

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

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, Texas 79701 (915)682-6373			8. FARM OR LEASE NAME, WELL NO. White Swan "9" Fed No. 5		
4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.)* At surface (A) 660' FNL & 330' FEL At proposed prod. zone			9. AM WELL NO. 30-025-1426		
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) 330'			11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA Sec. 9, T-22-S, R-32-E		
16. DISTANCE FROM PROPOSED LOCATION* TO NEAREST WELL, DRILLING, COMPLETED, OR APPLIED FOR, ON THIS LEASE, FT. 1361'			12. COUNTY OR PARISH Lea		
17. NO. OF ACRES IN LEASE 520			13. STATE New Mexico		
18. PROPOSED DEPTH 7600'			14. COUNTY OR PARISH Lea		
19. ROTARY OR CABLE TOOLS Rotary			15. STATE New Mexico		
20. APPROX. DATE WORK WILL START* January 2, 1998			21. ELEVATIONS (Show whether DF, RT, GR, etc.) 3800' GR		
22. APPROX. DATE WORK WILL START* January 2, 1998			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	4500'	1300 sx to circulate
7 7/8"	K-55 5 1/2"	17.0	7600'	tie back to 4400'

We propose to drill to a depth sufficient to test the Delaware 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
- H2S Drilling Operations Plan
- 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

This APD was previously approved on 5-17-96

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 prevention program, if any.

24. SIGNED James P. Phil Thompson TITLE Agent for Santa Fe Energy DATE 11-25-97
(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 Richard A. Whaley TITLE Acting State Director DATE 12-30-97

*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.

Signature and Seal of Professional Engineer

STATE OF NEW MEXICO

V. LYNN
BEZNER
NO. 7920

REGISTERED PROFESSIONAL ENGINEER

Certified by the State of New Mexico

V. L. BEZNER

REGISTERED LAND SURVEYOR

JOB #44835-1-1-88 SE / V.H.E

DRILLING PROGRAM
SANTA FE ENERGY RESOURCES, INC.
WHITE SWAN "9" Fed. No. 5

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:** Alluvium

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

Rustler	875'
Base of Salt	4450'
Delaware Lime	4775'
Delaware Sand	4850'
Cherry Canyon	5800'
Brushy Canyon	7000'
Total Depth	7600'

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

Water	None expected in area
Oil	Delaware @ 4850'

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: None Planned.

Logging:

Dual Laterolog w/MSFL and Gamma Ray	4500'--7600'
Compensated Neutron/Litho-Density/Gamma Ray	4500'--7600'
Compensated Neutron/Gamma Ray (thru csg)	Surface-4500'

DRILLING PROGRAM

White Swan "9" Fed. No. 5

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 2900 psi. Hydrogen Sulfide shows form the Salado/Castile have been reported in the area at $\pm 3300'$. We have enclosed a Hydrogen Sulfide Drilling Operation to address the potential situation. 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 January 2, 1998. 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.
White Swan "9" Federal No. 5
Section 9, T-22-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_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 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% 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 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 7600'. Run logs.
11. Either run and cement 7600' of 5-1/2" 17.0 ppg K-55 LT&C casing or plug and abandon as per BLM requirements.

EXHIBIT B
SANTA FE ENERGY RESOURCES, INC.
 WHITE SWAN "9" FED #5
 660' FNL & 330' FEL
 SEC 9, T-22-S, R-32-E
 LEA COUNTY, NEW MEXICO

