

Form 3160-3  
(July 1989)  
(formerly 9-331C)

BY OIL CO. OF THE UNITED STATES

Drawn by DD  
Artes

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

CONTACT RECEIVING  
OFFICE 1 FR  
OF COPIES REQUIRED  
RECEIVED  
(Other instructions on  
reverse side)

FEB 15 1993

30-015-27316

BLM Roswell District  
Modified Form No.  
NMO60-3160-2

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

1a. TYPE OF WORK  
DRILL ☒ DEEPEN ☐ PLUG BACK ☐

b. TYPE OF WELL  
OIL WELL ☒ GAS WELL ☐ OTHER ☐ SINGLE ZONE ☐ MULTIPLE ZONE ☐

2. NAME OF OPERATOR  
Strata Production Company ✓

3a. Area Code & Phone No.  
505-622-1127

3. ADDRESS OF OPERATOR  
P. O. Box 1030, Roswell, New Mexico 88202-1030

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.)\*  
At surface 2315' FSL & 1746' FWL  
At proposed prod. zone

14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE\*  
9.5 miles east of Loving, NM

15. DISTANCE FROM PROPOSED\* LOCATION TO NEAREST PROPERTY OR LEASE LINE, FT.  
(Also to nearest drlg. unit line, if any)  
894' from NM-14140

16. NO. OF ACRES IN LEASE  
Lease 320/Unit 5123

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.  
409' from Nash Unit #3

19. PROPOSED DEPTH  
7200'

20. ROTARY OR CABLE TOOLS  
Rotary

21. ELEVATIONS (Show whether DF, RT, GR, etc.)  
2976' GL

22. APPROX. DATE WORK WILL START\*  
December 23, 1992

5. LEASE DESIGNATION AND SERIAL NO.  
NM-192460556859-A

6. IF INDIAN, ALLOTTEE OR TRIBE NAME

7. UNIT AGREEMENT NAME  
Nash Unit

8. FARM OR LEASE NAME  
Nash Unit

9. WELL NO.  
#13

10. FIELD AND POOL, OR WILDCAT  
✓ Nash Draw Delaware

11. SEC., T., R., M., OR BLE. AND SURVEY OR AREA  
Section 12-23S-29E

12. COUNTY OR PARISH  
Eddy

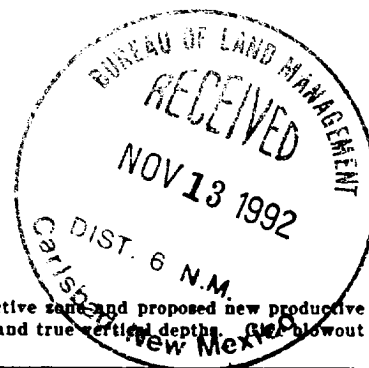
13. STATE  
NM

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

HOLE SIZE	CASING SIZE	WEIGHT/FOOT	GRADE	THREAD TYPE	SETTING DEPTH	QUANTITY OF CEMENT
17 1/2"	13 3/8"	48#	H-40	STC	300'	Circulated
12 1/4"	8 5/8"	24#	J-55	STC	3000'	Circulated
7 7/8"	5 1/2"	17#	J-55	LTC	7200'	Tie back 600' above base of 8 5/8" casing

- A. Drill to a depth sufficient to test Delaware formation.
- B. Cementing Program - See Supplemental Information attached hereto
- C. BOP will be installed - See Exhibit "D" attached hereto
- D. Logs to be run: CNL/FDC, DLL/MSFL, GR/Neutron

POST TO 1  
2-19-93  
NEWARK, NJ



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. 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 Carol J. Garcia TITLE Production Supervisor DATE 11/12/92

(This space for Federal or State office use)

PERMIT NO. \_\_\_\_\_ APPROVAL DATE \_\_\_\_\_

APPROVED BY \_\_\_\_\_ TITLE \_\_\_\_\_ DATE 2-1-93

APPROVAL SUBJECT TO CONDITIONS OF APPROVAL, IF ANY:

GENERAL REQUIREMENTS AND  
SPECIAL STIPULATIONS

ATTACHED, and to NMOC's R-111-P, as appropriate. \*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

