

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

RECEIVED  
JUL 18 1991  
O. C. D.  
ARTESIA OFFICE

38-015-26793  
BLM Roswell District  
Modified Form No.  
NM60-3160-2

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

Socorro Petroleum Company

3a. Area Code & Phone No.  
505/677-2360

3. ADDRESS OF OPERATOR

Loco Hills, NM 88255

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

At surface

2525' FSL & 1305' FEL

At proposed prod. zone

2525' FSL & 1305' FEL

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

11 mi. NE of Loco Hills, New Mexico

10. DISTANCE FROM PROPOSED\*

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

1325'

18. DISTANCE FROM PROPOSED LOCATION\*

TO NEAREST WELL, DRILLING, COMPLETED,  
OR APPLIED FOR, ON THIS LEASE, FT.

453'

16. NO. OF ACRES IN LEASE

639.56

19. PROPOSED DEPTH

4000'

17. NO. OF ACRES ASSIGNED  
TO THIS WELL

20

20. ROTARY OR CABLE TOOLS

Rotary

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

3936

3942'

22. APPROX. DATE WORK WILL START\*

6/10/91

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"
					(625)	+ 600 sx. LW

Mud Program

0 - 625' Drill with fresh water  
625 - TO 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.

Part ID-1  
7-26-91

New Loc & BOP

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

John Gould, Jr.

AREA MANAGER

CARLSBAD RESOURCE AREA

TITLE

DATE

7-15-91

APPROVAL SUBJECT TO ANY:

GENERAL REQUIREMENTS AND  
SPECIAL STIPULATIONS

ATTACHED

\*See Instructions On Reverse Side

# 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

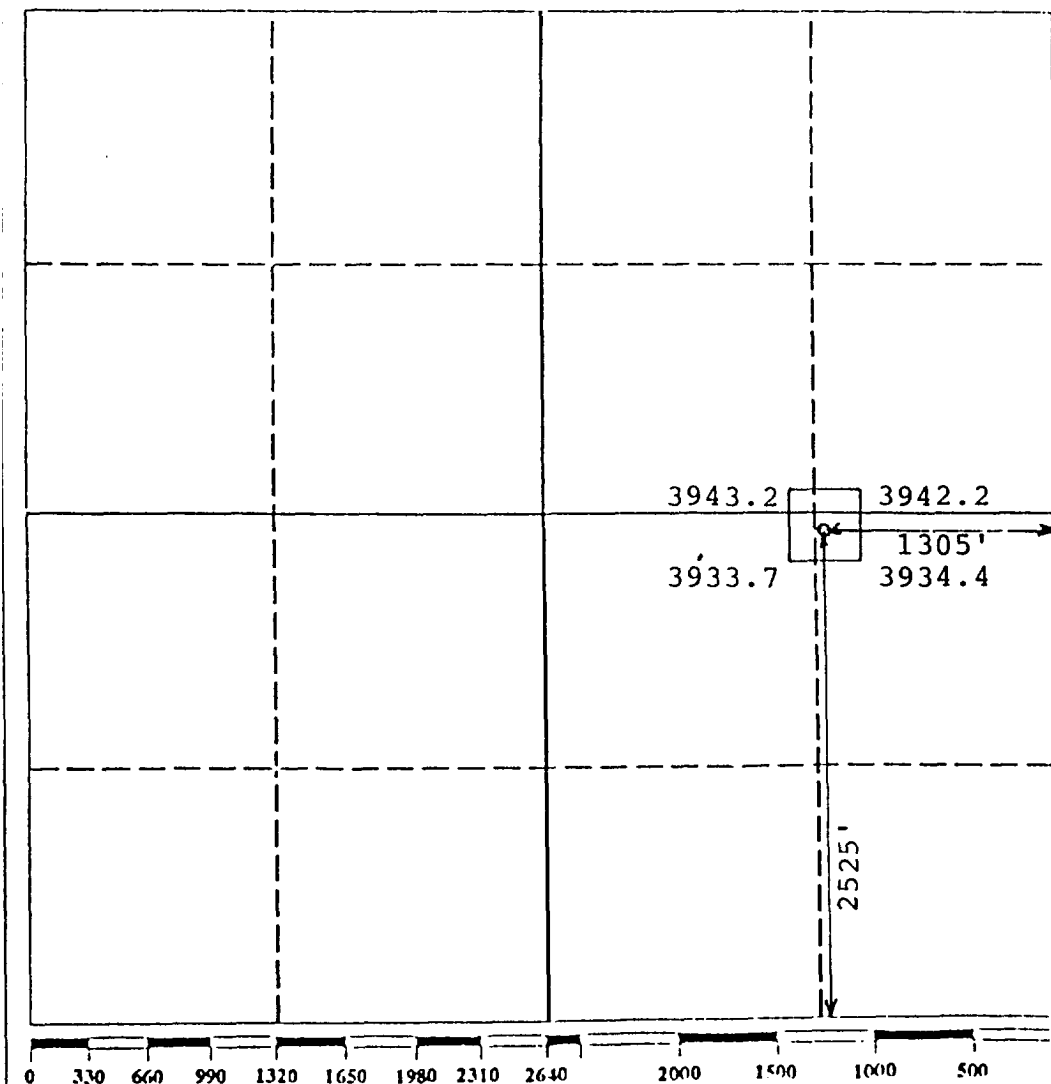
## WELL LOCATION AND ACREAGE DEDICATION PLAT

All Distances must be from the outer boundaries of the section

Operator <b>Socorro Petroleum Company</b>			Lease <b>H.E. West "A"</b>		Well No. <b>20</b>
Unit Letter <b>I</b>	Section <b>4</b>	Township <b>17 South</b>	Range <b>31 East</b>	County <b>Eddy</b>	

Actual Footage Location of Well: <b>2525</b> feet from the <b>South</b> line and <b>1305</b> feet from the <b>East</b> line					
Ground level Elev. <b>3936</b>	Producing Formation <b>Grayburg San Andres</b>		Pool <b>Grayburg Jackson</b>	Dedicated Acreage:  Acres	

1. Outline the acreage dedicated to the subject well by colored pencil or hatchure marks on the plat below.
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).
3. If more than one lease of different ownership is dedicated to the well, have the interest of all owners been consolidated by communization, 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 communization, 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.

*John Gould, Jr.*  
Signature

**John Gould, Jr.**  
Printed Name

**Manager**  
Position

**Socorro Petroleum Co.**  
Company

**6/14/91**  
Date

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.

**June 4 1991**  
Date Surveyed

**P.R. Patton**  
Signature & Seal of Professional Surveyor

**P.R. Patton**  
Signature

**8112**  
Certificate No.

**8112**  
Certificate No.

**8112**  
Certificate No.

**8112**  
Certificate No.

ARCHAEOLOGICAL SURVEY of the SOCORRO PETROLEUM COMPANY  
H.E. WEST "A" FEDERAL WELL NO. 20 & ACCESS ROAD R/W  
T17S, R31E, SECTION 4 (NE¼SE¼).  
[2625 FSL, 1305 FEL]. EDDY COUNTY, NEW MEXICO

FEDERAL LAND SURFACE  
(U.S.G.S. 7.5' series, MALJAMAR, NEW MEXICO, 1985)

ASC Report 91-40

by James V. Sciscenti, Project Archaeologist

ARCHAEOLOGICAL SURVEY CONSULTANTS  
P.O. Drawer D, Roswell, New Mexico 88202  
[505] 623-5012

PERMIT NO.: 18-2920-90-E

April 26, 1991

Prepared for:

Socorro Petroleum Company  
P.O. Box 38  
Loco Hills, New Mexico 88255  
Attention: John Gould

Distribution:

~~Socorro Petroleum Company (1)~~  
BLM - Carlsbad Resource Area (2)  
New Mexico SHPO (1)  
Sciscenti (1)

# ARCHAEOLOGICAL SURVEY CONSULTANTS

# CULTURAL RESOURCES EXAMINATION

in 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.: 91-40; Socorro  
Petroleum Company H.E. West A  
Fed. Well # 20 & Access Road

**1. ABSTRACT:** intensive archaeological survey of the Socorro Petroleum Company H.E. West "A" Federal Well No. 20 (500 ft. NS x 400 ft. EW, 4.59 acres), and access road R/W (400 ft. long x 100 ft. wide, with a 150 ft. sq. delta, 1.09 acres). A total federal land surface of 5.68 acres was inspected for cultural remains.

