Form 3160-3
(July 1992)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

SUBMIT IN TRIPLICATE (Other instructions on reverse side)

FORM APPROVED
OMB NO. 1004-0136
Expires February 28, 1995

APPLICATION FOR PERMIT TO DRILL OR DEEPEN

5. LEASE DESIGNATION AND SERIAL NO.: MDA 701-98-0013

1a. TYPE OF WORK: Drill [X] Deepen [ ]

b. TYPE OF WELL: Oil Well [ ] Gas Well [X] Other — Single Zone [ ] Multiple Zone [ ]

6. IF INDIAN, ALLOTTEE OR TRIBE NAME: Jicarilla Apache

7. UNIT AGREEMENT NAME: N/A 25495

2. NAME OF OPERATOR: Mallon Oil Company 13925

8. FARM OR LEASE NAME, WELL NO.: Jicarilla 29-02-06 No. 4

3. ADDRESS AND TELEPHONE NO.: P.O. Box 2797, Durango, CO 81302 (970) 382-9100

9. API WELL NO.: 30-039-26857

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.*)
At surface: 500' FNL and 1760' FEL (NW/NE) Unit B
At proposed prod. zon: 500' FNL and 1760' FEL (NW/NE) Unit B

10. FIELD AND POOL, OR WILDCAT: E. Blanco, Pictured Cliffs

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA: B Sec. 6, T29N-R02W

14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE*: 70 miles east of Bloomfield, New Mexico

12. COUNTY OR PARISH: Rio Arriba | 13. STATE: NM

15. DISTANCE FROM PROPOSED* LOCATION TO NEAREST PROPERTY OR LEASE LINE, FT. (Also to nearest drlg. unit line, if any): 500' to edge of IMDA

16. NO. OF ACRES IN LEASE: 39.66

17. NO. OF ACRES ASSIGNED TO THIS WELL: ~~160~~ 162.21 NE

18. DISTANCE FROM PROPOSED LOCATION* TO NEAREST WELL, DRILLING, COMPLETED, OR APPLIED FOR, ON THIS LEASE, FT.: 3,088' Jic29-02-06 #3

19. PROPOSED DEPTH: 4000'

20. ROTARY OR CABLE TOOLS: Rotary

21. ELEVATIONS (SHOW WHETHER DF, RT, GR, Etc.): 7,573' GR

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'	~~110~~ 175 sx, circ. to surface.
7-7/8"	5-1/2"	15.5#	4000'	900 sx, circ. to surface

NOV 2001 RECEIVED OIL CON. DIV. DIST. 3

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 D:	Drilling Site Layout
Exhibit A:	Location and Elevation Plat	Exhibit E:	Production Facilities
Exhibit B:	Roads and Pipelines	Exhibit F:	H2S Contingency Plan
Exhibit C:	One Mile Radius Map	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 sxs for 100% excess
③ Additional 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

[1] API Number	[2] Pool Code	[3] Pool Name
30-039-26857	72400	East Blanco; Pictured Cliffs

[4] Property Code	[5] Property Name	[6] Well Number
25495	JICARILLA 29-02-06	4

[7] OGRID No.	[8] Operator Name	[9] Elevation
013925	MALLON OIL COMPANY	7573'

