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

OPER. OGRID NO. 21712
PROPERTY NO. 20479
POOL CODE
EFF. DATE 8/1/97
API NO. 30-025-34022

BLM Roswell District
Modified Form No.
NM060-3160-2

DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR DEEPEN

5. LEASE DESIGNATION AND SERIAL NO.: NM-88163

6. IF INDIAN, ALLOTTEE OR TRIBE NAME:

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

7. UNIT AGREEMENT NAME:

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

8. FARM OR LEASE NAME: Avion Federal

2. NAME OF OPERATOR: STRATA PRODUCTION COMPANY

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

9. WELL NO.: #3

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

10. FIELD AND POOL, OR WILDCAT: Sand Dunes Morrow East

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.*)
At surface: 1980' FNL & 660' FWL
At proposed prod. zone: Unit E

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA: Section 22-23S-32E

14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE*: 45 miles west of Jal, New Mexico

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): 660'

16. NO. OF ACRES IN LEASE: 480.00

17. NO. OF ACRES ASSIGNED TO THIS WELL: 320.00

18. DISTANCE FROM PROPOSED LOCATION* TO NEAREST WELL, DRILLING, COMPLETED OR APPLIED FOR, ON THIS LEASE, FT.: 2900'

19. PROPOSED DEPTH: 16000'

20. ROTARY OR CABLE TOOLS: Rotary

21. ELEVATIONS (Show whether DF, RT, GR, etc.): 3683' GR

CARLSBAD CONTROLLED WATER BASIN

22. APPROX. DATE WORK WILL START*: September 1, 1997

23. PROPOSED CASING AND CEMENTING PROGRAM

HOLE SIZE	CASING SIZE	WEIGHT/FOOT	GRADE	THREAD TYPE	SETTING DEPTH	QUANTITY OF CEMENT
17 1/2"	13 3/8"	48#	J-55	8 RD STC	630'	Circ to Surface
12 1/4"	9 5/8"	40#	K-55/N-80	8 RD STC	4725'	Circ to Surface
8 3/4"	7"	26# & 29#	N-80	8 RD LTC	12350'	Circ to Surface
6 1/4"	5"	18#	N-80	8 RD LTC	16000'	Circ to Top of Liner

WITNESS

Strata Production Company proposes to drill to a depth sufficient to test the Morrow formation. If productive, 5" casing will be set. If non-productive, the well will be plugged and abandoned in a manner consistent with Federal Regulations. Specific programs as set out in Onshore Oil and Gas Order #1 are outlined in the following attachments:

NMOCD Form C-102 Well Location and Acreage Dedication Plat
Hole Prognosis
Surface Use and Operating Plan
Exhibit "A" Equipment Description
Exhibit "B" Planned Access Roads
Exhibit "C" One Mile Radius Map
Exhibit "D" Drilling Rig Layout Plan

APPROVAL SUBJECT TO GENERAL REQUIREMENTS AND SPECIAL STIPULATIONS ATTACHED

7/28/97

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 Records Manager DATE 7/8/97

(This space for Federal or State office use)

PERMIT NO. _____ APPROVAL DATE _____

APPROVED BY (ORIG. SGD.)JAMES G. PETTENGILL TITLE ADM. MINERALS DATE 7/28/97

CONDITIONS OF APPROVAL, IF ANY:

*See Instructions On Reverse Side

F3160-3.WK3

District I
PO Box 1980, Hobbs, NM 88241-1980
District II
PO Drawer DD, Artesia, NM 88211-0719
District III
1000 Rio Brazos Rd., Aztec, NM 87410
District IV
PO Box 2088, Santa Fe, NM 87504-2088

State of New Mexico
Energy, Minerals & Natural Resources Department

OIL CONSERVATION DIVISION
PO Box 2088
Santa Fe, NM 87504-2088

Form C-102
Revised February 10, 1994
Instructions on back
Submit to Appropriate District Office
State Lease - 4 Copies
Fee Lease - 3 Copies

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number	Pool Code	Pool Name
30-025-34077	✓	SAND DUNES MORROW EAST

Property Code	Property Name	Well Number
20479	AVION FEDERAL	3

OGRID No.	Operator Name	Elevation
021712	STRATA PRODUCTION COMPANY	3683.

