

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

Terra Resources, Inc.

3. ADDRESS OF OPERATOR

1638 Bank of the Southwest Bldg., Houston, Texas 77002

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

At surface

990' from North Line & 990' from East Line of Sec. 13-
25S-37E N.M.P.M.

At proposed prod. zone

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

5 miles East of Jal.

15. DISTANCE FROM PROPOSED*
LOCATION TO NEAREST
PROPERTY OR LEASE LINE, FT.
(Also to nearest drlg. unit line, if any)990' fr. Ls. Line
330' fr. Unit
Line18. DISTANCE FROM PROPOSED LOCATION*
TO NEAREST WELL, DRILLING, COMPLETED,
OR APPLIED FOR, ON THIS LEASE, FT.

330'

16. NO. OF ACRES IN LEASE BY

160

17. NO. OF ACRES ASSIGNED
TO THIS WELL

40

19. PROPOSED DEPTH

6300'

20. ROTARY OR CABLE TOOLS

Rotary

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

3095 GR

22. APPROX. DATE WORK WILL START*

April 15, 1977

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 J-55	48 SH	50'	Circulate
11"	8 5/8 J-55	32 SH	1250'	Circulate
7 7/8	5 1/2 J-55	15.5 N	6300'	1550 SKS

We propose to drill to 6300' to test the TUBBS-DRINKARD formation.

The blowout preventer program is attached and a drilling head will be used to drill the surface.

The casing and cementing program is shown above. The 550 sacks on the 5 1/2" string will cover the base of the salt.

The mud program is as follows:

Drill with fresh water to 1000 feet; drill with 10# brine from 1000 feet to 3500 feet; and drill from 3500 to 6300 feet with salt base mud, viscosity 36, water loss 20 and mud weight 10.1 pounds per gallon.

Unless Drilling Operations have
Commenced, this drilling approval

IN ABOVE SPACE DESCRIBE PROPOSED PROGRAM: If proposed 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

TITLE Foreman

DATE

(This space for Federal or State office use)

PERMIT NO.

APPROVAL DATE

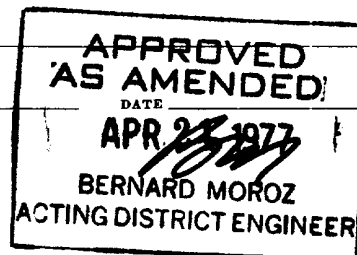
APPROVED BY

TITLE

CONDITIONS OF APPROVAL, IF ANY:

APPROVAL TO FLARE GRANTED
WHILE DRILLING AND TESTING.

*See Instructions On Reverse Side



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OIL CONSERVATION COMM.
HOUSTON, TX.

Attachment to Form 9-331 C
Application for Permit to Drill

Terra Resources, Inc., Carlson B-13, #8
990' FNL and 990' FEL of Sec. 13, T-25S, R-37E
Lea County, New Mexico

1. Geological name of surface formation: Tertiary
2. The estimated tops of important geological markers:

A. Rustler 1114'	D. Yates 2821'	G. Grayburg 3696'
B. Salt 1205'	E. Seven Rivers 3134'	H. Tubbs 5650'
C. Tansil 2660'	F. Queens 3496'	I. Drinkard 6000'
3. The estimate depths at which anticipated water, oil, gas or other mineral bearing formations are expected to be encountered.

A. Fresh or brackish water - 90 to 900'
B. Gas - 2660 to 3100'
C. Oil - 3100 to 3700'
D. Oil and/or Gas - 5650 to 5700'
E. Oil - 6000 to 6300'
4. The proposed casing program is shown on Form 9-331 C
5. The operator's minimum specifications for pressure control equipment and proposed hook up is shown on attached schematic. A drilling head will be used to drill the surface hole.
6. The type and characteristics of the proposed circulating medium to be employed for rotary drilling, and the quantities and types of mud and mud weight to be maintained are shown on Form 9-331 C.
7. The auxiliary equipment to be used will be a sub on the floor with a full opening valve to be stabbed into the drill pipe when the kelly is not in the string.
8. Open hole logs will be run after reaching total depth. No testing or coring is anticipated.
9. Abnormal pressure may be encountered from surface to Santa Rosa formation and a drilling head will be in use.
10. Anticipated starting date will be immediately after approval of application. Drilling and completion will be approximately 28 days duration.