[10] Surface Location

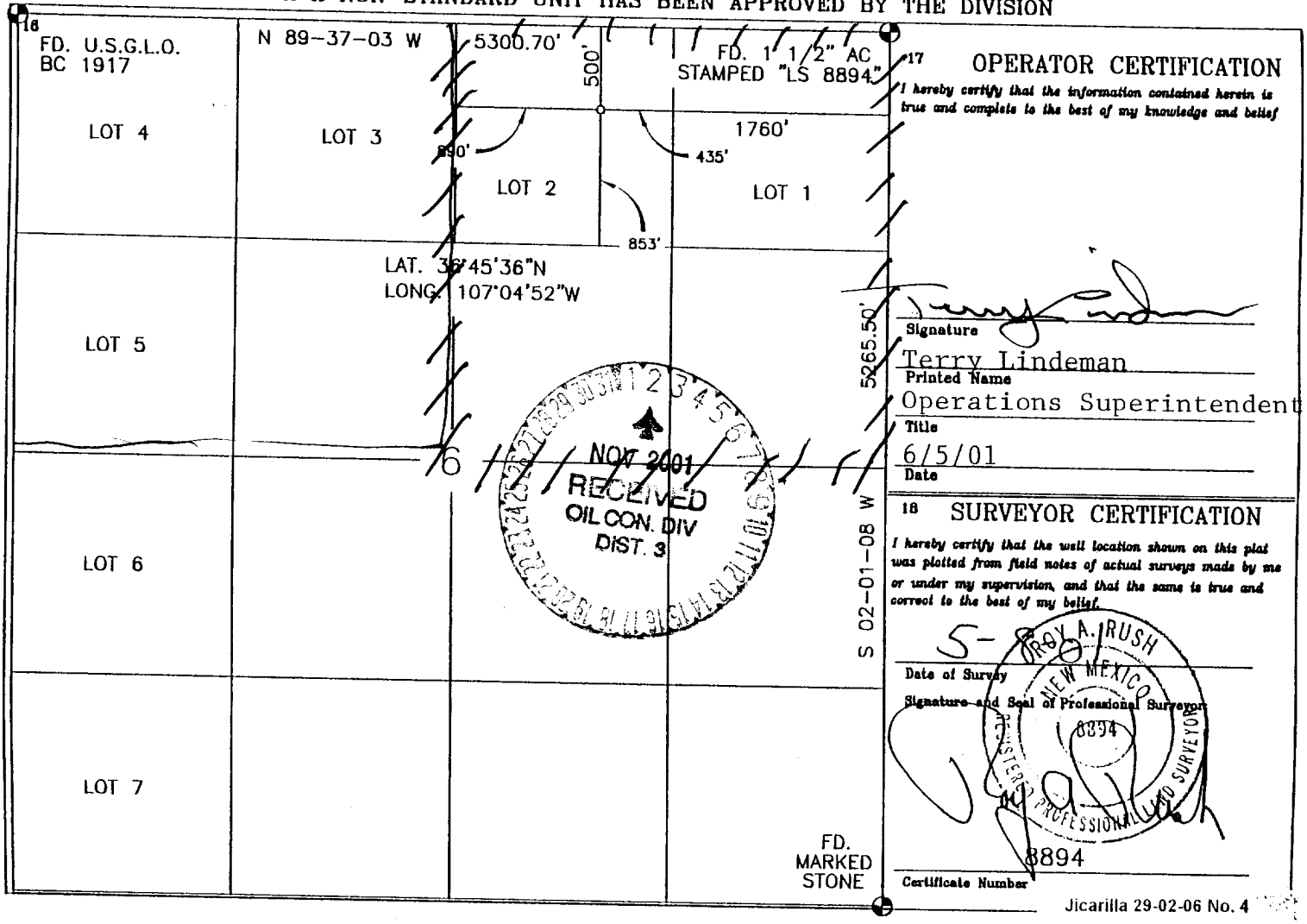
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
B	6	29-N	2-W		500'	NORTH	1760'	EAST	RIO ARRIBA

[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

[12] Dedicated Acres	[13] Joint or Infill	[14] Consolidation Code	[15] Order No.
~~160~~ 162.21			

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



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

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.

5-
Date of Survey

Signature and Seal of Professional Surveyor

ROY A. RUSH
NEW MEXICO
8894
REGISTERED PROFESSIONAL LAND SURVEYOR

8894
Certificate Number

Jicarilla 29-02-06 No. 4
Exhibit A

DRILLING PROGRAM

Attached to Form 3160-3
Mallon Oil Company
Jicarilla 29-02-06 No. 4
500' FNL and 1760' FEL (NW/NE) Unit B
Sec. 6, 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:**

Hole Size	Interval	Casing OD	Casing weight, grade, and thread
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% $CaCl_2$, 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.

