N. M. Oil Cons. Division
811 S. 1ST ST.
ARTESIA, NM 88210-2834

Form 3160-3
(July 1992)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

SUBMIT IN TRIPLICATE
(Other instructions on reverse side)

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

APPLICATION FOR PERMIT TO DRILL OR DEEPEN

5. LEASE DESIGNATION AND SERIAL NO.: ~~NM-050576~~ NM-0315712

6. IF INDIAN, ALLOTTEE OR TRIBE NAME:

1a. TYPE OF WORK: DRILL [X] DEEPEN [ ]

b. TYPE OF WELL: OIL WELL [X] GAS WELL [ ] OTHER — SINGLE ZONE [X] MULTIPLE ZONE [ ]

7. UNIT AGREEMENT NAME:

8. FARM OR LEASE NAME, WELL NO.: Maljamar "15" Fed #1

2. NAME OF OPERATOR: Santa Fe Energy Resources, Inc.

9. API WELL NO.: 30-025-34549

3. ADDRESS AND TELEPHONE NO.: 550 W. Texas, Suite 1330; Midland, Texas 79701 (915)682-6373

10. FIELD AND POOL, OR WILDCAT: Maljar (Devonian)

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.*)
At surface: (A) 1310' FNL & 1310' FEL
At proposed prod. zone

SUBJECT TO LIKE APPROVAL BY STATE

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA: Sec. 15, T-17-S, R-32-E

14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE*: 1.5 miles SE of Mal Jamar, New Mexico

12. COUNTY OR PARISH: Lea — 13. STATE: New Mexico

15. DISTANCE FROM PROPOSED* LOCATION TO NEAREST PROPERTY OR LEASE LINE, FT. (Also to nearest drlg. unit line, if any)	16. NO. OF ACRES IN LEASE	17. NO. OF ACRES ASSIGNED TO THIS WELL
1310'	160	160
18. DISTANCE FROM PROPOSED LOCATION* TO NEAREST WELL, DRILLING, COMPLETED, OR APPLIED FOR, ON THIS LEASE, FT.	**19. PROPOSED DEPTH**	**20. ROTARY OR CABLE TOOLS**
NA	14400'	Rotary

21. ELEVATIONS (Show whether DF, RT, GR, etc.): 4074'

22. APPROX. DATE WORK WILL START*: October 19, 1998

23. PROPOSED CASING AND CEMENTING PROGRAM

ROSWELL 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	650'	525 sx to circulate
12 1/4"	J-55 9 5/8"	40.0	4600'	900 sx to circulate
8 3/4"	L-80 7"	26 & 29	14400'	700 sx for TOC @ 10000'

WITNESS

We propose to drill to a depth sufficient to test the Devonian formation for oil. If productive, 7" 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 attachi

OPER. OGRID NO. 20305
PROPERTY NO. 23818
POOL CODE 43280
EFF. DATE 12-15-98
API NO. 30-025-

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
- Exhibit F - Plat Showing Existing Wells
- Exhibit F (A) - Plat of Location
- Exhibit G - Well Site Layout
- Surface Use and Operations Plan

NSL-4150

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.

APPROVAL SUBJECT TO GENERAL REQUIREMENTS AND SPECIAL STIPULATIONS ATTACHED

Bond Coverage: Blanket Bond — BLM Bond File No.: MT 0769

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 10-5-98

(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:

Acting

(ORIG. SGD.) ARMANDO A. LOPEZ — Assistant Field Office Manager, Lands and Minerals — DATE OCT 26 1998

APPROVED BY _____ TITLE _____

*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.

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

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

DISTRICT III
1000 Rio Brazos Rd.
Aztec, NM 87410

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

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

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

Form C-102
Revised 02-10-94

Instructions on back

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

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

1 API Number	2 Pool Code	3 Pool Name
30-025-34549	43280	Maljamar ~~Maljar~~ (Devonian)

4 Property Code	5 Property Name	6 Well Number
23818	MALJAMAR "15" FEDERAL	1

7 OGRID No.	8 Operator Name	9 Elevation
20305	SANTA FE ENERGY RESOURCES, INC.	4074'

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
A	15	17 SOUTH	32 EAST, N.M.P.M.		1310'	NORTH	1310'	EAST	LEA

