

N.M. OIL CONS. COMMISSION  
P.O. BOX 80  
HOBBS, NEW MEXICO 88240

SUBMIT TRIPLICATE\*  
(Other instructions on  
reverse side)

30-025-32302

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

DEPARTMENT OF THE INTERIOR

BUREAU OF LAND MANAGEMENT

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 ☐

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

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

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.)  
At surface (H), 1980' FNL and 660' FEL, Sec. 9, T-22S, R-32E  
At proposed prod. zone

14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE\*  
12 miles Southeast of Halfway Bar, New Mexico

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 540

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. 1320'

19. PROPOSED DEPTH 8800'

20. ROTARY OR CABLE TOOLS Rotary

21. ELEVATIONS (Show whether DF, RT, GR, etc.)  
3792' GR

22. APPROX. DATE WORK WILL START\*  
October 15, 1993

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	4500'	2300 sx to circulate
7-7/8"	5-1/2"	15.5 & 17.0	8800'	To tie back to 4500'

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
- H<sub>2</sub>S Drilling Operations Plan

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.

SIGNED Daniel Roberts TITLE Sr. Drilling Engineer DATE 9/8/93  
(This space for Federal or State office use)

PERMIT NO. 5 William C. Calkins APPROVAL DATE 11-1-93  
APPROVED BY Acting State Director TITLE Acting State Director DATE 11-1-93  
CONDITIONS OF APPROVAL, IF ANY:

APPROVAL SUBJECT TO  
GENERAL REQUIREMENTS AND  
SPECIAL STIPULATIONS  
ATTACHED

\*See Instructions On Reverse Side

**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**

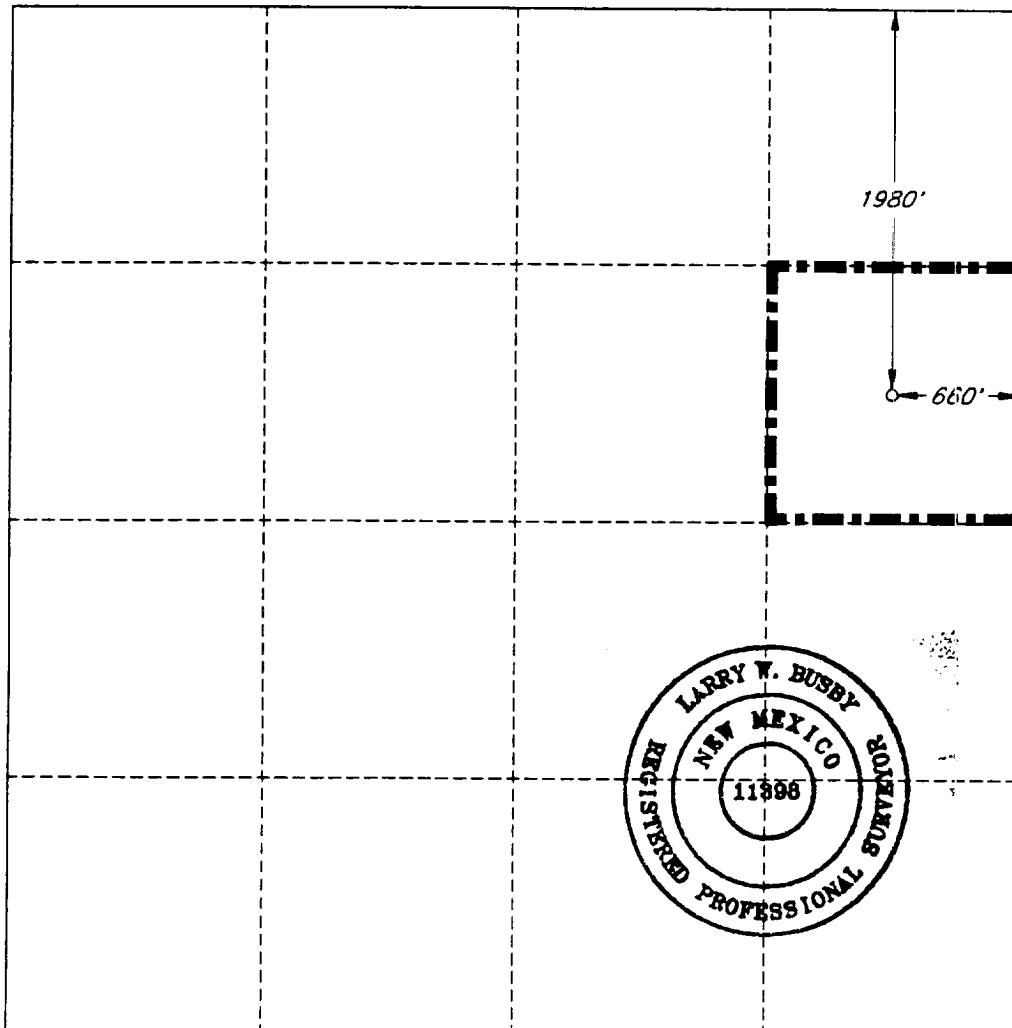
P. O. Box 2088  
Santa Fe, New Mexico 87504-2088

