

Case Number

4340

Application  
Transcripts.

Small Exhibits

ETC.

dearnley-meier

SPECIALIZING IN: DEPOSITIONS, HEARINGS, STATEMENTS, EXPERT TESTIMONY, DAILY COPY, CONVENTIONS

209 SIMMS BLDG. • P.O. BOX 1092 • PHONE 243-6891 • ALBUQUERQUE, NEW MEXICO



BEFORE THE  
NEW MEXICO OIL CONSERVATION COMMISSION  
Santa Fe, New Mexico  
April 29, 1970

EXAMINER HEARING

----- )  
IN THE MATTER OF: )  
 )  
Application of Tesoro Petroleum Corpora- ) CASE NO. 4340  
tion for three waterflood projects and )  
unorthodox injection well locations, )  
McKinley County, New Mexico. )  
----- )

BEFORE: Elvis A. Utz, Examiner.

TRANSCRIPT OF HEARING

MR. UTZ: Case 4340.

MR. HATCH: Case 4340. Application of Tesoro Petroleum Corporation for three waterflood projects and unorthodox injection well locations, McKinley County, New Mexico.

MR. BUELL: Mr. Examiner, I'm Sumner Buell with Montgomery, Federici, Andrews, Hannahs & Morris, appearing on behalf of the Tesoro Petroleum Company.

(Whereupon, Applicant's Exhibits 1 through 9 were marked for identification.)

We'll have two witnesses. I ask that they be sworn at this time.

(Witnesses sworn.)

MR. UTZ: Are there other appearances in this case?

MR. KELLY: Booker Kelly of White, Gilbert, Koch & Kelly of Santa Fe, appearing on behalf of Tenneco Oil Company in support of the application.

LEWIS SMITH,

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

DIRECT EXAMINATION

BY MR. BUELL:

Q Would you state your name, please?

A Lewis Smith.

Q And Mr. Smith, where do you reside?

A San Antonio, Texas.

Q By whom are you employed and in what capacity?

A Petroleum Engineer for Tesoro Petroleum Corporation.

Q Would you briefly give the Examiner your educational background and your work experience?

A I'm a graduate engineer from Oklahoma State University, 1949. I was employed at Sun Oil Company for approximately nine years in varying degrees in Petroleum Engineering, approximately six years consulting throughout the United States and Canada.

I then spent three years on a consulting basis as technical advisor for the Reservoir Engineering Department of Arabian Oil Company in the Arabian Gulf; as a Petroleum Engineer in the Reservoir Engineering Department, consulting for Greer & Associates in Dallas.

Approximately the last two years, I've been employed with Tesoro as a Petroleum Engineer in the Reservoir Engineering Department in San Antonio, Texas.

MR. RUELL: Are the witness' qualifications acceptable?

MR. UPZ: The witness is familiar with the matters in this case, so he's qualified.

Q (By Mr. Puell) Would you briefly tell the Examiner what Tesoro seeks by this application?

A Tesoro seeks approval of the application to inject water into nine wells in an unorthodox location on three leases in McKinley County. The purpose of this is for a secondary recovery project by waterflood, which is really an extension to an already existing waterflood program now.

Q Referring you to what has been marked Applicant's Exhibit Number 1, would you describe what is shown on that exhibit?

A Exhibit 1 simply outlines the three leases involved in Tesoro's properties, on which we intend to conduct the waterflood operation in the Upper Hosoah Sand. The lease in Section 1 in the southeast quarter is referred to as our Santa Fe "A" lease. The lease in yellow which is in Section 6 is defined as our Hansen Federal Lease. The portion of the lease in Section 7 is referred to as our Santa Fe lease.

Q Referring now to what has been marked as Exhibit Number 2, would you describe that, please?

A Exhibit Number 2 is the contour of the top of the Upper Hosnah Sand in the South Hosnah Field. Generally it indicates that the top of the structure is in Section 12 in Tenneco's South Hosnah Unit. It dips toward the east at approximately forty feet per the mile.

Q Referring now to Exhibit 3, would you describe for the Examiner what is shown on Exhibit 3?

A Exhibit 3 shows the proposed development of these three leases for a waterflooding program that we have. Those that are colored somewhat in green would reflect the locations of our producing wells. In general, they are in the center of each forty acres. Those colored in red are our proposed injection wells to conduct this water-flood program. Those two that are in dashed circles in Section 12 are the proposed locations of a line agreement that we have with Tenneco, which is another matter pending today.

Q Are the specific locations of these various injection wells shown on this exhibit?

A Yes, these are the proposed locations.

Q In the upper left-hand corner?

A In the upper left-hand corner.

Q And the precise locations of the proposed producing wells are in the upper right-hand corner?

A This is right.

Q Now, there has been some changes in the exact location of some of those lease line wells; is that correct?

A There have been three wells that we have found necessary to move either because of topography or power lines.

Q And what --

A Those three wells would be our injection well Hansen Number 18, which is right in the corner. We have had to move that one fifteen feet east. The Santa Fe Number 22, along the lease line, we've had to move sixty feet east because that location fell directly underneath the power line.

The Santa Fe Number 25, because of rough topography in that general area, we have moved 115 feet north and 35 feet west.

MR. HATCH: Is that new location what is up here in the left, or is it different from that?

MR. BUELL: No, it's different from that.

MR. HATCH: Would you give those again?

THE WITNESS: Number 18, Hansen 18, we've moved it fifteen feet to the east.

MR. UTZ: Well, now, I think while we're doing this, we'd just as well get squared away here on the exact proper locations. You have it now five feet from the west line and you moved fifteen, so that'll be twenty: is that correct?

THE WITNESS: It's five feet from the south line, twenty feet from the west line. Santa Fe 22 will then be 1200 feet from the north line, 65 feet from the west line.

MR. UTZ: Okay.

THE WITNESS: Santa Fe 25 is now 1220 from the north line and 2600 from the west line.

MR. UTZ: Okay. And that's the only changes?

THE WITNESS: Yes, sir.

MR. UTZ: These other locations are correct?

THE WITNESS: Yes, sir.

Q (By Mr. Buell) Referring you now to what's been marked as Applicant's Exhibit Number 4, would you describe that for the Examiner?

A Exhibit Number 4 shows all of the producing wells in the South Hospah Field, in addition with Exhibit Number 3 overlaid to show our proposed development. Those wells



colored in blue are the existing wells that do produce from the Upper Hospah Sand. The wells circled in red that have an arrow which you will see on the Tenneco South Hospah Unit are the current water injection wells. Those wells, again, that are colored in green are the proposed locations for the development of producing wells.

Those colored in red are the proposed locations of the water injection wells. The other contours that are also overlaid are the interpretation of the net thickness of the Upper Hospah Sand in that area. Our proposed development for the three leases are compatible with Tesoro's operations in that all lease lines are protected and designed to recover the maximum amount of oil possible.

We have entered line agreements with Tenneco and have pretty well agreed to the total pattern throughout the field.

Q Referring you now to what's been marked as Applicant's Exhibit Number 5, would you please describe that for the Examiner?

A This is a diagrammatic sketch of our proposed injection well to inject water into the Upper Hospah Sand, as normal, just normal completion for the area. Within a 9 5/8 inch hole, we set seven-inch surface casing, which

will be cemented to the surface. We will then drill through the Upper Hospah Sand, but will not penetrate more than five to ten feet. We will then set 4 1/2-inch casing and cement through the casing with approximately 65 sacks of cement, which will give us almost a thousand feet of cement in the hole. We will then run 2 3/8-inch tubing set on a retrievable packer so that we will inject water through the tubing, which will be heated at the well site.

