30-015-27519 C/SF

Form 3160-3
(November 1983)
(formerly 9-331C)

SUBMIT IN TRIPLICATE*
(Other instructions on reverse side)

Form approved.
Budget Bureau No. 1004-0136
Expires August 31, 1985

# UNITED STATES
# DEPARTMENT OF THE INTERIOR
## BUREAU OF LAND MANAGEMENT

# APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

5. LEASE DESIGNATION AND SERIAL NO.: NM-45236

6. IF INDIAN, ALLOTTEE OR TRIBE NAME:

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

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

7. UNIT AGREEMENT NAME:

8. FARM OR LEASE NAME: Sterling Silver 33 Federal

2. NAME OF OPERATOR: Santa Fe Energy Operating Partners, L.P. ✓

9. WELL NO.: 4

3. ADDRESS OF OPERATOR: 550 W. Texas, Suite 1330, Midland, Texas 79701

10. FIELD AND POOL, OR WILDCAT: Sand Dunes, West (Delaware)

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.*)
At surface: (E), ~~1980~~ 1830' FNL (SJS) and ~~330~~ 660' FWL, Sec. 33, T-23S, R-31E
At proposed prod. zone

RECEIVED
JUL 2 1993
O. C. D.

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA: Sec. 33, T-23S, R-31E

14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE*: 18 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) | 16. NO. OF ACRES IN LEASE | 17. NO. OF ACRES ASSIGNED TO THIS WELL |
|---|---|---|
| 330' | 640 | 40 |
| **18. DISTANCE FROM PROPOSED LOCATION* TO NEAREST WELL, DRILLING, COMPLETED, OR APPLIED FOR, ON THIS LEASE, FT.** | **19. PROPOSED DEPTH** | **20. ROTARY OR CABLE TOOLS** |
| 480' | 8100' | Rotary |

21. ELEVATIONS (Show whether DF, RT, GR, etc.): ~~3368'~~ 3373 GR

22. APPROX. DATE WORK WILL START*: March 1, 1993

23. PROPOSED CASING AND CEMENTING PROGRAM — Secretary's Potash

| SIZE OF HOLE | SIZE OF CASING | WEIGHT PER FOOT | SETTING DEPTH | QUANTITY OF CEMENT |
|---|---|---|---|---|
| 17-1/2" | 13-3/8" | 48.0 | 600' | 600 sx to circulate |
| 12-1/4" | 8-5/8" | 32.0 | 4150' | 2000 sx to circulate |
| 7-7/8" | 5-1/2" | 15.5 | 8100' | To tie back to ~~4150~~ 3950' (SJS) |

We propose to drill to a depth sufficient to test the Delaware formation for oil. If productive, 5-1/2" 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 and Gas Order No. 1 are outlined in the following attachments:

Drilling Program
Exhibit A - Operations Plan
Exhibit B - BOP and Choke
Exhibit C - Drilling Fluid Program
Exhibit D - Auxiliary Equipment
Exhibit E - Topo Map of Location
Exhibit F - Plat showing Existing Wells
Exhibit G - Well Site Layout
Surface Use and Operations Plan

10-1
7-9-93
NSL-NSI

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 Darrell Roberts TITLE Sr. Drilling Engineer DATE January 19, 1993

(This space for Federal or State office use)

PERMIT NO. _____ APPROVAL DATE _____

APPROVED BY Kathy Eaton TITLE Acty State Director DATE JUN 14 1993

CONDITIONS OF APPROVAL, IF ANY:

APPROVAL SUBJECT TO GENERAL REQUIREMENTS AND SPECIAL STIPULATIONS ATTACHED

RECEIVED
JUN 17 1993
O. C. D.
Carlsbad, New Mexico

NSL-2922-SD

*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.