Surface Location

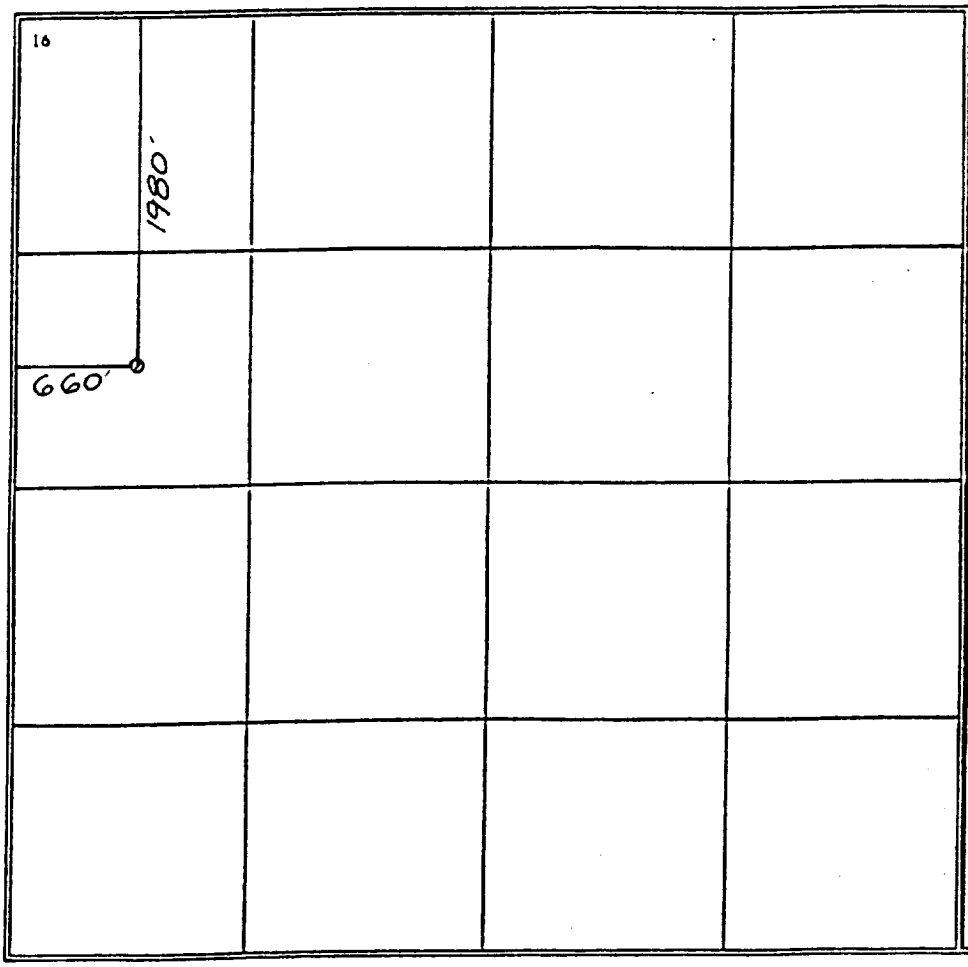
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
E	22	23-S	32-E		1980	NORTH	660	WEST	LEA

Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County

Dedicated Acres	Joint or Infill	Consolidation Code	Order No.
320.00	N		

NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED OR A NON-STANDARD UNIT 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

Carol J. Garcia
Signature
Carol J. Garcia
Printed Name
Production Records Manager
Title
7/8/97
Date

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 belief.

MAY 14, 1997
Date of Survey
Signature and Seal of Professional Surveyor:

Certificate Number
NM PE&PS NO 5412

HOLE PROGNOSIS
FORM 3160-3 APPLICATION FOR PERMIT TO DRILL
STRATA PRODUCTION COMPANY
AVION FEDERAL #3 WELL
1980' FNL & 660' FWL
SECTION 22-23S-32E
LEA COUNTY, NEW MEXICO

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 and 2, and all other applicable federal and state regulations.