We will inject this heated water through selected perforated intervals of the Hospah Sand. This Hospah Sand consists of principally four stringers and we will perforate them as required to recover that oil within each five-spot pattern. These wells then will consist primarily of a forty-acre five-spot pattern.

Q Mr. Smith, what will be the source of the water which you propose to inject in these wells?

A We'll collect the water from each of the three leases that is being produced from the Lower Hospah Reservoir, pipe it to a central tank battery. We will then treat the water as required, inject it into each well. There will be a heater at each well so that we can heat the water. We will maintain a maximum pressure at the plant and into each well of no more than 750 pounds.

We propose to inject 100 to 300 barrels a day

per well. This water is in general compatible with the Upper Hospah Sand. We anticipate no particular problems other than just normal treating facilities. It's our understanding that Tenneco is successful and have no particular problems with the same kind of water. As we produce water from the Upper Hospah, we will also collect that and reinject that back into the reservoir.

MR. UTZ: Where did you say the original water source was?

THE WITNESS: It will be the water that is being produced now from each of the tank batteries on these three leases, which is from the Lower Hospah Reservoir.

MR. UTZ: The Lower Hospah water?

THE WITNESS: This will be our principal water to initiate.

MR. UTZ: Then you won't have any water wells as such? The initial water source will be produced water?

THE WITNESS: This is correct except for one section, or we have our Santa Fe Number 10, is a Lower Hospah completion that has not produced economical oil. We can recover considerable water if required from that particular well.

MR. UTZ: Let's see. Where is the Hospah 10?

THE WITNESS: That is the Santa Fe in Section 7, which is in the northeast quarter.

MR. UTZ: Northeast quarter of -- well, I'm not sure.

THE WITNESS: It's in the northwest quarter of the northeast of Section 7, along towards the edge here, (indicating).

MR. UTZ: Is it on Exhibit 1?

MR. BUELL: It's on Exhibit 4, Mr. Examiner. It's also on Exhibit 1; yes, sir.

THE WITNESS: It's Exhibit 1.

MR. BUELL: It's in the northwest quarter of the northeast quarter of Section 7.

MR. UTZ: Okay.

THE WITNESS: We are presently producing about 2500 barrels a day of water now to recover the oil from the Lower Hospah, so we have sufficient water to initiate the program.

Q (By Mr. Buell) Mr. Smith, what separates the Upper Hospah Sand from the Lower Hospah?

A In general, about 25 feet of sands and shales.

Q Is that impervious material?

A It is impervious. We will not penetrate the Lower Hospah.

Q In the application, Mr. Smith, you seek an admini-

strative procedure for approval of additional injection wells in this area. Would you tell why you feel this is necessary?

A For the possibility of expanding this flood to the east and perhaps to the south. The individual characteristics of these sand stringers may warrant our altering the operation of any particular well. In general, it just will assist us in providing the flexibility that is required to conduct our operations in good engineering practice.

Q Mr. Smith, in your opinion, would the granting of this application tend to prevent waste and protect correlative rights?

A Yes.

Q Were Exhibits 1 through 5 prepared by you or under your supervision?

A They were.

MR. BUELL: I offer Exhibits 1 through 5 in evidence.

MR. UTZ: Without objection, Exhibits 1 through 5 will be admitted.

(Whereupon, Applicant's Exhibits 1 through 5 were offered and admitted in evidence.)

MR. BUELL: I have no other questions of this witness.

CROSS EXAMINATION

BY MR. UTZ:

Q Let's run over this Number 10 well again. The northwest of the northeast of Section 7. Now, you say that is just a water well at this time?

A It is a well that is completed in the Lower Hospah Reservoir. It has not produced commercial oil for two or three years. It's shut down. We do not even have the pumping unit. Should we need additional water in any well, this is where we could provide ourselves with an extra source.

Q Now, does Exhibit 3 show all of the injection wells for each project?

A Yes, it does.

Q So for your Santa Fe "A" project, you will have five injection wells; is that correct?

A The Santa Fe "A", we will have one injection well on that lease.

Q I see. This is producing -- well, no, it says water injection wells over here on the left. What are these on the right?

A The Santa Fe 83 will be located on the Santa Fe "A" lease.

Q So your three projects will be the Santa Fe "A", the Hansen, and the Santa Fe; is that correct?

A Yes.

Q So you will have one injection well on the Santa Fe "A", four on the Hansen, and four on the Santa Fe?

A This is correct.

(Whereupon, a discussion was held off the record.)

Q Counsel calls my attention to the fact, Mr. Smith, that most of our administrative procedures limit the injection wells to 330 feet from the lease line. How will this affect you in your desires?

A We were assuming that if we inject water on all of our lease line bases, we would better protect the correlative rights between each lease, as well as between the two operators within the area. This would eliminate the possibility of moving oil from one lease to another unfairly. With line well injection, we think this most fairly represents the ultimate aim and the protection for all of the interest holders within the area.

Q Well, I believe you're telling me you want to drill them closer than 330 feet; is that right?

A Yes, sir. We would like to drill them right onto the lease line, as nearly as possible.

Q In which case would require a different administrative procedure than we've been allowing; is that correct?

MR. HATCH: I think so. Of course, most of this has been where we are talking about somebody else's lease, not the same lessee in this case.

Q (By Mr. Utz) Well, the interest here is different in each lease, is it not?

A Tesoro has all of the working interest.

Q Yes, but how about the royalty interests?

A The royalty interests are, of course, different and this is why we would protect them better by putting them right on the lease lines.

Q Well, at any rate, you would be desirous of administrative procedure whereby you can drill wells closer than 330 feet to the lease line. Now, how close would you want to drill them?

A Will you let me see if I understand the question? You're speaking of our injection wells, or the producing wells?

Q The injection wells.

A The injection wells? We are asking that we can drill them as near to the lease lines as possible is what you're asking me, yes.

Q Well, how close is possible, as far as you're concerned? Five feet, ten feet?

A Five feet. In this one case, we've had to move



sixty-some feet because of lower line. The two wells also that Tenneco are proposing will also be in accordance with the same provision.

MR. BUELL: Mr. Examiner, I think what they want is to develop this field on an orderly basis as started here in the proposed exhibit, and it is to get an order to allow a waiver of this 330-foot requirement that Mr. Hatch points out is why we are here at a hearing today.

MR. UTZ: Yes.

MR. BUELL: To establish the need for it as the development progresses, if it's justified to the Commission administratively.

MR. UTZ: Well, there is no question but what you can come in for a hearing on additional injection wells and ask for approval, but administratively, the question before us right now is whether we can administratively allow you less than 330 feet on the lease line.

MR. BUELL: Yes, I realize that, but my point is that we are seeking an order to, in effect, for this project, amend your administrative procedure.

MR. UTZ: Yes. It brings in my mind that we have allowed Tenneco some pretty close to the line locations; are you familiar with that?

THE WITNESS: Yes, sir.

Q (By Mr. Utz) How close to the outer lease boundaries have we allowed them to drill injection wells; do you know that?

(Whereupon, a discussion was held off the record.)

