

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

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

WOODBINE PETROLEUM, INC.

3. ADDRESS OF OPERATOR

1445 ROSS AVE., LB 234, DALLAS, TX 75202

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

1650 FSL & 990 FEL

At proposed prod. zone

1650 FSL & 990 FEL

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

14 MILES SOUTH OF MALJAMAR

15. DISTANCE FROM PROPOSED\*

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

330'

16. NO. OF ACRES IN LEASE

160 ACRES

17. NO. OF ACRES ASSIGNED  
TO THIS WELL

40 ACRES

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

1190'

19. PROPOSED DEPTH

3800'

20. ROTARY OR CABLE TOOLS

ROTARY

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

3593'

22. APPROX. DATE WORK WILL START\*

MAY 10, 1991

23.

PROPOSED CASING AND CEMENTING PROGRAM

SIZE OF HOLE	SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	QUANTITY OF CEMENT
12 1/4"	8 5/8"	24#	650'	315 SKS. CIRCULATED
7 7/8"	5 1/2"	15.50#	3800'	620 SKS. (tie back)

Post ID-1  
5-3-91  
New Log & API

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

*[Signature]*

TITLE EXEC. VICE PRESIDENT

DATE 4/10/91

(This space for Federal or State office use)

PERMIT NO.

APPROVAL DATE

APPROVED BY

TITLE

DATE

APPROVAL SUBJECT TO

GENERAL REQUIREMENTS AND  
SPECIAL STIPULATIONS

\*See Instructions On Reverse Side

ATTACHED  
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.

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

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

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

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

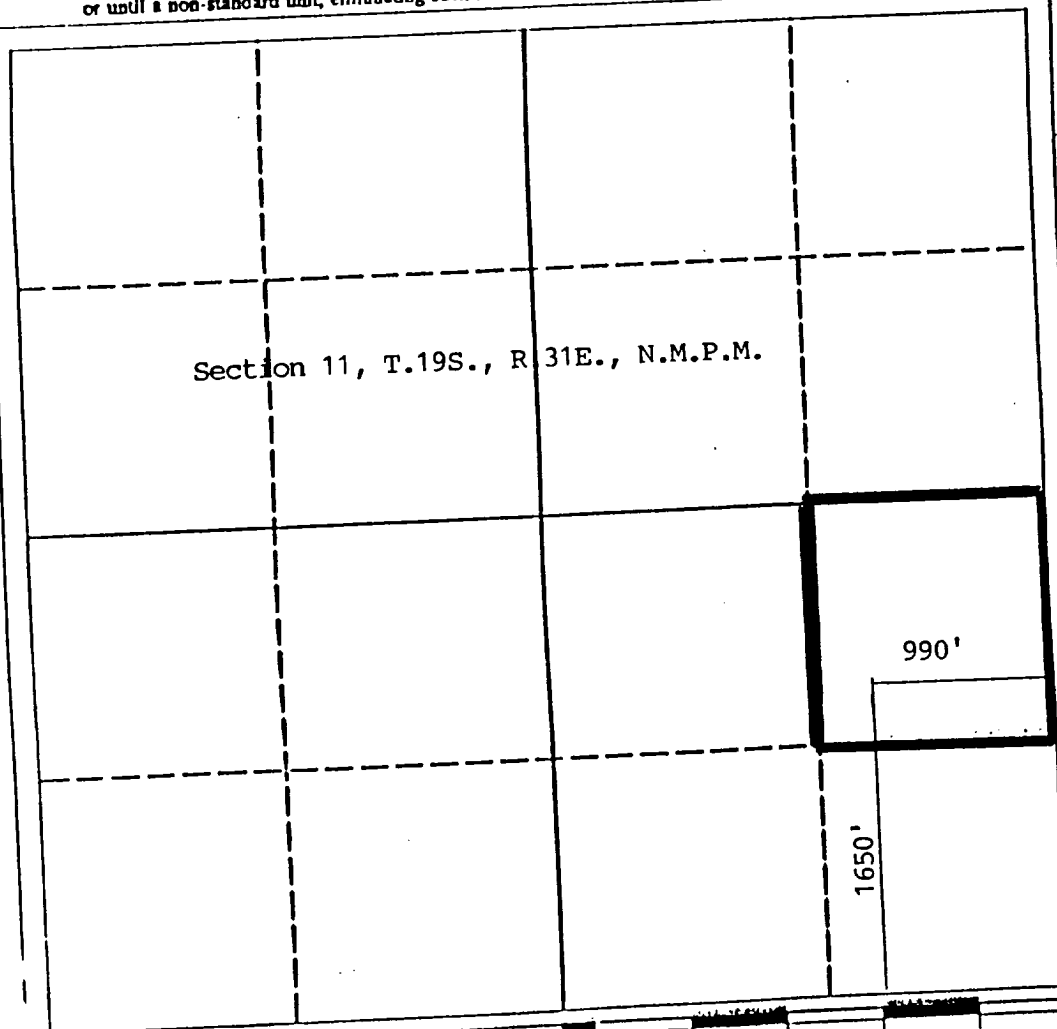
DISTRICT III  
1000 Rio Brazos Rd., Aztec, NM 87410

