

N.M. OIL CONS. COMMISSION  
P.C. OX 1980  
HOBBS, NEW MEXICO 88240  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

SUBMIT IN DUPLICATE  
(Other instructions on  
reverse side)

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

APPLICATION FOR PERMIT TO DRILL OR DEEPEN

1a. TYPE OF WORK

DRILL ☒

DEEPEN ☐

FEB 25 11 03 AM '95

b. TYPE OF WELL

OIL  
WELL ☒

GAS  
WELL ☐

OTHER ☐

SINGLE  
ZONE ☒

MULTIPLE  
ZONE ☐

2. NAME OF OPERATOR

Santa Fe Energy Resources, Inc.

3. ADDRESS AND TELEPHONE NO.

550 W. Texas, Suite 1330; Midland, Texas 79701 (915) 682-6373

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.)\*

At surface

(H) 1980' FNL & 660' FEL

At proposed prod. zone

14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE\*

24 miles east of Loving, 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

1000

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.

None

19. PROPOSED DEPTH

10100

20. ROTARY OR CABLE TOOLS

Rotary

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

3676 GR

22. APPROX. DATE WORK WILL START\*

March 29, 1996

23. PROPOSED CASING AND CEMENTING PROGRAM

SIZE OF HOLE	GRADE, SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	QUANTITY OF CEMENT
17 1/2"	H-40 13 3/8"	48.0	600'	600 sx to circulate
11"	K-55 8 5/8"	32.0	4700'	1300 sx to circulate
7 7/8"	K-55 & N-80 5 1/2"	17.0	10100'	tie back to 4500'

We propose to drill to a depth sufficient to test the Bone Spring formation for oil. If productive, 5 1/2" casing will be run to 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 Manifold

Exhibit C - Drilling Fluid Program

Exhibit D - Auxiliary Equipment

Exhibit E - Topo Map at Location

Exhibit F - Map Showing Existing Wells

Exhibit F (A) - Plat of Location

Exhibit G - Well Site Layout

Surface Use and Operations Plan

Santa Fe Energy Resources, Inc. accepts all applicable terms, conditions, stipulations and restrictions concerning operations conducted on the leased land or portion thereof, as described above.

Bond Coverage: Blanket Bond

BLM Bond File No.: MT 0750

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

James B. "Phil" Stinson

TITLE Agent for Santa Fe Energy

DATE 2-27-96

(This space for Federal or State office use)

OPER. OGRID NO. 20305

PROPERTY NO. 18791

POOL CODE 53800

EFF. DATE 4/3/96

API NO. 30-05-33367

APPROVED BY

TITLE

ASSISTANT AREA MANAGER

DATE

MAR 28 1996

\*See Instructions On Reverse Side

**DISTRICT I**  
P. O. Box 1980  
Hobbs, NM 88241-1980

State of New Mexico  
Energy, Minerals, and Natural Resources Department

Form C-102  
Revised 02-10-94

Instructions on back

**DISTRICT II**  
P. O. Drawer DD  
Artesia, NM 88211-0719

**OIL CONSERVATION DIVISION**

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

Submit to the Appropriate  
District Office  
State Lease - 4 copies  
Fee Lease - 3 copies

☐ AMENDED REPORT

**DISTRICT III**  
1000 Rio Brazos Rd.  
Aztec, NM 87410

**DISTRICT IV**  
P. O. Box 2088  
Santa Fe, NM 87507-2088

**WELL LOCATION AND ACREAGE DEDICATION PLAT**

1 API Number		2 Pool Code		3 Pool Name Sand Dunes E. Delaware/Bone Springs	
4 Property Code		5 Property Name TOMCAT '20' FEDERAL			6 Well Number 1
7 OGRID No.		8 Operator Name SANTA FE ENERGY RESOURCES, INC.			9 Elevation 3676'