A There are no injection wells near the lease now. The nearest one would be approximately 1200 feet, just looking at the map, at the moment.

MR. UTZ: Any more questions?

MR. BUELL: We have one other witness, Mr. Examiner.

MR. UTZ: All right.

DONALD D. SHIRLEY,

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

DIRECT EXAMINATION

BY MR. BUELL:

Q Would you state your name, please?

A Donald D. Shirley.

Q And by whom are you employed and in what capacity?

A Tesoro Petroleum Corporation in San Antonio, Texas, Manager of the Land Department.

Q Are you familiar with what is sought in Application Number 4340?

A Yes, I am.

Q And pursuant to that application, have you had contact with the landowners --

A Yes, sir.

Q -- covering these leases?

A There are two principal lessors, the Santa Fe Pacific Railroad Company in Los Angeles and the U. S. Geological Survey in Roswell. We have presented the proposed program to both of them and received their written consent to the project as proposed.

Q And who owns the working interest under these three leases?

A Tesoro owns one hundred percent working interest under all three leases.

Q And have you, as part of this project, entered into agreements with Tenneco, your adjoining landowner?

A Yes, we have entered into a written line well agreement covering the drilling of the four line wells proposed.

Q I see. Will the status of any of the interest owners change because of this project, as far as their interest?

A No, sir. The flood will be conducted on a wholly lease basis, separate tank batteries and each lease production going to the individual tank battery for that lease, and no change of interest in any overriding royalty or royalty

interest on it.

MR. BUELL: I have no other questions.

CROSS EXAMINATION

BY MR. UTZ:

Q You speak of four line wells. I'm looking at Exhibit 3 here.

A I'm sorry. Four line wells as between Tenneco and Tesoro. The other line wells are between our own leases.

MR. BUELL: The four line wells, one is down in Section 12.

THE WITNESS: In Northwest 7.

MR. BUELL: And it's shown as an open circle that's been dashed. Then the other three line wells are the Tesoro wells.

THE WITNESS: Those are the four wells that are the subject of the line well agreement between Tenneco and Tesoro, which is our common lease line between the operations of Tenneco.

Q (By Mr. Utz) Well, that well with the open circle, is that going to be an injection well?

A Yes, sir. That's the subject of Tenneco's application today on this same docket.

Q That is on your lease, isn't it?

A No, it will be on their lease. The southernmost injection well is on a Tenneco lease, and the westernmost injection well is on a Tenneco lease. I think that's

probably best shown on the Exhibit Number 3.

Q This dark line here is the boundary between leases?

A Yes, sir.

Q And that doesn't follow the quarter-quarter section line?

A No, sir. There are lots on the eastern section there. I don't recall exactly the acreage. It's run around twelve acres or something per lot in there. That's also the range line.

MR. UTZ: Do we have any questions of the witness?  
The witness may be excused.

(Witness excused.)

MR. BUELL: I have nothing else, Mr. Examiner.

MR. UTZ: The case will be taken under advisement.

MR. KELLY: Mr. Examiner, I'd just like to make a brief statement. Tenneco has no objection, in fact, concurs in the application, and we would like to stress that as to this point of administrative procedure for approval of wells, injection wells within 330 feet, we have no objection on that also, as long as the administrative process is followed, which would require notification and then an opportunity to object and call for a hearing if we have an objection.

MR. TRAYWICK: Mr. Utz, I might make a remark.

Carl Traywick, U. S. Geological Survey, Roswell. We've looked at this project in detail also with the possibility of forming a unit and found the equities are difficult to establish from the available logs, and have, in discussions with Tesoro, have concluded that it lends itself better to the protection of correlative rights under the proposed injection pattern on a cooperative basis than on a full unit basis.

MR. UTZ: Thank you very much.

Any statements?

The case will be taken under advisement.

I N D E X

| <u>WITNESS</u>                  | <u>PAGE</u> |
|---------------------------------|-------------|
| LEWIS SMITH                     |             |
| Direct Examination by Mr. Buell | 3           |
| Cross Examination by Mr. Utz    | 13          |
| DONALD D. SHIRLEY               |             |
| Direct Examination by Mr. Buell | 17          |
| Cross Examination by Mr. Utz    | 19          |

| <u>EXHIBIT</u>             | <u>MARKED</u> | <u>OFFERED AND<br/>ADMITTED</u> |
|----------------------------|---------------|---------------------------------|
| Applicant's 1<br>through 9 | 2             | 12                              |

STATE OF NEW MEXICO     )  
                                       ) ss  
 COUNTY OF BERNALILLO    )

I, DAVID BINGHAM, a Court Reporter in and for the County of Bernalillo, State of New Mexico, do hereby certify that the foregoing and attached Transcript of Hearing before the New Mexico Oil Conservation Commission was reported by me; and that the same is a true and correct record of the said proceedings, to the best of my knowledge, skill and ability.

*David Bingham*  
 COURT REPORTER

I do hereby certify that the foregoing is  
 a true and correct copy of the transcript of  
 the hearing held on April 24, 1970, at 4350  
 4350, New Mexico Oil Conservation Commission  
*Thurston*  
 New Mexico Oil Conservation Commission





# OIL CONSERVATION COMMISSION

STATE OF NEW MEXICO

P. O. BOX 2088 - SANTA FE

87801

GOVERNOR  
DAVID F. CARGO  
CHAIRMAN

LAND COMMISSIONER  
ALEX J. ARMIJO  
MEMBER

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

May 15, 1970

Mr. Sumner Buell  
Montgomery, Federici, Andrews, Hannahs  
& Morris  
Attorneys at Law  
Santa Fe, New Mexico

Re: Case No. 4340  
Order No. R-3955-A  
Applicant:  
Tesoro Petroleum Corporation

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

ALP/ir

Copy of order also sent to:

Hobbs OCC x

Artesia OCC           

Aztec OCC x

Other U.S.G.S., Farmington - State Engineer Office, Santa Fe

BEFORE THE OIL CONSERVATION COMMISSION  
OF THE STATE OF NEW MEXICO

CASE No. 4340  
Order No. R-3955-A

IN THE MATTER OF THE APPLICATION OF  
TESORO PETROLEUM CORPORATION FOR THREE  
WATERFLOOD PROJECTS AND UNORTHODOX  
INJECTION WELL LOCATIONS, MCKINLEY  
COUNTY, NEW MEXICO.

NUNC PRO TUNC ORDER

BY THE COMMISSION:

It appearing to the Commission that due to clerical error,  
Order No. R-3955, dated May 5, 1970, does not correctly state  
the intended order of the Commission in one particular,

IT IS THEREFORE ORDERED:

(1) That the location of the Santa Fe Well No. 22 to be  
drilled in the Tesoro South Hoshpah Upper Santa Fe Waterflood  
Project area, as set forth in Order (1), Page 3, of Order No.  
R-3955, is hereby corrected to read:

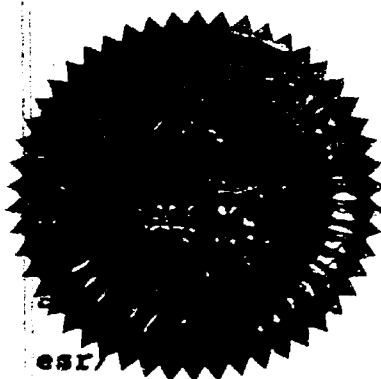
"Santa Fe Well No. 22 to be drilled 1200 feet from the  
North line and 65 feet from the West line of Sec-  
tion 7;"

rather than:

"Santa Fe Well No. 22 to be drilled 1200 feet from the  
North line and 651 feet from the West line of Sec-  
tion 7;"

(2) That this order shall be effective nunc pro tunc as of  
May 5, 1970.

