

CASE 2643: Application of PHILLIPS
for approval of a waterflood project
on its proposed WEST CAP QUEEN UNIT.

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2643

Section, Transcript,

// Exhibits, Etc.

GOVERNOR
EDWIN L. MECHEM
CHAIRMAN

State of New Mexico
Oil Conservation Commission

LAND COMMISSIONER
E. S. JOHNNY WALKER
MEMBER



STATE GEOLOGIST
A. L. PORTER, JR.
SECRETARY - DIRECTOR

P. O. BOX 871
SANTA FE

October 19, 1962

Mr. Jason Kellahin
Kellahin & Fox
Attorneys at Law
Box 1713
Santa Fe, New Mexico

Re: Case No. 2643
Order No. R-2336
Applicant:
Phillips Petroleum 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.
Secretary-Director

ir/

Carbon copy of order also sent to:

Hobbs OCC x

Artesia OCC x

Aztec OCC

OTHER

OIL CONSERVATION COMMISSION

P. O. BOX 871

SANTA FE, NEW MEXICO

December 3, 1962

C
O
P
Y

Mr. Jason Kellahin
Kellahin & Fox
Attorneys at Law
Box 1713
Santa Fe, New Mexico

Dear Sir:

Reference is made to Order No. R-2336, Case No. 2643, recently entered by the Commission authorizing Phillips Petroleum Company's West Cap Waterflood Project, Caprock Queen Pool.

According to our calculations, when all of the authorized injection wells have been placed on active injection, the maximum allowable which this project will be eligible to receive under the provisions of Rule 701-E-3 is 1428 barrels per day.

Please report any error in this calculated maximum allowable immediately, both to the Santa Fe office of the Commission and the appropriate district proration office.

In order that the allowable assigned to the project may be kept current, and in order that the operator may fully benefit from the allowable provisions of Rule 701, it behooves him to promptly notify both of the aforementioned Commission offices by letter of any change in the status of wells in the project area, i. e., when active injection commences, when additional injection or producing wells are drilled, when additional wells

OIL CONSERVATION COMMISSION

P. O. BOX 871

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are acquired through purchase or unitization, when wells have received a response to water injection, etc.

Your cooperation in keeping the Commission so informed as to the status of the project and the wells therein will be appreciated.

Very truly yours,

A. L. PORTER, Jr.
Secretary-Director

ALP/ir

cc:

Oil Conservation Commission
Artesia, New Mexico

C
O
P
Y

DRAFT

JMD/esr
October 9, 1962

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. 2643

Order No. R-2336

APPLICATION OF PHILLIPS PETROLEUM
COMPANY FOR A WATERFLOOD PROJECT,
CHAVES COUNTY, NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 o'clock a.m. on
September 27, 1962, at Santa Fe, New Mexico, before Elvis A. Utz,
Examiner duly appointed by the Oil Conservation Commission of New
Mexico, hereinafter referred to as the "Commission," in accordance
with Rule 1214 of the Commission Rules and Regulations.

NOW, on this day of October, 1962, the Commission,
a quorum being present, having considered the application, the
evidence adduced, and the recommendations of the Examiner,
Elvis A. Utz, 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 West Cap Queen Sand Unit Agreement has been
approved by the Commission by Order No. R-2332; that the West
Cap Queen Sand Unit Area comprises 1,680 acres, more or less, in
Township 14 South, Range 31 East, NMPM, Chaves County, New Mexico,
as more fully described in said order.

(3) That the applicant, Phillips Petroleum Company, seeks
permission to institute a waterflood project in the Caprock-Queen
Pool in the West Cap Queen Sand Unit Area by the injection of
water into the Queen formation through 17 wells located within
said unit area.

(4) That the wells in the ~~proposed~~ project area are in an
advanced stage of depletion and should properly be classified as
"stripper" wells.

(5) That approval of the subject application will neither
cause waste nor impair correlative rights.

*I da -
will need
spec ltr of
trans.
JMD*

JMD

*10/16/62
JMD*

[Signature]
10/16

(5) That the subject application should be approved and should be ~~made subject to~~ ^{governed by} the provisions of Rule 701.

IT IS THEREFORE ORDERED:

(1) That the applicant, Phillips Petroleum Company, is hereby authorized to institute a waterflood project in the Caprock-Queen Pool in the West Cap Queen Sand Unit Area ~~located in Township 14 South, Range 31 East, NMPM, Chaves County, New Mexico~~ by

the injection of water into the Queen formation through the following-described 17 wells ^{located in T. 14S. R31E, NMPM, Chaves County, New Mexico:}

Ada Federal Medlin "B" Well No. 1, located 330 feet from the North line and 2310 feet from the East line of Section 21;

Gulf Hopp Federal "A" Well No. 1, located 330 feet from the South line and 2310 feet from the West line of Section 8;

Gulf Zimmerman "B" Well No. 1, located 660 feet from the North line and 660 feet from the West line of Section 21;

Gulf Zimmerman "B" Well No. 3, located 1980 feet from the North line and 1980 feet from the West line of Section 21;

Gulf Zimmerman "B" Well No. 5, located 660 feet from the North line and 1980 feet from the East line of Section 20;

Gulf Zimmerman "B" Well No. 7, located 1980 feet from the North line and 660 feet from the East line of Section 20;

Hodge Malco Federal Well No. 2, located 2310 feet from the North line and 2310 feet from the West line of Section 17;

Hodge Malco Federal Well No. 5, located 660 feet from the North line and 990 feet from the West line of Section 17;

Penrose Court Trust Well No. 1, located ²³¹⁰~~330~~ feet from the ~~North~~ line and ~~2310~~ feet from the ~~East~~ line of Section 8;

Penrose Saner Federal Well No. 2, located 1980 feet from the South line and 2310 feet from the East line of Section 21;

Phillips Cleat Well No. 1, located 1982 feet from the North line and 660 feet from the East line of Section 17;

Phillips Cleat Well No. 4, located 660 feet from the South line and 1982 feet from the West line of Section 17;

Phillips Cleat Well No. 5, located 660 feet from the North line and 1979 feet from the East line of Section 17;

Sinclair A.R.C. Federal Well No. 1, located 660 feet from the South line and 660 feet from the East line of Section 8;

Tidewater State "Z" Well No. 2, located 660 feet from the South line and 660 feet from the East line of Section 17;

Tidewater State "Z" Well No. 3, located 1980 feet from the South line and 1980 feet from the East line of Section 17; and

Phillips-West Cap - 9 W Well No. 4, ^{to be} located in the SE/4 NE/4 of Section 21

(2) That the subject waterflood project shall be governed by the provisions of Rule 701, including the allowable provisions thereof, and including the provisions with respect to expansion of the waterflood project.