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LOBES, H. M.

NEW MEXICO OIL CONSERVATION COMMISSION
WELL LOCATION AND ACREAGE DEDICATION FORM

Form O-100
Supersedes O-100
Effective 1-1-75

All distances must be from the outer boundaries of the Section

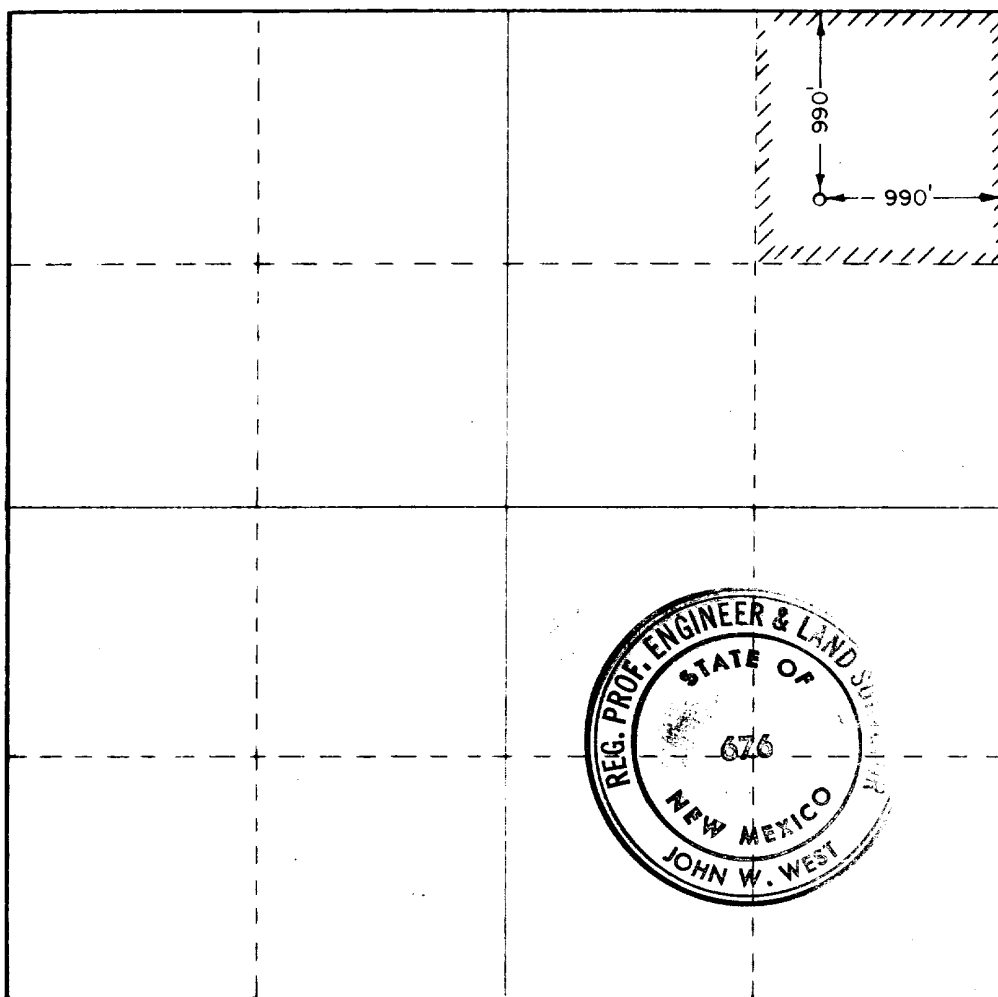
Operator TERRA RESOURCES, INC.			Lease CARLSON B-13		Acres 8
Section A	Section 13	Township 25 SOUTH	Range 37 EAST	County LEA	
Actual Four-Corner Location of Well: 990 feet from the NORTH line and 990 feet from the EAST line					
Ground Level Elev. 3095.3	Producing Formation Tubb Drinkard	Pool Justis Tubb Drinkard		Dedicated Acreage 40	

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 interests 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 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 _____
Signature _____
Basin Oil Consultants
Company _____
Terra Resources, Inc.