DONE at Santa Fe, New Mexico, on this 15th day of May,  
1970.



STATE OF NEW MEXICO  
OIL CONSERVATION COMMISSION

*David F. Cargo*  
DAVID F. CARGO, Chairman

*Alex J. Armijo*  
ALEX J. ARMIJO, Member

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

OIL CONSERVATION COMMISSION

P. O. BOX 2088

SANTA FE, NEW MEXICO 87501

May 6, 1970

Mr. Sumner Buell  
Montgomery, Federici, Andrews, Hannahs & Morris  
Attorneys at Law  
Post Office Box 2307  
Santa Fe, New Mexico

Dear Sir:

Enclosed herewith is Commission Order No. R-3955, entered in Case No. 4340, approving the Tesoro Santa Fe, Santa Fe "A", and Hanson Federal Waterflood Projects.

Injection into each of the nine water injection wells shall be through tubing installed in a packer which shall be set from 10 to 50 feet above the pay.

As to allowable, our calculations indicate that when all of the authorized injection wells have been placed on active injection, the maximum allowable which these projects will be eligible to receive under the provisions of Rule 701-E-3 when the Northwest New Mexico normal unit allowable is 70 barrels per day or less is as follows:

Santa Fe Project: 373 barrels per day  
Santa Fe "A" Project: 183 barrels per day  
(including acreage factor)  
Hanson Federal Project: 350 barrels per day

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

In order that the allowable assigned to the projects 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

OIL CONSERVATION COMMISSION

P. O. BOX 2088

SANTA FE, NEW MEXICO 87501

-2-

Mr. Sumner Buell  
Montgomery, Federici, Andrews, Hannahs & Morris  
Attorneys at Law  
Post Office Box 2307  
Santa Fe, New Mexico

May 6, 1970

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

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

Very truly yours,

P A. L. PORTER, Jr.  
Secretary-Director

ALP/DSN/ir

Y cc: Oil Conservation Commission  
Hobbs and Aztec, New Mexico  
  
U. S. Geological Survey  
Post Office Box 959  
Farmington, New Mexico 87401

Mr. D. E. Gray  
State Engineer Office  
Santa Fe, New Mexico

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. 4340  
Order No. R-3955

APPLICATION OF TESORO PETROLEUM CORPORATION  
FOR THREE WATERFLOOD PROJECTS AND UNORTHODOX  
INJECTION WELL LOCATIONS, MCKINLEY COUNTY,  
NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 a.m. on April 29, 1970,  
at Santa Fe, New Mexico, before Examiner Elvis A. Utz.

NOW, on this 5th day of May, 1970, 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, Tesoro Petroleum Corporation, seeks  
permission to institute three waterflood projects in the South  
Hospah Upper Sand Oil Pool by the injection of water into the  
Hospah Upper Sand through nine injection wells to be drilled at  
unorthodox locations in Sections 6 and 7, Township 17 North,  
Range 8 West, and in Section 1, Township 17 North, Range 9 West,  
NMPM, McKinley County, New Mexico.

(3) That the applicant further seeks the establishment of  
an administrative procedure whereby the Secretary-Director of  
the Commission may authorize additional injection wells and  
producing wells at orthodox and unorthodox locations within said  
waterflood project areas as may be necessary to complete efficient  
injection and production patterns.

CASE No. 4340  
Order No. R-3955

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

(5) That the proposed waterflood projects should result in the recovery of otherwise unrecoverable oil, thereby preventing waste.

(6) That the subject application should be approved and the projects should be governed by the provisions of Rules 701, 702, and 703 of the Commission Rules and Regulations; provided, however, that the showing of well response as required by Rule 701 E-5 should not be necessary before obtaining administrative approval for the conversion of additional wells to water injection, and provided further that said injection and producing wells would be drilled no closer than 5 feet to the outer boundary of the waterflood project areas nor closer than 5 feet to any quarter-quarter section or subdivision inner boundary.

IT IS THEREFORE ORDERED:

(1) That the applicant, Tesoro Petroleum Corporation, is hereby authorized to institute the three following waterflood projects in the South Hospah Upper Sand Oil Pool by the injection of water into the Hospah Upper Sand through the following-described nine wells in McKinley County, New Mexico:

Tesoro South Hospah Upper Hanson Waterflood Project

Injection Wells:

TOWNSHIP 17 NORTH, RANGE 8 WEST, NMPM

Hanson Well No. 19 to be drilled 1335 feet from the South line and 1325 feet from the West line of Section 6;

Hanson Well No. 21 to be drilled 1335 feet from the South line and 2635 feet from the West line of Section 6;

Hanson Well No. 18 to be drilled 5 feet from the South line and 20 feet from the West line of Section 6; and

Hanson Well No. 20 to be drilled 5 feet from the South line and 2635 feet from the West line of Section 6.

-3-

CASE No. 4340

Order No. R-3955

Tesoro South Hospah Upper Santa Fe Waterflood Project

Injection Wells:

TOWNSHIP 17 NORTH, RANGE 8 WEST, NMPM

Santa Fe Well No. 22 to be drilled 1200 feet from the North line and 651 feet from the West line of Section 7;

Santa Fe Well No. 23 to be drilled 5 feet from the North line and 1330 feet from the West line of Section 7;

Santa Fe Well No. 24 to be drilled 1335 feet from the North line and 1325 feet from the West line of Section 7; and

Santa Fe Well No. 25 to be drilled 1220 feet from the North line and 2600 feet from the West line of Section 7.

Tesoro South Hospah Upper Santa Fe "A" Waterflood Project

Injection Well:

TOWNSHIP 17 NORTH, RANGE 9 WEST, NMPM

Santa Fe "A" Well No. 83 to be drilled 1335 feet from the South line and 5 feet from the East line of Section 1.

(2) That the subject waterflood projects shall be governed by the provisions of Rules 701, 702, and 703 of the Commission Rules and Regulations;

PROVIDED HOWEVER, that the Secretary-Director of the Commission may approve such additional injection wells and producing wells at orthodox and unorthodox locations within said project areas as may be necessary to complete efficient injection and production patterns; provided said wells are drilled no closer than 5 feet to the outer boundary of said waterflood project areas nor closer than 5 feet to any quarter-quarter section or subdivision inner boundary, and provided that the application therefor has been filed in accordance with Rule 701 B of the Commission Rules and Regulations and accompanied by evidence that the operator of any productive lease offsetting the proposed location has assented

-4-

CASE No. 4340  
Order No. R-3955

thereto. The showing of well response as required by Rule 701 E-5 shall not be necessary before obtaining administrative approval for the conversion of additional wells to water injection.

(3) That monthly progress reports of the waterflood projects herein authorized shall be submitted to the Commission in accordance with Rules 704 and 1120 of the Commission Rules and Regulations.

