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

RECEIVED
APR 28 1993
BUREAU OF LAND MANAGEMENT
Carlsbad, New Mexico

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, TX 77387-4000 (713) 377-5500

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

5. LEASE DESIGNATION AND SERIAL NO.: NM 67499

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

7. UNIT AGREEMENT NAME: N/A

8. FARM OR LEASE NAME, WELL NO.: Anasazi "21" Fed Com No. 1

9. API WELL NO.: 30-025-32117

10. FIELD AND POOL, OR WILDCAT: Wildcat Morrow

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA: Sec. 21, T20S, R33E

12. COUNTY OR PARISH: Lea

13. STATE: NM

14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE*: 31.5 miles west of Hobbs, 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: 360

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: 14,200

20. ROTARY OR CABLE TOOLS: Rotary

21. ELEVATIONS (Show whether DF, RT, GR, etc.): 3540 GR

22. APPROX. DATE WORK WILL START*: 7-1-93

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
26"	20", K-55	94#	500'	Premium ; TOC = Surface
17-1/2"	13-3/8", K-55	~~68#~~ 68#	2950'	Lite + Premium; TOC = Surface
12-1/4"	8-5/8", K-55	32.0# (SJS)	5300'	Lite + Premium; TOC = 2500'
7-7/8"	5-1/2", N-80 & S-95	17.0#	TD	Lite + 50/50 Poz; TOC = 9000'

As per telecon w/G. Tullos, 6/28/93.

The operator proposes to drill to a depth sufficient to test the Morrow formation for gas. 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:

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 & 7A - Hydrogen Sulfide Drilling Operations Plan

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, Regulatory Affairs Specialist — DATE 4-26-93

(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:

APPROVAL SUBJECT TO GENERAL REQUIREMENTS AND SPECIAL STIPULATIONS ATTACHED

APPROVED BY /s/ Kathy Porter — TITLE Acty. State Director — DATE 7-6-93

*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
Anasazi "21" Fed Com No. 1
1980' FWL & 1980' FNL
SE/NW, Sec. 21, T20S, R33E
Lea County, New Mexico

1. Geologic Name of Surface Formation:

   Permian

2. Estimated Tops of Important Geologic Markers:

Permian	Surface	Wolfcamp	11,170'
Rustler	1350'	Strawn	12,190'
Base Salt	2800'	Atoka	12,500'
Yates	3040'	Morrow	13,020'
Delaware	5410'	Total Depth	14,200'
Bone Spring	8320'		

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

Upper Permian Sands to	100'	Fresh Water
Yates	3040'	Oil
Delaware	5410'	Oil
1st Bone Spring SS	9320'	Oil
Wolfcamp	11,170'	Oil
Atoka	12,500'	Gas
Morrow SS	13,300'	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 20" casing at 500' and circulating cement back to surface. The potash zone will be protected by setting 13-3/8" casing at 2950' 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 behind the 8-5/8" casing or by inserting a cementing stage tool into the 5-1/2" production casing which will be run at TD.

4. Casing Program:

Hole Size	Interval	OD Casing	Weight, Grade, Jt, Cond, Type
36"	0-40'	30"	Conductor, 0.3" wall thickness
26"	Surf-500'	20"	94#, K-55, BT&C, New, R-3
17-1/2"	Surf-2950'	13-3/8"	68#, K-55, ST&C, New, R-3
12-1/4"	Surf-5300'	8-5/8"	32#, K-55, ST&C, New, R-3
7-7/8"	Surf-TD	5-1/2"	17#, N-80 & S-95, LT&C, New, R-3

Cement Program:

20" Surface Casing @ 500':	Cemented to surface with 1150 sacks Premium Plus + 2% $CaCl_2$.
13-3/8" Intermediate Casing @ 2950':	Cemented to surface with 1500 sacks Premium Plus Light + 6% gel + 15#/sack salt + 1/4#/sack Flocele and 250 sacks Premium Plus + 2% $CaCl_2$.
8-5/8" Intermediate Casing @ 5300':	Cemented to 2500' with 1000 sacks Premium Plus Lite + 6% gel + 0.3% Halad 9 + 1/4#/sack Flocele and 250 sacks Premium Plus.
5-1/2" Production Casing @ TD:	Cemented with 600 sacks Premium Plus Lite + 0.4% Halad 22A and 500 sacks Prem 50/50 Poz A + 2% gel + 0.6% Halad 22A + 0.4% CFR-2. This cement slurry is designed to bring TOC to 9000'. Shallower productive zones will be cemented by placing a cementing stage tool below the zone of interest if necessary and cementing with a similar type of cement.

