Form 9-331 C
(May 1963)

SUBMIT IN TRIPLICATE*
(Other instructions on reverse side)

Form approved.
Budget Bureau No. 42-R1425.

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

1a. TYPE OF WORK: DRILL [X] DEEPEN [ ] PLUG BACK [ ]	5. LEASE DESIGNATION AND SERIAL NO.: LC 060967
b. TYPE OF WELL: OIL WELL [X] GAS WELL [ ] OTHER — SINGLE ZONE [ ] MULTIPLE ZONE [ ]	6. IF INDIAN, ALLOTTEE OR TRIBE NAME:
2. NAME OF OPERATOR: Cities Service Oil Company	7. UNIT AGREEMENT NAME:
3. ADDRESS OF OPERATOR: P. O. Box 1919, Midland, TX 79701	8. FARM OR LEASE NAME: SE Maljamar Grayburg SA
4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.*) At surface: 1355' from south line, 1135' from east line of Sec. 30, T-17-S, R-33-E, Lea County New Mexico. At proposed prod. zone: Same as above	9. WELL NO.: ~~304~~ 4 (TRACT 1)
	10. FIELD AND POOL, OR WILDCAT: Maljamar Grayburg SA
	11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA: Sec. 30, T-17-S, R-33-E
14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE*: 6 miles southeast of Maljamar, New Mexico	12. COUNTY OR PARISH: Lea — 13. STATE: New Mexico
15. DISTANCE FROM PROPOSED* LOCATION TO NEAREST PROPERTY OR LEASE LINE, FT. (Also to nearest drlg. unit line, if any): 188'	16. NO. OF ACRES IN LEASE: 1080 — 17. NO. OF ACRES ASSIGNED TO THIS WELL: 40
18. DISTANCE FROM PROPOSED LOCATION* TO NEAREST WELL, DRILLING, COMPLETED, OR APPLIED FOR, ON THIS LEASE, FT.: 785'	19. PROPOSED DEPTH: 4350' — 20. ROTARY OR CABLE TOOLS: Rotary
21. ELEVATIONS (Show whether DF, RT, GR, etc.): 4038.9 GR	22. APPROX. DATE WORK WILL START*: September 25, 1976

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	32	1300'	1000 sacks
7-7/8"	5-1/2	15.5	4350'	500 sacks

It is proposed to drill this well to a T.D. of 4350' and complete in the Grayburg-San Andres Formation.

The blowout prevention program is as follows:
1. One set of blind rams.
2. One set of drill pipe rams.

The acreage dedicated to this well is dedicated to Phillips Petroleum Company as casinghead gas purchaser.

NSL ORDER R-5283

SEE ATTACHED FOR CONDITIONS OF APPROVAL

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 E. Spilder TITLE Region Operation Mgr. DATE August 20, 1976

(This space for Federal or State office use)

PERMIT NO. _____ APPROVAL DATE _____

APPROVED BY _____ TITLE _____ DATE _____

CONDITIONS OF APPROVAL, IF ANY:

Unl... Operations ...
Com... drilling app...
Expir...

APPROVED AS AMENDED
SEP 30 1976
ARTHUR R. BROWN
DISTRICT ENGINEER

*See Instructions On Reverse Side

NEW MEXICO OIL CONSERVATION COMMISSION

WELL LOCATION AND ACREAGE DEDICATION PLAT

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

All distances must be from the outer boundaries of the Section

Operator	Lease	Well No.
CITIES SERVICE OIL COMPANY	S.E.M.G.A.S.A. UNIT TRACT 1	4

Unit Letter	Section	Township	Range	County
I	30	17 S	33 E	LEA

Actual Footage Location of Well:
1355 feet from the SOUTH line and 1135 feet from the EAST

Ground Level Elev.	Producing Formation	Pool	Dedicated Acreage
4038.9	Grayburg-San Andres	Maljamar (Grayburg-San Andres)	40 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?