(4) 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

  
DAVID F. CARGO, Chairman

  
ALEX J. ARMIJO, Member

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



esr/



DOCKET: EXAMINER HEARING - WEDNESDAY - APRIL 29, 1970

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 4340: Application of Tesoro Petroleum Corporation for three waterflood projects and unorthodox injection well locations, McKinley County, New Mexico. Applicant, in the above-styled cause, seeks authority to institute three waterflood projects in the South Hospah Upper Sand Oil Pool by the injection of water through nine injection wells to be drilled at unorthodox locations in Section 1, Township 17 North, Range 9 West, and in Sections 6 and 7, Township 17 North, Range 8 West, McKinley County, New Mexico. Applicant further seeks a procedure whereby additional injection wells and producing wells at unorthodox locations within the project areas may be approved administratively.

CASE 4341: Application of Pan American Petroleum Corporation for two non-standard gas proration units, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval of two non-standard gas proration units for its State "C" Tract 13 Well No. 5, a dual completion, located 1980 feet from the North line and 660 feet from the West line of Section 36, Township 21 South, Range 37 East, Lea County, New Mexico, said units to be comprised as follows:

Blinebry Gas Pool - 240 acres - NW/4 and W/2  
NE/4

Tubb Gas Pool - 200 acres - W/2 NW/4, NE/4  
NW/4 and W/2 NE/4

CASE 4342: Application of Dearing, Wright, Gibbins, and Church, doing business as New Mexico Petroleum Company, for authority to operate an oil treating plant, Lea County, New Mexico. Applicants, in the above-styled cause, seek authority to install and operate a chemical and heating process oil treating plant in the vicinity of Tatum, New Mexico, for the reclamation of sediment oil to be obtained from tank bottoms, waste pits, and drip tanks.

- CASE 4343: Application of Texaco Inc. for salt water disposal, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to dispose of produced salt water into the Devonian formation in the perforated and open-hole interval from 11,194 feet to 11,278 feet in its New Mexico "BB" State (NCT-1) Well No. 2 located in Unit N of Section 11, Township 12 South, Range 32 East, East Caprock-Devonian Pool, Lea County, New Mexico.
- CASE 4344: Application of Texaco Inc. for salt water disposal, Chaves County, New Mexico. Applicant, in the above-styled cause, seeks authority to dispose of produced salt water into the Devonian formation in the open-hole interval from 11,230 feet to 11,503 feet in its B. E. Spencer "B" Federal Well No. 1 located in Unit D of Section 28, Township 15 South, Range 30 East, Little Lucky Lake-Devonian Pool, Chaves County, New Mexico.
- CASE 4345: Application of Yates Drilling Company for salt water disposal, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks authority to dispose of produced salt water into the Seven Rivers and possibly other formations in the open-hole interval from 68 feet to 100 feet in its Galvin Well No. 8 and from 68 feet to 90 feet in its Galvin Well No. 14, both located in Unit N of Section 12, Township 20 South, Range 26 East, West McMillan-Seven Rivers Pool, Eddy County, New Mexico.
- CASE 4346: Application of Yates Drilling Company for a pressure maintenance expansion and promulgation of rules therefor, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks authority to expand the S. P. Yates West McMillan Anderson Pressure Maintenance Project in the West McMillan Seven Rivers-Queen Pool, Eddy County, New Mexico, authorized by Order No. R-3852, by the conversion to water injection of two additional wells located in Units O and P, Section 11, Township 20 South, Range 26 East. Applicant further seeks the designation of a project area, promulgation of rules governing said project, and a procedure whereby other methods of flooding in the subject project may be authorized administratively.
- CASE 4347: Application of Yates Drilling Company for a unit agreement, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval of the Yates North Vacuum (San Andres) Unit Area comprising 800 acres, more or less, of State lands in Sections 1, 2, 11, and 12, Township 17 South, Range 34 East, Vacuum Grayburg-San Andres Pool, Lea County, New Mexico.

CASE 4348: Application of Yates Drilling Company for a waterflood project, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to institute a waterflood project in its North Vacuum (San Andres) Unit Area by the injection of water into the San Andres formation through 9 wells located in Sections 1, 2, 11, and 12, Township 17 South, Range 34 East, Vacuum Grayburg-San Andres Pool, Lea County, New Mexico. Applicant further seeks a procedure whereby said project may be expanded administratively without a showing of well response.

CASE 4349: Application of Tenneco Oil Company for a waterflood expansion and unorthodox injection well locations, McKinley County, New Mexico. Applicant, in the above-styled cause, seeks to expand the waterflood project in its South Hospah Unit Area by the injection of water into the South Hospah Upper Sand Oil Pool, McKinley County, New Mexico, through two additional injection wells at unorthodox locations in Section 12, Township 17 North, Range 9 West, as follows:

Unit Well No. 41 - 5 feet from the North line and 1650 feet from the East line;

Unit Well No. 42 - 3000 from the North line and 5 feet from the East line.

CASE 4350: Application of Cities Service Oil Company for an exception to Order No. R-3221, as amended, Chaves County, New Mexico. Applicant, in the above-styled cause, seeks an exception to Order No. R-3221, as amended, which order prohibits the disposal of water produced in conjunction with the production of oil on the surface of the ground in Lea, Eddy, Chaves, and Roosevelt Counties, New Mexico. Said exception would be for applicant's Snyder Federal lease comprising the S/2 NE/4 and N/2 SE/4 of Section 26, Township 15 South, Range 29 East, Sulimar-Queen Pool, Chaves County, New Mexico. Applicant seeks authority to dispose of salt water produced by wells on said lease in an unlined surface pit located in Unit H of said Section 26.

CASE 4351: Application of Humble Oil & Refining Company for well reclassification and simultaneous dedication of acreage, Lea County, New Mexico. Applicant, in the above-styled cause, seeks the reclassification of its New Mexico "G" State Well No. 5 from an oil well in the Eumont Pool to a gas well in said pool. Applicant further seeks the dedication of a standard 640-acre gas proration unit comprising all of Section 23, Township 21 South, Range 36 East, Lea County, New Mexico, to said Well No. 5 and to applicant's New Mexico "G" State Well No. 9,

located, respectively in units E and G of said Section 23, and authority to produce the allowable assigned to said unit from either of said wells in any proportion.

CASE 4352: Application of Jack L. McClellan for the creation of a new gas pool or, in the alternative, the establishment of pool rules for two existing pools, Chaves and Lea Counties, New Mexico. Applicant, in the above-styled cause, seeks the creation of a new Queen gas pool comprising the following-described acreage:

CHAVES COUNTY, NEW MEXICO

Township 15 South, Range 29 East

Section 11: SE/4

Section 12: SW/4

Section 13: NW/4

Section 14: E/2

Section 23: NE/4 and SW/4

In the alternative applicant seeks the promulgation of special rules for the Sulimar-Queen Pool, Chaves County, and Double L-Queen Pool, Chaves and Lea Counties, New Mexico, as separate or as consolidated pools, including provisions for the classification of oil and gas wells, spacing and well location requirements for oil and gas wells, and an allocation formula for withdrawals by oil wells and gas wells.

CASE 4353: Application of Lone Star Producing Company for special pool rules, Lea County, New Mexico. Applicant, in the above-styled cause, seeks the promulgation of special pool rules for the Tres Papalotes-Pennsylvanian Pool, Lea County, New Mexico, including a provision for 160-acre spacing and proration units.