Archaeological survey revealed the occurrence of a BLM Category 2 archaeological site (ASC 91-40-S1), consisting of a burnt caliche concentration, with burnt carbon. Since the site has the potential for producing a radio-carbon date, and thus providing significant information as to the date of occupation, archaeological CLEARANCE for the Socorro Petroleum Company H.E. West "A" Federal Well No. 20 and access road R/W is RECOMMENDED, with the proviso that the well pad centre be moved a distance of 100 ft. to the south of the currently staked location.

**2. WELL PAD LOCATION:** T17S, R31E, Section 4, NE $\frac{1}{4}$ SE $\frac{1}{4}$  [2625 FSL, 1305 FEL]. ACCESS ROAD R/W LOCATION: T17S, R31E, Section 4: NW $\frac{1}{4}$ SE $\frac{1}{4}$ . Eddy County, New Mexico.

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

**3. PROJECT DESCRIPTION:** well pad (500 ft. NS x 400 ft. EW, 4.59 acres), and access road R/W (400 ft. long x 100 ft. wide, with a 150 ft. sq. delta, 1.09 acres). A total federal land surface of 5.68 acres was inspected for cultural remains.

**TOPOGRAPHY:** 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. 5.0 miles SW. The area is partially within a dune field; the north  $\frac{1}{2}$  of the well pad is characterized by deep sandy, aeolian topography, with dune rises up to 4 metres high, and large, elongate, and often interconnected deflation basins. The southern part of the well pad and the access road R/W are within undulating topography with low dune rises, and relatively small deflation basins.  
**Soils:** Kermit-Berino fine sands. **Permanent Water:** Nakee Ishee Lake, ca. 16.5 miles W/NW.  
**Potential Water:** Taylor Draw, ca. 3.2 miles SE. **Elevation:** 3928 ft. to 3951 ft. **Slope:** 0.5° to 18.4°. **Aspect:** S/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. Ca. 3.0 work hours on ground. Project area staked by client representative. **Visibility:** ca. 60% to 100% in deflation basins. **Weather:** sunny.

**5. FINDINGS:** BLM records (Ruebelmann, 3/04/1991) indicate the recording of NM-06-4943 & LA 43,311 in Section 4 (T17S, R31E). The sites will not be endangered by construction activity.

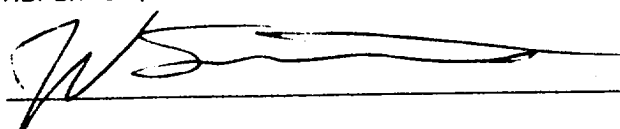
Archaeological survey revealed the occurrence of a BLM Category 2 archaeological site (ASC 91-40-S1), consisting of a burnt caliche concentration, with burnt carbon. No other artifacts occur; surrounding deflation basins of equal or greater depth do not have any artifacts. The site has the potential for producing a radio-carbon date, and thus providing significant information as to the date of occupation. Further data occur in the attached ARMS form.

**6. RECOMMENDATIONS:** since ASC Site 91-40-S1 has the potential for producing a radio-carbon date, and thus providing significant information as to the date of occupation, archaeological CLEARANCE for the Socorro Petroleum Company H.E. West "A" Federal Well No. 20 and access road R/W is RECOMMENDED, with the proviso that the well pad centre be moved a distance of 100 ft. to the south of the currently staked location.