Submit to the 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

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

# OIL CONSERVATION DIVISION
**P. O. Box 2088**
**Santa Fe, New Mexico 87504-2088**

## WELL LOCATION AND ACREAGE DEDICATION PLAT
All distances must be from the outer boundaries of the section.

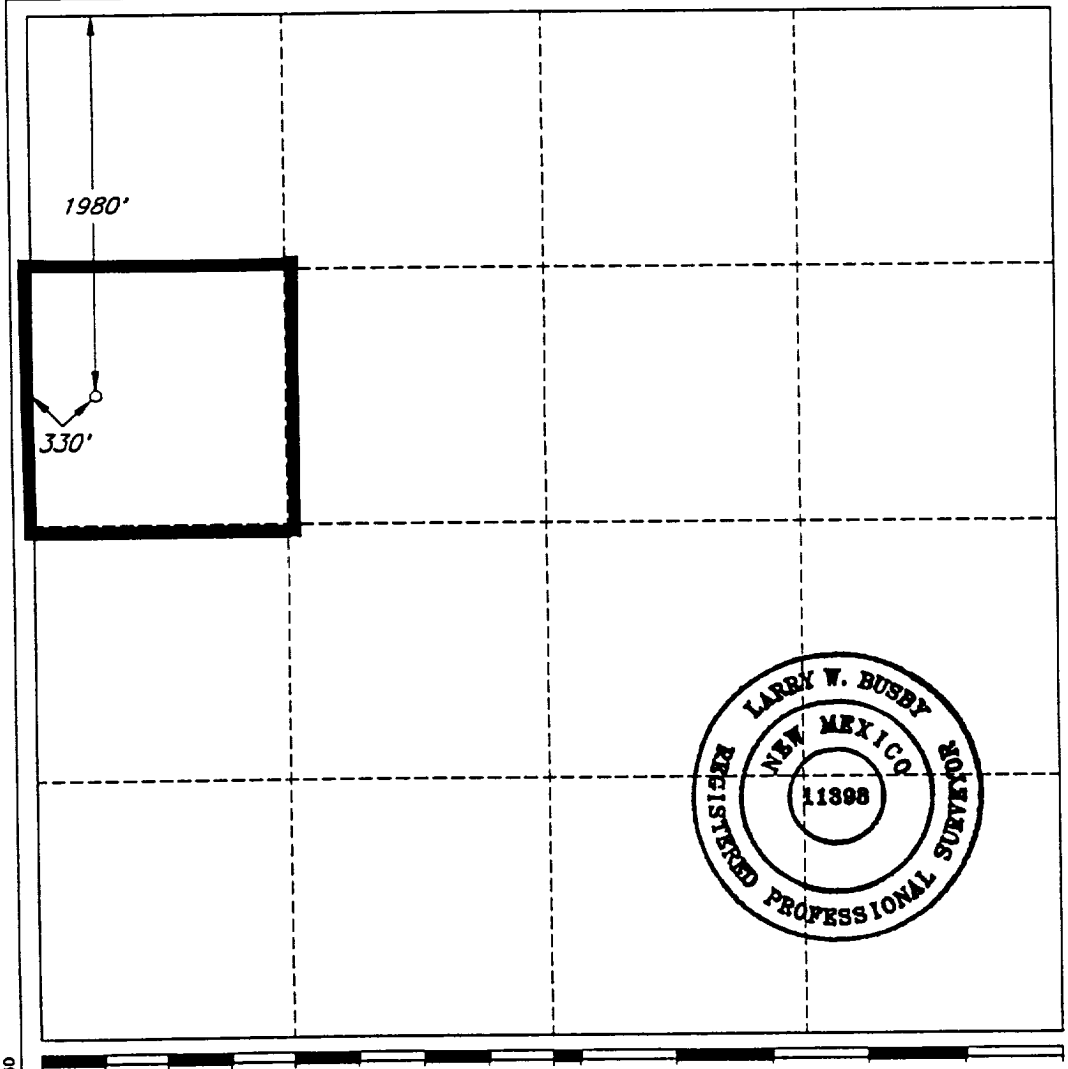
| Operator | Lease | Well No. |
|---|---|---|
| SANTA FE ENERGY OPER. PART., L.P. | STERLING SILVER '33' FEDERAL | 4 |

| Unit Letter | Section | Township | Range | County |
|---|---|---|---|---|
| E | 33 | 23 SOUTH | 31 EAST, N.M.P.M. | EDDY |

Actual Footage Location of Well: 1980 feet from the NORTH line and 330 feet from the WEST line

| Ground Level Elev. | Producing Formation | Pool | |
|---|---|---|---|
| 3368' | Delaware | Sand Dunes, West (Delaware) | 40 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 the owners been consolidated by communitization, unitization, forced-pooling, etc.?
   ☐ Yes ☐ No If answer is "yes", type of consolidation _____
   If the answer is "no", list the owners and tract descriptions which have actually been consolidated. (Use the 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 herein is true and complete to the best of my knowledge and belief.*

Signature: Darrell Roberts
Printed Name: Darrell Roberts
Position: Sr. Drilling Engineer
Company: Santa Fe Energy Operating Partners, L.P.
Date: January 19, 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: DECEMBER 11, 1992
Signature and Seal of Professional Surveyor: Larry W. Busby
Certificate No. LARRY W. BUSBY R.P.S. #11398

JOB NO. 93415 V.H.B.

125630

**DRILLING PROGRAM**
SANTA FE ENERGY OPERATING PARTNERS, L.P.
Sterling Silver "33" Federal No.4

In conjunction with Form 3160-3, Application to Drill the subject well, Santa Fe Energy Operating Partners,L.P., submits the following ten items of pertinent information in accordance with Onshore Oil & Gas Order No. 10.