1. Geologic Name of Surface Formation:

Permian

2. Estimated Tops of Geologic Markers:

Rustler	1245'	Wolfcamp	12010'
B. Anhydrite	4995'	Pennsylvanian	13450'
Delaware	4720	Strawn	14000'
Cherry Canyon	6080'	Atoka	14150'
"K" Sand	8590'	Morrow	15000'
Bone Spring	8880'	TD	16000'

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

Surface	150'	Fresh Water
Delaware	4720' - 16000'	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 630' 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" production casing which will be run at TD.

4. Casing Program:

Hole Size	Interval	OD Csg	Weight, Grade, Jt. Cond, Type
26"	0-40'	20"	Conductor Pipe
17 1/2"	0-630'	13 3/8"	48#, J-55, ST&C, New
12 1/4"	0-4725'	9 5/8"	40#, K-55, N-80, LT&C, New
8 3/4"	0-12350'	7" *	26# and 29#, N-80, LT&C, New
6 1/4"	12000' ~~0~~-16000'	5" LINER	18#, N-80, LT&C, New

5. Cementing Program:

Surface Casing: 13 3/8" casing will be set at approximately 630' and cemented with approximately 450 sacks of Poz cement with 2% CaCl and additives. The amount may be adjusted depending upon the fluid caliper results, however, cement in sufficient quantities to circulate will be utilized.

Intermediate Casing: 9 5/8" casing will be set at approximately 4725' and cemented with approximately 1300 sacks of Poz cement with additives, and 200 sacks Class "C" with 2% CaCl. The amount may be adjusted dependent upon fluid caliper results, however, cement in sufficient quantities to circulate will be utilized.

Deep Intermediate Casing: 7" casing will be set at 12350'. Strata utilizes cement in sufficient quantities to circulate cement into the 9 5/8" intermediate casing in two (2) stages. The first stage to be cemented with approximately 600 sacks Poz cement with additives. The second stage to be cemented with approximately 500 sacks of Poz cement with additives, and 100 sacks of Class "C" Neat.

* 29# N-80 0-1000'
26# N-80 1000-9600'
29# N-80 9600'-12,350'
per Bruce Stubbs

Production Casing: If appropriate, 5" casing will be set at approximately 12,200' and cemented with approximately 525 sacks of Poz cement with additives. The amount may be adjusted dependent upon fluid caliper results, however, cement in sufficient quantities to circulate to top of liner will be utilized.

5000 psi System is Required.

6. Minimum Specifications for Pressure Control:

acs

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 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 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.

7. Types and Characteristics of the Proposed Mud System:

0' to 630'	Fresh water with lime, gel paper and fiber will be used for drilling purposes. Weight 8.4-8.6, Vis 29-36, Ph >8.
630' to 4720'	Saturated brine water purchased from commercial sources with paper and fiber will be utilized. Weight 8.6-10.5, Vis 32-34, Ph 10.
4720' to 12000'	Brine and fresh water purchased from commercial sources with gel and starch, 3% KCL, 20-50 PPM Nitrates, CL 30-75,000, caustic for control and paper for seepage will be utilized. Weight 9.5, Vis 32, Ph 10, WL 15.
12000' to 16000'	KCL and polymer weighting material as needed. Weight 9.5, Vis 35, Ph 10, WL 10.

Sufficient mud materials to maintain mud properties and meet minimum lost circulation and weight increase requirements will be available at the wellsite at all times.

8. 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.

9. Testing, Logging and Coring Program:

A two (2) man Mudlogging unit will be on location from top of Delaware formation to TD. Mudlogging unit will be employed from approximately 4720' (Top of Delaware) to 16000' (Total Depth).

If indicated, DLL-MSFL, CNL-Density, Gamma Ray logs, and Caliper logs will be run at TD. The Gamma Ray Dual Laterolog will be run from TD back to the intermediate casing. The Gamma Ray Compensated Neutron Log will be run from TD back to surface. If indicated, Strata may elect to run rotary sidewall cores from selected intervals from approximately 4720' to 16000' dependent upon logging results.

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

No abnormal pressures or temperatures are anticipated. Anticipated bottomhole pressure is 6300# PSI.

