OPER. OGRID NO. 13925
PROPERTY NO. 20420
POOL CODE 50461
EFF. DATE 2/14/1997
API NO. 30-025-33835

Form 3160-3
(July 1992)

UNITED
DEPARTMENT C
BUREAU OF LANI

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

APPLICATION FOR PERI

5. LEASE DESIGNATION AND SERIAL NO: NM-068037

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

6. IF INDIAN, ALLOTTEE OR TRIBE NAME: N/A

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

7. UNIT AGREEMENT NAME: N/A

2. NAME OF OPERATOR: Mallon Oil Company

8. FARM OR LEASE NAME, WELL NO.: Mallon 29 Federal

3. ADDRESS AND TELEPHONE NO.: P.O. Box 3256, Carlsbad, NM 88220 (505) 885-4596

9. API WELL NO.: 2

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.*)
At surface: 2310' FSL & 2310' FEL (NW SE) Unit J
At proposed prod. zone: 2310' FSL & 2310' FEL (NW SE) Unit J

10. FIELD AND POOL, OR WILDCAT: Bone Springs, Quail Ridge South

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA: Sec. 29, T19S-R34E

14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE*: 34 miles east of Hobbs, New Mexico

12. COUNTY OR PARISH: Lea County

13. STATE: NM

15. DISTANCE FROM PROPOSED* LOCATION TO NEAREST PROPERTY OR LEASE LINE, FT. (Also to nearest drlg. unit line, if any)	16. NO. OF ACRES IN LEASE	17. NO. OF ACRES ASSIGNED TO THIS WELL
2310'	600	40

18. DISTANCE FROM PROPOSED LOCATION* TO NEAREST WELL, DRILLING, COMPLETED, OR APPLIED FOR, ON THIS LEASE, FT.	19. PROPOSED DEPTH	20. ROTARY OR CABLE TOOLS
1320'	10,500'	Rotary

21. ELEVATIONS (SHOW WHETHER DF, RT, GR, Etc.) 3674 GR

22. APPROX.DATE WORK WILL START: March 1, 1997

23. PROPOSED CASING AND CEMENTING PROGRAM: CONTROLLED WATER BASIN

SIZE OF HOLE	GRADE, SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	QUANTITY OF CEMENT
25"	20"	42#	40'	Ready mix to surface
17-1/2"	13-3/8"	48#	500'	270 sx or circ to surface
12-1/4"	9-5/8"	36# & 40#	5000'	800 sx Poz [illegible]
7-7/8"	5-1/2"	17#	10,500'	630 sx "C" modified

Mallon Oil Company proposes to drill to a depth sufficient to test the Morrow formation for gas. 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: Existing Roads/Planned Access Roads
Exhibit C: One Mile Radius Map
Exhibit D: Drilling Site Layout
Exhibit E: Production Facilities
Exhibit F: Hydrogen Sulfide Drilling Plan

APPROVAL SUBJECT TO GENERAL REQUIREMENTS AND SPECIAL STIPULATIONS

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: Duane C. Winkler TITLE: Production Superintendent DATE 11/19/96

Duane C. Winkler

(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/ Gilbert J Lucero TITLE Area Supervisor DATE 2-7-97

*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.

DRILLING PROGRAM

Attached to Form 3160-3
Mallon Oil Company
Mallon 29 Federal No. 2
2310' FSL and 2310' FEL (NW SE) Unit J
Sec. 29, T19S-R34E
Lea County, New Mexico
Lease Number NM-068037

1. Geologic Name of Surface Formation : Quaternary Alluvium

2. Estimated Tops of Important Geologic Markers

Quaternary Alluvium	Surface	Queen	4463'
Rustler	1658'	Grayburg	4925'
Top of Salt	1687'	San Andres	5157'
Base of Salt	3232'	Delaware	6070'
Yates	3423'	Bone Springs	8136'
7 Rivers	3785'	TD	10,500'

3. The Estimated Depths of Anticipated Fresh Water, Oil or Gas:

Quaternary Alluvium	300'	Fresh water
Bone Springs	8400'	Oil

No other formations are expected to give up oil, gas, or fresh water in measurable quantities. The surface fresh water sands will be protected by setting 13-3/8" casing at 500' and circulating cement back to surface. Potash will be protected by setting 9-5/8" casing at 5000' and circulating cement back to surface.

