

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

CONTACT LIVING  
OFFICE FAX NUMBER  
**RECEIVED**  
(Other instructions on reverse side)  
JUL 11 1991

30-015-26789  
BLM Rowell District  
Modified Form No.  
M060-3160-2

O. C. D.

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

1. TYPE OF WORK  
 DRILL  DEEPEN  PLUG BACK

2. TYPE OF WELL  
 OIL WELL  GAS WELL  OTHER

3. NAME OF OPERATOR  
 Socorro Petroleum Company

4. ADDRESS OF OPERATOR  
 Loco Hills, NM 88255

5. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.)  
 At surface: 1880' FWL & 1980' FSL  
 At proposed prod. zone: 1880' FWL & 1980' FSL

6. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE\*  
 11 mi. NE of Loco Hills, New Mexico

7. DISTANCE FROM PROPOSED LOCATION TO NEAREST PROPERTY OR LEASE LINE, FT. (Also to nearest drig. unit line, if any)  
 1305'

8. DISTANCE FROM PROPOSED LOCATION TO NEAREST WELL, DRILLING, COMPLETED, OR APPLIED FOR, ON THIS LEASE, FT.  
 912'

9. ELEVATIONS (Show whether DF, RT, GR, etc.)  
 3823' GL

10. NO. OF ACRES IN LEASE  
 640

11. PROPOSED DEPTH  
 4000'

12. ROTARY OR CABLE TOOLS  
 Rotary

13. APPROX. DATE WORK WILL START\*  
 6/1/91

PROPOSED CASING AND CEMENTING PROGRAM

HOLE SIZE	CASING SIZE	WEIGHT/FOOT	GRADE	THREAD TYPE	SETTING DEPTH	QUANTITY OF CEMENT
12-1/4"	8-5/8"	24 #	J-55 CIRCULATE 8 Rd.		625'	300 sx. Cl. "C"
7-7/8"	5-1/2"	17 #	J-55 (tieback) 8 Rd.		4000'	200 sx. Cl. "C"
					(525)	+ 600 sx. LW

Mud Program

0 - 625' Drill with fresh water  
 625 - TD Drill with brine water

BOP Program

Will install on the 8-5/8" surface casing a 10" Series 900 Type "E" Shaffer double hydraulic BOP & will test before drilling into Queen Formation.

Post ID-1  
 7-19-91  
 New Loc & APD

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.

SIGNED: John Gould, Jr. TITLE: Manager DATE: 5/15/91  
 (This space for Federal or State office use)

