

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

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

Tenneco Oil Company

3. ADDRESS OF OPERATOR

1860 Lincoln St., Suite 1200, Denver, Colorado 80203

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

At surface

1850' FSL and 1105' FEL, Unit #1

At proposed prod. zone

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

See Point 1 of Surface Use Plan

15. DISTANCE FROM PROPOSED*

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

18. DISTANCE FROM PROPOSED LOCATION*

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

16. NO. OF ACRES IN LEASE

320

19. PROPOSED DEPTH

± 4830'

17. NO. OF ACRES ASSIGNED
TO THIS WELL

S/320 S/267.50

20. ROTARY OR CABLE TOOL

Rotary

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

5749' GL

22. APPROX. DATE WORK WILL START*

2-2-77

23.

PROPOSED CASING AND CEMENTING PROGRAM

SIZE OF HOLE	SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	QUANTITY OF CEMENT
12-1/4"	9-5/8"	36#	± 200'	Suff. to circulate to surface
8-3/4"	7"	23#	± 2965'	Suff. to cement back to surface
6-1/8"	4-1/2"	10.5#	± 2665'-4830'	Suff. to cement back to 7" cs

Plan to drill well as follows:

1. MIRURT, drill 12-1/4" hole to ± 200'.
2. Set and cement 9-5/8" casing to ± 200' & cement with suff. cement to circ. to surf
3. Drill out with 8-3/4" bit to ± 2965'.
4. Run 7" casing and cement back to surface casing.
5. Drill out of 7" using gas as the circulating fluid, do not drill more than 10' below the 7" casing shoe until the hole has dried up completely and is dusting.
6. Drill the hole to T. D., log the hole dry as requested by drillsite geologist.
7. Run 4-1/2" liner to T. D., load hole with mud and cement liner back to top of 4-1/2" Set liner hanger and POH w/drill pipe.
8. This well will be completed through casing perforations and stimulated as necessary to establish commercial production.
9. Clean up area.
10. Approximately 8 days will be required to drill this well.
11. The gas has been dedicated to Southern Union Gathering Co.

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

H. E. Brown

TITLE Div. Drilling Engineer

DATE 11-4-76

(This space for Federal or State office use)

PERMIT NO.

APPROVAL DATE

RECEIVED

APPROVED BY

TITLE

NOV 5 1976

CONDITIONS OF APPROVAL, IF ANY:

NWA 347 *Okaf*

*See Instructions On Reverse Side

U. S. GEOLOGICAL SURVEY
FARMINGTON, N. M.

**NEW MEXICO OIL CONSERVATION COMMISSION
WELL LOCATION AND ACERAGE DEDICATION PLAT**

All distances must be from the outer boundaries of the Section

Operator TENNECO OIL COMPANY			Lease HOWELL		Well No. 1 -A
Unit Letter I	Section 20	Township 30 NORTH	Range 8 WEST	County SAN JUAN	
Actual Footage Location of Well: 1850 feet from the SOUTH line and 1105 feet from the EAST line					
Ground Level Elev. 5749	Producing Formation Blanco Mesa Verde		Pool Blanco Mesa Verde		Dedicated Acreage: 51320 5/26750 Acres

1. Outline the acreage dedicated to the subject well by colored pencil or hachure 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 interests of all owners been consolidated by communitization, unitization, force-pooling, etc?
- (☒) Yes () No If answer is "yes," type of consolidation Communitization

If answer is "no," list the owners and tract descriptions which have actually 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 interests, has been approved by the Commission.

CERTIFICATION

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

Name Ted F. Drake
 Position _____
Production Clerk
 Company _____
Tenneco Oil Company
 Date _____
October 26, 1976

