N. M. O. C. C. COPY

Copy to SF

Form 9-331 C
(May 1963)

SUBMIT IN LICATE*
(Other instructions on reverse side)

Form approved.
Budget Bureau No. 42-R1425.

30-015-22032

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

5. LEASE DESIGNATION AND SERIAL NO.: NM 0354232

6. IF INDIAN, ALLOTTEE OR TRIBE NAME:

1a. TYPE OF WORK: DRILL ☒ DEEPEN ☐ PLUG BACK ☐

7. UNIT AGREEMENT NAME:

b. TYPE OF WELL: OIL WELL ☐ GAS WELL ☒ OTHER — SINGLE ZONE ☐ MULTIPLE ZONE ☐

8. FARM OR LEASE NAME: Elizondo-Federal

2. NAME OF OPERATOR: Cities Service Oil Company

9. WELL NO.: 5

3. ADDRESS OF OPERATOR: P. O. Box 1919 - Midland, Texas 79701

10. FIELD AND POOL, OR WILDCAT: Und. Burton Flat Morrow

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.*)
At surface: 1780' FSL, 2180' FWL of Section 34, T-21S, R-27E, Eddy County New Mexico
At proposed prod. zone: Same as above

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA: Sec. 34, T-21S, R-27E

14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE*: 2½ miles East of Carlsbad, New Mexico

12. COUNTY OR PARISH: Eddy — 13. STATE: New Mexico

15. DISTANCE FROM PROPOSED* LOCATION TO NEAREST PROPERTY OR LEASE LINE, FT. (Also to nearest drlg. unit line, if any): 1780'

16. NO. OF ACRES IN LEASE: 4932

17. NO. OF ACRES ASSIGNED TO THIS WELL: 320

18. DISTANCE FROM PROPOSED LOCATION* TO NEAREST WELL, DRILLING, COMPLETED, OR APPLIED FOR, ON THIS LEASE, FT.: 2847'

19. PROPOSED DEPTH: 11,830'

20. ROTARY OR CABLE TOOLS: Rotary

21. ELEVATIONS (Show whether DF, RT, GR, etc.): 3142.9' GR

22. APPROX. DATE WORK WILL START*: Feb. 1, 1977

23. PROPOSED CASING AND CEMENTING PROGRAM

SIZE OF HOLE	SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	QUANTITY OF CEMENT
17½"	13-3/8"	48	600'	500 sacks (Circulated)
12¼"	8-5/8"	24 & 32	3000'	1300 sacks (Circulated)
7-7/8"	5-1/2"	17 & 20	11830'	720 sacks (TC @ 8200')

It is proposed to drill this well to a T. D. of 11,830' and test the Morrow formation.

The blowout prevention program is as follows:

1. One set of blind rams.
2. One set of drill pipe rams.
3. One Hydril.
4. One rotating head.

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JAN 26 1977
O. C. C.
ARTESIA, OFFICE

RECEIVED
JAN 03 1977
U. S. GEOLOGICAL SURVEY
ARTESIA, NEW MEXICO

The acreage assigned to this well is not dedicated to any gas purchaser.

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 _____ TITLE Region Operation Manager DATE Dec. 20, 1976

(This space for Federal or State office use)

PERMIT NO. _____ APPROVAL DATE _____

APPROVED BY _____ TITLE _____ DATE _____

CONDITIONS OF APPROVAL, IF ANY:

APPROVED
JAMES A. GILLHAM
ACTING DISTRICT ENGINEER

DECLARED WATER BASIN

CEMENT TO THE 8⅝" CASING MUST BE CIRCULATED

THIS APPROVAL IS RESCINDED IF OPERATIONS ARE NOT COMMENCED WITHIN 3 MONTHS.
EXPIRES APR 25 1977

NOTIFY USGS IN SUFFICIENT TIME TO 8⅝" CASING.

WITNESS OF

*See Instructions On Reverse Side

NEW MEXICO OIL CONSERVATION COMMISSION

WELL CATION AND ACREAGE DEDICATION AT

Form C-102
Supersedes C-128
Effective 1-1-65

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U.S. GEOLOGICAL SURVEY
ARTESIA, NEW MEXICO

All distances must be from the outer boundaries of the Section

Operator	Lease	Well No.
CITIES SERVICE OIL COMPANY	Elizondo-Federal	5

Unit Letter	Section	Township	Range	County
K	34	21 South	27 East	Eddy

Actual Footage Location of Well:
1780 feet from the south line and 2180 feet from the west line

Ground Level Elev.	Producing Formation	Pool	Dedicated Acreage:
3142.9	Morrow	Und. Burton Flat Morrow	320 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?

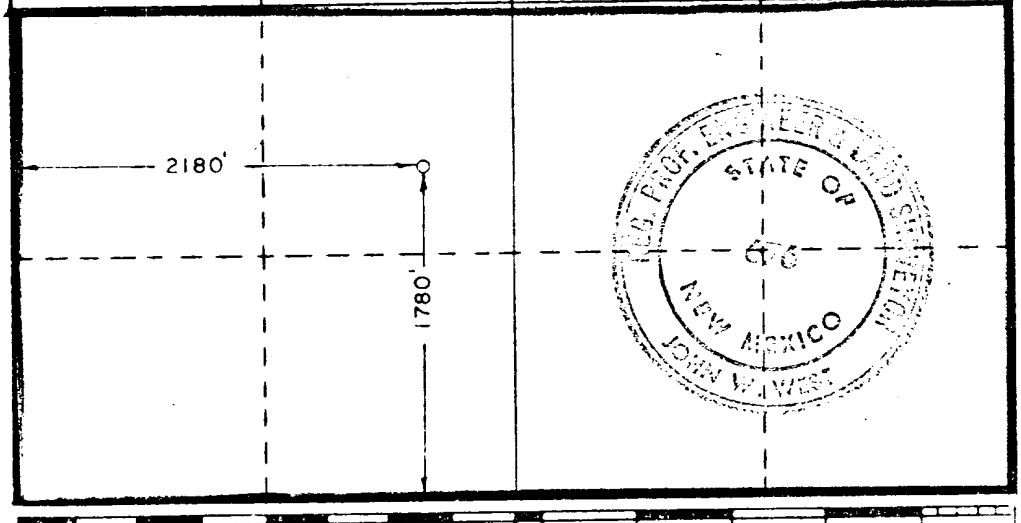
[X] Yes [ ] No If answer is "yes," type of consolidation To be Communitized Unitization (See reverse side)

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.