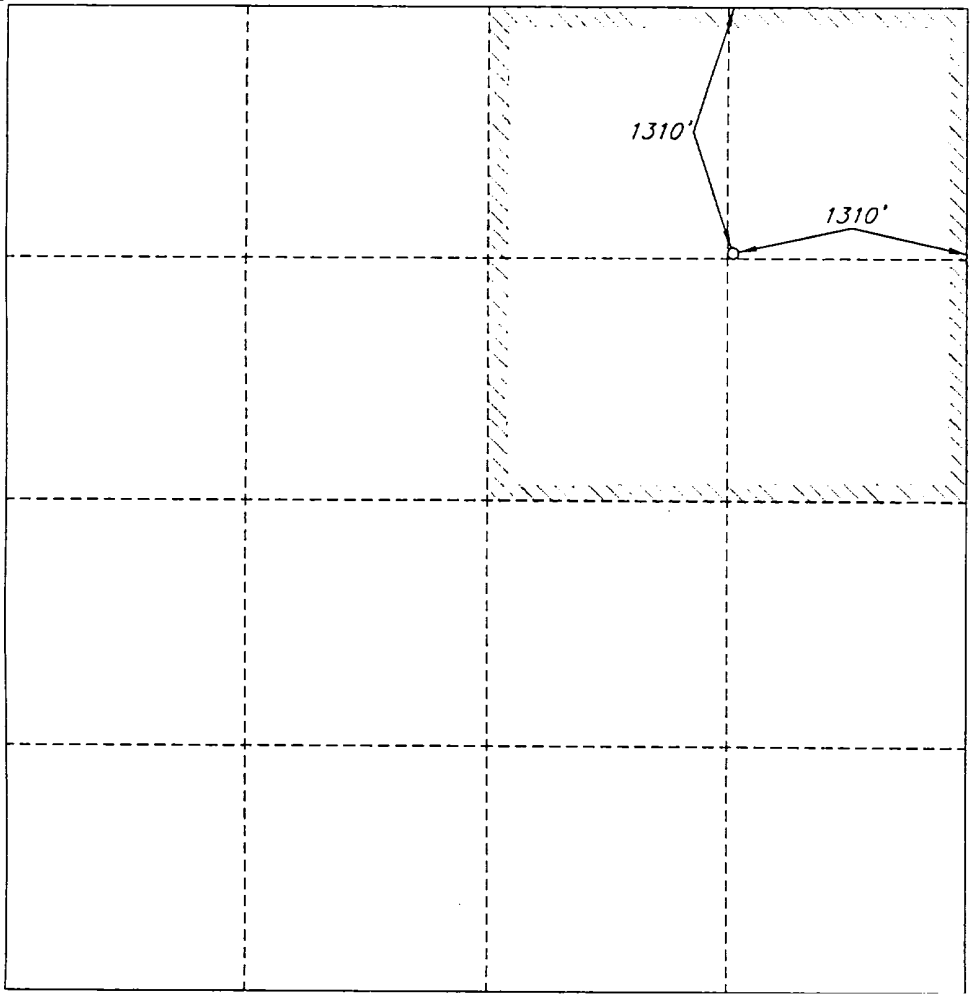
11 BOTTOM HOLE LOCATION IF DIFFERENT FROM SURFACE

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	13 Joint or Infill	14 Consolidation Code	15 Order No.
160			

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

16



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: 10/05/98

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: SEPTEMBER 30, 1998

Signature and Seal of Professional Surveyor:

NEW MEXICO — ROGER M. ROBBINS — REGISTERED PROFESSIONAL SURVEYOR — 12128

Certificate No. ROGER M. ROBBINS, P.S. #12128

DRILLING PROGRAM

SANTA FE ENERGY RESOURCES, INC.

Maljamar "15" Fed. No. 1

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	1000'
Queen	3270'
San Andres	4020'
Abo	7610'
Wolfcamp	9075'
Strawn	11550'
Atoka	11850'
Morrow	12250'
Morrow Clastics	12500'
Miss. Chester	12850'
Woodford	13900'
Devonian	14000'
Total Depth	14400'

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

Water	None expected in area
Gas - Oil	Wolfcamp @ 10000 - 10100'
	Cisco @ 10500 - 10600'
	Devonian @ 14000 - 14200'

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 4600' 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):

Wolfcamp @ 10000 - 10100'
Cisco @ 10500 - 10600'
Devonian @ 14000 - 14200

Logging:

Dual Laterolog W/MSFL and Gamma Ray	4600' - 14400'
Compensated Neutron/Litho-Density/Gamma Ray	4600' - 14400'
Compensated Neutron/Gamma Ray (thru csg)	Surface-4600'

Coring: No conventional cores are planned

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

No abnormal pressures are anticipated. The estimated bottom hole temperature is 185° and the estimated bottom hole pressure is 6110 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 B.L.M. The anticipated spud date is October 19, 1998. Once spudded, the drilling operation should be completed in approximately 50 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.
Maljamar "15" Fed. No. 1
Section 15, T-17-S, R-32-E
Lea County, New Mexico

1. Drill a 17-1/2" hole to approximately 650'.

2. Run 13-3/8" 48.0 ppf H-40 ST&C casing. Cement with 325 sx 35/65 POZ "C" with 6% gel and 1/4 pps Flocele, followed with 200 sx "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 12 1/4" hole to approximately 4600'.

6. Run 4600' 9-5/8' 40.0 ppf K-55 ST&C casing. Cement with 700 sx Interfill "H" with 1/4 pps flocele 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. 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 2000 psi with the rig pump. Test casing to 2000 psi.

10. Drill 8-3/4" hole to 14400'. Run logs.

11. Either run and cement 14400' of 7" 26 ppf L-80 and 29 ppf L-80 LT&C casing or plug and abandon as per BLM requirements. Casing will be 4600' of 7" 29 ppf L-80 LT&C on bottom followed by 7500' 7" 26 ppf L-80 LT&C, and 2300' of 7" 29 ppf LT&C on top.