PERMIT NO. \_\_\_\_\_ APPROVAL DATE \_\_\_\_\_  
 APPROVED BY \_\_\_\_\_ TITLE \_\_\_\_\_ DATE: 7-10-91

APPROVAL SUBJECT TO  
 GENERAL REQUIREMENTS AND  
 SPECIAL STIPULATIONS

\*See Instructions On Reverse Side

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

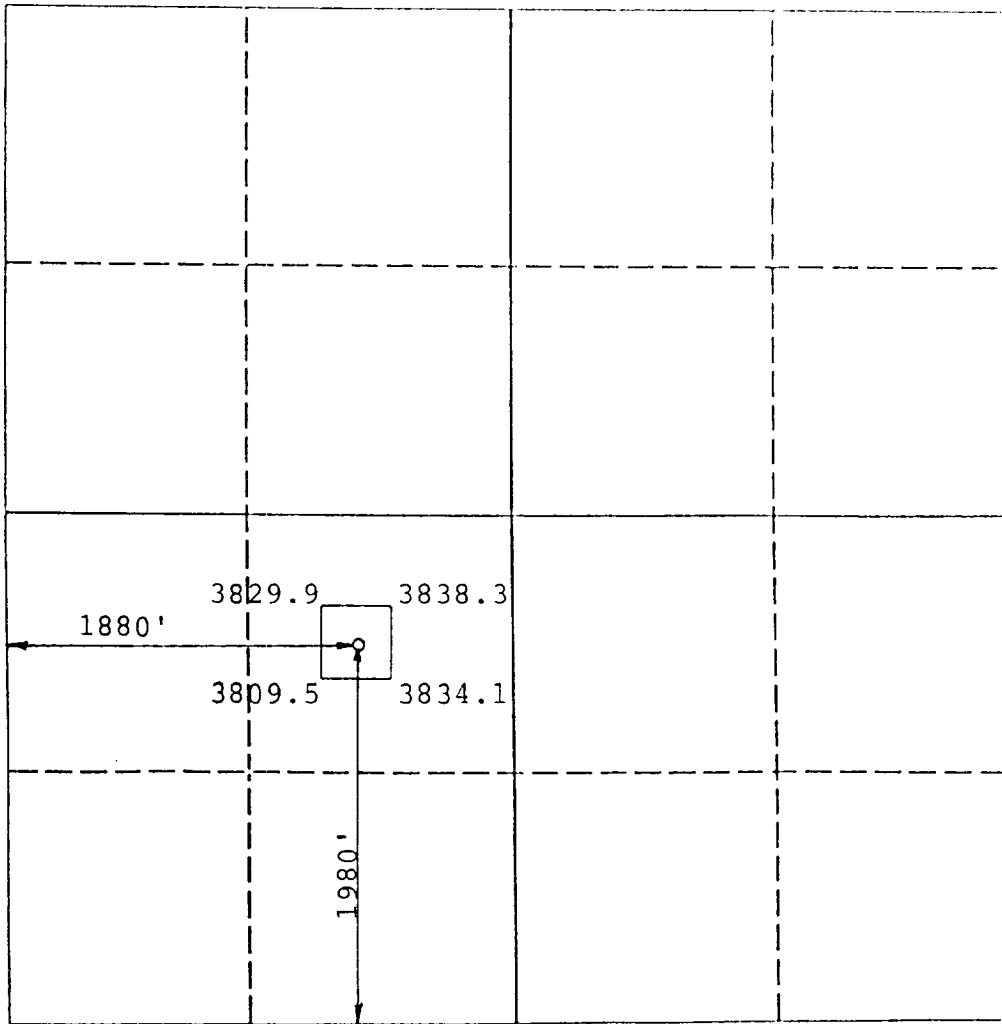
1000 Rio Brazos Rd., Aztec, NM 87410

**WELL LOCATION AND ACREAGE DEDICATION PLAT**

All Distances must be from the outer boundaries of the section

Operator <b>Socorro Petroleum Company</b>			Lease <b>J.L. Keel "B"</b>		Well No. <b>47</b>
Unit Letter <b>K</b>	Section <b>5</b>	Township <b>17 South</b>	Range <b>31 East</b>	County <b>Eddy</b>	
Actual Footage Location of Well: <b>1980</b> feet from the <b>South</b> line and <b>1880</b> feet from the <b>West</b> line					
Ground level Elev. <b>3823</b>	Producing Formation <b>Grayburg</b>		Pool <b>Grayburg Jackson</b>	Dedicated Acreage: <b>20</b> Acres	

- Outline the acreage dedicated to the subject well by colored pencil or hatchure marks on the plat below.
- If more than one lease is dedicated to the well, outline each and identify the ownership thereof (both as to working interest and royalty).
- 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?  
 Yes     No    If answer is "yes" type of consolidation \_\_\_\_\_  
 If answer is "no" list the owners and tract descriptions which have actually been consolidated. (Use reverse side of this form if necessary). \_\_\_\_\_  
 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.



**OPERATOR CERTIFICATION**

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

*Ben D. Gould*  
 Signature

**Ben D. Gould**  
 Printed Name

**Manager**  
 Position

**Socorro Petroleum Co.**  
 Company

**5/15/91**  
 Date

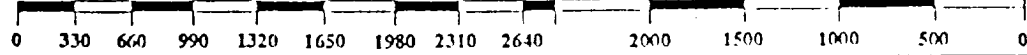
**SURVEYOR CERTIFICATION**

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.

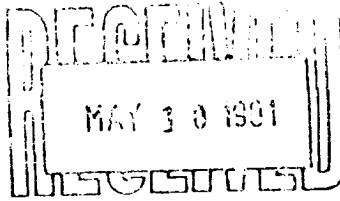
Date Surveyed  
**March 8, 1991**

Signature & Seal of Professional Surveyor

Certificate No. **8112**



ARCHAEOLOGICAL SURVEY CONSULTANTS



CULTURAL RESOURCES EXAMINATION

on lands administered by the Department of the Interior Bureau of Land Management Roswell District, New Mexico

ASC PERMIT NO.: 18-2920-90-E  
ASC Job No.: 91-43; Socorro Petroleum Company J.L. Keel B Fed. Well # 47 & Access Road

**1. ABSTRACT:** intensive archaeological survey of the Socorro Petroleum Company J.L. Keel "B" Federal Well No. 47 (400 ft. sq., 3.67 acres), and access road R/W (220 ft. long X 100 ft. wide, with a 150 ft. sq. delta, 0.68 acres), with a total federal land surface of 4.35 acres inspected for cultural remains.