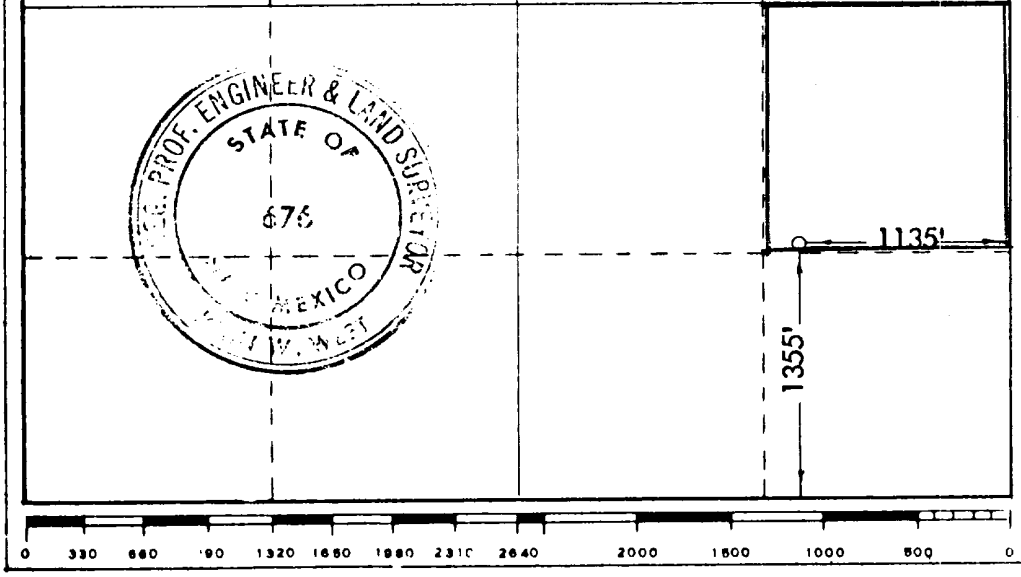
[X] Yes [ ] No If answer is "yes," type of consolidation Unitization

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 1080 acres. Working interests of participating companies in this proposed well are as follows:

Cities Service Oil 75.25556%
Phillips Petroleum 24.74444%



CERTIFICATION

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

E. Spilker

Name: Region Operation Manager

Position: Cities Service Oil Company

Company: August 20, 1976

Date:

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: FEB. 19, 1976

Registered Professional Engineer and/or Land Surveyor:

John W. West

Certificate No. 676

CITIES SERVICE OIL COMPANY

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

August 27, 1976

United States Department of the Interior
Geological Survey
205 N. Linam
Hobbs, New Mexico 88240

Gentlemen:

Re: Application for Permit to Drill
Southeast Maljamar Grayburg-San Andres Unit Tract 1 Well 4, Lea County, New Mexico

On February 19, 1976, Cities Service Oil Company's Southeast Maljamar Grayburg-San Andres Unit Tract 1 Well 4 was staked in an unorthodox location 1355' from the south and 1135' from the east line of Section 30-T17S-R33E, Maljamar Grayburg-San Andres Pool, Lea County, New Mexico.

We have just recently received non-operators' approval to drill this well and now respectfully request your consideration and approval of our Application for Permit to Drill.

The subject well is in the Cities Service operated Southeast Maljamar Grayburg-San Andres Unit six (6) miles southeast of the town of Maljamar, New Mexico.

The following data is submitted in accordance with the National Environmental Policy Act of 1969:

I. Application for Permit to Drill

1. Form 9-331C (attached).

2. Form C-102 Well 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 4038.9'.

4. The geologic name of the surface formation is Tertiary Ogallala.

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

6. Proposed total depth 4350'.

7. Estimated tops of important geologic markers:

Surface	Tertiary Ogallala
Top of Salt	1310'
Yates	2500'
Queen	3480'
San Andres	4210'
Total Depth	4350'

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

Shallow ground water	100-200'
Oil, gas or water in Yates	2500'
Oil, gas or water in Queen	3480'
Oil, gas or water in San Andres	4350'

9. The proposed casing program is as follows:

Surface:	8-5/8" OD 32# K55 ST&C new casing
Production:	5-1/2" OD 15.5# K55 ST&C new casing

10. Casing setting depth and cementing program:

    A. 8-5/8" OD surface casing set at 1300'. Cement with 1000 sacks Class C with 2% CaCl to circulate cement to surface.

    B. 5-1/2" OD production casing set at 4350'. Cement with 250 sacks Halliburton Lite followed by 250 sacks Class H with 3/4% CFR-2, 5# salt and 5# sand per sack. Bring cement to 2400' from surface.

11. Pressure Control Equipment (schematic attached)

    0-1300' - None

    1300-4350' - 10" 3000# hydraulic BOP with blind and pipe rams with both floor and remote operation station. Tested with rig pump (schematic attached).

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.

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

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

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

Auxiliary equipment is an upper kelly cock and a drill pipe float.

12. Mud Program

0-1300' - fresh water mud. Gel flocculated with lime paper for seepage loss of fluid.

1300-4000' - Add brine water to help minimize washout in salt section. Paper for seepage loss of fluid.

4000-4350' - To the existing fluid mud up with salt gel for a viscosity of 34-36 sec./1000 cc and lower the fluid loss to 10 cc or below with starch. Use paper for seepage loss of fluid.