Unit block consists of 4932 acres. Working interests of participating companies in this proposed well are as follows:

Cities Service Oil Co.	36.69185%
Amoco Production Co.	22.18587%
Pioneer Prod. Corp.	16.63940%
Rosalind Redfern and Flag-Redfern Oil Co.	16.63940%
Union Oil of California	4.13026%
Champlin Petr. Co.	1.70661%
Patoil Corp.	1.70661%
	100.00000%



CERTIFICATION

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

Name E. Spridden

Position
Region Operation Manager

Company
Cities Service Oil Company

Date
December 20, 1976

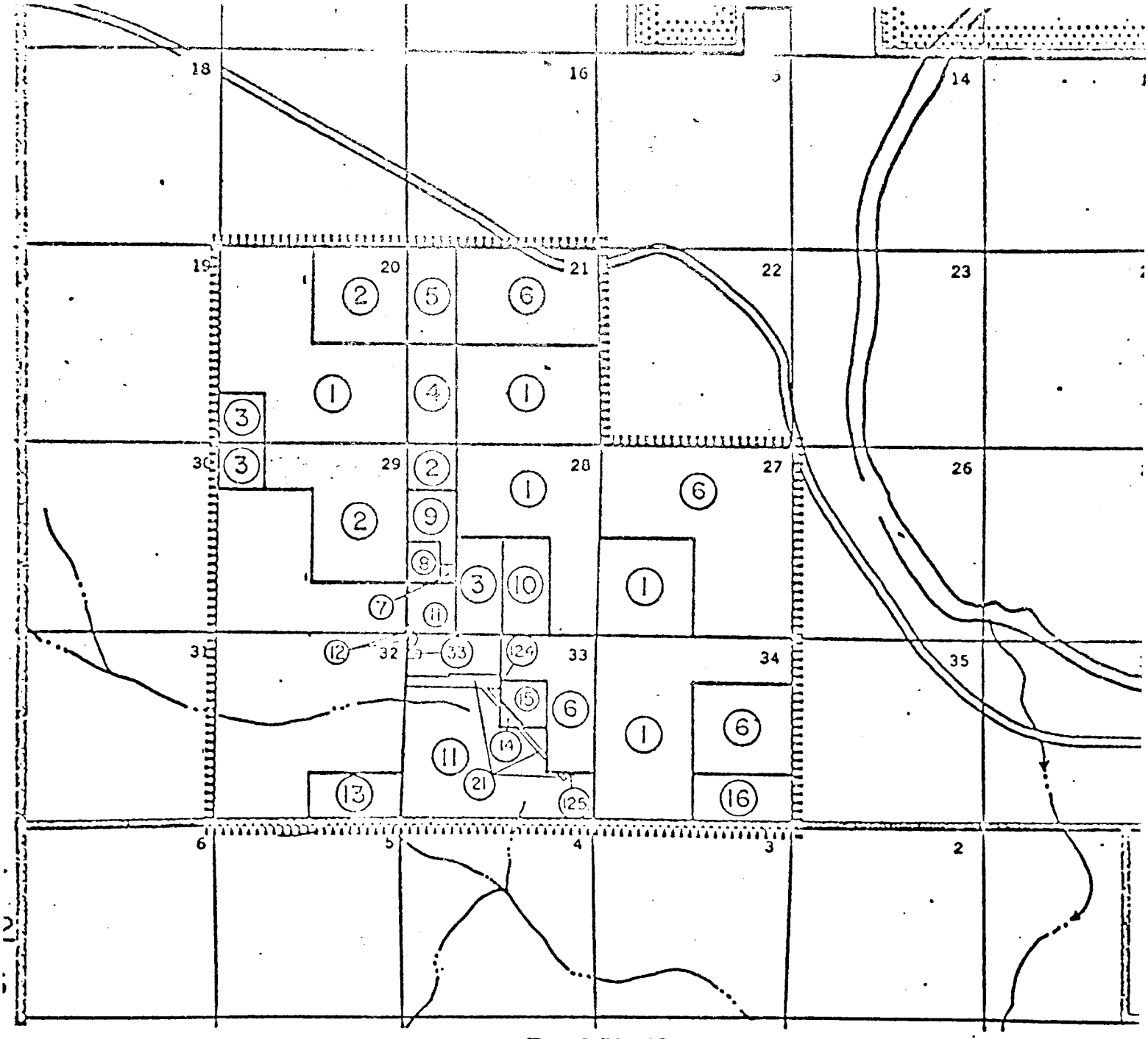
I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my knowledge and belief.

Date Surveyed
Dec. 8, 1976

Registered Professional Engineer and/or Land Surveyor

John W. West

Certificate No.
676



TRACT NO.	WORKING INTEREST OWNER
1	Pioneer Prod. Corp.-Flag-Redfern Oil Co.
2,3,4,5,7, 10,14,21 & 33	Cities Service Oil Co.
6	Amoco Production Company
9	J.M. Huber, Pierce & Davis
11	Union Oil Co. of Calif.
13	Patoil Corp.
16	Champlin Petro. Co.
12,15,124 & 125	Unleased Acreage

EXHIBIT "A" PART IV

OPERATING AGREEMENT DATED SEPT. 22 1972

EDDY COUNTY, NEW MEXICO

PLAT OF UNIT AREA

▪▪▪▪▪▪▪ UNIT AREA

(2) TRACT NUMBERS

SCALE: 1" = 4000'

CITIES SERVICE OIL COMPANY

Box 1919
Midland, Texas 79701
Telephone (915) 684-7131

December 30, 1976

RECEIVED

JAN 03 1977

U.S. GEOLOGICAL SURVEY
ARTESIA, NEW MEXICO

United States Department of the Interior
Geological Survey
Artesia, New Mexico 88210

Gentlemen:

Re: Application for Permit to Drill
Elizondo Federal "A" No. 5
Eddy County, New Mexico

Cities Service Oil Company respectfully requests permission to drill our Elizondo Federal "A" No. 5 located 1780' FSL and 2180' FWL of Section 34-21S-27E, Eddy County, New Mexico.

The location, work area and access road has been staked. It is within the boundary of the 8-section Cities Service operated Magruder Unit adjacent to and east of the City of Carlsbad, New Mexico.

In accordance with requirements stipulated in the National Environmental Policy Act of 1969 and stated in NTL-6 Section II. B., our application for permission to drill and supporting evidence is hereby submitted.

I. Application for Permit to Drill

1. Form 9-331C (attached).

2. Form C-102 Location and Acreage Dedication Plat certified by John W. West, New Mexico Registered Land Surveyor No. 676 (attached).