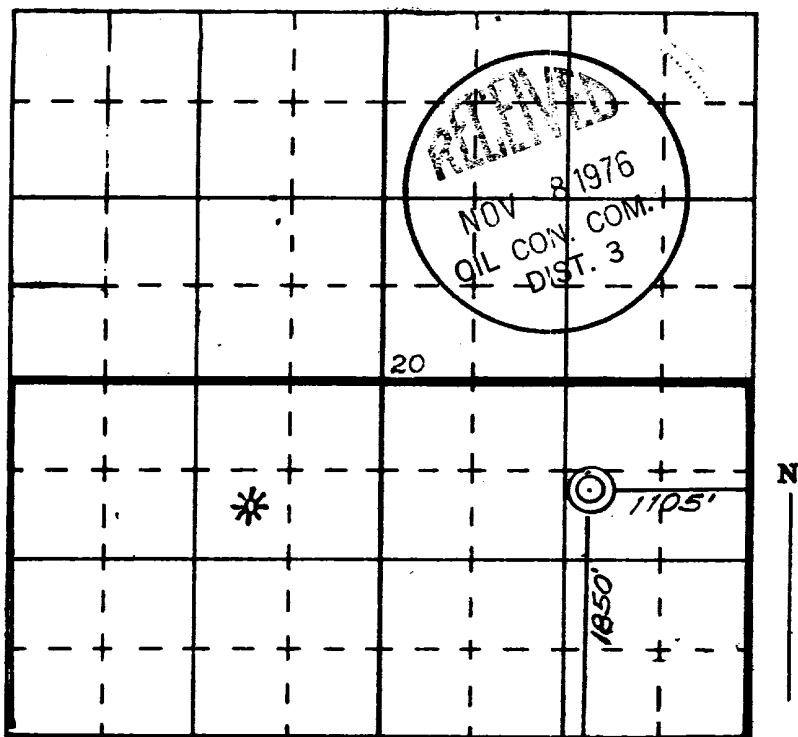
I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my knowledge and belief.

13 October 1976

Date Surveyed _____
James P. Leese
 Registered Professional Engineer
 and/or Land Surveyor **James P. Leese**

1463

Certificate No. _____



APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

(PAGE 2) for Howell #1A

12. SURFACE FORMATION IS San Jose (EOCENE)

13. FORMATION TOPS (Estimated)

Pictured Cliffs	± 2465'	possible oil or gas producer
Cliff House	± 4175'	possible oil or gas producer
Menefee	± 4245'	possible oil or gas producer
Point Lookout	± 4650'	possible oil or gas producer
Mancos Shale	± 4710'	

14. Mud program : see point 7 of 7 point well control plan

15. No coring or drill stem tests will be taken

16. Logs to be taken= Density
Gamma Ray
Caliper and temperature logs
Deviation surveys will also be taken

7 POINT WELL CONTROL PLAN

1. Surface casing: 9 5/8", 24#, approximately 200, grade K-55, new condition.
2. Casinghead will be 10", 900 Series, 3,000 psi rating.
3. Intermediate casing - 7", 20#, K-55, will be set at \pm 2965' and cemented to surface casing.
4. Blowout preventors: Hydraulic, double ram, 10". One set of rams will be provided for each size drill pipe in the hole. One set of blind rams at all times. Fill line will be 2", kill line will be 2", choke relief line will be 2" with variable choke.
5. Auxiliary equipment:
 - (1) Kelly cock will be in use at all times.
 - (2) Stabbing valve to fit drill pipe will be present on floor at all times.
 - (3) Mud monitoring will be visual, no abnormal pressures are anticipated in this area.
 - (4) Rotating head will be used when drilling with gas.
6. Anticipated bottom-hole pressure:

This is an area of known pressure. Maximum anticipated pressure at TD is 1200 psi. No abnormal pressure is anticipated.
7. Drilling Fluids:

0 - 200'	Spud mud
200' - 2965'	Gel water - low solids as needed to maintain good conditions.
2965' - T.D.	Compressed gas

BLM SEEDING REQUIREMENTS
IN THE FARMINGTON RESOURCE AREA

1. SEED MIXTURE 2

2. TIME:

All seeding will take place between July 1 and September 15.

3. EQUIPMENT:

Seeding will be done with a disc-type drill with two boxes for various seed sizes. The drill rows will be eight to ten inches apart. The seed will be planted not less than one-half inch deep or more than one inch deep. The seeder will be followed with a drag, packer, or roller to insure uniform coverage of the seed, and adequate compaction. Drilling will be done on the contour where possible, not up and down the slope. Where slopes are too steep for contour drilling, a "cyclone" hand seeder or similar broadcast seeder will be used. Seed will then be covered to the depth described above by whatever means is practical.

