

**CASE 4614: Application of CITIES
SERVICE FOR AN UNORTHODOX WELL
LOCATION, LEA COUNTY, NEW MEXICO.**

dearnley-meier reporting service, inc.

SPECIALIZING IN: DEPOSITIONS, HEARINGS, STATEMENTS, EXPERT TESTIMONY, DAILY CC BY, CONVENTIONS

209 SIMMS BLDG. • P.O. BOX 1072 • PHONE 243-6691 • ALBUQUERQUE, NEW MEXICO



BEFORE THE
NEW MEXICO OIL CONSERVATION COMMISSION
Santa Fe, New Mexico

October 27, 1971
Examiner Hearing

IN THE MATTER OF:)
)
)

Application of Cities Service)
Oil Company for an unorthodox)
well location, Lea County, New)
Mexico.)

Case No. 4614

BEFORE: ELVIS A. UTZ, EXAMINER

TRANSCRIPT OF HEARING

dearnley-meier reporting services, inc.

1 MR. UTZ: Case 4614.

2 MR. HATCH: Case 4614. Application of Cities Service

3 Oil Company for an unorthodox well location, Lea County, New

4 Mexico.

5 MR. KELLAHIN: If the Examiner please, Jason Kellahin,

6 Kellahin and Fox, Santa Fe, appearing for the applicant. We

7 have one witness I would like to have sworn.

8 (Witness sworn)

9 MR. UTZ: Are there other appearances? You may

10 proceed.

11 (Whereupon, Applicant's Exhibits 1 through 6 were

12 marked for identification.)

13 JAMES L. RELPH

14 having been first duly sworn, according to law, upon his oath

15 testified as follows:

16 DIRECT EXAMINATION

17 BY MR. KELLAHIN:

18 Q Would you state your name, please?

19 A James L. Relph.

20 Q And by whom are you employed and in what position, Mr.

21 Relph?

22 A I am employed by Cities Service Oil Company as a region

23 reservoir engineer.

24 Q How do you spell your last name?

25 A R-e-l-p-h.

1 Q Have you ever testified before the Oil Conservation
2 Commission or one of its examiners and made your
3 qualifications a matter of record?

4 A I have.

5 MR. KELLAHIN: Are the witness' qualifications
6 acceptable?

7 MR. UTZ: Yes, sir, they are.

8 Q Mr. Relph, are you familiar with the application of Cities
9 Service Oil Company in Case 4614?

10 A Yes, sir.

11 Q Briefly, what is proposed by the applicants in this case?

12 A In this case we propose to modify our injection system
13 slightly, get more intensive injection into this particular
14 unit.

15 Q Now, this is the Southeast Maljamar?

16 A This is the Southeast Maljamar Unit.

17 Q And that is a Grayburg-San Andres waterflood project?

18 A Yes. Effective November 1, 1966.

19 Q Now, referring to what has been marked as the Applicant's
20 Exhibit No. 1 would you identify that exhibit, please?

21 A This is a map of the unit area, plat of the unit area with
22 the producing wells and foot well designated producing wells
23 by the solid small dots and injection wells by the large
24 circled dots.

25 Q And that is the present injection pattern in this unit; is

1 system, water injection did decline rather rapidly.

2 At the same time the oil rate in early 1969 started to
3 decline and has been on a declining trend ever since.

4 Q Now, referring to what has been marked as Exhibit No. 4
5 would you discuss that exhibit?

6 A Exhibit No. 4 has the pattern that we now have in the unit
7 in the north half and what we intend to -- would seek
8 approval to develop in the southern half.

9 We feel that by modifying the pattern to what we would
10 term a 40-acre injection system and drilling it in field
11 wells in the center of the 40-acre patterns we feel we can
12 get better response than what we have had in the past.

13 Q Now, there is a well with a red arrow pointing to it. Is
14 that your subject well which is the subject of this
15 application?

16 A Yes. This is the subject well. The well No. 5 to the
17 east and to the west -- excuse me, I mean to the west is
18 already drilled and would be the center of one 40-acre
19 five spot. This would be the center of the other 40-acre
20 five spot which we would inject into for a period of time
21 to determine whether the 40-acre five spots were as
22 effective as we anticipate they will be.

23 The additional dashed lines outline four other patterns
24 that we plan to go into in the future if the two 40-acre
25 five spots we propose will perform as we anticipate.