3. The elevation above sea level of the unprepared ground is 3143'.

4. The geologic name of the surface formation is Permian Rustler.

5. Rotary drilling equipment will be utilized to drill the well to TD and run casing. This equipment will then be rigged down and the well will be completed with a pulling unit.

6. Proposed total depth is 11,830'.

7. Estimated tops of important geologic markers:

Bone Springs	5170
Dean	8590
Wolfcamp	8890
Canyon	9130
Strawn	10270
Atoka	10890
Morrow	11170
Chester	11780
TD	11830

8. Estimated depths at which anticipated water, oil, gas or other mineral bearing formations are expected to be encountered:

A. Primary objective (top)	Morrow SS	11170
B. Secondary objectives (top)	Wolfcamp	8890
	Canyon	9130
	Strawn	10270
	Atoka	10890

9. The proposed casing program is as follows:

Surface:	13-3/8" OD 48# H40 ST&C new casing
Intermediate:	8-5/8" OD 24# and 32# K55 ST&C new casing
Production:	5-1/2" OD 17# and 20# N80 LT&C new casing

10. Casing setting depth and cementing program:

A. 13-3/8" OD surface casing set at 600'. Cement with 300 sacks Class C, 4% gel, 12# Gilsonite and 1/4# Flocele/sack with 2% CaCl followed by 200 sacks Class C with 2% CaCl

B. 8-5/8" OD intermediate casing set at 3000'. Cement with 300 sacks Halliburton Thick Set Class C with 10# Gilsonite and 1/2# Flocele per sack and 3% CaCl followed by 800 sacks Halliburton Lite with 5# Gilsonite and 1/4# Flocele per sack followed by 200 sacks Class C with 2% CaCl.

C. 5-1/2" OD production casing set at 11,830'. Cement with 720 sacks Class H with 0.6 CFR-2 and 5# KCL per sack. Bring cement back to 8200'.

11. Pressure Control Equipment

0 - 600' - None.

600 - 3000' - 12" 3000# BOP with blinds and pipe rams Tested with rig pump.

3000 - 11830' - 10" 5000# BOP with blinds, pipe rams, Hydril and rotating head, 5000# choke manifold, 80 gallon accumulator with floor and remote operation station and auxiliary power system, upper and lower kelly cock, inside BOP's for all size equipment in drill string. The BOP and choke manifold will be tested to rated working pressure 5000# by an independent testing company prior to drilling out cement in the 8-5/8" casing.

The pipe rams and Hydril will be actuated at least once each 24 hours and the blind rams each time the drill pipe is out of the hole.

A drill string safety valve in the open position will be maintained on the rig floor at all times while drilling operations are being conducted.

BOP drills will be conducted as necessary to insure that each drilling crew is properly trained to carry out emergency duties.

Accumulators shall maintain a pressure capacity reserve at all times to provide for repeated operation of hydraulic preventers.

A mud/gas separator will be installed after drilling out from under the 8-5/8" so it will be operable by 7500'.

12. Mud Program

0 - 600' - fresh water spud mud.

600 - 3000' - fresh water. If lost circulation is encountered in the Capitan Reef, dry drill ahead to casing point using periodic vis. sweeps.

3000 - 8500' - fresh water, detergent, paper for seepage and Lime for pH control.

8500 - 11000' - brine water with caustic for pH control 9.8-10.0#/gal.

11000 - 11830' - Drispac 10.0-10.6#/gal., 31-34 vis., 10-12 cc water loss, pH 9-11.

13. Testing, Logging and Coring Program

A. Two (2) DST's Morrow and Strawn.

B. Mud Logging Program - one man unit 8800' to TD.

C. Electric Logging Program - Compensated Neutron-Formation Density, Dual Laterolog-R_{xo}, Coriband.

D. Coring Program - none.

14. No abnormal temperatures or H_2S gas is anticipated. Possibility of high pressure zones in Wolfcamp, Strawn and Atoka. Adequate flare lines will be installed off the mud gas separator and testing equipment to insure that gas may be piped away a safe distance from the well where it may be ignited and burned.

In addition to the pressure control equipment described in Item No. 11, the following equipment will be installed and in operation before drilling into the Wolfcamp zone:

a. Swaco adjustable choke in choke manifold.

b. Pit volume totalizer.

c. Flow line sensor.

d. Degasser.

e. 100 barrel trip tank with pump.

15. Anticipated starting date is one week after this Application for Permit to Drill is approved by the Geological Survey. It should take approximately 40 days to drill the well to TD and another 7-21 days to complete.

16. Designation of Operator from Flag-Redfern Oil Company and Pioneer Production Corporation (attached).

17. If the District Engineer requires additional information to support Form 9-331C, please contact me at the above address.

II. Multi Point Surface Use and Operations Plan

1. Existing roads.

A portion of an Eddy County highway map is attached which shows the location of the Elizondo Federal "A" No. 5 in relation to the City of Carlsbad and U. S. Highway 62-180.

The second map is a portion of a USGS Carlsbad Quadrangle Map showing the location in relation to the surrounding topography.

The third map is a portion of an ownership map which shows the boundary of our 8-section Magruder Unit outlined in yellow with all existing wells in the vicinity and our proposed location.

Directions to location:

Starting point: Intersection of Greene and Canal streets in the downtown area of Carlsbad, New Mexico.

Go 2.7 miles in a northeasterly direction on Highway 62-180. Turn right toward Eddy County Sheriff's Posse Rodeo arena. Make a sharp left turn onto a county road and proceed 0.4 mile east on the County road. At this point, turn 400' north to location.

2. Planned Access Road

A. The fourth map shows the road system in the area of the location. The segments are color coded. Black denotes highways and city streets. Yellow indicates caliche lease roads. Blue shows county roads and red shows the 400' proposed caliche access road to the location. The new road will be 12' wide. It will enter the drilling pad at the southeast corner. The eight section Magruder Unit is outlined in yellow.

B. Surfacing material: six inches of caliche, watered, compacted and graded.

C. Maximum grade: access road and location is level.

D. Turnouts: none needed.

E. Drainage design: New road will have a drop of 6" from center line to each side.

F. Culverts: none needed.

G. Cuts and fills: none needed. Road and location are level.

H. Gates and cattleguards: none needed.

3. Location of Existing Wells

Existing wells are shown on the ownership map.

4. Location of Existing and/or Proposed Facilities

At each of the existing wells in the Magruder Unit, production equipment is set on the caliche drilling pad approximately 150' from the well. The equipment consists of two (or more) - 300 barrel tanks to collect condensate and water which is trucked to sale or disposal and a production unit (stack pack). The gas purchaser installs necessary gas measuring equipment and gathering system for gas. All equipment is fenced with chain link fence.