WELL LOCATION AND ACREAGE DEDICATION PLAT

All Distances must be from the outer boundaries of the Section

Operator Woodbine Petroleum			Lease Hudson Federal		Well No. #4
Unit Letter I	Section 11	Township 19S.	Range 31E.	County NM	Eddy
Actual Footage Location of Well: 1650 feet from the south line and 990 feet from the east line					
Ground Level Elev. 3593	Producing Formation Yates/Seven Rivers		Pool Undesignated	Dedicated Acreage: 40 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). N/A
- 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 N/A  
If answer is "yes" type of consolidation N/A  
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.

Signature  
*W. L. Shackelford*  
Printed Name  
W. L. Shackelford  
Position  
Agent  
Company  
Woodbine Petroleum, Inc  
Date  
March 25, 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  
3/22/91  
Signature & Seal of  
Professional Surveyor  
Certificate No. 6290  
JACQUES  
6290  
PROFESSIONAL SURVEYOR

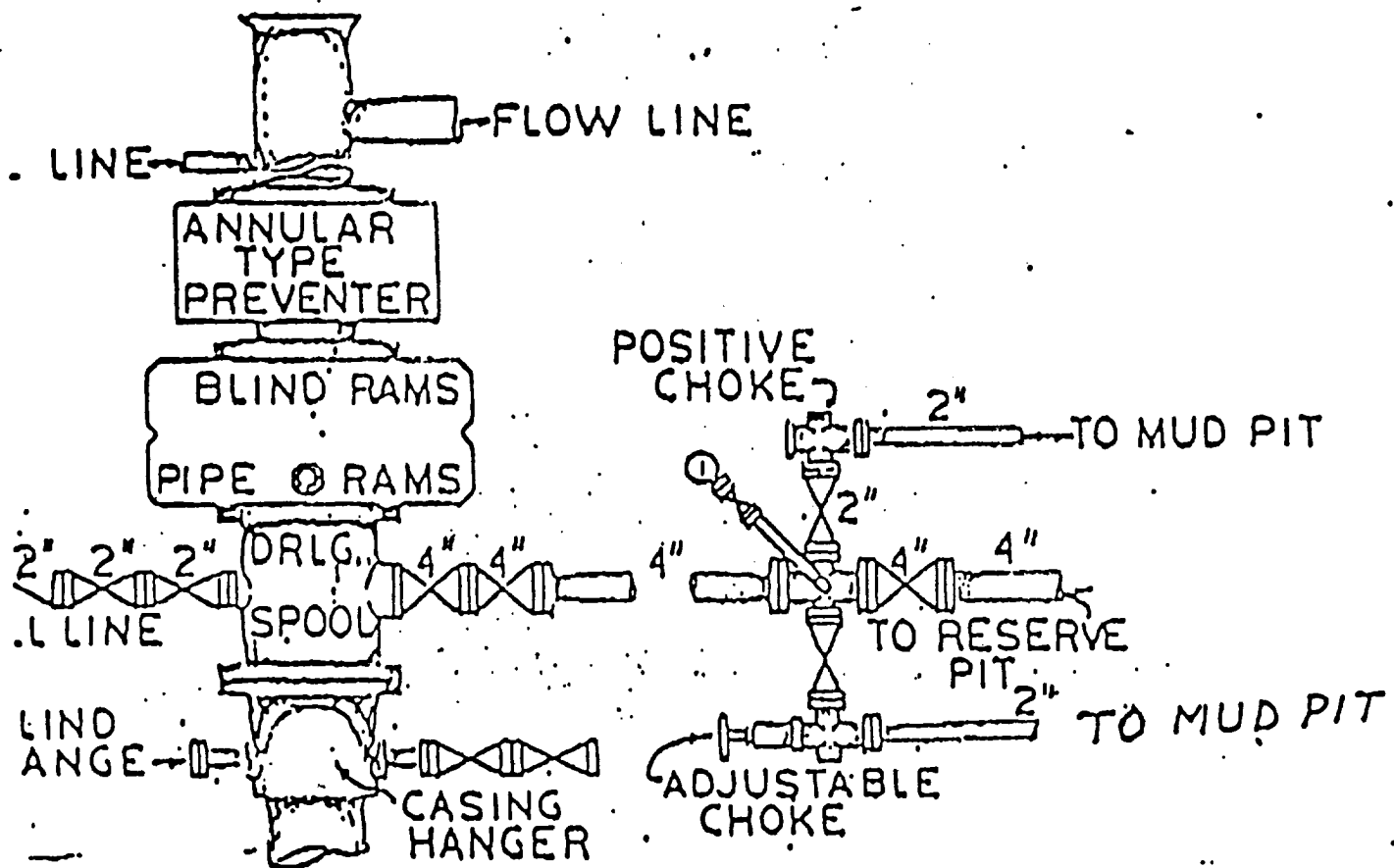
110 660 990 1320 1650 1980 2310 2640 2000 1500 1000 500 0

