

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: <input checked="" type="checkbox"/> DRILL <input type="checkbox"/> REENTER		CONFIDENTIAL	
1b. Type of Well: <input type="checkbox"/> Oil Well <input checked="" type="checkbox"/> Gas Well <input type="checkbox"/> Other <input checked="" type="checkbox"/> Single Zone <input type="checkbox"/> Multiple Zone		5. Lease Serial No. MDA 701-98-0013	
2. Name of Operator MALLON OIL COMPANY		6. If Indian, Allottee or Tribe Name JICARILLA	
3a. Address 350 INDIANA STREET, SUITE 400 GOLDEN, CO 80401		7. If Unit or CA Agreement, Name and No.	
3b. Phone No. (include area code) Ph: 720.210.1300 Fx: 720.210.1301		8. Lease Name and Well No. JIC 30-3-36 #3	
4. Location of Well (Report location clearly and in accordance with any State requirements) At surface NWNE Lot B 1250FNL 1355FEL At proposed prod. zone NWNE Lot B 1250FNL 1355FEL		9. APL Well No. 30-039-27826	
14. Distance in miles and direction from nearest town or post office* 57 MILES EAST OF BLOOMFIELD		10. Field and Pool, or Exploratory PICTURED CLIFFS E Blanco	
15. Distance from proposed location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any) 1355 FEET		11. Sec., T., R., M., or Blk. and Survey or Area B Sec 36 T30N R3W Mer NMP SME: BIA	
16. No. of Acres in Lease 9600.00		12. County or Parish RIO ARRIBA	
17. Distance from proposed location to nearest well, drilling, completed, applied for, on this lease, ft. 2650 FEET - (PROPOSED JIC 30-3-36 #4)		13. State NM	
18. Proposed Depth 4000 MD		17. Spacing Unit dedicated to this well 160.00 NE/4	
21. Elevations (Show whether DF, KB, RT, GL, etc.) 7282 GL		20. BLM/BIA Bond No. on file 1318288	
22. Approximate date work will start 12/15/2003		23. Estimated duration 45-60 DAYS	

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. | 4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above). |
| 2. A Drilling Plan. | 5. Operator certification |
| 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). | 6. 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 11/12/2003
Title AGENT		
Approved by (Signature) 	Name (Printed/Typed)	Date JUL 12 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.

AFMSS

Additional Operator Remarks (see next page)

Electronic Submission #24792 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 11/12/2003 ()

Adjud
Engr
Geol
Surf
Appvl

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

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
P.O. 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 30039-27826		*Pool Code 72400	*Pool Name E. Blanco/Pictured Cliffs
*Property Code 24245 24249	*Property Name JICARILLA 30-3-36		*Well Number 3
*GRID No. 013925	*Operator Name MALLON OIL COMPANY		*Elevation 7282'

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	36	30-N	3-W		1250'	NORTH	1355'	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 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

FD. MARKED STONE	S 88-47-33 W	5176.6' (M)	FD. 1/2" REBAR W/PLASTIC CAP STAMPED "LS8894"	17 OPERATOR CERTIFICATION I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief
	LAT. 36°46'22"N (NAD 83) LONG. 107°05'51"W	1250'	1355'	
				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
				Date of Survey Signature and Seal of Professional Surveyor: 14827 Certificate Number
			FD. 3 1/2" BC U.S.G.L.O. 1917	

COMPANY: MALLON OIL COMPANY
 LEASE: JICARILLA 30-3-36 #3
 FOOTAGE: 1250' FNL, 1355' FEL
 SEC.: 36, TWN: 30-N, RNG: 3-W, NMPM
 ELEVATION: 7282'

