

Submit to Appropriate  
District Office  
State Lease - 6 copies  
Fee Lease - 5 copies

State of New Mexico  
Energy, Minerals and Natural Resources Department

Form C-101  
Revised 1-1-89

OIL CONSERVATION DIVISION

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

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

API NO. (assigned by OCD on New Wells)  
30-015-27561 27531  
5. Indicate Type of Lease  
STATE ☒ FEE ☐

6. State Oil & Gas Lease No.  
L-3358

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

1a. Type of Work:  
DRILL ☒ RE-ENTER ☐ DEEPEN ☐ PLUG BACK ☐

b. Type of Well:  
OIL WELL ☒ GAS WELL ☐ OTHER ☐

SINGLE ZONE ☒ MULTIPLE ZONE ☐

7. Lease Name or Unit Agreement Name

Nash Unit

2. Name of Operator  
Strata Production Company ✓

8. Well No.  
#17

3. Address of Operator  
P. O. Box 1030, Roswell, New Mexico 88202-1030

9. Pool name or Wildcat  
Nash Draw Delaware

4. Well Location  
Unit Letter D : 990 Feet From The North Line and 330 Feet From The West Line

Section 18 Township 23 South Range 30 East NMPM Eddy County

10. Proposed Depth  
7300'  
11. Formation  
Delaware  
12. Rotary or C.T.  
Rotary

13. Elevations (Show whether DF, RT, GR, etc.)  
3005' GR  
14. Kind & Status Plug Bond  
Statewide  
15. Drilling Contractor  
Grace Drilling Co.  
16. Approx. Date Work will start  
August 30, 1993

17. PROPOSED CASING AND CEMENT PROGRAM POTASH AREA/R-111

SIZE OF HOLE	SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	SACKS OF CEMENT	EST. TOP
17 1/2"	13 3/8"	48#	300'	Circulated	Surface
12 1/4"	8 5/8"	24#	3000'	Circulated	Surface
7 7/8"	5 1/2"	17#	7300'	Tie back to intermediate casing	

Strata Production Company proposes to drill to a depth sufficient to test the Delaware formation. If productive, 5 1/2" casing will be set. If non-productive, the well will be plugged and abandoned in a manner consistent with State of New Mexico Regulations. Specific programs are outlined as follows:

Form C-102 Well Location and Acreage Dedication Plat  
Hole Prognosis  
Exhibit "A" Equipment Description  
Exhibit "B" Drilling Rig Layout Plan

ED-1  
7-16-93  
NL 9 API

IN ABOVE SPACE DESCRIBE PROPOSED PROGRAM: IF PROPOSAL IS TO DEEPEN OR PLUG BACK, GIVE DATA ON PRESENT PRODUCTIVE ZONE AND PROPOSED NEW PRODUCTIVE ZONE. GIVE BLOWOUT PREVENTER PROGRAM, IF ANY.

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

SIGNATURE Carol J. Garcia TITLE Production Supervisor DATE 6/4/93

TELEPHONE NO. 505-622-1127

(This space for State Use)

APPROVED BY Mark Kelly GEOLOGIST DATE 7-9-93

CONDITIONS OF APPROVAL, IF ANY:

NOTIFY N.M.O.C.D. IN SUFFICIENT  
TIME TO WITHNESS CEMENTING THE  
13 3/8, 8 5/8 CASING

APPROVAL VALID FOR 180 DAYS  
PERMIT EXPIRES 1-9-94  
UNLESS DRILLING UNDERWAY

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

State of New Mexico  
Energy, Minerals and Natural Resources Department

Form C-102  
Revised 1-1-89

**OIL CONSERVATION DIVISION**

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

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

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P.O. Drawer DD, Artesia, NM 88210