1. **Geologic Name of Surface Formation:** Alluvium

2. **Estimated Tops of Significant Geologic Markers:**

| | |
|---|---|
| Rustler Anhydrite | 700' |
| Base of Salt | 3980' |
| Delaware Lime | 4150' |
| Cherry Canyon | 5050' |
| Brushy Canyon | 6350' |
| Bone Spring | 7960' |
| Total Depth | 8100' |

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

| | |
|---|---|
| Water | None expected in area |
| Oil | Lower Brushy Canyon @ 7800' |

4. **Proposed Casing Program:** See Form 3160-3 and Exhibit A.

5. **Pressure Control Equipment:** See Exhibit B.

6. **Drilling Fluid Program:** See Exhibit C.

7. **Auxiliary Equipment:** A mud logging unit will be utilized to monitor penetration rate and hydrocarbon shows while drilling below the intermediate casing at 4150'.

8. **Testing, Logging and Coring Program:**

   Drill Stem Tests: (all DST's to be justified on the basis of a valid show of oil or gas):

   Lower Brushy Canyon 7800'-7930'

   Logging:

| | |
|---|---|
| Dual Laterolog w/MSFL and Gamma Ray | 4150'- 8100' |
| Compensated Neutron/Litho-Density/Gamma Ray | 4150'- 8100' |
| Compensated Neutron/Gamma Ray (thru csg) | Surface-4150' |

   Coring: None Planned.

9. **Abnormal Conditions, Pressures, Temperatures, & Potential Hazards:**

No abnormal pressures or temperatures are anticipated. The estimated bottom hole temperature is 135 °F and the estimated bottom hole pressure is 3500 psi. No Hydrogen Sulfide or other hazardous gases or fluids have been encountered, reported or are known to exist at this depth in this area. No major lost circulation zones have been reported in the offsetting wells.

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 March 1,1993. Once spudded, the drilling operation should be completed in approximately 15 days. If the well is productive, an additional 30 days will be required for completion and testing before permanent facilities are installed.

SANTA FE ENERGY OPERATING PARTNERS,L.P.
OPERATIONS PLAN
Sterling Silver "33" Fed. No.4

1. Drill a 17 1/2" hole to approximately 600'.

2. Run 13 3/8" 48.0 ppf H-40 ST&C casing. Cement with 600 sx Class "C" cement containing 2% $CaCl_2$. Run centralizers on every other joint above the shoe. Apply thread lock to bottom two joints and guide shoe.

3. Wait on cement four hours prior to cutting off.

4. Nipple up a annular BOP system and test casing to 600 psi. WOC 18 hrs prior to drilling out.

5. Drill a 12 1/4" hole to approximately 4150'.

6. Run 8 5/8" 32.0 ppf K-55 ST&C casing. Cement with 1750 sx Cl "C" Lite containing 12 pps salt and 1/4 pps celloflake followed by 250 sx Class "C" with 2% $CaCl_2$. Run guide shoe on bottom and float collar two joints of bottom. Centralize every other joint for bottom 400' of casing and place two centralizers in surface casing. Thread lock bottom 2 joints.

7. Wait on cement for six hours prior to cutting off.

8. Nipple up and install a 3000 psi. Double Ram and Annular BOP system with choke manifold. WOC 18 hours prior to drilling out.

9. Test BOP system to 3000 psi. Test casing to 1500 psi.

10. Drill 7 7/8" hole to 8100'. Run logs.

11. Either run and cement 5 1/2" 15.50 ppf K-55 LT&C casing or plug and abandon as per BLM requirements.

Exhibit A
Santa Fe Energy Operating Partners,L.P.
Sterling Silver "33" Fed. No.4
Section 33,T-23S,R-31E
Eddy County , New Mexico