**10 SURFACE LOCATION**

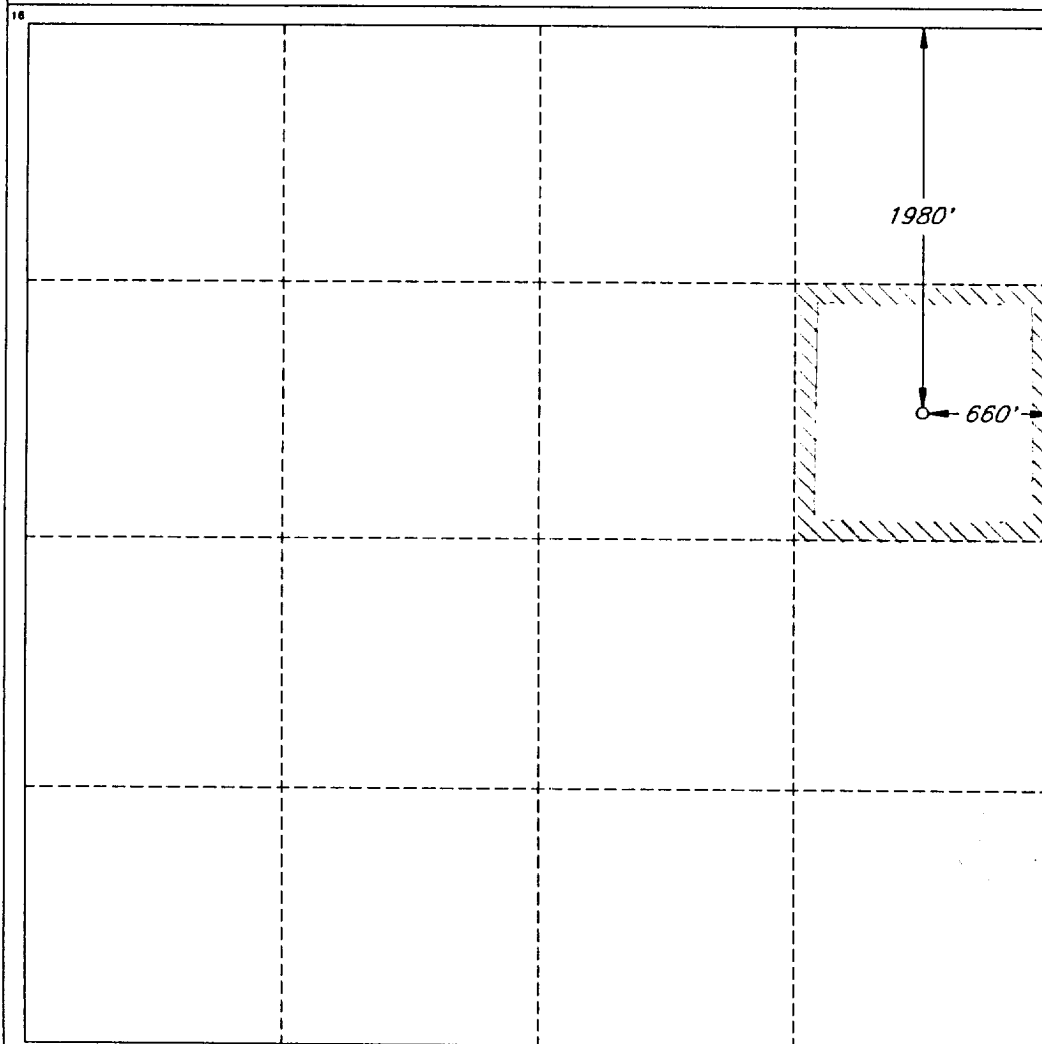
UL or lot no. H	Section 20	Township 23 SOUTH	Range 32 EAST, N.M.P.M.	Lot Ida	Feet from the 1980'	North/South line NORTH	Feet from the 660'	East/West line EAST	County LEA
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**"BOTTOM HOLE LOCATION IF DIFFERENT FROM SURFACE**

UL or lot no.	Section	Township	Range	Lot Ida	Feet from the	North/South line	Feet from the	East/West line	County
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12 Dedicated Acres 40	13 Joint or Infill	14 Consolidation Code	15 Order No.
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NO ALLOWABLE WELL 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.