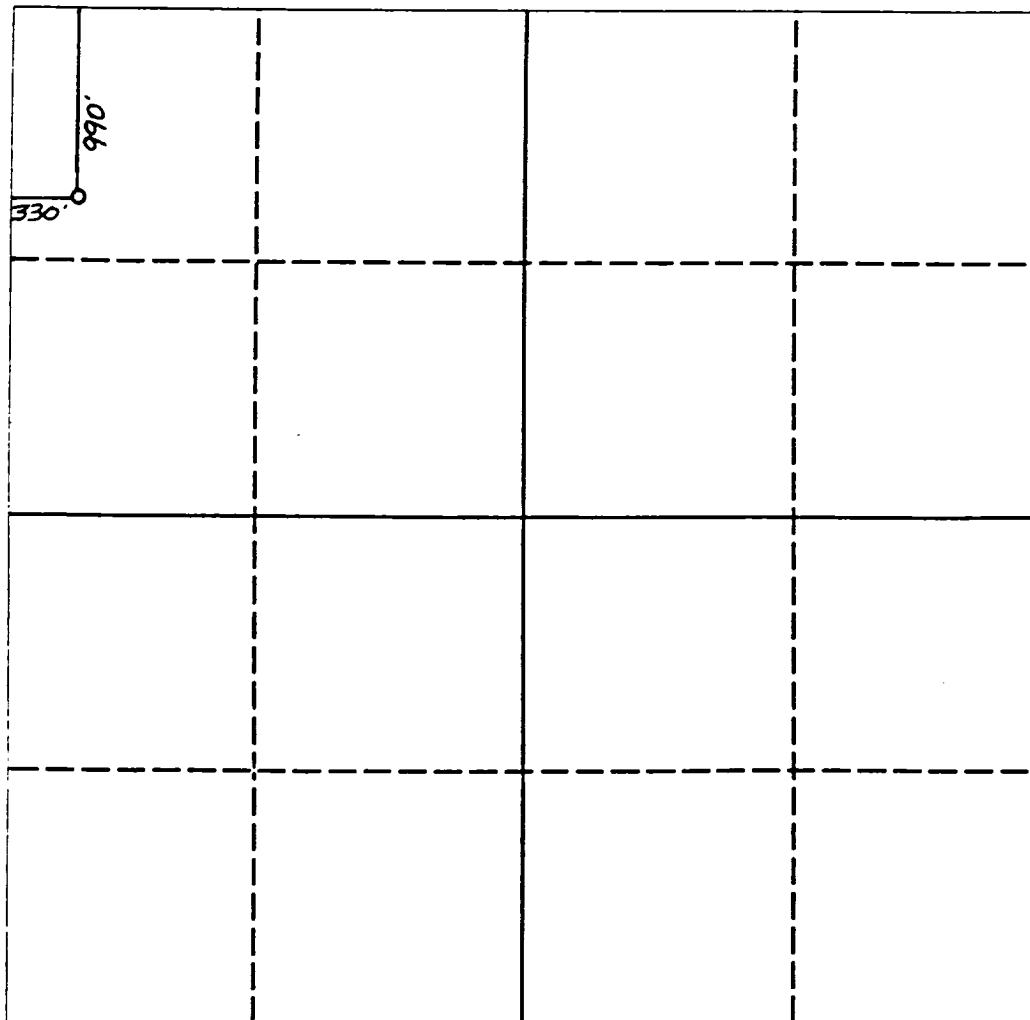
**DISTRICT III**  
1000 Rio Brazos Rd., Aztec, NM 87410

**WELL LOCATION AND ACREAGE DEDICATION PLAT**

All Distances must be from the outer boundaries of the section

Operator <b>STRATA PRODUCTION</b>			Lease <b>NASH UNIT</b>		Well No. <b>17</b>
Unit Letter <b>D</b>	Section <b>18</b>	Township <b>23 SOUTH</b>	Range <b>30 EAST</b>	County <b>EDDY COUNTY, NM</b>	
Actual Footage Location of Well: <b>990</b> feet from the <b>NORTH</b> line and <b>330</b> feet from the <b>WEST</b> line					
Ground level Elev. <b>3005.</b>		Producing Formation <b>DELAWARE</b>		Pool <b>NASH DRAW</b>	Dedicated Acreage: <b>40.00</b> Acres

- Outline the acreage dedicated to the subject well by colored pencil or hatchure marks on the plat below.
- If more than one lease is dedicated to the well, outline each and identify the ownership thereof (both as to working interest and royalty).
- 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 is true and complete to the best of my knowledge and belief.

Signature  
*Carol J. Garcia*  
Printed Name  
**Carol J. Garcia**  
Position  
**Production Supervisor**  
Company  
**Strata Production Company**  
Date  
**June 4, 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 supervision, and that the same is true and correct to the best of my knowledge and belief.