DDR:SS33-4.PMT

# PROPOSED 3-M BOPE AND CHOKE ARRANGEMENT

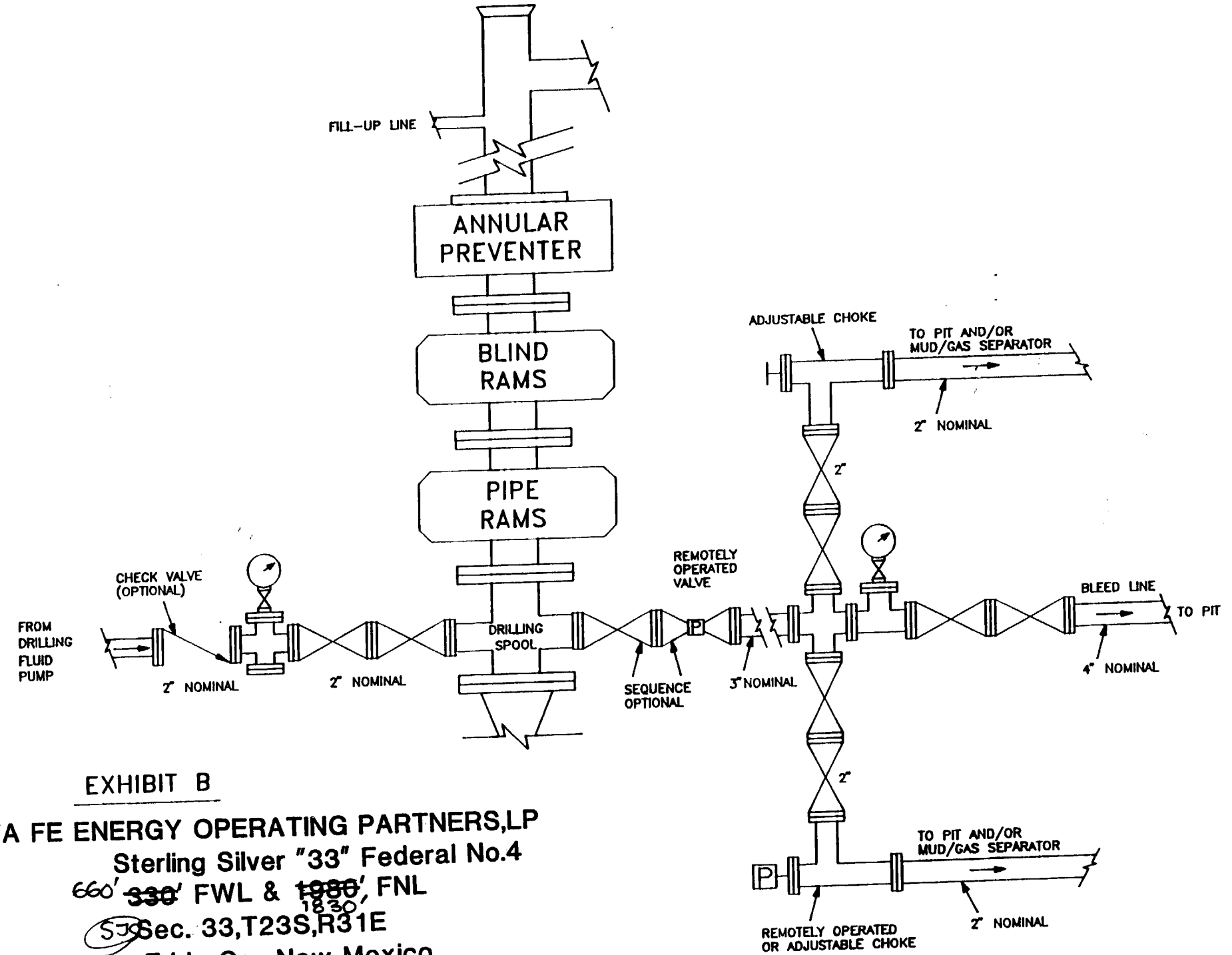



EXHIBIT B

SANTA FE ENERGY OPERATING PARTNERS,LP

Sterling Silver "33" Federal No.4

660' ~~330'~~ FWL & ~~1980'~~ 1830', FNL

SJS Sec. 33,T23S,R31E

Eddy Co., New Mexico

PROPOSED DRILLING FLUID PROGRAM

0 - 600'

Spud mud consisting of fresh water gel flocculated with Lime. Use ground paper for seepage control and to sweep the hole. MW-8.5 ppg and Vis-40.

600-4150'

Drill out with brine water circulating the inner portion of the reserve pit. Utilize ground paper mixed in prehydrated fresh gel to sweep the hole. MW-10.0 ppg and Vis-28.

4150-8100'

Drill out with cut brine (30,000 ppm chlorides minimum) circulating the outer portion of the reserve pit. Maintain pH at 8.5-9.5 with caustic and sweep the hole as necessary with ground paper. If it becomes necessary to mud up due to hole conditions, utilize a cut brine/Drispac system for 15-20 WL and a Vis of 30-32. MW-8.5/8.9 ppg.

Exhibit C
Santa Fe Energy Operating Partners,L.P.
Sterling Silver "33" Fed. No.4
Section 33,T-23S,R-31E
Eddy County, New Mexico