ROUGH DRAFT FOR WATERFLOOD LETTERS

Mr. Sumner Buell  
Montgomery, Federici, Andrews, Hannahs & Morris  
Attorneys at Law  
Post Office Box 2307  
Santa Fe, New Mexico  
Dear Sirs:

Commission Order No. R-3955, entered in Case No.  
4340, approving the \_\_\_\_\_  
Waterflood Project.

*Each of the nine  
authorized  
water injection wells shall be through tubing  
installed in a gasket which shall be set  
from 10 to 50 feet above the pay.*

As to allowable, our calculations indicate that when all of the authorized injection wells have been placed on active injection, the maximum allowable which these projects will be eligible to receive under the provisions of Rule 701-E-3 is ~~70~~ <sup>70</sup> barrels per day when the ~~Southwest~~ <sup>Southwest</sup> New Mexico normal unit allowable is ~~42~~ barrels per day or less *is as follows:*

Please report any error in ~~this~~ <sup>these</sup> 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 projects 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 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 projects and the wells therein will be appreciated.

Very truly yours,

A. L. PORTER, Jr.  
Secretary-Director

cc: OCC: Hobbs ☒  
Artesia ☐  
Aztec ☒

USGS *Farrington*

~~Mr. D. E. Gray~~, State Engineer Office, Santa Fe, New Mexico

Mr. D. E. Gray

*Santa Fe Project: 373 barrels per day  
Santa Fe "A" Project: ~~183~~ <sup>183</sup> barrels per day (including storage factor)  
Garrison Federal Project: 350 barrels per day*

Case 4340

Heard 4-29-70

Rec. 4-29-70

Grant Desoria the following  
3 waterflood Projects:

1. Santa Fe 'A'.

1 inj. well.

2. Hanson

4 inj. wells.

3. Santa Fe

4 inj. wells.

One inj. well list at top  
of St. ~~III~~ in this case.  
Grant Administrative procedure  
for additional injection wells  
No. minimum for distance to  
lease line in this case since  
there are only 2 operators in  
this isolated pool + both  
agree to this procedure.

Th. H.

Drawer 1857  
Roswell, New Mexico 88201

MAR 18 AM 8 15

March 17, 1970

Tesoro Petroleum Corporation  
8520 Crownhill Boulevard  
San Antonio, Texas 78209

Attention: Mr. Donald D. Shirley

Gentlemen:

Your letter of March 13 requests approval to operate a cooperative waterflood in the South Hospah Upper Sand on that portion of oil and gas lease New Mexico 052931 described as follows:

T. 17 N., R. 8 W., N.M.P.M., McKinley County, New Mexico

Sec. 6: Lots 6, 7, E $\frac{1}{2}$ SW $\frac{1}{4}$ , SE $\frac{1}{4}$

The flood pattern will be a 40 acre-5 spot and will be a continuation of the pattern previously established by Tenneco Oil Company's South Hospah unit located in sec. 12, T. 17 N., R. 9 W., N.M.P.M. Lease line agreement obligations between Federal lease New Mexico 052931, the privately owned tracts located to the south and west, and the Tenneco South Hospah unit will be satisfied by drilling the following injection wells:

1. Two wells on the lease line separating sec. 6 and 7, T. 17 N., R. 8 W.
2. A single well on the lease line separating sec. 6, T. 17 N., R. 8 W., and sec. 1, T. 17 N., R. 9 W., N.M.P.M.
3. A single well in the common corner joining sec. 6 and 7, T. 17 N., R. 8 W., and sec. 1 and 12, T. 17 N., R. 9 W.

In addition, four producing wells and two injection wells will be drilled on lease New Mexico 052931 to complete the waterflood pattern.

The plan for operating the above described waterflood project as proposed in your application is satisfactory to this office and is hereby approved subject to the following:

*JMA*  
*Case 4340*

1. This project will be operated in compliance with the New Mexico Oil Conservation Commission regulations governing waterflood operations.
2. Duplicate copies of a monthly progress report (N.M.O.C.C. form C-120 acceptable) are to be submitted to the District Engineer, U. S. Geological Survey, P. O. Box 959, Farmington, New Mexico 87401, showing the volume of water injected and well-head pressure for each injection well, and production for the producing wells in the project area.
3. This approval does not preclude the necessity for further approval when the project is expected to include other wells and leases or the necessity to submit the usual notices and reports on wells involved.
4. Your plan for commingling producing zones on lease New Mexico 052931 should be approved by this office prior to actual installation of equipment.