(3) 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.

Case 2643

Amend. 9-27-62

Rec. 10-8-62

1. Grant a H₂O injection project consisting of the unit area described in Case 2642.
2. List injection wells in order, as shown on attached List.
3. Rule 701 shall be used to control the project.

Frank W. [Signature]



STATE OF NEW MEXICO

STATE ENGINEER OFFICE

SANTA FE

S. E. REYNOLDS
STATE ENGINEER

September 14, 1962

ADDRESS CORRESPONDENCE TO:
STATE CAPITOL
SANTA FE, N. M.

Mr. A. L. Porter, Jr.
Secretary-Director
Oil Conservation Commission
Santa Fe, New Mexico

Dear Mr. Porter:

Reference is made to the application of Phillips Petroleum Company for approval of the New Mexico Oil Conservation Commission to establish the West Cap Queen Sand Unit, Approval of the Unit Operating Agreement, and for authority to waterflood the Queen Sand underlying said unit located in Township 14 South, Range 31 East, Chaves County, New Mexico, which was submitted to your office on September 6, 1962.

In view of the statement under the note at the bottom of Exhibit No. 19 which states "All of the the injection wells will be equipped with 2" tubing and packers for injection service and the annulus between the tubing string and casing string will be filled with fluid above the packer," this office offers no objection to the granting of the applications.

Yours truly,

S. E. Reynolds
State Engineer

FEI/ma
cc-Phillips Petro. Co.
F. H. Hennighausen

By: *Grant E. Irby*
Frank E. Irby
Chief
Water Rights Div.

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. 2643
Order No. R-2336

APPLICATION OF PHILLIPS PETROLEUM
COMPANY FOR A WATERFLOOD PROJECT,
CHAVES COUNTY, NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 o'clock a.m. on September 27, 1962, at Santa Fe, New Mexico, before Elvis A. Utz, Examiner duly appointed by the Oil Conservation Commission of New Mexico, hereinafter referred to as the "Commission," in accordance with Rule 1214 of the Commission Rules and Regulations.

NOW, on this 18th day of October, 1962, the Commission, a quorum being present, having considered the application, the evidence adduced, and the recommendations of the Examiner, Elvis A. Utz, 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 West Cap Queen Sand Unit Agreement has been approved by the Commission by Order No. R-2332; that the West Cap Queen Sand Unit Area comprises 1,680 acres, more or less, in Township 14 South, Range 31 East, NMPM, Chaves County, New Mexico, as more fully described in said order.

(3) That the applicant, Phillips Petroleum Company, seeks permission to institute a waterflood project in the Caprock-Queen Pool in the West Cap Queen Sand Unit Area by the injection of water into the Queen formation through 17 wells located within said unit area.

(4) That the wells in the project area are in an advanced stage of depletion and should properly be classified as "stripper" wells.

(5) That approval of the subject application will neither cause waste nor impair correlative rights.

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CASE No. 2643
Order No. R-2336

(6) That the subject application should be approved and should be governed by the provisions of Rule 701.

IT IS THEREFORE ORDERED:

(1) That the applicant, Phillips Petroleum Company, is hereby authorized to institute a waterflood project in the Caprock-Queen Pool in the West Cap Queen Sand Unit Area by the injection of water into the Queen formation through the following-described 17 wells located in Township 14 South, Range 31 East, NMPM, Chaves County, New Mexico:

Ada Federal Medlin "B" Well No. 1, located 330 feet from the North line and 2310 feet from the East line of Section 21;

Gulf Hopp Federal "A" Well No. 1, located 330 feet from the South line and 2310 feet from the West line of Section 8;

Gulf Zimmerman "B" Well No. 1, located 660 feet from the North line and 660 feet from the West line of Section 21;

Gulf Zimmerman "B" Well No. 3, located 1980 feet from the North line and 1980 feet from the West line of Section 21;

Gulf Zimmerman "B" Well No. 5, located 660 feet from the North line and 1980 feet from the East line of Section 20;

Gulf Zimmerman "B" Well No. 7, located 1980 feet from the North line and 660 feet from the East line of Section 20;

Hodge Malco Federal Well No. 2, located 2310 feet from the North line and 2310 feet from the West line of Section 17;

Hodge Malco Federal Well No. 5, located 660 feet from the North line and 990 feet from the West line of Section 17;

Penrose Court Trust Well No. 1, located 2310 feet from the North line and 330 feet from the East line of Section 8;

Penrose Saner Federal Well No. 2, located 1980 feet from the South line and 2310 feet from the East line of Section 21;

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CASE No. 2643
Order No. R-2336

Phillips Cleat Well No. 1, located 1982 feet from the North line and 660 feet from the East line of Section 17;

Phillips Cleat Well No. 4, located 660 feet from the South line and 1982 feet from the West line of Section 17;

Phillips Cleat Well No. 5, located 660 feet from the North line and 1979 feet from the East line of Section 17;

Sinclair A.R.C. Federal Well No. 1, located 660 feet from the South line and 660 feet from the East line of Section 8;

Tidewater State "Z" Well No. 2, located 660 feet from the South line and 660 feet from the East line of Section 17;

Tidewater State "Z" Well No. 3, located 1980 feet from the South line and 1980 feet from the East line of Section 17; and

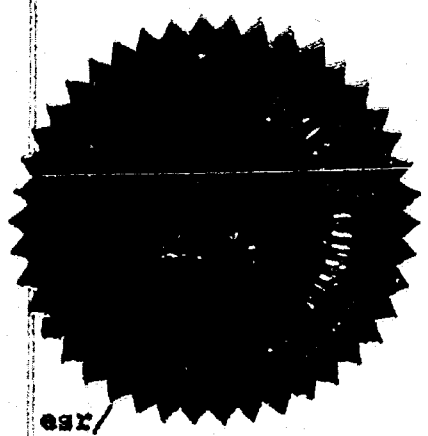
Phillips-West Cap - 9 W Well No. 4, to be located in the SE/4 NE/4 of Section 21.

(2) That the subject waterflood project shall be governed by the provisions of Rule 701, including the allowable provisions thereof, and including the provisions with respect to expansion of the waterflood project.

(3) 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



EDWIN L. MECHEM, Chairman



E. S. WALKER, Member



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

esr/

BEFORE THE
OIL CONSERVATION COMMISSION
Santa Fe, New Mexico

September 27, 1962

EXAMINER HEARING

IN THE MATTER OF:

Application of Phillips Petroleum Company
for a unit agreement, Chaves County, New
Mexico. Applicant, in the above-styled
cause, seeks approval of the West Cap
Queen Sand Unit Agreement embracing 1,680
acres, more or less, of State, Federal and
fee lands in Township 14 South, Range 31
East, Caprock Queen Pool, Chaves County,
New Mexico.

