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Surface Use and Operations Pla	pecific wing attachments: on ng Wells on n
Santa Fe Energy Resources, Inc. accepts all applicable terms, conditions, restrictions concerning operations conducted on the leased land or portio	
described above.	
Bond Coverage: Blanket Fond BLM Bond File No.: MT 0750 ABOVE SPACE DESCRIBE PROPOSED PROGRAM: If proposal is to deepen, give data on present productive zone and proposed new produ	ctive zone. If proposal is to drill or
epen directionally, give pertinent data on subsurface locations and measured and true vertical depths. Give blowout preventer program, if any,	i
SIGNED REMER P. THE Agent for Santa Fe Energy D.	7.2.96
(This spice for Federal or State office use)	
PERMIT NO Special Stipulations - Approval Date	
Application approval does not warrant or certify that the application legal or equitable title to those rights in the subject lease which would entitle to CONDITION 3 OF APPROVAL, IF ANY:	
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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.

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DRILLING PROGRAM SANTA FE ENERGY RESOURCES, INC. TOMCAT "8" 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	9301
Delaware Lime	4600′
Bell Canyon	4580′
Cherry Canyon	5650 <i>'</i>
Bone Spring	8600 <i>'</i>
Total Depth	8900 <i>'</i>

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

Water	None expected in area
Oil	Delaware @ 4600'
	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 Ray4600'-8900'Compensated Neutron/Litho-Density/Gamma Ray4600'-8900'Compensated Neutron/Gamma Ray (thru csg)Surface-4600'

DRILLING PROGRAM Tomcat "8" Fed. No. 1 Page 2

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

No abnormal pressures or temperatures are anticipated. The estimated bottom hole temperature is 135° psi and the estimated bottom hole pressure is 3100 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 August 5, 1996. 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.

EXHIBIT A OPERATIONS PLAN SANTA FE ENERGY RESOURCES, INC. Tomcat "8" Federal No. 1 Section 8, T-23-S, R-32-E Lea County, New Mexico

- 1. Drill a 17-1/2" hole to approximately 600'.
- Run 13-3/8" 48.0 ppf H-40 ST&C casing. Cement with 600 sx Class "C" cement containing 2% CaCl₂. 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 4600'.
- 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% CaCl₂. 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 8900'. Run logs.
- 11. Either run and cement 8900' of 5-1/2" 17.0 ppg K-55 LT&C 5-1/2" 15.50 ppf K-55 LT&C casing or plug and abandon as per BLM requirements.

EXHIBIT C DRILLING FLUID PROGRAM SANTA FE ENERGY RESOURCES, INC. Tomcat "8" FED NO. 1 Section 8, 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.

<u>600'-4600'</u>

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.

4600'-8900'

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 D AUXILIARY EQUIPMENT Santa Fe Energy Resources, Inc. Tomcat "8" Federal No. 1 Section 8, T-23-S, R-32-E Lea County, New Mexico

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 lines. Wagner 15' high substructure

TRAVELLING Gardner-Denver, 300 ton, 5 sheave w/BJ 250 ton hook. **EQUIPMENT** Brewster Model 7 SX 300 ton swivel

- **PUMPS** Continental-EMSCO DC-700 and DB-550, 5-12 x 16" Duplex, Compound driven
- **PIT SYSTEM** 1-Shale Pit 6X7X35', 1-Setting Pit 6X7X38', 1-Suction Pit 6X7X34' w/5 mud agitators. Two centrifugal mud mixing pumps and a Double Screen Shale Shaker.
- LIGHT Two CAT 3306 diesel electric sets 180 KW prime power PLANT
- BOP13-5/8" 3000 psi WP double ram and 13-5/8" 3000 psi WP ShafferEQUIPAnnular Preventer. Choke manifold rated at 3000 psi. Valvcon 5-
station 80 gallon closing unit