Date Surveyed  
**APRIL 1, 1993**  
Signature & Seal of Registered Professional Engineer  
*Carol J. Garcia*  
NEW MEXICO  
5412  
REGISTERED PROFESSIONAL ENGINEER  
CERTIFICATE NO. 5412  
NM PE EPS NO. 5412

0 330 660 990 1320 1650 1980 2310 2640 2000 1500 1000 500 0

HOLE PROGNOSIS  
FORM C-101 APPLICATION FOR PERMIT TO DRILL  
STRATA PRODUCTION COMPANY  
NASH UNIT #17 WELL  
990' FNL & 330' FEL  
SECTION 18-23S-30E  
EDDY COUNTY, NEW MEXICO

In conjunction with Form C-101 Application for Permit to Drill, Deepen, or Plug Back, Strata Production Company submits the following items in accordance with applicable state regulations.

1. Geologic Name of Surface Formation:

Permian

2. Estimated Tops of Geologic Markers:

Rustler	Surface	Lamar	3180'
Top of Salt	350'	Bone Spring	6690'
Base of Salt	2820'	T.D.	7300'

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

Surface	150'	Fresh Water
Delaware	3180' - 6990'	Oil or Gas

No other formations are expected to produce 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 shallower zones above TD which contain commercial quantities of oil and/or gas will have cement circulated across the zone by inserting a cementing stage tool into the 5 1/2" production casing which will be run at TD.

4. Casing Program:

<u>Hole Size</u>	<u>Interval</u>	<u>OD csq</u>	<u>Weight, Grade, Jt. Cond, Type</u>
17 1/2"	0-300'	13 3/8"	48#, H-40, ST&C, New
12 1/4"	0-3000'	8 5/8"	24#, J-55, ST&C, New
7 7/8"	0-TD	5 1/2"	17#, J-55, LT&C, New

Cementing Program:

Surface Casing:

13 3/8" casing will be set at approximately 300' and cemented with approximately 500 sacks of Halliburton Premium Plus cement with 2% CaCL, 5# Gilsonite and 1/4# Flocele per sack. The amount could be adjusted depending upon the fluid caliper results, however, cement in sufficient quantities to circulate will be utilized.

Intermediate Casing:

8 5/8" casing will be set at approximately 3000' and cemented with approximately 1200 sacks of HalcoLite (Halliburton Lite cement) with 10# salt and 1/4# Kwikseal per sack, and 200 sacks Premium Plus with 5# salt. The amount could be adjusted dependent upon fluid caliper results, however, cement in sufficient quantities to circulate will be utilized.

Production Casing:

If appropriate, 5 1/2" casing will be set at Total Depth. Strata utilizes cement in sufficient quantities to bring the cement into the 8 5/8" intermediate casing. This is normally completed in two (2) stages. The first stage is normally 600 sacks 50/50 Poz with 5# salt and 1/4# Flocele per sack. The second stage normally consists of 500 sacks of 50/50 Poz with 5# salt and 1/4# Flocele per sack.

5. Minimum Specifications for Pressure Control:

The blowout preventer equipment (BOP) shown in Exhibit "A" 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 nipped 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 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:

0' to 300'	Native mud consisting of fresh water and native muds are used for drilling purposes.
300' to 3000'	Brine water purchased from commercial sources will be utilized.
3000' to 4600'	Brine and fresh water purchased from commercial sources will be utilized. Salt gel will be used to build viscosity.
4600' to TD	Brine and fresh water with salt gel and starch will be used to maintain a viscosity of approximately 31 and a water loss of 15 to 25.

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.

8. Testing, Logging and Coring Program:

Two (2) man Mudlogging unit from top of Delaware to TD DLL-MSFL, CNL-Density, Gamma Ray, Caliper.

Mudlogging unit will be employed from approximately 3180' (Top of Delaware) to 7300' (Total Depth). The Dual Laterolog will be run from TD back to the intermediate casing and the Compensated Neutron/Density Log will be run from TD back to surface. In some cases, Strata elects to run rotary sidewall cores from selected intervals from approximately 4200' to 7300' dependent upon logging results.

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

No abnormal pressures or temperatures are anticipated.

Loss of circulation is possible in the Delaware section of the hole, however, no major loss circulation zones have been reported in offsetting wells.

Strata has drilled and completed four (4) wells in the immediate area. To date, Hydrogen Sulfide has not been encountered. However, if Hydrogen Sulfide is encountered, a Hydrogen Sulfide alarm on the drilling rig would be activated. All personnel have had Hydrogen Sulfide training and appropriate breathing apparatus is located on site. If necessary, the well can be shut in utilizing the blow out preventer and other equipment to prevent the migration of Hydrogen Sulfide to the surface.

