

OPER. OGRID NO. 20305
PROPERTY NO. 16635
UNITED POOL CODE 39366
DEPARTMENT (EFF. DATE 4/12/95
BUREAU OF LAND API NO. 30-025-32302

FORM APPROVED
OMB NO. 1004-0136
Expires: February 28, 1995

APPLICATION FOR PERMIT TO DRILL OR DEEPEN

1a. TYPE OF WORK DRILL <input checked="" type="checkbox"/> DEEPEN <input type="checkbox"/>		5. LEASE DESIGNATION AND SERIAL NO. NM-77057
b. TYPE OF WELL OIL WELL <input checked="" type="checkbox"/> GAS WELL <input type="checkbox"/> OTHER <input type="checkbox"/> SINGLE ZONE <input checked="" type="checkbox"/> MULTIPLE ZONE <input type="checkbox"/>		6. IF INDIAN, ALLOTTEE OR TRIBE NAME
2. NAME OF OPERATOR Santa Fe Energy Resources, Inc.		7. UNIT AGREEMENT NAME
3. ADDRESS AND TELEPHONE NO. 550 W. Texas, Suite 1330, Midland, TX 79701 915/687-3551		8. FARM OR LEASE NAME, WELL NO. White Swan "9" Federal #4
4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements. *) At surface (H), 1980' FNL & 660' FEL, Sec. 9, T-22S, R-32E At proposed prod. zone		9. API WELL NO.
14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE* 12 miles Southeast of Halfway Bar, New Mexico		10. FIELD AND POOL, OR WILDCAT Livingston Ridge, E. (Delaware)
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	11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA Sec. 9, T-22S, R-32E
18. DISTANCE FROM PROPOSED LOCATION* TO NEAREST WELL, DRILLING, COMPLETED, OR APPLIED FOR, ON THIS LEASE, FT. 1320'	19. PROPOSED DEPTH 8800'	12. COUNTY OR PARISH Lea Co.,
21. ELEVATIONS (Show whether DF, RT, GR, etc.) 3792' GR		13. STATE NM
20. ROTARY OR CABLE TOOLS Rotary		22. APPROX. DATE WORK WILL START* March 4, 1995

PROPOSED CASING AND CEMENTING PROGRAM				Secretary's Potash
SIZE OF HOLE	GRADE, SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	QUANTITY OF CEMENT
17-1/2"	13-3/8"	48.0	600'	600 sx to circulate
11"	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 4300'

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 E - Topo Map of Location
Exhibit A - Operations Plan	Exhibit F - Plat Showing Existing Wells
Exhibit B - BOP and Choke	Exhibit G - Well Site Layout
Exhibit C - Drilling Fluid Program	Surface Use and Operations Plan
Exhibit D - Auxiliary Equipment	H2S Drilling Operations Plan

This location was previously approved on 11/1/93, and the location has been built.

IN ABOVE SPACE DESCRIBE PROPOSED PROGRAM: If proposal is to deepen, 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 Daniel Pobito TITLE Division Drilling Engineer DATE Feb. 15, 1995

(This space for Federal or State office use)

PERMIT NO. _____ APPROVAL DATE _____
Application approval does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.
CONDITIONS OF APPROVAL, IF ANY: **APPROVAL SUBJECT TO GENERAL REQUIREMENTS AND SPECIAL STIPULATIONS ATTACHED**

APPROVED BY /s/ Gilbert J. Lucero TITLE Assoc. STATE Director DATE 3-21-95
*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 SANTA FE ENERGY OPER. PART, L.P.			Lease WHITE SWAN '9' FEDERAL		Well No. 4
Unit Letter H	Section 9	Township 22 SOUTH	Range 32 EAST, N.M.P.M.	County LEA	
Actual Footage Location of Well 1980 feet from the NORTH line and 660 feet from the EAST line					
Ground Level Elev. 3792'	Producing Formation Delaware		Pool Livingston Ridge, East		40 Acres

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 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
Division Drilling Engineer
Company
Santa Fe Energy Resources
Date
February 15, 1995

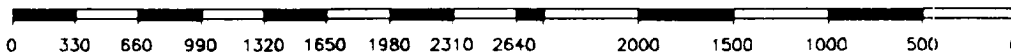
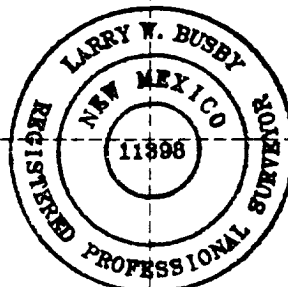
SURVEYOR CERTIFICATION

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.



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OFFICE

DRILLING PROGRAM
SANTA FE ENERGY RESOURCES INC.
White Swan "9" Federal No.4

In conjunction with Form 3160-3, Application to Drill the subject well, Santa Fe Energy Resources, Inc., 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.

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.

