

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

SUBMIT DUPLICATE\*  
(Other instructions on  
reverse side)

30-815-26773.1  
Form approved.  
Budget Bureau No. 1004-0136  
Expires August 31, 1985

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

1a. TYPE OF WORK

DRILL ☒

DEEPEN ☐

PLUG BACK ☐

b. TYPE OF WELL

OIL  
WELL ☐

GAS  
WELL ☒

OTHER

SINGLE  
ZONE ☐

MULTIPLE  
ZONE ☐

2. NAME OF OPERATOR

Sendero Petroleum, Inc.

RECEIVED

3. ADDRESS OF OPERATOR

P. O. Box 1736 Midland, Texas 79702

JUN 17 1991

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

660' FNL & 660' FWL

At proposed prod. zone  
same

O.C.D.  
ARTESIA, OFFICE

ut. D

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

28 miles NW of Carlsbad, NM

10. 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

640

17. NO. OF ACRES ASSIGNED  
TO THIS WELL

640

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

N/A

19. PROPOSED DEPTH

8000'

20. ROTARY OR CABLE TOOLS

Rotary

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

4156 GL

22. APPROX. DATE WORK WILL START\*

June 15, 1991

23.

PROPOSED CASING AND CEMENTING PROGRAM

SIZE OF HOLE	SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	QUANTITY OF CEMENT
17 1/2"	13 3/8"	54.5#	350'	350 sx C1 "C" circulated
12 1/4"	8 5/8"	24.0#	2300'	Circ. 850 sx HL + 200 sx CaCl *
7 7/8"	5 1/2"	15.5 & 17#	8000'	350 sx "C" prem back to 6500'

\* Will 1" with coiled tubing if needed.

MUD PROGRAM: See Exhibit "F".

BOP PROGRAM: A 11" 5000 psi wp Shaffer Type "LWS" BOP will be installed on the 13 3/8" casing. The casing and BOP will be tested before drill out with 12 1/4". BOP will be tested daily.

Gas not dedicated.

IN ABOVE SPACE DESCRIBE PROPOSED PROGRAM: If proposal is to deepen or plug back, 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 George R. Smith TITLE Agent for: Sendero Petroleum, Inc. DATE May 24, 1991

(This space for Federal or State office use)

PERMIT NO. \_\_\_\_\_ APPROVAL DATE \_\_\_\_\_

APPROVED BY \_\_\_\_\_ TITLE AREA & BOUNDARY DATE 6-15-91

APPROVAL SUBJECT TO:

GENERAL REQUIREMENTS AND  
SPECIAL STIPULATIONS

ATTACHED

\*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.

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

State of New Mexico  
Energy, Minerals and Natural Resources Department

Form C-102  
Revised 1-1-89

OIL CONSERVATION DIVISION

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

DISTRICT I  
P.O. Box 1980, Hobbs, NM 88240

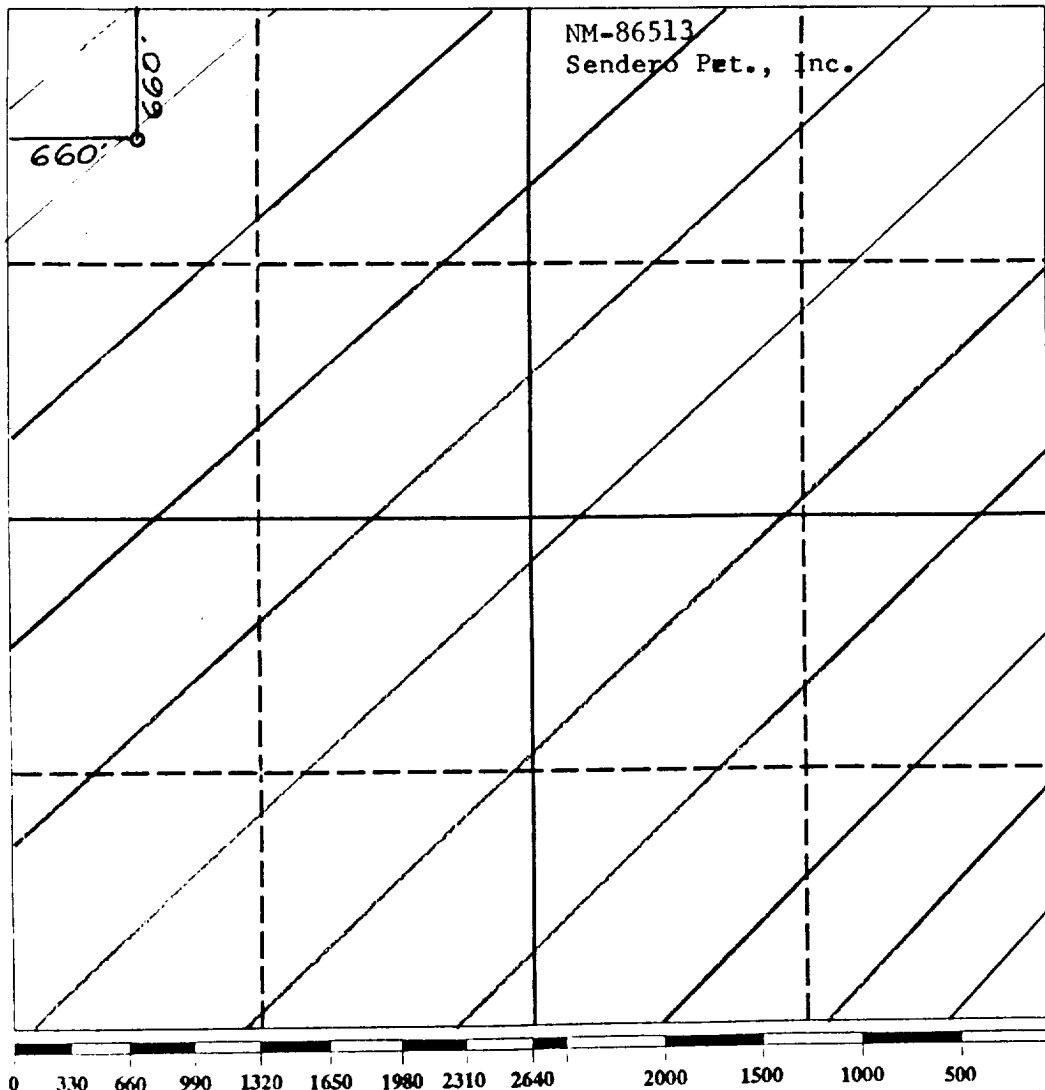
DISTRICT II  
P.O. Drawer DD, Artesia, NM 88210