13. Testing, Logging and Coring Program

A. Testing - no DST's are planned.

B. Mud Logging Program - None.

C. Electric Logging Program - at T.D. 4350' and prior to running 5-1/2" OD casing the following Schlumberger open hole electric logs will be run:

	Depth	Scales
GR-SNP Log	4350-2825'	2" & 5"
Dual Laterolog	4350-2825'	2" & 5"

D. Coring Program - None.

14. No abnormal temperatures, pressures or H_2S gas are anticipated.

15. Anticipated starting date is one week after this Application for Permit to Drill is approved by the Geological Survey. It should take approximately nine days to drill the well to T.D. and another seven days to complete.

II. Multi Point Surface Use and Operations Plan

1. Existing Roads

A portion of a Lea County highway map is attached which shows the location of the Southeast Maljamar Grayburg-San Andres Unit in relation to Maljamar and Buckeye, including highways and main travelled secondary roads. The Unit is 1/2 mile north of State Highway 529 and six miles southeast of Maljamar, New Mexico.

The second attached map gives a more detailed view of the Southeast Maljamar Grayburg-San Andres Unit showing existing roads, the new location and our planned access road.

2. Planned Access Roads

A. The third attached map shows the road system leading to the location. The segments are color coded. The blue section is good caliche road north off State Highway 529 for 2526'. The brown segments indicate fair caliche roads that will need some repair to be usable. The brown section is 4106' long. The green segment is an existing sand and clay road that will need to be rebuilt. The green section is 969' long. The red section is new road to the location. It is only 140' long. The roads will be 12' wide.

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

C. Maximum grade: 3 per cent.

D. Turnouts: No new turnouts are necessary.

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

F. Culverts: None required.

G. Cuts and Fills: none required. Minor levelling at location site.

H. Gates, Cattleguards: no additional gates or cattleguards are required.

3. Location of existing wells.

Existing wells are shown on the plat of the Southeast Maljamar Grayburg-San Andres Unit.

4. Location of Existing and/or Proposed Facilities.

There is one central battery and waterflood plant that serves the entire Southeast Maljamar Grayburg-San Andres Unit.

Oil, water and casinghead gas are routed to the central battery through individual flow lines from each producing well. The majority of these lines are not buried.

Also, there is a system of individual water injection lines running from the waterflood plant to each injection well. These lines are buried.

5. Location and Type of Water Supply.

Fresh and brine water will be purchased and trucked to the wellsite over the existing and proposed roads outlined on the plats.

6. Source of Construction Materials.

Caliche for surfacing the road and well pad will be obtained from an existing pit in the NE/4 NE/4 Section 31-17S-33E. The pit is on land owned by George Williams, Lovington, New Mexico. Location of the pit is colored yellow on both the second and third attached plats.

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 wellsite layout.

F. All trash and debris will be buried or removed from the wellsite within 30 days after finishing drilling and/or completion operations.

8. Ancillary Facilities.

A. None required.

9. Wellsite Layout.

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

B. Only minor levelling of the wellsite will be required. No significant cuts and fills will be necessary.

C. The reserve pit will be plastic lined.

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 the agreement with the surface owner. Pits will be filled and location will be cleaned. The pit area, well pad and all unneeded access road will be ripped to promote revegetation. Rehabilitation should be accomplished within 90 days after abandonment.

11. Other Information.

A. Topography: Land surface is undulating to gently rolling

and duny. From an elevation of 4039 feet at the wellsite, the land surface slopes gently toward the south at about 30 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, quail and an occasional antelope.

D. Ponds and Streams: There are no rivers, streams, lakes or ponds in the area.

E. Residences and Other Structures: There are no other facilities or occupied dwellings in the area.

F. Archeological, Historical and Cultural Sites: None observed in the area.

G. Land Use: Grazing and hunting in season.

H. Surface Ownership: Wellsite and access road is on Fee surface belonging to the Bar V Rocker Ranch whose foreman is Roy Lee Warren, Lovington, New Mexico. Telephone number (505) 396-3802.

Mr. Warren has been notified of our intent to drill and we have reached an amicable damage settlement in the amount of $250.00 for the location, $2.00 per rod for 100 rods of road and $1.00 per rod for 135 rods of flow line. Total damage - $585.00.

We have also reached an agreement with Mr. Warren concerning rehabilitation requirements which entails:

Upon completion of the well, any plastic material used to line pits or sumps shall be cut-off below ground level, as far down as possible, and disposed of before the pits are covered. All unattended pits, containing liquids, will be fenced and the liquid portion allowed to evaporate before the pits are broken and backfilled.