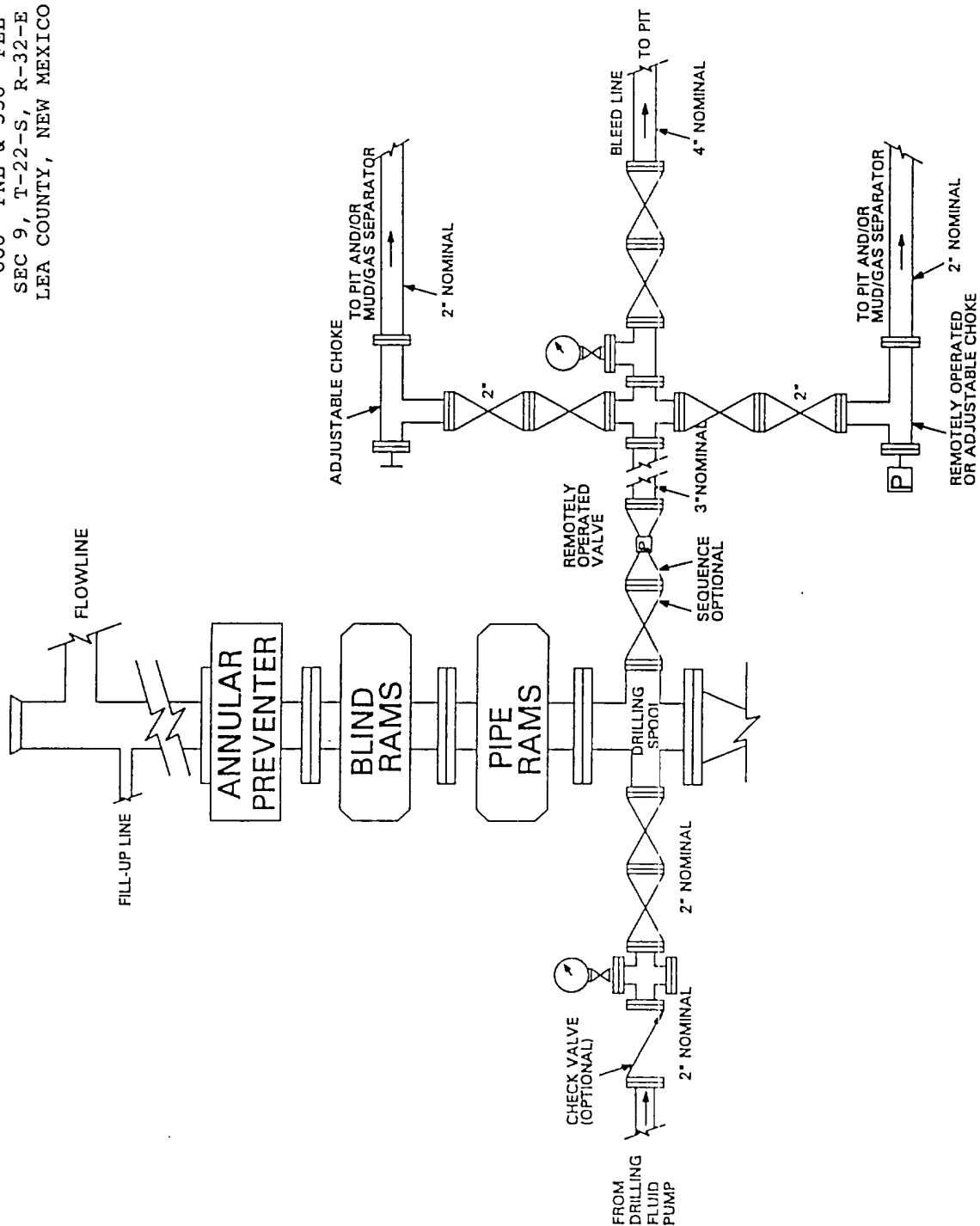


EXHIBIT C
DRILLING FLUID PROGRAM
SANTA FE ENERGY RESOURCES, INC.
White Swan "9" FED NO. 5
Section 9, T-22-N, R-32-E
Lea County, New Mexico

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'-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, Vis-28.

4500'-7600'

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.
White Swan "9" Federal No. 5
Section 9, T-22-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 EQUIPMENT	Gardner-Denver, 300 ton, 5 sheave w/BJ 250 ton hook. 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 PLANT	Two CAT 3306 diesel electric sets 180 KW prime power
BOP EQUIP	13-5/8" 3000 psi WP double ram and 13-5/8" 3000 psi WP Shaffer Annular Preventer. Choke manifold rated at 3000 psi. Valvcon 5-station 80 gallon closing unit

