N.M. OIL CONS. COMMISSION
P.O. BOX 1980
HOBBS, NEW MEXICO 88240

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

APPLICATION FOR PERMIT TO DRILL OR DEEPEN

5. LEASE DESIGNATION AND SERIAL NO.: NM 90539

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

7. UNIT AGREEMENT NAME: N/A

8. FARM OR LEASE NAME, WELL NO.: Zuni "22" Federal No. 1

9. API WELL NO.: 30 025 32054

10. FIELD AND POOL, OR WILDCAT: Bilbrey (Morrow)

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA: Sec. 22, T21S, R32E

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

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

2. NAME OF OPERATOR: Mitchell Energy Corporation

3. ADDRESS AND TELEPHONE NO.: P.O. Box 4000, The Woodlands, Texas 77387-4000 (713) 377-5500

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.*)
At surface: 1980' FSL and 660' FWL (NW/SW)
At proposed prod. zone: 1980' FSL and 660' FWL (NW/SW)

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

14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE*: 29 miles in a westerly direction from Eunice, NM

15. DISTANCE FROM PROPOSED* LOCATION TO NEAREST PROPERTY OR LEASE LINE, FT. (Also to nearest drlg. unit line, if any): 660'

16. NO. OF ACRES IN LEASE: 640

17. NO. OF ACRES ASSIGNED TO THIS WELL: 320

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

19. PROPOSED DEPTH: 15,000

20. ROTARY OR CABLE TOOLS: Rotary

21. ELEVATIONS (Show whether DF, RT, GR, etc.): 3719 GR — Capitan Controlled Water Basin

22. APPROX. DATE WORK WILL START*: 12-01-94

23. PROPOSED CASING AND CEMENTING PROGRAM — R-111-P Potash

SIZE OF HOLE	GRADE, SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	QUANTITY OF CEMENT
17-1/2"	13-3/8", K	54.5#	500'	Class C, TOC = Surface
12-1/4"	9-5/8", K	40#	3,800'	Lite + Class C, TOC = Surface
8-3/4"	7", N&S	26#	12,100'	Lite + Class H, TOC = 5000'
6"	4-1/2", N	13.5#	11,850' - TD	Class H, TOC = TOL = 11,850'

The operator proposes to drill to a depth sufficient to test the Morrow formation for gas. If productive, 4½" 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:

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
Exhibit #7 - Cultural Resources Examination

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 George Mullen — TITLE George Mullen, Reg. Affairs Specialist — DATE 7-21-94

(This space for Federal or State office use)

PERMIT NO. _____ APPROVAL DATE _____

Approval Subject to General Requirements and Special Stipulations

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. Rucco — TITLE Associate SD — DATE 10-14-94

*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
Mitchell Energy Corporation
Zuni "22" Federal No. 1
1980' FSL & 660' FWL
NW/SW, Sec. 22, T21S, R32E
Lea Co., New Mexico

1. Geologic Name of Surface Formation:

   Permian

2. Estimated Tops of Important Geologic Markers:

Permian	Surface	Wolfcamp	12,110'
Rustler	1150'	Strawn	13,160'
Base Salt	3210'	Atoka	13,310'
Delaware	4870'	Morrow	13,610'
Bone Spring	8750'	Total Depth	15,000'

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

Upper Permian Sands to	100'	Fresh Water
Delaware-Cherry Canyon	5,970'	Oil
Delaware-Brushy Canyon	7,010'	Oil
Atoka	13,310'	Gas
Morrow "A" SS	13,910'	Gas
Morrow "B" SS	14,210'	Gas
Morrow "C" SS	14,660'	Gas

   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 600' and circulating cement back to surface. Any zones above TD which contain commercial quantities of oil and/or gas will have cement circulated across them behind the 9-5/8" or 7" intermediate casing or the 4-1/2" liner which will be cemented on bottom.