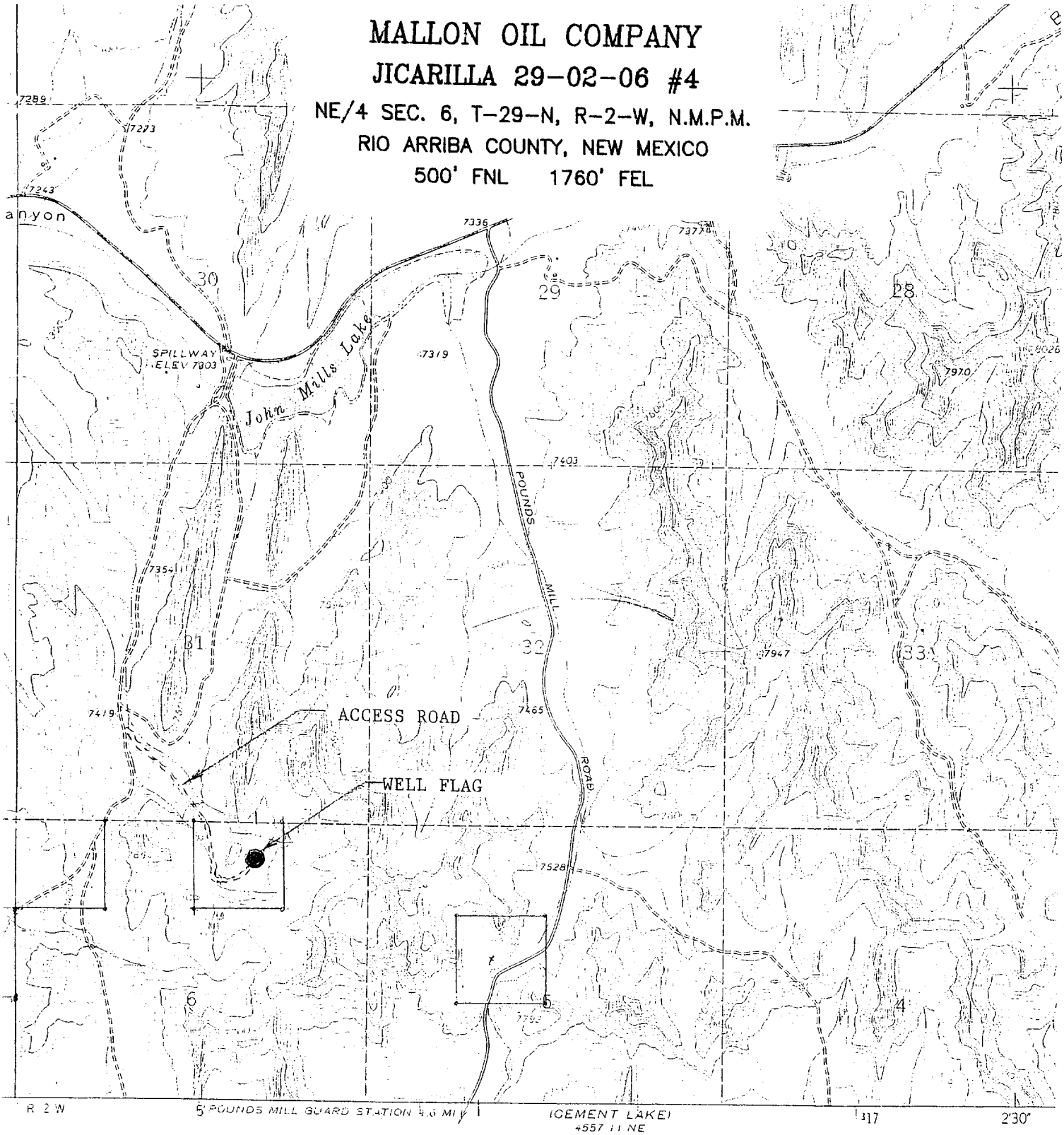
MALLON OIL COMPANY

JICARILLA 29-02-06 #4

NE/4 SEC. 6, T-29-N, R-2-W, N.M.P.M.