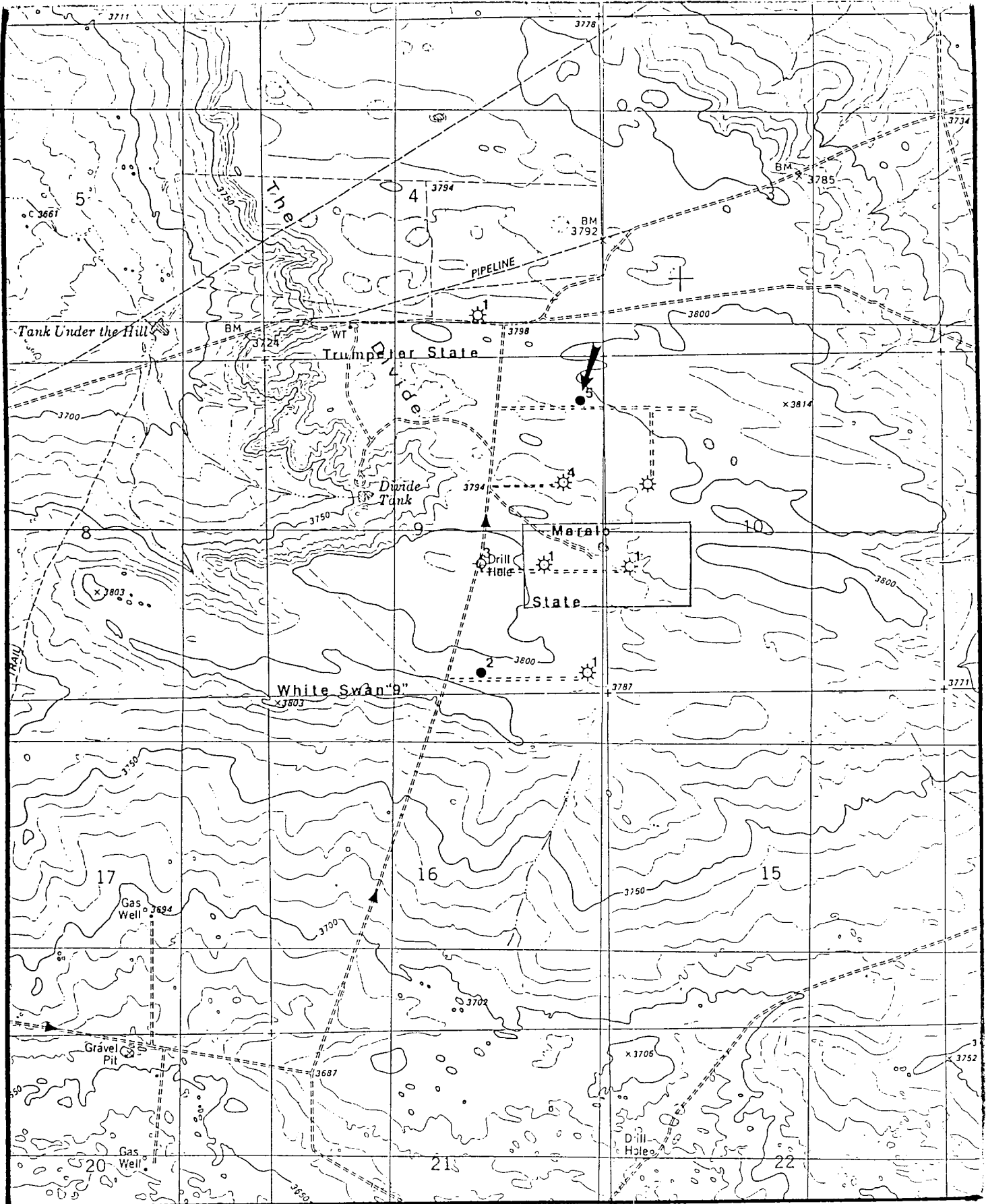
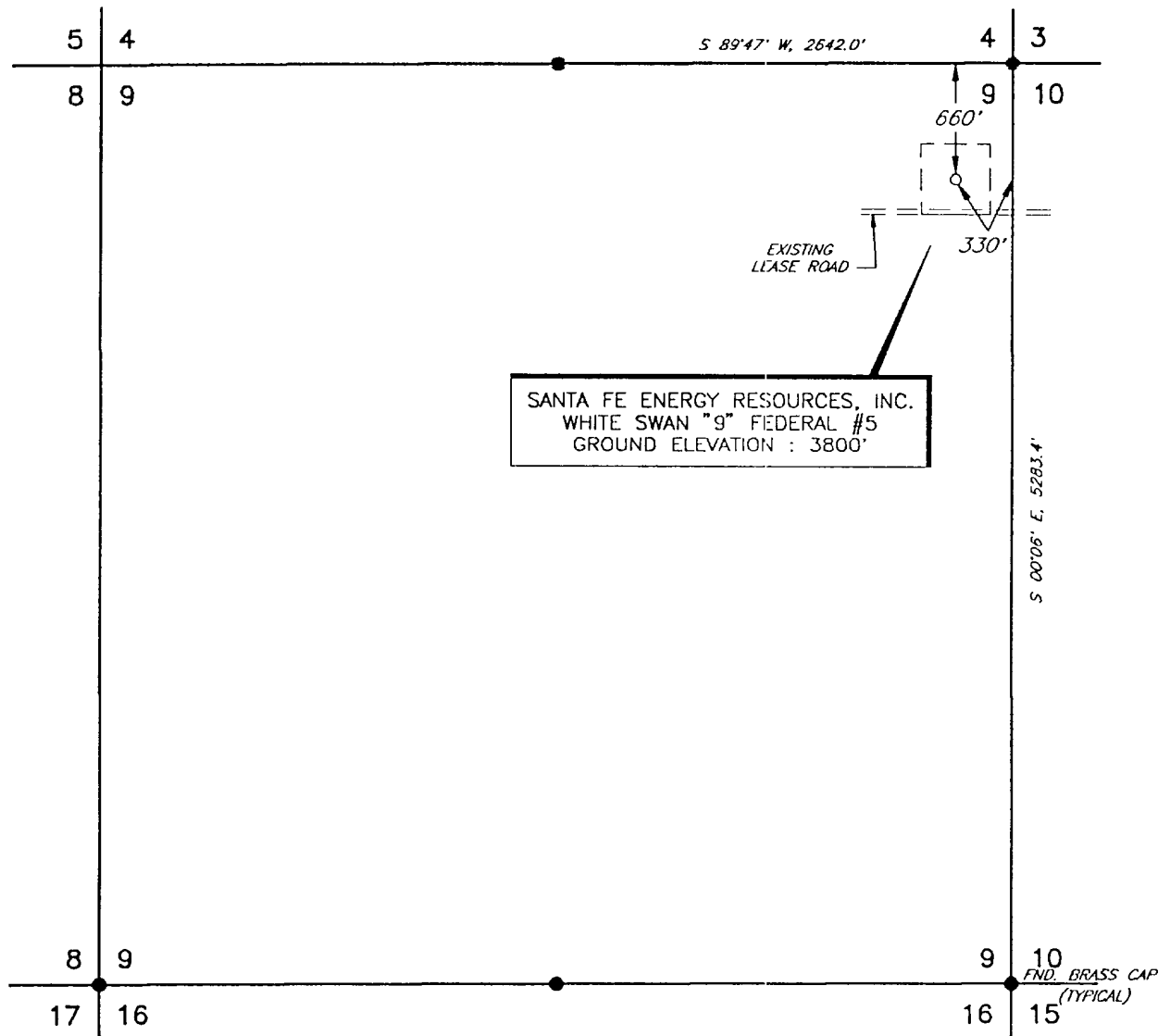
