

OPER. OGRID NO. 20305 **NON-DELEGATE\***PROPERTY NO. 2438 **ONS ON**POOL CODE ✓ **58240**EFF. DATE 8/1/97 **ADM**API NO. 30-025-34076FORM APPROVED  
OMB NO. 1004-0136  
Expires: February 28, 1995UNIT  
DEPARTMENT  
BUREAU OF

## APPLICATION FOR PERMIT

## 1a. TYPE OF WORK

DRILL ☒DEEPEN ☐

## 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:  
(G) 1980' FNL & 1980' FEL

At proposed prod. zone

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

25 miles Northwest of Jal, New Mexico

## 16. DISTANCE FROM PROPOSED\*

LOCATION TO NEAREST  
PROPERTY OR LEASE LINE, FT.  
(Also to nearest drig. unit line, if any)

660'

## 18. NO. OF ACRES IN LEASE

960

17. NO. OF ACRES ASSIGNED  
TO THIS WELL

40

19. DISTANCE FROM PROPOSED LOCATION\*  
TO NEAREST WELL, DRILLING, COMPLETED,  
OR APPLIED FOR, ON THIS LEASE, FT.

5903'

## 20. PROPOSED DEPTH

9200'

## 21. ROTARY OR CABLE TOOLS

Rotary

## 22. ELEVATIONS (Show whether DF, RT, GR, etc.)

3721' GR

## 23. APPROX. DATE WORK WILL START\*

July 15, 1997

## 24.

## PROPOSED CASING

## CARLSBAD CONTROLLED WATER BASIN

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	5100'	1300 sx to circulate
7 7/8"	K-55 5 1/2"	15.5 - 17.0	9200'	650 sx for TOC @ 4800'

We propose to drill to a depth sufficient to test the Bone Spring formation for oil. If productive, 5 1/2" casing will be cemented 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 Schematic
- Exhibit C - Drilling Fluid Program
- Exhibit D - Auxiliary Equipment
- Exhibit E - Topo Map at Location

**APPROVAL SUBJECT TO  
GENERAL REQUIREMENTS AND  
SPECIAL STIPULATIONS  
ATTACHED**

- Exhibit F - Plat 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 P. "Phil" Stinson

TITLE

Agent for Santa Fe Energy

DATE

6-16-97

(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:

APPROVED BY

TITLE

ADM. MINERALS

DATE

7/25/97

\*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.

RECEIVED  
1997 JUN 18 A 9:33  
BUREAU OF  
ROSWELL, NM

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

State of New Mexico  
Industry, 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

DISTRICT III  
1000 Rio Brazos Rd.  
Aztec, NM 87410

☐ AMENDED REPORT

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

**WELL LOCATION AND ACREAGE DEDICATION PLAT**

1 API Number <b>30-025-34076</b>		2 Pool Code ✓		3 Pool Name <b>Wildcat</b> Brimminstool (Delaware)			
4 Property Code <b>21130</b>		5 Property Name <b>THISTLE UNIT</b>				6 Well Number <b>3</b>	
7 OGRID No. <b>20305</b>		8 Operator Name <b>SANTA FE ENERGY RESOURCES, INC.</b>				9 Elevation <b>3721'</b>	