Date _____
April, 15, 1977

I hereby certify that the well location shown on this plat was plotted from true 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 _____
April 14, 1977

Registered Professional Engineer and/or Land Surveyor

Signature _____
Certificate No. 676



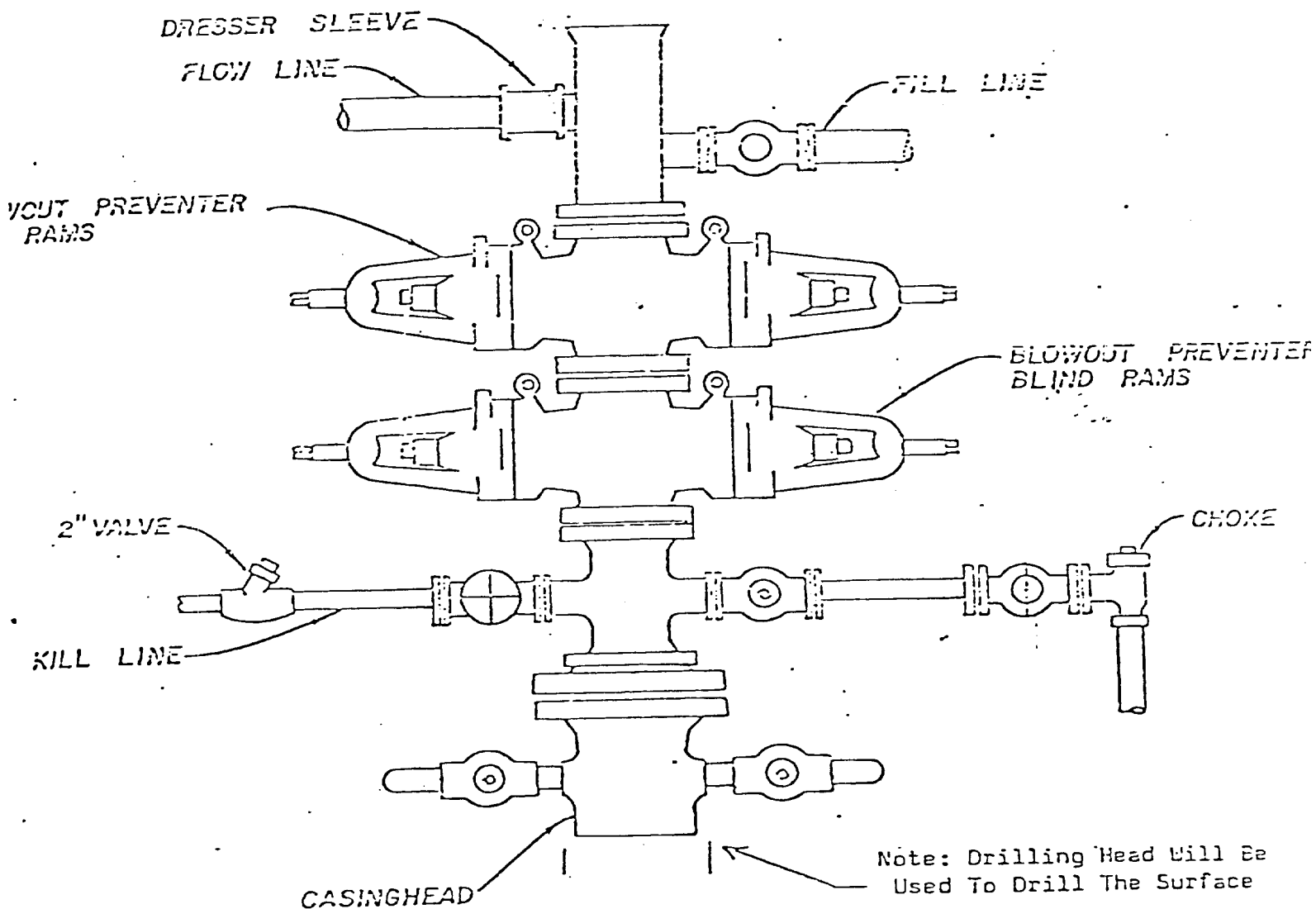
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HOUSTON, TEX.

BLOWOUT PREVENTER HOOK-UP

2000 PSI WORKING PRESSURE



TERRA RESOURCES, INC.

Carlson B-13 Well No. 8

990' FNL and 990' FEL Sec. 13 T25S R37E.

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HOBBS, N. M.