10. Anticipated Starting Date and Duration of Operations:

Road and location work will not begin until approval has been received from the OCD. The anticipated spud date is August 30, 1993. Once commenced, the drilling operation should be finished in approximately 20 days. If the well is productive, an additional 15 days will be required for completion and testing before a decision is made to install permanent facilities.

## EXHIBIT "A"

### EQUIPMENT DESCRIPTION

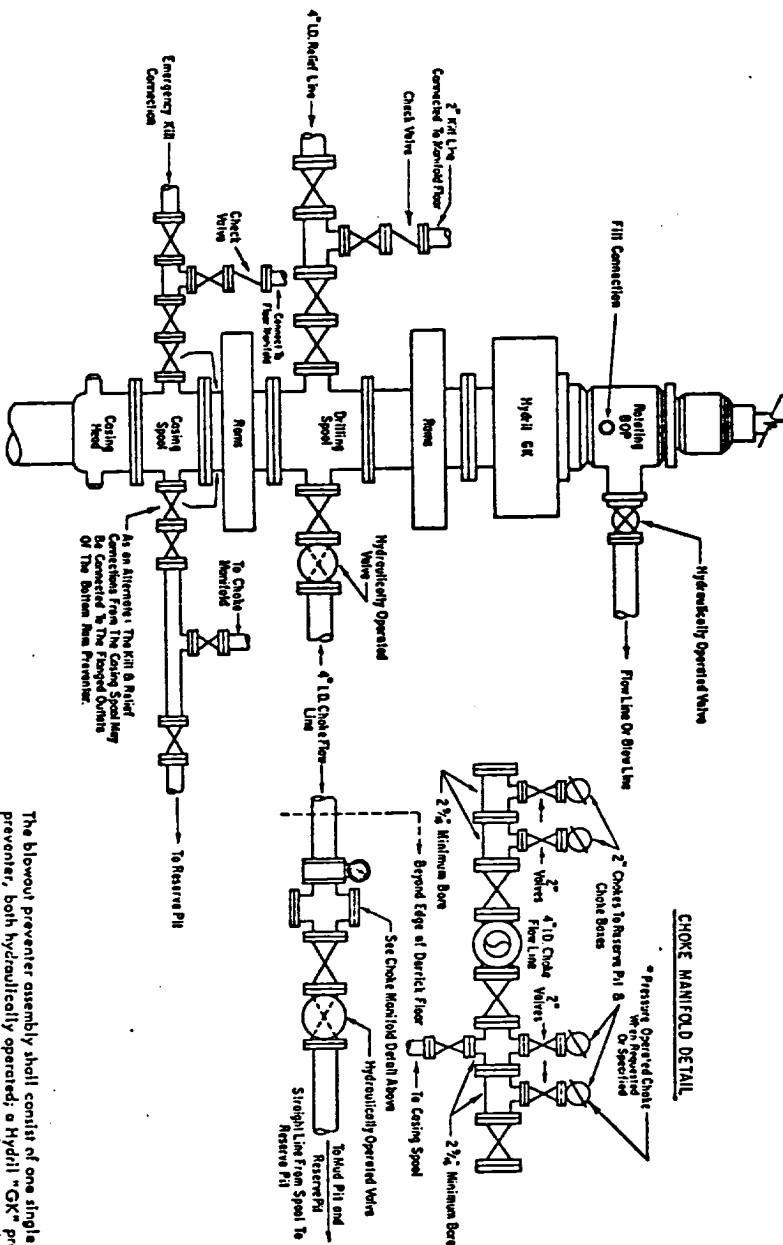
All equipment should be at least 3,000 psi WP or higher unless otherwise specified.

1. Bell nipple
2. Hydril bag type preventer
3. Ram type pressure operated blowout preventer with blind rams.
4. Flanged spool with one 3" and one 2" (minimum) outlet.
5. 2" (minimum) flanged plug or gate valve.
6. 2"x 2"x 2" (minimum) flanged.
7. 3" gate valve.
8. Ram type pressure operated blowout preventer with pipe rams.
9. Flanged type casing head with one side outlet.
10. 2" threaded (or flanged) plug or gate valve. Flanged on 5000# WP, threaded on 3000# WP or less.
11. 3" flanged spacer spool.
12. 3"x 2"x 2"x 2" flanged cross.
13. 2" flanged plug or gate valve.
14. 2" flanged adjustable choke.
15. 2" threaded flange.
16. 2" XXH nipple.
17. 2" forged steel 90° Ell.
18. Cameron (or equal) threaded pressure gauge.
19. Threaded flange.
20. 2" flanged tee.
21. 2" flanged plug or gate valve.
22. 2 1/2" pipe, 300' to pit, anchored.
23. 2 1/2" SE valve.
24. 2 1/2" line to steel pit or separator.