All waste associated with the drilling operation will be buried in place in a separate trash pit. All garbage and debris ieft on site will be buried at least 3 feet deep.

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 wellsite is cleaned and pits and sumps backfilled, any obstruction to the natural drainage will be corrected by ditching or terracing. All disturbed areas, including any access road no longer needed, will be ripped. These areas will be reseeded with grass, if in Mr. Warren's opinion, it is required.

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 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 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.

August 27, 1976 — E. Y. Wilder Region Operations Mgr.
Date — Name and Title

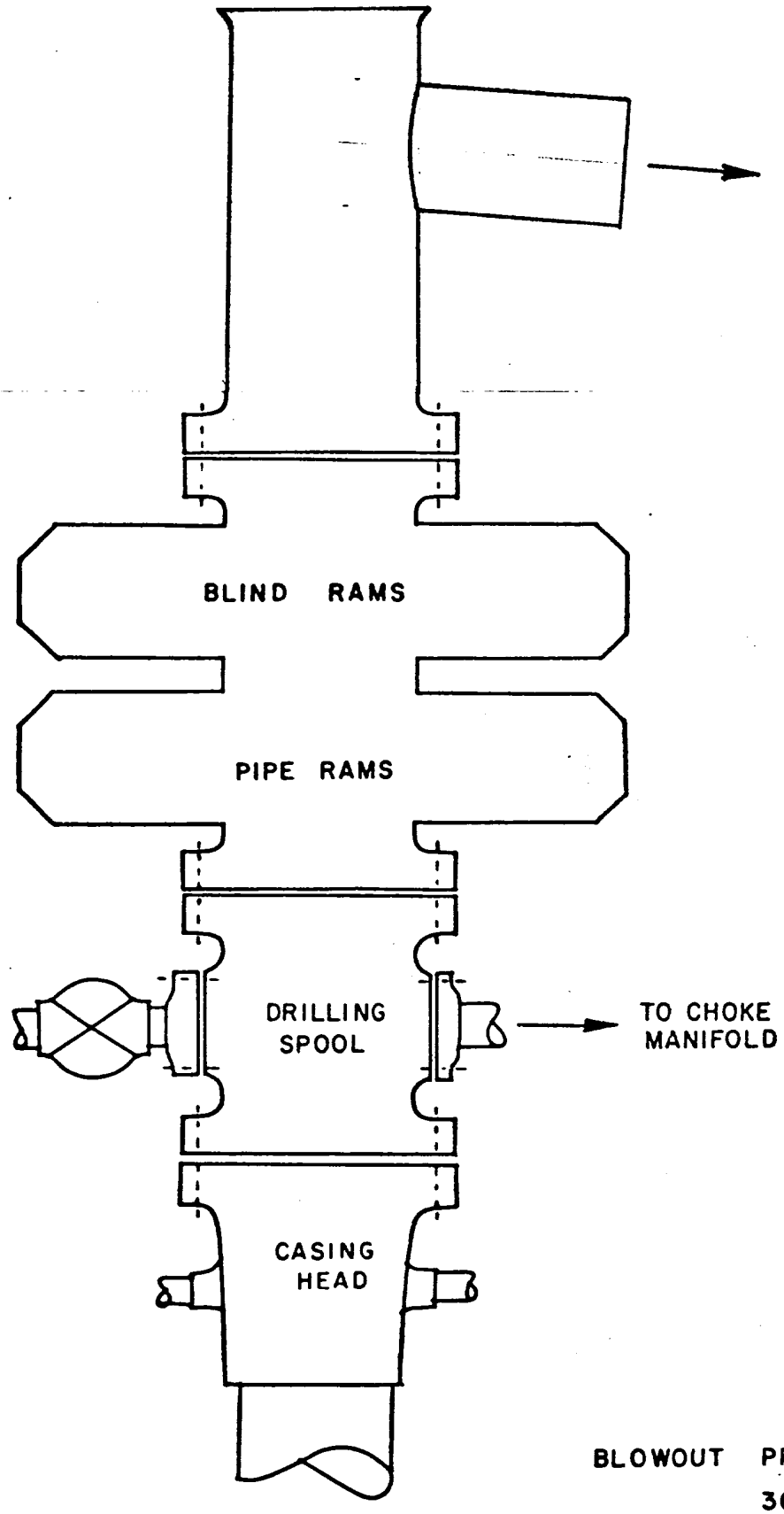
Please contact me at the above address if further information is needed to properly evaluate this proposal.

