N.M. Oil Cons. DIV-Dist. 2
1301 W. Grand Avenue
Artesia, NM 88210

30-015-33743

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

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

(OTHER INSTRUCTIONS ON REVERSE SIDE)

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

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

5. LEASE DESIGNATION AND SERIAL NO.: NM-~~0543627~~ / 04965

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 [X] GAS WELL [ ] OTHER — R-111-POTASH — SINGLE ZONE [ ] MULTIPLE ZONE [ ]

8. FARM OR LEASE NAME: Forty Niner Ridge Unit

RECEIVED
NOV 23 2004
OCD-ARTESIA

2. NAME OF OPERATOR: STRATA PRODUCTION COMPANY

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

9. WELL NO.: #4

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

10. FIELD AND POOL, OR WILDCAT: Forty Niner Ridge Delaware

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.*)
At surface: 2080' FSL & 840' FEL
At proposed prod. zone:

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA: Section 21, 23S-30E

14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE*: 14 Miles East of Loving, New Mexico

12. COUNTY OR PARISH: Eddy

13. STATE: NM

15. DISTANCE FROM PROPOSED * LOCATION TO NEAREST PROPERTY OR LEASE LINE, FT. (Also to nearest drlg. unit line, if any): 990'

16. NO. OF ACRES IN LEASE: Lease 220/Unit 5,123

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.:

19. PROPOSED DEPTH: 7800'

20. ROTARY OR CABLE TOOLS: Rotary

21. ELEVATIONS (Show whether DF, RT, GR, etc.): 3233' Ground Level

22. APPROX. DATE WORK WILL START*: November 1, 2004

CARLSBAD CONTROLLED WATER BASIN

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" WITNESS	48#	H-40	8 Rd STC	420'	Circ
12 1/4"	8 5/8"	32#	J-55	8 Rd STC	3600'	Circ WITNESS
7 7/8"	5 1/2"	17#	J-55	8 RD STC	7800'	TOC 3000'

Strata Production Company proposes to drill to a depth sufficient to test the Forty Niner Ridge Delaware. If productive, 5 1/2" casing will be set. If non-productive, the well will be plugged & abandoned in a manner consistent with Federal Regulations. Specific programs as set out in Onshore Oil & 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
H2S Drilling Operations Plan
Exhibit "A" Equipment Description w/attachment
Exhibit "B" Planned Access Roads
Exhibit "C" One Mile Radius Map w/attachment of status of wells within one mile radius
Exhibit "D" Drilling Rig Layout Plan
Notification to Area Potash Lease Holders
Archaeological Report
Pit or Below-Grade Tank Registration or Closure
Statement Accepting Responsibility For Operations

APPROVAL SUBJECT TO GENERAL REQUIREMENTS AND SPECIAL STIPULATIONS ATTACHED

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 Kay M Britt TITLE Production Records DATE 09/28/04

(This space for Federal or State office use)

PERMIT NO. ACTING APPROVAL DATE

APPROVED BY (S) William S. Condit TITLE STATE DIRECTOR DATE 16 NOV 2004

CONDITIONS OF APPROVAL, IF ANY:

BLO

*See Instructions On Reverse Side

APPROVAL FOR 1 YEAR

F3160-3.WK3

District I
1625 N. French Dr. Hobbs, NM 88240

District II
811 South First, Artesia, NM 88210

District III
1000 Rio Brazos Rd., Aztec NM 87410

District IV
2040 South Pacheco, Santa Fe, NM 87505

State of New Mexico
Energy, Minerals & Natural Resources

OIL CONSERVATION DIVISION

2040 South Pacheco
Santa Fe, N M 87505

Form C-102
Revised March 17, 1999
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