Archaeological survey did not reveal any cultural resources. Therefore, archaeological CLEARANCE for the Socorro Petroleum Company J.L. Keel "B" Federal Well No. 47 and access road R/W is RECOMMENDED.

**2. WELL PAD LOCATION:** T17S, R31E, Section 5, NE¼SW¼ [1980 FSL, 1880 FWL]. **ACCESS ROAD R/W LOCATION:** T17S, R31E, Section 5; NE¼SW¼. Eddy County, New Mexico.

**Map Reference:** U.S.G.S. 7.5 minute series, LOCO HILLS, NEW MEXICO, 1985. **Land Status:** BLM, Roswell District, Carlsbad Resource Area, New Mexico.

**3. PROJECT DESCRIPTION:** well pad (400 ft. sq., 3.67 acres), and access road R/W (220 ft. long X 100 ft. wide, with a 150 ft. sq. delta, 0.68 acres), with a total federal land surface of 4.35 acres inspected for cultural remains.

**TOPOGRAPHY:** Mescalero Pediment, north of the Duerecho Plains, to the west of the Nimenim Ridge, within an area draining generally southwest towards Cedar Lake Draw, ca. 3.9 miles SW. The area is characterized by deep aeolian deposits and large, elongate deflation basins in the north ½ of the project area, with prominent dune ridges adjacent to the west edge of the well pad. The south ½ of the area is relatively level to undulating with shallower aeolian deposits; a drainageway crosses the pad south of the centre. **Soils:** Kermit-Berino fine sands. **Permanent Water:** Nakee Ishee Lake, ca. 15.3 miles W/NW. **Potential Water:** Cedar Lake Draw, ca. 3.9 miles SW. **Elevation:** 3807 ft. to 3837 ft. **Slope:** 1.43° to 4.76°. **Aspect:** W/SW. **Lithic Resources:** not available in the project vicinity. **Vegetation:** Grassland Formation, Scrub-grass scrub disclimax community.

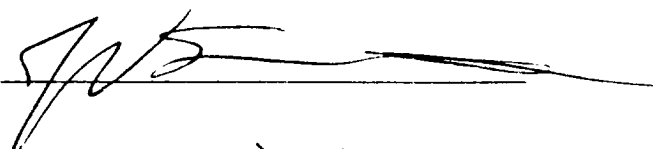
**4. EXAMINATION PROCEDURE:** straight and zig-zag transects, spaced no greater than 15 metres apart. **Work Hrs. on Ground:** 2.25. **Area Delineation:** staked by client representative. **Visibility:** ca. 60% to 75%. **Weather:** sunny.

**5. FINDINGS:** BLM records (Ruebelmann, 3/04/1991) indicate the recording of NM-06-4436, NM-06-4421, NM-06-4473, NM-06-4588, NM-06-4520, & LA 47177 in Section 5 (T17S, R31E). The sites will not be endangered by construction activity.

Archaeological survey did not reveal any cultural resources.