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

DISTRICT II

P.O. Drawer DD, Artesia, NM 88210

DISTRICT III

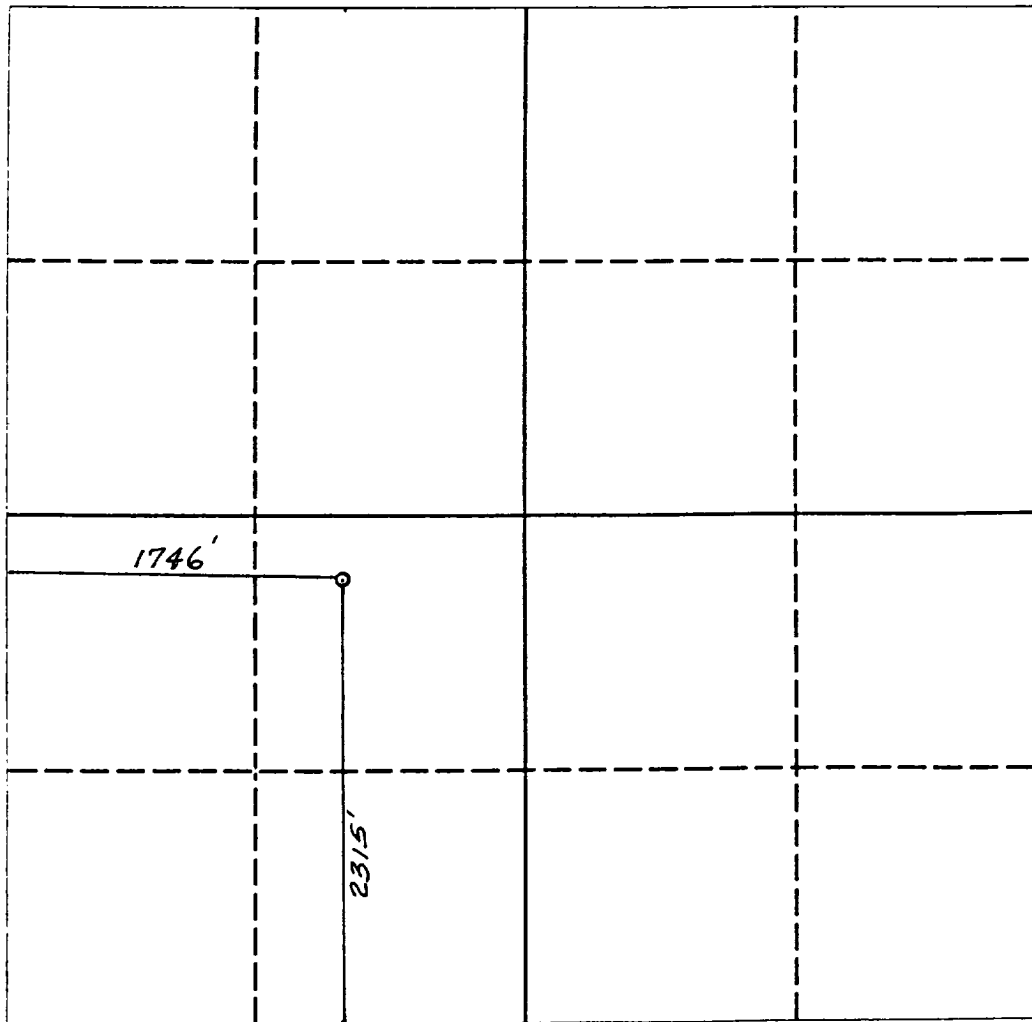
1000 Rio Brazos Rd., Aztec, NM 87410

**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>13</b>
Unit Letter <b>K</b>	Section <b>12</b>	Township <b>23 SOUTH</b>	Range <b>29 EAST</b>	County <b>EDDY COUNTY, NM</b>	<b>NMPM</b>
Actual Footage Location of Well: <b>1746</b> feet from the <b>WEST</b> line and <b>2315</b> feet from the <b>SOUTH</b> line					
Ground level Elev. <b>2976.</b>	Producing Formation <b>Delaware</b>	Pool <b>Nash Unit Delaware</b>		Dedicated Acreage: <b>40.00 Acres</b>	

1. Outline the acreage dedicated to the subject well by colored pencil or hatchure 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 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  
**November 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 supervision, and that the same is true and correct to the best of my knowledge and belief.

Date Surveyed  
**OCTOBER 1, 1992**  
Signature and Seal of Professional Surveyor  
*[Signature]*  
Certificate No. SURVEYOR  
**5412**  
NEW MEXICO  
REGISTERED PROFESSIONAL ENGINEER  
**NM REGS NO. 5412**

**SUPPLEMENTAL INFORMATION TO  
FORM 3160-3 APPLICATION AND PERMIT TO DRILL**

**NASH UNIT #13**

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.