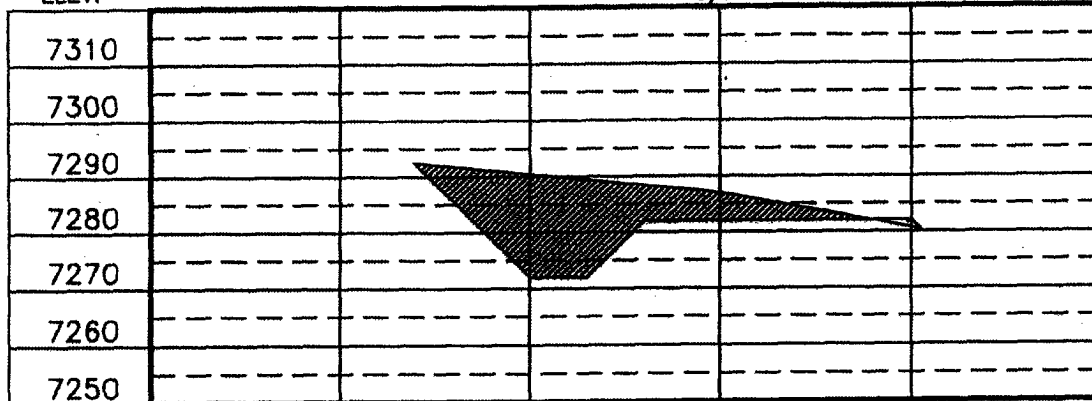
NOTE:

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.

B'

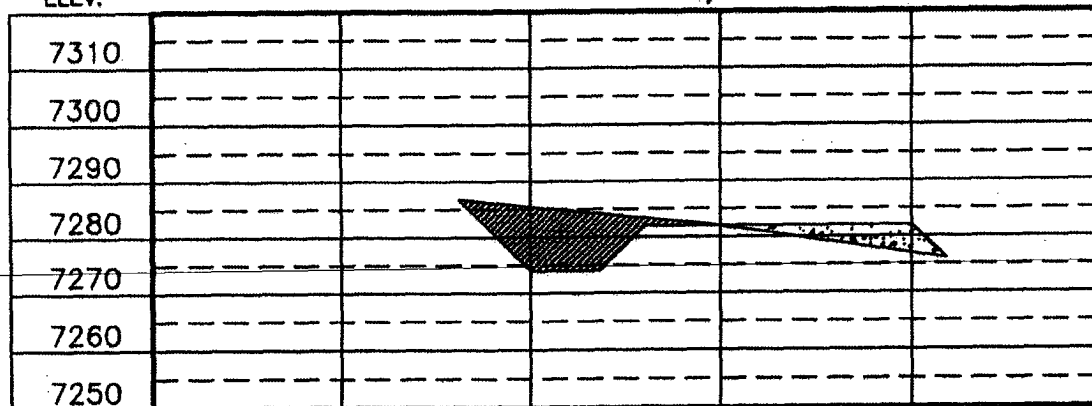
ELEV. A-A'

C/L



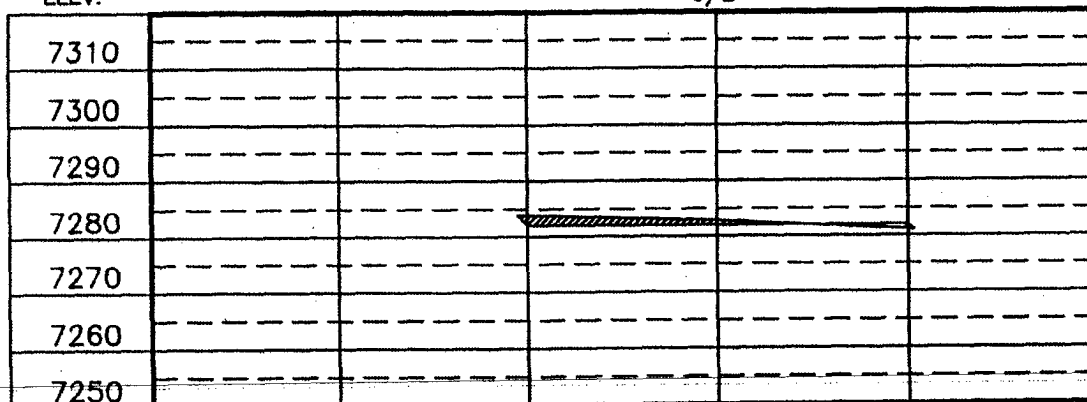
ELEV. B-B'

C/L



ELEV. C-C'

C/L



DRAWN BY: BS

R.O.W.#: MN248

CADFILE: MN248CF8

DATE: 5/21/03

REVISION: RESTAKE BY: BS DATE: 7/29/03

Daggett Enterprises, Inc.
 Surveying and Oil Field Services
 P. O. Box 15068 Farmington, NM 87401
 Phone (505) 326-1772 Fax (505) 326-6019