If the Elizondo Federal "A" No. 5 is a producer, the same type and size equipment will be set on the drilling pad.

5. Location and Type of Water Supply

Fresh and brine water will be purchased and trucked to the well site over the existing and proposed roads.

6. Source of Construction Materials

Caliche for surfacing the access road and well pad will be obtained from a State pit located NW/SE Section 35-21S-27E approximately 1.2 miles east of the well location.

7. Methods of Handling Waste Disposal

   A. Drill cuttings will be disposed of in the drilling pits.

   B. Drilling fluids will be allowed to evaporate in the drilling pits until pits are dry.

   C. Water produced during tests will be disposed of in the drilling pits. Oil produced during tests will be stored in test tanks until sold.

   D. Current laws and regulations pertaining to the disposal of human waste will be complied with.

   E. 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. Location of trash pit is shown on the well site payout.

   F. 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. Well Site Layout

   A. A plat of the well site is attached which shows well pad, mud pits, reserve pit, trash pit and location of major rig components.

   B. The reserve pit will be plastic lined.

10. Plans for Restoration of the Surface

   A. After completion of the well, all equipment not needed for operation will be removed.

   B. All unattended pits containing liquids will be fenced and the liquid portion allowed to evaporate before the pits are broken and backfilled.

C. All waste associated with the drilling operation will be buried in place in a separate pit. Garbage and debris will be buried at least 3' deep. Any plastic material used to line the pits will be cut off below ground level, as far down as possible, and disposed of before the pits are covered.

D. Surface restoration will be in accordance with our agreement with the surface owner, Mr. Robert Light, 1409 W. Orchard Lane, Carlsbad, New Mexico. Telephone No. 885-8263.

E. The well site, if a producer, will be maintained and kept clean of all trash and litter or other foreign material which detracts from the surrounding environment. Equipment will be painted and maintained in accordance with good operating practice.

After the well site is cleaned and pits and sumps backfilled, any obstruction to the natural drainage will be corrected by ditching and/or terracing. All disturbed areas, including any access road no longer needed, will be ripped.

11. Other Information

A. Topography: land surface is undulating to gently rolling and duny. From an elevation of 3143' at the well site, the land surface slopes gently to the south toward the Pecos River at about 30-40 feet per mile.

B. Soil: soil is a deep fine sand underlain by caliche.

C. Flora and Fauna: the vegetative cover is generally sparse and consists of mesquite, yucca, shinnery oak, sandsage and perennial native range grasses. Wildlife in the area is that typical of semi-arid desert land and includes coyotes, rabbits, rodents, reptiles, dove and quail.

D. Ponds and Streams: the Pecos River runs in a southeasterly direction about two miles south of our location at the nearest point.

E. Residences and Other Structures: a machine shop is approximately 1/4 mile west on Highway 62-180. A trailer house is 3/8 mile southwest.

F. Archeological, Historical and Cultural Sites: none observed in the area. The Agency of Conservation Archeology in Portales, New Mexico has been engaged to make a survey of the well pad and access road. Their findings will be reported to you.

G. Land Use: business development along both sides of Highway 62-180 and a subdivision is in the planning stage by the surface landowner.

H. Surface Ownership: the surface is owned by:

Mr. Robert Light
1409 W. Orchard Lane
Carlsbad, New Mexico 88220

Telephone No. (505) 885-8263

12. Lessee's or Operator's Representative

Cities Service Oil Company's representative who is responsible for assuring compliance with the approved surface use and operations' plan is:

E. Y. Wilder
Cities Service Oil Company
Region Operations Manager
Box 1919
Midland, Texas 79701

Telephone No. (915) 684-7131

13. 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 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 Cities Service Oil Company and its contractors and sub-contractors in conformity with this plan and the terms and conditions under which it is approved.

12/30/76
Date

E. Y. Wilder
Region Operations Manager

Please contact me at the above address if further information is needed to properly evaluate this proposal.