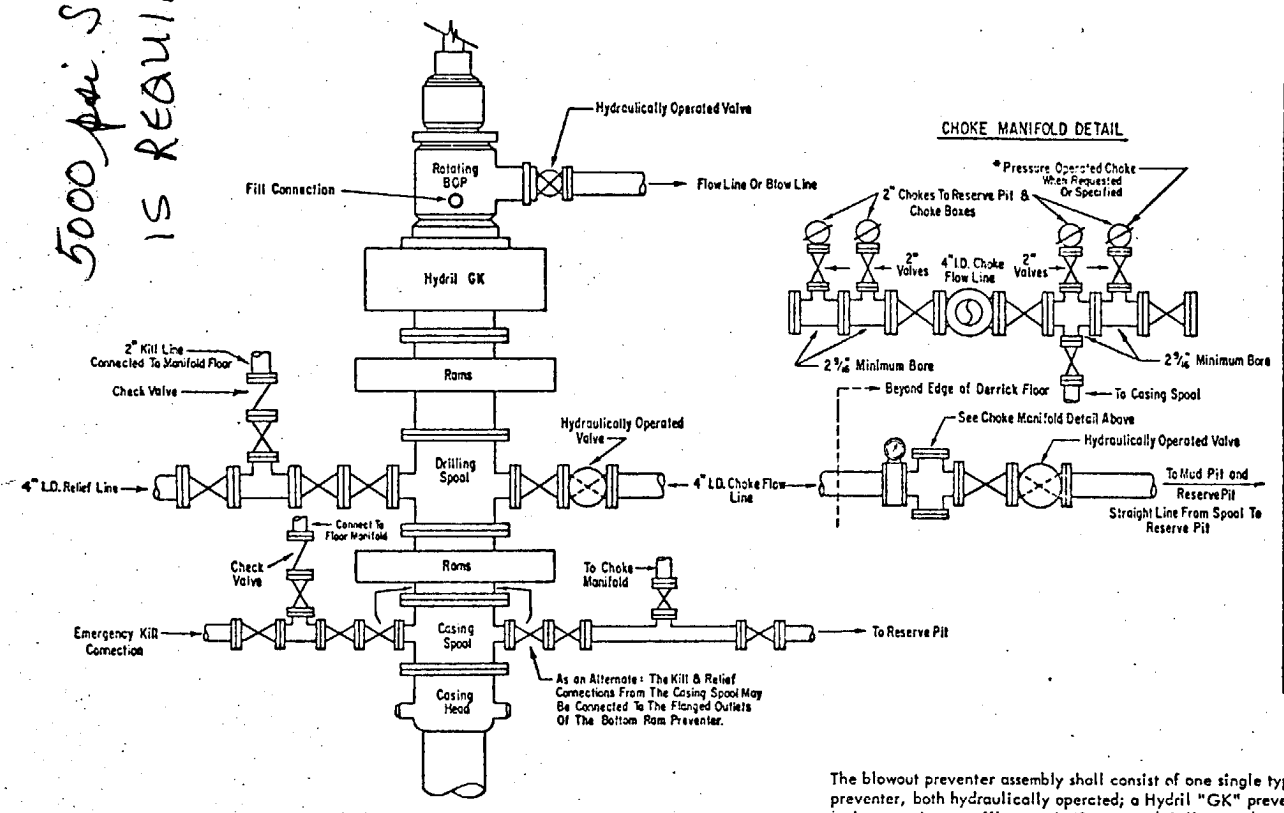
Loss of circulation is possible in the Delaware section of the hole, however, no major loss circulation zones have been reported in offsetting wells.

Strata has drilled seven (7) wells and completed six (6) 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.

11. 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 September 1, 1997. Once commenced, the drilling operation will be completed 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. 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 and 2, and all other applicable federal and state regulations.

5000 psi SYSTEM IS REQUIRED.