Any shallower zones above TD which contain commercial quantities of oil and/or gas will have cement circulated across them by inserting a cementing stage tool into the 5-1/2" production casing which will be run to TD.

4. Proposed Casing Program:

Hole Size	Interval	Casing OD	Casing weight grade, Jt., Type Cond
25"	0'-40'	20"	Conductor, 0.25" wall thickness
17-1/2"	0'-500'	13-3/8"	48# H40 STC
12-1/4"	500'-5000'	9-5/8"	500'-2500' 9-5/8" 36# K-55 STC 2500'-5000' 9-5/8" 40# S80 STC
7-7/8"	5000'-TD	5-1/2"	0'-10,500' 5-1/2" 17# N80 LTC

Cement Program:

20" Conductor casing:	Cemented with ready-mix to surface
13-3/8" Surface casing:	Lead Slurry: 270 sks 35:65 Poz + 6% gel + 1/2# Celloseal + 2% CaCl2 Tail: 200 sks Class C + 1/4# Celloseal + 2% CaCl2
9-5/8" Intermediate casing:	Lead Slurry: 800 sks 35:65 Poz + 6% gel + 1/4# Celloseal + 2% CaCl2. Tail: 200 sks Class C +1/4# Celloseal + 2% CaCl2
5-/2" Production casing:	630 sks Super C modified + 15# Poz A + 11# BA-90 + 8# gilsonite + .44# FL-52 + .44# FL-25

5. Minimum Specifications for Pressure Control:

The blowout preventer equipment (BOP) shown in Exhibit #1 will consist of a double ram-type (3000 psi WP) preventer and a bag-type (hydril) preventer (3000 psi WP). Both units will be hydraulically operated and the ram-type preventer will be equipped with blind rams on top and 4-1/2" drill pipe rams on bottom. Both BOPs will be nippled up on 13-3/8" surface casing and used continuously until TD is reached. All BOPs and accessory equipment will be tested to 1000 psi before drilling out of surface casing. Before drilling out of intermediate casing, the ram-type BOP and accessory equipment will be tested to 3000 psi and the hydril to 70% or rated working pressure (2100 psi). Pipe rams will be operationally checked each 24 hour period. Blind 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 3" 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 (inside BOP) and choke lines and choke manifold with 3000 psi WP rating.

6. Types and Characteristics of the Proposed Mud System:

The well will be drilled to TD with a combination of brine, cut brine, and polymer/KCL mud system. The applicable depths and properties of this system are as follows:

Depth	Type	Weight (ppg)	Viscosity (sec)	Water loss (cc)
0'-500'	Fresh Water (spud)	8.5	40-45	N.C.
500'-5000'	Brine Water	10.0	30	N.C.
5000'-TD	Cut Brine/Brine Water	8.8-10.0	32-34	10-12 cc

Sufficient mud materials to maintain mud properties and meet minimum lost circulation and weight increase requirements will be kept at the well site at all times.

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) A mud logging unit complete with H2S detector will be continuously monitoring drilling penetration rate and hydrocarbon shows from 5000; to TD.

8. Testing, Logging and Coring Program:

(A) Drill stem tests will be run on the basis of drilling shows.

(B) The electric logging program will consist of GR-Dual Laterolog-MSFL and GR-Sonic from TD to intermediate casing and GR-Compensated-Neutron-Density from TD to surface. Selected SW cores will be taken in zones of interest.

(C) No conventional coring is anticipated.

(D) Further testing procedures will be determined after the 5-1/2" production casing has been cemented at TD based on drill shows, log evaluation and drill stem test results.