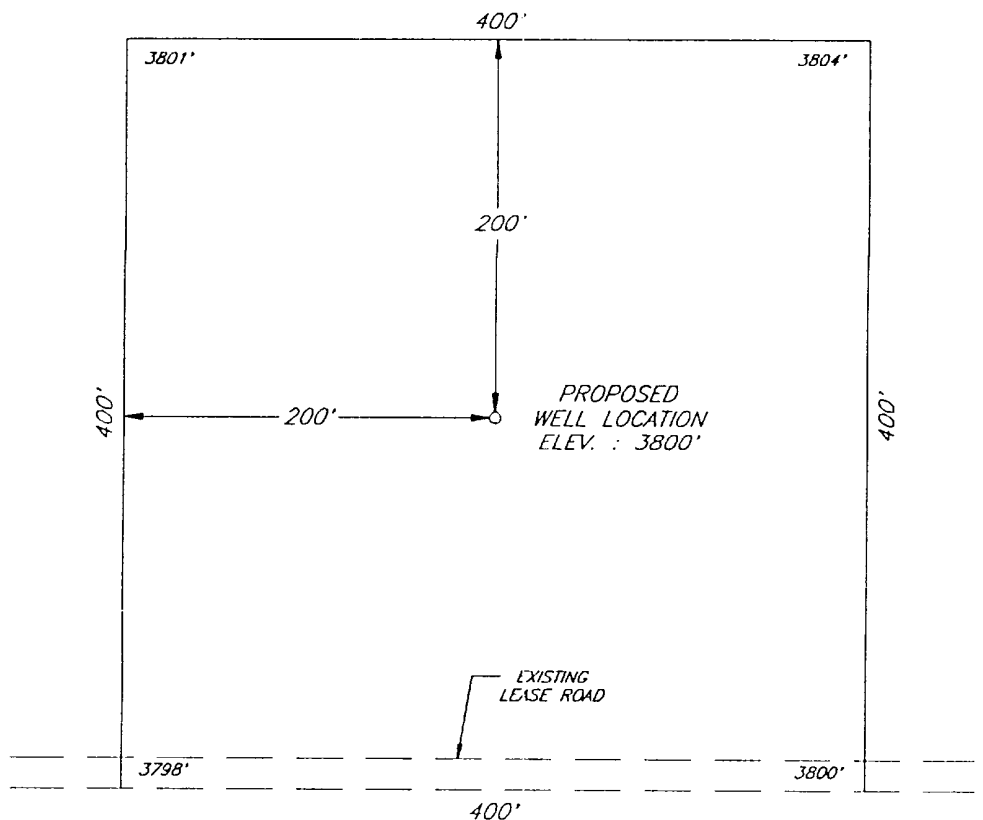