Yours very truly,

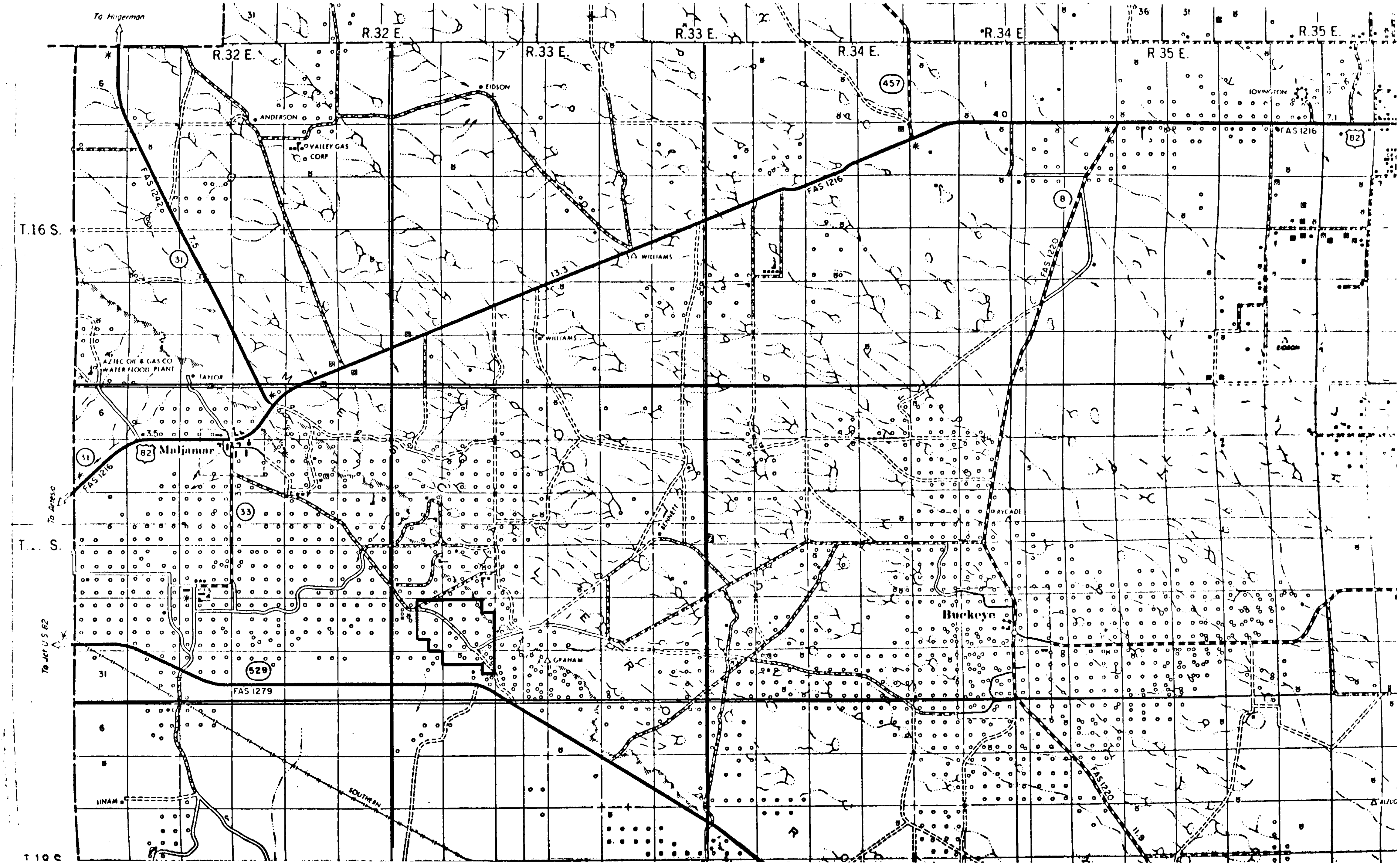
E. Y. Wilder
Region Operations Manager
Southwest Region
E & P Division