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

WELL LOCATION AND ACREAGE DEDICATION PLAT

All Distances must be from the outer boundaries of the section

Operator <b>SENDERO PETROLEUM INC.</b>			Lease <b>Lookout Point Federal</b>		Well No. <b>1</b>
Unit Letter <b>D</b>	Section <b>24</b>	Township <b>22 South</b>	Range <b>23 East</b>	County <b>Eddy County, N.M.</b>	
Actual Footage Location of Well: <b>660</b> feet from the <b>North</b> line and <b>660</b> feet from the <b>West</b> line					
Ground level Elev. <b>4156.</b>	Producing Formation <b>CISCO (UPPER PENN)</b>		Pool <b>Indian Basin (UPPER PENN)</b>	Dedicated Acreage: <b>640</b> Acres	
<p>1. Outline the acreage dedicated to the subject well by colored pencil or hachure marks on the plat below.</p> <p>2. If more than one lease is dedicated to the well, outline each and identify the ownership thereof (both as to working interest and royalty).</p> <p>3. If more than one lease of different ownership is dedicated to the well, have the interest of all owners been consolidated by communitization, unitization, force-pooling, etc.? <input type="checkbox"/> Yes <input type="checkbox"/> No If answer is "yes" type of consolidation _____</p> <p>If answer is "no" list the owners and tract descriptions which have actually been consolidated. (Use reverse side of this form if necessary.) _____</p> <p>No allowable will be assigned to the well until all interests have been consolidated (by communitization, unitization, forced-pooling, or otherwise) or until a non-standard unit, eliminating such interest, has been approved by the Division.</p>					



OPERATOR CERTIFICATION

I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief.

Signature  
*George R. Smith*  
Printed Name  
**George R. Smith**  
Position  
**Agent for:**  
Company  
**Sendero Petroleum, Inc.**  
Date  
**May 24, 1991**

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 knowledge and belief.

Date Surveyed  
**May 14, 1991**  
Signature & Seal of Professional Surveyor  
*Ed Eddy*  
**NEW MEXICO**  
**5412**  
**REGISTERED SURVEYOR**  
**NM PROFESSIONAL SURVEYORS**

APPLICATION FOR DRILLING

SENDERO PETROLEUM, INC.  
Lookout Point Federal, Well No. 1  
660' FNL & 660' FWL, Sec. 24-T22S-R23E  
Eddy County, New Mexico  
Lease No.: NM-86513  
(Development Well)

In conjunction with Form 3160-3, Application for Permit to Drill subject well, Manzano Oil Corporation submits the following items of pertinent information in accordance with BLM requirements:

1. The geologic surface formation is recent Permian with quaternary alluvium and other surficial deposits.
2. The estimated tops of geologic markers are as follows:

Glorieta	2175'	Top Cisco	7750'
Bone Spring	3540'	Base Cisco	7850'
Base Bone Spring	6900'	T.D.	8000'
Top Wolfcamp	7000'		
3. The estimated depths at which water, oil or gas formations are anticipated to be encountered:

Water: In the San Andres below 700'.

Oil: None expected.

Gas: Possible in Wolfcamp, Cisco.
4. Proposed Casing Program: See Form 3160-3.
5. Proposed Control Equipment: See Form 3160-3 and Exhibit "E".
6. Mud Program: See Exhibit "F".
7. Auxiliary Equipment: Blowout Preventer, gas detector, Kelly cock, pit level monitor, flow sensors and stabbing valve.
8. Testing, Logging, and Coring Program:

Drill Stem Tests: In the Cisco if no dolomite.

Logging: Gamma Ray: 5900' - 7900'.  
CNL/LDT, DLL 5900' - 7900'.