# EQUIPMENT

## Exhibit E

### B.O.P. ARRANGEMENT

3000 LB. W.P. B.O.P.  
 10" CAMERON TYPE-SS HYDRAULIC B.O.P. 3000 P.S.I.  
 10" G.K. HYDRILL 3000 W.P.  
 80 GALLON- STATION KOOMEY ACCUMULATOR  
 3000 LB. W.P. CHOKE MANIFOLD



APPLICATION TO DRILL  
WOODBINE PETROLEUM, INC.  
HADSON FEDERAL #4

1650' FSL & 990' FEL  
SECTION 11, T19S, R31E  
EDDY COUNTY, NEW MEXICO

In conjunction with Form 3160-3, Application for Permit to Drill, Woodbine Petroleum, Inc. submits the following ten items of pertinent information to drill the subject well in accordance with Bureau of Land Management requirements.

1. The geologic surface formation is cretaceous.
2. The estimated tops of geologic markers are:
  1. Anhydrite 650'
  2. Tansill 2192'
  3. Yates 2388'
  4. Seven Rivers 2598'
3. The estimated depths at which water, oil or gas-bearing formation are expected:

Water: 300'

Oil and Gas: 2388'-2800' Yates and Seven Rivers
4. Proposed casing program: See Form 3160-3
5. Pressure control equipment: See Exhibit E
6. Mud Program: See Exhibit F
7. Anticipated bottom-hole pressure: No abnormal pressures are expected. Hydrogen sulphide gas may be encountered in the Capitan Reef, although none is expected. Appropriate safety precautions will be taken.
8. Testing, Logging and coring programs:

Drill Stem tests:  
No DST's anticipated to be taken

Logging:  
Mud loggers will be used from 2300' to TD  
Wireline Logging program: Compensated neutron, formation density, dual laterolog, gamma ray, caliper, microlog
9. Anticipated starting date: As soon as possible.

## MULTI-POINT SURFACE USE AND OPERATIONS PLAN

WOODBINE PETROLEUM, INC.  
HADSON FEDERAL #4  
1650' FSL & 990' FEL  
SECTION 11, T19S, R31E  
EDDY 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 operations so that a complete appraisal can be made of the environmental effects associated with the operation.

### 1. EXISTING ROADS

A. Reduced section of a USGS topographic map showing existing lease roads and location. The scale is one inch equals 3,000 feet.

#### DIRECTIONS:

1. Proceed west from Hobbs on US 62-180 for 36 miles.
2. Turn right on (north) on State Highway 176 and continue for 4.2 miles.
3. Turn right (north) on county road 126A and continue 4.5 miles and turn left (west) go approximately 2 miles then north approximately one mile to the location.

### 2. PLANNED ACCESS ROAD

A. See Item 1.

### 3. LOCATION OF EXISTING WELLS

A. The locations of existing active wells located in and immediately adjacent to Section 11 are highlighted on Exhibit "C".

### 4. LOCATION OF EXISTING AND PROPOSED FACILITIES

A. There are two producing wells on this lease, the Hadson Federal #1, located 2180' FEL and 760' FSL and the Hadson Federal #2 located 1650' FSL & 2180' FEL, Section 11 T19S R31E, Eddy County, New Mexico.

### 5. LOCATION AND TYPE OF WATER SUPPLY

- A. It is planned to drill the proposed well with a cut-brine water system. The water will be obtained from commercial sources and will be hauled to location by truck over existing and proposed lease roads marked on Exhibit "B".

#### 6. SOURCES OF CONSTRUCTION MATERIALS

- A. Caliche required for construction of the location pad and access road will be obtained from caliche on the location.

#### 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 collected at the tank battery and pumped to an approved disposal system.
- D. Oil produced during operations will be stored at the existing battery and sold through transport trucks.
- E. Current regulations pertaining to disposal of human waste will be complied with.
- F. 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.
- G. All trash and debris will be buried or removed from the well site within 30 days after drilling and/or completion operations are terminated.