PROPOSED 5-M BOPE AND CHOKE ARRANGEMENT

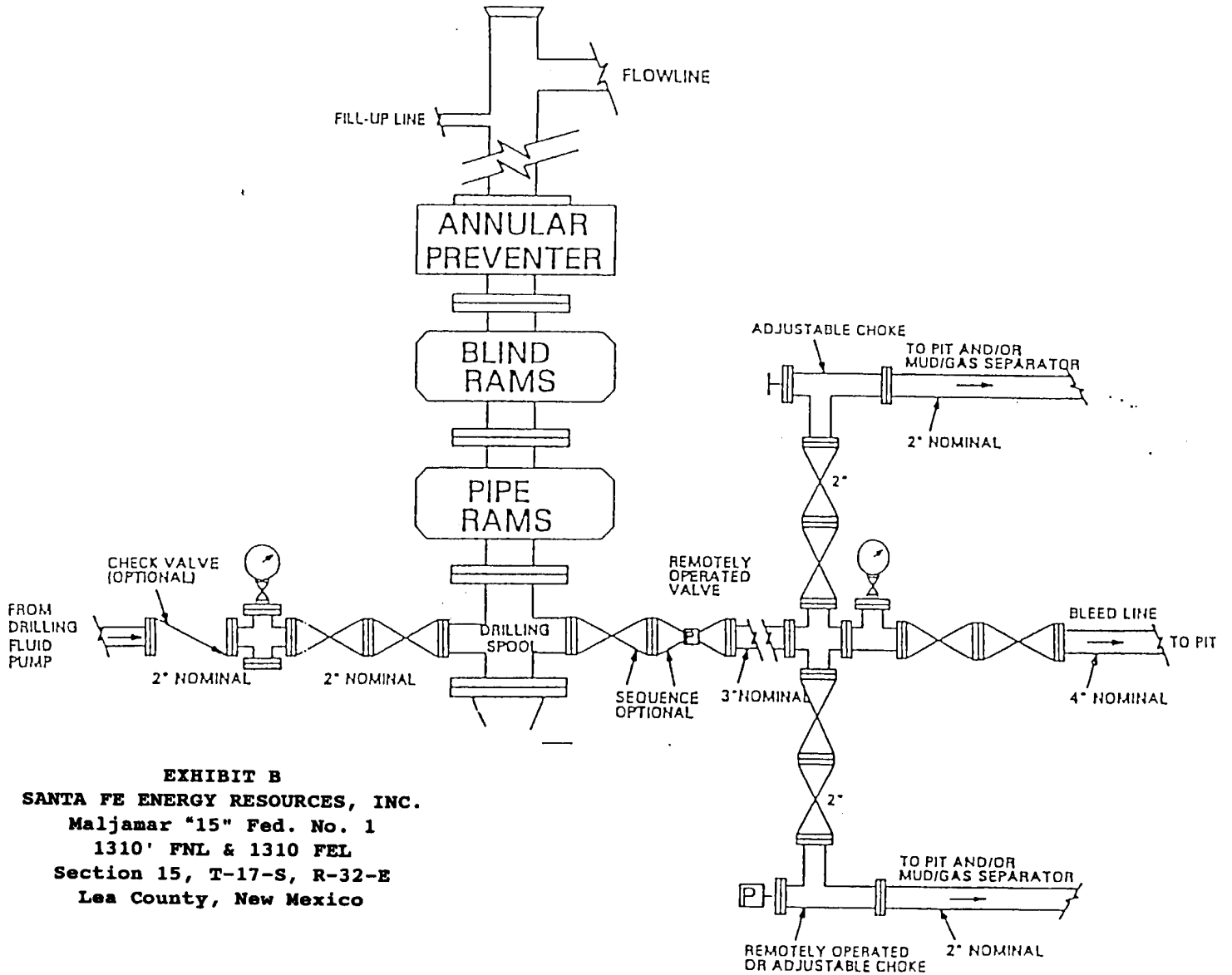


EXHIBIT B
SANTA FE ENERGY RESOURCES, INC.
Maljamar "15" Fed. No. 1
1310' FNL & 1310 FEL
Section 15, T-17-S, R-32-E
Lea County, New Mexico

EXHIBIT C
DRILLING FLUID PROGRAM
SANTA FE ENERGY RESOURCES, INC.
Maljamar "15" Fed. No. 1
Section 15, T-17-S, R-32-E
Lea County, New Mexico

0 - 650'

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.

650 - 4600'

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.