Yours very truly,

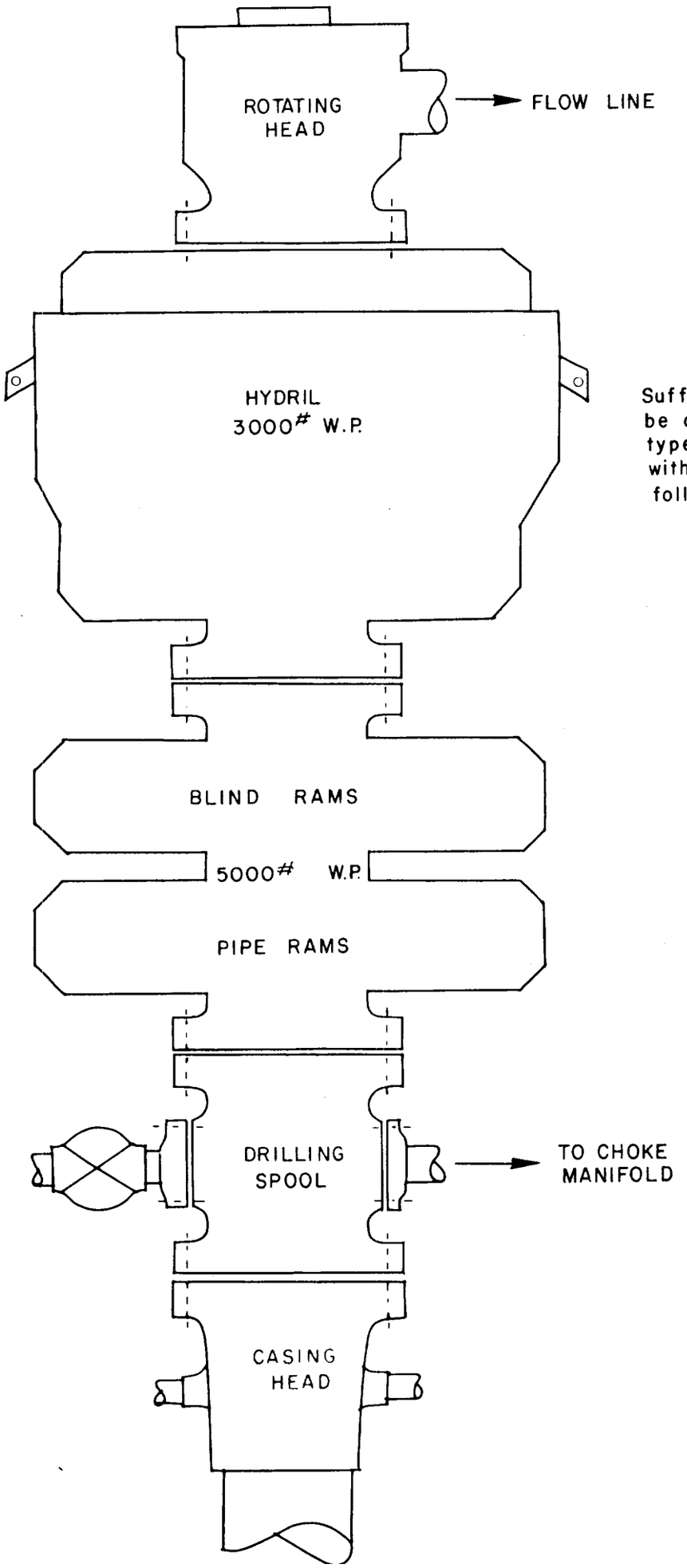
E. Y. Wilder

E. Y. Wilder
Region Operations Manager
Southwest Region
E & P Division

EYW/ls

Attachments

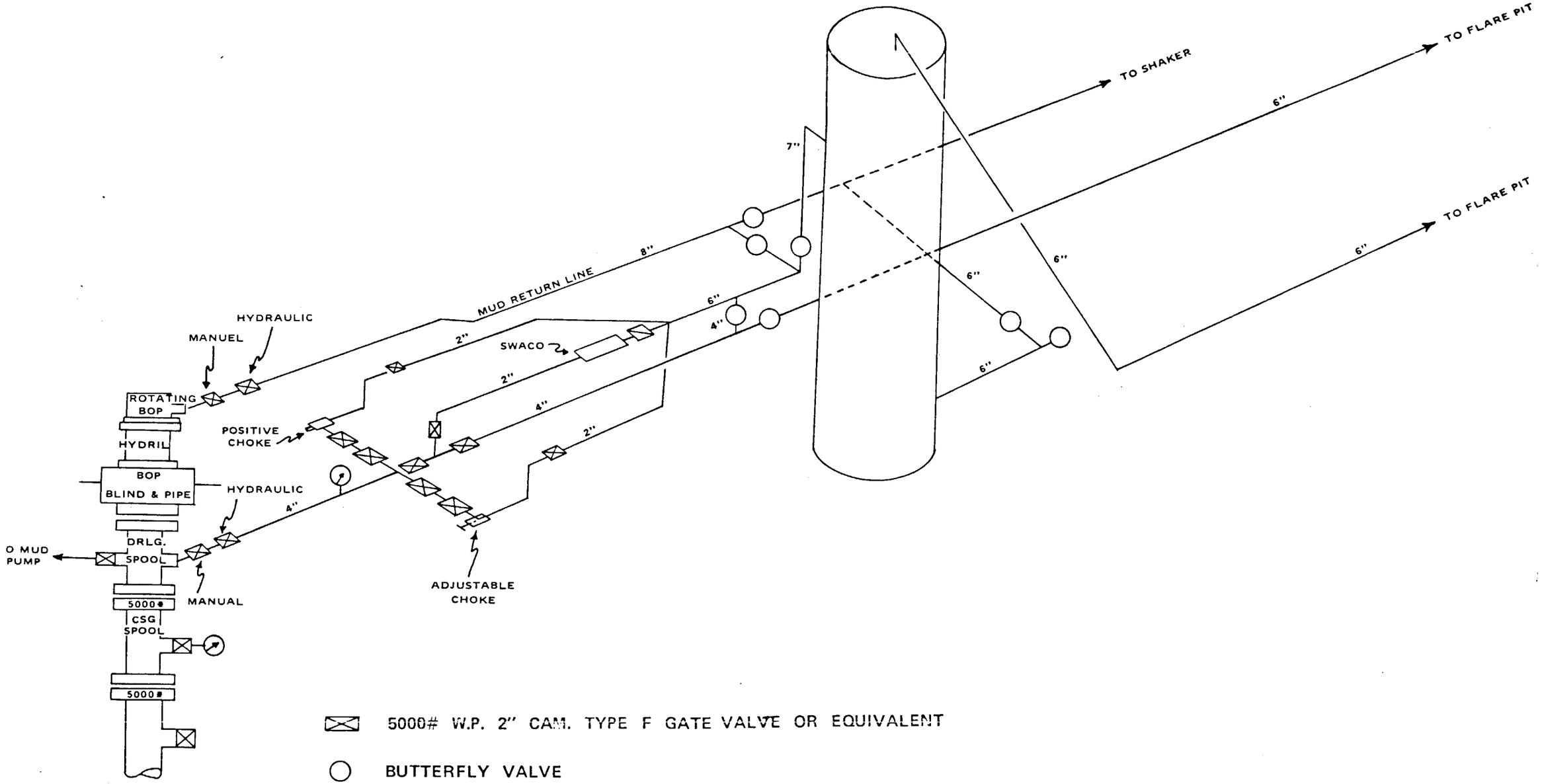
BLOWOUT PREVENTER DIAGRAM