**10 SURFACE LOCATION**

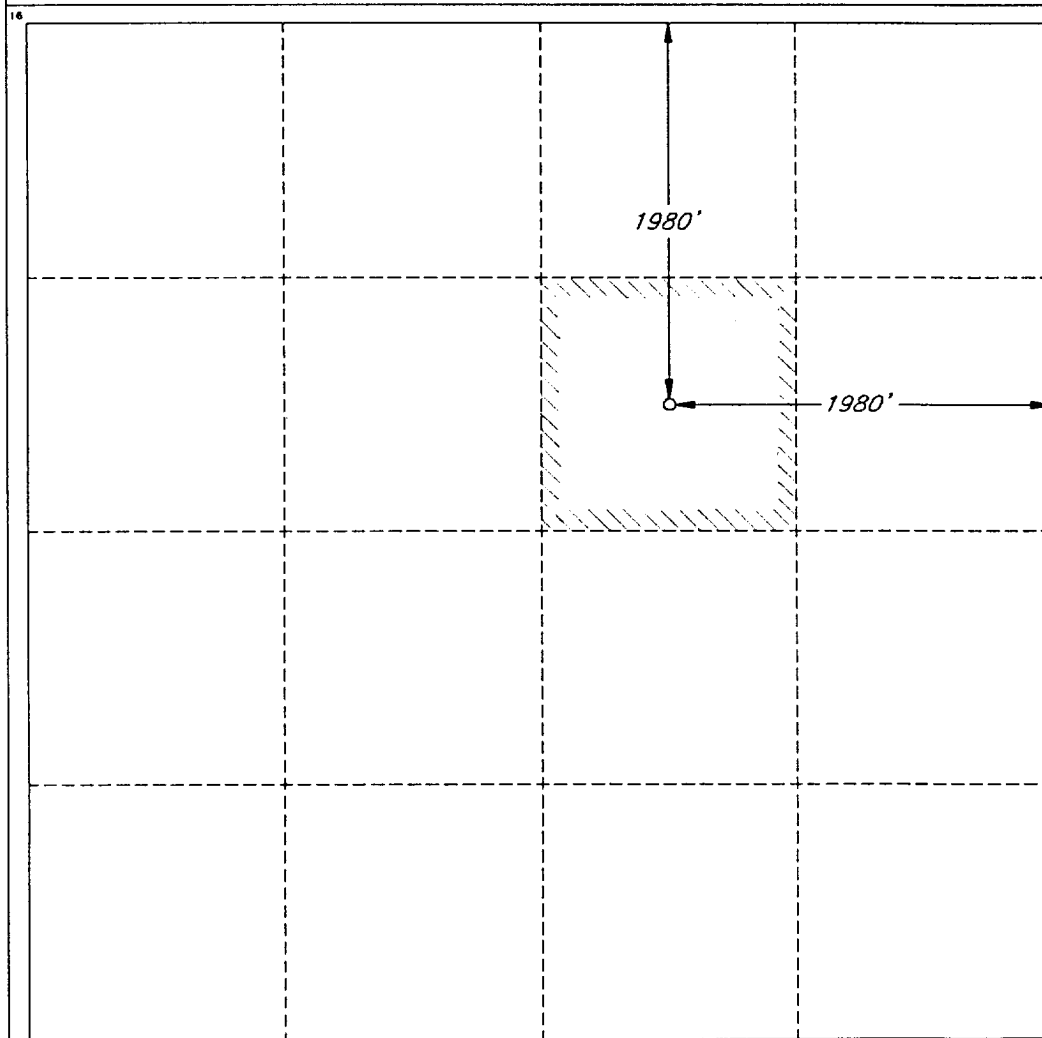
UL or lot no.	Section	Township	Range	Lot Ida	Feet from the	North/South line	Feet from the	East/West line	County
G	21	23 SOUTH	33 EAST, N.M.P.M.		1980'	NORTH	1980'	EAST	LEA

**"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

12 Dedicated Acres <b>40</b>	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 Sante Fe Energy  
Date  
**6-16-97**

**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  
**MAY 22, 1997**  
Signature and Seal of  
Professional Surveyor  
*Roger M. Robbins*  
Certificate No. **12128**  
**ROGER M. ROBBINS P.S. #12128**  
JOB #52030 / 47 SE / JSU

## **DRILLING PROGRAM**

### **SANTA FE ENERGY RESOURCES, INC.**

#### **Thistle Unit No. 3**

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. 1.

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

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

Rustler Anhydrite	1300'
Base of Salt	4700'
Delaware Lime	5200'
Brushy Canyon	8750'
Bone Spring	8950'
Total Depth	9200'

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

Water	None expected in area
Oil	Delaware @ 7400' - 9000'

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 5100' to TD.

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

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

Delaware 7400'

Logging:

Dual Laterolog W/MSFL and Gamma Ray	5100'- 9200'
Compensated Neutron/Litho-Density/Gamma Ray	5100'- 9200'
Compensated Neutron/Gamma Ray (thru csg)	Surface-5100'

Coring: No conventional cores are planned.

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

No abnormal pressures or temperatures are anticipated. The estimated bottom hole temperature is 135° and the estimated bottom hole pressure is 3500 psi. There are no known problems with H<sub>2</sub>S or water flows in this immediate area.