Mallon Oil Company
Jicarilla 30-3-36 #3
1,250' FNL 1,355' FEL (NW/4 NE/4) Lot B
Sec. 36 T30N R3W
Rio Arriba County, New Mexico
Lease: MDA 701-98-0013 Tract 4

CONFIDENTIAL

DRILLING PROGRAM
(Per Rule 320)

This Application for Permit to Drill (APD) was initiated under the NOS process as stated in Onshore Order No. 1 and supporting Bureau of Land Management (BLM) documents. This NOS process includes an onsite meeting which was held on September 30, 2003 as determined by Bureau of Land Management (BLM), Bureau of Indian Affairs (BIA) and Jicarilla Oil & Gas Commission (JOGC), and at which time the specific concerns of Mallon Oil Company (Mallon), BLM, BIA and JOGC were discussed.

MALLON RESPECTFULLY REQUESTS THAT ALL INFORMATION REGARDING THIS WELL BE KEPT CONFIDENTIAL.

SURFACE FORMATION – San Jose ✓

GROUND ELEVATION – 7,282'

ESTIMATED FORMATION TOPS - (Water, oil, gas and/or other mineral-bearing formations)

Upper San Jose ✓	Surface	Sandstone, shales & siltstones
Lower San Jose	1,618'	Sandstone, shales & siltstones
Nacimiento ✓	2,287'	Sandstone, shales & siltstones
Ojo Alamo ✓	3,179'	Sandstone, shales & siltstones
Kirtland	3,471'	Sandstone, shales & siltstones
Fruitland	3,603'	Sandstone, shales & siltstones
Pictured Cliffs	3,675'	Sandstone, shales & siltstones
Lewis	3,782'	Sandstone, shales & siltstones

TOTAL DEPTH 4,000'

Estimated depths of anticipated fresh water, oil, or gas:

Tertiary

San Jose	surface	Gas	✓ 1120
Nacimiento	2,287'	Gas	✓ 1120
Ojo Alamo	3,179'	Gas	✓ 1120
Fruitland	3,603'	Gas	
Pictured Cliffs	3,675'	Gas	

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 (±175 sxs Class B)
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 ft³/sx
 65:35 Poz yield = 1.62 ft³/sx
 50:50 Poz yield = 1.26 ft³/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

LOGGING, CORING, TESTING PROGRAM

- A) Logging: DIL- CNL-FDC-GR - TD - BSC (GR to surface)
Sonic (BSC to TD)
- B) Coring: None
- C) Testing: Possible DST – None anticipated. Drill stem tests may be run on shows of interest

ABNORMAL CONDITIONS

- A) Pressures: No abnormal conditions are anticipated
Bottom hole pressure gradient – 0.31 psi/ft
- B) Temperatures: No abnormal conditions are anticipated
- C) H₂S: None is anticipated.
- D) Estimated bottomhole pressure: 1,240 psi

ANTICIPATED START DATE

December 15, 2003

COMPLETION

The location pad will be of sufficient size to accommodate all completion activities and equipment. A string of 2-3/8" J-55 4.7#/ft tubing will be run for a flowing string. A Sundry Notice will be submitted with a revised completion program if warranted.

Jicarilla 30-3-36 #3
 1,250' FNL 1,355' FEL (NW /4 NE /4)
 Sec. 36 T 30N R 3W
 Rio Arriba County, New Mexico
 MDA 701-98-0013 Tract 4

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 psi/ft x 4,000 ' = 1,240 psi
 Hydrostatic Head of gas/oil mud:
 0.22 psi/ft x 4,000 ' = 880 psi

Maximum Design Surface Pressure

Bottom Hole Pressure - Hydrostatic Head =
 (0.31 psi/ft x 4,000 ') - (0.22 psi/ft x 4,000 ') =
 #### psi - 880 psi = 360 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 # / ft x 250 ' = 6,000 #
 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 x 9.0 ppg x 250 ' = 117 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 #### 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 ±80'

Total centralized ± 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.

2-M SYSTEM
MALLON OIL COMPANY

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