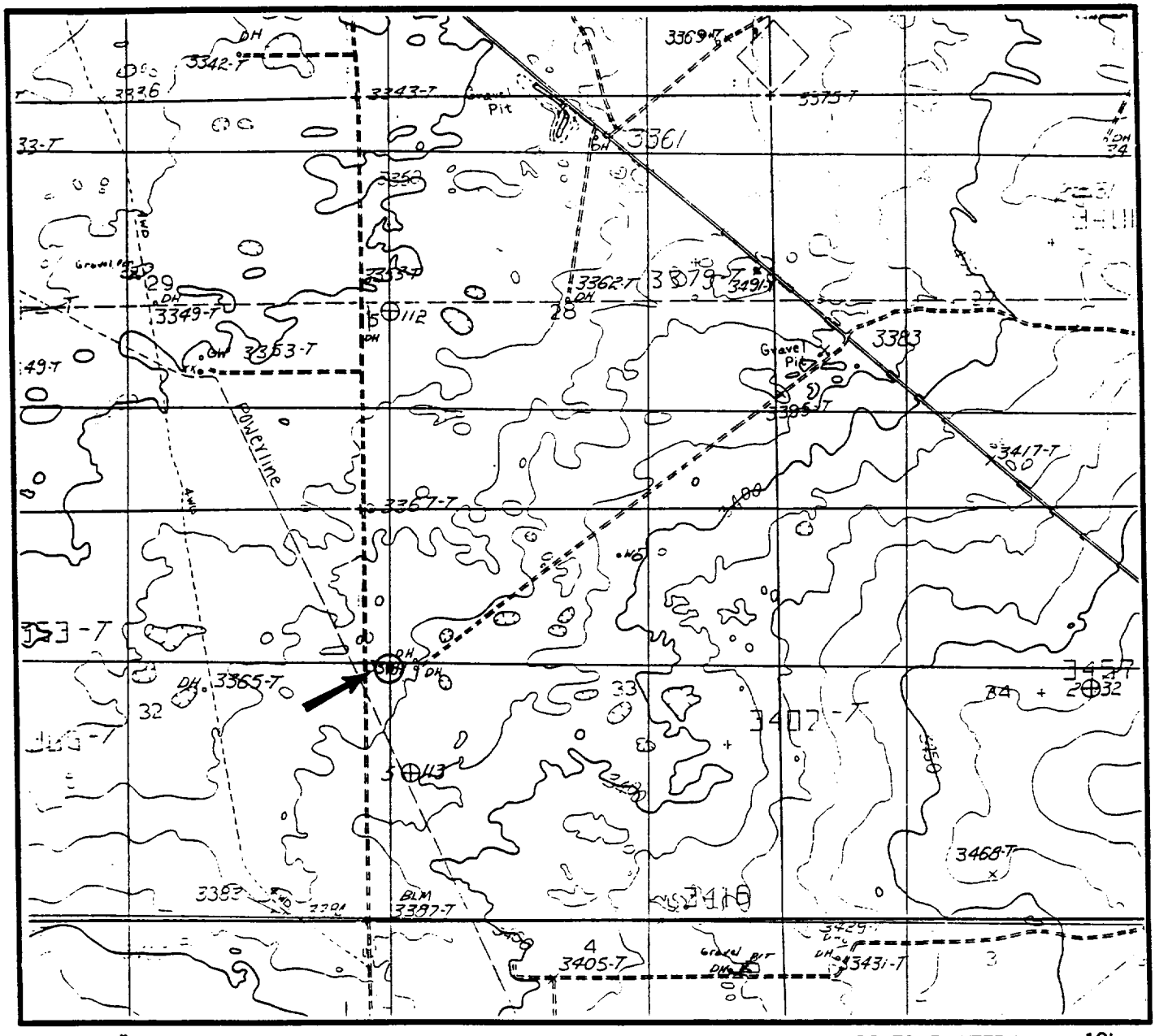
DDR:SS33-4.PMT

## AUXILIARY EQUIPMENT

| | |
|---|---|
| DRAWWORKS | BDW 650M 650 HP, with Parmac Hydromatic brake |
| ENGINES | Two Caterpillar D-353 diesels rated at 425 HP each |
| ROTARY | Ideco 23", 300 ton capacity |
| MAST/SUB | Ideal 132',550,000 lb rated static hook load with 10 line<br>Wagner 15' high substructure |
| TRAVELLING EQUIPMENT | Gardner-Denver,300 ton,5 sheave w/ BJ 250 ton hook.<br>Brewster Model 7 SX 300 ton swivel. |
| PUMPS | Continental-EMSCO DC-700 and DB-550, 5 1/2 X 16" Duplex, Compound driven. |
| PIT SYSTEM | 1-Shale Pit 6X7X35',1-Settling Pit 6X7X38', 1-Suction Pit 6X7X34' w/ 5 mud agitators.<br>Two centrifugal mud mixing pumps and a Double Screen Shale Shaker. |
| LIGHT PLANT | Two CAT 3306 diesel electric sets 180 KW prime power. |
| BOP EQUIP | 13 5/8" 5000 psi WP double ram and 13 5/8" 5000 psi WP Shaffer Annular Preventer. Choke manifold rated at 5000 psi. Valvcon 5-station 80 gallon closing unit. |

Exhibit D
Santa Fe Energy Operating Partners,L.P.
Sterling Silver "33" Fed. No.4
Section 33, T-23S,R-31E
Eddy County, New Mexico