4. Casing Program:

Hole Size	Interval	OD Casing	Weight, Grade, Jt, Cond, Type
26"	0-40'	20"	Conductor, 0.3" wall thickness
17-1/2"	Surf-500'	13-3/8"	54.5#, K-55, ST&C, New, R-3
12-1/4"	Surf-3,800'	9-5/8"	40#, K-55, LT&C, New, R-3
8-3/4"	Surf-12,100'	7"	26#, N-80 & S-95, LT&C, New, R-3
6"	11,850'-TD	4-1/2"	13.5#, N-80, FJ, New, R-3

Cement Program:

13-3/8" Surface Casing @ 500':	Cemented to surface with 525 sacks of Class "C" + 2% $CaCl_2$ + 1/4#/sx FC.
9-5/8" Intermediate Casing @ 3800':	Cemented to surface with 1100 sacks Halliburton Lite + 15#/sx salt + 1/4#/sx Flocele and 250 sx Class "C" + 2% $CaCl_2$.
7" Intermediate Casing @ 12,100':	Cemented with 900 sacks Lite + 300 sx Class "H" + 5#/sx salt. TOC @ 5000'. Shallow productive zones if present will be cemented by placing a cementing stage tool below the zone of interest and cementing with Class "C" cement.
4-1/2" liner @ TD:	Cemented with 280 sacks Class H + 4% TF-4 + 0.6% CF-9 + 0.6% Flo-LOK-1 + 5#/sx KCl. Cemented to TOL @ 11,850'.

5. Minimum Specifications for Pressure Control:

The blowout preventer equipment (BOP) shown in Exhibit #1 will consist of a double ram-type (10,000 psi WP) preventer and a bag-type (hydril) preventer (5000 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" or 3-1/2" drill pipe rams on bottom as required. Both BOP's will be nippled up on the 13-3/8" surface casing 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 9-5/8" intermediate casing, the ram-type BOP and accessory equipment will be tested to 10,000 psi and the hydril to 70% of rated working pressure (3500 psi).

The testing procedure will be duplicated before drilling out of 7" intermediate casing and after any use under pressure during the drilling of the well.

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 10,000 psi WP rating.

6. Types and Characteristics of the Proposed Mud System:

The well will be drilled to TD with a combination 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)	Waterloss (cc)
0- 600'	Fresh Water (spud)	8.5	40-45	N.C.
600- 1150'	Fresh Water	8.5	30	N.C.
1150- 3800'	Brine Water	10.0	30	N.C.
3800- 8750'	Brine Water	10.0	30	N.C.
8750- 9500'	Cut Brine	8.8- 9.2	30	N.C.
9500-12100'	Cut Brine/Polymer	9.0- 9.4	32	<40
12100-13200'	Brine/Polymer	10.2-10.8	34-36	<40
13200-13800'	Brine/Polymer	10.8-12.0	34-38	<10
13800-TD	Brine/Polymer/KCl	10.8-12.0	40-42	5

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. The 7" casing shoe will be tested to an EMW equal to the maximum expected mud weight required for drilling the Atoka formation.

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. An electronic pit-volume-totalizer system will be used continuously below 9500' to monitor the mud and pump system. The drilling fluids system will also be visually monitored at all times.

D. A mud logging unit with H_2S detector will be continuously monitoring drilling penetration rate and hydrocarbon shows from 4800' to TD.

E. A rotating head, mud-gas separator and vacuum degasser will be operational at all times below 12,100' to facilitate handling a gas kick or gas cutting of the mud until the mud weight can be increased.

F. Drill pipe protectors will be used at all times while drilling inside the 7" casing, which will eventually become the production casing above the 4-1/2" liner top.

8. Logging, Testing and Coring Program:

   A. Drillstem tests will be run on the basis of drilling shows. At least one test is anticipated.

   B. The electric logging program will consist of GR-Dual Laterolog-MSFL and GR-Sonic from 12,100' to 9-5/8" intermediate casing and from TD to 7" intermediate casing at 12,100' 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 4-1/2" production liner 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 bottom-hole pressure (BHP) is 7000 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 December 1, 1994. Once commenced, the drilling operation should be finished in approximately 60 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