EXHIBIT E
 TOPO MAP OF LOCATION AREA
 SANTA FE ENERGY RESOURCES, INC.
 WHITE SWAN "9" FED #5
 660' FNL & 330' FEL
 SEC 9, T-22-S, R-32-E
 LEA COUNTY, NEW MEXICO

EXHIBIT F (A)
PLAT OF LOCATION
SANTA FE ENERGY RESOURCES, INC.
WHITE SWAN "9" FED #5
660' FNL & 330' FEL
SEC 9, T-22-S, R-32-E
LEA COUNTY, NEW MEXICO



PLAN VIEW
1" = 1000'



DETAIL VIEW
1" = 100'

				SANTA FE ENERGY RESOURCES, INC.	SCALE: AS SHOWN
					DATE: MARCH 26, 1996
NO.	REVISION	DATE	BY		JOB NO.: 44655-1F
SURVEYED BY: R.B.		SURVEYING AND MAPPING BY TOPOGRAPHIC LAND SURVEYORS MIDLAND, TEXAS			
DRAWN BY: V.H.B.					47 NW
APPROVED BY: V.L.B.					SHEET : 1 OF 1

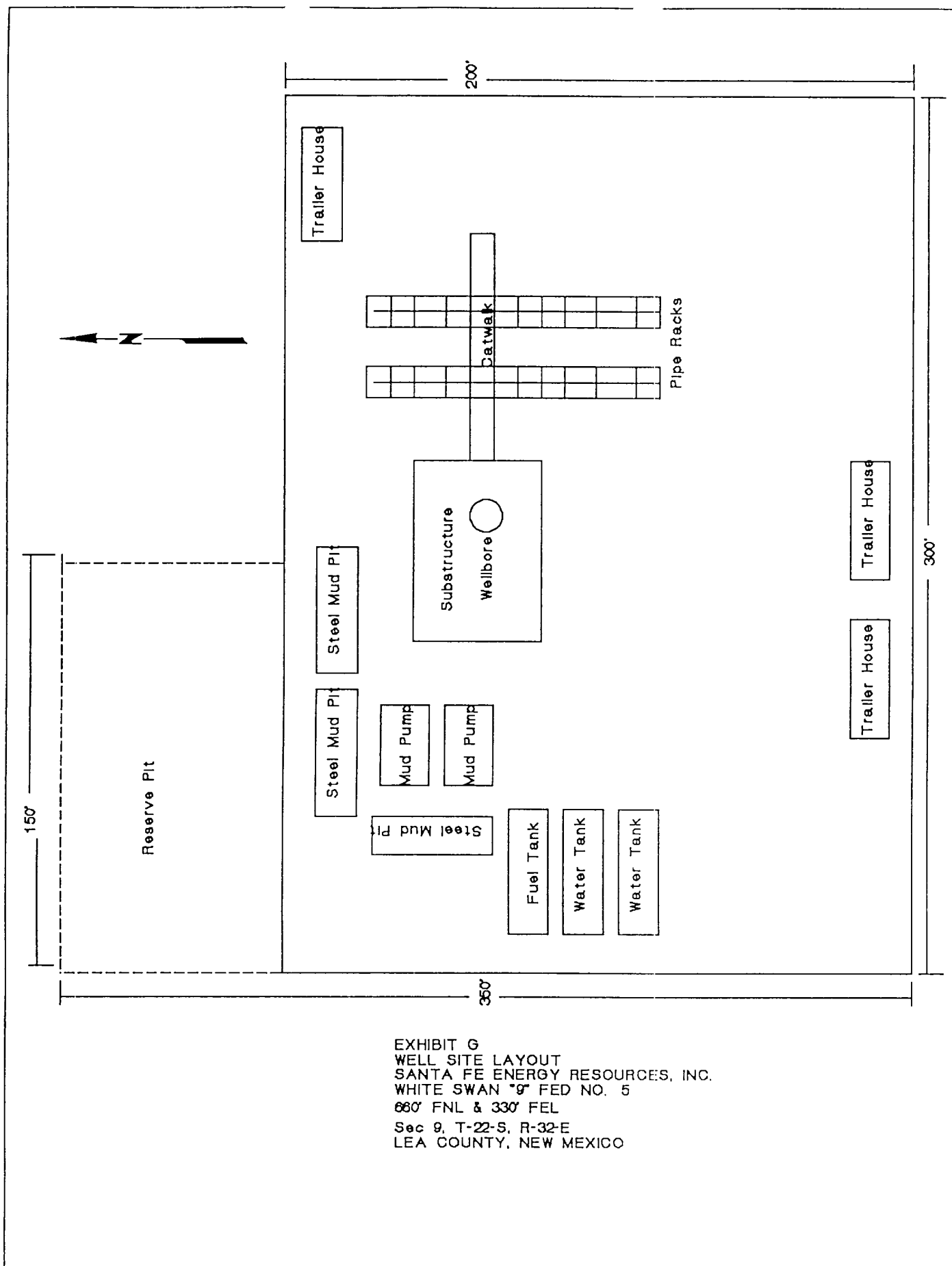


EXHIBIT G
 WELL SITE LAYOUT
 SANTA FE ENERGY RESOURCES, INC.
 WHITE SWAN "9" FED NO. 5
 660' FNL & 330' FEL
 Sec 9, T-22-S, R-32-E
 LEA COUNTY, NEW MEXICO

MULTI-POINT SURFACE USE AND OPERATIONS PLAN
SANTA FE ENERGY RESOURCES, INC.
White Swan "9" FEDERAL NO. 5
SECTION 9, T-22-S, R-32-E
LEA COUNTY, NEW MEXICO

This plan is submitted with Form 3160-3, Application for Permit to Drill, covering the above described well. The purpose of this plan is to describe the location of the proposed well, the proposed construction activities and operations plan, the magnitude of necessary surface disturbance involved, and the procedures to be followed in rehabilitating the surface after completion of the operations, so that a complete appraisal can be made of the environmental effects associated with the operation.