Property Code	Property Name	Well Number
	FORTY NINE RIDGE UNIT	4

OGRID No.	Operation Name	Elevation
21912	STRATA PRODUCTION COMPANY	3233

Surface Location

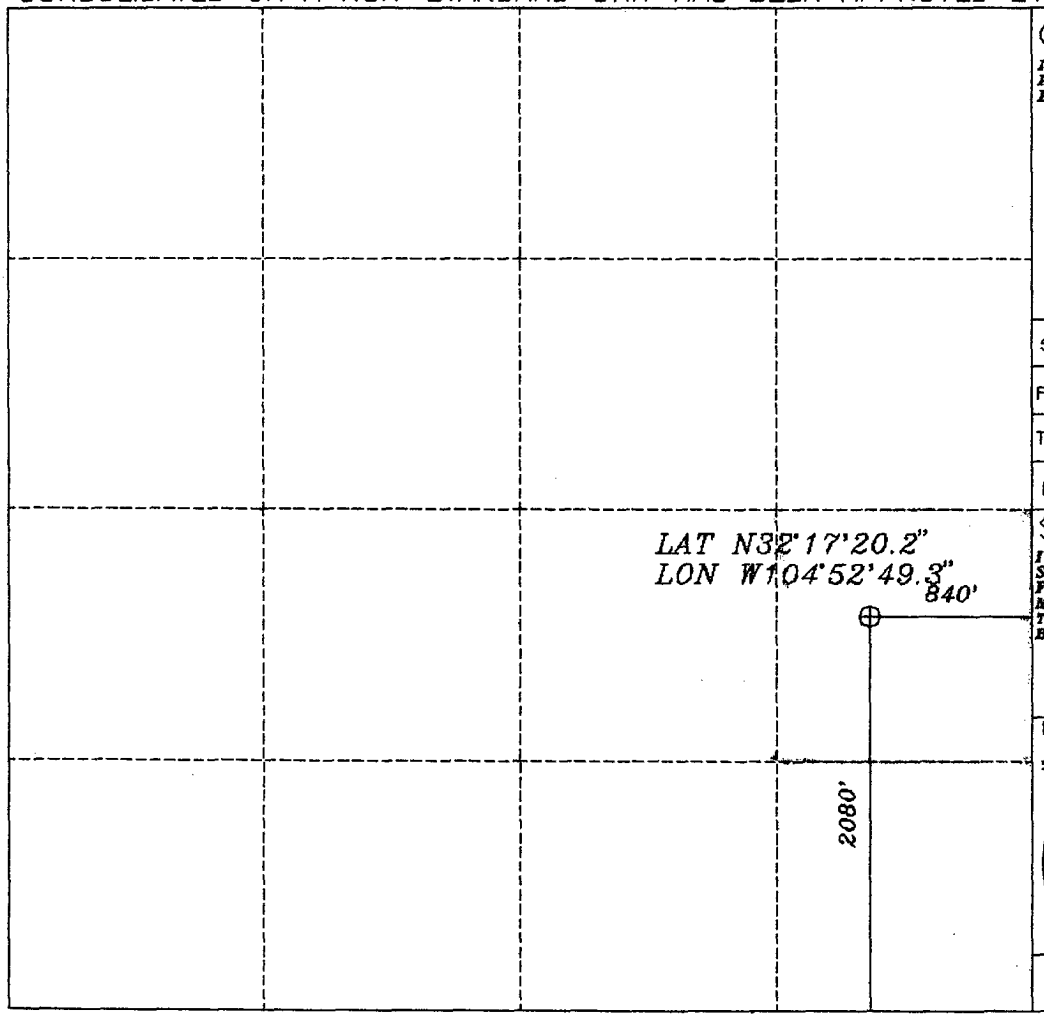
UL or Lot No.	Section	Township	Range	Lot Idn.	Feet from the	North/South line	Feet from the	East/West line	County
I	21	23-S	30-E		2080	SOUTH	840	EAST	EDDY

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.
40			

NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTEREST HAVE BEEN CONSOLIDATED OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION



OPERATOR CERTIFICATION

I HEREBY CERTIFY THAT THE INFORMATION HEREIN IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

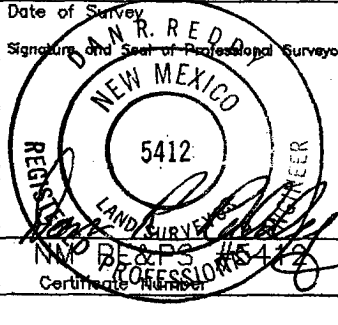
Signature: Kelly M Britt
Printed Name: Kelly M. Britt
Title: Production Records
Date: 9/24/04

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.