DRILLING PROGRAM

White Swan "9" Federal No.4

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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 H₂S from the Salt Section at around 3300'. Brine rates have been 200-300 barrels per hour and H₂S 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 March 4, 1995. 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 RESOURCES, INC.
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_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 with a rotating head and test casing to 600 psi. WOC 18 hrs prior to drilling out. Rig up H_2S monitoring equipment prior to drilling out.
5. Drill a 11" hole to approximately 4500'.
6. Run 8 5/8" 32.0 ppf K-55 ST&C casing. Cement with 1800 sx CI "C" Lite containing 12 pps salt and 1/4 pps celloflake followed by 500 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 1500 psi. with the rig pump. 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 Resources, Inc.
White Swan "9" Federal No.4
Section 9,T-22S,R-32E
Lea County, New Mexico

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PROPOSED 3-M BOPE AND CHOKE ARRANGEMENT

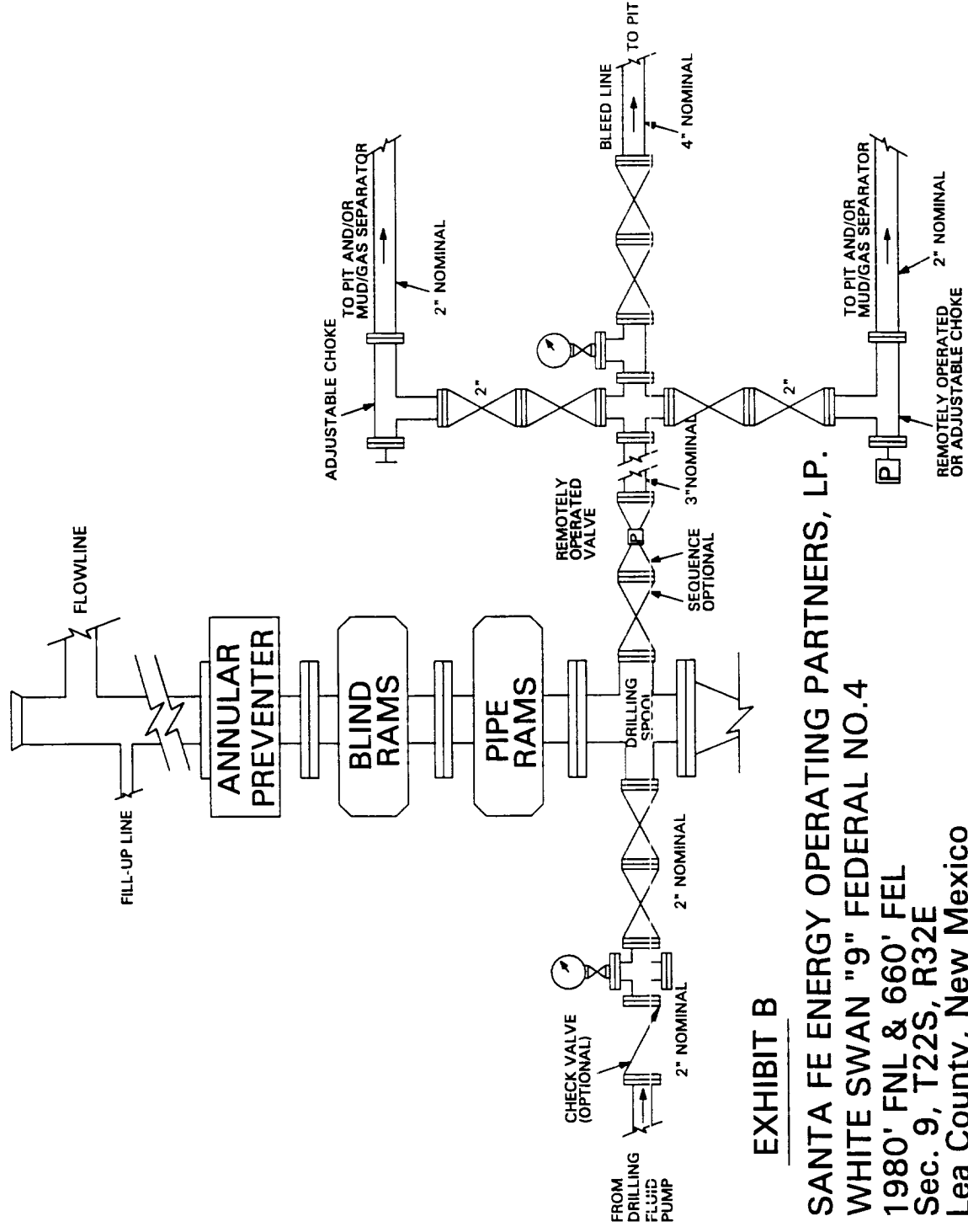


EXHIBIT B

SANTA FE ENERGY OPERATING PARTNERS, LP.

WHITE SWAN "9" FEDERAL NO.4

1980' FNL & 660' FEL

Sec. 9, T22S, R32E

Lea County, New Mexico

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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.

600-4500'

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.

4500-8800'

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.
White Swan "9" Federal No.4
Section 9, T-22S, R-32E
Lea County, New Mexico

DDR:WHITSWAN.PMT