MULTI-POINT SURFACE USE AND OPERATIONS PLAN

TERRA RESOURCES, INC.
WELL NO. 8 CARLSON B-13
990' FNL and 990' FEL, SEC. 13, T25S; R37E
LEA COUNTY, NEW MEXICO
Lease New Mexico #NM051998

This plan is submitted with the Application for Permit to Drill the above described well, the proposed construction activities and operations plan, the magnitude of necessary surface disturbance involved, and procedures 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 operation.

1. EXISTING ROADS:

- A. Exhibit "A" is a portion of a highway map showing the location of the proposed well as staked. On State Road 128, 4.5 miles East of the community of Jal, N.M. a well-traveled caliche road (Lease) intersects State 128 and proceeds North approximately 4800'. The new location is 330' East of this existing road, and 4290' North of State Road 128 and of South Line of Sec. 13, T25S and R37E.
- B. Exhibit "B" is a plot showing all existing roads within a one mile radius of the wellsite and the planned access road.
- C. No repairs to existing roads will be required.

2. PLANNED ACCESS ROADS:

- A. Length and Width: New road required will be 12 feet wide and approximately 250' long. This new road is labeled and color coded red on Exhibit "B". The center line of the proposed new road from the beginning to the wellsite, has been staked and flagged with the stakes being visible from one to the next.
- B. Surfacing Material: Six inches of caliche, watered, compacted and graded.
- C. Maximum Grade: 5 percent grade for approximately 200' north of well-site.
- D. Turnouts: None required.
- E. Drainage Design: New road will have a drop of 6 inches from center line of each side.
- F. Culverts: None required.

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- G. Cuts and Fills: Limited to levelling of sand dunes.
- H. Gates, Cattleguards: None required.
- 3. LOCATION OF EXISTING WELLS:
 - A. Existing wells within a one-mile radius are shown on Exhibit "B".
- 4. LOCATION OF EXISTING AND/OR PROPOSED FACILITIES:
 - A. No existing facilities on lease.
 - B. If the proposed well is completed as a producer the location of the proposed flowline from Well No. 8 is shown on Exhibit "C". The flowline will not be buried and will be strung in a straight line approximately 1000' south to an existing battery.
- 5. LOCATION AND TYPE OF WATER SUPPLY:
 - A. Water for drilling will be purchased from Jal Country Club water station and transported by truck to the wellsite over existing roads and new proposed lease road shown on Exhibit "A" and "C".
- 6. SOURCE OF CONSTRUCTION MATERIALS:
 - A. Caliche for surfacing the road, wellsite and battery site will be bought from either fee owner or USGS, whichever is nearer.
- 7. METHODS OF HANDLING WASTE DISPOSAL:
 - A. Drill cuttings will be disposed of in the drilling pits.
 - B. Drill fluids will be allowed to evaporate in the drilling pits until pits are dry.
 - C. Water produced during test will be disposed of in the drilling pits. Oil produced during test will be stored in test tanks until sold.
 - D. Current laws and regulations pertaining to disposal of human waste will be complied with.
 - E. Trash, waste paper 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 wind. Location of pit is shown on Exhibit "D".
 - F. All trash and debris will be buried or removed from wellsite within 30 days after finishing drilling and/or completion of operation.

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8. ANCILLARY FACILITIES:

- A. None required.

9. WELLSITE LAYOUT:

- A. Exhibit "D" shows the relative location and dimensions of the well pad, mud pits, reserve pit, trash pit and location of major rig components.
- B. A slight cut and leveling of the well site will be required.
- C. The reserve pit will be plastic lined if after construction it is determined that it will not hold water.
- D. The pad and pit area has been staked and flagged.

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 location cleaned of all trash and junk to leave the wellsite in an aesthetically pleasing condition as possible.
- B. Any unguarded pits containing fluids will be fenced until they are filled.
- C. After abandonment of the well, surface restoration will be in accordance with agreement with surface owner.

11. OTHER INFORMATION:

- A. Topography: Land surface consists mainly of sand dunes of medium magnitude. From the elevation of 3095' at the wellsite the surface slopes gently to the south at about 30 feet per mile.
- B. Soil: Soil is deep sand over caliche and limestone.
- C. Flora and Fauna: The vegetation is sparse shrubbery, sand sage, and weeds. Wild life in the area is that typical of semi-arid desert land and includes coyotes, rabbits, rodents, reptiles, dove and quail.
- D. Ponds and Streams: There are no rivers, streams, lakes or ponds in the area.
- E. Residences and Other Structures: There are no buildings of any sort within a 1 1/2 mile radius.