Sincerely yours,

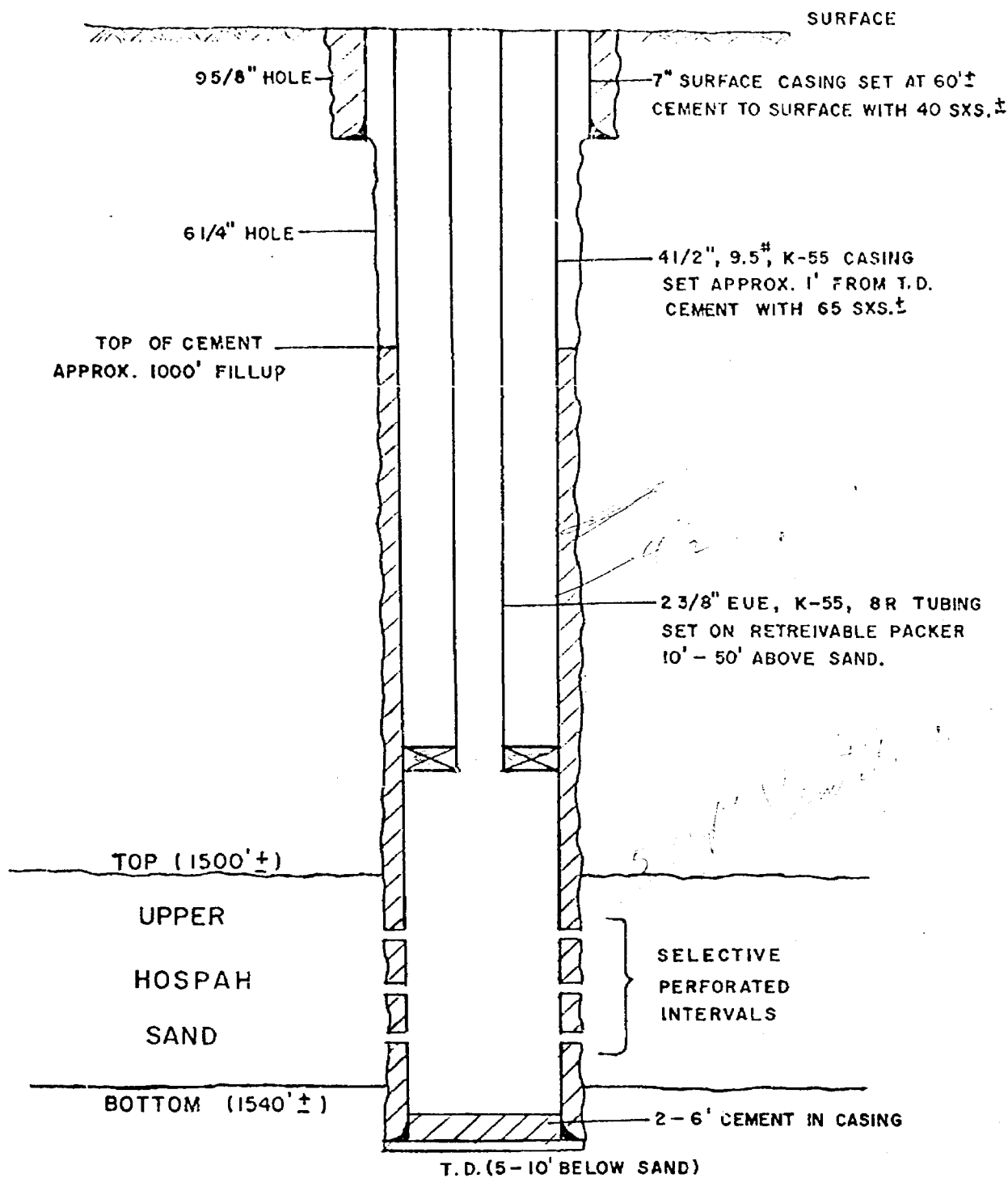
(ORIG. SGD) CARL C. TRAYWICK

CARL C. TRAYWICK  
Acting Oil and Gas Supervisor

cc:  
N.M.O.C.C. Santa Fe  
Farmington  
Accounts



DIAGRAMMATIC SKETCH  
OF  
TYPICAL PROPOSED INJECTION WELL  
IN  
UPPER HOSPAH WATERFLOOD PROJECT



TESORO PETROLEUM CORPORATION  
SOUTH HOSPAH FIELD  
McKINLEY COUNTY, NEW MEXICO

3-24-70

BEFORE EXAMINER UTZ  
OIL CONSERVATION COMMISSION  
*Capt* EXHIBIT NO. *11*  
CASE NO. *4340*

PROPOSED WATERFLOOD DEVELOPMENT OF  
SOUTH HOSPAL UPPER SAND  
DESCRIPTION OF LEASES

1. Santa Fe "A" Lease; SFP No. 3487

That certain Oil and Gas Lease dated November 23, 1923, by and between the Santa Fe Pacific Railroad Company, as Lessor, and Paul C. Hancock, as Lessee, insofar as said lease covers:

T-17-N, R-9-W

Section 1: The SE $\frac{1}{4}$  of Lot No. 8; The S $\frac{1}{2}$  of Lot No. 9; all of Lot No. 10; All of Lot No. 11 (also called the SE $\frac{1}{4}$  of SE $\frac{1}{4}$ ); and the SW $\frac{1}{4}$  of SE $\frac{1}{4}$ ; containing 108.26 acres of land, McKinley County, New Mexico

2. Santa Fe Lease; SFP No. 9744

That certain Oil and Gas Lease dated March 3, 1965, by and between the Santa Fe Pacific Railroad Company, as Lessor, and J. Ewing Walker, as Lessee, insofar as said lease covers:

T-17-N, R-8-W

Section 7: Lots Nos. 1, 2, 3, and the E $\frac{1}{2}$  of NW $\frac{1}{4}$ , and the NE $\frac{1}{4}$ , containing 360 acres of land, more or less, McKinley County, New Mexico

3. Hanson Federal Lease

USA Lease No. NM 052931, being that certain Oil and Gas Lease dated March 1, 1961, by and between the United States of America as Lessor, and Beulah Irene Hanson, as Lessee, insofar as said lease covers:

T-17-N, R-8-W

Section 6: Lots Nos. 6, 7, E $\frac{1}{2}$  of SW $\frac{1}{4}$ , and SE $\frac{1}{4}$ , containing 320 acres of land, more or less, McKinley County, New Mexico

EXHIBIT B

*Case #340*

PROPOSED SOUTH HOSPAH UPPER SAND WATERFLOOD PROJECT  
Owners of Royalty and Overriding Royalty Interests

Lease No. 1: Santa Fe "A" Lease; SFP No. 3487

|   |                |
|---|----------------|
| Santa Fe Pacific Railroad Company<br>4549 Produce Plaza<br>Los Angeles, California 90058<br>Attention: Mr. T. H. Rodgers<br>Land Commissioner | .125000 R.I.   |
| Margaret McRae Chapman<br>685 Park Lane<br>Montecito, Santa Barbara, California   | .006000 O.R.I. |
| Consolidated Production Corp.<br>Room 420<br>14 North Robinson<br>Oklahoma City, Oklahoma   | .012000 O.R.I. |
| Renee O'Donohue<br>560 Lemon Street<br>Menlo Park, California 94026   | .003000 O.R.I. |
| Lolita L. Osborne<br>360 Olive Tree Lane<br>Sierra Madre, California  | .010000 O.R.I. |
| Blanche Beverly Blan<br>Route 3<br>Antlers, Oklahoma 74523  | .003000 O.R.I. |
| Walter Seligman, Trustee for<br>Lucile Shellman<br>18 Holly Avenue<br>Farmingdale, Long Island, New York                                      | .003000 O.R.I. |
| Walter Seligman, Trustee for<br>Maureen Placker<br>18 Holly Avenue<br>Farmingdale, Long Island, New York                                      | .003000 O.R.I. |

Total

.165000

Lease No. 2: Santa Fe Lease; SFP No. 9744

|   |                     |
|---|---------------------|
| Santa Fe Pacific Railroad Company<br>4549 Produce Plaza<br>Los Angeles, California 90058<br>Attention: Mr. T. H. Rodgers<br>Land Commissioner | .200000 R.I.        |
| Total   | <u>.200000 R.I.</u> |

EXHIBIT C

*Case 4340*

Lease No. 3: Hanson Federal Lease; NM 052931

United States of America  
Regional Oil & Gas Supervisor  
U. S. Geological Survey  
120 West Second Street  
Roswell, New Mexico

.125000 R.I.

Beaulah Irene Hanson and  
Ernest A. Hanson  
Petroleum Building  
Roswell, New Mexico

.015000 O.R.I.

Don E. Weber  
P. O. Box 559  
Corpus Christi, Texas

.035000 O.R.I.

TOTAL

.175000

*Case 4340*

J. O. SETH (1883-1963)

A. K. MONTGOMERY  
WM. FEDERICI  
FRANK ANDREWS  
FRED C. HANNAHS  
RICHARD S. MORRIS  
SUMNER G. BUELL  
SETH D. MONTGOMERY  
FRANK ANDREWS III

MONTGOMERY, FEDERICI, ANDREWS, HANNAHS & MORRIS

ATTORNEYS AND COUNSELORS AT LAW  
350 EAST PALACE AVENUE  
SANTA FE, NEW MEXICO 87501

POST OFFICE BOX 2307  
AREA CODE 505  
TELEPHONE 982-3876

March 26, 1970

New Mexico Oil Conservation Commission  
State Land Office Building  
Santa Fe, New Mexico 87501

Re: Tesoro Petroleum Corporation  
Application for Waterflood Project  
South Hospah Upper Sand Oil Pool  
McKinley County, New Mexico

Gentlemen:

Enclosed for filing are the original and two copies of the Application of Tesoro Petroleum Corporation for approval of a cooperative waterflood project in the South Hospah Upper Sand Oil Pool, McKinley County, New Mexico.

This project will involve a lease line agreement with Tenneco and will be a cooperative project not involving unitization. Tesoro proposes to operate the project pursuant to Rule 701 of the Commission's Rules and Regulations.

We should appreciate your setting this Application for hearing before an Examiner on the next scheduled hearing date.