- 1 Q Now, this is going to be a producing well, is it not?
- 2 A yes. This will be a producing well.
- 3 Q Now, the exhibit would indicate that it is located on the
- 4 quarter-section line. Actually it will be about five feet
- 5 off the line, will it not?
- 6 A Yes, it will.
- 7 Q It will be at the location advertised or 1395 feet from the
- 8 South line and 2615 feet from the East line of the section?
- 9 A Yes, sir, that's true.
- 10 Q Now, refer to what has been marked as Exhibit No. 5 would
- 11 you discuss that exhibit?
- 12 A Our Exhibit No. 5 is our projection of the performance of
- 13 the unit with no change in the pattern, and the lower
- 14 straight line, the upper darkened line that curves upward
- 15 and then back down is our projection of a performance of a
- 16 unit with the proposed six 40-acre five spots.
- 17 Q That is projection of your Exhibit No. 3 on the two premises,
- 18 is it not?
- 19 A That is true.
- 20 Q Do you anticipate an immediate increase in oil production
- 21 with the additional five spot locations?
- 22 A Yes. The area has had injection for quite some time, and
- 23 we believe the well that we propose will produce at a pretty
- 24 good rate.
- 25 Q Now, in your opinion will the approval of this application

1 result in the production of oil that would not otherwise
2 be recovered?

3 A Yes, sir, I believe it would.

4 Q Will it be an economical program for the waterflood project?

5 A Our Exhibit No. 6 shows the economics of the proposals
6 that we are -- the ultimate proposals that we feel we will
7 have there.

8 Q Now, would you just discuss those figures briefly?

9 A The projection on Exhibit No. 5 which shows no change in
10 the pattern to the economic limit of oil production from
11 the first of 1972 shows 341,100 barrels of oil.

12 We anticipate a future development cost of \$32,000 in
13 this program, giving us a net income after operating costs
14 and direct tax of \$255,750 by changing the pattern to
15 640 acre, five spot and continuing to flood the remainder
16 of the unit as is now developed we anticipate the future
17 production would be 989,300 barrels.

18 Our development cost would be \$346,000, and our net
19 income would increase to \$956,753.

20 The increase that we attribute just due to the pattern
21 changes would be 548,200 barrels of oil. Increased
22 development costs would be \$314,000, and the net income
23 after direct operating costs and taxes would be \$701,000.

24 Q And that would be an increase due solely to the change in
25 the injection pattern?

1 A Yes, sir.

2 Q And the producing pattern?

3 A And the producing pattern.

4 Q In the event this program is successful do you anticipate
5 you will be back for approval of the additional wells as
6 shown on your exhibit?

7 A Yes, sir, we feel if --

8 Q At that time you would ask for an administrative procedure
9 for approval of additional producing wells as well as
10 injection wells?

11 A I believe we would plan to, yes, sir.

12 Q Were Exhibit 1 through 6 prepared by you or under your
13 supervision?

14 A They were.

15 MR. KELLAHIN: At this time I would like to offer in
16 evidence Exhibits 1 through 6 inclusive.

17 MR. UTZ: Without objection Exhibits 1 through 6 will
18 be entered into the record of this case.

19 CROSS-EXAMINATION

20 BY MR. UTZ:

21 Q Now, your application, Mr. Relph, indicates the well 2615
22 from the East and 1395 from the South, and Mr. Kellahin
23 said five feet from the section line. Now, is this an
24 irregular section?

25 A No.

1 Q That would be twenty-five feet?

2 MR. KELLAHIN: Twenty-five feet. My mathematics are
3 bad.

4 A His mathematics are bad.

5 Q Well, I thought it might be an irregular section.

6 A No, it's not, not to my knowledge.

7 MR. UTZ: Are there other questions of the witness?

8 He may be excused.

9 (Witness excused)

10 MR. UTZ: Are there statements in the case? Case will
11 be taken under advisement.

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I N D E XWITNESSPAGE

JAMES L. RELPH

Direct Examination by Mr. Kellahin

2

Cross-Examination by Mr. Utz

8

E X H I B I T SMARKEDPAGE

Applicant's Exhibits 1 through 6

2

OFFEREDPAGE

Applicant's Exhibits 1 through 6

8

1 STATE OF NEW MEXICO)
2)
3 COUNTY OF BERNALILLO)

4 I, LINDA MALONE, Court Reporter, do hereby certify that
5 the foregoing and attached Transcript of Hearing before the
6 New Mexico Oil Conservation Commission was reported by me;
7 that the same is a true and correct record of the said
8 proceedings, to the best of my knowledge, skill and ability.
9
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Linda Malone
Court Reporter

I do hereby certify that the foregoing is
a complete record of the proceedings in
the final hearing of Case No. 1614
heard by me on 9/27/71.
[Signature]
New Mexico Oil Conservation Commission



OIL CONSERVATION COMMISSION

STATE OF NEW MEXICO
P. O. BOX 2088 - SANTA FE
87501

November 4, 1971

**GOVERNOR
BRUCE KING
CHAIRMAN**

**LAND COMMISSIONER
ALEX J. ARMISTEAD
MEMBER**

**STATE GEOLOGIST
A. L. FORTER, JR.
SECRETARY - DIRECTOR**

Mr. Jason Kellahin
Kellahin & Fox
Attorneys at Law
Post Office Box 1769
Santa Fe, New Mexico

Re: Case No. 4614
Order No. P-4215
Applicant:
Cities Service Oil Company

Dear Sir:

Enclosed herewith are two copies of the above-referenced Commission order recently entered in the subject case.