9. Abnormal Conditions, Pressures, Temperatures, & Potential Hazards:

No abnormal pressures or temperatures are anticipated. The estimated bottom hole temperature (BHT) at TD is 180° F and estimated maximum bottom hole pressure (BHP) is 4000 psig. No hydrogen sulfide or other hazardous gases or fluids have been encountered, reported or are known to exist at this depth in this area. No major loss circulation zones have been reported in offsetting wells.

10. Anticipated Starting Date and Duration of Operations:

Road and location work will not begin until approval has been received from the BLM. The anticipated spud date is March 1, 1997. Once commenced, the drilling operation should be finished in approximately 40 days. If the well is productive, an additional 30 days will be required for completion and testing before a decision is made to install permanent facilities.

MINIMUM BLOWOUT PREVENTER REQUIREMENTS

3,000 psi Working Pressure

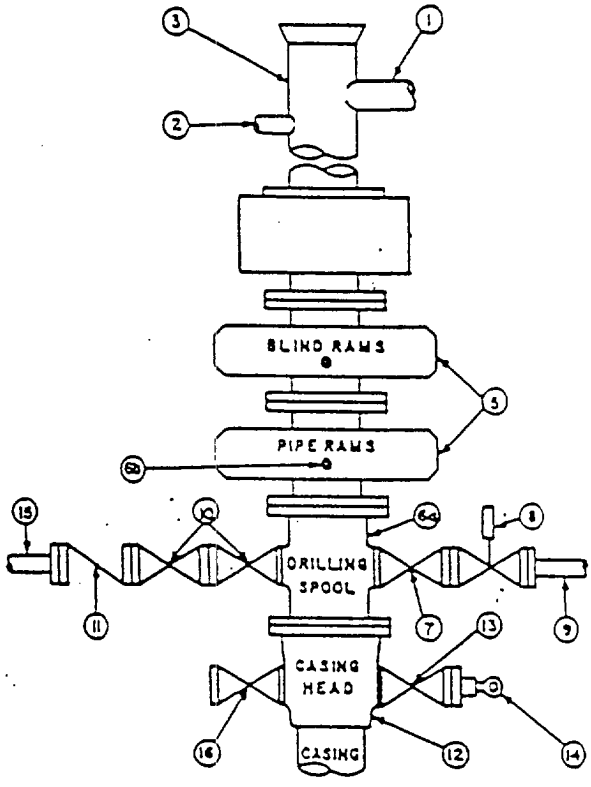
3 MWP

STACK REQUIREMENTS

No.	Item	Min. I.D.	Min. Nominal
1	Flowline		
2	Fill up line		2"
3	Drilling nipple		
5	Two single or one dual hydraulically operated rams		
6a	Drilling spool with 2" min. kill line and 3" min choke line outlets		
	—— or ——		
6b	2" min. kill line and 3" min. choke line outlets in ram. (Alternate to 6a above.)		
7	Valve Gate ☐ Plug ☐	3-1/8"	
8	Gate valve—power operated	3-1/8"	
9	Line to choke manifold		3"
10	Valves Gate ☐ Plug ☐	2-1/16"	
11	Check valve	2-1/16"	
12	Casing head		
13	Valve Gate ☐ Plug ☐	1-13/16"	
14	Pressure gauge with needle valve		
15	Kill line to rig mud pump manifold		2"

OPTIONAL			
16	Flanged valve	1-13/16"	

CONFIGURATION A



CONTRACTOR'S OPTION TO FURNISH:

1. All equipment and connections above bradenhead or casinghead. Working pressure of preventers to be 3,000 psi, minimum.
2. Automatic accumulator (80 gallon, minimum) capable of closing BOP in 30 seconds or less and, holding them closed against full rated working pressure.
3. BOP controls, to be located near drillers position.
4. Kelly equipped with Kelly cock.
5. Inside blowout prevventer or its equivalent on derrick floor at all times with proper threads to fit pipe being used.
6. Kelly saver-sub equipped with rubber casing protector at all times.
7. Plug type blowout preventer tester.
8. Extra set pipe rams to fit drill pipe in use on location at all times.
9. Type RX ring gaskets in place of Type R.