CASE NO.
2642

Application of Phillips Petroleum Company
for a waterflood project, Chaves County,
New Mexico. Applicant, in the above-styled
cause, seeks approval of a waterflood pro-
ject on its proposed West Cap Queen Sand
Unit Area, Caprock Queen Pool, Chaves County,
New Mexico, by the injection of water into
the Queen formation through 17 wells located
in Sections 8, 17, 20 and 21, Township 14
South, Range 31 East. Applicant proposes
to operate the waterflood project under the
provisions of Rule 701.

CASE NO.
2643

UNDER: Elvis A. Utz, Examiner

TRANSCRIPT OF PROCEEDINGS

MR. DURRETT: Application of Phillips Petroleum Company
for a unit agreement, Chaves County, New Mexico.

MR. KELLAHIN: Jason Kellahin of Kellahin and Fox, Santa
Fe, New Mexico, representing the applicant in association with Mr.
Carl Jones of Midland, Texas. We have one witness in this case
that I would like to have sworn, please. (Witness sworn.)

MR. KELLAHIN: If the Commission please, our case is

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based primarily upon the contents of the unit agreement, three copies of which were filed with the Commission along with a number of attached exhibits to which reference will be made.

T. A. MATTHEWS,

called as a witness, having been first duly sworn on oath, was examined and testified as follows:

DIRECT EXAMINATION

BY MR. KELLAHIN:

Q Would you state your name, please?

A T. A. Matthews.

Q By whom are you employed and what is your position?

A Phillips Petroleum Company as a supervising area petroleum engineer, Bartlesville, Oklahoma.

Q Have you testified before the Oil Conservation Commission and had your qualifications made a matter of record?

A I have.

MR. KELLAHIN: Are the witness's qualifications satisfactory?

EXAMINER UTZ: Yes, sir.

Q (by Mr. Kellahin) Mr. Matthews, in Phillips Petroleum, Company, what department handles your unit agreement work?

A The production department.

Q As a member of the department, are you familiar with the unit, the West Cap Queen Sand Unit?

A I am.

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PHONE 243-6691

Q Did you actively participate in the formation of that unit?

A I did.

Q Now, would you state for the benefit of the Commission the area covered by the unit agreement?

A If I may make reference to the plat that is contained within the unit agreement, the unit area is comprised of the East half of the Northeast quarter of Section 8 and the South half of Section 8, all of Section 17, the Northeast quarter of Section 20, the Southwest quarter of the Southwest quarter of Section 16, the North half of Section 21, and the North half of the Southeast quarter of Section 21 and the Southwest quarter of the Southeast quarter of Section 21, all in Township 14 South, Range 31 East, Lea County -- Chavez County, excuse me, New Mexico.

Q Now, you made reference to the Southwest of the Southwest quarter of Section 16. On the plat which was filed with the Commission, it's colored in as a part of the unit. Is it correct that it is within the unit?

A It is and is so set out.

Q It is set out?

A In the description.

Q And the description is correct and of course covers a quarter-quarter section?

A That is correct.

Q What formation is covered in the unit agreement?



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A It covers only the Queen Sand formation.

Q The working interest owners have fully signed up on the unit agreement?

A One hundred percent have signed up for the unit agreement.

Q What is the situation on the royalty owners?

A One hundred percent of the fee royalty owners have signed ratifying it, and the state and federal lands are not yet committed.

Q What is the situation as to the state and federal lands?

A The unit agreement has been approved as to form by both the State Land Commission's office and by the USGS.

Q You anticipate no difficulty in securing final approval on the application by the Commissioner?

A That is right.

Q What percentage of the land is federal, state and fee, what portion of the acreage?

A The unit is 1680 acres,,of which 320 acres is fee land, 280 acres state lands, and 1080 acres are federal lands.

Q Now, does the unit agreement have any lands inside the green boundary which are uncommitted?

A It does not.

Q Is there a provision for the enjoinder of any acreage outside of the unit at any future date?



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A Such a provision is included.

Q To your knowledge, is the unit offset by other units of a similar nature?

A The Drickey Queen Unit, which is operated by the Cities Service Petroleum Company, and the waterflood operated by John H. Trigg on the south, which is offset by a tract owned by Meyer Bennett.

Q Have you negotiated with him to join the unit?

A Yes, sir, we did. We included it in the original studies and it was included in our original plat, and Mr. Bennett advised us that he did not wish to be considered or included in the unit and was planning to waterflood his property separately.

Q What action did Phillips take in regard to the unit after you received that information?

A That acreage was deleted from the unit after he advised us.

Q I understand, but did you keep him advised at all times?

A He was advised, yes, sir.

Q And the door remained open throughout that entire period?

A That is correct.

Q I see. Now, is the unit agreement, Mr. Matthews, in essentially the same form as unit agreements heretofore approved by the Commission?

A Yes, sir. Actually, it was patterned after the Drickey Queen Unit agreement which had previously been approved by the



Commission and the USGS.

Q And essentially, it's the same, that unit agreement?

A That is correct.

MR. KELLAHIN: That is all I have, Mr. Utz.

CROSS EXAMINATION

BY EXAMINER UTZ:

Q Mr. Matthews, did you say the forty acres in question was the Southwest of the Southwest of Section 16?

A That is correct.

Q That is shown correctly in the unit agreement?

A Right.

EXAMINER UTZ: Are there other questions?

The witness may be excused.

Are there any other statements in this case?

The case will be taken under advisement.

MR. DURRETT: I have two telegrams I would like to read into the record.

The Commission has received a telegram from Cities Service Petroleum Company which I will read into the record: "Cities Service Petroleum Company operates the Drickey Queen Sand Unit which offsets the proposed West Cap Queen Sand unit operated by Phillips Petroleum Company and it recommends approval of 2642 and 2643."

I have another telegram received from W. B. Hopkins which I will read into the record: "Gulf Oil Company Incorporated, being a working interest owner in the proposed West Cap Queen unit, concurs

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with Phillips Petroleum Company in their application in these cases."

EXAMINER UTZ: That was the West Cap Queen unit?

MR. DURRETT: Yes, Mr. Examiner.

EXAMINER UTZ: The case will be taken under advisement.

* * *

EXAMINER UTZ: Case 2643.

MR. DURRETT: Application of Phillips Petroleum Company for a waterflood project, Chaves County, New Mexico.