4. SPECIES TO BE PLANTED IN POUNDS PURE-LIVE-SEED PER ACRE:

CRESTED WHEATGRASS (Agropyron desertorum) - $3\frac{1}{2}$ lbs.

FOURWING SALTBUSH (dewinged) (Atriplex conescens) - $\frac{1}{2}$ lb.

SAND DROPSEED (Sporobolus cryptandrus) - $\frac{3}{4}$ lb.

WINTERFAT (Eurotia lanata) - $\frac{1}{2}$ lb.

ALKALI SACATON (Sporobolus airoides) - $\frac{3}{4}$ lb.

BLM COLOR REQUIREMENTS
IN THE FARMINGTON RESOURCE AREA

1. All equipment shall be painted **green** to match the surrounding area.

SURFACE USE PLAN

TENNECO OIL COMPANY'S
Howell #1A, SE 1/4 of Sec. 20, T30N, R8W,
Lease #SF 078578, San Juan County, New Mexico.

This plan is to accompany "Application for Permit to Drill" for the above mentioned well.

The following is a discussion of pertinent information concerning possible effect which the proposed drilling of the well may have on the environment of the well and road sites and surrounding acreage. A copy will be posted on the derrick floor so that all contractors and subcontractors will be aware of all items of this plan.

1. AREAL ROAD MAP - Exhibit "A" is a portion of a USGS topographic map, San Juan County, New Mexico, showing existing black top roads. Approximately 1 mile east of Archuleta, New Mexico.
2. LOCATION OF EXISTING WELLS - Several MV, Dak., and P.C. have been drilled in a two mile radius and are shown on Exhibit "B".
3. PROPOSED WELL MAT AND IMMEDIATE AREA - Refer to Exhibit "C" for direction orientation and road access.
 - a. Mat size - 130' x 300'
 - b. Surface - Will be native soil, bladed, watered and capped with clay only when necessary.
 - c. Reserve pit - 150' x 150' unlined pit, joining mat to the south east.
 - d. Cut & Fill - 15'-20' cut to the northwest side of location.
 - e. Drill Site layout - Exhibit "C" shows position of mat, reserve pits, burn pits, trash pits, and mud pits in relation to the well bore. Rig will be erected with the V-Door to the south west.
 - f. Setting & Environment -
 - (1) Terrain - High cliff to Northwest See Exhibit "A", topographic map of area.
 - (2) Soil - Extremely sandy soil
 - (3) Vegetation - Sparse grass, juniper and sagebrush.
 - (4) Surface Use - Unknown, possibly used for grazing.

- (5) Other - Drill site, which lies just below a hill, is in the most environmentally feasible spot in the area.

g. Distances to:

- (1) Ponds and Streams - There are no surface waters within 1/2 mile.
- (2) Water Wells - No water well or windmill could be seen within 1/2 mile.
- (3) Residences and Buildings.
- (4) Arroyos, Canyons, etc. - See Exhibit "A". An arroyo is located to the South of the site.

- h. Well Sign - Sign identifying and locating well will be maintained at drill site with the spudding of the well.

- i. Open Pits - All pits containing mud or other liquids will be fenced.

4. ROADS

- a. Existing roads - All existing roads within one mile of the location are shown on Exhibit "A" and Exhibit "D".

- b. Planned roads - Plan to construct 150' of new 14 foot wide road.

- c. Fences, Gates and Cattleguards - None

5. TANK BATTERY - This is expected to be a dry gas well, therefore, a tank battery will not be required.

6. LEASE PIPELINES

- a. Existing - Not furnished by the Operator, to be connected by Southern Union Gathering Co.
- b. Planned - If production is encountered, all lease lines are to be constructed on a well mat.

7. WASTE DISPOSAL - Well cuttings will be disposed in reserve pit. Barrel trash containers to be in accessible locations within drill site area during drilling and completion procedures. All detrimental waste will be hauled away, burned or buried with a minimum cover of 24" dirt. See Exhibit "C" for location of pits. If well is productive, maintenance waste will be placed in special trash cans and hauled away periodically. No produced water is anticipated.