Very truly yours,

A. L. Porter, Jr.

A. L. PORTER, Jr.
Secretary-Director

ALP/ir

Copy of order also sent to:

Hobbs OCC x
 Artesia OCC
 Aztec OCC
 Other

BEFORE THE OIL CONSERVATION COMMISSION
OF THE STATE OF NEW MEXICO

IN THE MATTER OF THE HEARING
CALLED BY THE OIL CONSERVATION
COMMISSION OF NEW MEXICO FOR
THE PURPOSE OF CONSIDERING:

CASE NO. 4614
Order No. R-4215

APPLICATION OF CITIES SERVICE
OIL COMPANY FOR AN UNORTHODOX
WELL LOCATION, LEA COUNTY,
NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 a.m. on October 27, 1971, at Santa Fe, New Mexico, before Examiner Elvis A. Utr.

NOW, on this 4th day of November, 1971, the Commission, a quorum being present, having considered the testimony, the record, and the recommendations of the Examiner, and being fully advised in the premises,

FINDS:

- (1) That due public notice having been given as required by law, the Commission has jurisdiction of this cause and the subject matter thereof.
- (2) That the applicant, Cities Service Oil Company, is the operator of a waterflood project in the Southeast Maljamar Grayburg-San Andres Unit Area, Lea County, New Mexico, designated the Southeast Maljamar Waterflood Project.
- (3) That the applicant, Cities Service Oil Company, seeks authority to drill an infill well for the production of oil in its Southeast Maljamar Grayburg-San Andres Unit Area at an unorthodox location 1395 feet from the South line and 2615 feet from the East line of Section 29, Township 17 South, Range 33 East, Maljamar Pool, Lea County, New Mexico.

-2-

CASE NO. 4614
Order No. R-4215

(4) That the proposed unorthodox location is necessary to determine an efficient oil producing pattern for the subject waterflood.

(5) That approval of the subject application will afford the applicant the opportunity to produce its just and equitable share of the oil in the Maljamar Pool, and will otherwise prevent waste and protect correlative rights.

IT IS THEREFORE ORDERED:

(1) That the applicant, Cities Service Oil Company, is hereby authorized to drill an infill well for the production of oil in its Southeast Maljamar Grayburg-San Andres Unit Area at an unorthodox location 1395 feet from the South line and 2615 feet from the East line of Section 29, Township 17 South, Range 33 East, Maljamar Pool, Lea County, New Mexico.

(2) That jurisdiction of this cause is retained for the entry of such further orders as the Commission may deem necessary.

DONE at Santa Fe, New Mexico, on the day and year hereinabove designated.

STATE OF NEW MEXICO
OIL CONSERVATION COMMISSION


BRUCE KING, Chairman


ALEX J. ARMIJO, Member


A. L. PORTER, Jr., Member & Secretary


S E A L

dr/

Case 4614

Heard 10-27-71

Rec. 10-27-71

Agent Citicorp Inc. request for
a NSL in their ~~estate~~
S.E. Maljamar waterflood.
The well to be a producing oil well
2615/E, 1395/S of sec. 29 - T9S-33E.
purpose is to increase the
density of the wells in order to
recover more oil in the unit.

Thos B. [Signature]

DOCKET: EXAMINER HEARING - WEDNESDAY - OCTOBER 27, 1971

9 A.M. - OIL CONSERVATION COMMISSION CONFERENCE ROOM,
STATE LAND OFFICE BUILDING - SANTA FE, NEW MEXICO

The following cases will be heard before Elvis A. Utz, Examiner, or Daniel S. Nutter, Alternate Examiner:

CASE 4613: Application of Scoggins Petroleum Corporation for creation of a new gas pool and special rules, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks the creation of a new Morrow gas pool for its State BI Well No. 1 located in Unit F of Section 33, Township 18 South, Range 25 East, Eddy County, New Mexico, and the promulgation of special rules therefor, including a provision for 640-acre spacing units.

CASE 4614: Application of Cities Service Oil Company for an unorthodox well location, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to drill an oil well as an infill well in its Southeast Maljamar Grayburg-San Andres Unit Area at an unorthodox location 1395 feet from the South line and 2615 feet from the East line of Section 29, Township 17 South, Range 33 East, Maljamar Pool, Lea County, New Mexico.

CASE 4612: Application of Meadco Properties for creation of a new pool and special rules, Lea County, New Mexico. Applicant, in the above-styled cause, seeks the creation of a new pool for the production of oil from the Bough "C" zone of the Pennsylvanian formation for its well located 2130 feet from the West line and 660 feet from the South line of Section 25, Township 10 South, Range 32 East, Lea County, New Mexico, and for the promulgation of special rules therefor, including a provision for 160-acre spacing units.