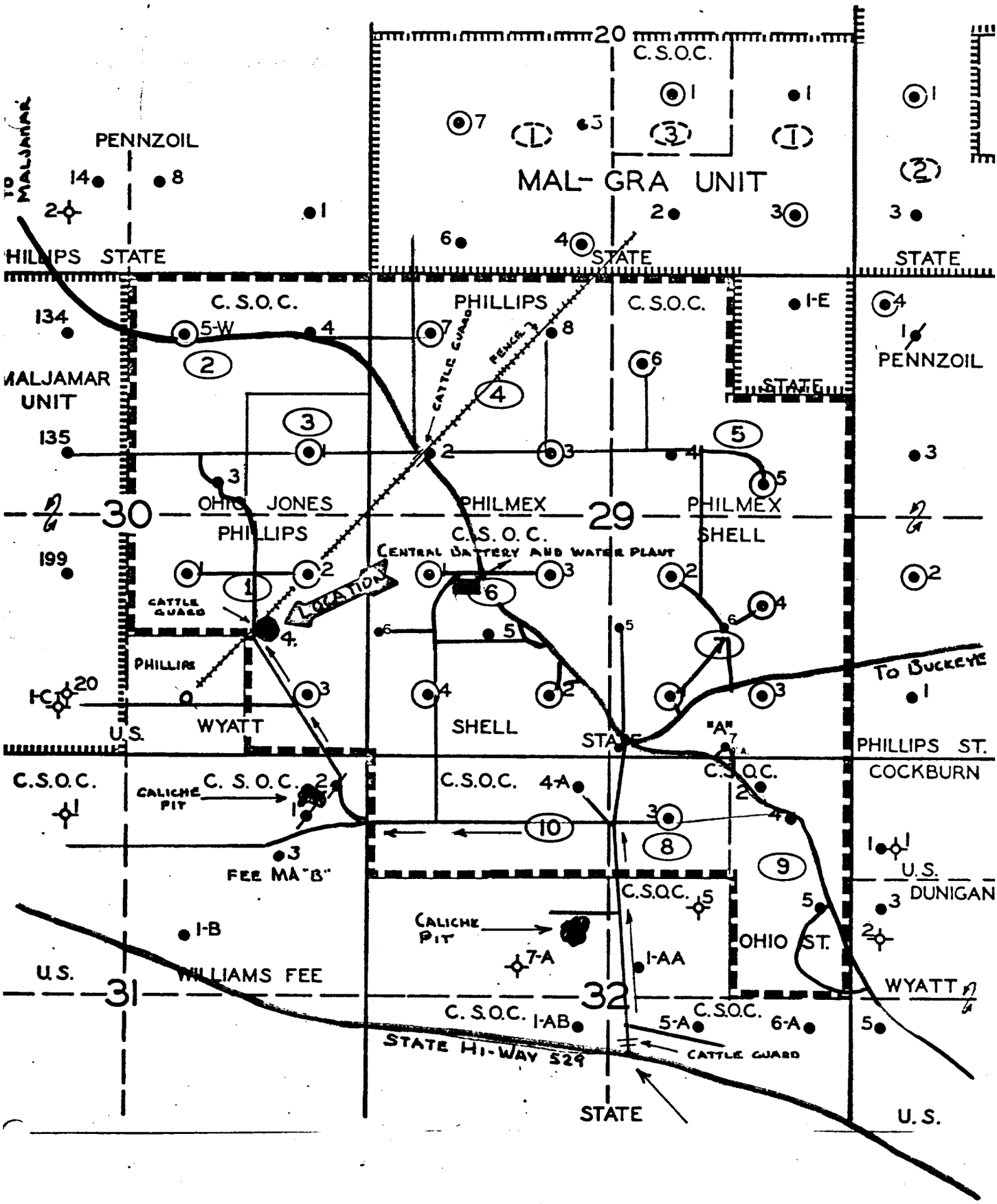
EYW/ls

Attachments



BLOWOUT PREVENTER DIAGRAM
3000# W.P.


To Hagerman
R.32 E.
R.33 E.
R.34 E.
R.35 E.
T.16 S.
To Artesia
To Jct U S 82
Maljamar
Buckeye
EIDSON
ANDERSON
VALLEY GAS CORP
LOVINGTON
AZTEC OIL & GAS CO WATER FLOOD PLANT
TAYLOR
WILLIAMS
BENNETT
RYCADE
GRAHAM
LINAM
SOUTHERN
FAS 1242
FAS 1216
FAS 1220
FAS 1279
457
82
31
33
529
8