#### 8. ANCILLARY FACILITIES

- A. No ancillary facilities will be required for this well.

#### 9. WELLSITE LAYOUT

- A. Exhibit "D" shows the dimensions of the well pad and reserve pits and the location of major rig components.
- B. The ground surface at the drilling location is essentially flat.
- C. The reserve pits will be plastic lined.
- D. The pad and pit area has been staked and flagged.

#### 10. PLANS 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 fluids 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 90 days after abandonment.

#### 11. TOPOGRAPHY

- A. The well site and access route are located in a flat area with little relief.
- B. The top soil at the wellsite is caliche.
- C. The vegetation cover at the wellsite is moderately sparse, with mesquite, grasses, yucca, scrub oak and weeds.
- D. No wildlife was observed but it is likely that rabbits, lizards, insects and rodents traverse the area. The area is used for cattle grazing.
- E. There are no ponds, lakes, streams, or rivers within several miles of the wellsite.
- F. The wellsite is located on federal surface.
- G. There is no evidence of any archaeological, historical or cultural sites in the vicinity of the location.

#### 12. OPERATOR'S REPRESENTATIVES

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

Don G. Shackelford  
Executive Vice President  
Woodbine Petroleum, Inc.  
1445 Ross Avenue  
Suite 3660, LB 234  
Dallas, Texas 75202  
Phone: (214) 855-6263 (office)  
(214) 492-5754 (home)

Douglas R. Evans  
President  
Woodbine Petroleum, inc.  
1445 Ross Avenue  
Suite 3660, LB 234  
Dallas, Texas 75202  
Phone: (214) 855-6263 (office)  
(214) 522-0272 (home)

13. CERTIFICATION

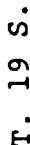
I hereby certify that I, or persons under my direct supervision, have inspected the proposed drillsite and access route; that I am familiar with the conditions which presently exist; that the statements made in this plan are, to the best of my knowledge, true and correct; and that the work associated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

April 10, 1991  
Date

By: Don G. Shackelford  
Don G. Shackelford  
Executive Vice President



HADSON FEDERAL #4 - 1650' FSL & 990' FEL SEC. 11, T19S R31E, EDDY COUNTY, NEW MEXICO



R. 31 E.

Item 1

THIS MAP COMPLIES WITH NATIONAL MAP ACCURACY STANDARDS  
FOR SALE BY U.S. GEOLOGICAL SURVEY, IN WASH. COLUMBIA 20228  
ON MEXICO, VIRGINIA 2249