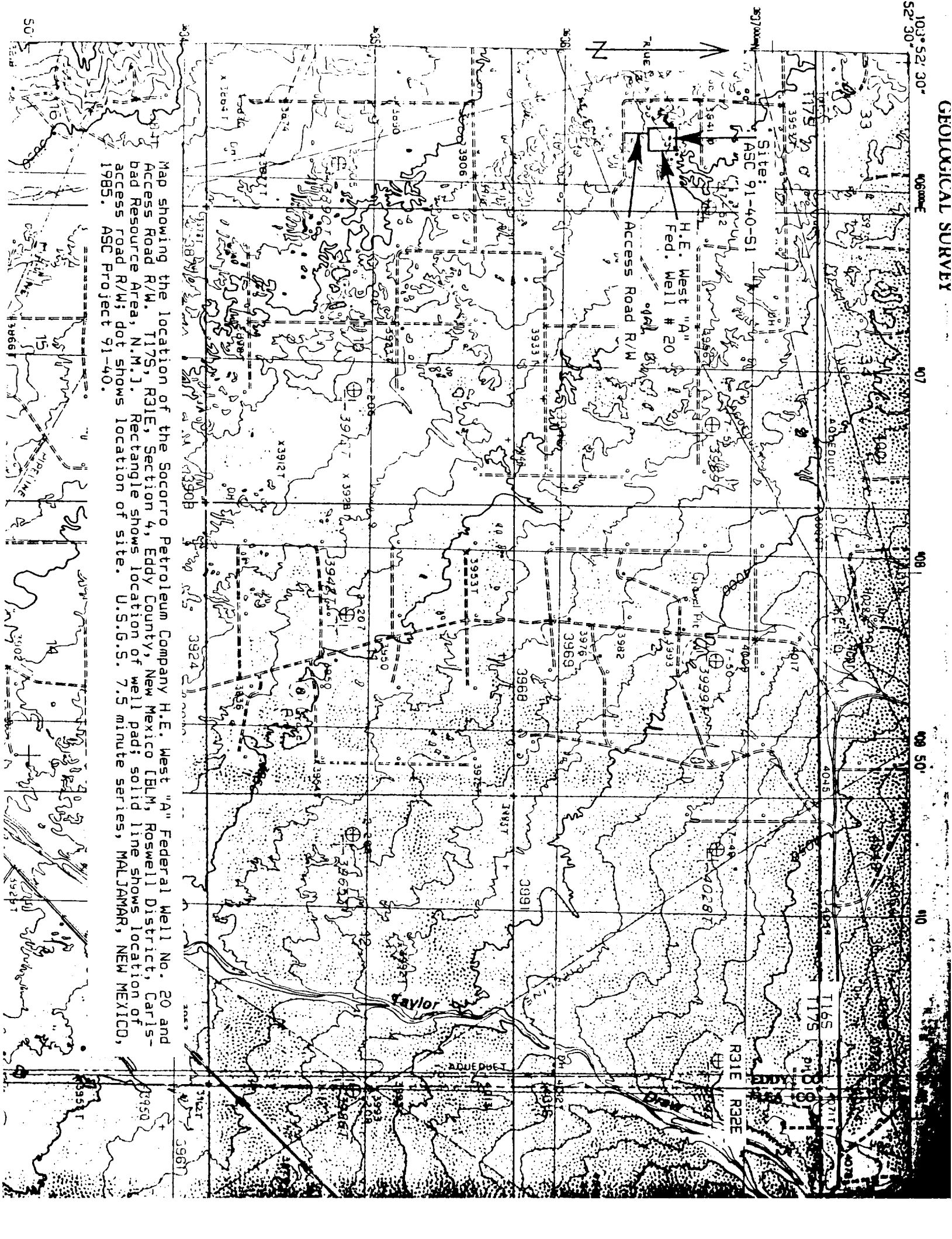
**Date(s) of Examination:** March 13, 1991

**Project Archaeologist:**

**Principal Investigator:**

  
D.M. Griffiths

Map showing the location of the Socorro Petroleum Company H.E. West "A" Federal Well No. 20 and Access Road R/W. T17S, R31E, Section 4, Eddy County, New Mexico (BLM, Roswell District, Carlisbad Resource Area, N.M.J.). Rectangle shows location of well pad; solid line shows location of access road R/W; dot shows location of site. U.S.G.S. 7.5 minute series, MALJAMAR, NEW MEXICO, 1985. ASC Project 91-40.



APPLICATION FOR DRILLING  
subject well  
SOCORRO PETROLEUM COMPANY  
H. E. WEST "A", Well No. 20  
1305' FEL & 2525' FSL, Sec. 4-T17S-R31E  
Eddy County, New Mexico  
Lease No.: LC-029426-A

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 BLM 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	660'	Grayburg	3232'
Top of Salt	800'	Premier Sand	3420'
Base of Salt	1732'	San Andres	3562'
Yates	1982'	Lovington Sand	3680'
Seven Rivers	2220'	Lower S.A. "M"	3760'
Queen	2840'	T. D.	4000'

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 2800'.

Oil: Grayburg at approximately 3212' 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.