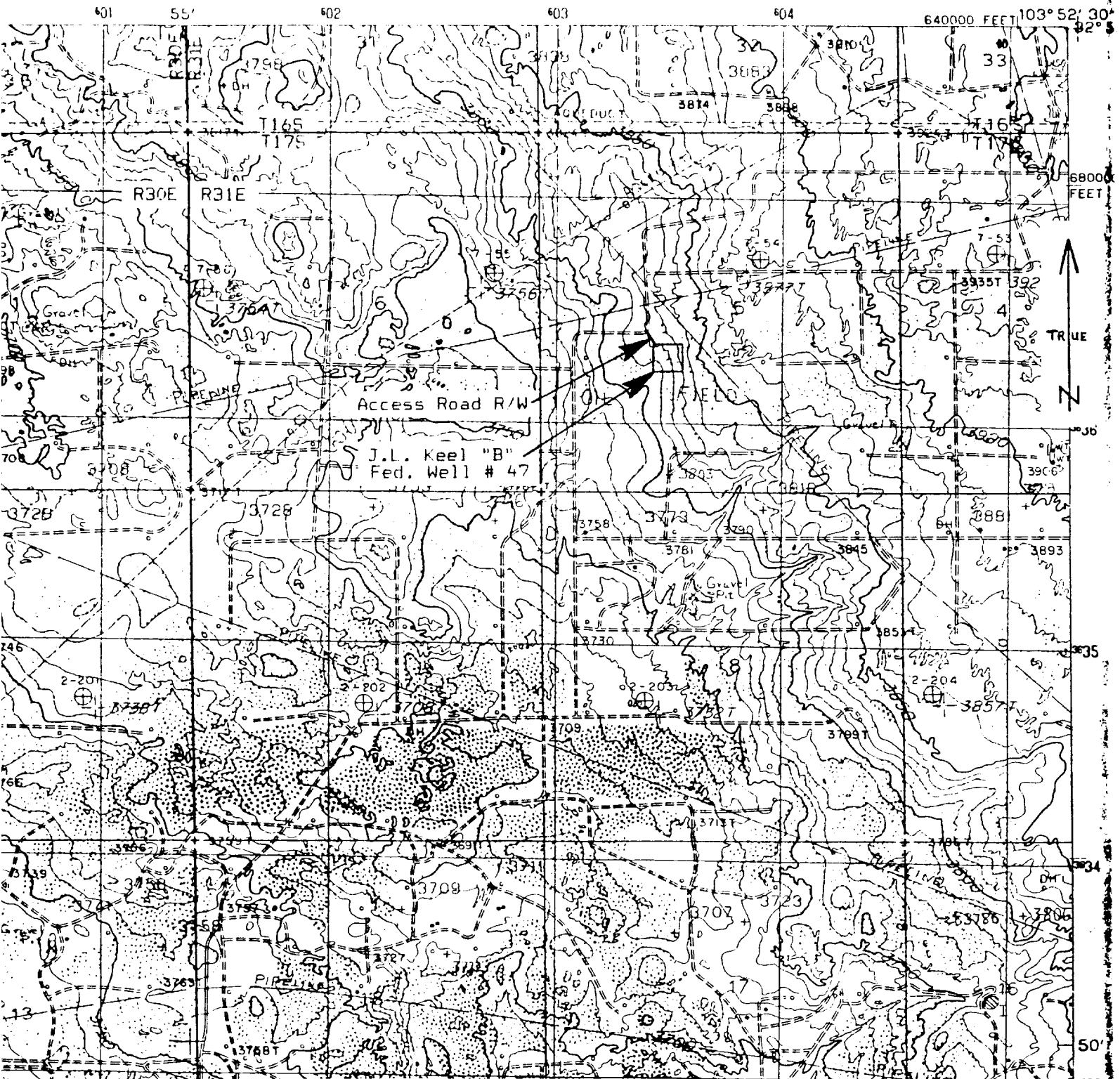
**6. RECOMMENDATIONS:** archaeological CLEARANCE for the Socorro Petroleum Company J.L. Keel "B" Federal Well No. 47 and access road R/W is RECOMMENDED.

**Date(s) of Examination:** April 6, 1991

**Project Archaeologist:** 

**Principal Investigator:** D.M. Griffiths

LOCO HILLS QUADRANGLE  
1 N MEXICO-EDDY CO.  
7.5 MINUTE SERIES (TOPOGRAPHIC)



Map showing the location of the Socorro Petroleum Company J.L. Keel "B" Federal Well No. 47 and Access Road R/W. T175, R31E, Section 5, Eddy County, New Mexico [BLM, Roswell District, Carlsbad Resource Area, N.M.]. Square shows location of well pad; solid line shows location of access road R/W. U.S.G.S. 7.5 minute series, LOCO HILLS, NEW MEXICO, 1985. ASC Project 91-43.