HWY 5  
62 8  
180



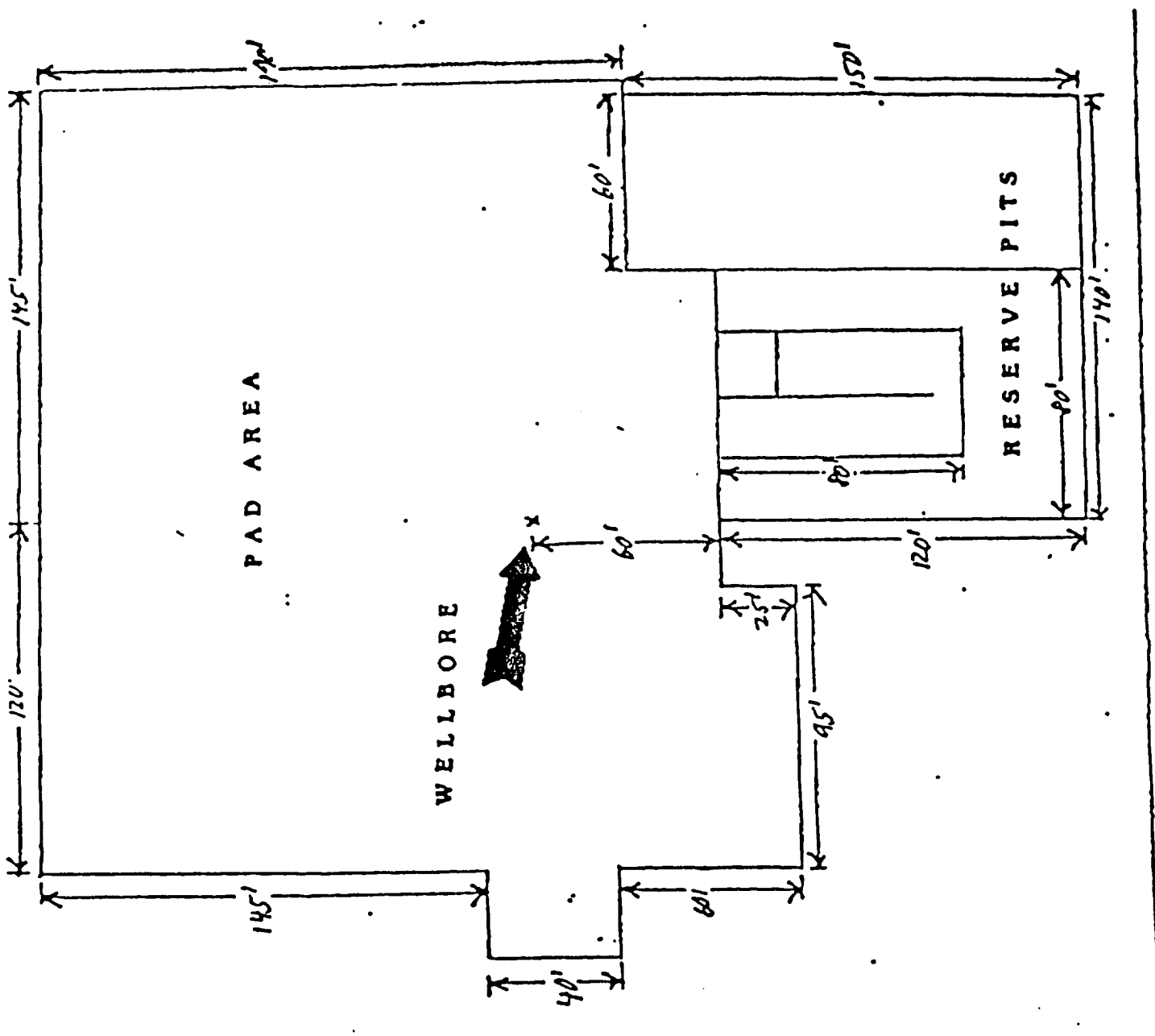


EXHIBIT D

## EXHIBIT "F"

### DRILLING PROGNOSIS HADSON FEDERAL #4

**LOCATION:** 1,650' FSL & 990 FEL T19S R31E, Eddy County, New Mexico

**PROPOSED DEPTH AND OBJECTIVE:** 3,800' Yates and Seven Rivers Test

**CASING PROGRAM:** Surface: 8 5/8" 24# J-55 set at 650' in an 12 1/4" hole

Production: 5 1/2" 15.50# J-55 from surface to 3,800'. Sufficient cement will be used to bring the top of cement up 100' feet into surface casing

**LOGGING PROGRAM:** A compensated neutron/formation density, with gamma ray, and caliper. A dual laterolog will be run for water saturation analysis. All logs will be run from the TD to the base of surface casing.

**MUD LOGGING:** Samples will be taken every 10 feet from 2,300 feet to TD.

**MUD PROGRAM:**

0 - 650' Spud 12 1/4" hole with fresh water containing gel and lime, if necessary for hole cleaning. Mud weight should be 8.5 - 8.7 lb/gal with a viscosity of 33-35 sec/1000 cc.

650' - 3,800' Drill out below surface pipe using 7 7/8" bit with 10 lb/gal brine for drilling the native salt section. Lime will be added to maintain a ph of 9.5 - 10.0 partial or total lost circulation is expected in the top of the Capitan Reef at + 2,850 feet. If total loss does occur, the remainder of the hole will be dry drilled with sweeps to 3,800 feet.

**SURFACE PIPE - 650 FT OF 12 1/4" HOLE:**

Attempt to circulate 315 sxs. with Class "C" cement and 2% CACL and 1/4 lb/sack of cellophane flakes a "Texas" pattern guide shoe and insert float valve will be run, along with 3 centralizers on bottom 300 feet of string. Thread socking compound should be used on bottom two joints of casing.

**PRODUCTION CASING - 3,800 FT OF 5 1/2" IN 7 7/8" HOLE:**

Production casing will be cemented with 1620 sxs. Class "C" with 5 lb/sack salt and some fluid loss additive. Cement will be brought up 100' from base of surface casing.