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F. ARCHAEOLOGICAL, HISTORICAL AND CULTURAL SITES: There have been none observed in the area.

G. Land Use: Grazing and hunting in season.

II. Surface Ownership: Fee surface owner is Mr. George Blocker of Jal, New Mexico.

12. OPERATORS REPRESENTATIVE:

The field representatives responsible for assuring compliance with the approved surface use operations plan are as follows.

W. N. Stewart
719 East Yucca Dr.
Hobbs, New Mexico
Home Phone: 505/393-3977

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 performed by Terra Resources, Inc. and its contractors and sub-contractors in conformity with this plan and the terms and conditions under which it is approved.

4-17-77
Date

W. N. Stewart Foreman
Name and Title

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HOSES, R. L.

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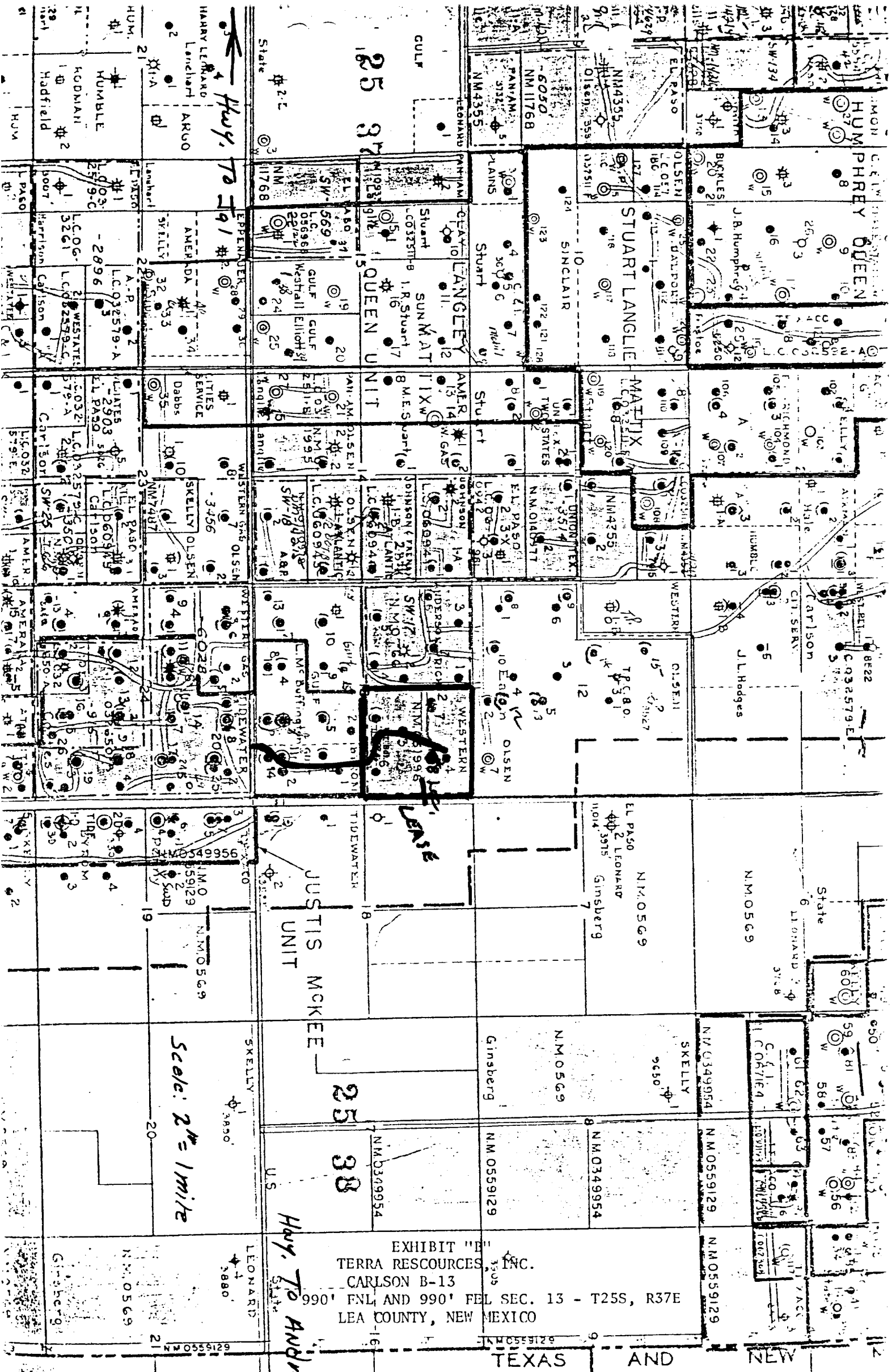