APPLICATION FOR DRILLING

SOCORRO PETROLEUM COMPANY  
J. L. KEEL "B", Well No. 47  
1880' FWL & 1980' FSL, Sec. 5-T17S-R31E  
Eddy County, New Mexico  
Lease No.: LC-029435-B

In conjunction with Form 3160-3, Application for Permit to Drill subject well, Socorro Petroleum Company submits the following items of pertinent information in accordance with ELM requirements:

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

Rustler Anhydrite	342'	Grayburg	2957'
Top of Salt	537'	Premier Sand	3129'
Base of Salt	1485'	San Andres	3259'
Yates	1619'	Lovington Sand	3362'
Seven Rivers	1910'	Lower S.A. "M"	3462'
Queen	2529'	T. D.	3750'

3. The estimated depths at which water, oil or gas formations are anticipated to be encountered:

Water: Random fresh water from surface to 300' +/-, and water flow from injection wells possible at around 2700'.

Oil: Grayburg at approximately 1957' or below.

Gas: None anticipated.

4. Proposed Casing Program: See Form 3160-3.
5. Proposed Control Equipment: See Form 3160-3.
6. Mud Program: See Form 3160-3.
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: None planned.

Logging: LDT/CNL T.D. = 1775'  
DLL RXO NGT. T.D. = 1775'  
GRN T.D. = Surface

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.

APD

Socorro Petroleum Company

J. L. KEEL "B", Well No. 47

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10. Anticipated starting date: 7/15/91  
Anticipated completion of drilling operations: Approximately 20 days.

# MULTI-POINT SURFACE USE AND OPERATIONS PLAN

SOCORRO PETROLEUM COMPANY  
J. L. KEEL "B", Well No. 47  
1880' FWL & 1980' FSL, Sec. 5-T17S-R31E  
Eddy County, New Mexico  
Lease No.: LC-029435-A

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 the operations plan to be followed in rehabilitating the surface after completion of the operation so that a complete appraisal can be made of the environmental effects associated with the operations.

## 1. EXISTING ROADS:

- A. Exhibit "A" is a portion of a BLM Quad map showing the location of the proposed well as staked, in relation to existing roads and U.S. Highway 82. The well is approximately 11 miles NE of Loco Hills, New Mexico, with half the distance paved.
- B. Directions: From Loco Hills go east on U.S. 82 3.5 miles to the paved county road No. 221. Turn north on Skelly Rd. (County #221) for approximately 1.3 miles, then turn northeast onto the gravel road at the fork for .7 mile. Then turn east for .6 mile. Then turn north for 1.0 mile. Then turn west for .15 miles. New road will be built southwest approximately 500' to location. (See Exhibit "B".)

## 2. PLANNED ACCESS ROAD:

- A. Length and Width: A 500' road 12' wide will be constructed from existing road east to the proposed wellsite.
- B. Construction: The new road will be 12' wide with a center crown, with 4 inches compacted caliche. The existing roads will be graded and topped with compacted caliche as needed.
- C. Turnouts: None required.
- D. Culverts: None required.
- E. Cut and Fill: The area has 8 to 15 foot sand dunes and deflation basins to be leveled.
- F. Gates, Cattleguards: None required.

## 3. LOCATION OF EXISTING WELLS:

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

## SURFACE USE AND OPERATIONS PLAN

Socorro Petroleum Company

J. L. KEEL "B", Well No. 47

-Page 2-

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

- A. There are production facilities on the lease at this time. See Exhibit "C".
- B. If the oil well proves to be commercial, the necessary production facilities will be installed on the drilling pad and flow lines will be installed along the proposed and existing access roads to the storage tanks.

### 5. LOCATION AND TYPE OF WATER SUPPLY:

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

### 6. SOURCES OF CONSTRUCTION MATERIALS:

- A. Caliche for surfacing access roads and the wellsite pad will be obtained from a Federal pit in the SE4SE4 of Section 5-T17S-R31E. The pit has been staked and cleared by the archaeologist. The topsoil from the location will be stockpiled near the location for future rehabilitation use. No surface materials will be disturbed except those necessary for actual grading and leveling of the drill site and access roads.