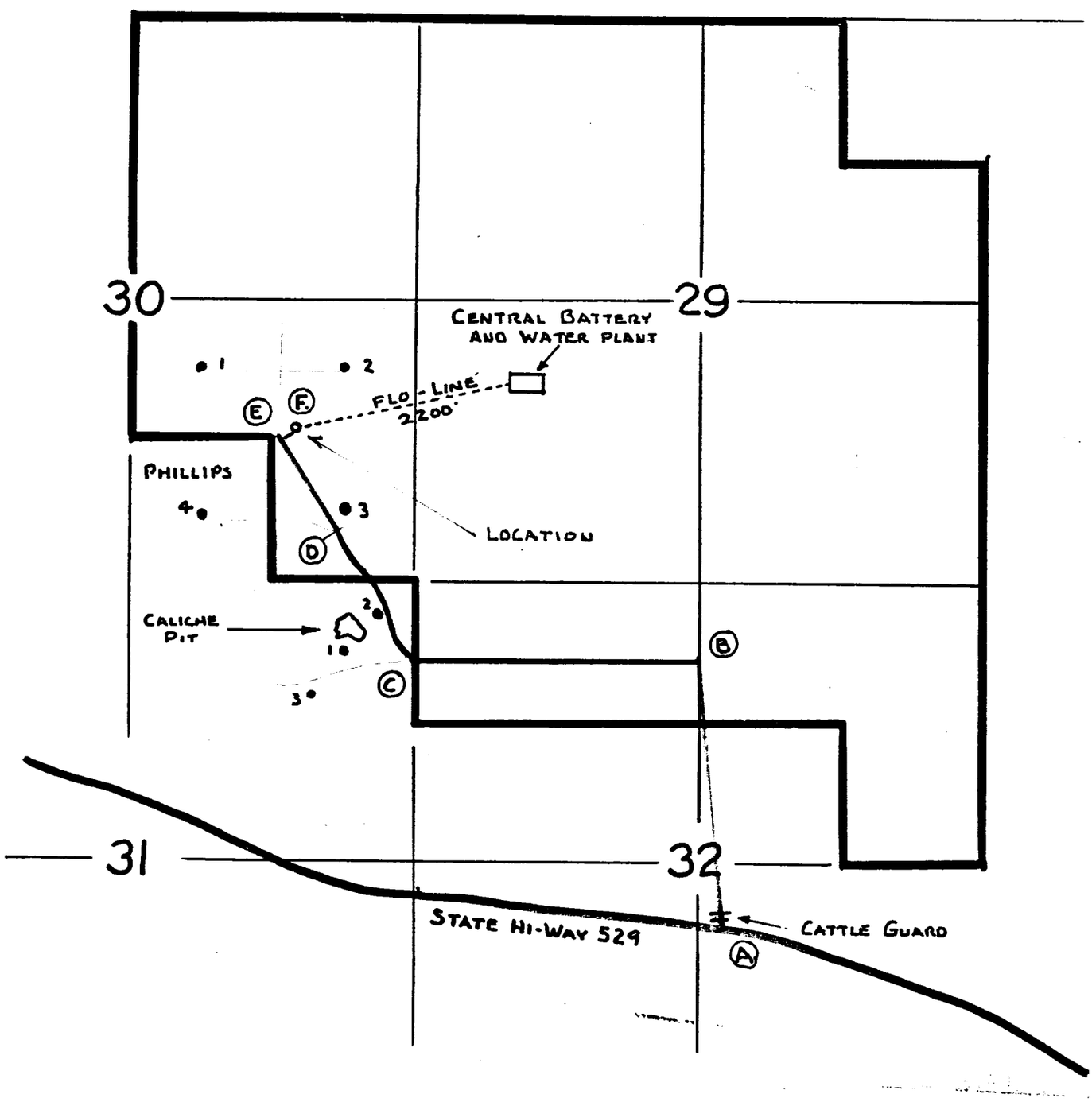
SOUTHEAST MALJAMAR UNIT

LEA COUNTY, NEW MEXICO

T.-17-S. R-33-E.