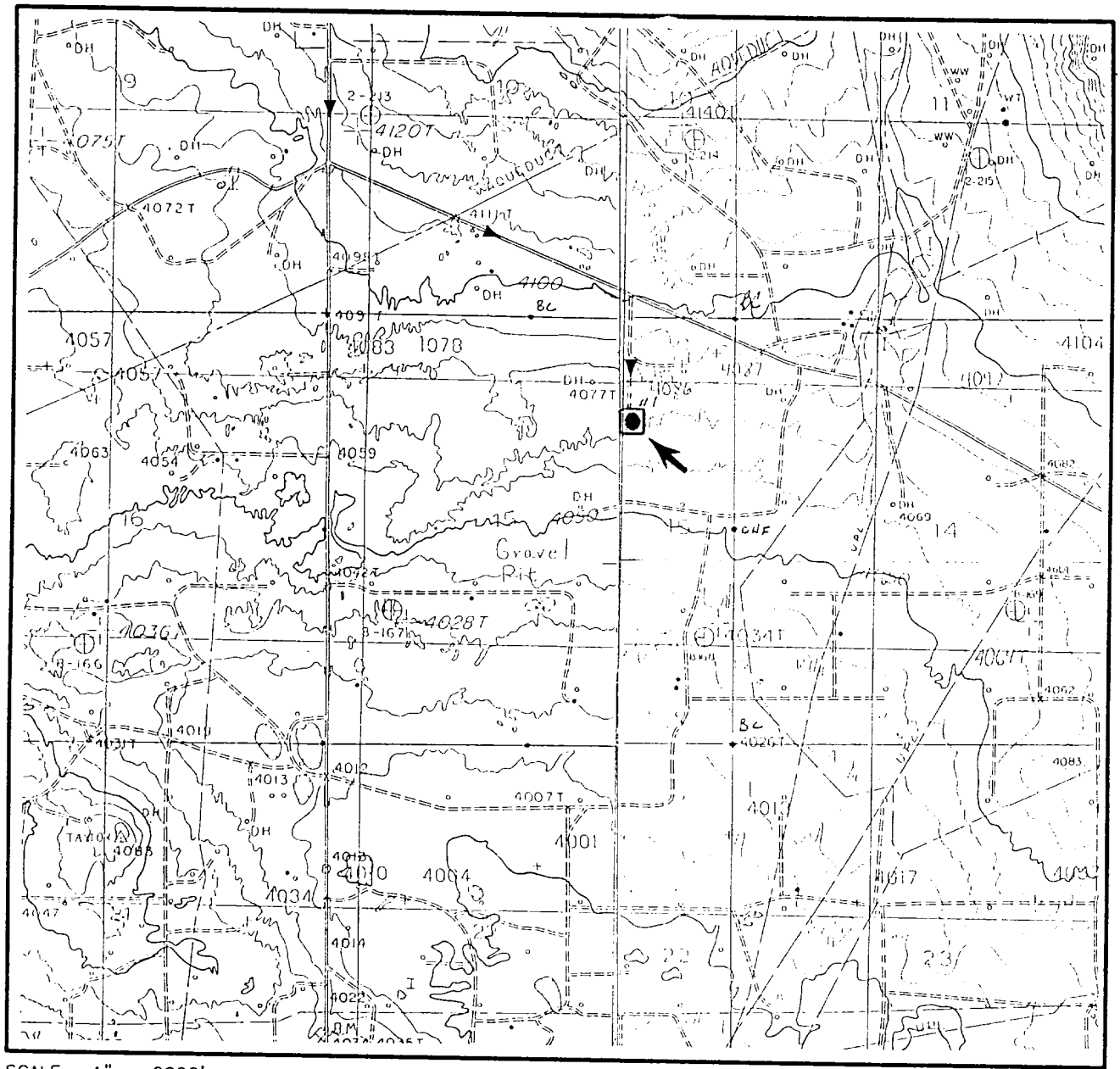
4600 - 14,400'

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. At ± 9,300' begin circulating the steel pits. If it becomes necessary to mud up due to hole conditions, utilize a XCD Polymer/Drispac Plus mud system with a 38-40 vis. and 15-20 cc WL. MW 8.6-9.1 ppg.

EXHIBIT D
AUXILIARY EQUIPMENT
Santa Fe Energy Resources, Inc.
Maljamar "15" Fed. No. 1
Section 15, T-17-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" 5000 psi WP double ram and 13-5/8" 5000 psi WP Shaffer Annular Preventer. Choke manifold rated at 5000 psi. Valvcon 5-station 80 gallon closing unit

LOCATION & ELEVATION VERIFICATION MAP



SCALE : 1" = 2000'

CONTOUR INTERVAL 10'

SECTION 15 TWP 17-S RGE 32-E

SURVEY NEW MEXICO PRINCIPAL MERIDIAN

COUNTY LEA STATE NM

DESCRIPTION 1310' FNL & 1310' FEL

ELEVATION 4074'

OPERATOR SANTA FE ENERGY RESOURCES, INC.

LEASE MALJAMAR "15" FEDERAL #1

U.S.G.S. TOPOGRAPHIC MAP

DOG LAKE, NEW MEXICO

SCALED LAT. N 32°50'17"

EXHIBIT E
TOPO MAP OF LOCATION AREA
SANTA FE ENERGY RESOURCES, INC.
Maljamar "15" Fed. No. 1
1310' FNL & 1310 FEL
Section 15, T-17-S, R-32-E
Lea County, New Mexico

This location has been very carefully staked on the ground according to the best official survey records, maps, and other data available to us