**WELL LOCATION AND ACREAGE DEDICATION PLAT**

All distances must be from the outer boundaries of the section.

Operator <b>SANTA FE ENERGY OPER. PART, L.P.</b>			Lease <b>WHITE SWAN '9' FEDERAL</b>		Well No. <b>4</b>
Unit Letter <b>H</b>	Section <b>9</b>	Township <b>22 SOUTH</b>	Range <b>32 EAST, N.M.P.M.</b>	County <b>LEA</b>	
Actual Footage Location of Well					
1980 feet from the NORTH line and		660 feet from the EAST line			
Ground Level Elev. <b>3792'</b>	Producing Formation <b>Delaware</b>		Pool <b>Livingston Ridge, E. (Delaware)</b>		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 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 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  
**9/10/93**

**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  
**JUNE 17, 1993**

Signature and Seal of  
Professional Surveyor

*Larry W. Busby*  
Certificate No.  
**LARRY W. BUSBY R.P.S. #11398**  
JOB NO. 96998 V.H.B.

**DRILLING PROGRAM**  
**SANTA FE ENERGY OPERATING PARTNERS, L.P.**  
**White Swan "9" 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	875'
Base of Salt	4450'
Delaware Lime	4775'
Delaware Sand	4850'
Cherry Canyon	5800'
Brushy Canyon	7000'
Bone Spring	8720'
Total Depth	8800'

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

Water	None expected in area
Brine	Salt Section @ $\pm 3300'$
Oil	Delaware @ 7200'-8000'

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 4500'.

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):

No Drill Stem Tests Planned.

## **DRILLING PROGRAM**

White Swan "9" Federal No. 4

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### **Logging:**

Dual Laterolog w/MSFL and Gamma Ray	4500'- 8800'
Compensated Neutron/Litho-Density/Gamma Ray	4500'- 8800'
Compensated Neutron/Gamma Ray (thru csg)	Surface-4500'

Coring:  $\pm$  25 Rotary Sidewall Cores taken at different intervals in Delaware.

### **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. It has been reported that some offset wells encountered brine water flows and associated H<sub>2</sub>S from the Salt Section at around 3300'. Brine rates have been 200-300 barrels per hour and H<sub>2</sub>S was measured at 60 ppm. Lost circulation has also been experienced while drilling the Salt Section at approximately 3800'. We have enclosed a Hydrogen Sulfide Drilling Operations Plan to address the potential situation.