EXHIBIT "B"
TERRA RESOURCES, INC.
CARLSON B-13
990' ENL AND 990' FEL SEC. 13 - T25S, R37E
LEA COUNTY, NEW MEXICO

25
Hwy. 25
Andrews
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NE 1/4
NE 1/4 OF 13 Township No. T25S of Range No. 37E
Sec. 13 LEA COUNTY NEW MEXICO

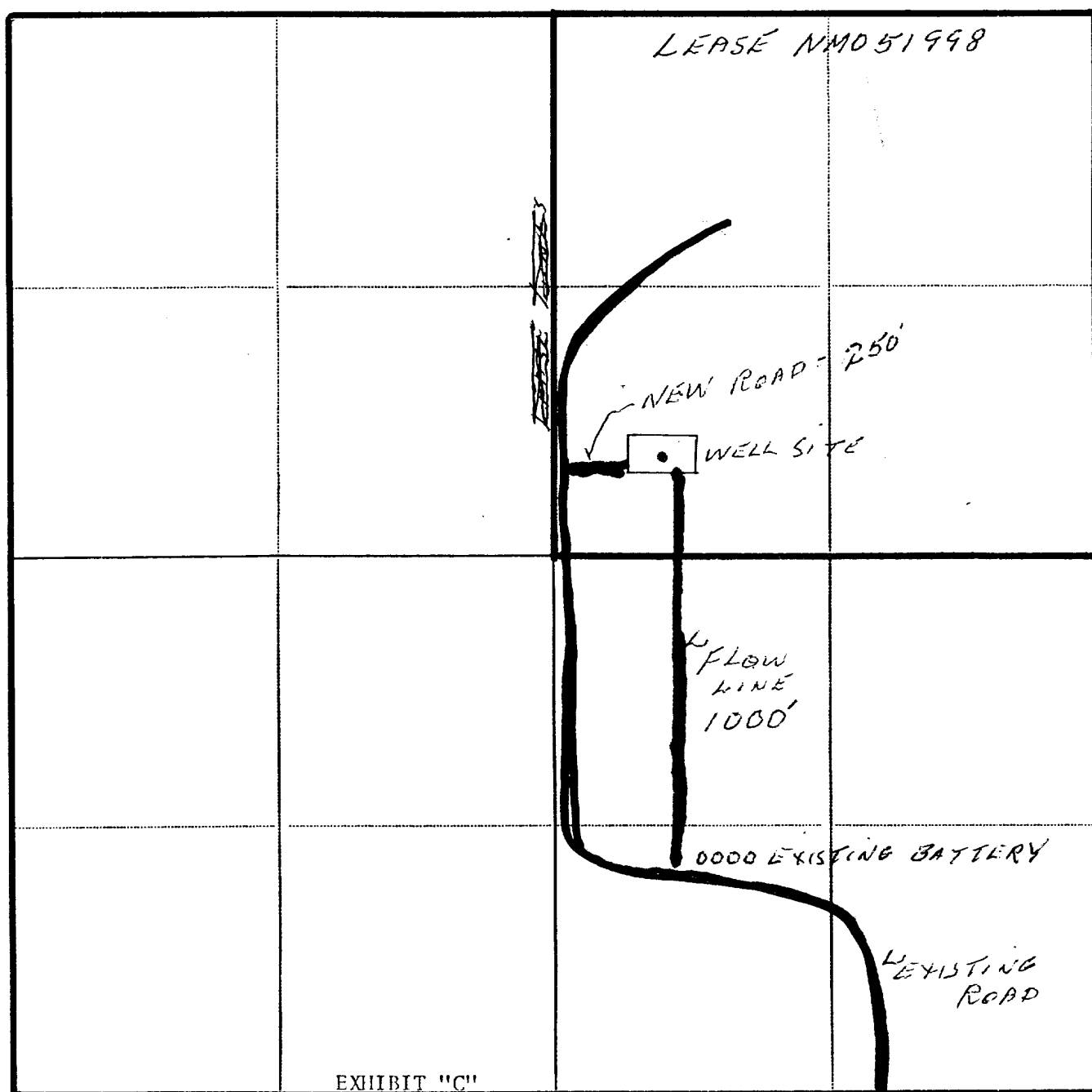