### 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 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.



#### SURFACE USE AND OPERATIONS PLAN

- G. Trash, waste papers, garbage and junk will be buried in a separate trash pit and covered with a minimum of 24 inches of dirt. All waste materials 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. WELLSITE 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.
  - B. Mat Size: 140' x 210' plus reserve pits.
  - C. Cut & Fill: The area has 5 to 12 foot sand dunes and deflation basins to be leveled.
  - 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 wellsite in as 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.
11. OTHER INFORMATION:
- A. Topography: The wellsite and access road are located in the Mescalero Pediment, north of the Querecho Plains, to the east of the Nimenim Ridge, within an area draining generally southwest towards Cedar Lake Draw, ca 3.9 miles SW. The area is characterized by deep aeolian deposits and large, elongate deflation basins in the north one-half of the project area,

# SURFACE USE AND OPERATIONS PLAN

Socorro Petroleum Company

J. L. KEEL "B", Well No. 47

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with prominent dune ridges adjacent to the west edge of the pad. The south one-half of the area is relatively level to undulating with shallower aeolian deposits; a drainageway crosses the pad south of the center.

B. Soil: Interface of Kermit-Berino fine sands and Berino complex sands.

C: Flora and Fauna: The vegetation cover is grassland formation scrubgrass scrub disclimax community. The wildlife consists of rabbits, coyotes, rattlesnakes, lizards, dove, quail and other wildlife typical of the semi-arid desert land.

D: Ponds and Streams: Closest permanent water is Nakee Ishee Lake, ca 15.3 miles W/NW.

E: Residences and Other Structures: None

F: Land Use: Cattle grazing

G: Surface ownership: The proposed wellsite and existing access road is on Federal surface and minerals.

H: Archaeological survey did not reveal any cultural resources. The survey was performed by Archaeological Survey Consultants of Roswell, N. M., and a copy of their report has been furnished to the BLM - Carlsbad Resource Area.

## 12. OPERATOR'S REPRESENTATIVE:

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

John Gould, Jr.  
Socorro Petroleum Company  
P. O. Box 38  
Loco Hills, New Mexico 88255  
(505) 677-2360

## 13. CERTIFICATION:

I hereby certify that I have inspected the proposed drillsite 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 Socorro Petroleum Company and its contractors and subcontractors in conformity with this plan and their 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.