CASE 4615: Application of Marathon Oil Company for unit agreement, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval of the South Eunice (Seven Rivers, Queen) Unit Area comprising 1840 acres, more or less, of state and fee lands in Sections 23, 24, 25, 26, 35, and 36, Township 22 South, Range 36 East, South Eunice Seven Rivers-Queen Pool, Lea County, New Mexico.

CASE 4616: Application of Marathon Oil Company for a waterflood project, Lea County, New Mexico. Applicant, in the above-styled

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Docket No. 23-71 - Examiner Hearing
October 27, 1971

(Case 4616 continued)

cause, seeks authority to institute a waterflood project in the South Eunice Seven Rivers-Queen Pool, by the injection of water through eight wells located in Sections 24, 25, and 26, Township 22 South, Range 36 East, Lea County, New Mexico.

CASE 4563: Continued from the September 29, 1971, Examiner Hearing

Application of Corinne Grace for special gas-oil ratio limitation and pressure maintenance project, Chaves County, New Mexico. Applicant, in the above-styled cause, seeks authority to produce her State Well No. 1 located in Unit A of Section 1, Township 15 South, Range 29 East, Double L-Queen Pool, Chaves County, New Mexico, with no gas-oil ratio limitation, strip the liquids, and institute a pressure maintenance project by the injection of all said gas back into the producing formation through her State Well No. 2 located in Unit B of said Section 1. Applicant further seeks to transfer an oil allowable from said Well No. 2 to said Well No. 1.