Coring: None planned.
9. No abnormal pressures or temperatures are anticipated. In the event abnormal pressures are encountered the proposed mud program will be modified to increase the mud weight.
10. Anticipated starting date: June 15, 1991.  
Anticipated completion of drilling operations: Approximately 6 weeks.

## MULTI POINT SURFACE USE AND OPERATIONS PLAN

SENDERO PETROLEUM, INC.  
Lookout Point Federal, Well No. 1  
660' FNL & 660' FWL, Sec. 24-T22S-R23E  
Eddy County, New Mexico  
(Development Well)

This plan is submitted with the Application for Permit to Drill the above described well. The purpose of the plan is to describe the location of the proposed well, the proposed construction activities and operations plan, to be followed in rehabilitating the surface environmental effects associated with the operations.

### 1. EXISTING ROADS:

- A. Exhibit "A" is a portion of a BLM Topo map showing the location of the proposed well as staked. The well site location is approximately 28 road miles northwest of Carlsbad, New Mexico or 38 road miles southwest of Artesia, NM. Traveling north and west of Carlsbad there will be approximately 28 miles of paved highway.
- B. Directions: Travel north from Carlsbad, NM on U.S. Highway 285 for approximately 12 miles, then turn southwest (left) onto New Mexico Highway No. Continue southwest for 9 miles to NM MM #46, then take left road, which is NM # 137 for 7 more miles. The start of the proposed access road is staked and flagged on the right (west) side of the highway. The access road runs northwest to the southeast corner of the proposed well site.

### 2. PLANNED ACCESS ROAD;

- A. Length and Width: The proposed access will be constructed to a width of 12 feet and will be approximately 500 feet in length. See Exhibit "B".
- B. Construction: The proposed access road will be constructed by grading and topping with compacted caliche and will be properly drained.
- C. Turnouts: None required.
- D. Culverts: None.
- E. Cuts and Fills: None. All cuts and fills will be on the pad.
- F. Gates, Cattleguards: One cattleguard will be required at the highway R/W fence.
- G. Off Lease R/W: None.

### 3. LOCATION OF EXISTING WELLS:

- A. Existing wells within a two mile radius are shown on Exhibit "C".

### 4. LOCATION OF EXISTING AND/OR PROPOSED FACILITIES:

- A. There are no production facilities on the lease at this time.
- B. If the well proves to be commercial, the necessary production facilities, gas separation-process equipment and tank battery will be installed on the drilling pad.

5. LOCATION AND TYPE OF WATER SUPPLY:

- A. It is planned to drill the proposed well with fresh water that will be obtained from private or commercial sources and will be transported over the existing and proposed access roads.

6. SOURCE OF CONSTRUCTION MATERIALS:

- A. Caliche for surfacing the proposed access road and well site pad will be obtained from an approved Federal pit in the SW $\frac{1}{4}$ SW $\frac{1}{4}$  of Section 28-T22S-R23E, if it can not be obtained from the location site. The topsoil from the location will be stockpiled near the location for future rehabilitation use. No surface materials will be disturbed except necessary for actual grading and leveling of the drill site and access road.

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. All pits will be fenced with normal fencing materials to prevent livestock from entering the area.
- D. Water produced during operations will be collected in tanks until hauled to an approved disposal system, or a separate disposal application will be submitted to the BLM for approval.
- E. Oil produced during operations will be stored in tanks until sold.
- F. Current laws and regulations pertaining to the disposal of human waste will be complied with.
- G. Trash, waste paper, garbage and junk will be buried in a separate trash pit and covered with a minimum of 24 inches of dirt. All waste material will be contained to prevent scattering by the wind.
- H. All trash and debris will be buried or removed from the well site within 30 days after finishing drilling and/or completion operations.

8. ANCILLARY FACILITIES:

- A. None required.

9. WELL SITE LAYOUT:

- A. Exhibit "D" shows the relative location and dimensions of the well pad, reserve pits, and major rig components. The pad and pit area has been staked and flagged, 400' X 400'.
- B. Mat Size: 275' X 190', plus 110' X 80' reserve pits and 30' X 45' stinger.
- C. Cut & Fill: There will be a 3 to 4 foot cut on the northeast with fill to the west and southwest. Pits will be oriented to the northwest with the "V" door to the northeast.

9. WELL SITE LAYOUT

cont.:

- D. The surface will be topped with compacted caliche and the reserve pits will be plastic lined.

10. PLANS FOR RESTORATION OF THE SURFACE:

- A. After completion of drilling and/or completion operations, all equipment and other material not needed for operations will be removed. Pits will be filled and the location cleaned of all trash and junk to leave the well site in an aesthetically pleasing a condition as possible.
- B. Any unguarded pits containing fluids will be fenced until they are filled.
- C. If the proposed well is non-productive, all rehabilitation and/or vegetation requirements of the Bureau of Land Management will be complied with and will be accomplished as expeditiously as possible. All pits will be filled and leveled within 90 days after abandonment or when they are dry enough to work.