MEC TO FURNISH:

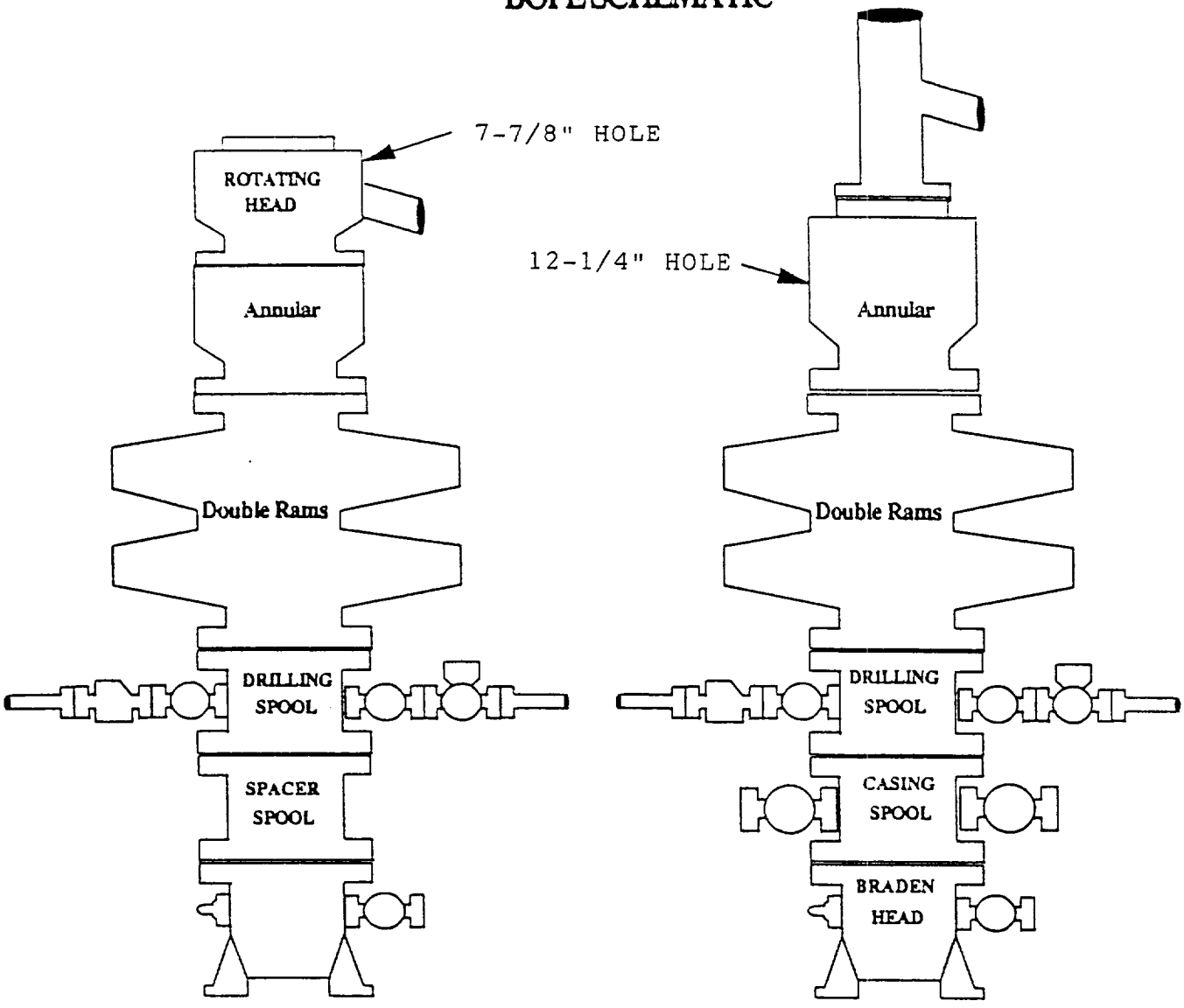
1. Bradenhead or casinghead and side valves.
2. Wear bushing, if required.

