Form 3160-3
(December 1990)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

SUBMIT IN TRIPLICATE* (Other instructions on reverse side)

Form approved.
Budget Bureau No. 1004-0136
Expires: December 31, 1991

RECEIVED DEC 14 1992 OCD ARTESIA, New Mexico

APPLICATION FOR PERMIT TO DRILL OR DEEPEN

1a. TYPE OF WORK: DRILL [X] DEEPEN [ ]

b. TYPE OF WELL: OIL WELL [X] GAS WELL [ ] OTHER — SINGLE ZONE [X] MULTIPLE ZONE [ ]

2. NAME OF OPERATOR: Mitchell Energy Corporation

3. ADDRESS AND TELEPHONE NO.: P.O. Box 4000, The Woodlands, TX 77387-4000

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.*)
At surface: 2275' FSL and 960' FWL (NW/SW)
At proposed prod. zone: 2275' FSL and 960' FWL (NW/SW) Unit L

5. LEASE DESIGNATION AND SERIAL NO.: NM 67111

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

7. UNIT AGREEMENT NAME: N/A

8. FARM OR LEASE NAME, WELL NO.: Geronimo Federal Well No. 9

9. API WELL NO.: 30-025-32133

10. FIELD AND POOL, OR WILDCAT: Geronimo (Delaware)

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA: Sec. 31, T19S, R33E

14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE*: 32 miles SW of Hobbs, NM

12. COUNTY OR PARISH: Lea — 13. STATE: NM

15. DISTANCE FROM PROPOSED* LOCATION TO NEAREST PROPERTY OR LEASE LINE, FT. (Also to nearest drlg. unit line, if any): 960

16. NO. OF ACRES IN LEASE: 321.72

17. NO. OF ACRES ASSIGNED TO THIS WELL: 40

18. DISTANCE FROM PROPOSED LOCATION* TO NEAREST WELL, DRILLING, COMPLETED, OR APPLIED FOR, ON THIS LEASE, FT.: 1250'

19. PROPOSED DEPTH: 8200'

20. ROTARY OR CABLE TOOLS: Rotary

21. ELEVATIONS (Show whether DF, RT, GR, etc.): 3571 GR

22. APPROX. DATE WORK WILL START*: 02-01-93

23. PROPOSED CASING AND CEMENTING PROGRAM — Secretary's Potash / R-111-P Potash

SIZE OF HOLE	GRADE, SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	QUANTITY OF CEMENT
17.50"	13.375"	54.5# CIRCULATE	500'	525 sx Class C
12.125"	8.625"	32.0# CIRCULATE	4200'	400 sx Lite + 300 sx Class C (4200-2900)
		Stage Tool	2900'	1000 sx Lite + 200 sx Class C (2900'-surf)
7.875"	5.50"	17# (tie back)	TD	950 sx 50/50 POZ (TOC @ 3700')

The operator proposes to drill to a depth sufficient to test the Delaware formation for oil. If productive, 5½" 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 Onshore Oil & Gas Order #1 are outlined in the following attachments:

APPROVAL SUBJECT TO GENERAL REQUIREMENTS AND SPECIAL STIPULATIONS ATTACHED, and to all applicable provisions of NMOCD's R-111-P.

Drilling Program
Surface Use & Operating Plan
Exhibit #1 & 1A - Blowout Preventer Equipment
Exhibit #2 - Location & Elevation Plat
Exhibit #3 - Planned Access Roads
Exhibit #4 - One-mile Radius Map
Exhibit #5 - Production Facilities Layout
Exhibit #6 - Drilling Rig Layout

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 _____ TITLE Mgr. Prod. Reg. Affairs DATE 12-11-92
Mark N. Stephenson
(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/ Kathy Eaton TITLE Acting State Director DATE [illegible]

*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.

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

DISTRICT I
P.O. Box 1980, Hobbs, NM 88240

DISTRICT II
P.O. Drawer DD, Artesia, NM 88210

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

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 1-1-89

Exhibit # 2
Geronimo Federal No. 9
Lea County, New Mexico

WELL LOCATION AND ACREAGE DEDICATION PLAT

All Distances must be from the outer boundaries of the section

Operator	Lease	Well No.
MITCHELL ENERGY Corporation	GERONIMO FEDERAL	#9

Unit Letter	Section	Township	Range	County
L	31	19S.	33E. NMPM	LEA

Actual Footage Location of Well:
960 feet from the WEST line and 2275 feet from the SOUTH line

Ground level Elev.	Producing Formation	Pool	Dedicated Acreage:
3571	Delaware	Geronimo- Delaware	40 Acres