RIO ARRIBA COUNTY, NEW MEXICO

500' FNL 1760' FEL



SCALE 1:24 000

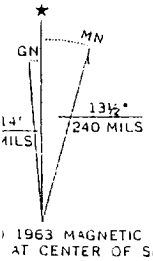
1 0 1 MILE

1000 0 1000 2000 3000 4000 5000 6000 7000 FEET

1 .5 0 1 KILOMETER

CONTOUR INTERVAL 20 FEET

NATIONAL GEODETIC VERTICAL DATUM OF 1929



1963 MAGNETIC NORTH AT CENTER OF SHEET

THIS MAP COMPLIES WITH NATIONAL MAP ACCURACY STANDARDS

FOR SALE BY U. S. GEOLOGICAL SURVEY, DENVER, COLORADO 80225, OR RESTON, VIRGINIA 22092

A FOLDER DESCRIBING TOPOGRAPHIC MAPS AND SYMBOLS IS AVAILABLE ON REQUEST

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 nippled 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:

Depth	Type	Weight (ppg)	Viscosity (sec)	Water loss (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:

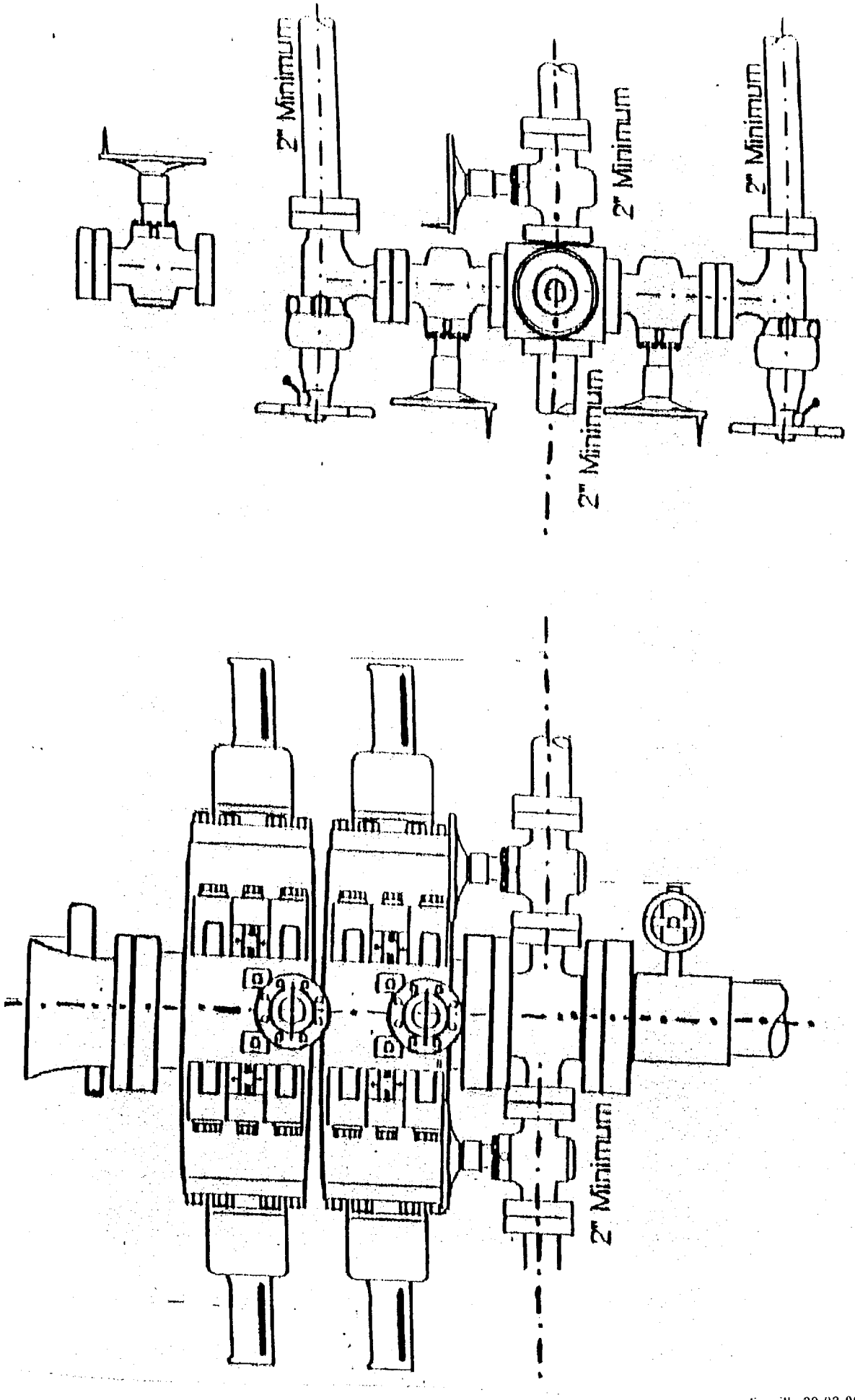
Drill stem tests:	None anticipated
Logging:	TD to surface casing, Open Hole GR, SP, Neutron, Density, Induction
Coring:	None planned