CLOSING METHOD

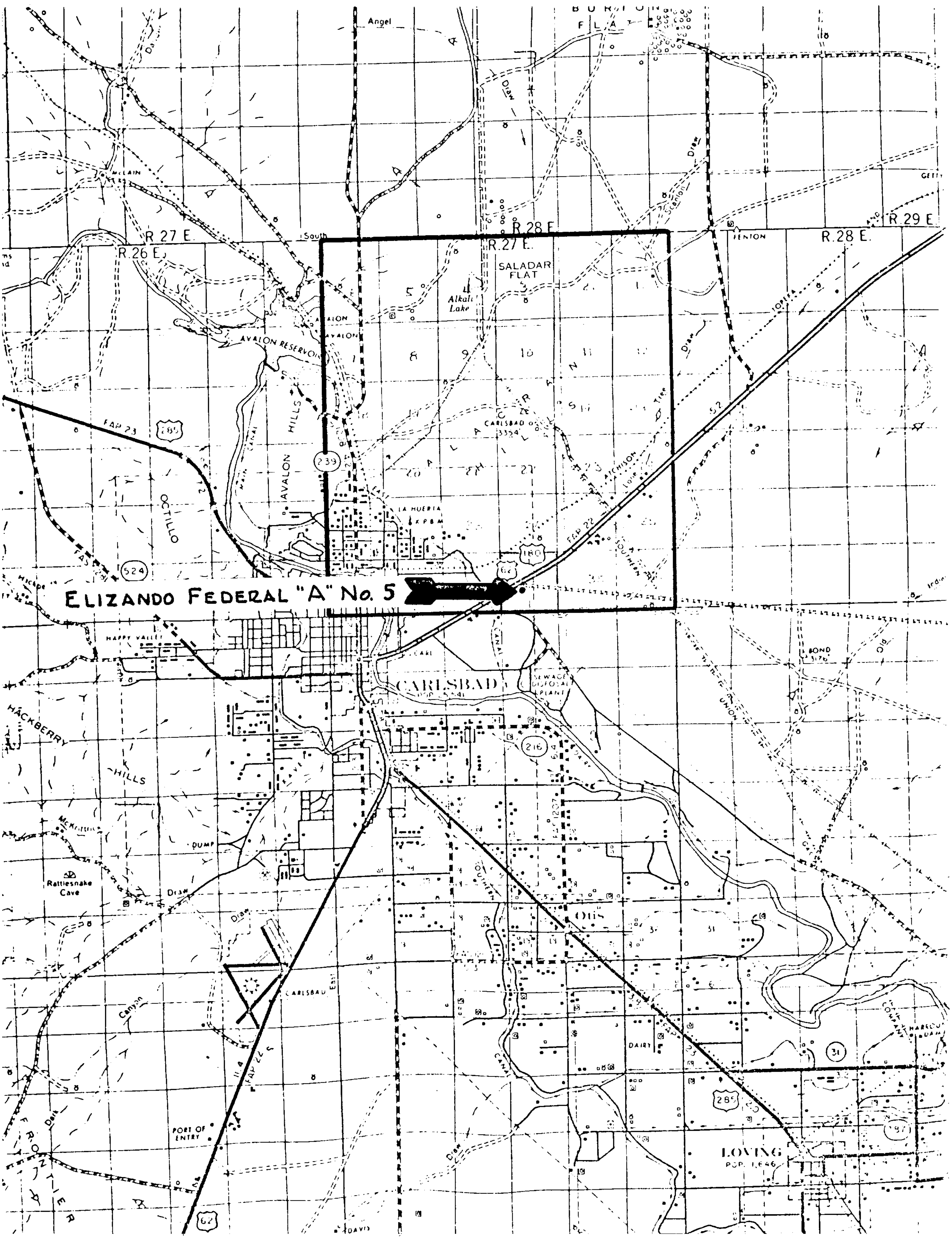
Sufficient accumulator volume shall be available to operate both the bag type preventer and pipe ram preventer with a snap-action through the following steps: close-open-close.