SEPTEMBER 9, 2004
Date of Survey

Signature and Seal of Professional Surveyor



Certificate Number 5412

HOLE PROGNOSIS
FORM 3160-3 APPLICATION FOR PERMIT TO DRILL
STRATA PRODUCTION COMPANY
FORTY NINER RIDGE UNIT #4
2080' FSL & 840' FEL
SECTION 21-23S-30E
EDDY COUNTY, NEW MEXICO

In conjunction with Form 3160-3, Application for Permit to Drill, Deepen, or Plug Back, 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	Surface	Delaware	3650'
Top of Salt	700'	Bone Spring	7400'
Base of Salt	3380'	T.D.	7800'

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

Surface	150'	Fresh Water
Delaware	3650' - 7400'	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:

Hole Size	Interval	OD csg	Weight, Grade, Jt. Cond, Type
17 1/2"	420'	13 3/8"	48#, H-40, ST&C, New
12 1/4"	3600'	8 5/8"	32#, J-55, ST&C, New
7 7/8"	7800'	5 1/2"	15# & 17#, J-55, LT&C, New

Cementing Program:

Surface Casing:	13 3/8" casing will be set at approximately 420' and cemented with approximately 650 sacks of Class "C" 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 3600' and cemented with approximately 1500 sacks of "Lite" cement (35/65 Poz mix)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 600 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 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.

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 3600' (Top of Delaware) to 7800' (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 seventeen (17) 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 November 1, 2004. 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.

STRATA PRODUCTION COMPANY

H_2S DRILLING OPERATIONS PLAN

I. HYDROGEN SULFIDE TRAINING

A. All contractors and subcontractors employed by Strata Production Company will receive or have received training from a qualified instructor within the last twelve months in the following areas prior to commencing drilling operations on the well.

1. The hazards and characteristics of hydrogen sulfide (H_2S).
2. Safety precautions.
3. Operations of safety equipment and life support systems.

B. In addition, contractor supervisory personnel will be trained or prepared in the following areas:

1. The effect of H_2S on metal components in the system. If high tensile tubulars are to be used, personnel will be trained in their special maintenance requirements.
2. Corrective action and shut-down procedures when drilling or reworking a well, blowout prevention and well control procedures, if the nature of work performed involves these items.
3. The contents and requirements of the contingency plan when such plan is required.

C. All personnel will be required to carry documentation of the above training on their person.

II. H_2S EQUIPMENT AND SYSTEMS

A. SAFETY EQUIPMENT

The following safety equipment will be on location.

1. Wind direction indicators as seen in attached diagram.
2. Automatic H_2S detection alarm equipment both audio and visual.
3. Clearly visible warning signs as seen on the attached diagram. Signs will use the words "POISON GAS" and "CAUTION" with a strong color contrast.
4. Protective breathing equipment will be located in the dog house and at briefing areas as seen in the attached diagram.

B. WELL CONTROL SYSTEMS

1. Blowout Prevention Equipment

Equipment includes but is not limited to:

a. Pipe rams to accommodate all pipe sizes.
b. Blind rams.
c. Choke manifold.
d. Closing unit.

2. Communication

a. The rig contractor will be required to have two-way communication capability. Strata Production Company will have either land-line or mobile telephone capabilities.

3. Mud Program

a. The mud program has been designed to minimize the volume of H_2S circulated to surface. Proper mud weight, safe drilling practices and the use of H_2S scavengers, when appropriate, will minimize hazards when penetrating H_2S bearing zones.