Signature  
*James P. "Phil" Stinson*  
Printed Name  
James P. "Phil" Stinson  
Title  
Agent for Santa Fe Energy  
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.

Date of Survey  
FEBRUARY 22, 1996  
Signature and Seal of Professional Surveyor  
*V. Lynn Bezner*  
V. LYNN BEZNER  
NO. 7920  
Certified by the State of New Mexico  
V. LYNN BEZNER, P.E.S. #7920  
JOB #44036-1-47 SW / V.H.B.

**DRILLING PROGRAM**  
**SANTA FE ENERGY RESOURCES, INC.**  
**TOMCAT "20" Fed. No. 1**

In conjunction with Form 3160-3, Application For Permit 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. 1.

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

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

Rustler	930'
Delaware Lime	4710'
Bell Canyon	4760'
Cherry Canyon	5700'
Bone Spring	8600'
Total Depth	10100'

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

Water	None expected in area
Oil	Delaware @ 4710'
	Bone Spring @ 8600'

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 4600'.

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

Drill Stem Tests: None Planned.

Logging:

Dual Laterolog w/MSFL and Gamma Ray	4700'-10100'
Compensated Neutron/Litho-Density/Gamma Ray	4700'-10100'
Compensated Neutron/Gamma Ray (thru csg)	Surface-4700'

## **DRILLING PROGRAM**

Tomcat "20" Fed. No. 1

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

No abnormal pressures or temperatures are anticipated. The estimated bottom hole temperature is 145° psi and the estimated bottom hole pressure is 3530 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:**

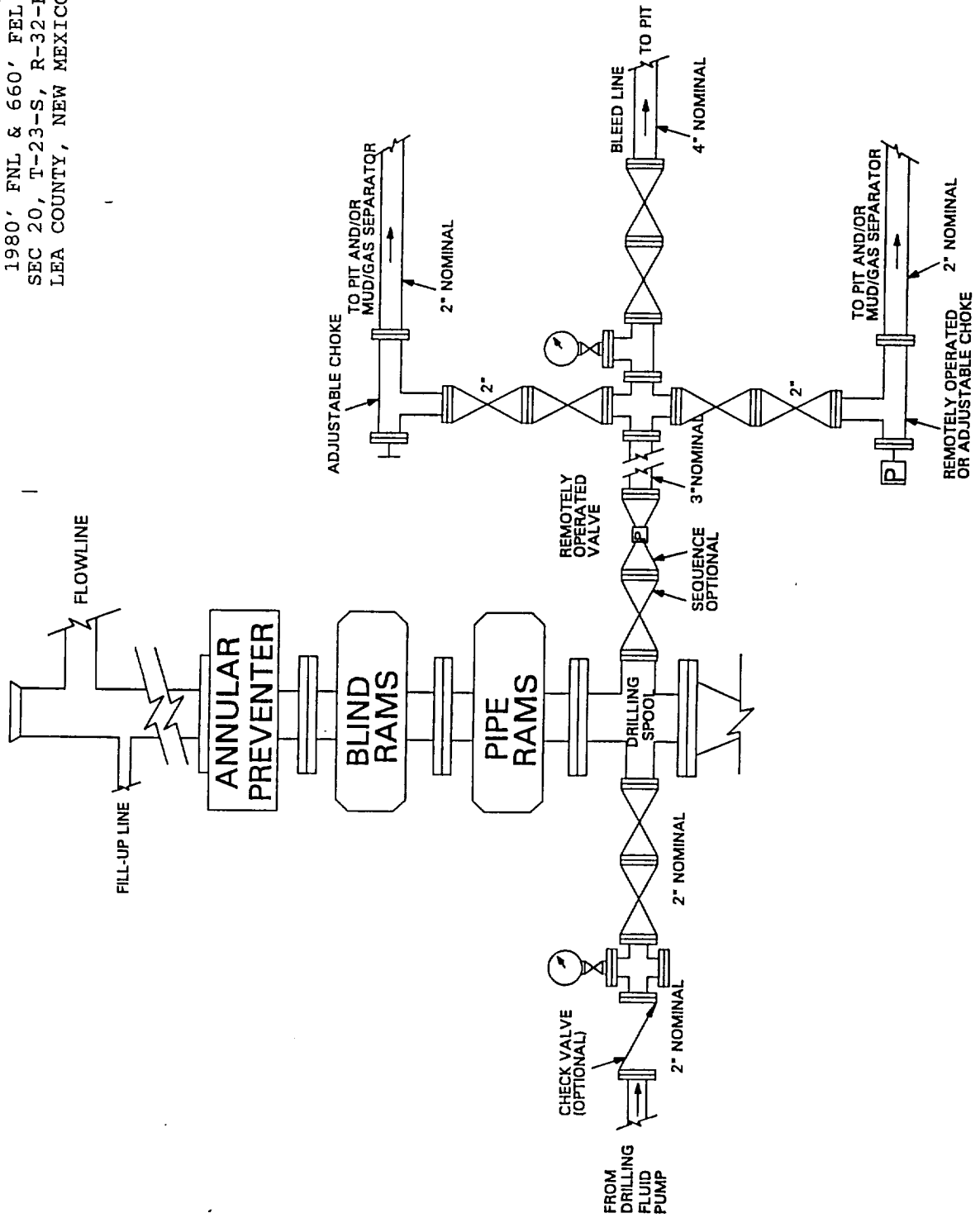
Road and location work will not begin until approval has been received from the BLM. The anticipated spud date is March 29, 1996. Once spudded the drilling operation should be completed in approximately 20 days. If the well is productive, an additional 30 days will be required for completion and testing before permanent facilities are installed.