10,000 psi Working Pressure

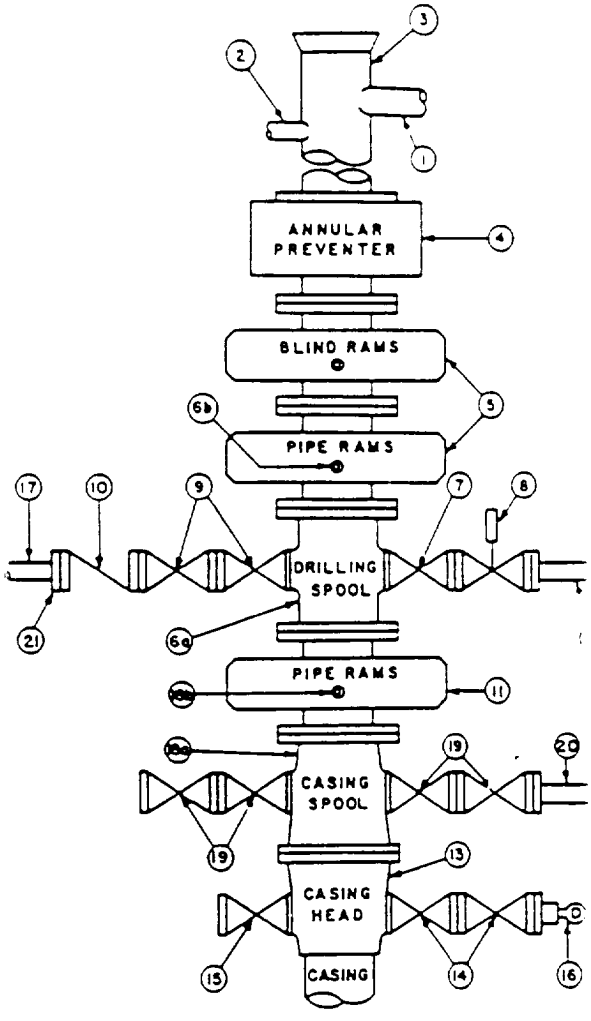
10 MWP

EXHIBIT #1
Zuni "22" Federal No. 1
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	Gate valve	3-1/8"	
8	Gate valve—power operated	3-1/8"	
9	Gate valves	2-1/16"	
10	Check valve	2-1/16"	
11	Single hydraulically operated ram		
12	Line to choke manifold		3"
13	Casing head		
14	Gate valves	1-13/16"	
15	Gate Valve or Flanged Valve w/Control Plug	1-13/16"	
16	Pressure gauge with needle valve		
17	Kill line to rig mud pump manifold		2"

OPTIONAL			
18a	Casing spool with 2" outlet	or	
18b	2" outlet in ram preventer		
19	Gate valves	2-1/16"	
20	Auxiliary choke line (emergency only)		2"
21	Roadside connection to kill line		2"
22	Shear ram blocks for blind rams		



CONTRACTOR'S OPTION TO FURNISH:

1. All equipment and connections above bradenhead or casinghead.
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, including control for hydraulically operated wing valve, to be located near drillers position with remote controls located away from rig floor.
4. Kelly equipped with Kelly cock and Hydril Kelly valve, or its approved equivalent.
5. Hydril Kelly valve or its approved equivalent and approved inside blow-out preventer to fit drill pipe in use on derrick floor at all times.
6. Kelly saver-sub equipped with rubber casing protector at all times.
7. Extra set of pipe rams to fit pipe being used on location.
8. Plug type blowout preventer tester.
9. Type RX ring gaskets in place of Type R.
10. Outlet for Halliburton on kill line.

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. 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. Approved 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.
12. Rig pumps ready for hook-up to BOP control manifold for emergency use only.

...to Appropriate
...t Office
...ase - 4 copies
...ase - 3 copies

...STRICT I
...x 1980, Hobbs, NM 88240

...STRICT II
...Drawer DD, Artesia, NM 88210

...STRICT III
...0 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
Zuni "22" Federal No. 1
Lea County, New Mexico

WELL LOCATION AND ACREAGE DEDICATION PLAT
All Distances must be from the outer boundaries of the section

...rator: MITCHELL ENERGY Corporation			Lease: ZUNI 22 FEDERAL		Well No.: #1
...Letter: L	Section: 22	Township: 21S.	Range: 32E. NMPM	County: LEA	
...ual Footage Location of Well: 1980 feet from the SOUTH line and 660 feet from the WEST line					
...ound level Elev.: 3719	Producing Formation: Morrow		Pool: Bilbrey (Morrow)		Dedicated Acreage: 320 Acres