MR. KELLAHIN: Jason Kellahin of Kellahin and Fox, Santa Fe, New Mexico, appearing for the applicant in association with Mr. Carl Jones of Midland, Texas. We have one witness we would like to have sworn.

(Witness sworn.)

(Whereupon Applicant's Exhibits A, B, and C were marked for identification.)

DON CZIRR,

called as a witness, having been first duly sworn on oath, was examined and testified as follows:

DIRECT EXAMINATION

BY MR. KELLAHIN:

Q Will you state your name, please?

A Don Czirr.



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Q By whom are you employed and what is your position?

A Phillips Petroleum Company, division reservoir engineer in Midland, Texas..

Q Have you testified before this Commission as a petroleum engineer and had your qualifications made a matter of record here?

A Yes.

MR. KELLAHIN: Are the witness's qualifications acceptable?

EXAMINER UTZ: They are.

Q (by Mr. Kellahin) Are you familiar with the application of Phillips Petroleum Company in Case No. 2643?

A Yes, sir.

Q What is Phillips applying for in this case?

A A waterflood for secondary recovery in the proposed West Cap Queen Sand Unit.

Q Would you discuss briefly the history of this unit?

A Yes, sir. The Caprock Queen pool was initially discovered in November of 1940, and after the period of development and primary production, it has reached the stripper stage of production, and the pool has now been placed under secondary recovery waterflood operations, largely through the formation of the unit.

The July Oil and Gas Committee report shows in excess of ninety-six percent of production in the Caprock Queen pool is being produced from the secondary recovery units that will have



the response from a waterflood project.

Q It's from wells within the units, is that what you mean?

A Yes, sir.

Q You stated that the field is at a marginal stripper stage of production?

A Yes.

Q Directing your attention to Exhibit No. A, would you discuss the information shown on that exhibit, please, sir?

A That is the production curve, a composite of the wells within the proposed West Cap Queen Sand Unit showing the monthly oil production. The curve indicates a decline which we can expect to continue in the present trend unless we do initiate secondary recovery operations. The eleven leases in the West Cap Queen Sand Unit at this time will be included in any secondary project and the unit cannot be equitably or efficiently waterflooded without the interest of the several units as proposed in our unit agreement and submitted as amended.

The purpose of the formation of the unit is to conduct waterflood operations on the West Cap Queen Sand Unit operation and to increase the recovery from the area. This area has had a total production of 1,100,000 barrels of oil through July of this year, and at that time had an estimated remaining primary recovery of 109,000 barrels, which would be recovered by marginal or stripper operation.

As we can see from the decline curve, the production is

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declining. For July, production was only a little in excess of four barrels of oil per day. The Unit engineers' committee has estimated that the waterflood we are proposing will recover additional oil equal to one and a half times the primary recovery or to about 1,100,000 barrels of oil.

Q What kind of injection pattern are you going to use in the pool?

A A five spot injection pattern. Inspection of the present patterns being employed on the adjacent Trigg Federal leases and the Drickey Queen Sand Unit will match the pattern proposed for the Bennett Zimmerman leases, which border the proposed unit to the south. We prepared --

Q How will the wells be equipped for injection, the proposed injection?

A We propose to inject through 2 3/8-inch tubing and a packer will be used for assurance that the well is injected only to the Queen pay section.

Q How many injection wells will there be, Mr. Czirr?

A Seventeen wells, sixteen of which will be converted producing wells. One is scheduled to be drilled. On our map, shown as Exhibit No. 19, we had listed the casing descriptions and the completion interval for each of the existing producing wells that will be converted to an injection service.

We have an exhibit B today that supplements that Exhibit 19.



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Q Exhibit B, does Exhibit B give additional information other than that mentioned?

A Yes, sir. It shows the exact service locations for each of the proposed input wells. It also shows the casing program and shows the amount of cement used in each cementing job for each casing string.

Q Now, as a general proposition, what was the casing program on these wells?

A The general practice was to get a surface string sufficient to protect the surface waters and circulate the cement back to the surface and then drill to a total depth and run a production string backing from seven-inch to 4 1/2-inch casing in different cases and cementing around the shoe with one hundred to two hundred, in that range of cement, to isolate the Queen pay sand.

MR. KELLAHIN: I direct the Examiner's attention to a copy of the letter submitted with the application from the State Engineer approving the use of these wells under the plan of injection which will be discussed here.

Q (by Mr. Kellahin) Mr. Czirr, you propose to get the water for this waterflood project from where?

A As set out in the letter to the State Engineer's office and by copy of Exhibit B with this application, we anticipate the water for the West Cap Queen Sand Unit area from the Ogallala Sand at a depth of about three hundred feet. We plan to obtain



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this water about four miles east of the Unit area. It would be transported to a central point in the Unit and that is joined to each injection well. The water station will be located in the vicinity of our central storage battery. At such time as the producing wells start producing water, we will be able to reinject that produced water and conserve it in that manner.

Q Would you summarize the important points of this application?

A The important points we would like to discuss are these: The unitization and waterflood program for which we are asking an approval will recover an additional 1,678,000 barrels of oil over the predicted primary recovery and in this respect is in the interest of conservation.

Q How will the injection wells be injected, through the annulus or how?

A The injection will be through 2 3/8-inch tubing and with a packer in the hole to assure that none of it inadvertently will encroach into another zone of the hole.

Q Will the flood be through the annulus?

A Yes, sir, on top of the packer.

Q Does the Caprock Queen formation lend itself to water injection?

A Yes, sir, it has proved to be wholly successful in such units. The Rickey Queen offsetting has received real good response and is a very profitable commercial project. The same



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PHONE 325-1182SANTA FE, N. M.
PHONE 983-3971ALBUQUERQUE, N. M.
PHONE 243-6691

could be said for the other units. We are interested in and have the information for such as the Great Western's North Central Caprock Queen. The response has been very good there.

Q Do you anticipate that the water will be taken on vacuum or under pressure?

A We will have to go to a pressure injection. Our system will be designed to handle up to 1500 pounds without adjustment.

Q Will the injection wells handle that pressure without too much trouble?

A Yes, sir.

Q Do you have anything to add to your testimony, Mr. Czirr?

A The only other points I think we might want emphasized would be that we are rescheduling our injection well for the Queen Sand. That is to be consistent with the patterns being used in the area and with balanced injection will protect correlative rights across the various boundaries; and the production curve shown as Exhibit A with its production of an average and low in excess of four barrels per day is considered to be a marginal or stripper operation; and it would be, then, our opinion that those fall within the limits for Rule 701.

Q Do you know whether or not all of the area in the plot is in this project?

A Yes, the project was based on the unit area as shown in the unit agreement.