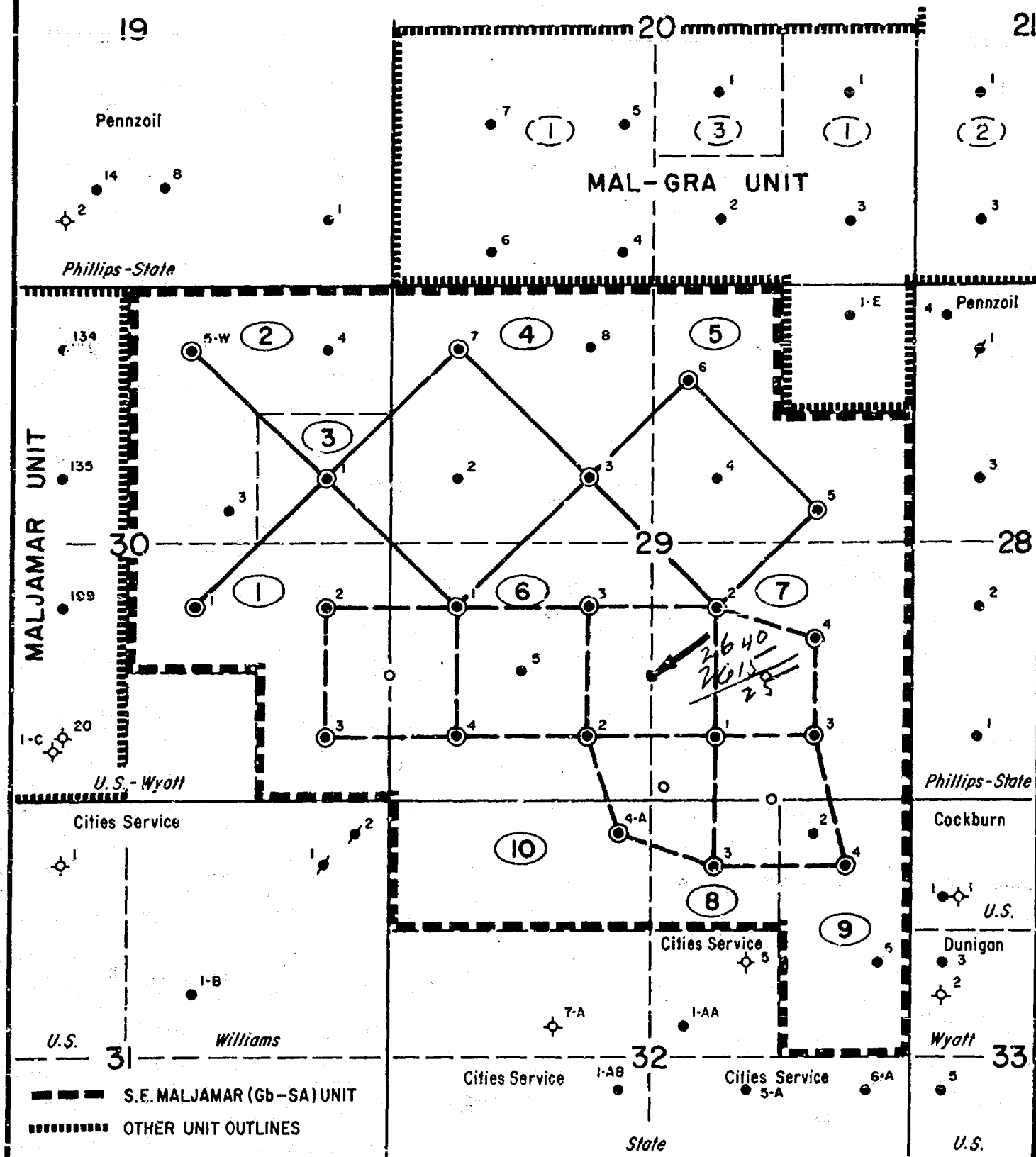
CITIES SERVICE OIL COMPANY SOUTHEAST MALJAMAR (Gb-SA) UNIT

LEA COUNTY, NEW MEXICO

T-17-S

R-33-E

SCALE 4" = 1 MILE



BEFORE EXAMINER UTZ
OIL CONSERVATION COMMISSION
Citrus EXHIBIT NO. 4
CASE NO. 4614

CITIES SERVICE OIL COMPANY
SOUTHEAST MALJAMAR (GB-SA) UNIT
LEA COUNTY, NEW MEXICO

| | <u>No Change In Pattern</u> | <u>Change Pattern 6-40 A 5-Spots</u> |
|----------------------------------|---------------------------------|--|
| Project Gross Oil (1-1-72) Bbls. | 341,100 | 889,300 |
| Development \$ | 32,000 | 346,000 |
| Net Income \$ | 255,750 | 956,753 |

Increase due to change in pattern:

| | |
|-------------------------|---------|
| Project Gross Oil Bbls. | 548,200 |
| Development \$ | 314,000 |
| Net Income \$ | 701,003 |

Exhibit No. 6

BEFORE EXAMINER UTZ
OIL CONSERVATION COMMISSION
Citibank EXHIBIT NO. 6
CASE NO. 4614

OIL CONSERVATION COMMISSION

P. O. BOX 2088

SANTA FE, NEW MEXICO 87501

September 30, 1971

Case 4614

Cities Service Oil Company
P. O. Box 69
Hobbs, New Mexico 88240

DOCKET MAILED

Attention: Mr. E. Y. Wilder

Date 10-14-71

Re: Application for Administrative
Approval to drill a well at an
unorthodox location within the
Southeast Maljamar Grayburg
San Andres Unit

Gentlemen:

As your request, as shown above, is not eligible
for administrative approval, it has been set up for
an examiner hearing on October 27, 1971. A copy
of the docket will be mailed to you.

Yours very truly,

GEORGE M. HATCH
Attorney

GME/dr

C
O
P
Y

RECEIVED

SEP 30 1971

OIL CONSERVATION COMM.
SANTA FE



CITIES SERVICE OIL COMPANY

Box 69

Albuquerque, New Mexico 88240

Telephone: 505 EX 3-2177

September 29, 1971

Handwritten:
NSC - set for
hearing
Order No. R-3134
does not allow admin. appeal
for producing wells.

Mr. A. L. Porter, Jr.
Secretary - Director
Oil Conservation Commission
P.O. Box 2088
Santa Fe, New Mexico 87501

Handwritten: Case 4614

Re: Application for Administrative Approval
to drill a well at an unorthodox location
within the Southeast Maljamar Grayburg
San Andres Unit.

Dear Sir:

Cities Service Oil Company respectfully requests administrative approval to drill an additional well within the Southeast Maljamar Grayburg San Andres Unit boundaries. The location is in the NW $\frac{1}{4}$ of the SE $\frac{1}{4}$, 1395' FSL and 2615' FEL of Section 29-17S-33E, Lea County, New Mexico. The proposed depth is 4450' in the Grayburg formation for an oil well completion. Cities Service Oil Company is the offset operator.

This waterflood unit has not responded to water injection as anticipated. It is proposed to increase the density of the wells, as a pilot project, in an attempt to speed up oil recovery.