TOPOGRAPHIC LAND SURVEYORS

Surveying & Mapping for the Oil & Gas Industry

1307 N. HOBART
PAMPA, TX. 79065
(800) 658-6382

6709 N. CLASSEN BLVD.
OKLAHOMA CITY, OK. 73116
(800) 654-3219

2903 N. BIG SPRING
MIDLAND, TX. 79705
(800) 767-1653

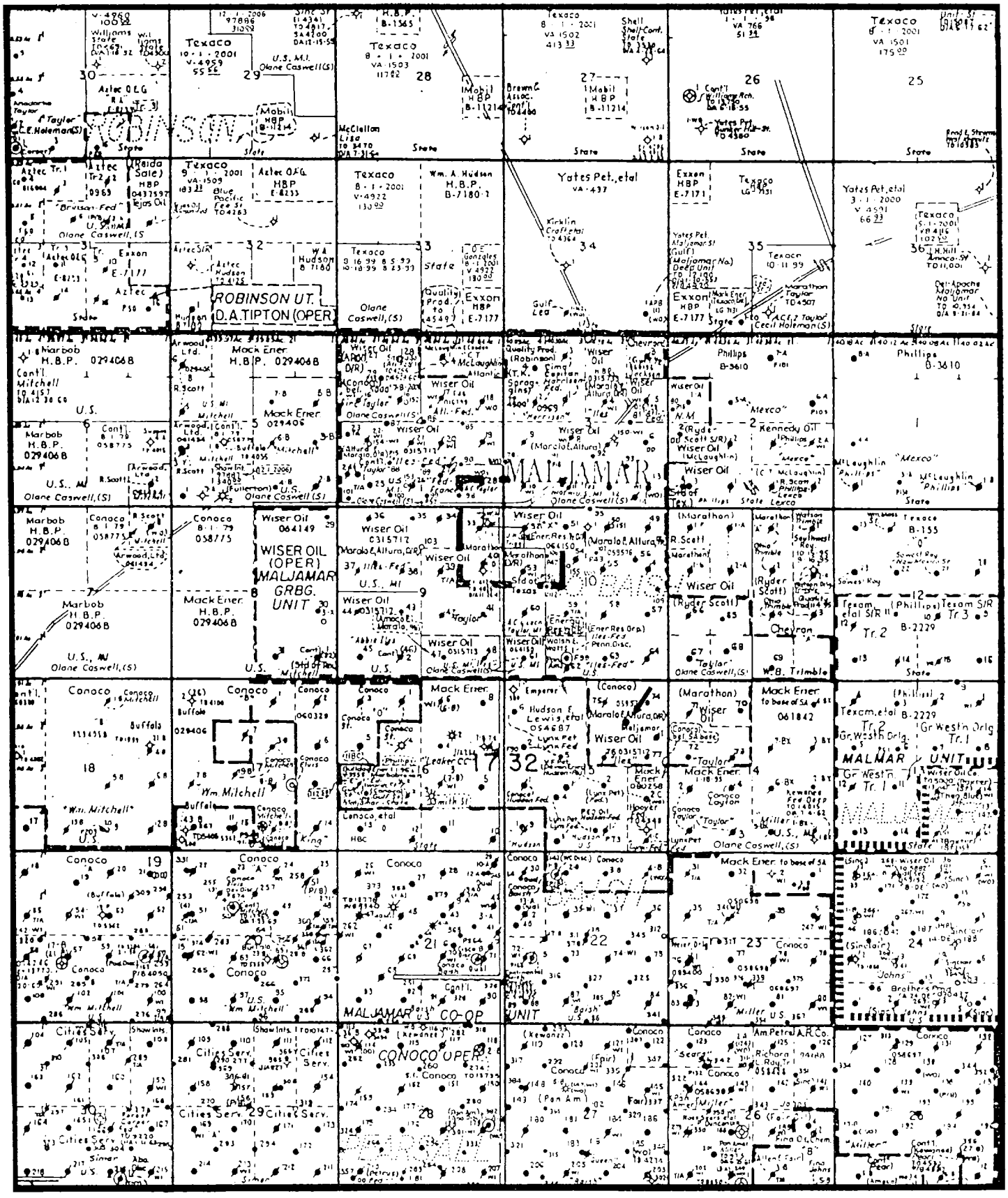


EXHIBIT F

EXISTING WELLS

SANTA FE ENERGY RESOURCES, INC.