JOHN D. JAQUES  
CONSULTING ENGINEERS  
P.O. Box 2565  
ROSWELL, NEW MEXICO 88201  
(505) 622-8866

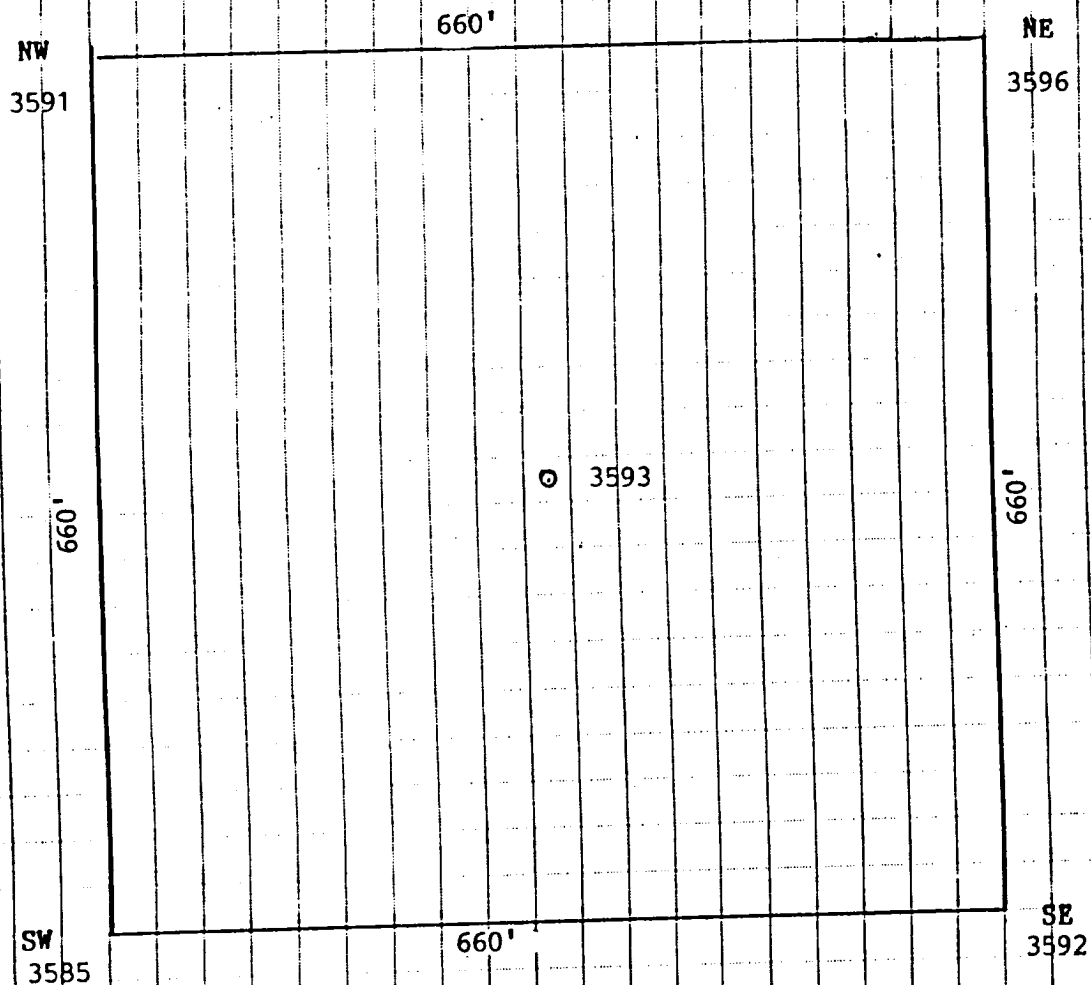
JOB \_\_\_\_\_ GRID ELEVAT \_\_\_\_\_ VS \_\_\_\_\_

SHEET NO. \_\_\_\_\_ OF \_\_\_\_\_

CALCULATED BY \_\_\_\_\_ DATE \_\_\_\_\_

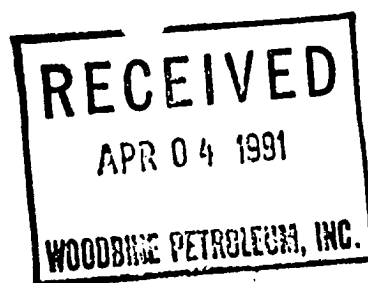
CHECKED BY \_\_\_\_\_ DATE \_\_\_\_\_

SCALE \_\_\_\_\_



HADSON FEDERAL #4  
1650 FSL, 990 FEL  
SECTION 11, T.19S., R.31E.  
EDDY COUNTY, NEW MEXICO

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



Hadson Fed. Well # 4  
& Access Road R/W

ASC Job 91-45

Date: 4/01/1991

Don Shackelford  
Woodbine Petroleum, Inc.  
1445 Ross Avenue, Suite 3660  
Dallas, Texas 75202

Dear Mr. Shackelford:

Enclosed please find ASC Report 91-45, covering the archaeological survey of the Woodbine Petroleum, Inc., Hadson Federal Well No. 4, and a 150 ft. wide ~~combined access road/powerline R/W~~. The survey was requested by your agent, Wilbur Shackelford, in compliance with relevant federal regulations. In passing, originally the surveyors had staked the location at 1650 FSL, 1990 FEL; a radio-phone conversation with Wilbur led to re-staking the location at 1650 FSL, 990 FEL.