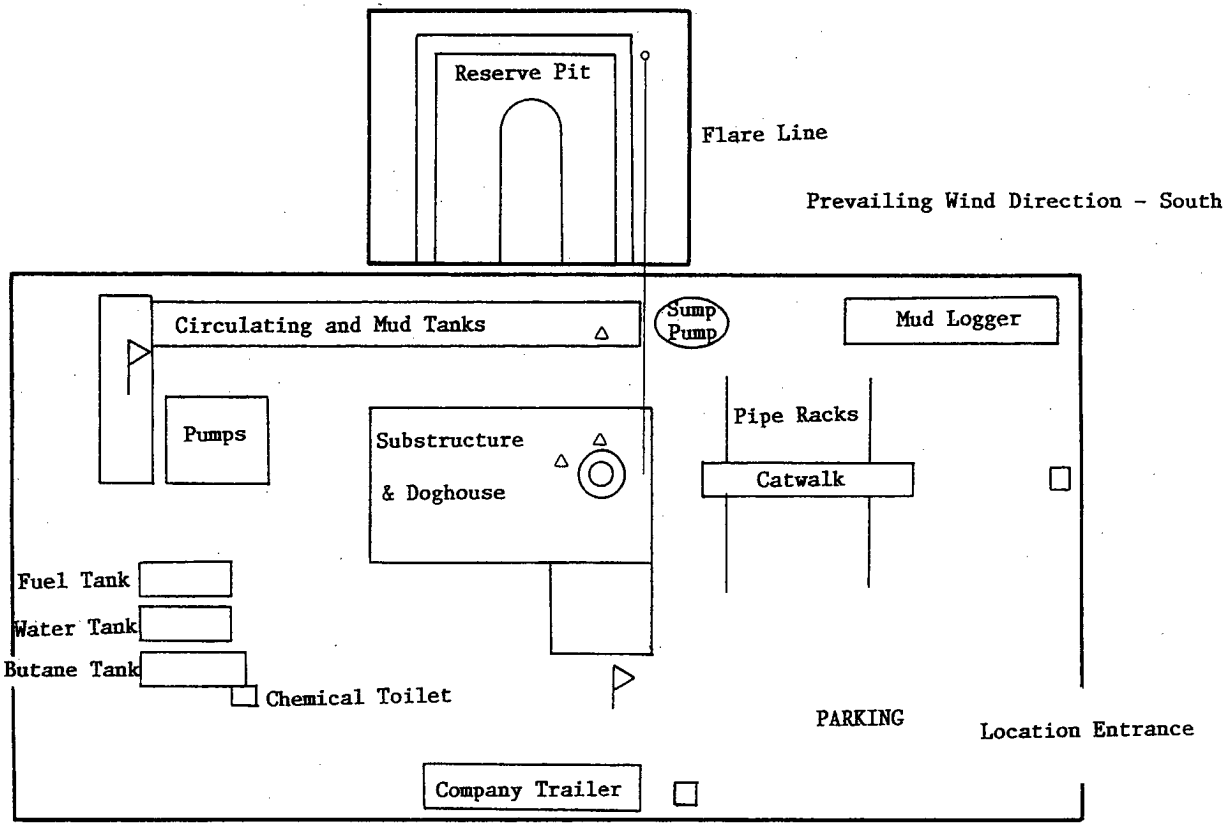
4. Drill Stem Test intervals are as follows:

a. None planned

III. WELLSITE DIAGRAM

A. A complete wellsite diagram including the following information is attached.

1. Rig orientation
2. Terrain
3. Briefing areas
4. Ingress and egress
5. Pits and flare lines
6. Caution and danger signs
7. Wind indicators and prevailing wind direction



△ ALARM ON RIG FLOOR WITH SENSORS AT THE FLOOR, BELL NIPPLE& SHAKER

WIND DIRECTION INDICATORS

SAFE BRIEFING AREAS WITH CAUTION SIGNS & PROTECTIVE BREATHING EQUIPMENT

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.

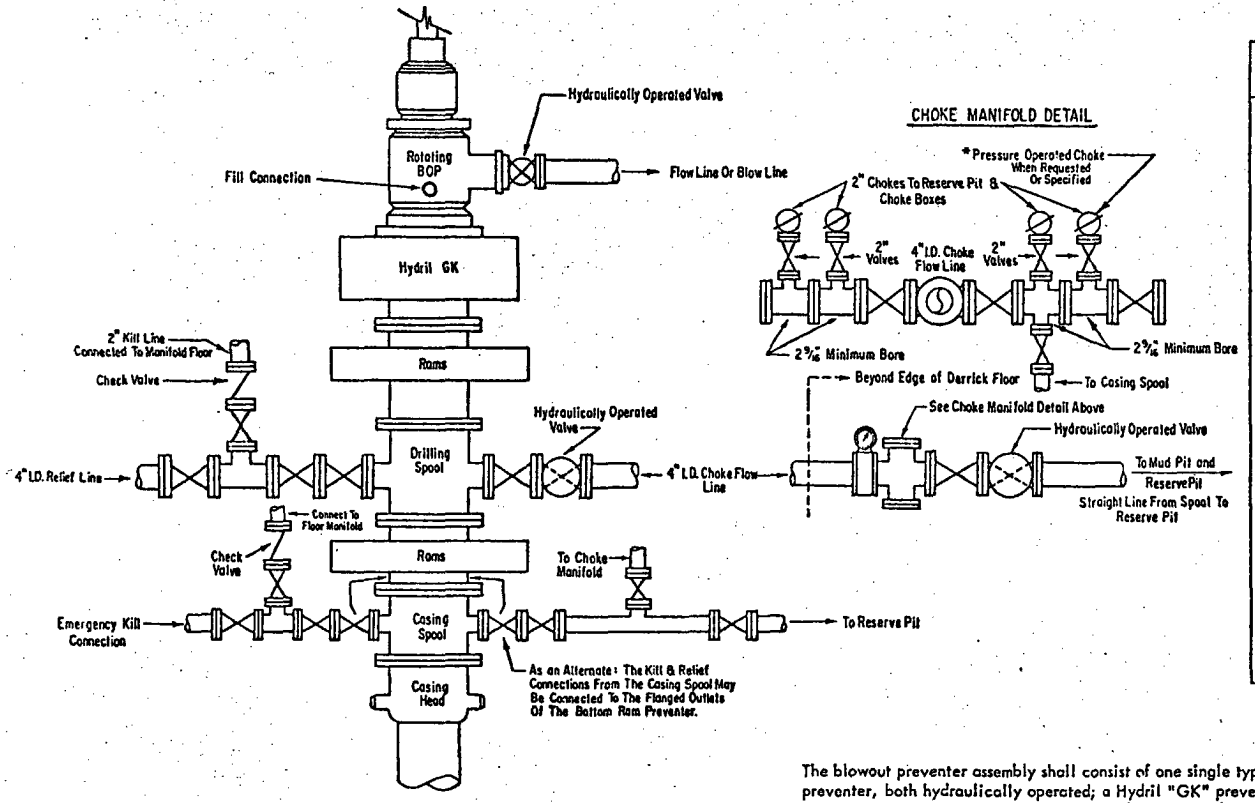
2). The two valves next tho the stack on the fill and kill line to be closed unless drill string is being pulled.