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

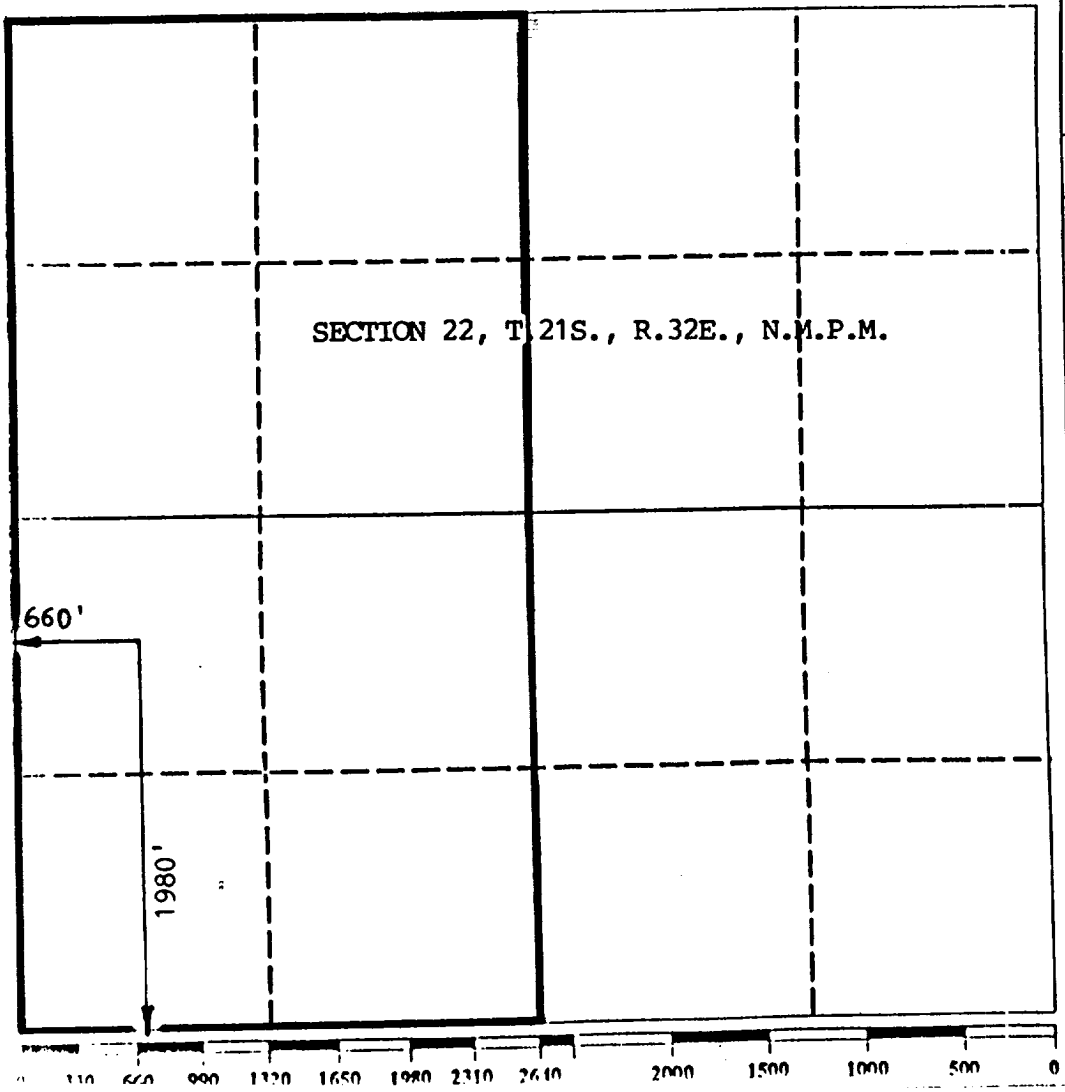
2. If more than one lease is dedicated to the well, outline each and identify the ownership thereof (both as to working interest and royalty).

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: George Mullen

Printed Name: George Mullen

Position: Reg. Affairs Specialist

Company: Mitchell Energy Corp.

Date: July 21, 1994

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: 3/2/93

Signature & Seal of Professional Surveyor: JOHN W. WEST, NEW MEXICO, 6290

Certificate No. 6290

ZUNI22FD