8. WATER SUPPLY - Supply water will be hauled from the San Juan River or nearest wash.
9. ARCHAEOLOGICAL RESOURCES - Report will be furnished by Nancy Hewitt from Salamon Ruins, Bloomfield, New Mexico.
10. RESTORATION OF SURFACE - If well is productive, pits will be backfilled and leveled as soon as practical to original condition.
11. OPERATOR'S REPRESENTATIVE - Field personnel who can be contacted concerning compliance of this Surface Use Plan are as follows:

Production & Drilling

Darrell Brown
1860 Lincoln St., Suite 1200
Denver, Colorado 80203

Office Phone: (303) 292-9920 Ext. 254
Home Phone: (303) 771-8297

12. 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 as they actually exist; that the statements made in this plan are, to the best of my knowledge, true and correct; and that the proposed work performed by Tenneco Oil Company and its contractors and sub-contractors will conform to this plan.

11-1-76
Date

D. E. Brown
D. E. Brown
Div. Drilling Engineer

Tenneco Oil
A Tenneco Company
EXHIBIT "A"

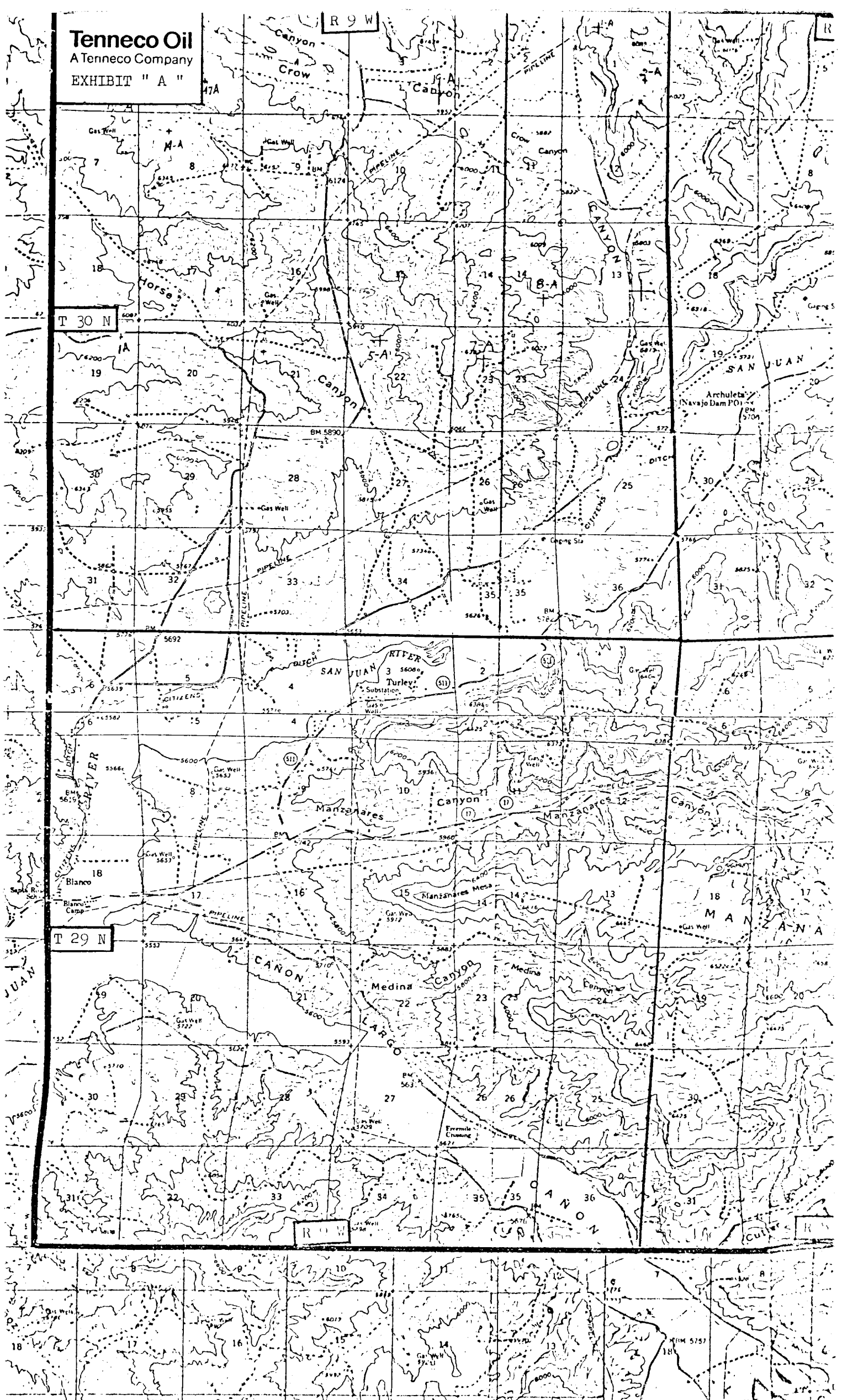


EXHIBIT " B "