HOLE PROGNOSIS  
APPLICATION FOR PERMIT TO DRILL  
STRATA PRODUCTION COMPANY  
NASH FEDERAL UNIT #13 WELL  
2315' FSL & 1746' FWL  
SECTION 12-T23S-R29E

In conjunction with form 3160-3, Application for Permit to Drill, Strata Production Company submits the following items in accordance with Onshore Oil and Gas Order Numbers 1 & 2, and with all other applicable federal and state regulations.

1. The Geologic surface formation is of Permian Age.
2. Estimated tops of geologic markers are as follows:

Rustler	Surface	Lamar	3180'
Top of Salt	350'	Bone Spring	6990'
Base of Salt	2820'	T.D.	7200'

3. The estimated depths at which water, oil or gas formations are expected to be encountered are:

\*Water: None - Located near Salt Lake  
\*\*Oil or Gas: Delaware 3180' - 6990'

\* NOTE: Groundwater to be protected by 13 3/8" surface casing with cement circulated to the surface.

\*\*NOTE: Potentially productive horizons to be protected by 5 1/2" production casing with cement tied back to intermediate casing.

4. Casing Program: See Form 3160-3 attached hereto.
5. Pressure Control Equipment: See Exhibit "D", BOP diagram.
6. Mud Program:

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.

7. Auxiliary Equipment: None required.

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 7200' (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 7200' dependent  
upon logging results.

9. Abnormal Pressures, Temperature, or other Hazards:

Loss of circulation is possible in the Delaware section  
of the hole, however, no loss was seen in the recent  
drilling of the offsetting well.

Strata has drilled and completed one (1) well in the  
immediate area. To date, we have not encountered  
Hydrogen Sulfide. 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: December 23, 1992

Forecasted duration of operations:

Drilling: 20 days  
Completion: 15 days

SURFACE USE PLAN  
APPLICATION FOR PERMIT TO DRILL  
STRATA PRODUCTION COMPANY  
NASH FEDERAL UNIT #13 WELL  
2315' FSL & 1746' FWL  
SECTION 12-T23S-R29E

Submitted with form 3160-3, Application For Permit to Drill, covering the above captioned well. The purpose of the plan is to describe the location, the proposed construction activities and operations plan, the surface disturbance involved, and the rehabilitation of the surface after completion of said well so that an appraisal can be made of the environment affected by this well.

1. Existing Roads:

- A. Area Map Exhibit "A" is a map showing the existing and proposed roads to the proposed location. All roads shall be maintained in a condition equal to that which existed prior to the start of construction.
- B. Directions: From Loving, New Mexico, the well is located approximately 9 miles to the east off State Highway 128.

2. Planned access roads: Approximately 50' of new road will be built from the existing East/West Road, Northwest to the proposed location.

- A. Exhibit "B" is a plat showing the wellsite layout.
- B. Construction: Gradient on all roads will be less than 5%.
- C. No turnouts will be necessary.
- D. If needed, road across pad will be surfaced with a minimum of 4" of caliche. This material will be obtained from a local source.
- E. No culverts are required.
- F. No gates or cattle guards will be required.

3. Location of existing wells:

- A. Water wells: None known.
- B. Disposal wells: None known.
- C. Oil and Gas wells: Location of existing wells within a two (2) mile radius of the location are shown on Exhibit "C", Land Status Map.

4. Location of Existing and/or Proposed Facilities:

- A. If the well proves to be a producer, Strata Production Company will furnish maps or plats showing On Well pad facilities and Off Well pad facilities (if needed) on a Sundry Notice before construction of these facilities starts.

SURFACE USE PLAN  
NASH FEDERAL UNIT #13  
Page 2

5. Location and type of water supply: Water purchased locally from private sources and trucked over the access roads will be utilized for drilling purposes.
6. Source of Construction Materials:
  - A. If needed, caliche for surfacing the road and location will be obtained from the nearest source.
7. Methods of Handling Waste Disposal:
  - A. Drill cuttings will be disposed of in the reserve pits.
  - B. Drilling fluids will be allowed to evaporate in the reserve pits until the pits are dry.
  - C. All pits will be fenced with normal fencing materials to prevent livestock from entering the area.
  - D. Water produced during operations will be collected in tanks until hauled to an approved disposal system, or a separate disposal application will be submitted to BLM for approval.
  - E. Current laws and regulations pertaining to the disposal of human waste will be complied with.
  - F. Oil produced during operations will be stored in tanks until sold.
  - G. Will set trash trailer for trash & debris.
  - H. All trash and debris will be removed from the wellsite within 30 days after finishing drilling and/or completion operations.
8. Ancillary Facilities:
  - A. None required.
9. Wellsite Layout:
  - A. Exhibit "B" shows the dimension of the well pad and reserve pits.
10. Surface Restoration Plan:
  - A. After completion of drilling and/or completion operations all equipment and other materials not needed for operations will be removed. Pits will be filled and the location cleaned of all trash and junk to leave the wellsite in as aesthetically pleasing a condition as possible.
  - B. Any unguarded pits containing fluids will be fenced until they are filled.