10. Anticipated starting date: 6/10/91  
Anticipated completion of drilling operations: Approximately 20  
days.

# MULTI-POINT SURFACE USE AND OPERATIONS PLAN

SOCORRO PETROLEUM COMPANY  
H. E. WEST "A", Well No. 20  
1305' FEL & 2525' FSL, Sec. 4-T17S-R31E  
Eddy County, New Mexico  
Lease No.: LC-029426-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 .5 mile. Then turn east for 1.5 miles. Then turn north for .35 mile. Then turn east for .25 mile on existing lease road, then north .2 mi. to location. (See Exhibit "B".)

## 2. PLANNED ACCESS ROAD:

- A. Length and Width: A 620' road 12' wide will be constructed from existing road north 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



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.
- 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, ca. 2.3 miles NW of Taylor Draw and 2.5 miles SW of the Mescalero Caprock, within an area draining generally southwest toward Cedar Lake Draw, ca. 5.2 miles SW. The project area consists of billowy aeolian deposits, occurring in the form of dune rises (up to 2 meters in height), separated by swales. Deflation basins are elongate to circular in plan.

- B. Soil: The topsoil at the wellsite is Kermit-Berino fine sands.
- C. Flora and Fauna: The vegetative cover is one of a grassland environment and a scrub-grass 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: None in the area.
- E. Residences and Other Structures: None in the area.
- F. Land Use: Cattle grazing.
- G. Surface Ownership: The proposed wellsite and existing access road are on Federal surface and minerals.
- H. Archaeological survey revealed the occurrence of 2 Isolated Manifestations, neither of which appeared significant past the level of field recording. Therefore, archaeological clearance has been recommended. The survey was conducted by Archaeological Survey Consultants, P. O. Box D, Roswell, NM 88202, and their report has been submitted to the appropriate governmental agencies.