### **10. Anticipated Starting Date and Duration of Operations:**

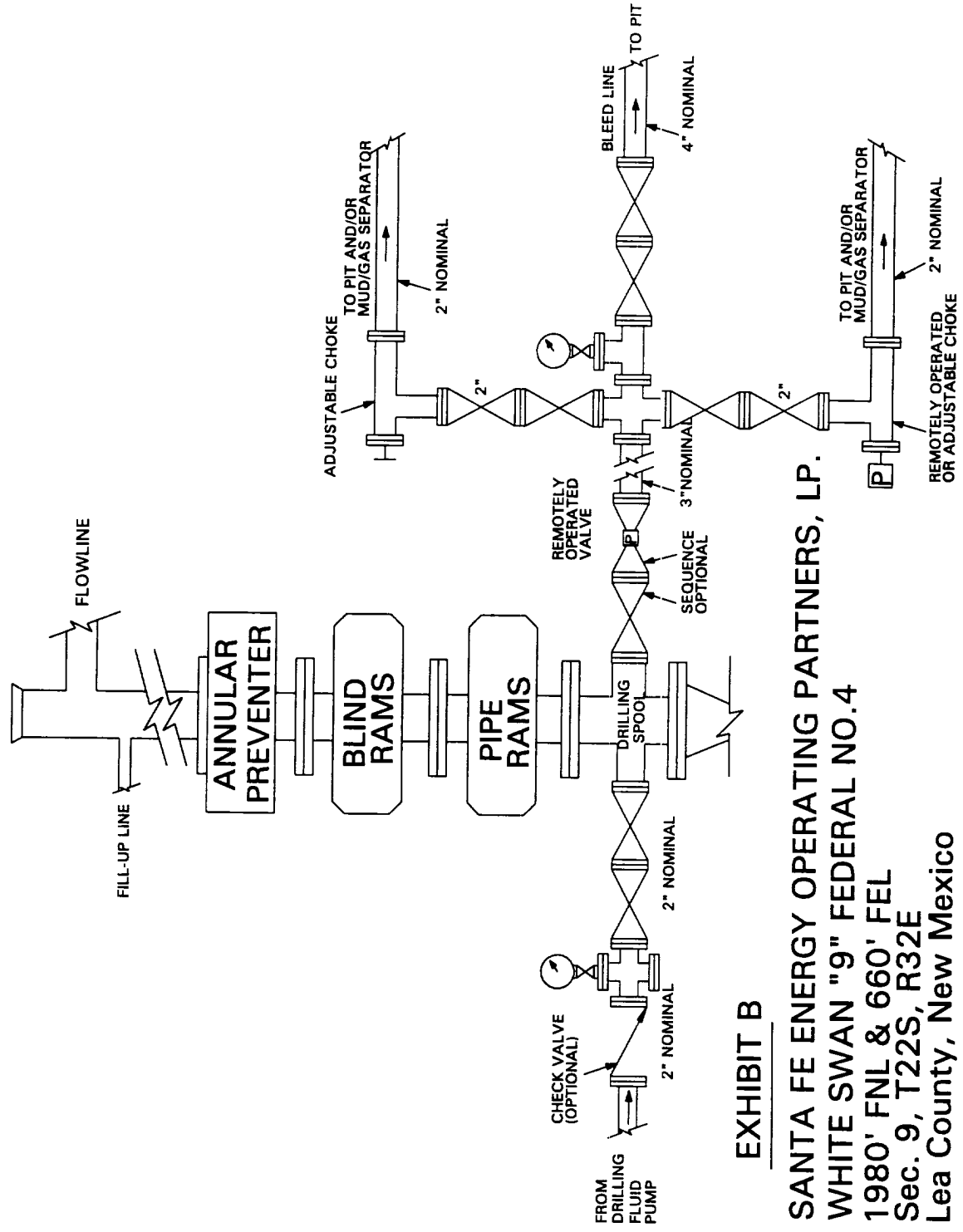
Road and location work will not begin until approval has been received from the BLM. The anticipated spud date is ~~October~~<sup>DECEMBER</sup> 15, 1993. Once spudded, the drilling operation should be completed in approximately 18 days. If the well is productive, an additional 30 days will be required for completion and testing before permanent facilities are installed.

SANTA FE ENERGY OPERATING PARTNERS,L.P.  
OPERATIONS PLAN  
White Swan "9" Federal 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<sub>2</sub>. 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 with a rotating head and test casing to 600 psi. WOC 18 hrs prior to drilling out. Rig up H<sub>2</sub>S monitoring equipment prior to drilling out.
5. Drill a 12 1/4" hole to approximately 4500'.
6. Run 8 5/8" 32.0 ppf K-55 ST&C casing. Cement with 1800 sx Cl "C" Lite containing 12 pps salt and 1/4 pps celloflake followed by 500 sx Class "C" with 2% CaCl<sub>2</sub>. 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. (If lost circulation is very severe, two stage cementing utilizing a stage collar and external casing packer will be considered to enable us to circulate cement to the surface.)
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 8800'. Run logs.
11. Either run and cement 5 1/2" 15.50 & 17.0 ppf K-55 LT&C casing or plug and abandon as per BLM requirements.

Exhibit A  
Santa Fe Energy Operating Partners,L.P.  
White Swan "9" Federal No. 4  
Section 9, T-22S, R-32E  
Lea County, New Mexico

# PROPOSED 3-M BOPE AND CHOKE ARRANGEMENT



## EXHIBIT B

SANTA FE ENERGY OPERATING PARTNERS, LP.

WHITE SWAN "9" FEDERAL NO.4

1980' FNL & 660' FEL

Sec. 9, T22S, R32E

Lea County, New Mexico