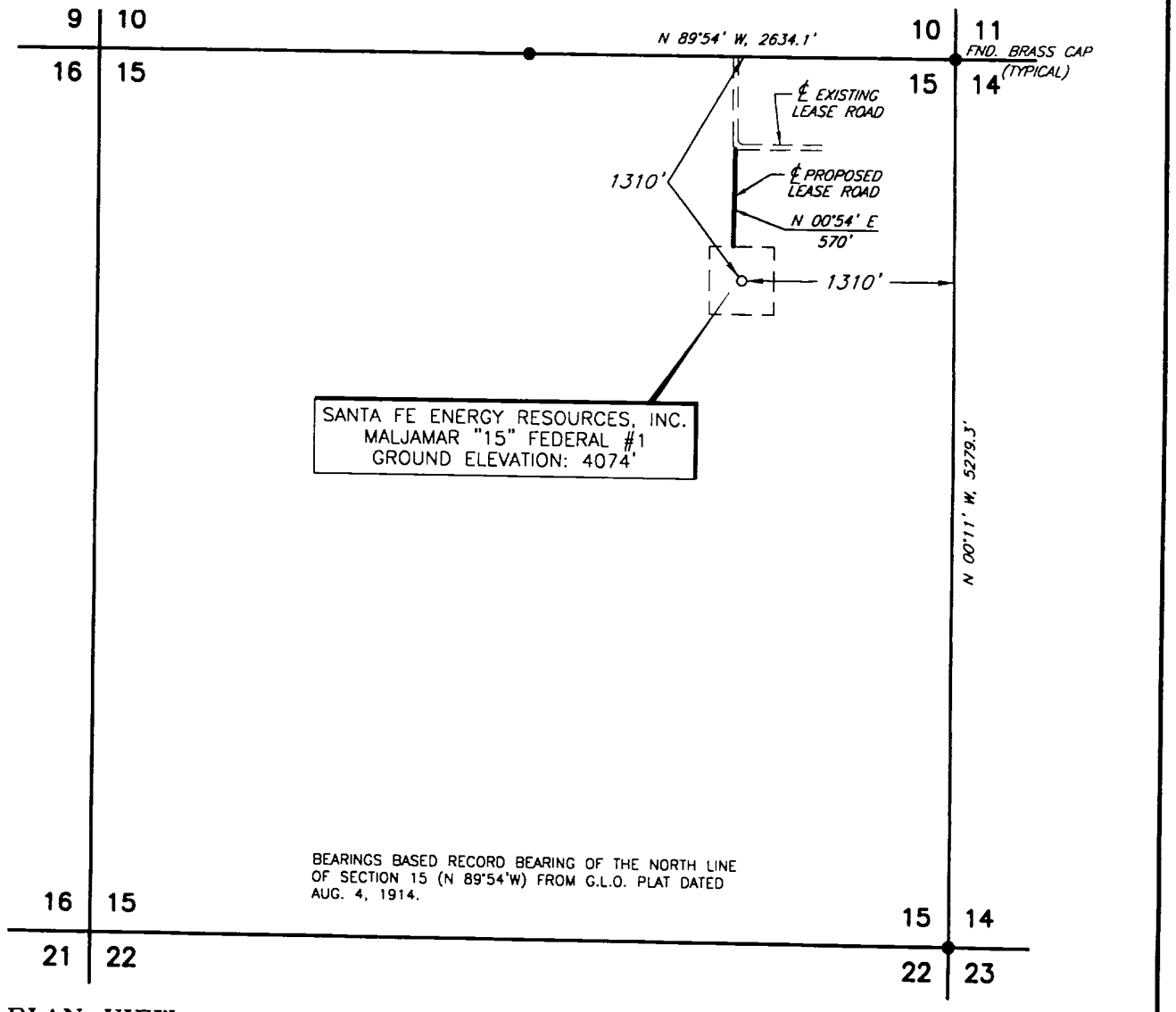
Maljamar "15" Fed. No. 1

1310' FNL & 1310 FEL

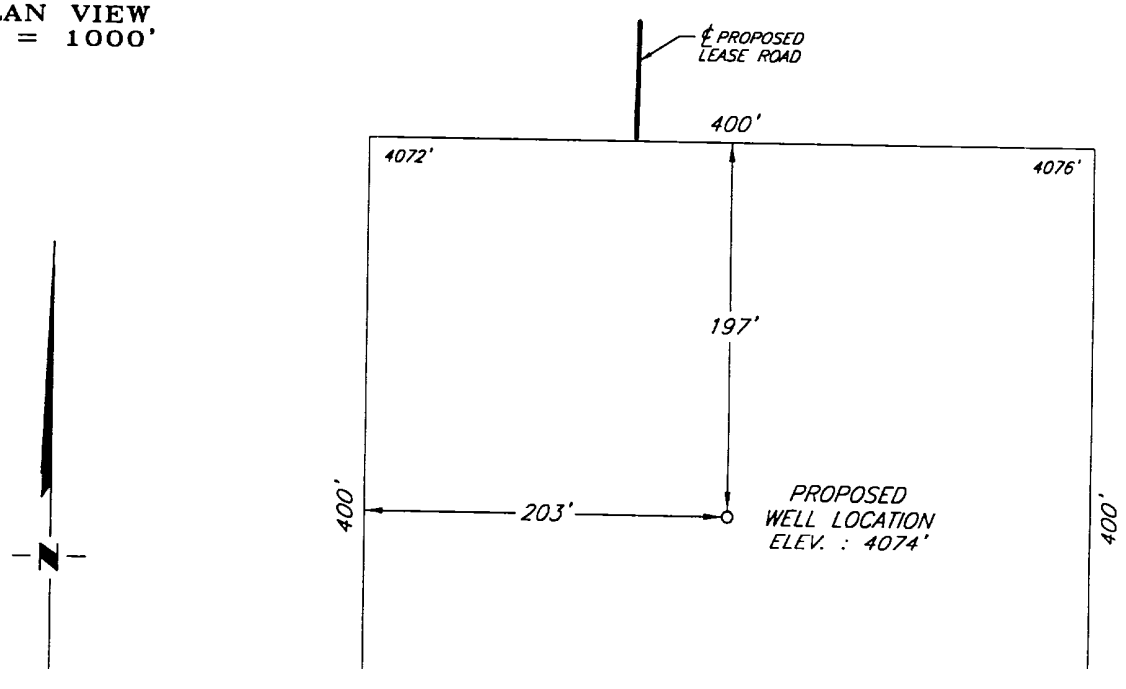
Section 15, T-17-S, R-32-E

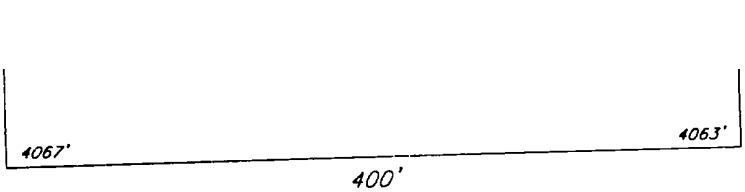
Lea County, New Mexico

EXHIBIT F (A)
PLAT OF LOCATION
SANTA FE ENERGY RESOURCES, INC.
Malajamar "15" Fed No. 1
1310' FNL & 1310' FEL
SEC 15, T-17-S, R-32-E
LEA COUNTY, NEW MEXICO



PLAN VIEW
1" = 1000'





DETAIL VIEW
1" = 100'

NO.	REVISION	DATE	BY

SANTA FE ENERGY RESOURCES, INC.

SURVEYING AND MAPPING BY
TOPOGRAPHIC LAND SURVEYORS
MIDLAND, TEXAS

SURVEYED BY:	R.J.O.
DRAWN BY:	V.H.B.
APPROVED BY:	R.M.R.