SURFACE USE PLAN  
NASH FEDERAL UNIT #13  
Page 3

- C. If the proposed well is non-productive, all rehabilitation and/or vegetation requirements of the BLM will be accomplished as expeditiously as possible. All pits will be filled and leveled within 90 days after abandonment.

11. Other information:

- A. The topography is of rolling terrain with vegetation of sagebrush and native grass.  
B. Soil: The soils are clayey sand over caliche base.  
C. Flora and Fauna: The vegetation cover consists of prairie grasses and flowers. Wildlife in the area probably includes those typical of semi-arid desert land.  
D. Ponds and Streams: None  
E. Residences and Other Structures: None  
F. Land Use: Grazing  
G. Surface Ownership: The proposed location and access road are on Federally owned surface.  
H. An archaeological study has been conducted for the location and new access road. The report has been submitted separately.

12. Operator's Representative:

RONNIE WILLIS  
P. O. BOX 1030  
ROSWELL, NEW MEXICO 88202-1030  
PHONE NUMBER: (505) 622-1127-OFFICE  
626-7387-CELLULAR  
622-5651-HOME

13. Certification:

I hereby certify that I, or persons under my direct supervision have inspected the proposed drill site which currently exists; that the statements made in the plan are to the best of my knowledge, true and correct; that the work associated with the operations proposed herein will be performed by Strata Production Company and its contractors/sub-contractors in conformity with the plan and the terms and conditions under which it is approved. This statement is subject to the provisions of 18 USC 1001 for the filing of a false statement.

