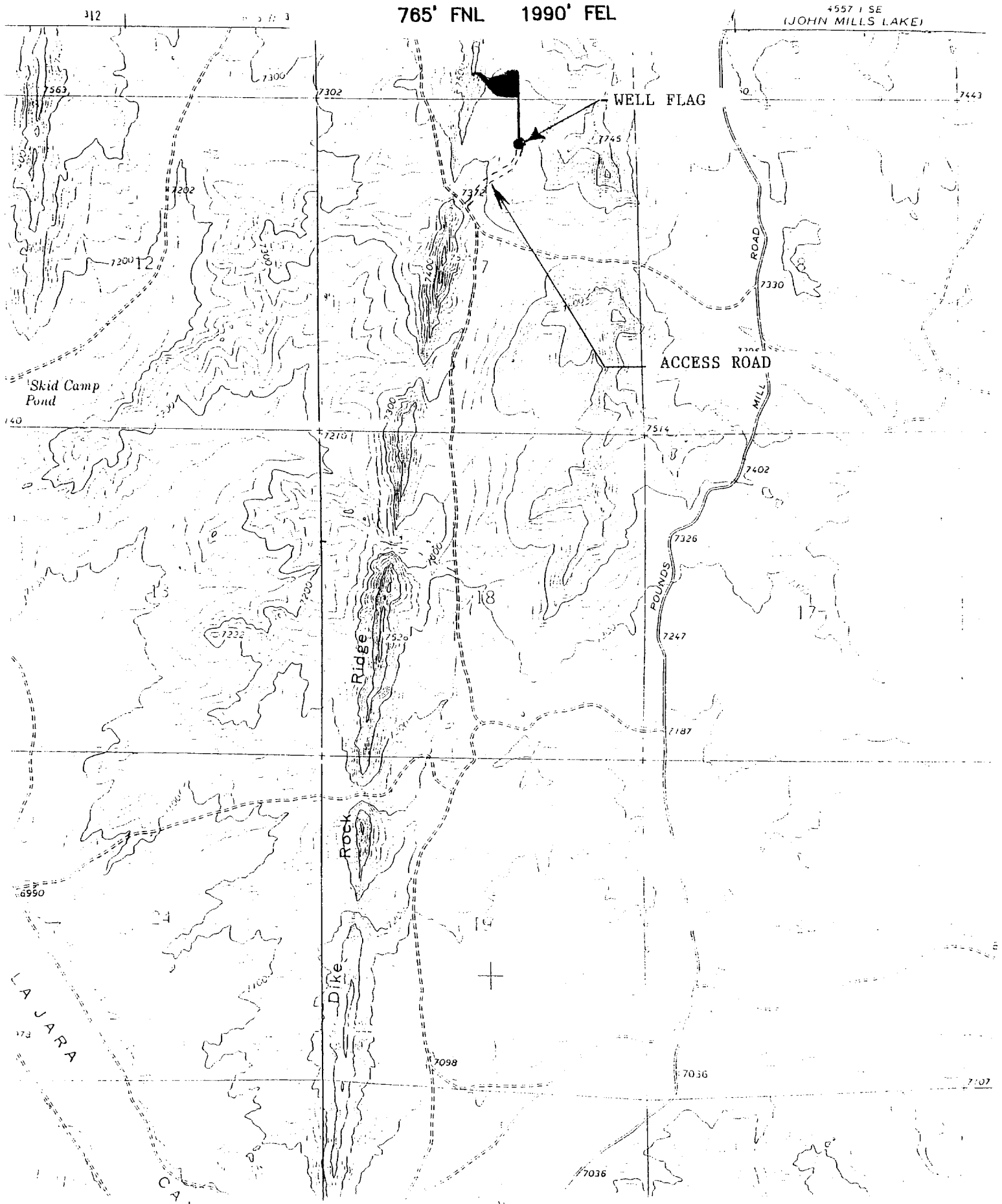
JICARILLA 29-02-07 #4

NE/4 SEC. 7, T-29-N, R-2-W, N.M.P.M.

RIO ARriba COUNTY, NEW MEXICO

765' FNL 1990' FEL

ERIOR



## DRILLING PROGRAM

Attached to Form 3160-3

Mallon Oil Company

**Jicarilla 29-02-07 No. 4**

765' FNL and 1990' FEL (NW/NE) Unit B

Sec. 7, T29N- R02W

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> (ppg)	<u>Viscosity</u> (sec)	<u>Water loss</u> (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.