3000# PSI WORKING PRESSURE
BLOWOUT PREVENTER HOOK-UP

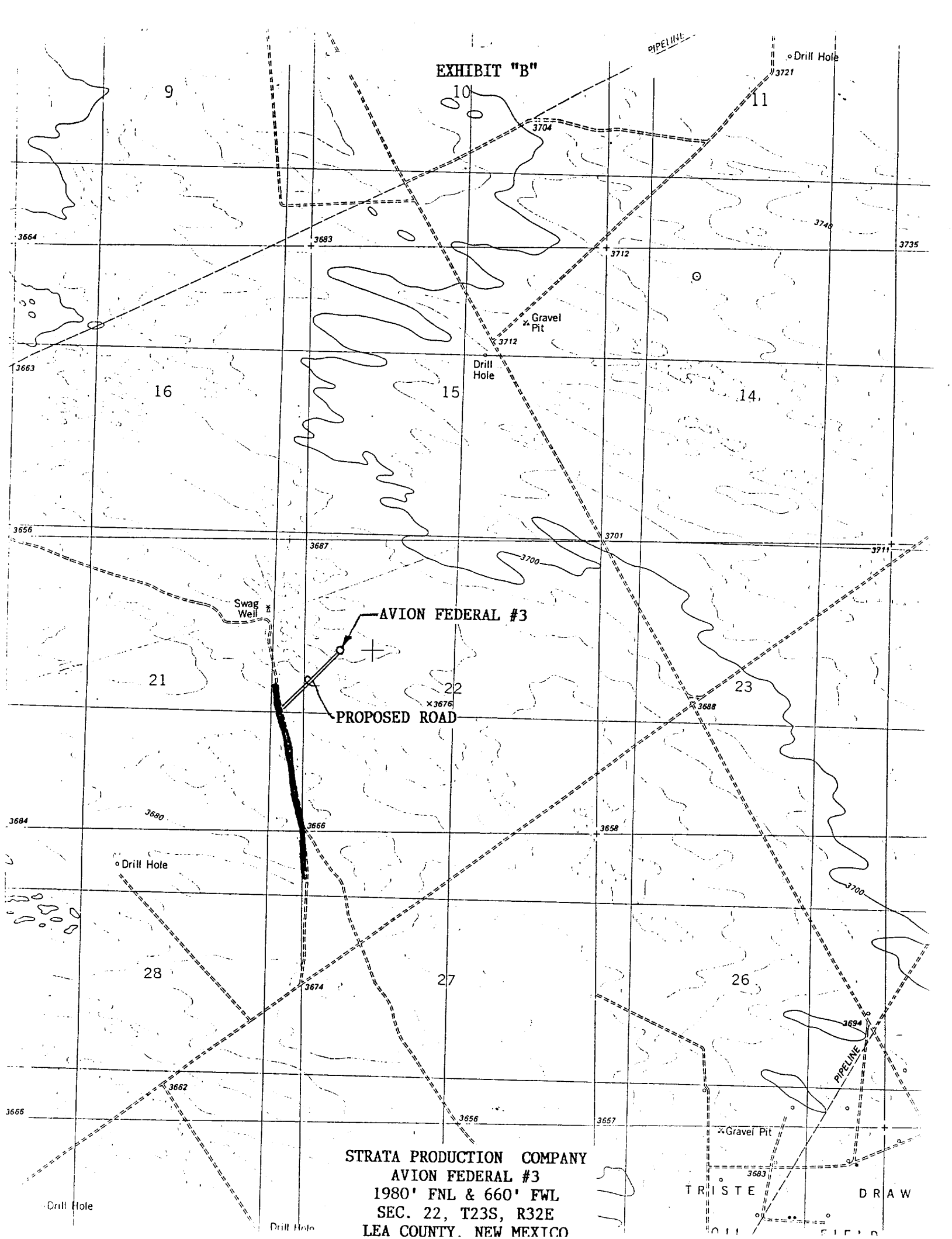
The blowout preventer assembly shall consist of one single type blind ram preventer and one single type pipe ram preventer, both hydraulically operated; a Hydril "GK" preventer; a rotating blowout preventer; valves; chokes and connections, as illustrated. If a tapered drill string is used, a ram preventer 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 I.D. choke flow line and 4-inch I.D. relief line, except when air or gas drilling. All preventer connections are to be open-face flanged.

Minimum operating equipment for the preventers 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 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.



STRATA PRODUCTION COMPANY
AVION FEDERAL #3
1980' FNL & 660' FWL
SEC. 22, T23S, R32E
LEA COUNTY, NEW MEXICO