Since no significant archaeological materials were found, we have recommended archaeological clearance for the well pad and combined access road/powerline R/W. Copies of the report have been distributed as per the list on the title page, and you need not concern yourself with distribution to those agencies.

**Also enclosed, please find ASC Invoice 91-45, for performance of the survey.**

We are pleased to have been of service with this project, and hope to assist you in the future. Should you have questions concerning the project, please call our office.

Sincerely,

*D.M. Griffiths.*

D.M. Griffiths  
Principal Investigator

enclosure: report (1); invoice (1)

cc: ASC File 91-45 (1)

ARCHAEOLOGICAL SURVEY of the WOODBINE PETROLEUM, INC.  
HADSON FEDERAL WELL NO. 4 & COMBINED ACCESS ROAD/POWERLINE R/W  
T19S, R31E, SECTION 11, NE¼SE¼  
[1650 FSL, 990 FEL]. EDDY COUNTY, NEW MEXICO

FEDERAL LAND SURFACE [USGS 7.5', GREENWOOD LAKE, N.M., 1985]

ASC Report 91-45

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

March 28, 1991

Prepared for:

Woodbine Petroleum, Inc.  
1445 Ross Avenue, Suite 3660  
Dallas, Texas 75202

Attention: Don Shackelford

Distribution:

Woodbine Petroleum, Inc. (1)  
Wilbur Shackelford (1)  
BLM - Carlsbad Resource Area (2)  
New Mexico SHPO (1)  
Sciscenti (1)



## 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.: 91-45; Woodbine  
Petroleum, Inc., Hadson Fed.  
Well No. 4 & Access Road R/W

**1. ABSTRACT:** intensive archaeological survey of the Woodbine Petroleum, Inc., Hadson Federal Well No. 4 (660 ft. square, 10 acres), and combined access road/powerline R/W (660 ft. long x 150 ft. wide, 2.27 acres); a total federal land surface of 12.27 acres was inspected for cultural remains. A NS trending, sub-surface pipeline is ca. 175 ft. west of the well centre.

Archaeological survey did not reveal any cultural resources. Therefore, archaeological CLEARANCE for the Woodbine Petroleum, Inc., Hadson Federal Well No. 4, and combined access road/powerline R/W, is RECOMMENDED.

**2. WELL PAD LOCATION:** T19S, R31E, Section 11, NE $\frac{1}{4}$ SE $\frac{1}{4}$  [1650 FSL, 990 FEL]. **ACCESS ROAD / POWERLINE R/W LOCATION:** T19S, R31E, Section 11, NW $\frac{1}{4}$ SE $\frac{1}{4}$ . Eddy County, New Mexico.

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

**3. PROJECT DESCRIPTION:** well pad (660 ft. square, 10 acres), and combined access road/powerline R/W (660 ft. long x 150 ft. wide, 2.27 acres); a total federal land surface of 12.27 acres was inspected for cultural remains.

**TOPOGRAPHY:** Mescalero Pediment, Querecho Plains, in an expanse of relatively level terrain with low relief, which slopes to the south/southwest towards the Nimenim Ridge escarpment; the project area is within the drainage of Hackberry Lake, ca. 5.7 miles SW. The area is marked by shallow soils directly overlaying indurated caliche, with a high surface visibility; there is a slight slope to the S/SW, with the SW corner some 7 ft. lower in elevation than the NE corner of the well pad. **Soils:** Simona-Bippus complex. **Permanent Water:** Laguna Plata, ca. 7.0 miles SE. **Potential Water:** Greenwood Lake, ca. 1.0 miles E/SE. **Elevation:** 3581 ft. to 3595 ft. **Slope:** 0.3° to 1.9°. **Aspect:** S/SW. **Lithic Resources:** not available in immediate project area. **Vegetation:** Grassland Formation, scrub-grass scrub disclimax community.

**4. EXAMINATION PROCEDURE:** straight and zig-zag transects, spaced no greater than 15 metres apart. **Work Hours on Ground:** Ca. 2.5. **Project Delineation:** staked by client representative. **Visibility:** ground, ca. 65%, with 100% in deflation basins; weather, sunny.

**5. FINDINGS:** BLM records [Ruebelmann, 3/04/91] indicate prior recording of NM-06-4307 in Section 11 (T19S, R31E); the site will not be endangered by construction activity.