1. EXISTING ROADS.

- A. Exhibit E is a 15 minute topographic map which shows the location of the proposed wellsite and roads in the vicinity. The proposed location is situated approximately 12 miles southeast of Halfway Bar, New Mexico.

DIRECTIONS:

1. From Jal, go west 34.2 miles on Hwy 128, turn north on Red Road for 7.2 miles, then east and northeast 1.6 miles to cattleguard. Turn northeasterly at cattleguard and travel 2.2 miles on lease road and turn right on lease road for .3 miles to a point 300' south of the proposed well.

2. PLANNED ACCESS ROAD.

No access road will be required as south side of location will be on existing road.

3. LOCATION OF EXISTING WELLS.

- A. The well locations in the vicinity of the proposed well are shown in Exhibits E & F.

4. LOCATION OF EXISTING AND/OR PROPOSED FACILITIES.

- A. There are two producing Delaware oil wells on the lease at this time.
- B. In the event the well is productive, a flowline will be laid along the existing road to the pipeline ROW then south to the tank battery located at the White Swan "9" Fed. No. 1. Electricity to power a pumping unit will be run from the existing power line east $\pm 1300'$ to the proposed well.

5. LOCATION AND TYPE OF WATER SUPPLY

- A. It is planned to drill the well with both fresh water and brine water systems. Both types of waters will be hauled to the location by truck over existing roads. Both types will be obtained from commercial sources. We also plan to use produced water from our offsetting wells to drill the intermediate portion of the hole.

6. SOURCES OF CONSTRUCTION MATERIALS.

- A. Any caliche required for construction of the drilling pad will be obtained from a pit located off the wellsite.

7. METHODS OF HANDLING WASTE DISPOSAL

- A. Drill cuttings will be disposed of in the reserve pits.
- B. Drilling fluids will be allowed to evaporate in the reserve pits until the pits are dry.
- C. Water produced during operations will be either placed in the reserve pits and allowed to evaporate or collected in tanks until hauled to an approved disposal system or a separate disposal application will be submitted to the BLM for appropriate approval.
- D. Oil produced during operations will be stored in tanks until sold.
- E. Human waste will be disposed of per current standards.
- F. Trash, waste paper, garbage, and junk will be collected in trash trailers and disposed of in an approved waste facility such as a land fill. The trash trailers will contain all material to prevent scattering by the wind.
- G. All trash and debris will be removed from the wellsite within 30 days after finishing drilling and/or completion operations.

8. ANCILLARY FACILITIES

- A. None required at this time.

9. WELLSITE LAYOUT

- A. Exhibit G shows the dimensions of the well pad and reserve pits, and the location of major rig components.
- B. The ground surface of the location is sandy with sparse vegetation. The location will be constructed by leveling the necessary dunes and covering the sand with at least six inches of compacted caliche.
- C. The reserve pits will be plastic lined.
- D. A 400' x 400' work area which will contain the pad and pit area has been staked and flagged.

10. PLAN FOR RESTORATION OF THE SURFACE

- A. After finishing drilling and/or completion operations, all equipment and other material not needed for further operations will be removed. The location will be cleared of all trash and junk, to leave the wellsite in an aesthetically pleasing condition as possible.

- B. Unguarded pits, if any, containing fluid will be fenced until they have been filled.
- C. If the proposed well is non-productive, all rehabilitation and/or vegetation requirements of the Bureau of Land Management and the United States Geological Survey will be complied with and will be accomplished as expeditiously as possible. All pits will be filled and levelled within 300 days after abandonment.

11. TOPOGRAPHY

- A. The wellsite and access route are located in a relatively flat area.
- B. The top soil at the wellsite is sandy.
- C. The vegetation cover at the wellsite is moderately sparse with prairie grasses, some mesquite bushes, and shinnery oak.
- D. No wildlife was observed but it is likely that deer, rabbits, coyotes, and rodents traverse the area.
- E. There are no ponds, lakes, streams, or rivers within one mile of the wellsite.