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

SURFACE USE AND OPERATIONS PLAN

Socorro Petroleum Company

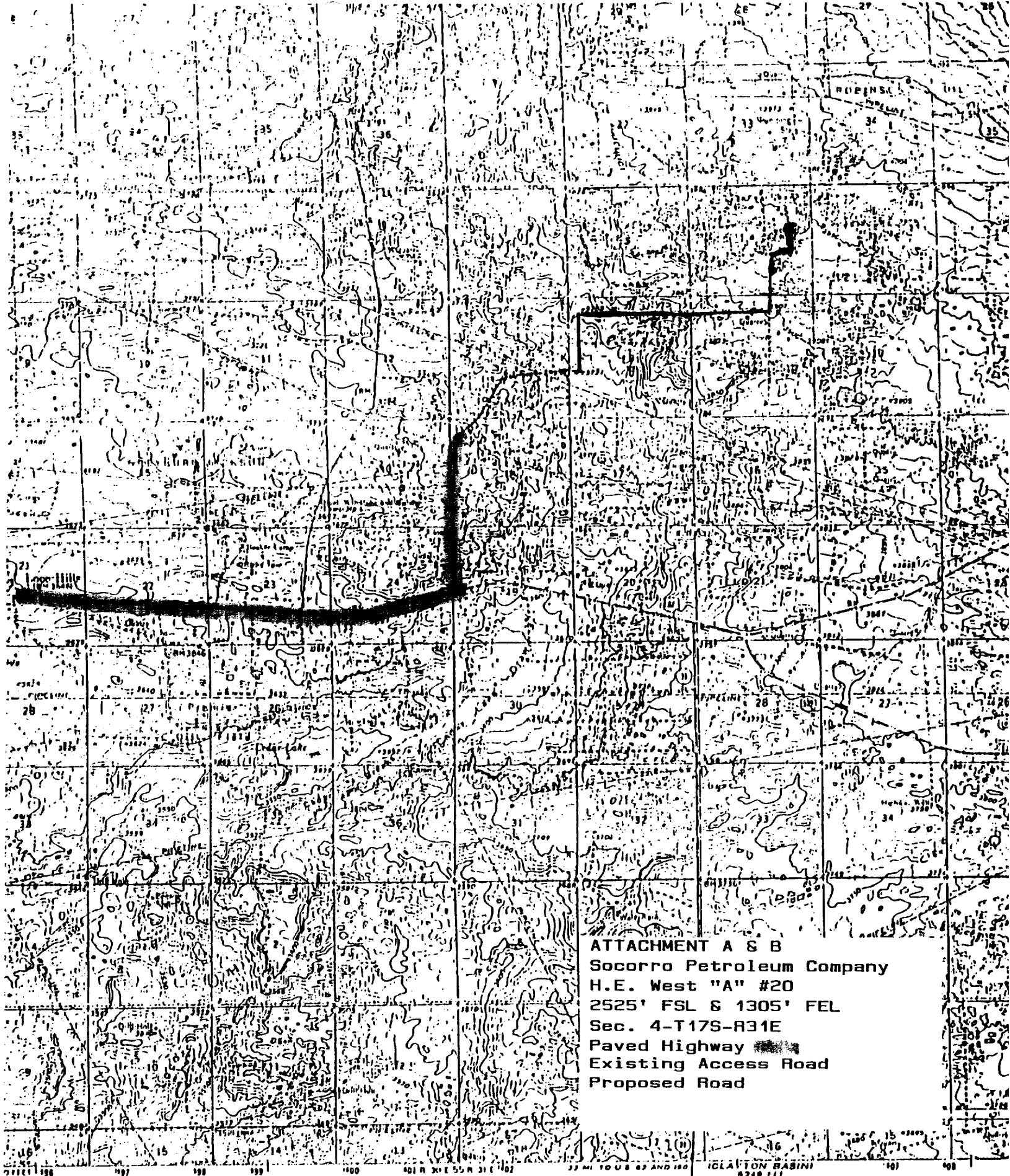
H. E. West "A", Well No. 19

-Page 5-

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.

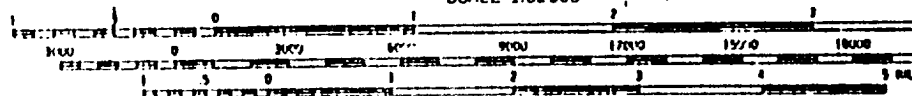
  
Socorro Petroleum Company



ATTACHMENT A & B  
 Socorro Petroleum Company  
 H.E. West "A" #20  
 2525' FSL & 1305' FEL  
 Sec. 4-T17S-R31E  
 Paved Highway  
 Existing Access Road  
 Proposed Road