Respectfully yours,

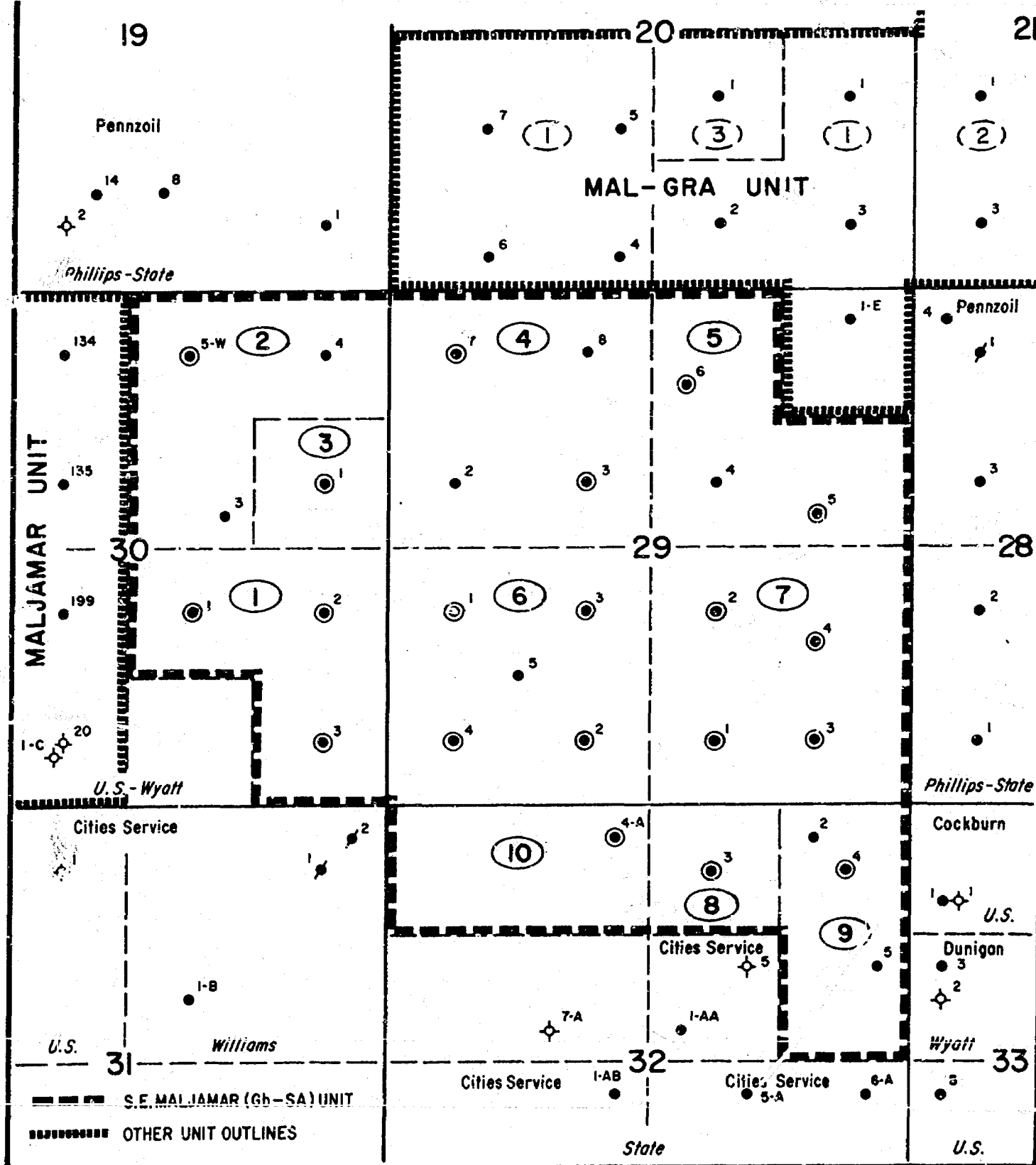
CITIES SERVICE OIL COMPANY

E. Y. Wilder
District Manager

EYW/CDR/ed

Attachment (Plat of Area)