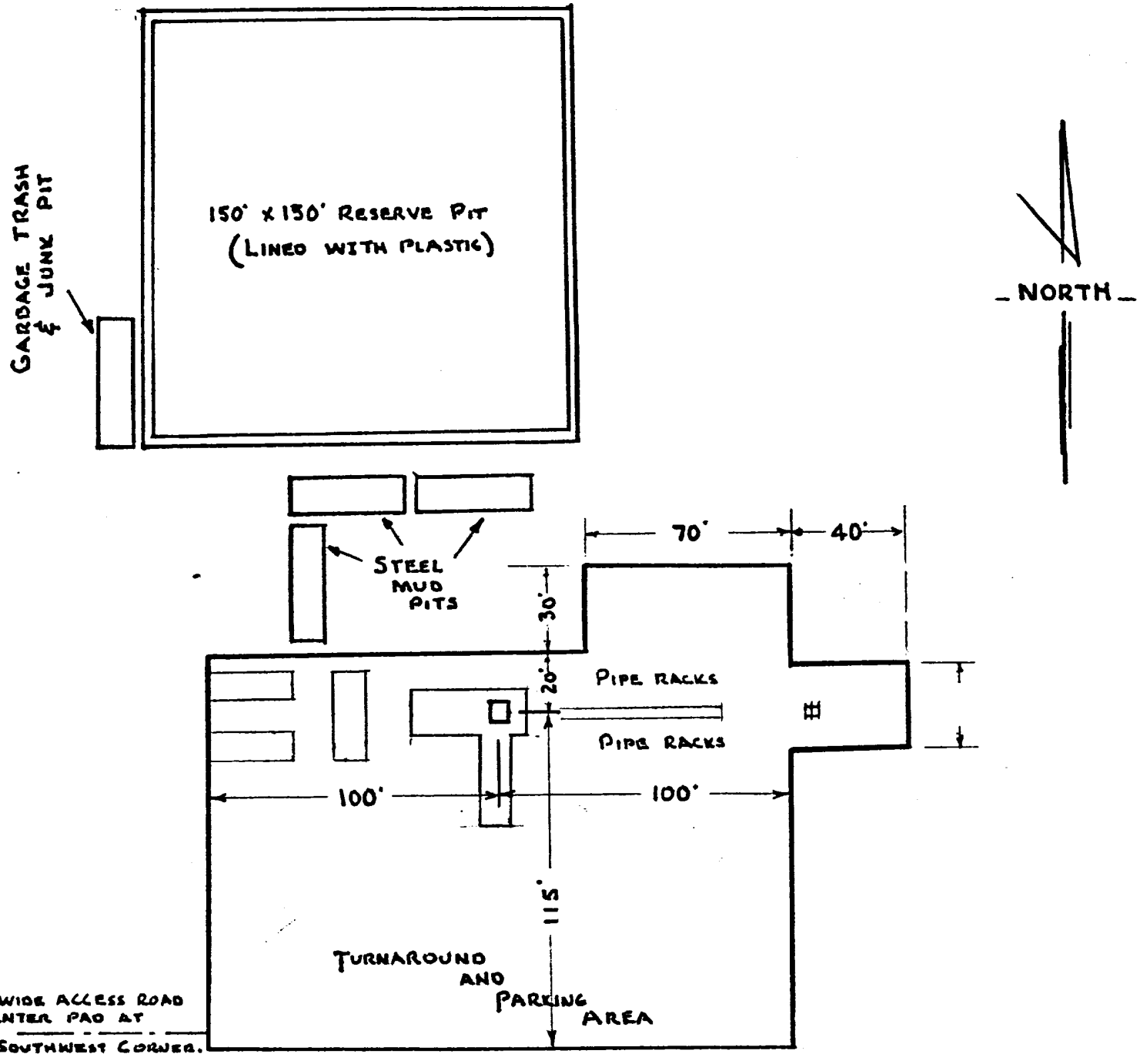
SCALE: 4"=1 MI.

JULY, 1973



A-B	GOOD CALICHE ROAD	2526'
B-C	FAIR CALICHE ROAD - NEEDS REPAIR	2846'
C-D	FAIR CALICHE ROAD - NEEDS REPAIR	1260'
D-E	SAND & CLAY ROAD - NEEDS REBUILDING	969'
E-F	NEW ROAD	140'

RIG UP WITH V-DOOR TO EAST — RESERVE PIT TO NORTH



U. S. GEOLOGICAL SURVEY
P. O. Box 1157
Hobbs, New Mexico 88240

HOBBS DISTRICT

Cities Service Oil Co.
No. 4 SE Maljamar Gr-SA Unit
NE¼SW¼ sec. 30-17S-33E
Lea County, N. M.

Above Data Required on Well Sign

CONDITIONS OF APPROVAL

1. Drilling operations authorized are subject to the attached sheet for general requirements for drilling and producing operations.

2. Notify this office (telephone (505) 393-3612) when the well is spudded and in sufficient time for a representative to witness cementing operations.

3. Immediate notice is required of all blowouts, fires, spills, and accidents involving life-threatening injuries or loss of life.

4. Secure prior approval before changing the approved drilling program or commencing plugging operations, plug-back work, casing repair work, or corrective cementing operations.

5. Blowout prevention equipment is to be installed, tested, and in working order before drilling below the surface casing and shall be maintained ready for use until drilling operations are completed.

6. A kill-line is to be properly installed and is not to be used as a fill-up line.

7. Blowout preventers are to have proper casing rams when running casing.

8. Drill string safety valve(s) to fit all pipe in the drill string to be maintained on the rig floor while drilling operations are in progress.

9. Blowout prevention drills are to be conducted as necessary to assure that equipment is operational and that each crew is properly trained to carry out emergency duties. All BOP tests and drills are to be recorded on the driller's log.