11. OTHER INFORMATION:

- A. Topography: The well site is located in the uplands area northwest of Carlsbad on the northwesterly (4%) slope of Lookout Point hill, which is part of the Azotea Mesa. The location is in a swale between rocky ridges to the north and south. The location is at an elevation of 4156'.
- B. Soil: The topsoil at the well site is a light colored loamy soil underlain with limestone and is part of the Reeves-Reagan soils Series, with some surface rock scatter.
- C. Flora and Fauna: The vegetation cover is a fair to good grass cover of tobosa, grama, dropseed, burro and other misc. native grasses along with plants of mesquite, yucca, juniper, cactus, creosote brush, and miscellaneous plants, weeds and wildflowers. The wildlife consists of rabbits, deer, coyotes, rattlesnakes, lizards, dove, quail and other wildlife typical of the semi-arid desert land.
- D. Ponds and Streams: None in area.
- E. Residences and Other Structures: None in the immediate area, except a windmill 1500 feet to the northwest.
- F. Land Use: Cattle grazing.
- G. Surface Ownership: The proposed well site and access road is on Federal surface and minerals.
- H. There is evidence of archaeological, historical or cultural sites in the area. There was a site identified on the hill to south of the 400' pad area. The area was flagged and the pad will be fenced on the south side and will be oriented to the northwest to miss the site. An archaeological survey has been conducted by Archaeological Survey Consultants, P. O. Box D, Roswell, NM 88202, and their report has been submitted to the appropriate government agencies.

12. OPERATOR'S REPRESENTATIVE:


- A. The field representative responsible for assuring compliance with the approved surface use and operations plan is as follows:

Kurt Boley, Vice President  
Sendero Petroleum, Inc.  
P. O. Box 1736  
Midland, Texas 79702  
Office Phone: (915) 684-4561

13. CERTIFICATION:

I hereby certify that I have inspected the proposed drill site and access route; that I am familiar with the conditions which presently exist; that the statements made in the 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 Sendero Petroleum, Inc. and its contractors and subcontractors in conformity with this plan and the terms and conditions under which it is approved. This statement is subject to the provisions of 18 U.S.C. 1001 for the filing of a false statement.

May 24, 1991

  
\_\_\_\_\_  
George R. Smith  
Agent for: Sendero Petroleum, Inc.