CITIES SERVICE OIL COMPANY
 SOUTHEAST MALJAMAR (Gb-SA) UNIT
 LEA COUNTY, NEW MEXICO
 T-17-S R-33-E
 SCALE 4" = 1 MILE



BEFORE EXAMINER UTZ

OIL CONSERVATION COMMISSION

Citrus ~~land~~ EXHIBIT NO. 1

CASE NO. 4614

CITIES SERVICE OIL COMPANY SOUTHEAST MALJAMAR (Gb-SA) UNIT

LEA COUNTY, NEW MEXICO

T-17-S

R-33-E

SCALE 4" = 1 MILE

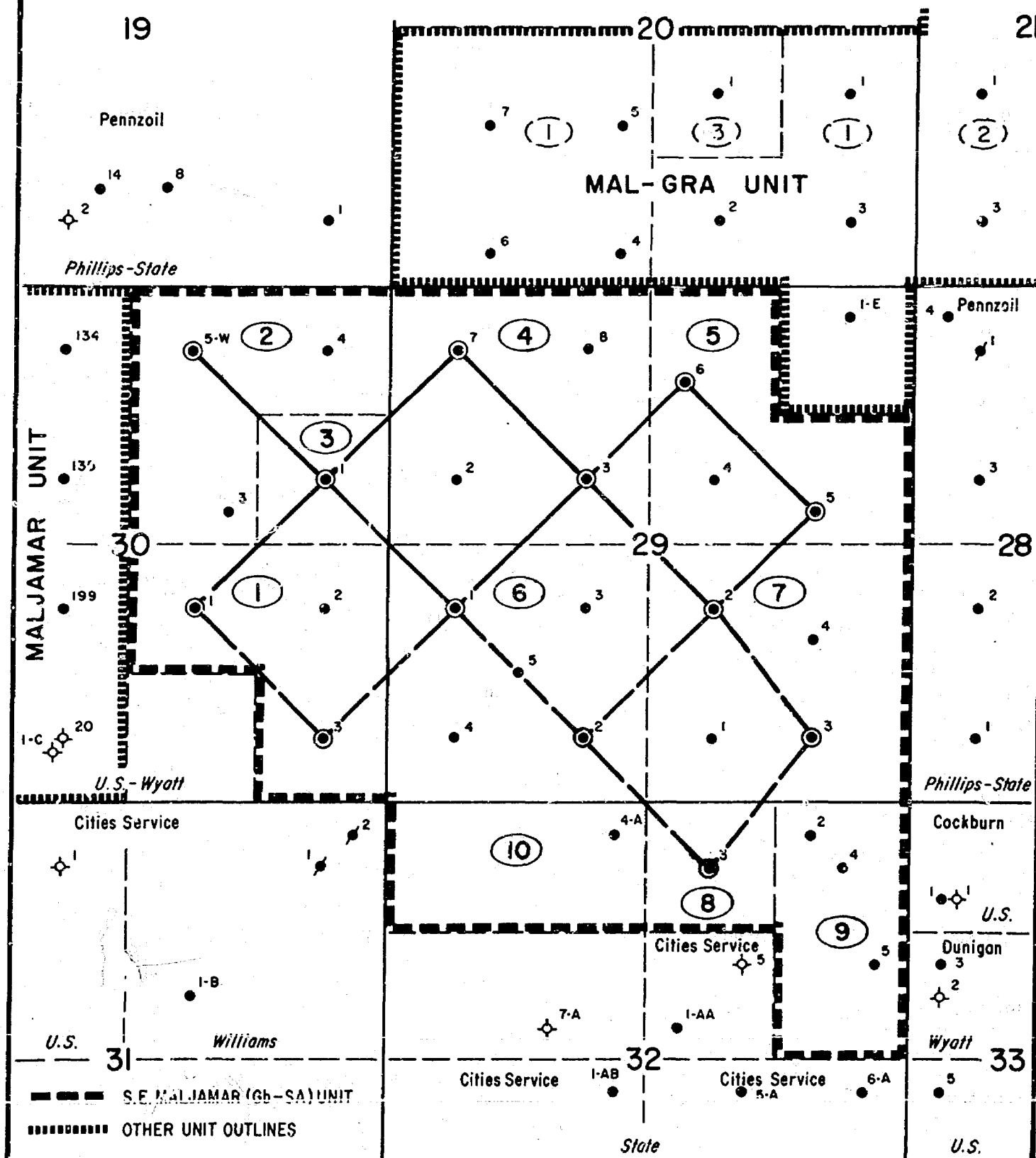


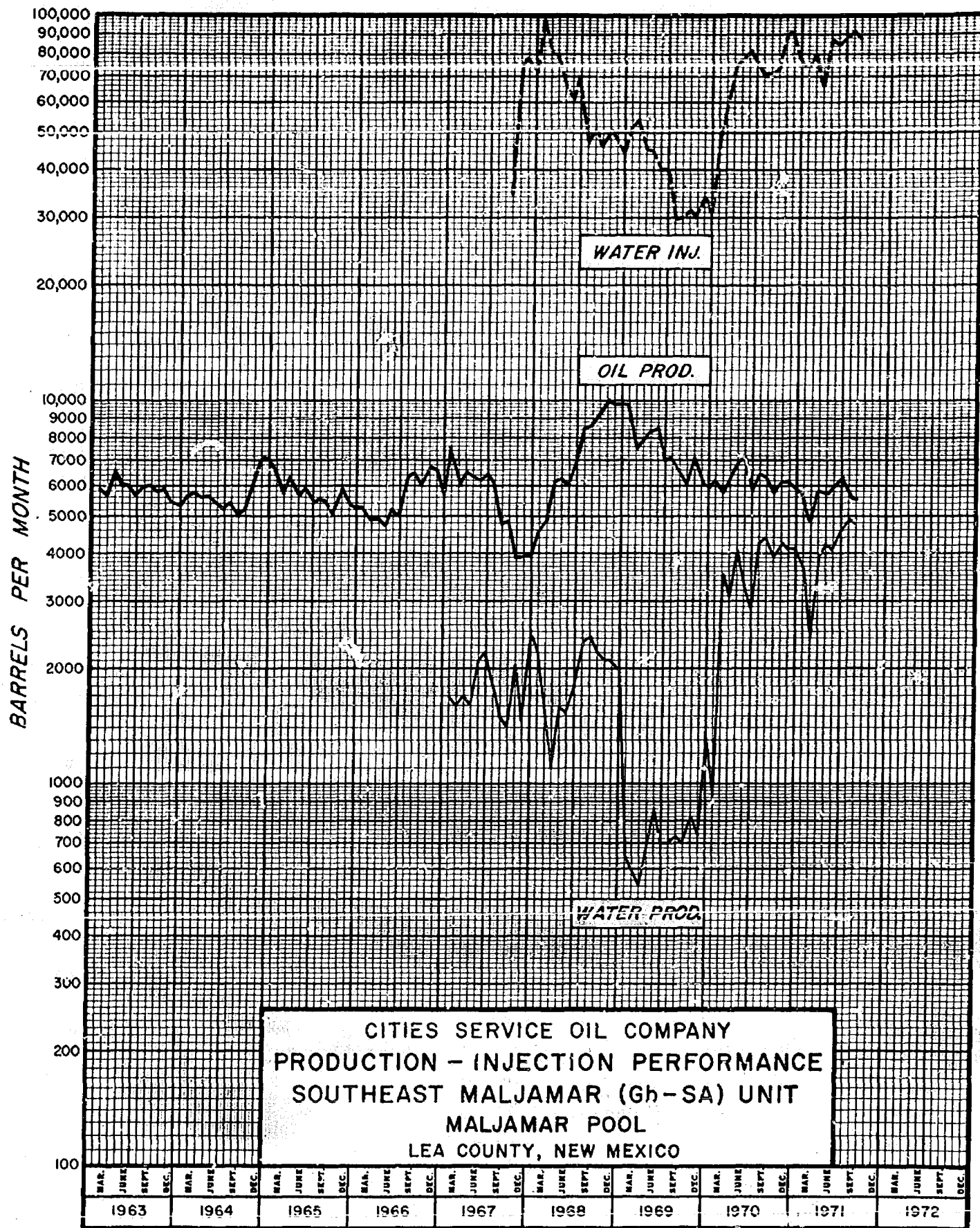
EXHIBIT NO. 2

BEFORE EXAMINER UTZ

OIL CONSERVATION COMMISSION

Atish EXHIBIT NO. 2

CASE NO. 4614



BEFORE EXAMINER UTZ
OIL CONSERVATION COMMISSION
Citrus EXHIBIT NO. 3
CASE NO. 4614

DRAFT

GMH/dr

BEFORE THE OIL CONSERVATION COMMISSION
OF THE STATE OF NEW MEXICO

IN THE MATTER OF THE HEARING
CALLED BY THE OIL CONSERVATION
COMMISSION OF NEW MEXICO FOR
THE PURPOSE OF CONSIDERING:

CASE No. 4614

Order No. R-4215

APPLICATION OF CITIES SERVICE
OIL COMPANY FOR AN UNORTHODOX
WELL LOCATION, LEA COUNTY,
NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 a.m. on October 27, 1971,
at Santa Fe, New Mexico, before Examiner Elvis A. Utz.

NOW, on this Nov. day of 1971, the Commission, a
quorum being present, having considered the testimony, the record,
and the recommendations of the Examiner, and being fully advised
in the premises,

FINDS:

(1) That due public notice having been given as required by
law, the Commission has jurisdiction of this cause and the subject
matter thereof.

(2) That the applicant, Cities Service Oil Company, is the