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

CHOKE MANIFOLD DETAIL

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.

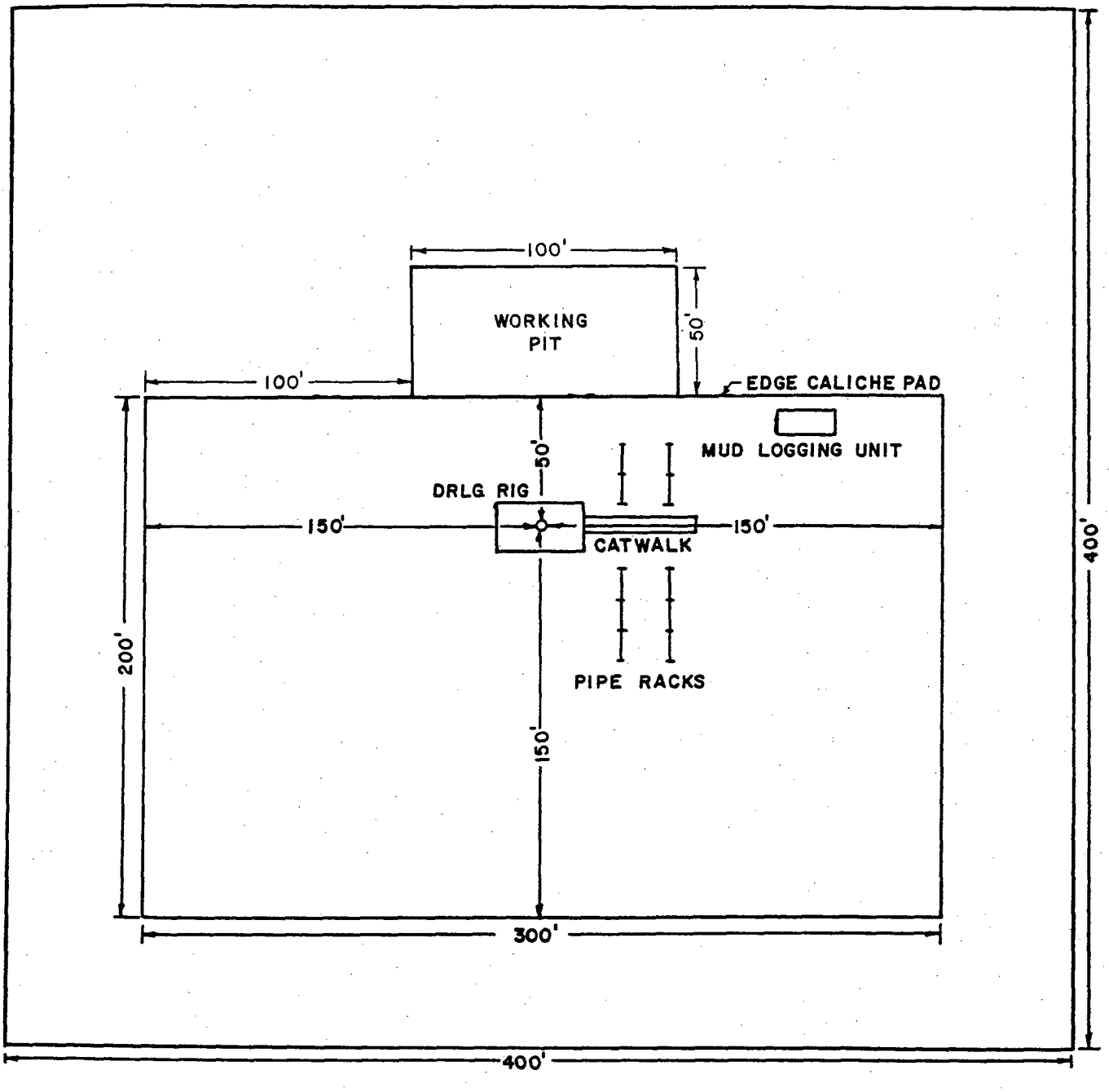
* To include derrick floor mounted controls.