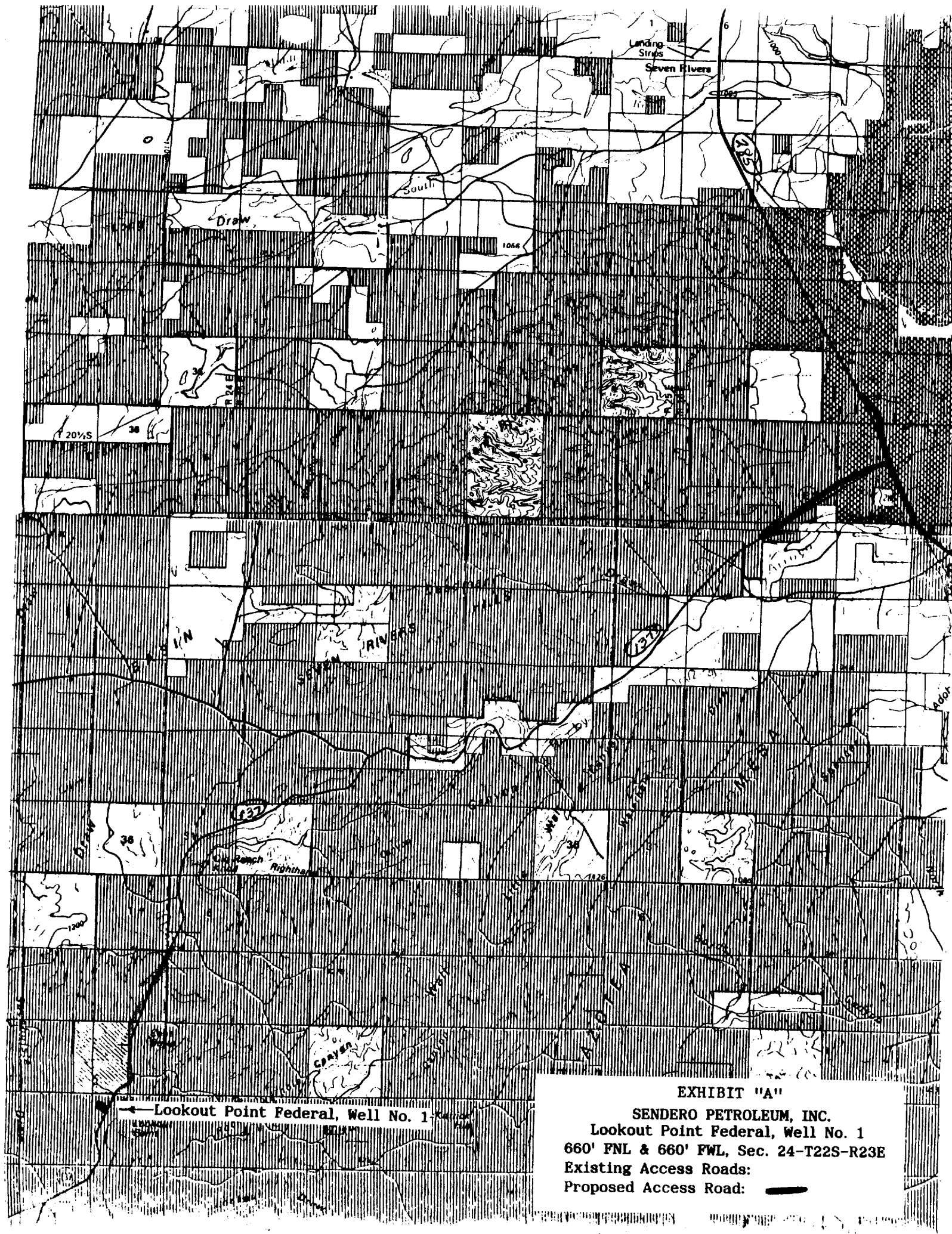


EXHIBIT "A"

SENDERO PETROLEUM, INC.

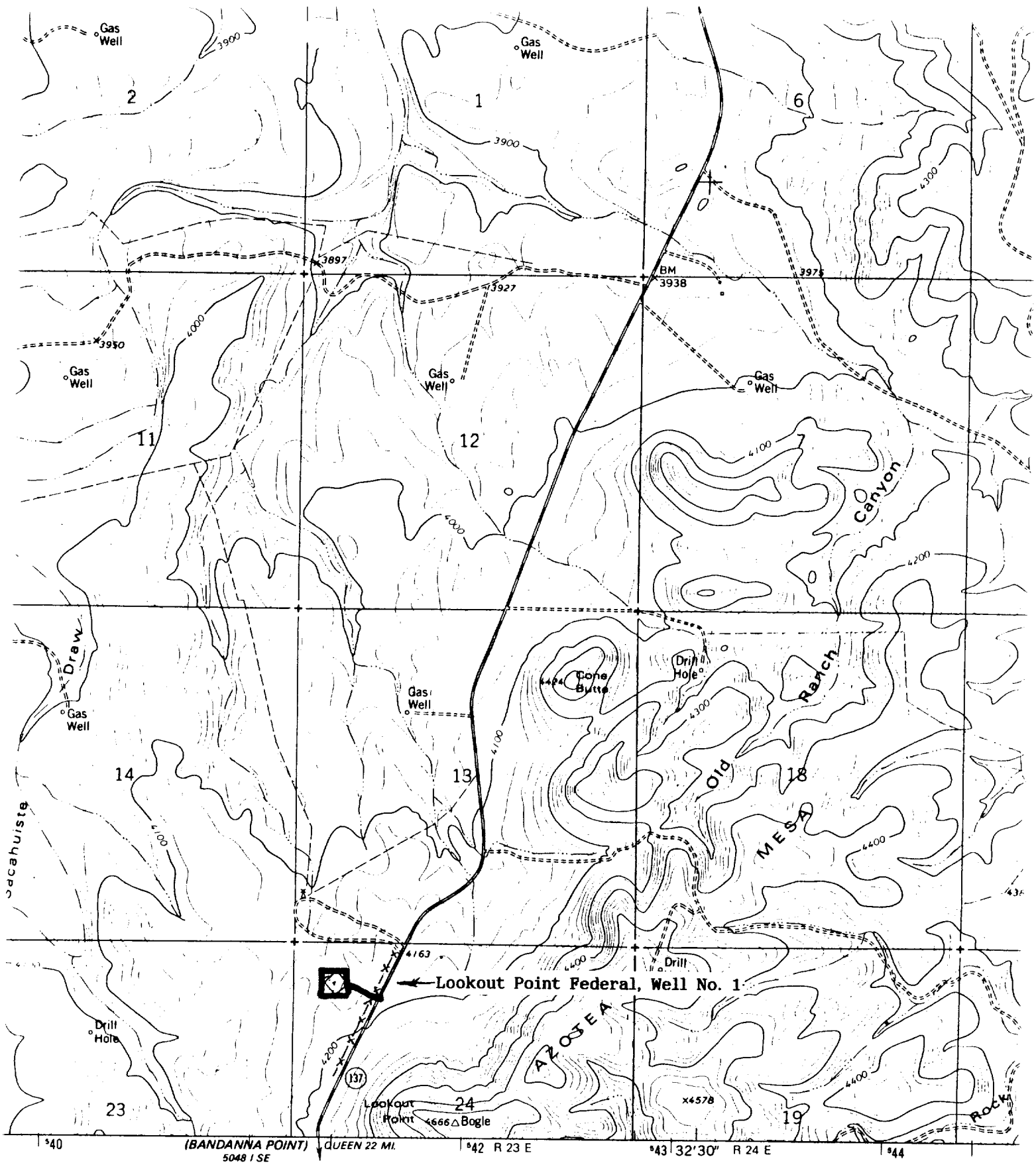
Lookout Point Federal, Well No. 1

660' FNL & 660' FWL, Sec. 24-T22S-R23E

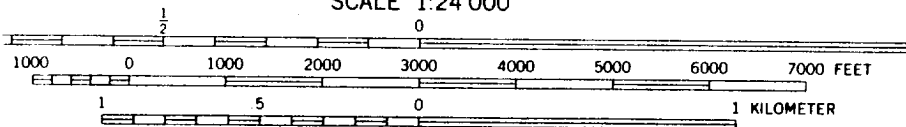
Existing Access Roads:

Proposed Access Road: ———





SCALE 1:24 000



CONTOUR INTERVAL 20 FEET  
NATIONAL GEODETIC VERTICAL DATUM OF 1929

#### EXHIBIT "B"

SENDERO PETROLEUM, INC.