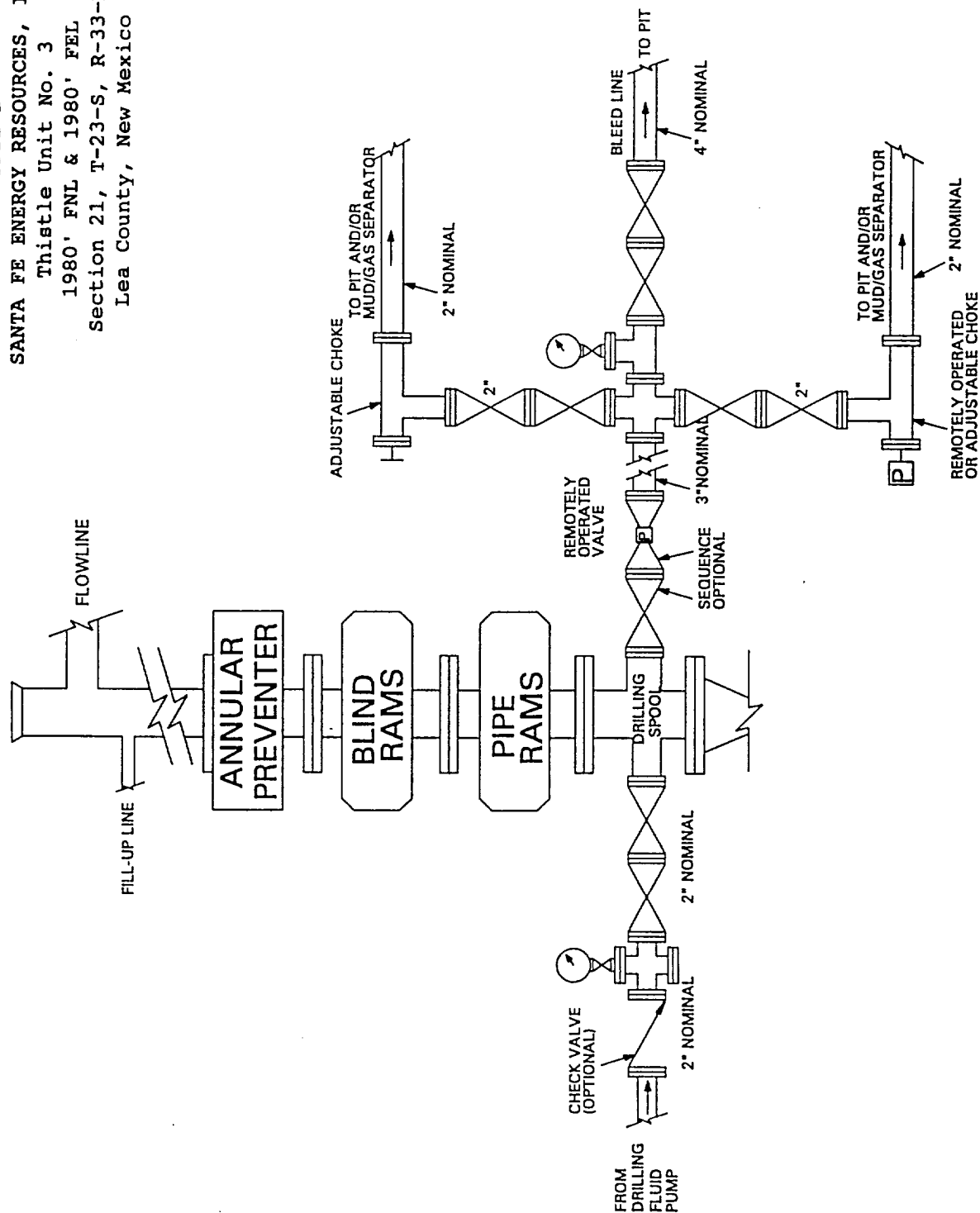
**10. Anticipated Starting Date and Duration of Operations:**

Road and location work will not begin until approval has been received from the B.L.M. The anticipated spud date is July 15, 1997. 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.**  
**Thistle Unit No. 3**  
**Section 21, T-23-S, R-33-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%  $\text{CaCl}_2$ . Run centralizers on every other joint above the shoe. Apply thread lock to bottom two joints and guide shoe.
3. Wait on cement 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 5100'.
6. Run 8-5/8" 32.0 ppf K-55 ST&C casing. Cement with 1000 sx Cl "C" Lite containing 12 pps salt and 1/4 pps celloflake followed by 300 sx Class "C" with 2%  $\text{CaCl}_2$ . 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 Double Ram and Annular BOP system with choke manifold.
9. Test BOP system to 1500 psi with the rig pump. Test casing to 1500 psi.
10. Drill 7-7/8" hole to 9200'. Run logs.
11. Either run and cement 5-1/2" 15.5 & 17.0 ppf K-55 LT&C casing or plug and abandon as per BLM requirements.