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_2S drilling plan is attached.

10. Anticipated starting date: July 1, 2001
Anticipated completion of drilling operations: Expected duration of 6 days

2-M SYSTEM



Jicarilla 29-02-06 No. 4
Exhibit 1

Multi-Point Surface Use and Operation Plan

Attached to Form 3160-3
Mallon Oil Company
Jicarilla 29-02-06 No. 4
500' FNL and 1760' FEL (NW/NE) Unit B
Sec. 6, T29N- R02W
Rio Arriba County, New Mexico

LEASE NUMBER: MDA 701-98-0013

1. **Existing roads:**

A. The well site and elevation plat for the proposed well is shown in Exhibit A. It was staked by Daggett Enterprises, Inc., Farmington, NM.

B. All roads to the location are shown in Exhibit B. Upgrading of the road prior to drilling will be done where necessary as determined during the onsite inspection.

C. Directions to location: From Bloomfield, New Mexico, travel approximately 57 miles east on Highway 64. Turn right (south) on dirt road J5 and travel approximately 3.4 miles. Turn right (west) and travel 2 miles northwest. Location is via new access road ¾ mile to the northeast.

D. 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:**

Exhibit B shows the new access road to be constructed and is illustrated in yellow. The road will be constructed as follows:

A. The maximum width of the running surface will be 15'. The road will be crowned and ditched. Ditches will be at 3:1 slope and 4 feet wide. Water will be diverted where necessary to avoid the accumulation of water, prevent erosion, maintain good drainage, and to be consistent with local drainage patterns.

B. The average grade will be less than 1%.

C. No turnouts are planned.

D. In the event of crossing a fence line, a cattle guard and an adjacent wire gap will be constructed.

E. Culverts will be used to allow for natural drainage.

F. Surfacing material will consist of native soil. Any additional materials that are required will be purchased from the dirt contractor.

G. The proposed access road as shown in Exhibit B has been centerline flagged by Daggett Enterprises, Inc., Farmington, NM.

3. Location of existing wells:

Existing wells within a one-mile radius are shown on Exhibit C.

4. Location of existing and/or proposed facilities:

A. If the well proves to be commercial, the necessary production facilities and tank battery will be installed on the drilling pad.

B. Install 4" line pipe (x42, grade B, 0.188" wall) gas pipeline adjacent to access road to tie into main pipeline at start of access road. The pipeline will be coated with TGF three coating, the maximum pressure rating of the pipeline is 1,750 psig. The maximum anticipated working pressure is 200 psi. The pipeline will be buried a minimum of 48" deep.

5. Location and type of water supply:

It is planned to drill the proposed well with the fresh water that will be obtained from private or commercial sources and that will be transported over the existing access roads. No water well will be drilled on the location.