SCALE:	AS SHOWN
DATE:	SEPTEMBER 30, 1998
JOB NO.:	60423-F
QUAD NO.:	97 SV
SHEET :	1 OF 1

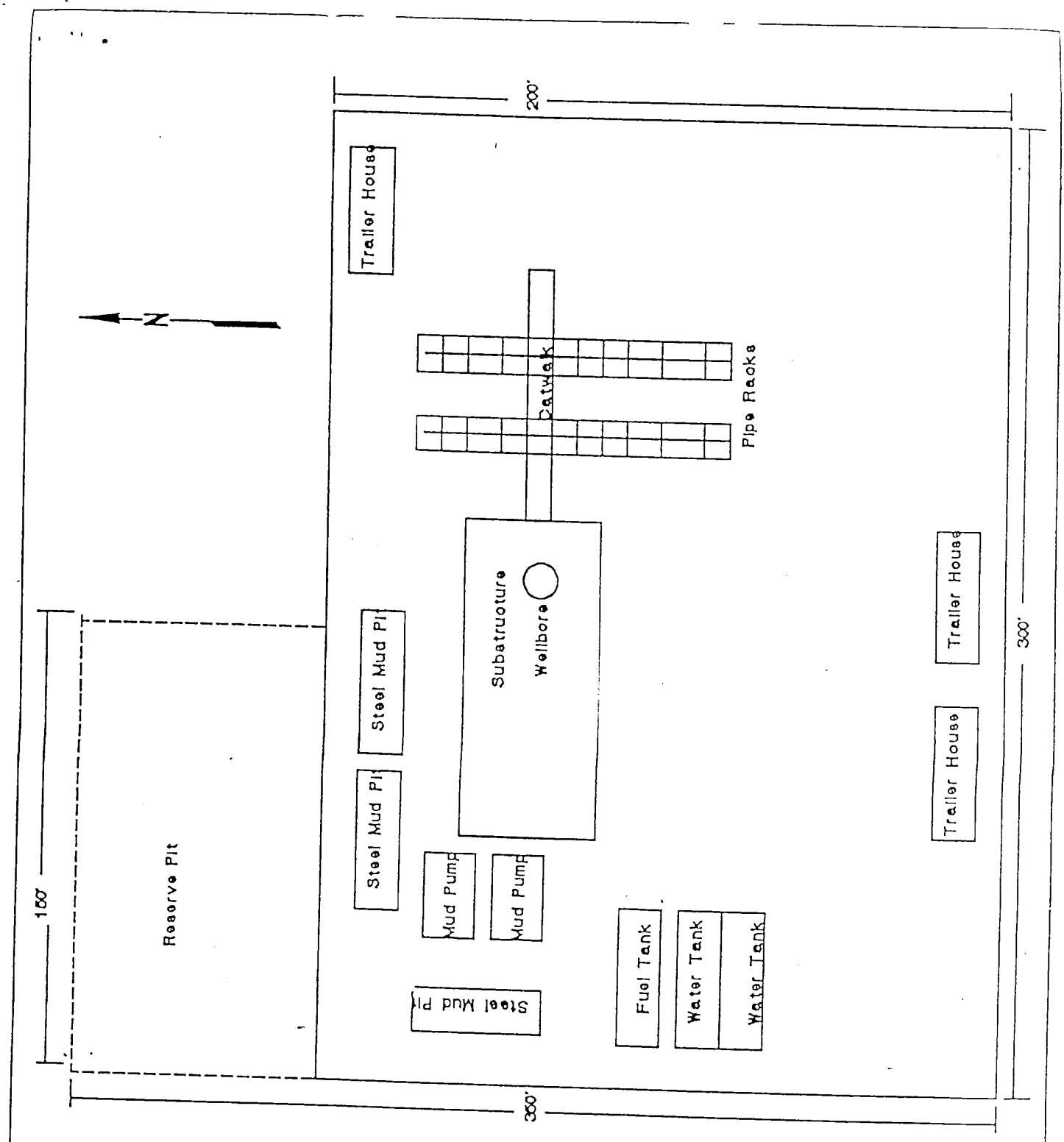


EXHIBIT G
WELL SITE LAYOUT
SANTA FE ENERGY RESOURCES, INC.
Maljamar "15" Fed. No. 1
1310' FNL & 1310 FEL
Section 15, T-17-S, R-32-E
Lea County, New Mexico

SANTA FE ENERGY RESOURCES, INC.
MULTI-POINT SURFACE USE AND OPERATIONS PLAN
Maljamar "15" Fed. No. 1
Section 15, T-17-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 by 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 1.5 miles southeast of Maljamar, New Mexico.

   DIRECTIONS

   1. From the Jct of State Hwy 33 & U.S. Hwy 82, go south 0.6 miles on Hwy 33, then southeast 0.8 miles on County Road, then south 800' on lease road to a point ±700' north of the location.

2. **PLANNED ACCESS ROAD.**

   A. Build 700' of new access road south to the proposed location.

3. **LOCATION OF EXISTING WELLS.**

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

4. **LOCATION OF EXISTING AND/OR PROPOSED FACILITIES**

   A. There are two shallow producing oil wells on this lease at this time.

   B. In the event the well is productive, the necessary production equipment will be installed on the drilling pad.

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.

6. SOURCES OF CONSTRUCTION MATERIALS.

A. Any caliche required for construction of the drilling pad will be obtained from a pit approved by the BLM.

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 of the 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

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 relatively flat. Minor cutting will be required to level the pad area, which will be covered 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 as aesthetically pleasing a 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 leveled within 300 days after abandonment.