*John Ford*  
Socorro Petroleum Company

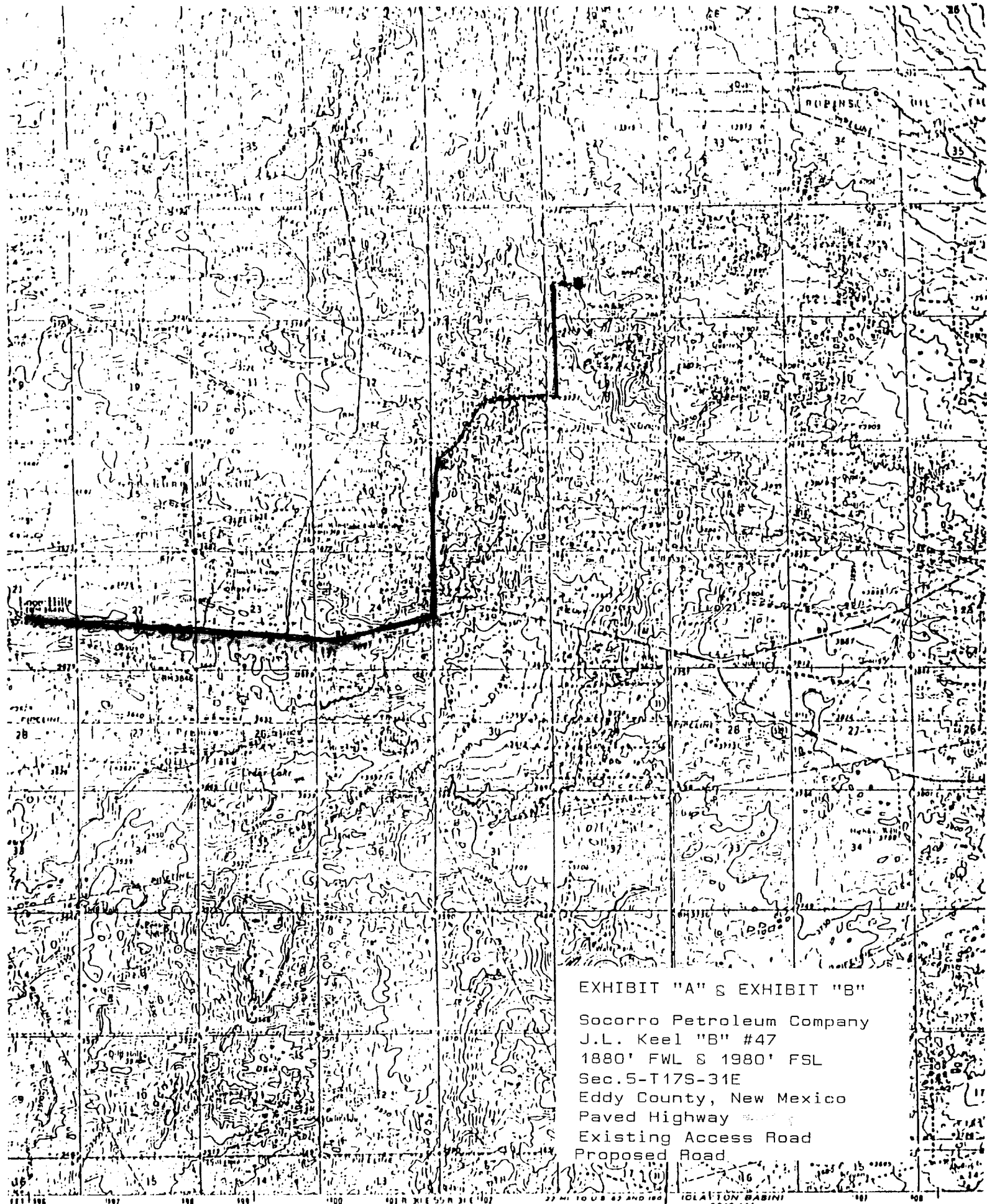


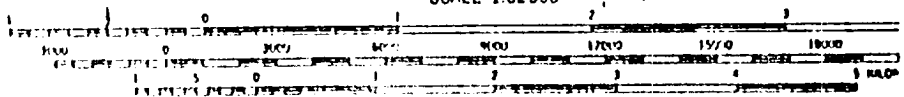
EXHIBIT "A" & EXHIBIT "B"

Socorro Petroleum Company  
 J.L. Keel "B" #47  
 1880' FWL & 1980' FSL  
 Sec. 5-T17S-31E  
 Eddy County, New Mexico  
 Paved Highway  
 Existing Access Road  
 Proposed Road