**EXHIBIT B**  
**SANTA FE ENERGY RESOURCES, INC.**  
 Thistle Unit No. 3  
 1980' FNL & 1980' FEL  
 Section 21, T-23-S, R-33-E  
 Lea County, New Mexico



**EXHIBIT C**  
**DRILLING FLUID PROGRAM**  
**SANTA FE ENERGY RESOURCES, INC.**  
**Thistle Unit No. 3**  
**Section 21, T-23-S, R-33-E**  
**Lea County, New Mexico**

**0 - 600'**

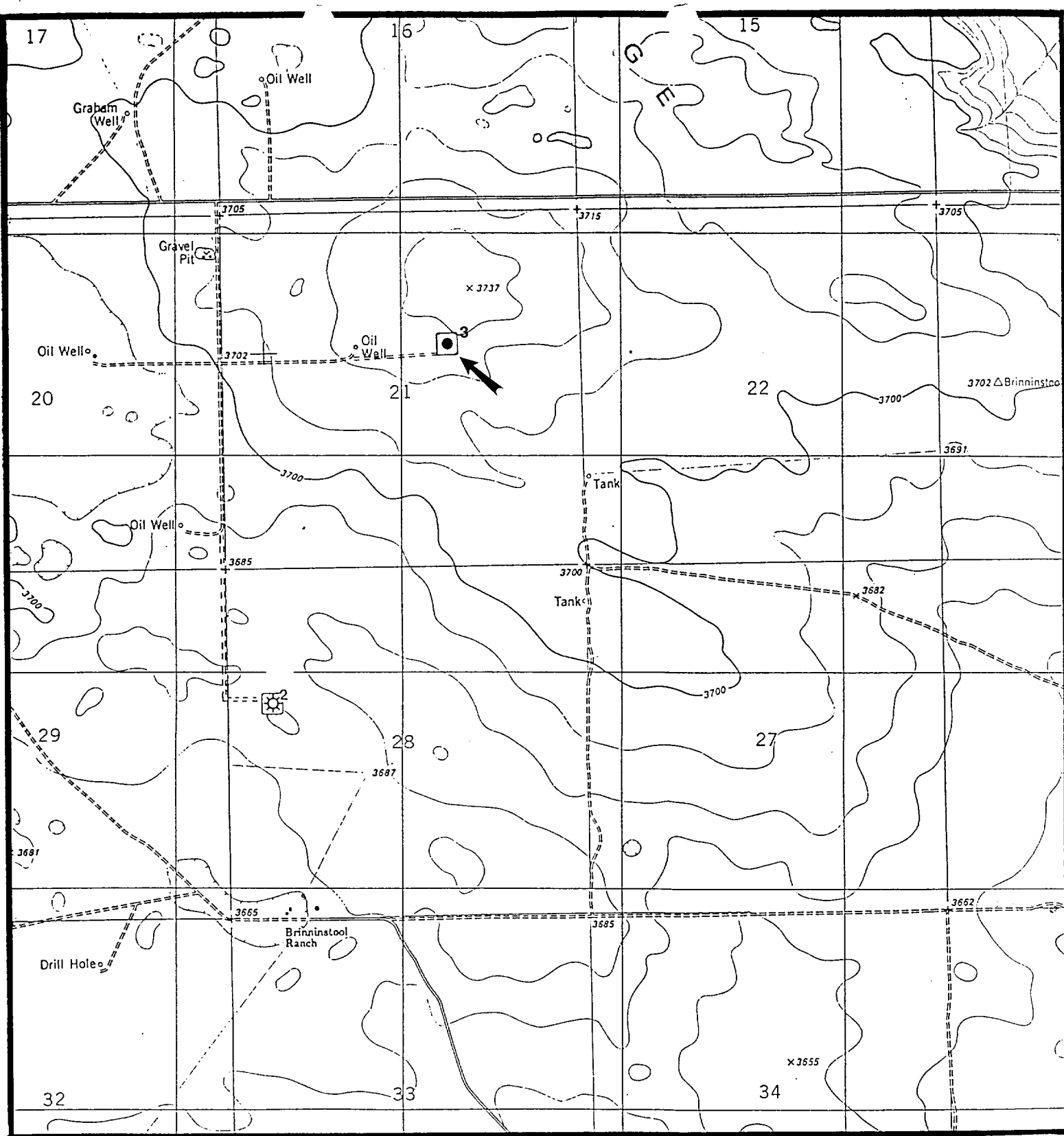
Spud mud consisting of fresh water gel flocculated with Lime. Use ground paper for seepage control and to sweep the hole. MW-8.5 ppg and Vis-40.

**600 - 5100'**

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.

**5100 - 9200'**

Drill out with fresh water 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 fresh water/Drispec System for 15-20 CC WL and a Vis of 30-32. MW-8.3-8.5 ppg.



**EXHIBIT E**  
**TOPO MAP OF LOCATION AREA**  
**SANTA FE ENERGY RESOURCES, INC.**  
 Thistle Unit No. 3  
 1980' FNL & 1980' FEL  
 Section 21, T-23-S, R-33-E  
 Lea County, New Mexico