STRATA PRODUCTION COMPANY

*Carol J. Garcia*  
CAROL J. GARCIA  
PRODUCTION SUPERVISOR

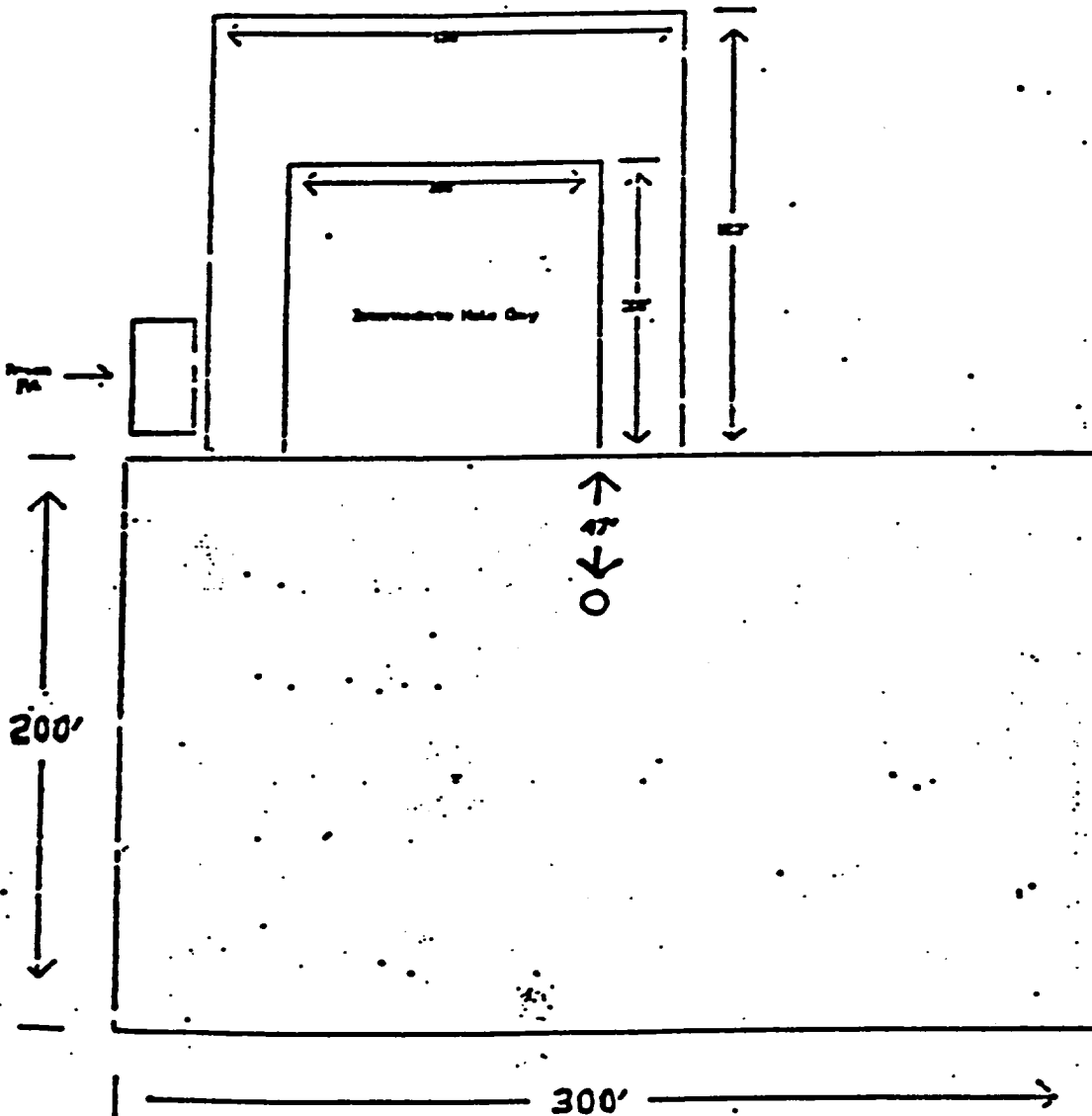
DATE: November 12, 1992



EXHIBIT "B"