SCALE 1:62500

Prepared by the Geological Survey

Derived from aerial photographs  
 and ground surveys 1963





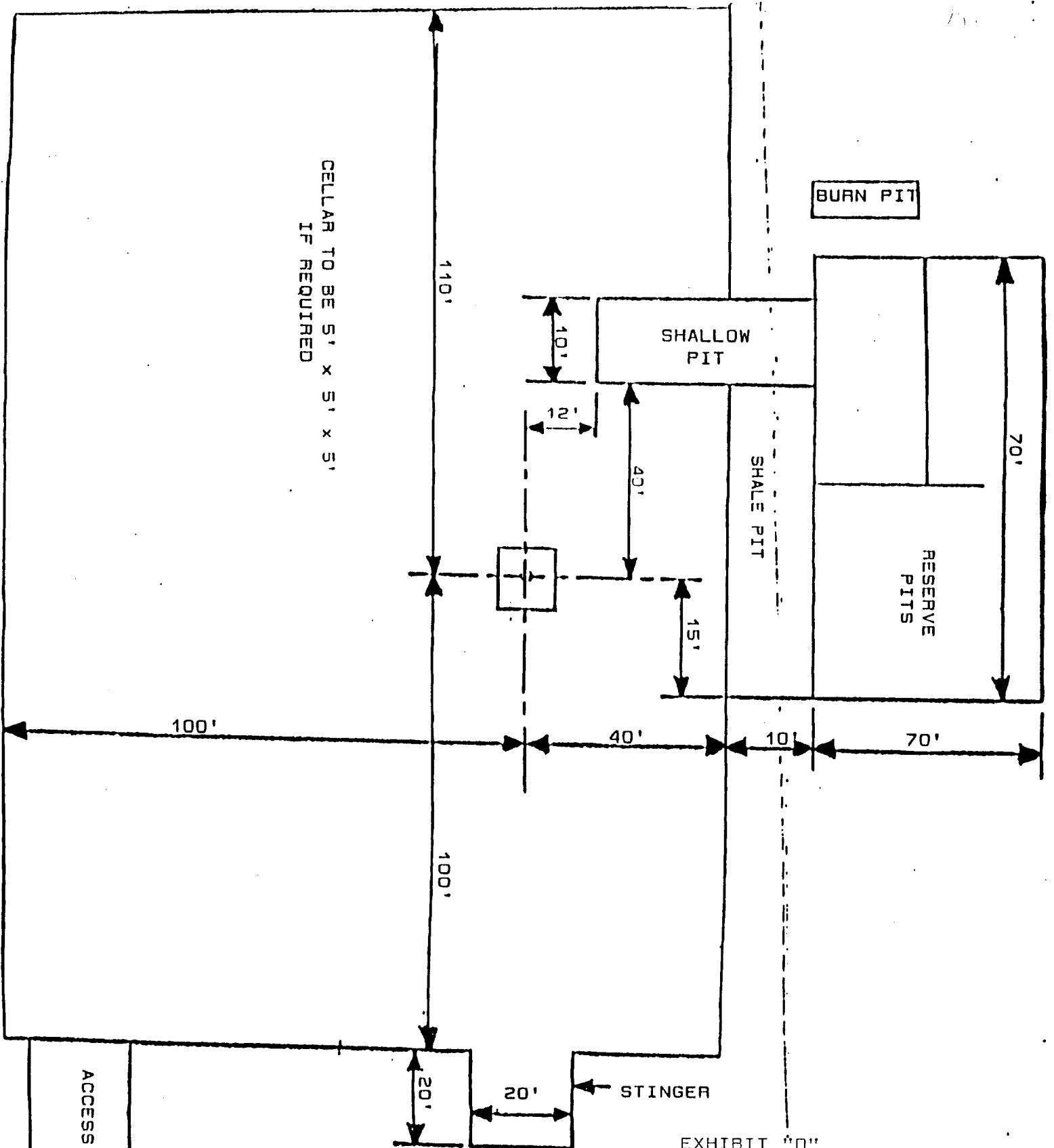
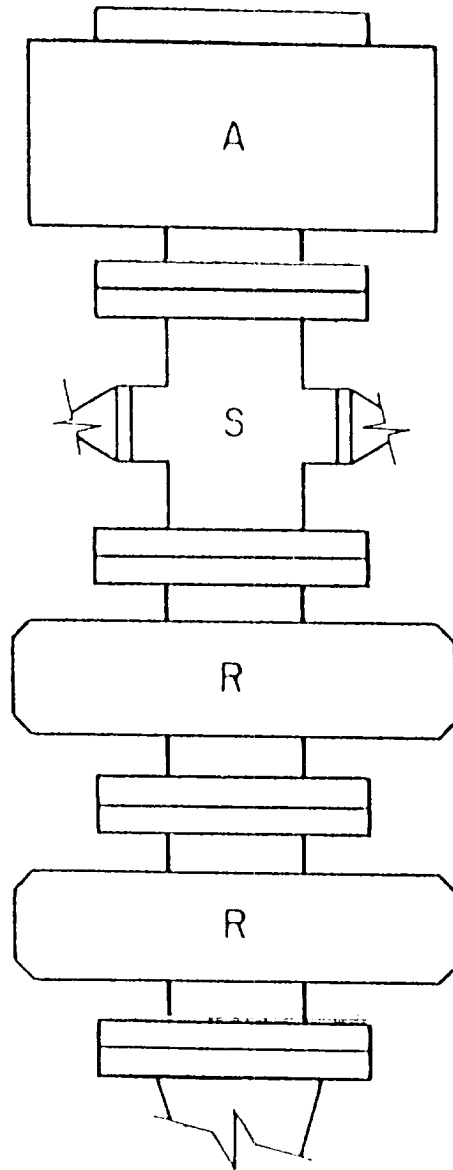


EXHIBIT "0"  
 Socorro Petroleum Company  
 J.L. Keel "B" #47  
 1880' FWL & 1980' FSL  
 Sec.5-T17S-31E  
 Eddy County, New Mexico  
 Rig Layout



A - Stripping Rubber

R - Blind and Pipe Rams

Exhibit "E"  
Socorro Petroleum Company  
J.L. Keel "B" #47  
1880' FWL & 1980' FSL  
Sec.5-T17S-31E  
Eddy County, New Mexico  
BOP Diagram