Lookout Point Federal, Well No. 1

660' FNL & 660' FWL, Sec. 24-T22S-R23E

Existing Access Road:

New Mexico Highway #137:

Proposed Access Road:

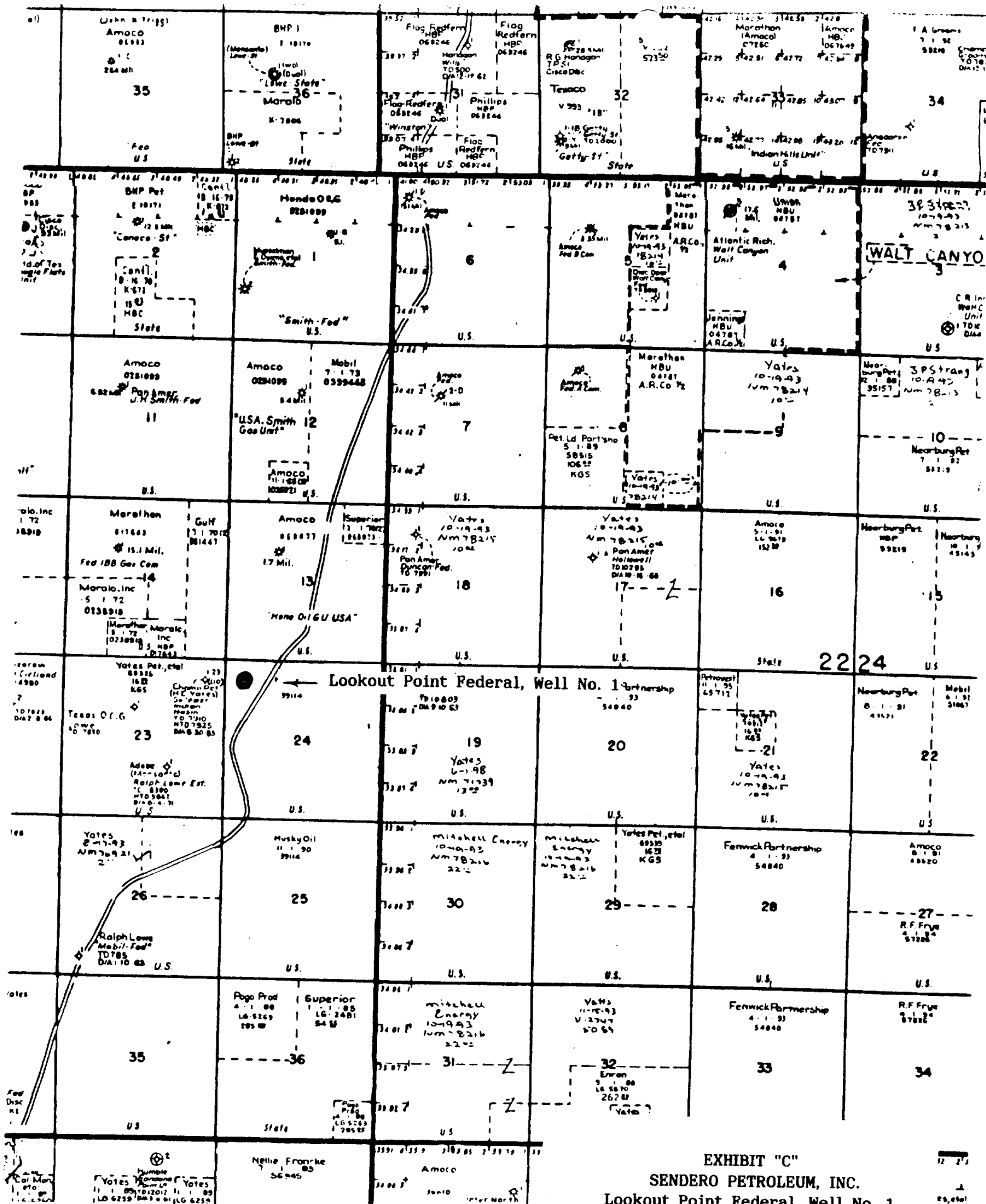
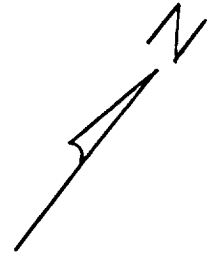


EXHIBIT "C"  
SENDERO PETROLEUM, INC.  
Lookout Point Federal, Well No. 1  
660' FNL & 660' FWL, Sec. 24-T22S-R23E  
Existing Wells