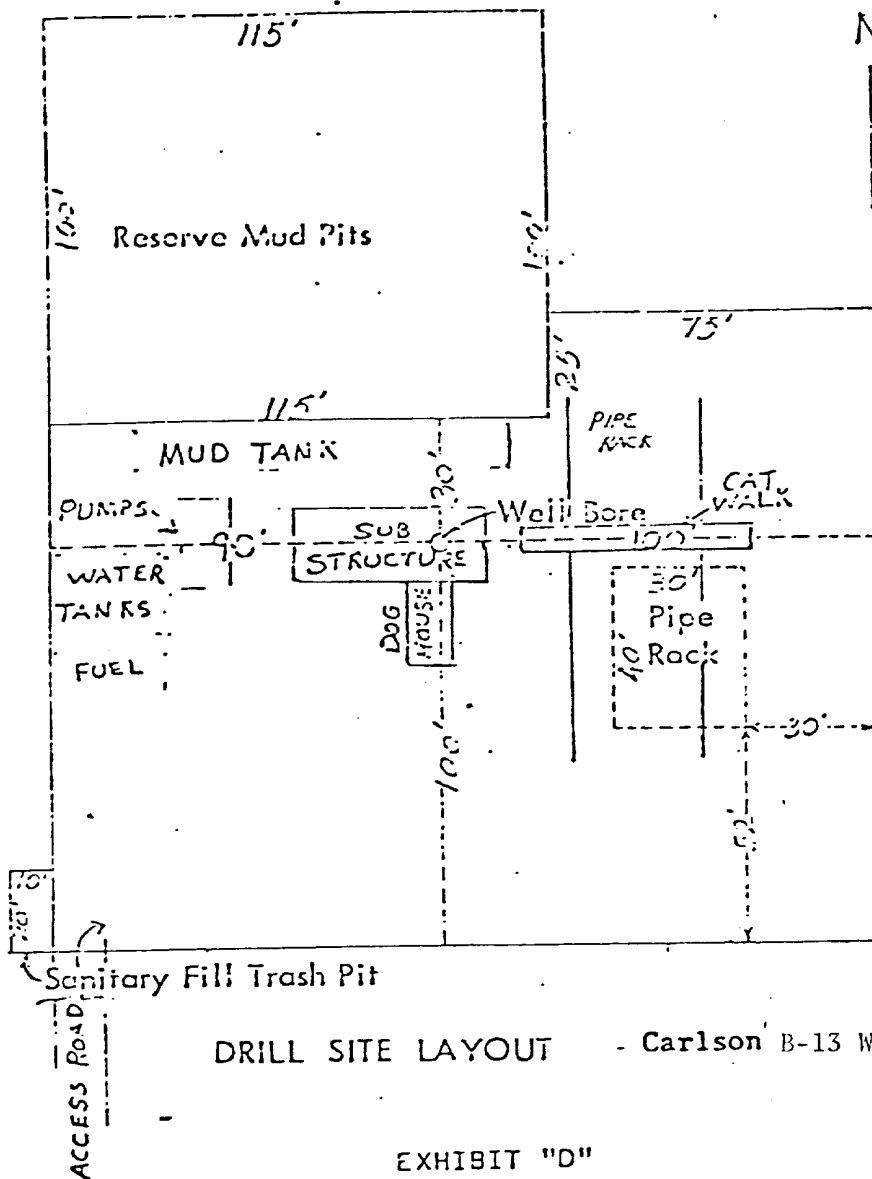
EXHIBIT "C"

TERRA RESOURCES, INC.
CARLSON B-13 WELL #8
990' FNL and 990' FEL SEC. 13, T25S - R37E
LEA COUNTY, NEW MEXICO

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DRILL SITE LAYOUT - Carlson B-13 Well #8

EXHIBIT "D"
RIG LAYOUT

TERRA RESOURCES, INC.