CITIES SERVICE OIL COMPANY



5000# W.P. 2" CAM. TYPE F GATE VALVE OR EQUIVALENT

BUTTERFLY VALVE



ELIZANDO FEDERAL "A" No. 5
R.27 E.
R.26 E.
R.28 E.
R.29 E.
SALADAR FLAT
Alkali Lake
AVALON RESERVOIR
AVALON HILLS
OCTILLO
LA HUERTA
CARLSBAD
SEWAGE DISPOSAL PLANT
HAPPY VALLEY
HACKBERRY HILLS
Rattlesnake Cave
DUMP
Otis
DAIRY
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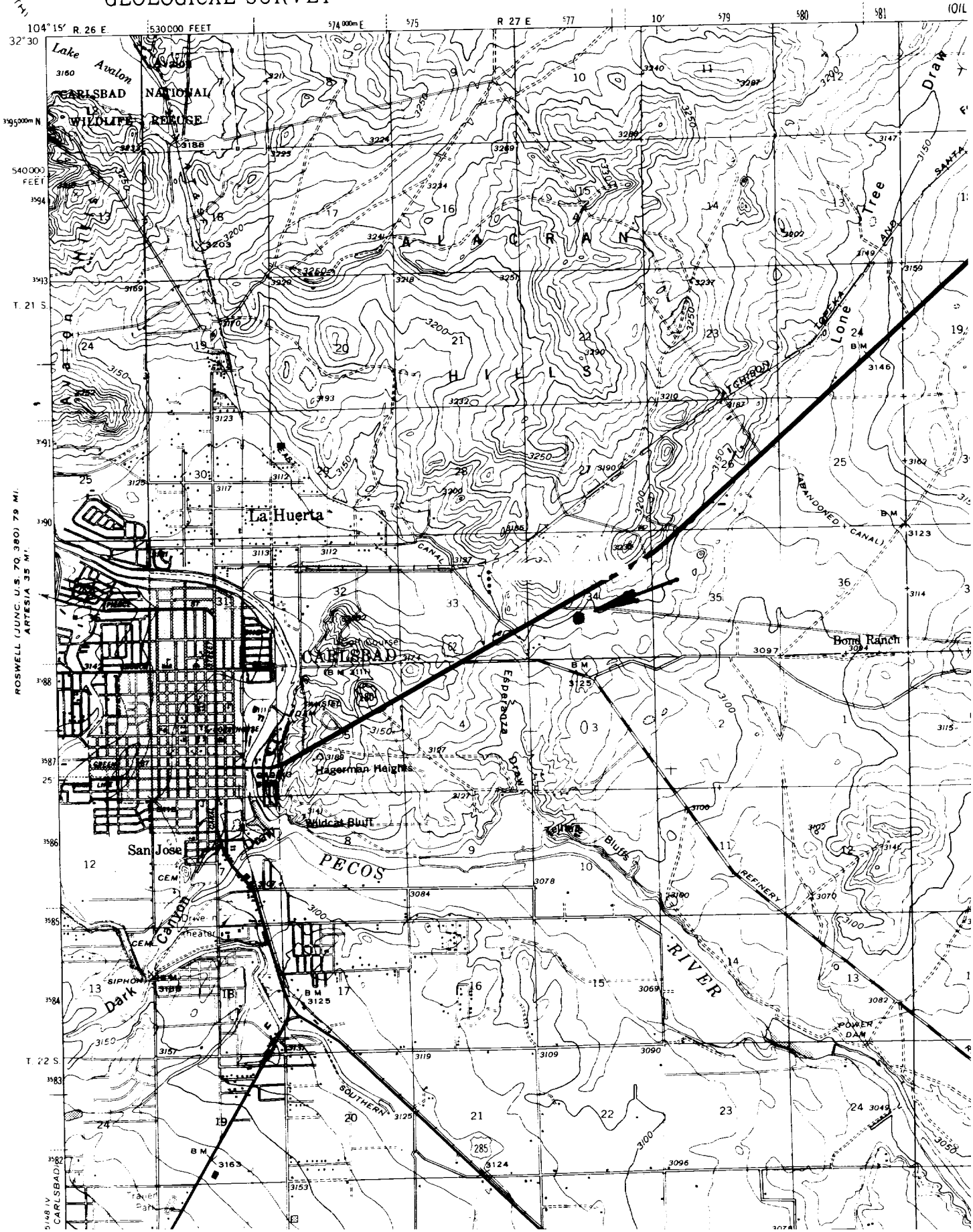
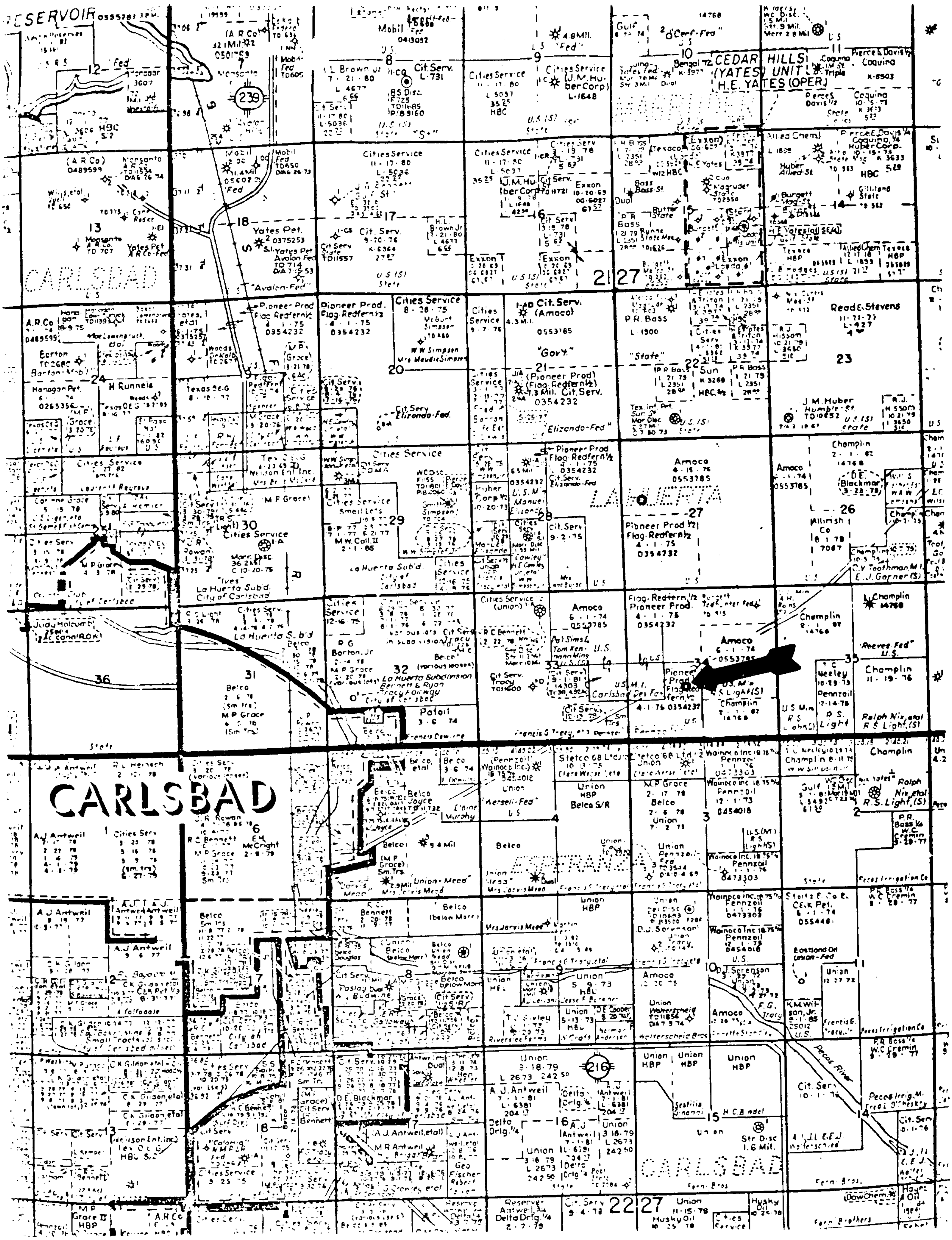
FRONTIER
FENTON
BOND
Angel
McLAIN