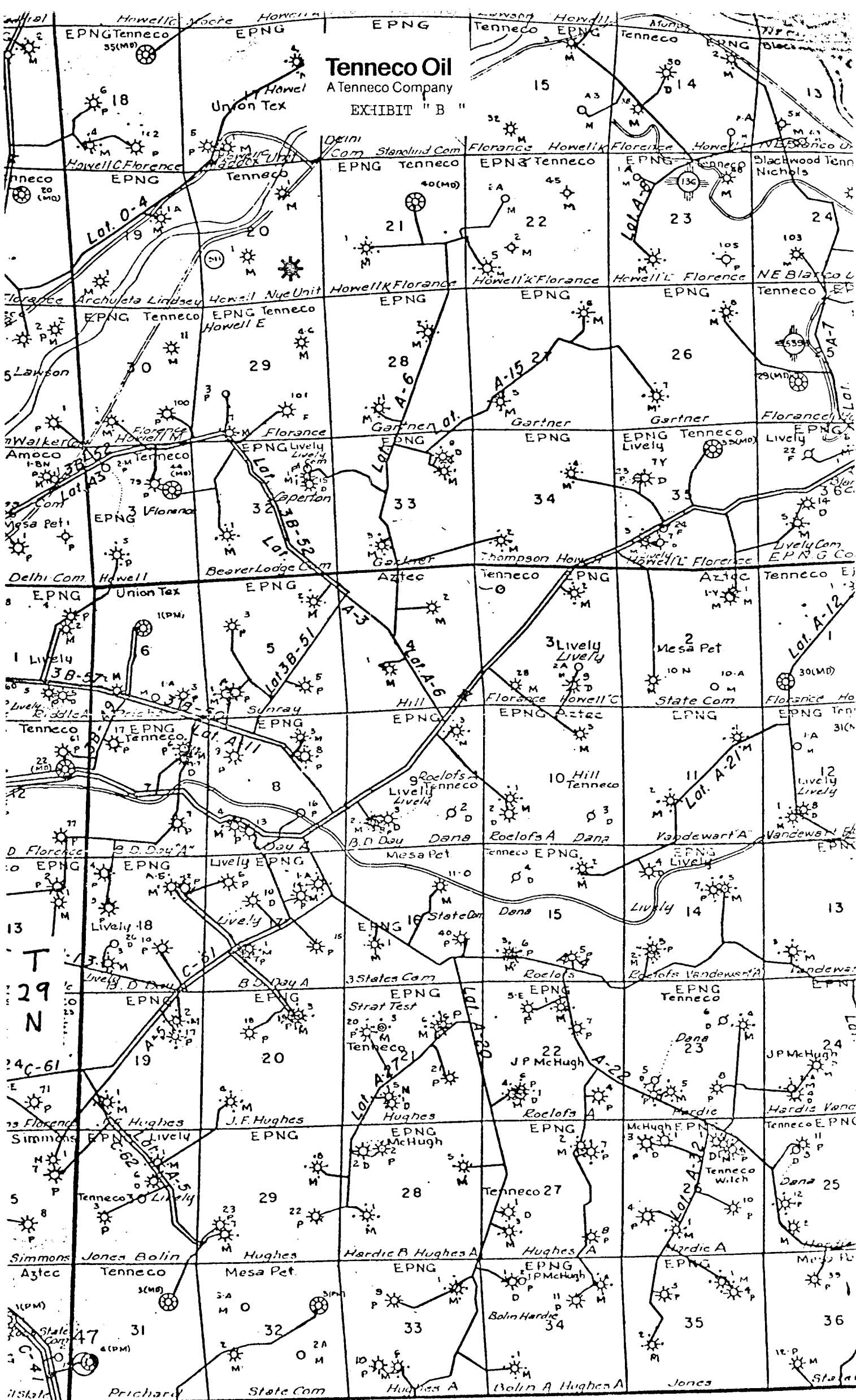
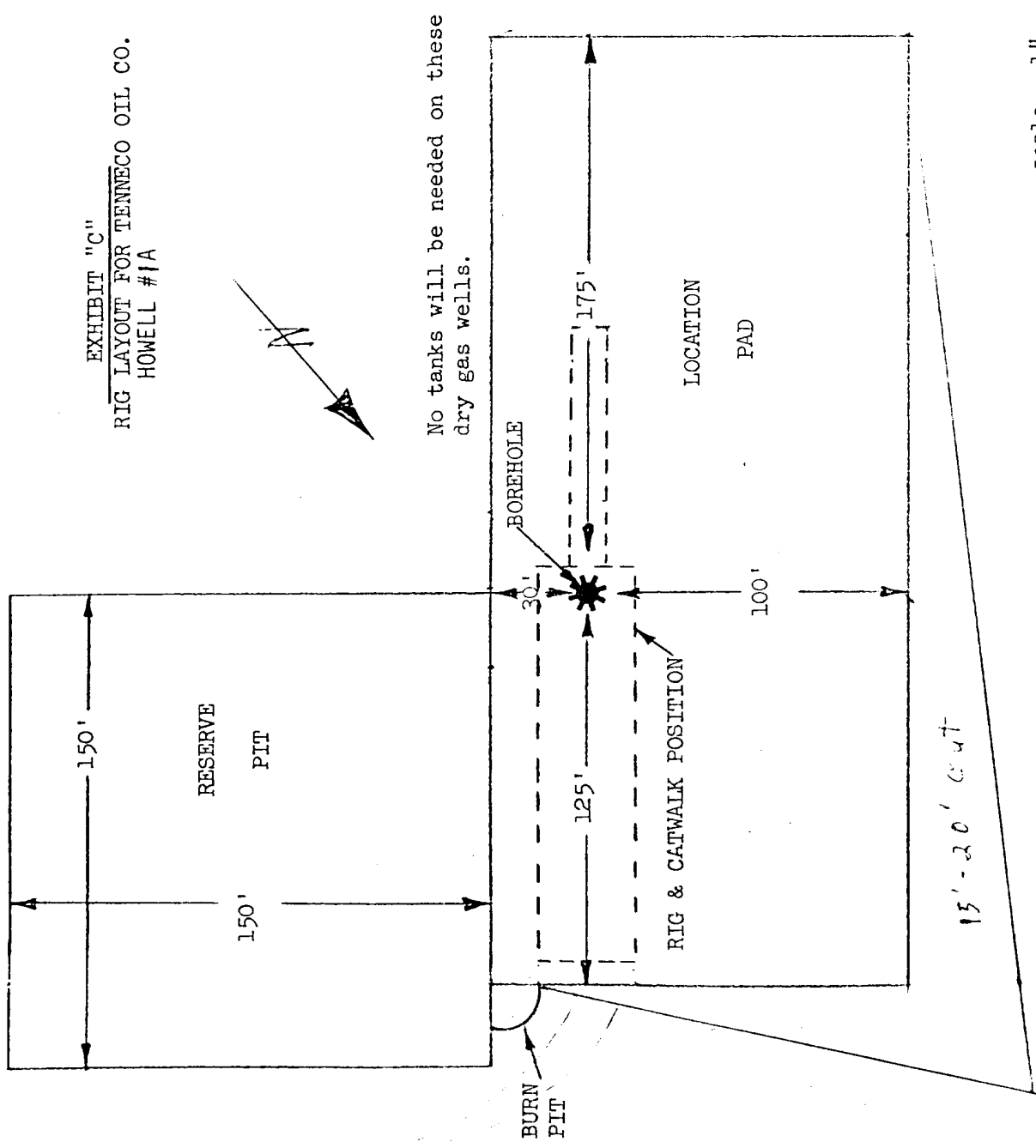
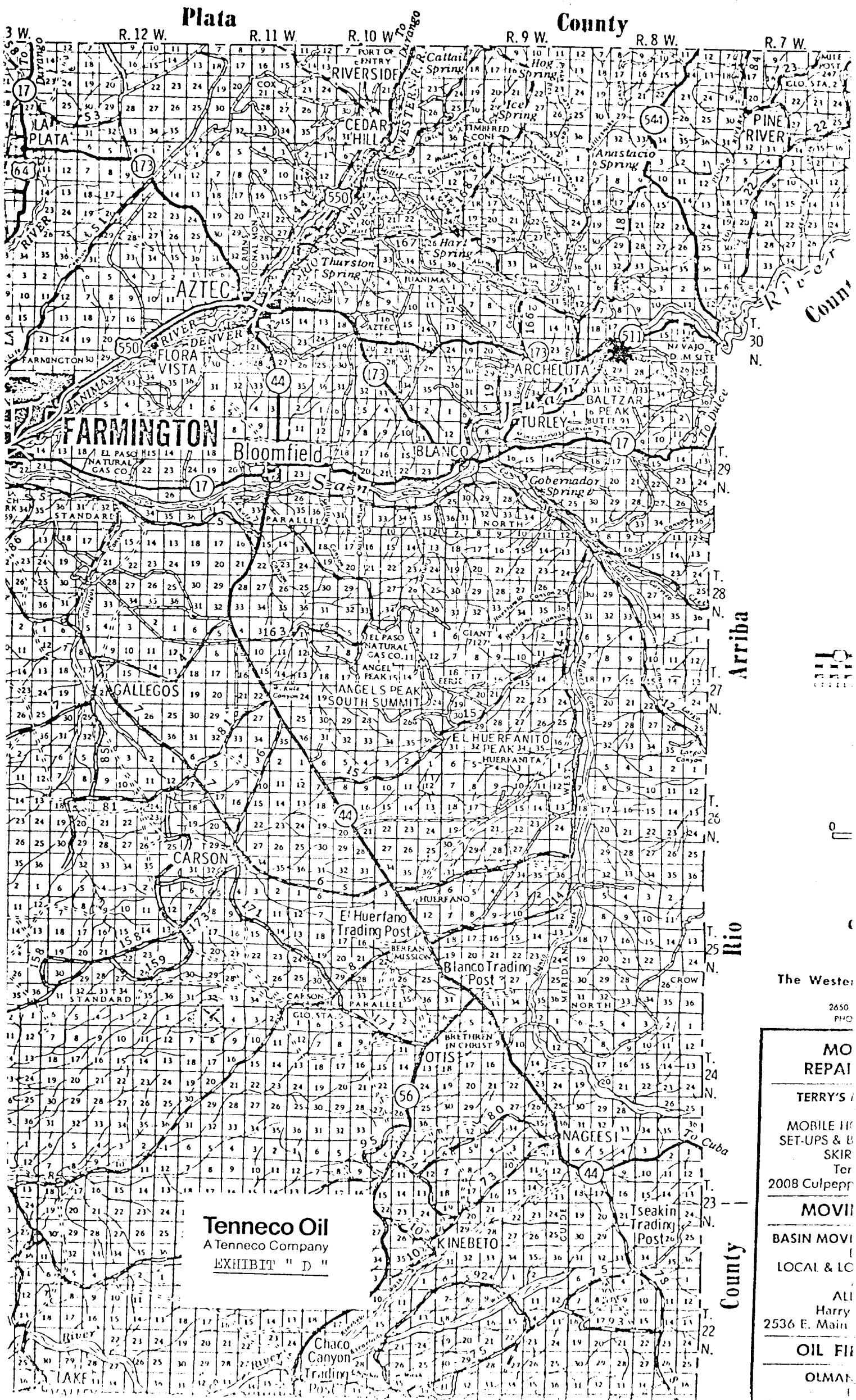


EXHIBIT "C"
 RIG LAYOUT FOR TENNECO OIL CO.
 HOWELL #1A



No tanks will be needed on these dry gas wells.

scale 1" = 50'



Tenneco Oil
A Tenneco Company
EXHIBIT " D "

The Western

2650
PHO

**MO
REPAI**

TERRY'S

MOBILE HI
SET-UPS & B
SKIR
Ter
2008 Culpepp

MOVII

BASIN MOVI
LOCAL & LO

ALL
Harry
2536 E. Main

OIL FI

OLMAN