STRATA PRODUCTION COMPANY

WELL PAD LAYOUT





## EXHIBIT "D"

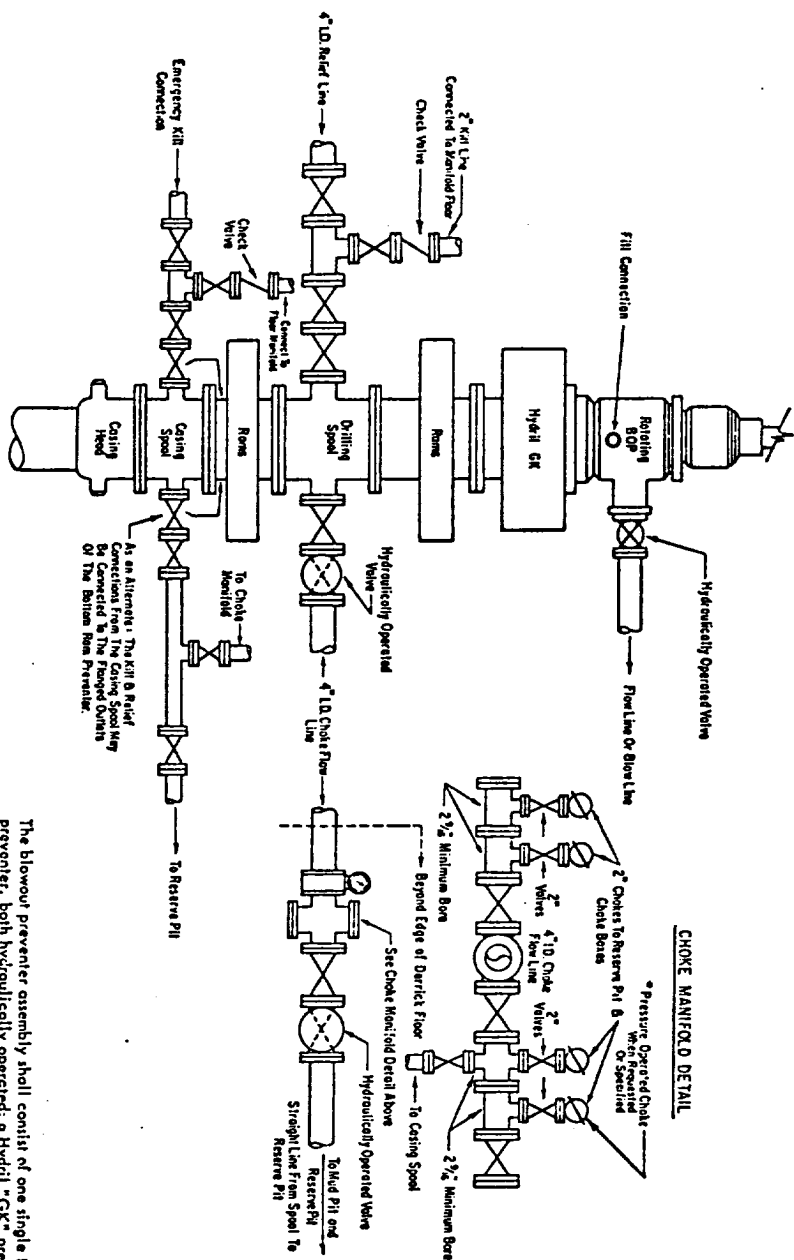
### EQUIPMENT DESCRIPTION

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

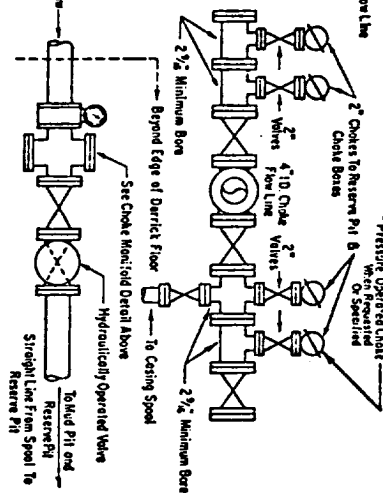
1. Bell nipple
2. Hydril bag type preventer
3. Ram type pressure operated blowout preventer with blind rams.
4. Flanged spool with one 3" and one 2" (minimum) outlet.
5. 2" (minimum) flanged plug or gate valve.
6. 2"x 2"x 2" (minimum) flanged.
7. 3" gate valve.
8. Ram type pressure operated blowout preventer 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.



CHOKES MANIFOLD DETAIL



# 3000 # PSI WORKING PRESSURE BLOWOUT PREVENTER HOOK-UP

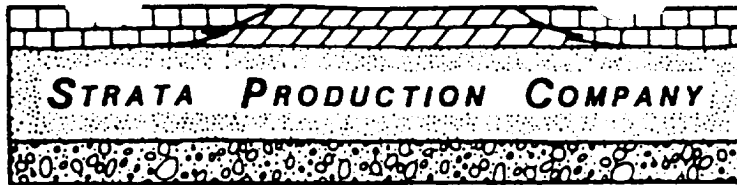
hydraulic operating system which is to be a closed system. (2) Accumulators with a precharge of nitrogen of not less than 750 PSI and connected so as to receive the accumulated fluid charge. With the charging pumps shut down, the pressurized fluid volume stored in the accumulators must be sufficient 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 Hydraulic CR. 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.

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

November 12, 1992

Mr. Morris Worley, Mine Manager  
Western Ag Minerals Corporation  
P. O. Box 511  
Carlsbad, New Mexico 88220-0511

Re: Application to Drill in Potash Area  
Nash Federal Unit #13  
Section 12-23S-29E  
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 3160-3 Application For Permit To Drill.
2. Surface Location Plat of area.

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 7200' at a location 2315' FSL & 1746' FWL of Section 12, Township 23 South, Range 29 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 20 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 NOVEMBER, 1992.

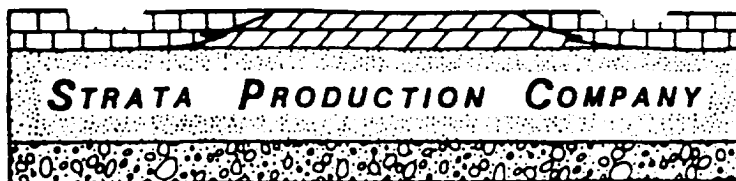
BY: \_\_\_\_\_

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

Enclosures

cc: Oil Conservation Division, Hobbs, NM  
Bureau of Land Management, Carlsbad, 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

November 12, 1992

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 Federal Unit #13  
Section 12-23S-29E  
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 3160-3 Application For Permit To Drill.
2. Surface Location Plat of area.

State of New Mexico Public Land records reflect Western Ag Minerals Corporation as the potash lessee covering the captioned lands. Strata Production Company, a New Mexico corporation, hereby advises you of its intention to drill a well to 7200' at a location 2315' FSL & 1746' FWL of Section 12, Township 23 South, Range 29 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 20 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 NOVEMBER, 1992.

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

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

Enclosures

cc: Oil Conservation Division, Hobbs, NM  
Bureau of Land Management, Carlsbad, NM