5. Minimum Specifications for Pressure Control:

The blowout preventer equipment (BOP) shown in Exhibit #1 will consist of a double ram-type (5,000 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" drill pipe rams on bottom. Both BOP's will be nippled up on the 13-3/8" intermediate casing and used continuously until TD is reached. All BOP's and accessory equipment will be tested to 1000 psi before drilling out of 13-3/8" intermediate casing. Before drilling out of 8-5/8" casing, the ram-type BOP and accessory equipment will be tested to 5,000 psi and the hydril to 70% of rated working pressure (3500 psi). The testing procedure will be duplicated at 12000' (prior to drilling Strawn formation) 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 5,000 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- 500'	Fresh Water (spud)	8.5	40-45	N.C.
500- 1300'	Fresh Water	8.4	28	N.C.
1300- 2950'	Brine Water	10.0	30	N.C.
2950- 5300'	Cut Brine (40,000 ppm Cl)	8.8-9.2	30	N.C.
5300- 8120'	Brine Water	10.0	30	N.C.
8120- 9100'	Cut Brine (100,000 ppm Cl)	9.5	30	N.C.
9100-12000'	Cut Brine/Polymer	9.5	34	≤40
12000-13000'	Brine/Polymer	10.0-10.2	34-38	10
13000-TD	Brine/Polymer/KCl	10.0-10.2	34-38	10

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. The H_2S Drilling Operations Plan shown in Exhibit #7 will be utilized from the top of the Yates formation at 3040' until 8-5/8" casing is cemented at 5300'.

D. An electronic pit-volume-totalizer system will be used continuously below 9100' to monitor the mud and pump system. The drilling fluids system will also be visually monitored at all times.

E. A mud logging unit with H_2S detector will be continuously monitoring drilling penetration rate and hydrocarbon shows from 2950' to TD.

F. A mud-gas separator, vacuum degasser, and remote drilling choke will be operational at all times below 11,000' to facilitate handling a gas kick or gas cutting of the mud until the mud weight can be increased.

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 5300' to intermediate casing @ 2950' and GR-CNL-LDT 5300' to surface. A GR-DLL-MSFL, GR-CNL-LDT and GR-BHC Sonic will be run from TD to intermediate casing @ 5300'. 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 bottom-hole pressure (BHP) is 6500 psig. No major loss circulation zones have been reported in offsetting wells. The Yates formation is known to contain low concentrations of H_2S in some offsetting wells. The H_2S Drilling Operations Plan (Exhibit #7) will be in effect from the initial penetration of the Yates formation until 8-5/8" casing is cemented @ 5300'.

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 July 1, 1993. 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

5,000 psi Working Pressure

5 MWP

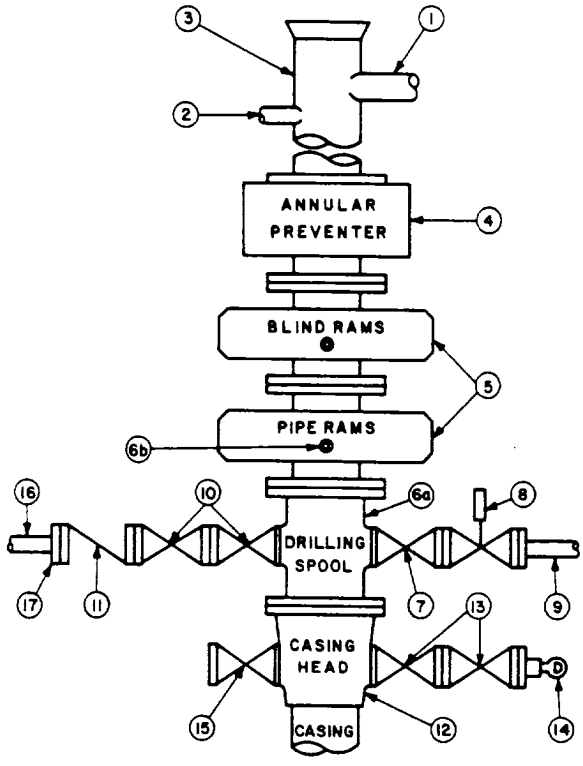
EXHIBIT 1
Anasazi "21" Fed Com No. 1
Lea County, New Mexico

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" minimum kill line and 3" minimum choke line outlets in ram. (Alternate to 6a above.)		
7	Gate valve	3-1/8"	
8	Gate valve — power operated	3-1/8"	
9	Line to choke manifold		3"
10	Gate valves	2-1/16"	
11	Check valve	2-1/16"	
12	Casing head		
13	Gate valves	1-13/16"	
14	Pressure gauge with needle valve		
15	Gate Valve or Flanged Valve w/Control Plug	1-13/16"	
16	Kill line to rig mud pump manifold		2"

OPTIONAL			
17	Roadside connection to kill line		2"

CONFIGURATION A



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.