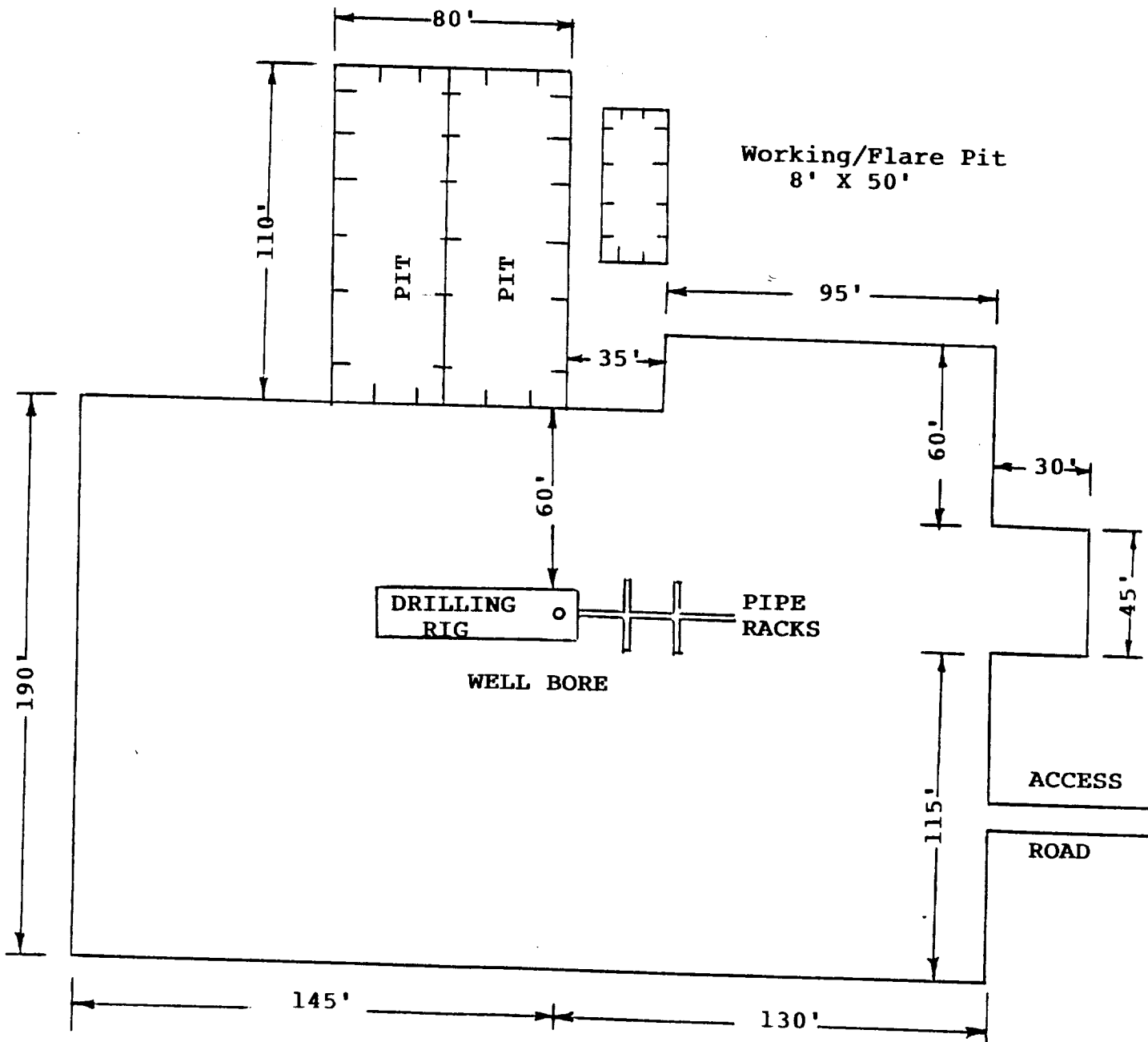
EXHIBIT "D"  
SENDERO PETROLEUM, INC.  
Lookout Point Federal, Well No. 1  
Pad & Pit Layout

SENDERO PETROLEUM, INC.