DDR:SS33-4.PMT

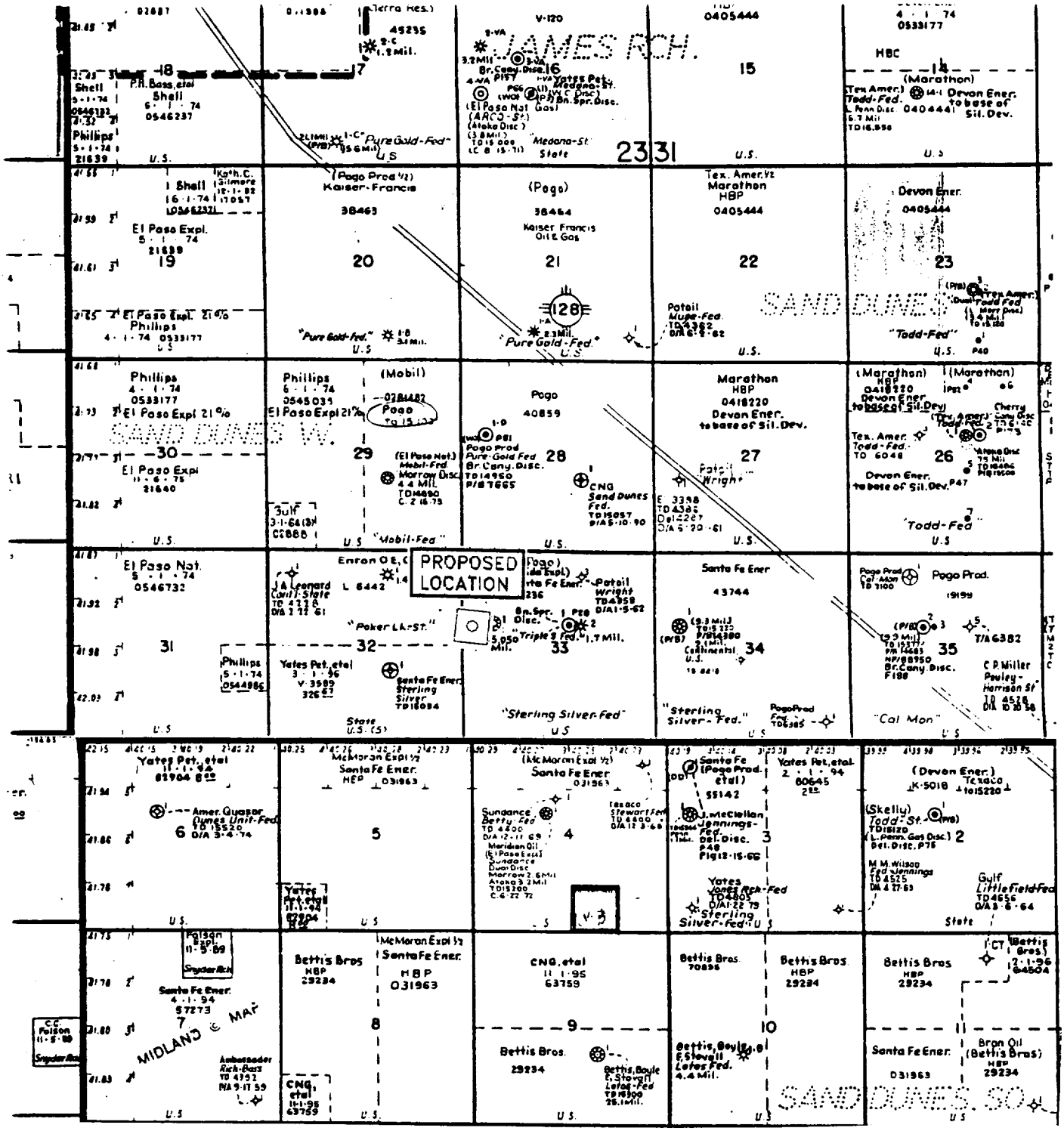



SCALE : 1" = 2000'

CONTOUR INTERVAL 10'

## EXHIBIT E

**SANTA FE ENERGY OPERATING PARTNERS,LP**
**Sterling Silver "33" Federal No.4**
**330' FWL & 1980' FNL**
**Sec. 33,T23S,R31E**
**Eddy Co., New Mexico**