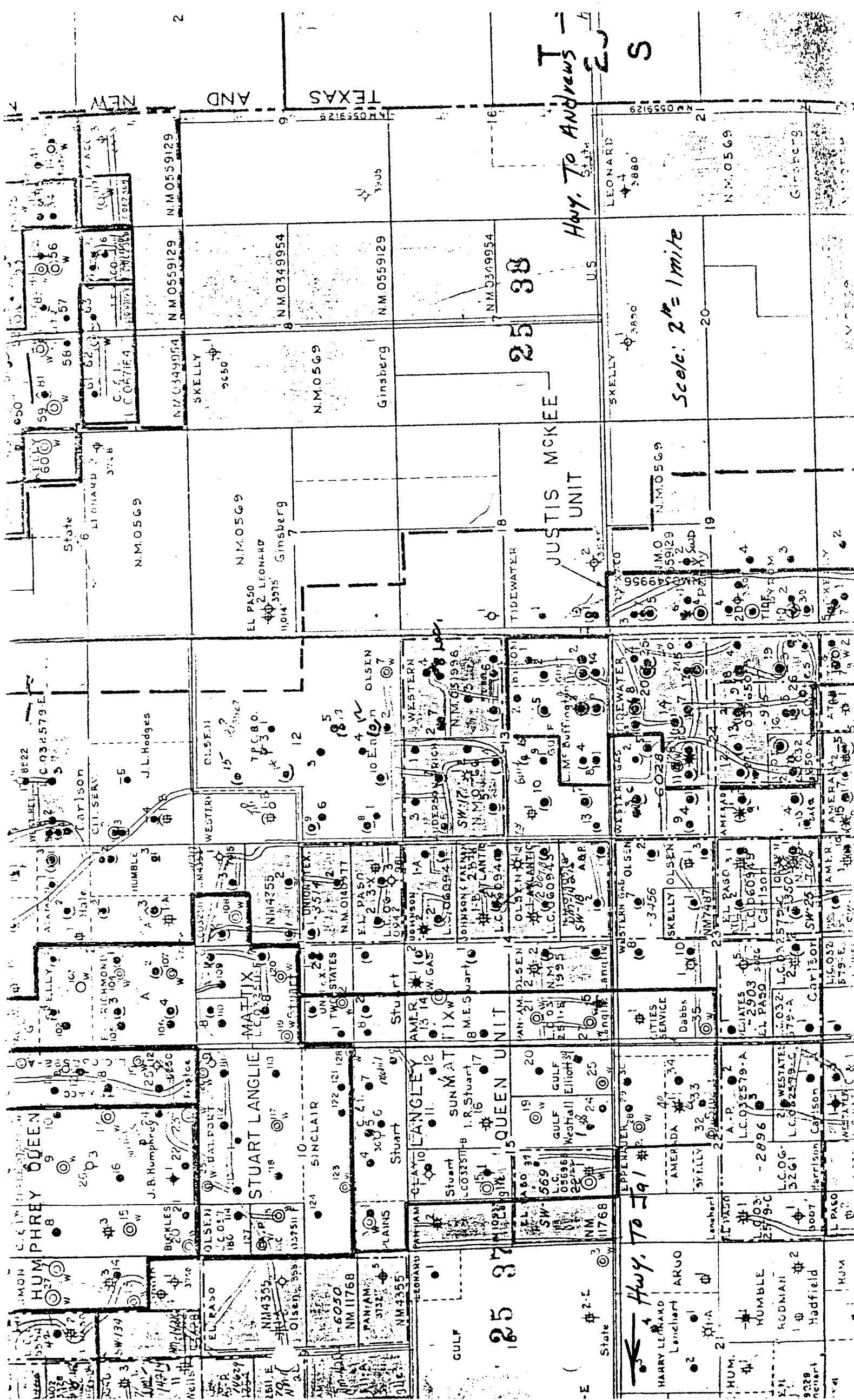
990' FNL AND 990' FEL SEC, 13 T25S, R37E LEA CO. NEW, MEXICO

SCALE: 1" = 50'

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