12. OPERATOR'S REPRESENTATIVES

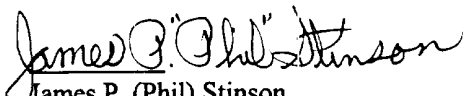
- A. The field representatives responsible for assuring compliance with the approved surface use plan are:

Michael R. Burton
Division Operations Manager
Santa Fe Energy Resources, Inc.
550 W. Texas, Suite 1330
Midland, Texas 79701
915-686-6616 - office
915-699-1260 - home
915-529-6842 - cellular

13. CERTIFICATION

I hereby certify that I, or persons under my direct supervision, have inspected the proposed drill site and access route; that I am familiar with the conditions which presently exist; that the statements made in this plan are, to the best of my knowledge, true and correct; and that the work associated with the operations proposed herein will be performed by Santa Fe Energy Resources, Inc. and its contractors and subcontractors in conformity with this plan and the terms and conditions under which it is approved.

SIGNED this 25th day of Nov, 1997.


James P. (Phil) Stinson
Agent for Santa Fe Energy Resources, Inc

Santa Fe Energy Resources, Inc.

HYDROGEN SULFIDE DRILLING OPERATIONS PLAN

White Swan "9" Fed No. 5
Section 9, T-22-S, R-32-E
Lea County, New Mexico

While drilling to the Delaware formation, the Salado/Castile formation will be drilled. These zones have reportedly had Hydrogen Sulfide shows while drilling through them with 10.0 ppg Brine. These occurrences are spotty and unpredictable. The following is our plan for drilling through the Salado/Castile formations on our way to the Delaware. We will case off this interval with the 8 5/8" intermediate casing prior to drilling our prospective pay zones.

1. Hydrogen Sulfide Training

All personnel, whether regularly assigned, contracted, or employed on an unscheduled basis, will receive training from a qualified instructor in the following areas prior to commencing drilling operations on the well:

1. The hazards and characteristics of hydrogen sulfide (H_2S).
2. The proper use and maintenance of personal protective equipment and life support systems.
3. The proper use of H_2S detectors, alarms, warning systems, briefing areas, evacuations procedures, and prevailing winds.
4. The proper techniques for first aid and rescue procedures.

In addition, supervisory personnel will be trained in the following areas:

1. The effects of H_2S on metal components. If high tensile tubulars are to be used, personnel will be trained in their special maintenance requirements.
2. Corrective action and shut-in procedures when drilling or reworking a well and blowout prevention and well control procedures.
3. The contents and requirements of the Hydrogen Sulfide Drilling Operations Plan.

There will be an initial training session prior to encountering the Salado/Castile (training will take place while waiting on cement prior to drilling out of the 13 3/8" casing shoe), and will have weekly H_2S and well control drills for all personnel in each crew. The initial training session shall include a review of the site specific Hydrogen Sulfide Drilling Operations Plan. This plan shall be available at the well site. All personnel will be required to carry documentations that they have received the proper training.

2. H₂S Safety Equipment and Systems

Note: All H₂S safety equipment and systems will be installed, tested, and operational prior to drilling out of the surface casing set at 600', prior to drilling the Salado/Castile formation.

1. Well Control Equipment:

- A. An annular preventer capable of accommodating all pipe sizes with properly sized closing unit.

2. Protective Equipment for Personnel:

- A. Scott Air-Pack Units located on the rig floor and at briefing areas, as indicated on well site diagram.

3. H₂S Detection and Monitoring Equipment:

- A. 2-portable H₂S monitors positioned on location for best coverage and response. These units have warning lights and audible sirens when H₂S levels of 20 ppm are reached.

4. Visual Warning Systems:

- A. Wind direction indicators as shown on well site diagram.
- B. Caution/Danger signs shall be posted on roads providing direct access to location. Signs will be painted high visibility yellow with black lettering of sufficient size to be readable at a reasonable distance from the immediate location. See Example Attached.

5. Mud Program:

- A. The mud program is designed to minimize any H₂S circulated to the surface. Proper mud weight, safe drilling practices, and the use of H₂S scavengers will be used to minimize hazards when penetrating H₂S bearing zones (Salado/Castile).

6. Metallurgy:

- A. All of the drill string, casing, tubing, wellhead, blowout preventers, drilling spool, kill lines, choke manifold and lines, and valves shall be suitable for H₂S service.
- B. All elastomers used for packing and seals shall be H₂S trim.

WARNING

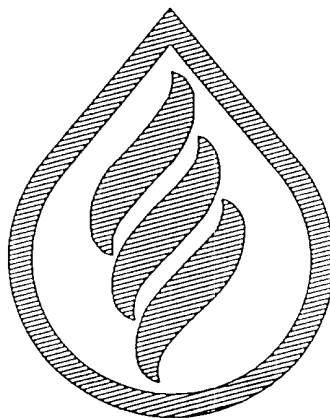
YOU ARE ENTERING AN H₂S AREA

TIGHT HOLE LOCATION

DO NOT ENTER UNLESS YOU WERE CALLED !!

WHITE SWAN "9" FED. NO. #5

SANTA FE ENERGY RESOURCES, INC.