UNITED STATES

DEPARTMENT OF THE INTERIOR

GEOLOGICAL SURVEY




RESERVOIR
CEDAR HILLS (YATES) UNIT
H.E. YATES (OPER.)
CARLSBAD
LA HUERTA
Cities Service
Yates Pet.
Pioneer Prod.
Amoco
Champlin
Read & Stevens
J.M. Huber
Exxon
Belco
Union
Pennzoil
A.J. Antweil
Pecos River
La Huerta Subd. City of Carlsbad
Potoil
Cit. Serv.
M.P. Grace
Carlsbad Del Fan
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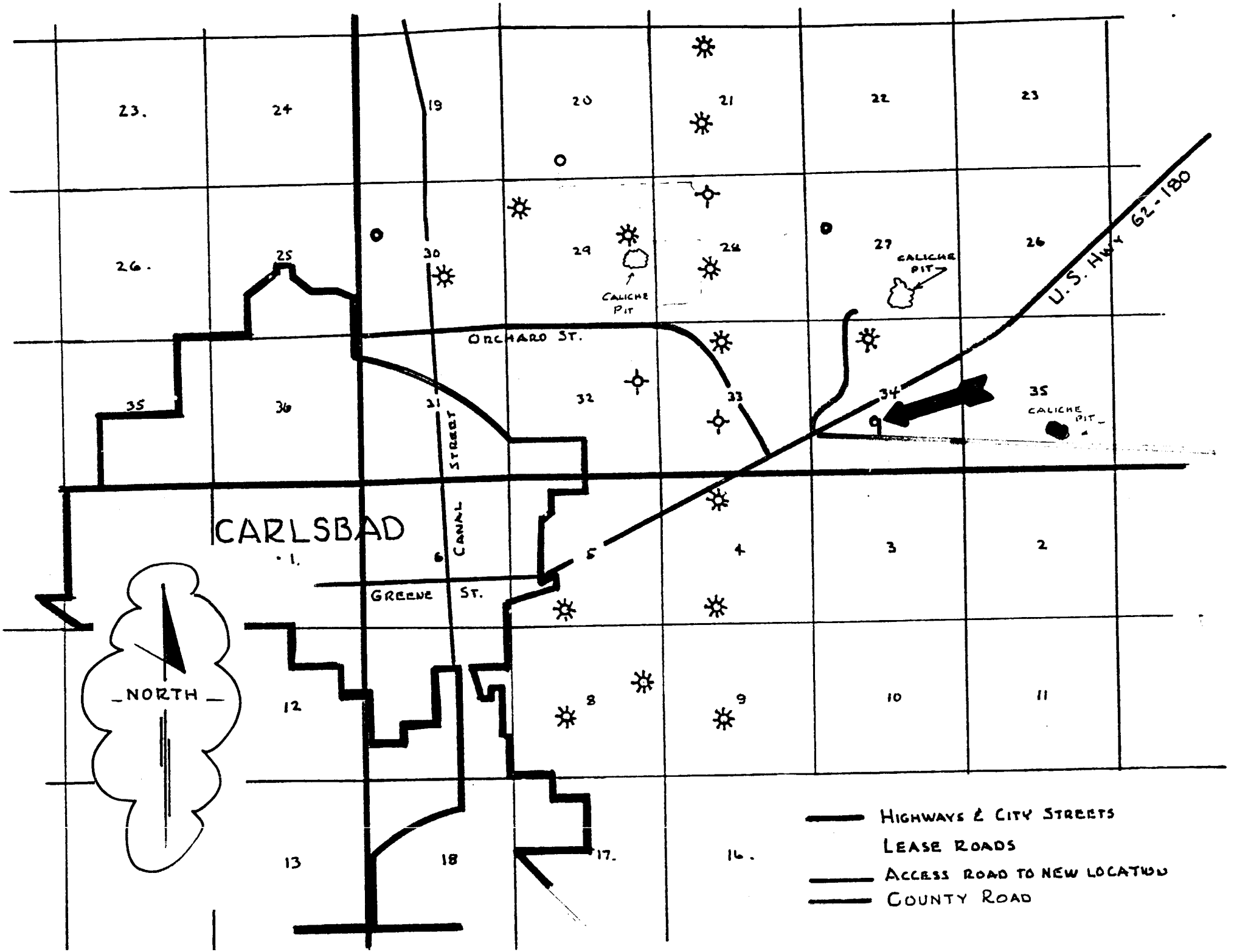
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CALICHE PIT
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CANAL STREET
CARLSBAD
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GREENE ST.
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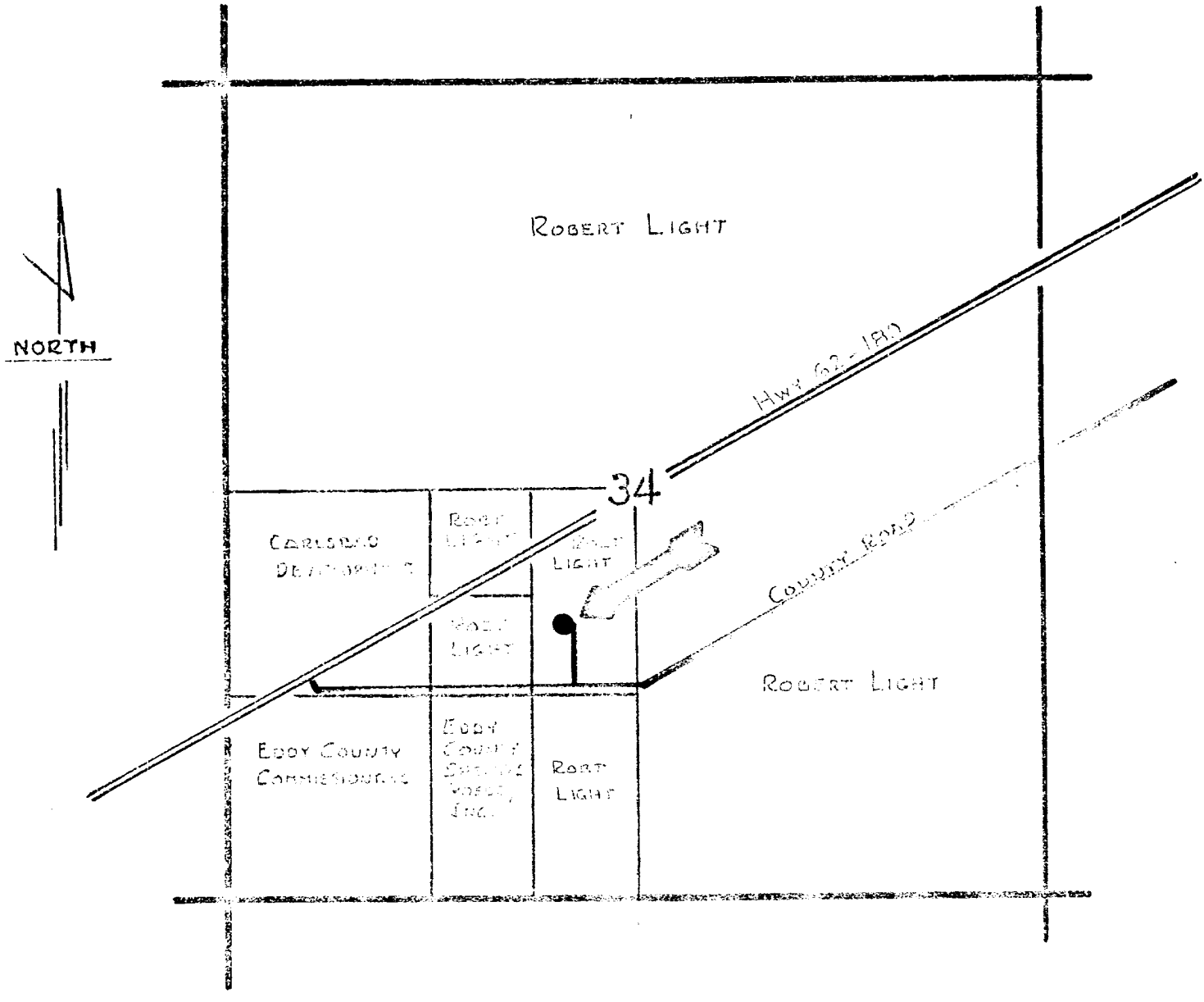
HIGHWAYS & CITY STREETS
LEASE ROADS
ACCESS ROAD TO NEW LOCATION
COUNTY ROAD



SURFACE OWNERSHIP PLAT

SEC. 34 - 21S - 27E.

EDDY COUNTY

NEW MEXICO

_ RIG UP WITH V-DOOR TO NORTH - RESERVE PIT TO WEST _