# EXHIBIT F

## SANTA FE ENERGY OPERATING PARTNERS,LP

## Sterling Silver "33" Federal No.4

## 330' FWL & 1980' FNL

## Sec. 33,T23S,R31E

## Eddy Co., New Mexico

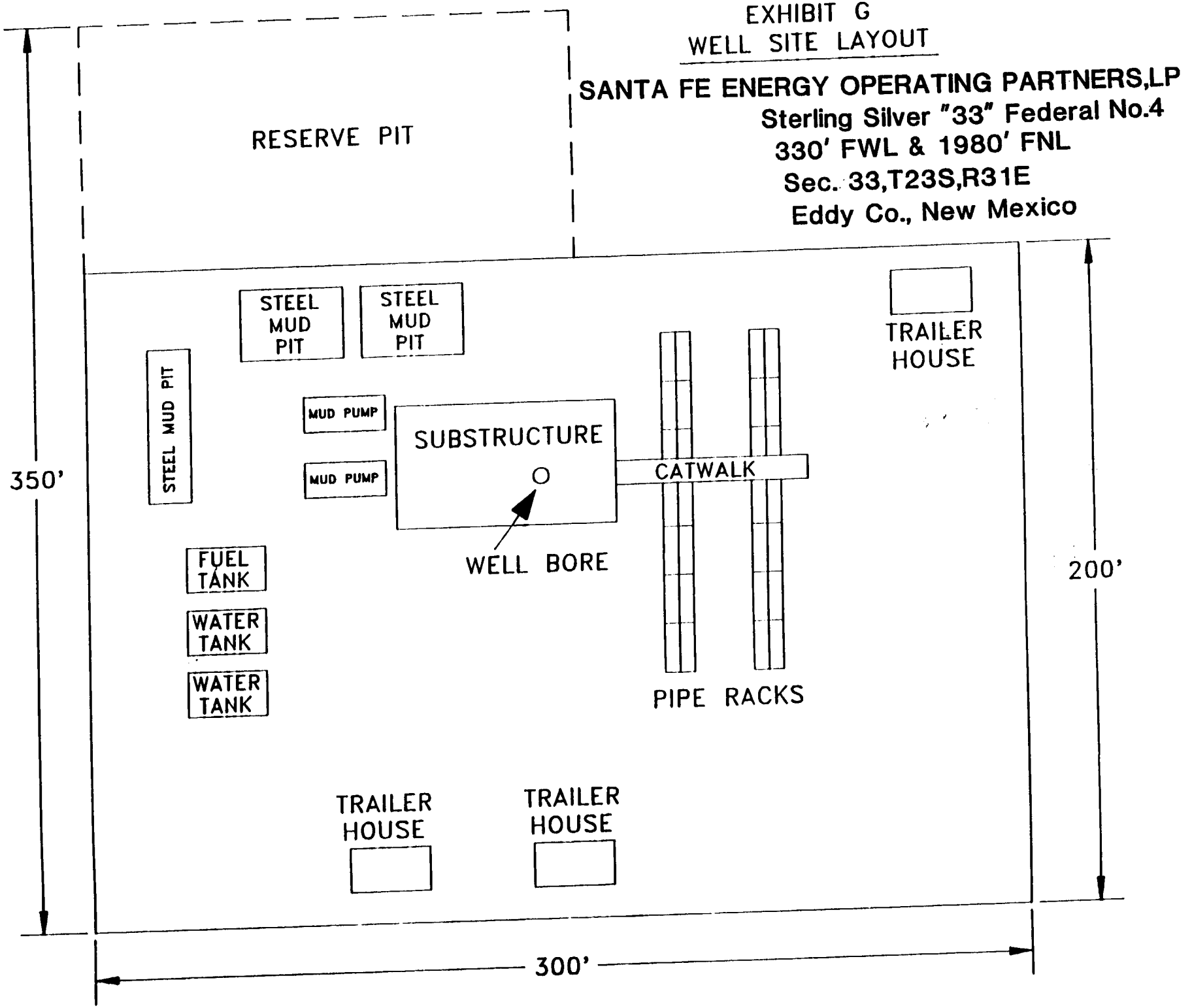


EXHIBIT G
WELL SITE LAYOUT
SANTA FE ENERGY OPERATING PARTNERS,LP
Sterling Silver "33" Federal No.4
330' FWL & 1980' FNL
Sec. 33,T23S,R31E
Eddy Co., New Mexico
RESERVE PIT
STEEL MUD PIT
STEEL MUD PIT
STEEL MUD PIT
MUD PUMP
MUD PUMP
SUBSTRUCTURE
CATWALK
TRAILER HOUSE
FUEL TANK
WATER TANK
WATER TANK
WELL BORE
PIPE RACKS
TRAILER HOUSE
TRAILER HOUSE
350'
200'
300'

**MULTI-POINT SURFACE USE AND OPERATIONS PLAN**
**SANTA FE ENERGY OPERATING PARTNERS,L.P.**
**Sterling Silver "33" Fed. No.4**
**330' FWL & 1980' FNL**
**Section 33, T-23S, R-31E**
**Eddy County, New Mexico**

This plan is submitted with Form 3160-3, Application for Permit to Drill, covering the above described well. The purpose of this plan is to describe the location of the proposed well, the proposed construction activities and operations plan, the magnitude of necessary surface disturbance involved, and the procedures to be followed by rehabilitating the surface after completion of the operations, so that a complete appraisal can be made of the environmental effects associated with the operation.