11. TOPOGRAPHY

A. The wellsite is 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.

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
915-559-6842 - cellular

CERTIFICATION

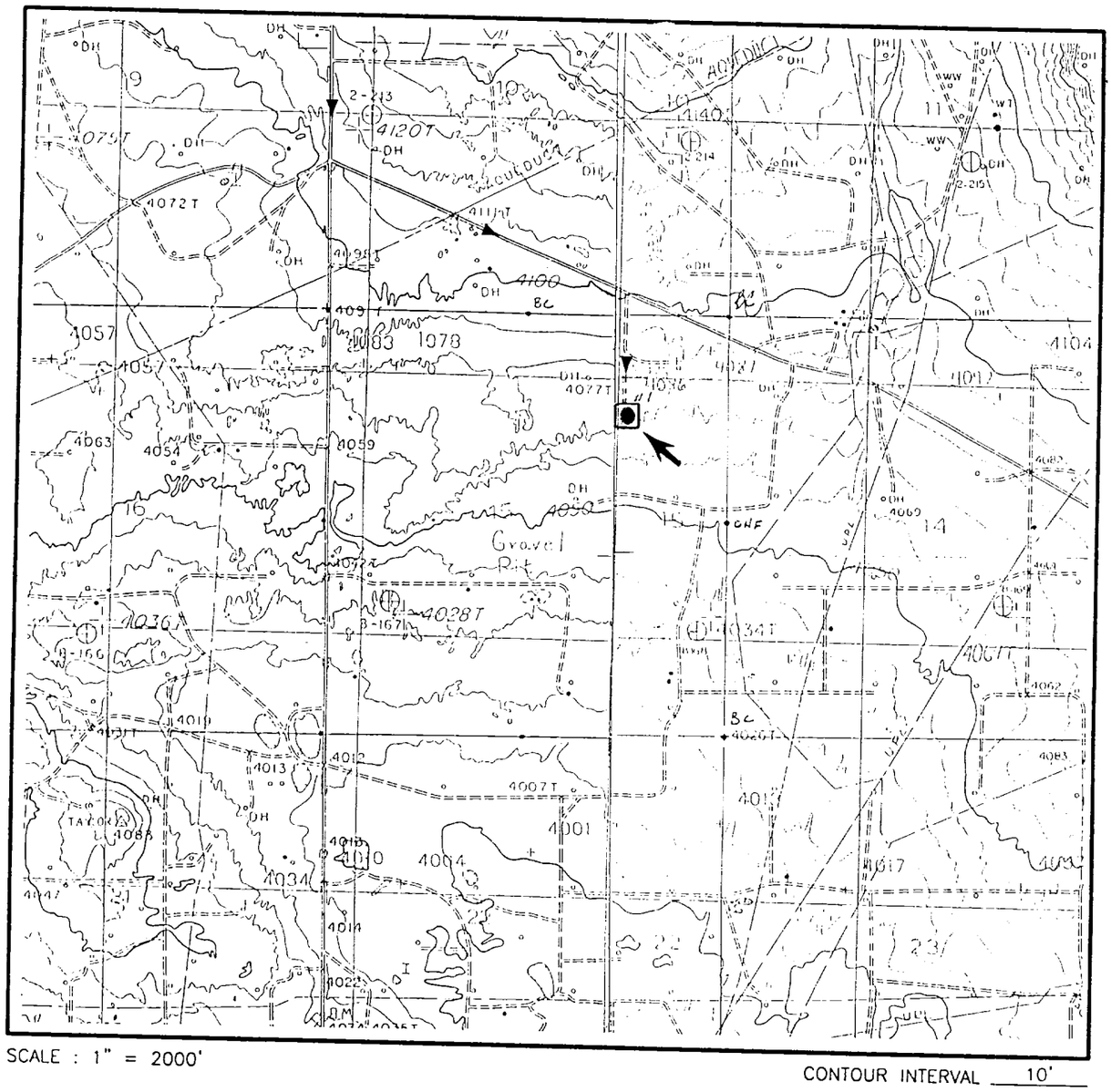
I hereby certify that I, or persons under my direct supervision, have inspected the proposed drill site and access route, that I am familiar with the conditions which presently exist; that the statements made in this plan are, to the best of my knowledge, true and correct; and that the work associated 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 is approved.

SIGNED this 5Th day of October 1998.

James P. "Phil" Stinson

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

LOCATION & ELEVATION VERIFICATION MAP



SCALE : 1" = 2000'

CONTOUR INTERVAL 10'

SECTION 15 TWP 17-S RGE 32-E

SURVEY NEW MEXICO PRINCIPAL MERIDIAN

COUNTY LEA STATE NM

DESCRIPTION 1310' FNL & 1310' FEL

ELEVATION 4074'

OPERATOR SANTA FE ENERGY RESOURCES, INC.

LEASE MALJAMAR "15" FEDERAL #1

U.S.G.S. TOPOGRAPHIC MAP

DOG LAKE, NEW MEXICO

SCALED LAT. N 32°50'17"

LONG. W 103°44'59"

EXHIBIT E
TOPO MAP OF LOCATION AREA
SANTA FE ENERGY RESOURCES, INC.
Maljamar "15" Fed. No. 1
1310' FNL & 1310 FEL
Section 15, T-17-S, R-32-E
Lea County, New Mexico

This location has been very carefully staked on the ground according to the best official survey records, maps, and other data available to us.

Review this plat and notify us immediately of any possible discrepancy.

TOPOGRAPHIC LAND SURVEYORS

Surveying & Mapping for the Oil & Gas Industry

1307 N. HOBART
PAMPA, TX. 79065
(800) 658-6382

6709 N. CLASSEN BLVD.
OKLAHOMA CITY, OK. 73116
(800) 654-3219

2903 N. BIG SPRING
MIDLAND, TX. 79705
(800) 767-1653