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
Anasazi "21" Fed Com No. 1
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	ANASAZI 21 FEDERAL COM	#1

Unit Letter	Section	Township	Range	County
F	21	20S.	33E. NMPM	LEA

Actual Footage Location of Well:
1980 feet from the NORTH line and 1980 feet from the WEST line

Ground level Elev.	Producing Formation	Pool	Dedicated Acreage:
3540	Morrow	Wildcat	320 Acres

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

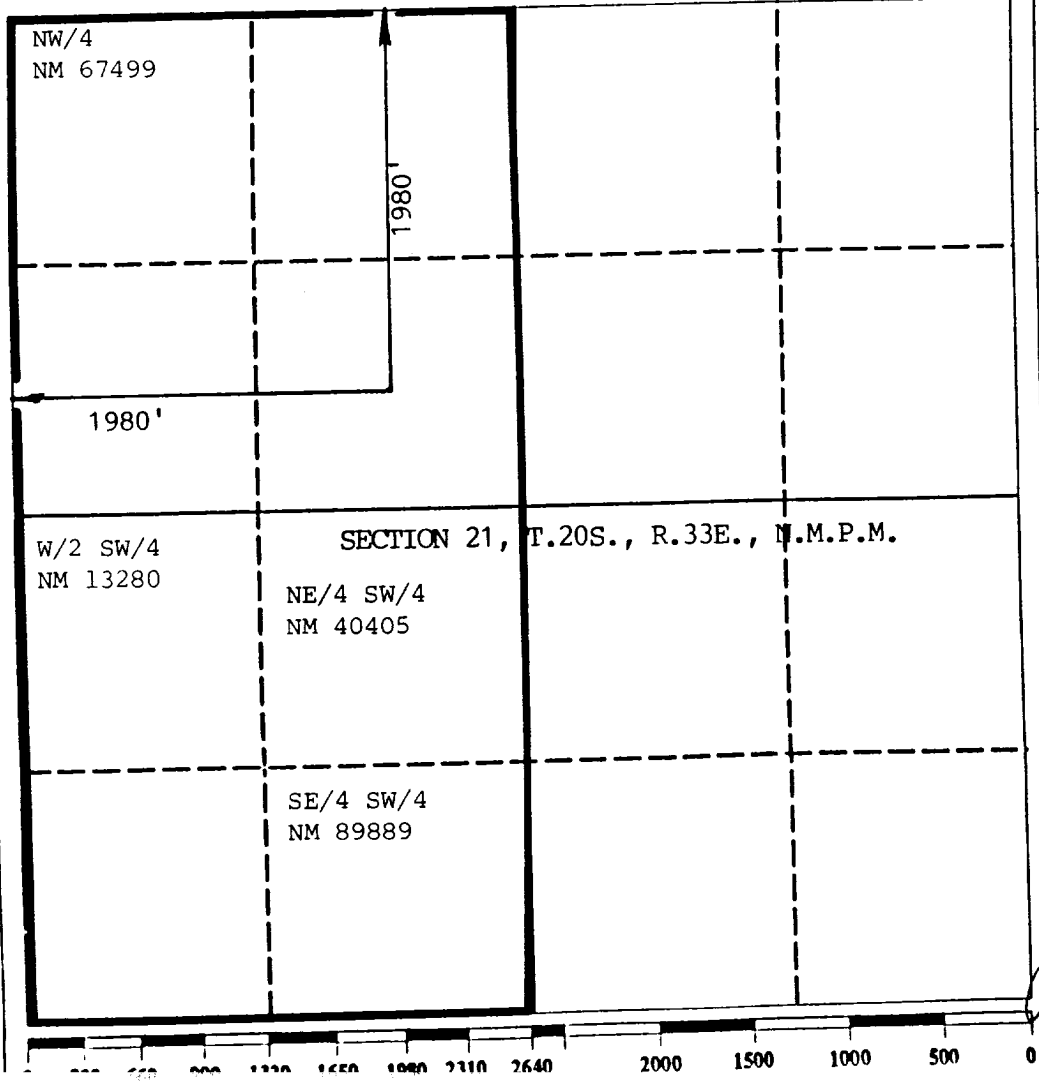
2. If more than one lease is dedicated to the well, outline each and identify the ownership thereof (both as to working interest and royalty).

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 neccessary. _____

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: April 26, 1993

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: 3/24/93

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

Certificate No. 6290

172021ME