GENERAL NOTES:

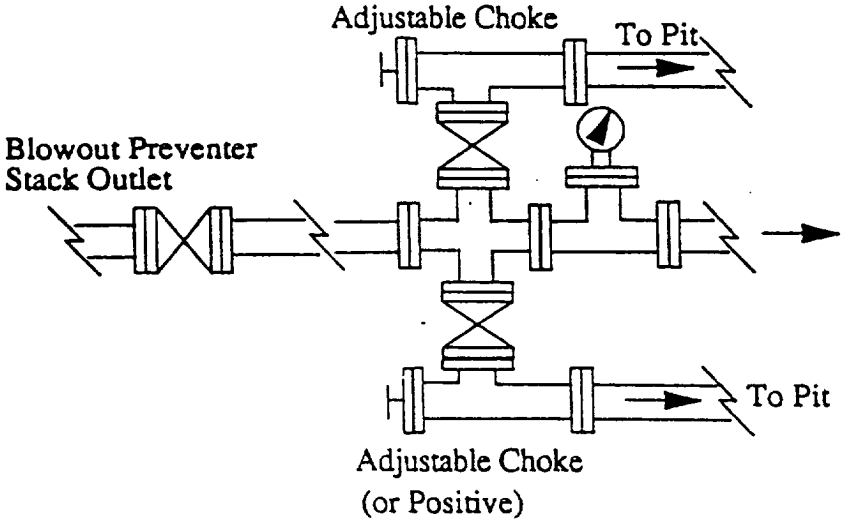
1. Deviations from this drawing may be made only with the express permission of MEC's Drilling Manager.
2. All connections, valves, fittings, piping, etc., subject to well or pump pressure must be flanged (suitable clamp connections acceptable) and have minimum working pressure equal to rated working pressure of preventers up through choke. Valves must be full opening and suitable for high pressure mud service.
3. Controls to be of standard design and each marked, showing opening and closing position.
4. Chokes will be positioned so as not to hamper or delay changing of choke beans. Replaceable parts for adjustable choke, other bean sizes, retainers, and choke wrenches to be conveniently located for immediate use.
5. All valves to be equipped with handwheels or handles ready for immediate use.
6. Choke lines must be suitably anchored.
7. Handwheels and extensions to be connected and ready for use.
8. Valves adjacent to drilling spool to be kept open. Use outside valves except for emergency.
9. All seamless steel control piping (3000 psi working pressure) to have flexible joints to avoid stress. Hoses will be permitted.
10. Casinghead connections shall not be used except in case of emergency.
11. Do not use kill line for routine fill-up operations.

Exhibit 1

BOPE SCHEMATIC



Choke Manifold Requirement (3000 psi WP)



Minimum 4" Nominal choke and kill lines

Exhibit 1

DISTRICT I
P.O. Box 1980, Hobbs, NM 88241-1980

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

DISTRICT III
1000 Rio Brazos Rd., Aztec, NM 87410

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

State of New Mexico
Energy, Minerals and Natural Resources Department

OIL CONSERVATION DIVISION
P.O. Box 2088
Santa Fe, New Mexico 87504-2088

Form C-102
Revised February 10, 1994
Submit to Appropriate District Office
State Lease - 4 Copies
Fee Lease - 3 Copies

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number	Pool Code	Pool Name
30-025-33835	50461	South Quail Ridge Bone Spring