Attachment to Exhibit "C"

STATUS OF WELLS WITHIN ONE MILE RADIUS

FORTY NINER RIDGE UNIT #4
Section 21-23S-30E
Eddy County, New Mexico
September, 2004

Section 21-23S-30E	Well #	Footage	Status/ Formation
Strata Production Co.	FNRU #2	1980' FNL & 1980' FEL	P/Delaware
Pre-Ongard Operator	Pre-Ongard Well #4	990' FSL & 990' FEL	Abandoned
Section 16-23S-30E			
Strata Production Co.	FNRU #3	2310' FNL & 1980' FEL	P/Delaware



STRATA PRODUCTION COMPANY

DRILLING RIG LAYOUT PLAN

FORTY NINER RIDGE UNIT #4
1980' FSL & 990' FEL
Section 21, 23S-30E
Eddy County, New Mexico

EXHIBIT D

IMC Potash Carlsbad Inc.
P. O. Box 71
1361 Potash Mines Road
Carlsbad, New Mexico 88221-0071
505.887.2871

August 6, 2004

STRATA
AUG - 9 2004
PRODUCTION COMPANY

Kelly M. Britt
Strata Production Company
200 West First Street
Roswell Petroleum Building, Suite 700
Roswell, New Mexico 88203

Dear Kelly:

We are in receipt of your letter dated July 30, 2004 concerning an APD for a well in Section 21, T-23-S, R-30-E. IMC Potash Carlsbad Inc. does have potash leases that are within 1 mile of this location.

The Forty Niner Ridge Unit #4 at 1980' FSL & 990' FEL is neither in our LMR nor within any buffer of our LMR, and it is outside the enclave as drawn by the BLM. This location does not pose a significant hazard to potash operations. Therefore IMC does not object to this location.

As more information becomes available, our estimates of the extent of potash resources in any given area may change. Therefore, please consider this "no objection" to this location to be valid for one year only. If you are still considering this well location at a date later than one year from today, notify us again at that time so we can make the decision on information current at that time. Do not consider a "no objection offered" or an "objection offered" decision to be permanent.

IMC Potash submits this letter in lieu of the forms requested.

Sincerely,

Dan Morehouse
Mine Engineering Superintendent

cc: Don Purvis
Joe Lara
Charlie High
Tim Gum

STATEMENT ACCEPTING RESPONSIBILITY FOR OPERATIONS

Strata Production Company
P. O. Box 1030
Roswell, New Mexico 88202-1030

TO WHOM IT MAY CONCERN:

The undersigned, on behalf of Strata Production Company, accepts all applicable terms, conditions, stipulations and restrictions concerning the operations conducted on the leased land or portion thereof as described below:

Forty Niner Ridge Unit #4
Federal Lease Number NM-~~0543827~~ 104965
Township 23 South, Range 30 East
Section 21: NE/4, SE/4
Eddy County, New Mexico
Formation: Delaware
Bond: Statewide
Bond Number: OGB-233

STRATA PRODUCTION COMPANY

September 29, 2004
Date

Kelly M. Britt
Production Records