1. Outline the acreage dedicated to the subject well by colored pencil or hachure marks on the plat below.

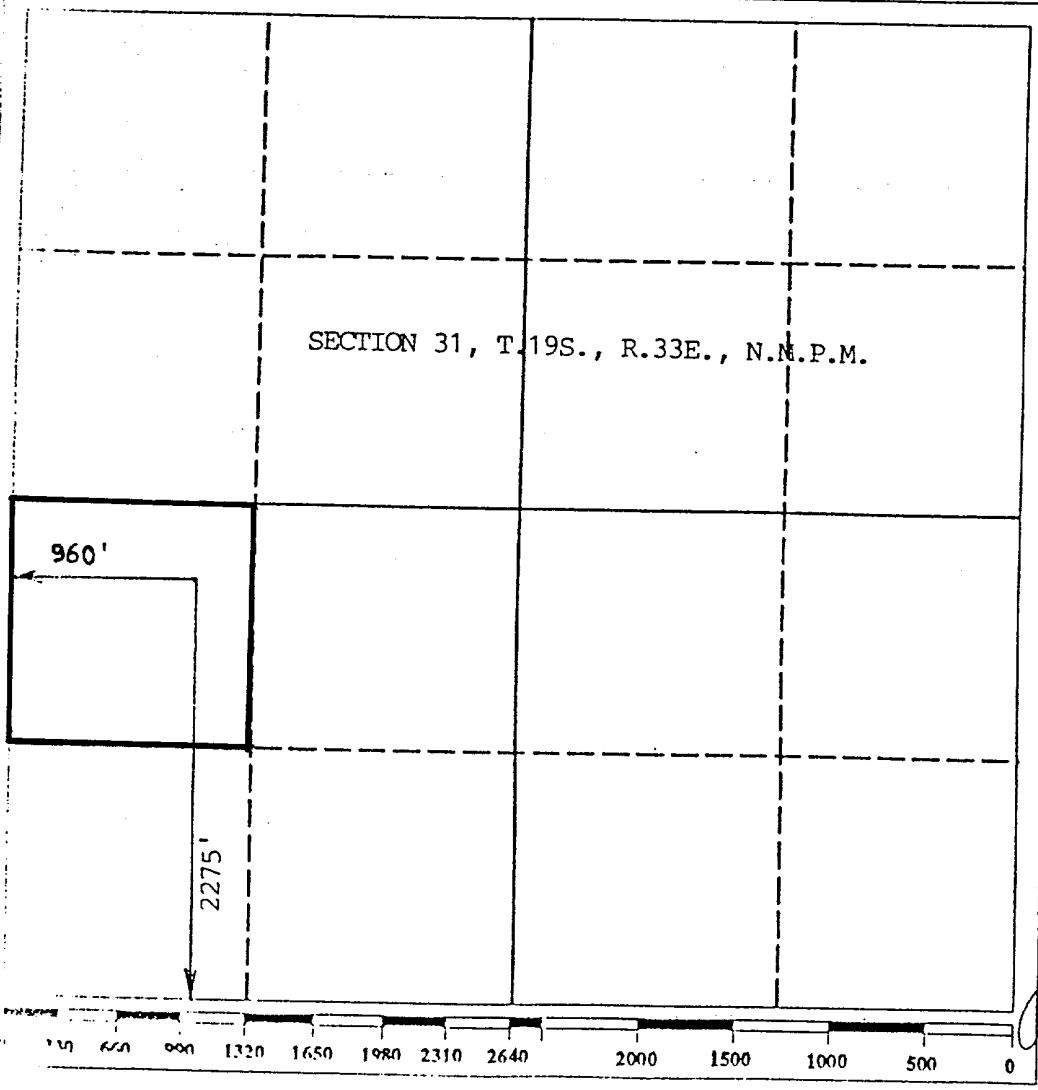
2. If more than one lease is dedicated to the well, outline each and identify the ownership thereof (both as to working interest and royalty).

3. If more than one lease of different ownership is dedicated to the well, have the interest of all owners been consolidated by communitization, unitization, force-pooling, etc.?

☐ Yes ☐ No If answer is "yes" type of consolidation _____

If answer is "no" list the owners and tract descriptions which have actually been consolidated. (Use reverse side of this form if necessary. _____

No allowable will be assigned to the well until all interests have been consolidated (by communitization, unitization, forced-pooling, or otherwise) or until a non-standard unit, eliminating such interest, has been approved by the Division.



OPERATOR CERTIFICATION

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

Signature

Printed Name
Mark N. Stephenson

Position
Mgr.,Prod. Reg. Affairs

Company
Mitchell Energy Corp.

Date
December 11, 1992

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 knowledge and belief.

Date Surveyed
11/17/92

Signature & Seal of Professional Surveyor
NEW MEXICO 6290 REGISTERED LAND SURVEYOR

Certificate No. 6290

BK. 66, PG. 54

DRILLING PROGRAM

Attached to Form 3160-3
Mitchell Energy Corporation
Geronimo Federal No. 9
2275' FSL & 960' FWL
NW/SW, Sec. 31, T19S, R33E
Lea Co., N.M.