Q It was negotiated on this basis on which all the parties agreed, is that correct, sir?

A Yes, sir. All the working interest and royalty interest has indicated agreement.

Q Is this project in the interest of conservation, prevention of waste and in the preservation of correlative rights?

A Yes, sir.

Q Were Exhibits A, B, and C prepared by you or under your supervision?

A Yes, sir.

MR. KELLAHIN: We offer them into evidence.

EXAMINER UTZ: Such exhibits will be entered into the record of this case.

Are there other questions of the witness?

MR. DURRETT: Yes, sir.

CROSS EXAMINATION

BY MR. DURRETT:

Q How do you pronounce your name, Sirr or Seen?

A Sirr.

Q Mr. Czirr, do you propose that if this application be approved by the Commission, that it be governed by the provisions of Rule 701 governing waterflood projects?

A Yes, sir.

MR. DURRETT: Thank you.

CROSS EXAMINATION

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PHONE 322-1182



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PHONE 983-3971

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PHONE 243-6691

BY MR. PORTER:

Q Is this regarding the old Caprock pool or the Drickey or the two combined?

A We drilled our wells in the Caprock Queen, I believe. It used to be the Drickey Queen area, to answer your question, and I can't remember the date that consolidation was made.

MR. PORTER: Thank you, sir.

REDIRECT EXAMINATION

BY MR. KELLAHIN:

Q As to the Drickey Queen Unit or Cities Service as approved in this area, was that substantially developed so it was the Caprock Queen at that time?

A Yes, sir.

MR. PORTER: I had an idea it was because of low productivity of the well at the present time.

CROSS EXAMINATION

BY EXAMINER UTZ:

Q Mr. Czirr, you will have a total of sixteen injection wells?

A We plan to drill one additional well, which would make seventeen.

Q You do not have the location for it?

A Yes, not the footage location. It would be in the--

Q Do you intend to drill the well right away?

A Yes, sir, it was in our initial budget. It would



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normally be in the Southeast of the Northeast quarter of Section 21, Range 31 East, Township 14 South, Chaves County, New Mexico.

Q That would be known as what?

A It will carry a unit designation probably; when drilled, it will be known as the 9-W-4.

Q The West Cap 9-W-4?

A Yes, sir.

Q That is in the Southeast of the Northeast Quarter of Section 21?

A The Southeast of the Northeast of Section 21.

Q You don't have a footage location?

A No, sir, we have not staked the well.

MR. PORTER: Mr. Utz, it's indicated on one of the exhibits.

EXAMINER UTZ: We need a pair of glasses to see and understand these locations.

A Yes, sir.

EXAMINER UTZ: Are there other questions of the witness?

Q (by Examiner Utz) All injection wells will have water injection underneath the packer?

A That is our plan, yes, sir.

Q And the water injected is fresh water?

A Yes, sir.

Q So it will be regular tubing?

A We may elect to line our tubing.



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EXAMINER UTZ: Are there other questions of the witness?
The witness may be excused.

Are there other statements in this case?

MR. DURRETT: I would like to ask a question of Mr. Kellahin, if I may do so.

Mr. Kellahin, would you desire to move the Commission to consolidate this case, 2643, with Case 2642 for consideration?

MR. KELLAHIN: Yes, sir. Thank you, Mr. Durrett. I do so move. These were brought on a single application and the exhibits filed pertain to both cases and for the matter of the record, I move the two be combined and the matters contained in both applications be considered together under the same case.

MR. PORTER: Under one order?

MR. KELLAHIN: At the convenience of the Commission, for the purposes of considering the exhibits, we would move to combine the two applications.

MR. DURRETT: I have one other statement for the record, Mr. Chairman. The telegrams that I read previously in 2642 from the Gulf Oil Corporation and Cities Service Petroleum Company also stated they have no objections to the granting of this application.

EXAMINER UTZ: Are there other statements in this case?
The case will be taken under advisement.

* * *



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STATE OF NEW MEXICO)
) ss.
COUNTY OF BERNALILLO)

I, MICHAEL RICE, NOTARY PUBLIC in and for the County of Bernalillo, State of New Mexico, do hereby certify that the foregoing and attached transcript of proceedings was reported by me in stenotype and that the same was reduced to typewritten transcript under my personal supervision and contains a true and correct record of said proceedings, to the best of my knowledge, skill and ability,

Michael Rice
NOTARY PUBLIC

My Commission Expires:

May 16, 1966

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of case No. *264202643* heard by me on *Sept. 27*, 19*62*.
Thos. D. [Signature], Examiner
New Mexico Oil Conservation Commission



OIL CONSERVATION COMMISSION

P. O. BOX 871

SANTA FE, NEW MEXICO

Case
2643

December 14, 1962

Phillips Petroleum Company
3rd Floor, Permian Building
Midland, Texas

Attention: Mr. J. N. Perkins

Gentlemen:

Reference is made to your letter of December 12, 1962, regarding our letter of December 3rd and our computation of the maximum allowable assignable to your West Cap Queen Sand Unit water flood project.

We have reviewed the calculation of the allowable and find that the maximum allowable will be as stated in your letter, 1470 barrels of oil per day based on the existing 35 wells and 1512 barrels per day when the additional injection well in the SE/4 NE/4 of Section 21 is placed on active injection.

Very truly yours,

DANIEL S. NUTTER
Chief Engineer

DSN/og

cc: Mr. Joe D. Ramey
Oil Conservation Commission
Box 2045
Hobbs, New Mexico

C
O
P
Y



PHILLIPS PETROLEUM COMPANY
3d Floor Permian Building
Midland, Texas

December 12, 1962

Re: West Cap Queen Sand Unit
Caprock Queen Pool
Chaves County, New Mexico

Mr. A. L. Porter, Jr.
Oil Conservation Commission
P. O. Box 871
Santa Fe, New Mexico

Dear Sir:

Your letter dated December 3, 1962 to Mr. Jason Kellahin relative to Order No. R-2336, Case No. 2643, has been forwarded to this office for review and reply.

Our calculations are that the maximum allowable for the West Cap Queen Sand Unit waterflood project authorized by Order No. R-2336, will be 1470 barrels of oil per day based on the existing 35 wells and the provisions of Rule 701-E-3. When the injection well in the southeast, north-east of Section 21 is completed, this maximum allowable will increase to 1512 barrels oil per day. We have attached a plat of the West Cap Queen Sand Unit area showing all existing wells and wells proposed for water injection.

As requested in your letter, we will notify both the Santa Fe and Hobbs Commission Offices when active water injection commences, additional wells are drilled or acquired, and when wells have received response.