6. Source of construction materials:

No additional earth materials are expected to be hauled in for construction purposes.

7. Methods of handling waste disposal:

B. A closed mud system will be utilized; therefore, no reserve pit is required. Steel storage tanks will be used for containing excess mud volumes. This mud will be hauled to the next location to be drilled and utilized for the drilling of that well. This mud system will be utilized in as many drilling locations until viability is lost. At that time, a lined reserve pit will be constructed on a drilling location to allow the mud system to dry out, and the pit will be reclaimed.

B. Drilling cuttings will be placed in an open earthen pit approximately 30' X 40' X 8'. Depending upon the weather, the cuttings will either be buried or spread on location and disked into the soil. A portion of the cuttings will be utilized in construction of tank battery burms.

C. The dewatering unit will allow for the recycling of water used in the mud system. Any excess water that separates out on the cuttings pit will be removed and disposed.

D. A portable chemical toilet will be provided on the location for human waste during the drilling and completion operations.

E. Garbage and trash produced during drilling or completion operations will be contained in a portable trash basket and hauled to approved disposal facilities. No toxic waste or hazardous chemicals will be produced by this operation.

F. After the rig is moved out and the well is either completed or abandoned, all waste materials will be cleaned up within 30 days. No adverse materials will be left on the location. The cuttings pit will be completely fenced and flagged and kept closed until it has dried. As weather permits, the unused portion of the well site will be leveled and reseeded as per BLM specifications. Only that part of the pad required for production facilities will be kept in use. In the event of a dry hole, only a dry marker will remain.

8. Ancillary facilities:

None required.

9. Well site layout:

A. Exhibit D shows the relative location and dimensions of the well pad, cuttings pit, and location of major rig components. Topsoil, if available, will be stockpiled per BLM specifications as determined at the onsite inspection.

B. Exhibit E shows the planned production layout.

10. Plans for restoration of the surface:

A. Upon completion of the proposed operations, if the well is to be abandoned, the pit area, after allowing to dry, will be broken out and leveled. Topsoil will be returned to the entire location which will be leveled and contoured to as nearly the original topography as possible.

B. The disturbed area will be re-sown with vegetation as recommended by the Jicarilla Apache Nation.

C. All small flair pits or lined water pits will be fenced while being used, and dried and reclaimed upon completion or abandonment of well.

11. Surface ownership:

The well site and lease is located entirely on Jicarilla Apache Nation surface.

12. Other information:

A. The topsoil is clay. The vegetation is sagebrush, native grasses, and pine trees.

B. There is no permanent or live water in the immediate area.

C. Residences and other structures: No residences in the immediate area. Gas production facilities on offsetting location.

D. Land use: Cattle grazing and hunting.

E. Surface ownership: The proposed well site and access road is on Jicarilla Apache surface.

F. There is no evidence of any archaeological, historical, or cultural sites in the area. An archaeological survey has been conducted by Velarde Energy Service, Dulce, New Mexico. The reports have been submitted to the appropriate government agencies.

13. Operations representative:

The field representative responsible for ensuring compliance with the approved surface use and operations plan is:

Terry Lindeman
Mallon Oil Company
P.O. Box 2797
Durango, Colorado 81302
Office Phone: 970-382-9100

Certification

I hereby certify that I, or persons 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 plan are, to the best of my knowledge, true and correct; and the work associated with the operations proposed herein will be performed by Mallon Oil Company and its contractors and subcontractors in conformity with this plan and the terms and conditions with 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: 06/05/2001

Signed: Terry Lindeman

Terry Lindeman
Operations Superintendent

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 accomodate 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_2S detection and monitoring equipment:

1. Two portable H_2S monitors positioned on location for best coverage and response. These units have warning lights and audible sirens when H_2S 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_2S circulated to the surface. Proper mud weight, safe drilling practices, and the use of H_2S scavengers will minimize hazards when penetrating H_2S 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_2S service.

2. All elastomers used for packing and seals shall be H_2S 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_2S environment will use the closed chamber method of testing.