operator of ~~the~~ *a waterflood project in the* Southeast Maljamar Grayburg-San Andres Unit Area,
Lea County, New Mexico, *designated the southeast Maljamar*
waterflood Project.

-2-

CASE NO. 4614

Order No. R-

(3) That the applicant, Cities Service Oil Company, seeks authority to drill an infill well ^{for the production of oil} in its Southeast Maljamar Grayburg-San Andres Unit Area at an unorthodox location 1395 feet from the South line and 2615 feet from the East line of Section 29, Township 17 South, Range 33 East, Maljamar Pool, Lea County, New Mexico.

(4) That the proposed unorthodox location is necessary to ^{determine} ~~complete~~ an efficient oil producing pattern ^{for the subject wellfield.}

(5) That approval of the subject application will afford the applicant the opportunity to produce its just and equitable share of the oil in the Maljamar Pool, and will otherwise prevent waste and protect correlative rights.

IT IS THEREFORE ORDERED:

(1) That the applicant, Cities Service Oil Company, is hereby ~~authorized~~ ^{for the production of oil} authorized to drill an infill well in its Southeast Maljamar Grayburg-San Andres Unit Area at an unorthodox location 1395 feet from the South line and 2615 feet from the East line of Section 29, Township 17 South, Range 33 East, Maljamar Pool, Lea County, New Mexico.

(2) That jurisdiction of this cause is retained for the entry of such further orders as the Commission may deem necessary.

DONE at Santa Fe, New Mexico, on the day and year hereinabove designated.