Yours truly,

J. N. Perkins
J. N. Perkins
W. Division Superintendent
Production Department

DLC/jw
cc: Oil Conser. Comm.
P. O. Box 2045
Hobbs, New Mexico

35
42
70
140
1470
42
1512

BEFORE EXAMINER UTZ
OIL CONSERVATION COMMISSION
EXHIBIT NO. B
CASE NO. 2673

Supplement To Exhibit
Phillips Application September 27-1962
West Cap Green Sand Unit Chaves
Co. New Mexico -

Present Operator Lease & Well No	Location of well	Casing	Amount of Cement
Ada Fed. Medlin "B" No 1	330' FNL 2310' FEL Sec. 21	8 3/8" @ 168'	75 SKS
		5 1/2" @ 2908'	125 SKS
Gulf Hopp Fed. "A" No 1	330' FSL 2310' FWL Sec 8	8 3/8" @ 171'	125 SKS
		4 1/2" @ 2706'	75 SKS
Gulf Zimmerman "B" No 1	660' FNL & 660' FNL Sec 21	9 3/8" @ 308'	275 SKS
		7" @ 2789'	100 SKS
Gulf Zimmerman "B" No 3	1980' FNL & 1980' FWL Sec 21	8 3/8" @ 210'	150 SKS
		4 1/2" @ 2877'	75 SKS
Gulf Zimmerman "B" No 5	660' FNL & 1980' FNL Sec 20	8 3/8" @ 204'	150 SKS
		4 1/2" @ 2767'	75 SKS
Gulf Zimmerman "B" No 7	1980' FNL & 660' FEL Sec. 20	8 3/8" @ 295'	175 SKS
		4 1/2" @ 2880'	75 SKS
Hodge Malco Fed. No 2	2310' FNL & 2310' FNL Sec. 17	8 3/8" @ 305'	125 SKS
		4 1/2" @ 2725'	250 SKS
Hodge Malco Fed. No 6	660' FNL & 990' FNL Sec. 17	8 3/8" @ 166'	150 SKS
		5 1/2" @ 2700'	100 SKS
Penrose Court Trust No 1	330' FEL & 2310' FNL Sec 8	12 3/4" @ 185'	200 SKS
		5 1/2" @ 2705'	100 SKS

Supplement To Exhibit No-19

page-2

Phillips Application September 27, 1962

West Cap Queen Sand Unit Chaves Co

New Mexico

Present Operator Lease & Well No	Location of well	Casing	Amount of Cement
Penrose Sener Fed No 2	1980' FSL 2810' FEL Sec 21	10" @ 152'	100 SKS
		7" @ 2922'	100 SKS
Phillips Cleat No 1	1982' FNL 8660' FEL Sec 17	8" @ 170'	175 SKS
		5 1/2" @ 2758'	100 SKS
Phillips Cleat No 4	660' FSL & 1982' FNL Sec 17	8" @ 207'	175 SKS
		5 1/2" @ 2715'	100 SKS
Phillips Cleat No 5	660' FNL & 1979' FEL Sec. 17	8" @ 213'	225 SKS
		5 1/2" @ 2708'	100 SKS
Sinclair ARC Fed. No 1	660' FSL & 660' FEL Sec. 8	10" @ 202'	150 SKS
		5 1/2" @ 2746'	200 SKS
Tidewater State Z No 2	660' FSL & 660' FEL Sec. 17	8" @ 219'	159 SKS
		5 1/2" @ 2787'	125 SKS
Tidewater State Z No 3	1980' FSL & 1980' FEL Sec. 17	8" @ 212'	150 SKS
West Cap - 9 W 4	SE 1/4 Sec 21 Sec. 21	5 1/2" @ 2770'	200 SKS

Note: All wells are in T-14-S R-21-E Chaves Co NM.

BEFORE THE OIL CONSERVATION COMMISSION OF THE
STATE OF NEW MEXICO

IN THE MATTER OF THE APPLICATION OF
PHILLIPS PETROLEUM COMPANY FOR THE
APPROVAL OF THE WEST CAP QUEEN SAND
UNIT EMBRACING 1,680 ACRES, MORE OR
LESS, LOCATED IN TOWNSHIP 14 SOUTH,
RANGE 31 EAST, CHAVES COUNTY, NEW
MEXICO; FOR APPROVAL OF THE UNIT
AGREEMENT AND UNIT OPERATING AGREE-
MENT APPLICABLE TO SAID UNIT AREA;
AND FOR AUTHORITY TO WATERFLOOD THE
QUEEN SAND UNDERLYING SAID UNIT AREA.

CASE NO. 2643

APPLICATION

NOW COMES applicant Phillips Petroleum Company, a Delaware corpora-
tion with offices in Midland, Texas, and hereby makes application for the
approval of the West Cap Queen Sand Unit, Chaves County, New Mexico, and the
Unit Agreement and Unit Operating Agreement applicable to said Unit Area,
and for authority to waterflood the Queen Sand underlying said Unit Area,
and in support thereof shows:

1.

The proposed Unit Area covered by said Agreement embraces 1,680
acres, more or less, more particularly described as follows:

NEW MEXICO PRINCIPAL MERIDIAN, NEW MEXICO

T. 14 S., R. 31 E.

Sec. 8: SE/4, SW/4 and E/2 NE/4, 400 acres
Sec. 16: SW/4, SW/4, 40 acres/
Sec. 17: All, 640 acres
Sec. 20: NE/4, 160 acres
Sec. 21: NE/4, NW/4, W/2 SE/4, and NE/4 SE/4,
440 acres

Situated in Chaves County, New Mexico.

The formation (and the only formation) within the proposed Unit
Area being unitized is that heretofore established underground reservoir
underlying the Unit Area and commonly known as the Queen Sand or Formation
of the Guadalupe series of the Permian system, being further identified in
the Unit Agreement as the producing sand found in Phillips Petroleum Company
Cleat Well No. 1, located in the SE/4 NE/4 of Section 17-14S-31E, Chaves County,
New Mexico, between the depths of 1,366 feet and 1,400 feet above sea level.

*Double
mailed
9/12/62
JH*

2.

The lands embraced within the proposed Unit Area consist of State, Federal and fee lands.

3.

Applicant states that the Unit Agreement and Unit Operating Agreement will permit the producing area to be developed and operated in the interest of conservation and the prevention of waste of oil and gas.

4.

Applicant Phillips Petroleum Company is designated as Unit Operator in said Unit Agreement and as such is given authority under the terms thereof to carry on all operations necessary for the development and operation of the Unit Area and the Unitized Formation for the production of oil and/or gas, subject to all applicable laws and regulations.

5.