lished by the Geological Survey

ethods from aerial photographs  
 etable surveys 1963



5175

*To Corrigenda -*

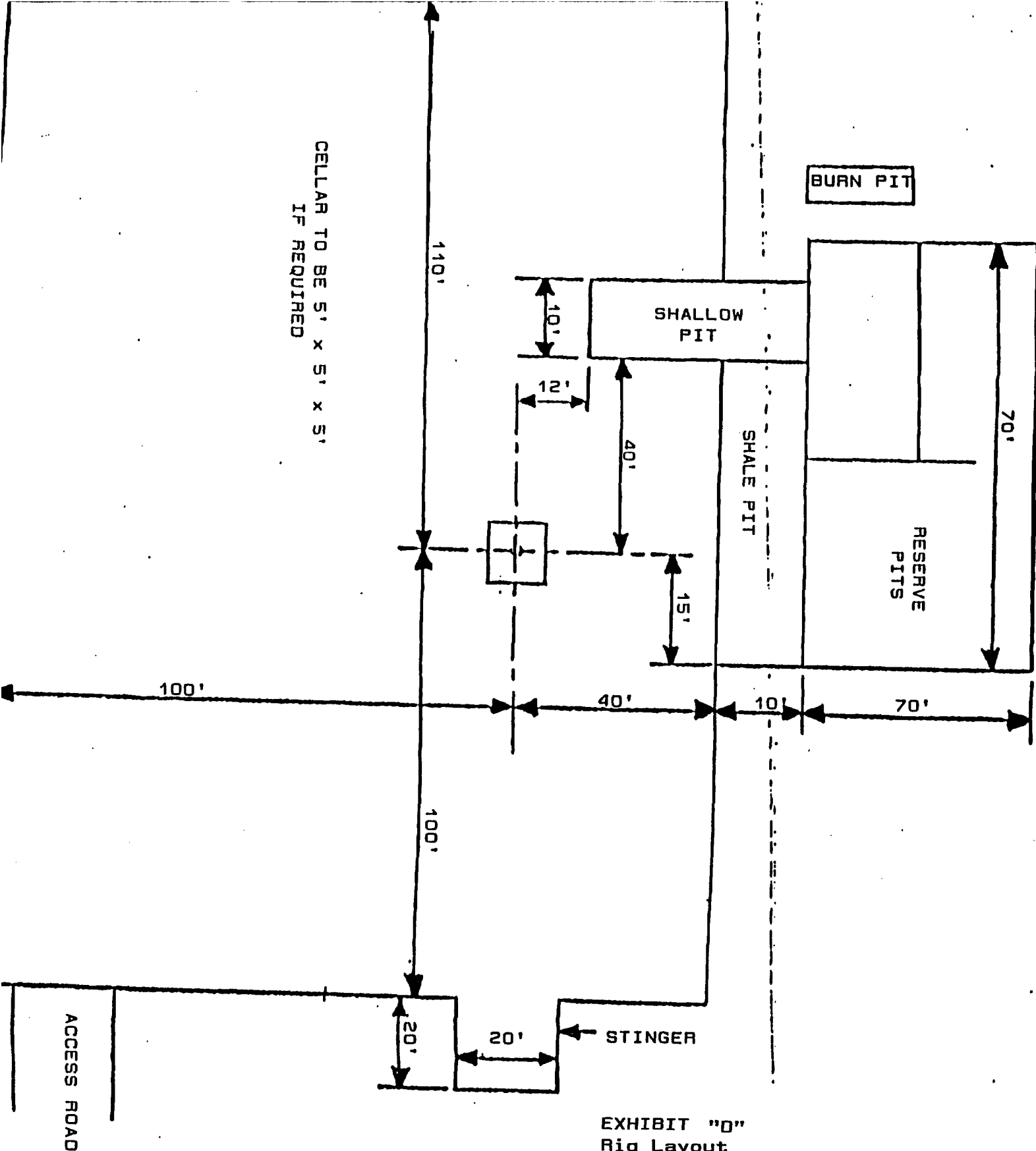
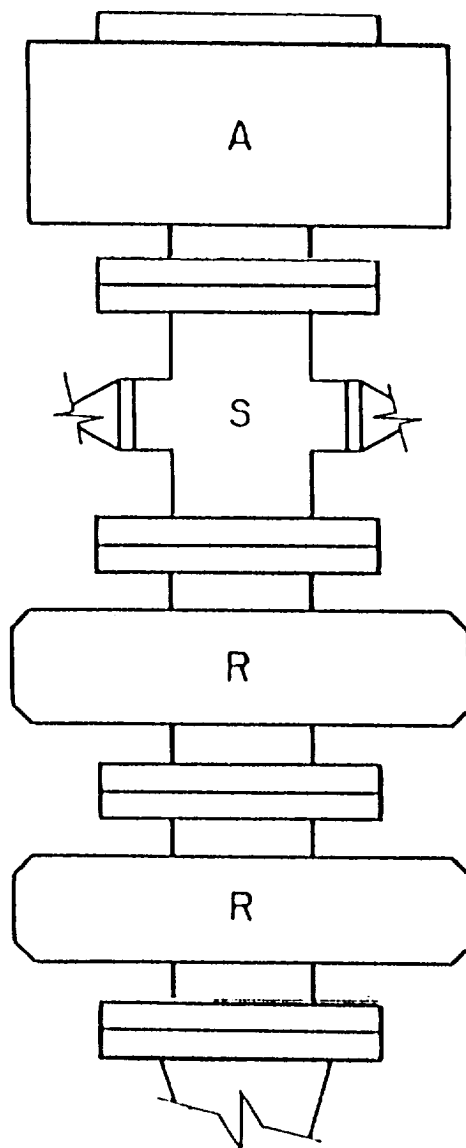


EXHIBIT "D"  
 Rig Layout  
 Socorro Petroleum Company  
 H.E. West "A" #20  
 2525' FSL & 1305' FEL  
 Sec. 4-T17S-R31E



A - Stripping Rubber

R - Blind and Pipe Rams

EXHIBIT "E"  
BOP Diagram  
Socorro Petroleum Company  
H.E. West "A" #20  
2525' FSL & 1305' FEL  
Sec. 4-T17S-R31E