#### NOTES:

- 1). Items 3, 4 and 8 may be replaced with double ram type preventer with side outlets between the rams.
- 2). The two valves next to the stack on the fill and kill line to be closed unless drill string is being pulled.
- 3). Kill line is for emergency use only. This connection shall not be used for filling.
- 4). Replacement pipe rams and blind rams shall be on location at all times.
- 5). Only type U, LSW and QRC ram type preventers with secondary seals are acceptable for 5000 psi WP and higher BOP stacks.
- 6). Type E ram-type BOP's with factory modified side outlets may be used on 3000 psi or lower WP BOP stacks.





### 3000 # PSI WORKING PRESSURE BLOWOUT PREVENTER HOOK-UP

hydraulic operating system which is to be a closed system. (2) Accumulators with a precharge of nitrogen of not less than 750 PSI and connected so as to receive the aforementioned fluid charge. With the charging pumps shut down, the pressurized fluid volume stored in the accumulators must be sufficient to close all the pressure-operated devices simultaneously within \_\_\_\_\_ seconds; after closure, the remaining accumulator pressure shall be not less than 1000 PSI with the remaining accumulator fluid volume at least \_\_\_\_\_ percent of the original. (3) When requested, an additional source of power, remote and equivalent, is to be available to operate the above pumps; or there shall be additional pumps operated by separate power and equal in performance capabilities.

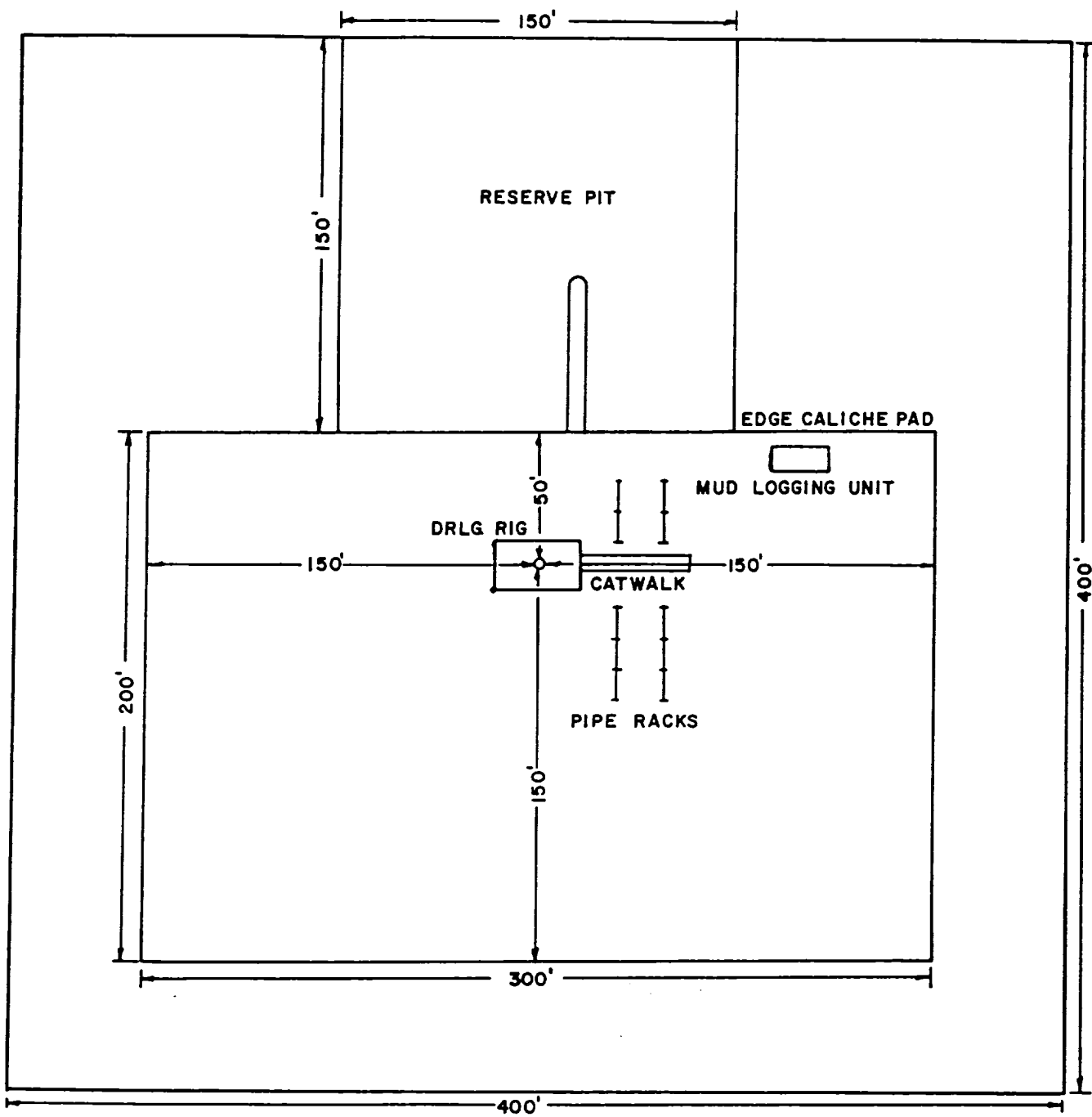
The closing manifold and remote closing manifold shall have a separate control for each pressure-operated device. Controls are to be labeled, with control handles indicating open and closed positions. A pressure reducer and regulator must be provided for operating the Hydril preventer. When requested, a second pressure reducer shall be available to limit operating fluid pressures to ram preventers. Gulf Legion No. 38 hydraulic oil, an equivalent or better, is to be used as the fluid to operate the hydraulic equipment.