A copy of said Unit Agreement and the Unit Operating Agreement for the development and operation of the West Cap Queen Sand Unit Area, Chaves County, New Mexico, is filed herewith as Exhibit "1" and made a part hereof. Said Unit Agreement is in substantially the same form as agreements heretofore approved by the New Mexico Oil Conservation Commission and the Commissioner of Public Lands and by the United States Geological Survey; under this agreement the State of New Mexico and the United States will each receive their fair share of the oil and gas; and this Unit Agreement in all respects tends to prevent waste and promote conservation of oil and gas.

6.

The names and addresses of all of the working interest owners other than Phillips Petroleum Company are shown on Exhibit "2" attached hereto and made a part hereof.

7.

All of the working interest owners have executed the Unit Agreement and the Unit Operating Agreement, and all of the individual (fee) royalty owners have executed the Unit Agreement.

8.

Application is being made for the approval of said Unit Agreement by the Commissioner of Public Lands of the State of New Mexico and by the Director of the United States Geological Survey.

9.

Applicant has furnished the State Engineer the information required by Memorandum No. 5-58, dated January 31, 1958, as shown by Exhibit "3" attached hereto and made a part hereof.

10.

Applicant proposes to waterflood the said Unit Area for secondary recovery by injecting fresh water into the "Unitized Formation" as described in Paragraph 1 hereof in anticipated volumes of 300 to 400 barrels per day to be injected into each of seventeen injection wells, such water to be obtained from the 300-foot Ogallala sand from a source well to be located in SW/4 of Section 18, Township 14 South, Range 32 East or by purchase of Ogallala water in the same general vicinity. Applicant proposes to operate the waterflood project under the provisions of Rule 701.

11.

Attached hereto as Exhibit "4" and made a part hereof is plat showing the location of the proposed injection wells and the location of all other wells and the formation from which such wells are producing or have produced and indicating the lessees within a radius of two miles from the proposed injection wells. Filed herewith as Exhibits "5" through "18", inclusive, and made a part hereof are logs of fourteen of the proposed injection wells; no log was made or is available of two of the proposed injection wells, and a new well will be drilled as the seventeenth injection well. Attached hereto as Exhibit "19" and made a part hereof is a description of the casing program of the proposed injection wells.

WHEREFORE, applicant Phillips Petroleum Company respectfully requests that a public hearing be held before an Examiner in Santa Fe, New Mexico, on this application and that upon said hearing said Unit and the

Unit Agreement and Unit Operating Agreement applicable thereto be approved and authority to waterflood the Queen Sand underlying said Unit Area be granted by the Oil Conservation Commission.

JASON KELLAHIN

Kellahin and Fox
Post Office Box 1713
Santa Fe, New Mexico

CARL W. JONES

Post Office Box 791
Midland, Texas

Attorneys for Applicant
Phillips Petroleum Company

WEST CAP QUEEN SAND UNIT
CHAVES COUNTY, NEW MEXICO
WORKING INTEREST OWNERS

Exhibit No. 2

Tidewater Oil Company
Box 1231
Midland 1, Texas
Attn: R. N. Miller

O. J. Holder
P. O. Box 2103
Santa Fe, New Mexico

Charles H. Wood
118 Valley Drive
Santa Fe, New Mexico

Gordon E. Herkenhoff
866 Don Cubero
Santa Fe, New Mexico

L. C. White
Box 1265
Santa Fe, New Mexico

R. S. Rogers
c/o El Paso National Bank
Box 140
El Paso, Texas

Tom H. Hood
111 Maryland Street
El Segundo, California

Dr. John D. Meschuk
455 Main Street
El Segundo, California

D. D. Patterson
2606 Fannin Street
Midland, Texas

William G. Ross
P. O. Box 1094
Midland, Texas

E. D. Pearce
Route 1, Box 210
Lovington, New Mexico

J. R. & R. L. McLaughlin
115 North 1st Street
Lovington, New Mexico

Mr. A. C. Holder
Box 1476
Lovington, New Mexico

Gulf Oil Corporation
Box 669
Roswell, New Mexico

T. F. Hodge
1113 Continental Bank Building
Fort Worth 2, Texas

Sinclair Oil & Gas Company
P. O. Box 521
Tulsa, Oklahoma

K. S. Adams, Jr.
c/o Ada Oil Company
Box 844
Houston, Texas

Richard S. Anderson, Inc.
Box 1884
Midland, Texas

Henry D. Mercer
90 Broad Street
New York 4, New York

Mr. A. D. Frese
90 Broad Street
New York 4, New York

Walter N. Maguire
300 Main Street
Stamford, Connecticut

Walter L. Maguire
300 Main Street
Stamford, Connecticut

Paul N. Layman, Sr.
Griffing Avenue at West Hampton Beach
Long Island, New York

Broseco Corporation
618 Mercantile Trust Building
Baltimore, Maryland

John P. Rich
618 Mercantile Trust Building
Baltimore, Maryland

Premier Title & Mortgage Co., Trustee
300 Main Street
Stamford, Connecticut

Pecos Land & Development Co., Inc.
Box 416
Santa Fe, New Mexico

Sohio Petroleum Company
970 First National Office Bldg.
Oklahoma City 2, Oklahoma
Attn: Burton W. Whiteley

Richard Lounsbery
c/o E. A. Finch, Jr., Attorney-in-Fact
36 West 44th Street
New York 36, New York

September 6, 1962

Re: Application of Phillips Petroleum Company
for Approval of the New Mexico Oil Conser-
vation Commission to Establish the West
Cap Queen Sand Unit, Approval of the Unit
Operating Agreement, and For Authority to
Waterflood the Queen Sand Underlying Said
Unit located in Township 14S, Range 31E,
Chaves County, New Mexico

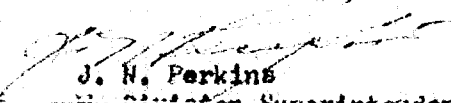
State Engineer
P. O. Box 1079
Santa Fe, New Mexico

Dear Sir:

The attached copy of Phillips' application to the New Mexico Oil Conservation Commission for approval of the West Cap Queen Sand Unit and authority to waterflood the Queen Sand underlying the Unit is being furnished in compliance with Memorandum No. 5-58. It is anticipated that the injection water supply source will be the 300 foot Ogallala Sand located in the Lea County underground water basin. Phillips has obtained a water lease and appropriation for 340 acre feet of water per year from the SW/4, Section 18, Township 14S, Range 32E, Lea County for use in waterflooding this Unit. There is a possibility that the Unit working interest owners may elect to purchase water rather than develop this water supply, but if water is purchased it will be water produced from the Ogallala Sand in the same general vicinity as the above quoted water source.