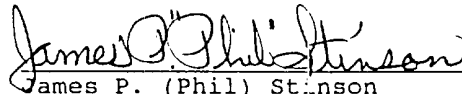


7. Communication:

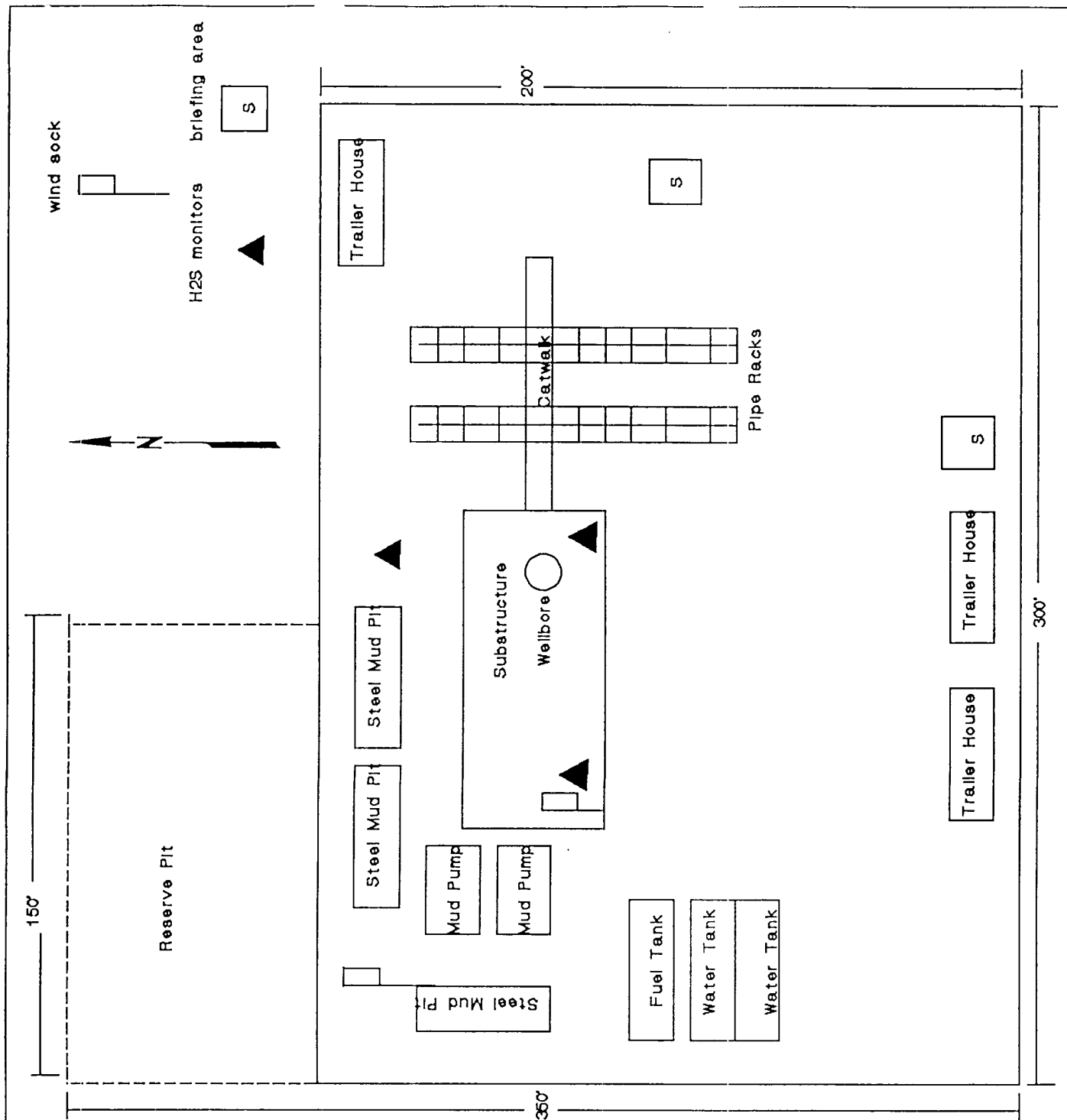
- A. Cellular phone communications in company vehicles.
- B. Radio communications on the drilling rig.

8. Well Testing:

- A. No tests are planned in the Salado/Castile formations.

A handwritten signature in black ink, reading "James P. (Phil) Stinson". The signature is written in a cursive, flowing style. Below the signature is a horizontal line.

James P. (Phil) Stinson
Agent for Santa Fe Energy Resources, Inc.



H2S DRILLING PLAN
 WELL SITE LAYOUT
 SANTA FE ENERGY RESOURCES, INC.
 WHITE SWAN "9" FED #5
 660' FNL & 330' FEL
 SEC 9, T-22-S, R-32-E
 LEA COUNTY, NEW MEXICO