Property Code	Property Name	Well Number
20418	MALLON 29 FEDERAL	2

OGRID No.	Operator Name	Elevation
13925	MALLON OIL COMPANY	3674

Surface Location

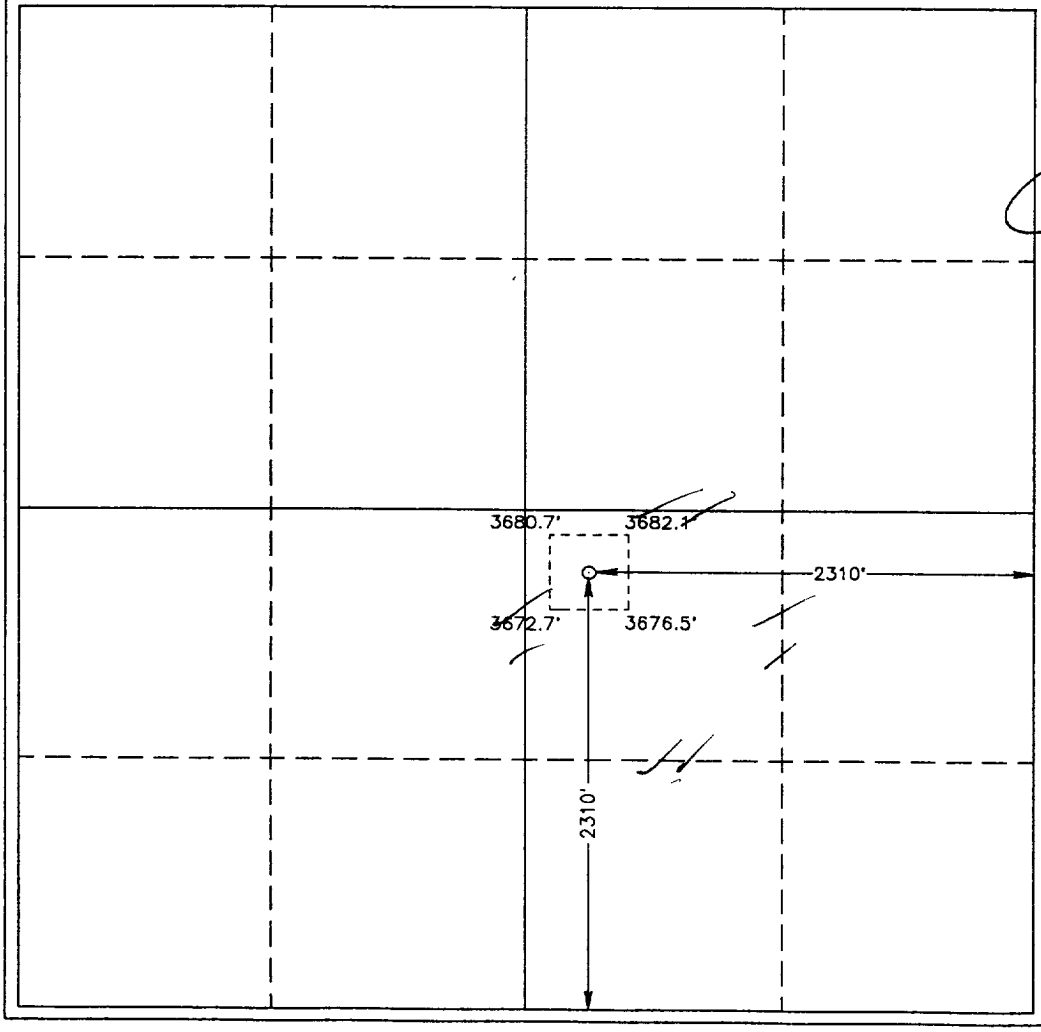
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
J	29	19 S	34 E		2310	SOUTH	2310	EAST	LEA

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	Joint or Infill	Consolidation Code	Order No.
40			

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



OPERATOR CERTIFICATION

I hereby certify the the information contained herein is true and complete to the best of my knowledge and belief.

Signature

Duane C. Winkler
Printed Name

Production Superintendent
Title

~~11/18/96~~
Date

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 supervison, and that the same is true and correct to the best of my belief.

NOVEMBER 13, 1996

Date Surveyed JLP

Signature & Seal of Professional Surveyor

RONALD J. EIDSON NEW MEXICO REGISTERED PROFESSIONAL SURVEYOR

3239 11-15-96

W.O. Num. 96-11-1466

Certificate No. JOHN W. WEST, 676
RONALD J. EIDSON, 3239
GARY G. EIDSON, 12641

Exhibit A