**EXHIBIT A**  
**OPERATIONS PLAN**  
SANTA FE ENERGY RESOURCES, INC.  
Tomcat "20" Federal No. 1  
Section 20, T-23-S, R-32-E  
Lea County, New Mexico

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 twelve hours prior to cutting off.
4. Nipple up an annular BOP system and test casing to 600 psi. WOC twenty-four (24) hours prior to drilling out.
5. Drill a 11" hole to approximately 4700'.
6. Run 8-5/8" 32.0 ppf K-55 ST&C casing. Cement with 1100 sx Cl "C" Lite containing 12 pps salt and 1/4 pps celloflake followed by 200 sx Class "C" with 2% CaCl<sub>2</sub>. Run guide shoe on bottom and float collar two joints from 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 twelve hours prior to cutting off.
8. Nipple up and install a 3000 psi. Double Ram and Annular BOP system with choke manifold. WOC 24 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 10100'. Run logs.
11. Either run and cement 10100' 5-1/2" casing or plug and abandon as per BLM requirements.

Casing will be run as follows; 1000' 5 1/2" 17 ppf N-80 LT&C (btm), 8100' 5 1/2" 17 ppf K-55 LT&C and 1000' 5 1/2" 17 ppf N-80 LT&C (top). Casing will be cemented with approximately 500 sx 50/50 Poz followed by 600 sx "Light" for a TOC of 4500'.

**EXHIBIT B**  
 SANTA FE ENERGY RESOURCES, INC.  
 TOMCAT "20" FED NO. 1  
 1980' FNL & 660' FEL  
 SEC 20, T-23-S, R-32-E  
 LEA COUNTY, NEW MEXICO



**EXHIBIT C**  
**DRILLING FLUID PROGRAM**  
SANTA FE ENERGY RESOURCES, INC.  
Tomcat "20" FED NO. 1  
Section 20, T-23-S, R-32-E  
Lea County, New Mexico

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, Vis-40.

600'-4700'

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, Vis-28.

4700'-10100'

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.