The choke manifold, choke flow line, relief line, and choke lines are to be supported by metal stands and adequately anchored. The choke flow line, relief line, and choke lines shall be constructed as straight as possible and without sharp bends. Easy and safe access is to be maintained to the choke manifold. If deemed necessary, walkways and stairways shall be erected in and around the choke manifold. All valves are to be selected for operation in the presence of oil, gas, and drilling fluids. The choke flow line valves and relief line valves connected to the drilling spool and all ram type preventers must be equipped with stem extensions, universal joints if needed, and hand wheels which are to extend beyond the edge of the derrick substructure. All other valves are to be equipped with handles.

\* To include derrick floor mounted controls.

The blowout preventer assembly shall consist of one single type blind ram preventer and one single type pipe ram preventer, both hydraulically operated; a Hydril "GR" preventer; a rotating blowout preventer; valves; chokes and connections, as illustrated. If a tapered drill string is used, a ram preventer must be provided for each size of drill pipe. Casing and tubing rams to fit the preventers are to be available as needed. If correct in size, the flanged outlets of the ram preventer may be used for connecting to the 4-inch 1.0 D. choke flow line and 4-inch 1.0 D. relief line, except when air or gas drilling. All preventer connections are to be open-face flanged.

Minimum operating equipment for the preventer and hydraulically operated valves shall be as follows: (1) Multiple pumps, driven by a continuous source of power, capable of fluid charging the total accumulator volume from the nitrogen precharge pressure to its rated pressure within \_\_\_\_\_ minutes. Also, the pumps are to be connected to the accumulators with a precharge of nitrogen of not less than 750 PSI and connected so as to receive the aforementioned fluid charge. With the charging pumps shut down, the pressurized fluid volume stored in the accumulators must be sufficient to close all the pressure-operated devices simultaneously within \_\_\_\_\_ seconds; after closure, the remaining accumulator pressure shall be not less than 1000 PSI with the remaining accumulator fluid volume at least \_\_\_\_\_ percent of the original. (3) When requested, an additional source of power, remote and equivalent, is to be available to operate the above pumps; or there shall be additional pumps operated by separate power and equal in performance capabilities.