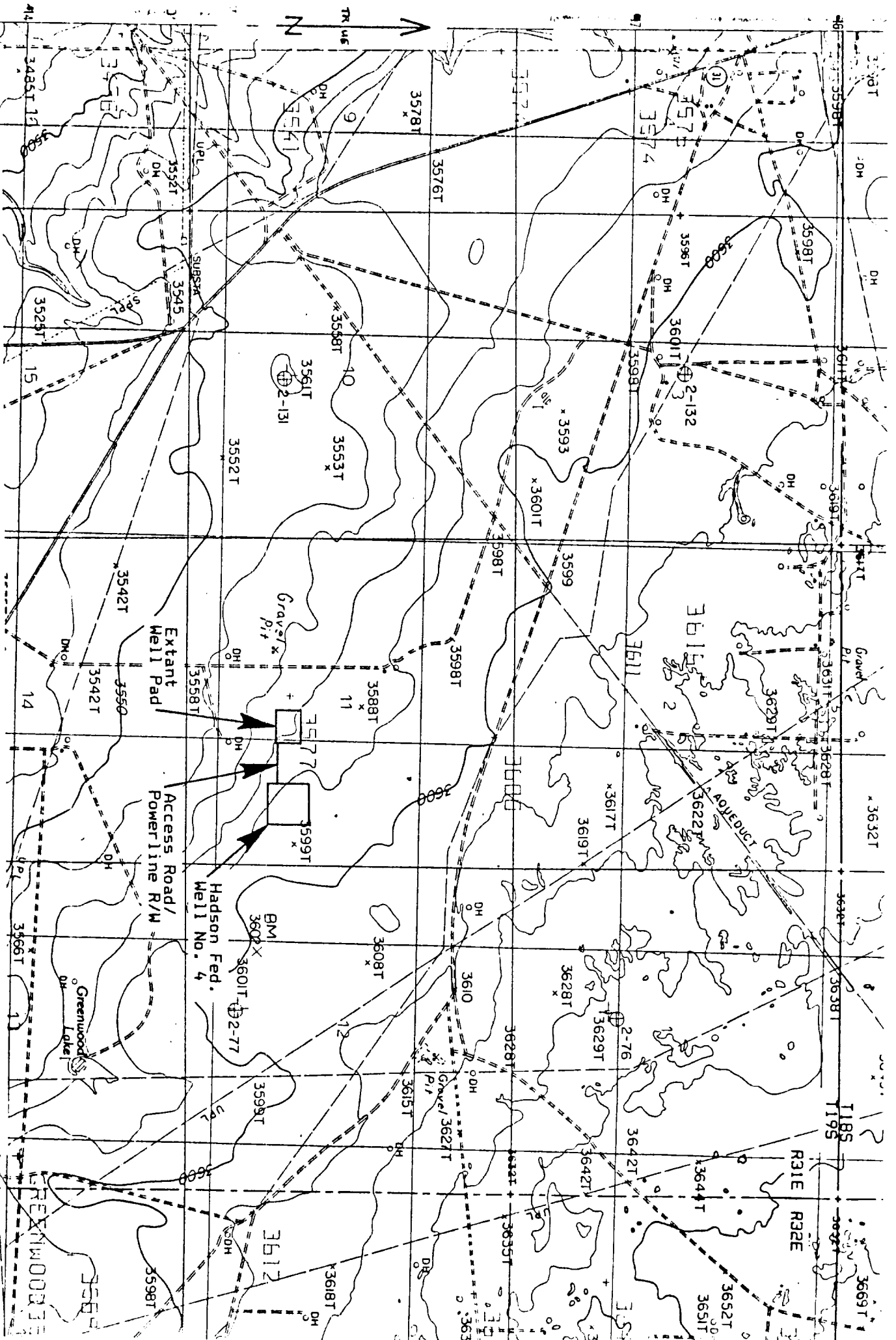
Archaeological survey did not reveal any cultural resources.

**6. RECOMMENDATIONS:** archaeological CLEARANCE for the Woodbine Petroleum, Inc., Hadson Federal Well No. 4, and combined access road/powerline R/W, is RECOMMENDED.

**Date of Examination:** March 22, 1991

**Project Archaeologist:** 

**Principal Investigator:** 



Map showing the location of the Woodbine Petroleum, Inc., Hadson Federal Well No. 4 and associated Access Road/Powerline R/W. T195, R31E, Section 11, Eddy County, New Mexico (BLM, Roswell District, Carlsbad Resource Area, N.M.J.). Squares show locations of well pads; solid line shows location of access road/powerline R/W. U.S.G.S. 7.5 minute series, GREENWOOD LAKE, NEW MEXICO, 1985. ASC Project 91-45.

2-130T

2-78

2-78