We will furnish your office with a copy of the water analysis as soon as the water supply has been developed.

Yours truly,

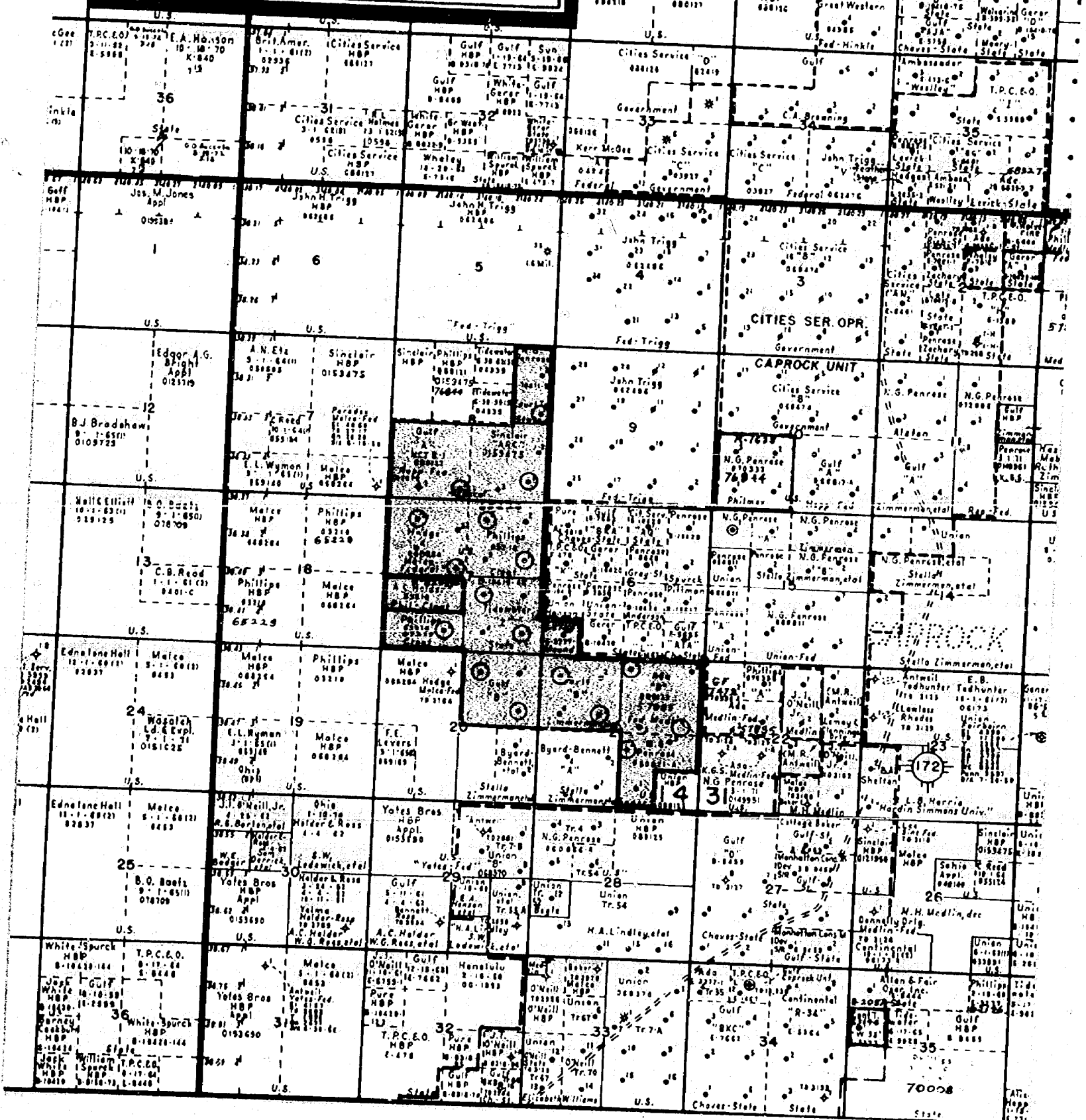

J. N. Perkins
W. Division Superintendent
Production Department

DLC/jw
Attach

Exhibit 3

Case 2643

WEST CAP QUEEN SAND UNIT
Chaves County, New Mexico
Scale: 1" = 1,000'
Unit Area Proposed Input We
NOTE: There are no wells except Queen wells
within a 2 mile radius of the Unit area.
Phillips Exhibit



PHILLIPS EXHIBIT 19

West Cap Queen Sand Unit
Chaves County, New Mexico

INJECTION WELL SUMMARY

<u>Present Operator, Lease and Well No.</u>	<u>Unit Well No.</u>	<u>Casing Size</u>	<u>Casing Seat</u>	<u>Completion Interval</u>	<u>P - Perforated OH - Open Hole</u>
Ada Fed. Medlin "B" #1	9W1	5½"	2908'	2908-25'	OH
Gulf Hopp Fed. "A" #1	3W1	4½"	2706'	2686-93'	P
Gulf Zimmerman #1	10W1	7"	2789'	2789-840'	OH
Gulf Zimmerman #3	10W3	4½"	2877'	2877-96'	OH
Gulf Zimmerman #5	10W5	4½"	2767'	2765-90'	OH & P
Gulf Zimmerman #7	10W7	4½"	2880'	2821-23'	P
Hodge Malco Fed. #2	5W2	4½"	2725'	2706-14'	P
Hodge Malco Fed. #5	5W5	5½"	2700'	2665-70'	P
Penrose Ct. Trust #1	1W1	5½"	2705'	2705-2721'	OH
Penrose Saner Fed. #2	11W2	7"	2922'	2901-04'	P
Phillips Cleat #1	4W1	5½"	2758'	2758-70'	OH
Phillips Cleat #4	4W4	5½"	2715'	2715-35'	OH
Phillips Cleat #5	4W5	5½"	2708'	2708-29'	OH
Sinclair Arc Fed. #1	2W1	5½"	2746'	2728-37'	P
Tidewater State Z #2	7W2	5½"	2787'	2787-801'	OH
Tidewater State Z #3	7W3	5½"	2770'	2737-49'	P

NOTE: An additional water input well has been scheduled to be drilled in the SE/4, SE/4 of the NE/4, Section 21, Township 14 South, Range 31 East, Chaves County, New Mexico. It is planned that this well will have 4½" casing set through and perforated opposite the Queen formation. All of the injection wells will be equipped with 2" tubing and packers for injection service and the annulus between the tubing string and casing string will be filled with fluid above the packer.

Case 2643

FILMED OUT OF
Sequence