LOOKOUT POINT FEDERAL #1  
660' FNL and 660' FWL  
EDDY COUNTY, NEW MEXICO



3' down in control lead off  
cut



## BLOWOUT PREVENTOR ARRANGEMENT

11" SHAFFER TYPE LWS, 5000 psi WP

11" GK HYDRIL, 5000 psi WP

80 GALLON, 4 STATION PAYNE ACCUMULATOR

3000 psi WP CHOKE MANIFOLD

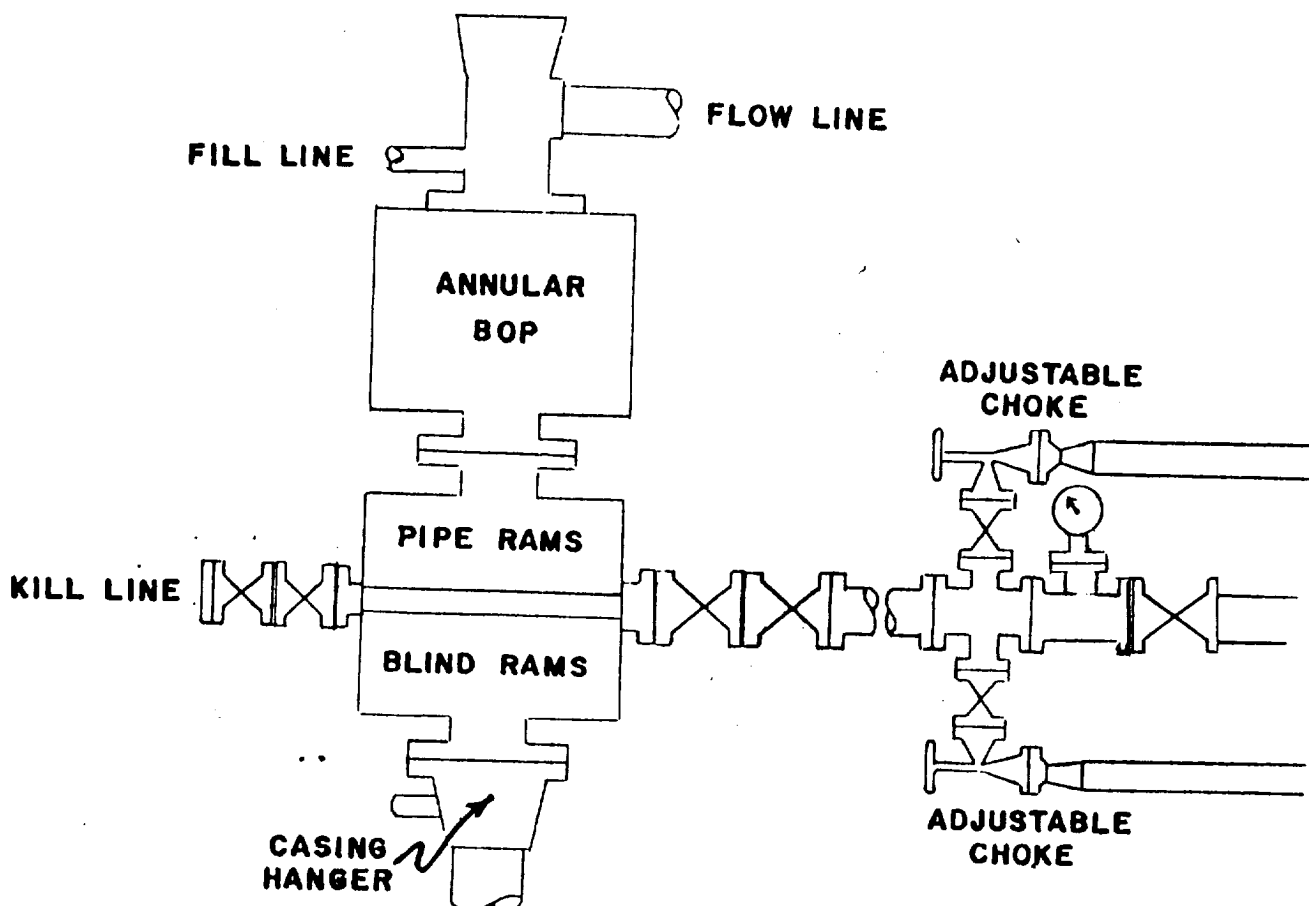


EXHIBIT "E"  
SENDERO PETROLEUM, INC.  
Lookout Point Federal, Well No. 1  
BOP Specifications



# Drilling Fluids Recommendations

OPERATOR Sendero Petroleum, Inc. WELL NAME Lookout Point #1

## Recommended Drilling Fluid Properties (cont'd)

DEPTH	MUD PROPERTIES	REMARKS
250' - 2,500'	Weight: 8.4-8.6 Viscosity: 28-30 Filtrate: N/C pH: 10-11	Drill out from under casing with Fresh Water. Circulate the reserve pit for solids control. Mix Lime for pH and Paper for seepage.  Severe lost circulation may be prevalent at +/-2,000 feet. Dry drill to casing point periodically sweeping hole with a high viscous LCM pill.
2,500' - 6,500'	<u>REVISIONS</u> Weight: 8.6-9.0 Viscosity: 28-30 Filtrate: N/C pH: 10-11	Drill out from under casing with Fresh Water. Continue to circulate the reserve. Mix Lime for pH control and Paper for seepage. Mix PL-1400 for sweeps to help clean the hole and aid in solids removal. Mix high viscous LCM sweeps to control more severe lost circulation.
6,500' - 7,650'	Weight: 8.6-8.9 Viscosity: 33-34 Filtrate: 15 cc pH: 9.5-10	Return to steel pits and lower total hardness to below 200 ppm with Soda Ash. Discontinue Lime and mix Caus-tic Soda for pH control. Mix Fresh Water Gel and Drispac (5 to 1 ratio) for the desired properties. Continue Paper for seepage.
7,650' - 7,900'	Weight: 8.8-9.1 Viscosity: 38-40 Filtrate: 10 cc < pH: 9.5-10	Raise viscosity and lower filtrate with Fresh Water Gel and Drispac (4 to 1 ratio) for desired properties.  NOTE: Add 4 sacks Ammonium Nitrate before all D.S.T.'s.

EXHIBIT "F"

SENDERO PETROLEUM, INC.

Lookout Point Federal, Well No. 1  
660' FNL & 660' FWL, Sec. 24-T22S-R23E  
Mud Program