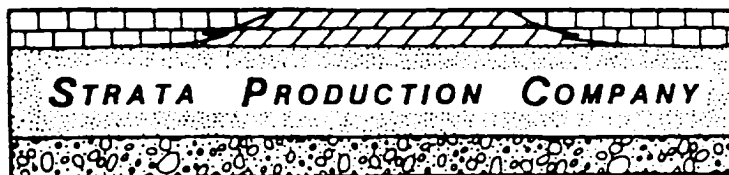
## STRATA PRODUCTION COMPANY

### DRILLING RIG LAYOUT PLAN

Nash Unit #17  
 990' FNL & 330' FWL  
 Section 18-23S-30E  
 Eddy County, New Mexico

EXHIBIT "B"

POST OFFICE DRAWER 1030  
ROSWELL, NM 88202-1030



TELEPHONE (505) 622-1127  
FACSIMILE (505) 623-3533

200 WEST FIRST STREET, ROSWELL PETROLEUM BUILDING, SUITE 700  
ROSWELL, NEW MEXICO 88201

June 4, 1993

Mr. Ben F. Zimmerly  
Advanced Mining Engineer  
Western Ag Minerals Company  
P. O. Box 511  
Carlsbad, New Mexico 88220-0511

Re: Application to Drill in Potash Area  
Nash Unit #17  
Section 18-23S-30E  
Eddy County, New Mexico

Dear Mr. Worley:

In accordance with the State of New Mexico Oil Conservation Division Rule R-111-PC (2)(3), enclosed herewith please find the following for your review and further action:

1. Form C-101 Application For Permit To Drill.
2. Form C-102 Well Location and Acreage Dedication Plat.

State of New Mexico Public Land records reflect Western Ag Minerals Corporation as the potash lessee covering lands in this area. Strata Production Company, a New Mexico corporation, hereby advises you of its intention to drill a well to 7300' at a location 990' FNL & 330' FWL of Section 18, Township 23 South, Range 30 East.

If you agree that drilling at this location will not interfere with your potash operations, please sign and return one copy of this letter in the enclosed envelope within 10 days of receipt of this letter.

Should you have any questions or require additional information from this office, please advise.

Sincerely,

STRATA PRODUCTION COMPANY

*Carol J. Garcia*  
Carol J. Garcia  
Production Supervisor

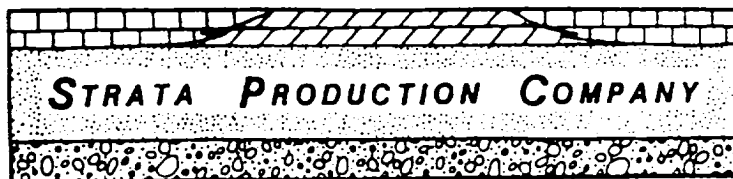
AGREED TO AND ACCEPTED THIS \_\_\_\_ DAY OF \_\_\_\_\_, 1993.

BY: \_\_\_\_\_  
TITLE: \_\_\_\_\_

Enclosures

cc: Oil Conservation Division, Artesia, NM

POST OFFICE DRAWER 1030  
ROSWELL, NM 88202-1030



TELEPHONE (505) 622-1127  
FACSIMILE (505) 623-3533

200 WEST FIRST STREET, ROSWELL PETROLEUM BUILDING, SUITE 700  
ROSWELL, NEW MEXICO 88201

June 4, 1993

Mr. Dan Morehouse, Mine Manager  
IMC Fertilizer, Inc.  
P. O. Box 71  
Carlsbad, New Mexico 88220-0071

Re: Application to Drill in Potash Area  
Nash Unit #17  
Section 18-23S-30E  
Eddy County, New Mexico

Dear Mr. Morehouse:

In accordance with the State of New Mexico Oil Conservation Division Rule R-111-PC (2)(3), enclosed herewith please find the following for your review and further action:

1. Form C-101 Application For Permit To Drill.
2. Form C-102 Well Location and Acreage Dedication Plat.

State of New Mexico Public Land records reflect IMC Fertilizer, Inc. as a potash lessee in the area of the captioned lands. Strata Production Company, a New Mexico corporation, hereby advises you of its intention to drill a well to 7300' at a location 990' FNL & 330' FWL of Section 18, Township 23 South, Range 30 East.

If you agree that drilling at this location will not interfere with your potash operations, please sign and return one copy of this letter in the enclosed envelope within 10 days of receipt of this letter.

Should you have any questions or require additional information from this office, please advise.

Sincerely,

STRATA PRODUCTION COMPANY

*Carol J. Garcia*  
Carol J. Garcia  
Production Supervisor

AGREED TO AND ACCEPTED THIS \_\_\_\_ DAY OF \_\_\_\_\_, 1993.

BY: \_\_\_\_\_

TITLE: \_\_\_\_\_

Enclosures

cc: Oil Conservation Division, Artesia, NM