1. Geologic Name of Surface Formation:

   Permian

2. Estimated Tops of Important Geologic Markers:

Permian	Surface
Base of Salt	2800'
Yates	3000'
Delaware	5250'
Bone Spring	7900'
Total Depth	8200'

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

Upper Permian Sands	100'	Fresh Water
Yates	3000'	Oil
Delaware	5250'	Oil
Delaware (Brushy Canyon)	7630'	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" csg at 500' and circulating cement back to surface. All wells on the Geronimo Lease have experienced moderate to severe loss circulation from 3200' to 4000'. In order to eliminate this problem while drilling the lower portion of the hole, it is proposed to set 8-5/8" casing at 4200' (as in Geronimo Federal #5). The loss zone and the Yates productive interval will be covered in the first stage of the cement job up to 2900'. The potash will be protected by placing a cementing stage tool at 2900' and circulating cement to surface in the second stage of the cement job.

The 5-1/2" production casing to be run at TD will be cemented back 500' into the 8-5/8" casing (TOC at 3700') in order to cover all productive zones in the Delaware.

4. Casing Program:

Hole Size	Interval	OD csg	Weight, Grade, Jt, Cond, Type
17-1/2"	0-500'	13-3/8"	54.5#, K-55, ST&C, New, R-3
12-1/4"	0-4200'	8-5/8"	32#, K-55, LT&C, New, R-3
7-7/8"	0-TD	5-1/2"	17#, K-55, ST&C, New, R-3

Cement Program:

13-3/8" Surface Casing @ 500': Cemented to surface with 525 sx of Class C + 2% $CaCl_2$ + 1/4 #/sx Flocele.

8-5/8" Intermediate Casing @ 4200': Cemented to surface with first stage: 400 sx Lite + 6% gel + 10#/sx salt & 300 sx Class C + 2% $CaCl_2$ and Second stage: 1000 sx Lite + 10#/sx salt + 1/4#/sx Flocele and 200 sx Class C + 2% $CaCl_2$.

5-1/2" Production Casing @ TD: Cemented with 950 sx 50/50 Class H/Poz + 0.8% Halad 9 + 1/4 #/sx Flocele. This cement slurry is designed to bring TOC to 3700'.

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 BOP's will be nippled up on the 13-3/8" surface csg and used continuously until TD is reached. All BOP's 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% of 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 fresh water, brine water and starch mud system. The applicable depths and properties of this system are as follows:

Depth	Type	Weight (ppg)	Viscosity (sec)	Waterloss (cc)
0-500'	Fresh Water (spud)	8.5	40-45	N.C.
500'-5200'	Brine Water	10.0	30	N.C.
5200'-TD	Brine Water/Gel/Starch	10.0	30-32	≤40

Sufficient mud materials to maintain mud properties and meet minimum lost circulation and weight increase requirements will be kept at the wellsite 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 will be continuously monitoring drilling penetration rate and hydrocarbon shows from 2900' to TD.

8. Logging, Testing and Coring Program:

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

(B) The electric logging program will consist of GR-Dual Laterolog-MSFL 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, and 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 122°F and estimated maximum bottom-hole pressure (BHP) is 3500 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. All wells on the Geronimo lease have experienced moderate to severe loss circulation in the Yates/7 River interval from 3200' to 4000'.

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 February 1, 1993. Once commenced, the drilling operation should be finished in approximately 25 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 REQUIRE NTS

3,000 psi Working Pressure

3 MWP

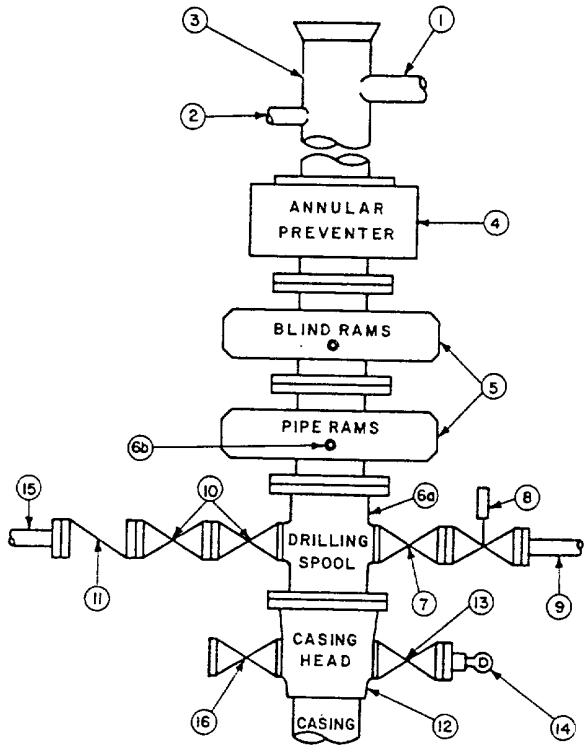
EXHIBIT # 1
Geronimo Federal No. 9
Lea County, New Mexico

STACK REQUIREMENTS

No.	Item	Min. I.D.	Min. Nominal
1	Flowline		
2	Fill up line		2"
3	Drilling nipple		
4	Annular preventer		
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.