1. EXISTING ROADS.

   A. Exhibit E is a 15 minute topographic map which shows location of the proposed wellsite and roads in the vicinity. The proposed location is situated approximately 18 miles east of Loving, New Mexico.

   DIRECTIONS:

   1. From the junction of Highway 31 and Highway 128, go east on Highway 128 for 13.5 miles.

   2. Turn right(South) onto county road and continue south 1.7 miles, turn east and go 300' to location.

2. PLANNED ACCESS ROAD.

   A 14' wide access road will extend from an existing lease road 30' north of the proposed well.

3. LOCATION OF EXISTING WELLS.

   A. The well Locations in the vicinity of the proposed well are shown Exhibits E & F.

4. LOCATION OF EXISTING AND/ OR PROPOSED FACILITIES.

   A. There are two existing producing g ells and a temporarily abandoned oil well on this lease at this time.

   B. In the event the well is productive, the necessary production equipment will be installed on the drilling pad. If the well is productive of oil, a gas or diesel self-contained unit will be used to the necessary power.

5. LOCATION AND TYPE OF WATER SUPPLY

   A. It is planned to drill the well with both fresh water and brine water systems. Both types of waters will be hauled to the location by truck over existing roads. Both types will be obtained from commercial sources.

6. SOURCES OF CONSTRUCTION MATERIALS.

   A. Any caliche required for construction of the drilling pad will be obtained from a pit located off the wellsite.

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. Water produced during operations will be either placed in the reserve pits and allowed to evaporate or collected in tanks until hauled to an approved disposal system or a separate disposal application will be submitted to the BLM for appropriate approval.

   D. Oil produced during operations will be stored in tanks until sold.

   E. Human waste will be disposed of per current standards.

   F. Trash, waste paper, garbage, and junk will be collected in trash trailers and disposed of in an approved waste facility such as a land fill. The trash trailers contain all of the material to prevent scattering by the wind.

   G. All trash and debris will be removed from the wellsite within 30 days after finishing drilling and/or completion operations.

8. ANCILLARY FACILITIES.

   None required

9. WELLSITE LAYOUT

   A. Exhibit G shows the dimensions of the well pad and reserve pits, and the location of major rig components.

   B. The ground surface of the location is located among several sand dunes with vegetation growing on them. The location will constructed by leveling the necessary dune and covering the sand with at least six inches of compacted caliche.

   C. The reserve pits will be plastic lined.

   D. A 400' X 400' work area which will contain the pad and pit area has been staked and flagged.

10. PLAN FOR RESTORATION OF THE SURFACE.

   A. After finishing drilling and/or completion operations, all equipment and other material not needed for further operations will be removed. The location will be cleared of all trash and junk, to leave the wellsite in as aesthetically pleasing a condition as possible.

B. Unguarded pits, if any, containing fluid will be fenced until they have been filled.

C. If the proposed well is non-productive, all rehabilitation and/or vegetation requirements of the Bureau of Land Management and the United States Geological Survey will be complied with and will be accomplished as expeditiously as possible. All pits will be filled and levelled within 300 days after abandonment.

11. TOPOGRAPHY

A. The wellsite and access route are located in a relatively flat area.

B. The top soil at the wellsite is sandy.

C. The vegetation cover at the wellsite is moderately sparse, with prairie grasses, some mesquite bushes, and shinnery oak.

D. No wildlife was observed but it is likely that deer, rabbits, coyotes, and rodents traverse the area.

E. There are no ponds, lakes, streams, or rivers within one mile of the wellsite.

F. There is no evidence of any archaeological, historical, or cultural sites in the vicinity of the location.

12. OPERATOR'S REPRESENTATIVES.

A. The field representatives responsible for assuring compliance with the approved surface use plan are:

Michael R. Burton
Division Operations Manager
Santa Fe Energy Operating
Partners, L.P.
550 W. Texas, Suite 1330
Midland, Texas 79701
915-686-6616 - office
915-699-1260 - home
915-523-1474 - cellular

Darrell Roberts
Senior Drilling Engineer
Santa Fe Energy Operating
Partners, L.P.
550 W. Texas, Suite 1330
Midland, Texas 79701
915-686-6614 - office
915-684-4130 - home
915-553-1214 - cellular

13. CERTIFICATION

I hereby certify that I, or persons under my direct supervision, have inspected the proposed drill site and access route; that I am familiar with the conditions which presently exist; that the statements made in this plan are, to the best of my knowledge, true and correct; and that the work associated with the operations proposed herein will be performed by Santa Fe Energy Operating Partners, L.P., and its contractors and subcontractors in conformity with this plan and the terms and conditions under which it is approved.

SIGNED this 19 day of January, 1993.

Darrell Roberts

Darrell Roberts
Senior Drilling Engineer