Very truly yours,

*Richard S. Morris*

RSM:af

Enclosures

cc: Mr. Donald D. Shirley  
Land Department Manager  
Tesoro Petroleum Corporation  
8520 Crownhill Boulevard  
San Antonio, Texas 78209

DOCKET MAILED

Date 4-17-70

BEFORE THE NEW MEXICO OIL CONSERVATION COMMISSION

APPLICATION OF  
TESORO PETROLEUM CORPORATION  
FOR APPROVAL OF A  
WATERFLOOD PROJECT,  
SOUTH HOSPAH UPPER SAND OIL POOL  
McKINLEY COUNTY, NEW MEXICO

CASE NO. 4340

A P P L I C A T I O N

COMES NOW Tesoro Petroleum Corporation and applies to the New Mexico Oil Conservation Commission for approval of a co-operative waterflood project in the South Hospah Upper Sand Oil Pool, McKinley County, New Mexico and in support of its application states:

1. Tesoro Petroleum Corporation is the operator and is the owner of the entire working interest in the following described lands located in McKinley County, New Mexico:

T 17 N, R 8 W

Section 6: Lots Nos. 6 and 7, E/2 SW/4, and SE/4 (S/2).

Section 7: Lots Nos. 1, 2 and 3 and the E/2 NW/4 and the NE/4.

T 17 N, R 9 W

Section 1: SE/4 of Lot No. 8, S/2 of Lot No. 9, all of Lots Nos. 10 and 11 and SW/4 SE/4.

The above described lands, comprising 788.26 acres more or less are depicted upon the plat of the South Hospah Field, which plat is attached hereto as Exhibit A. A description of the individual leases involved in this project are set forth in Exhibit B attached hereto, and a list of the royalty and overriding royalty interests in each lease is attached hereto as Exhibit C.

2. Applicant proposes to inject water into the South Hospah Upper Sand Oil Pool through nine injection wells located at unorthodox locations as shown on the plat attached hereto as Exhibit D and as more particularly described as follows:

Well to be drilled 1335' from the South line and 5' from the East line of Section 1.

Well to be drilled 1335' from the South line and 1325' from the West line of Section 6.

Well to be drilled 1335' from the South line and 2635' from the West line of Section 6.

Well to be drilled 5' from the South line and 5' from the West line of Section 6.

Well to be drilled 5' from the South line and 2635' from the West line of Section 6.

Well to be drilled 5' from the North line and 1330' from the West line of Section 7.

Well to be drilled 1200' from the North line and 5' from the West line of Section 7.

Well to be drilled 1335' from the North line and 1325' from the West line of Section 7.

Well to be drilled 1335' from the North line and 2635' from the West line of Section 7.

3. In addition to the proposed injection wells to be drilled at the locations described above, applicant seeks the establishment of an administrative procedure for approval of injection wells and producing wells at unorthodox locations within the proposed waterflood project.

4. Applicant proposes to inject water into the Upper Hospah Sand Reservoir in the interval from 5,375' to 5,466'. The water to be injected will be water produced from the Lower Hospah Sand. Applicant estimates that between 100 and 300 barrels of water per day per well will be injected at a maximum anticipated pressure of 750 pounds.

5. Attached to this Application as Exhibit E is a diagrammatic sketch of a typical proposed injection well.

6. Approval of this Application will prevent waste, protect correlative rights and enable applicant to produce oil from the South Hospah Upper Sand Oil Pool that otherwise would be unrecoverable.

WHEREFORE, applicant requests that this Application be set for hearing before the Commission or one of its Examiners and that the Commission enter its Order approving this Application.

MONTGOMERY, FEDERICI, ANDREWS,  
HANNAHS & MORRIS

by Richard S. Morris  
350 East Palace Avenue  
Post Office Box 2307  
Santa Fe, New Mexico 87501  
Telephone 982-3876  
Attorneys for Tesoro Petroleum Corporation



DRAFT

GMH/esr

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. 4340

Order No. R- 3955

APPLICATION OF TESORO PETROLEUM CORPORATION  
FOR THREE WATERFLOOD PROJECTS AND UNORTHODOX  
INJECTION WELL LOCATIONS, MCKINLEY COUNTY,  
NEW MEXICO

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 a.m. on April 29, 19670,  
at Santa Fe, New Mexico, before Examiner Elvis A. Utz.

NOW, on this \_\_\_\_\_ day of May, 19670, 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, Tesoro Petroleum Corporation, seeks  
permission to institute three waterflood projects in the south  
Hospah Upper Sand Oil Pool by the injection of water into the  
Hospah Upper Sand through nine injection wells to be drilled at  
unorthodox locations in Sections 6 and 7, Township 17 North,  
Range 8 West, and in Section 1, Township 17 North, Range 9 West,  
NMPM, McKinley County, New Mexico.

(3) That the applicant further seeks the establishment of  
an administrative procedure whereby the Secretary-Director of  
the Commission may authorize additional injection wells and  
producing wells at <sup>orthodox and</sup> unorthodox locations within said waterflood

project areas as may be necessary to complete efficient injection and production patterns.

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

(5) That the proposed waterflood projects should result in the recovery of otherwise unrecoverable oil, thereby preventing waste.

(6) That the subject application should be approved and the projects should be governed by the provisions of Rules 701, 702, and 703 of the Commission Rules and Regulations; provided, however, that the showing of well response as required by Rule 701 E-5 ~~shall~~ <sup>should</sup> not be necessary before obtaining administrative approval for the conversion of additional wells to water injection, and provided further that said injection and producing wells <sup>would be</sup> ~~are~~ drilled no closer than 5 feet to the outer boundary of the waterflood project areas nor closer than 5 feet to any quarter-quarter section or subdivision inner boundary.

IT IS THEREFORE ORDERED:

(1) That the applicant, Tesoro Petroleum Corporation, is hereby authorized to institute the three following waterflood projects in the South Hospah Upper Sand Oil Pool by the injection of water into the Hospah Upper Sand through the following-described nine wells in McKinley County, New Mexico:

Tesoro South Hospah Upper Hanson  
Waterflood Project

Injection Wells:

TOWNSHIP 17 NORTH, RANGE 8 WEST

Hanson Well No. 19 well to be drilled 1335 feet from the South line and 1325 feet from the West line of Section 6; .

Hanson Well No. 21 well to be drilled 1335 feet from the South line and 2635 feet from the West line of Section 6; .

*Horton Well No. 18* Well to be drilled 5 feet from the South line  
and ~~520~~<sup>520</sup> feet from the West line of Section 6;  
and

*Horton Well No. 20* Well to be drilled 5 feet from the South line  
and 2635 feet from the West line of Section 6.

*Tesoro South Hoopah Upper Santa Fe*  
Waterflood Project

Injection Wells:

TOWNSHIP 17 NORTH, RANGE 8 WEST, NMPM

*Santa Fe Well No. 23* Well to be drilled 5 feet from the North line  
and 1330 feet from the West line of Section 7; .

*Santa Fe Well No. 22* Well to be drilled 1200 feet from the North line  
and ~~251~~<sup>251</sup> feet from the West line of Section 7;

*Santa Fe Well No. 24* Well to be drilled 1335 feet from the North line  
and 1325 feet from the West line of Section 7,  
and

*Santa Fe Well No. 25* Well to be drilled ~~1335~~<sup>1220</sup> feet from the North line  
and ~~2635~~<sup>3903</sup> feet from the West line of Section 7.

*Tesoro South Hoopah Upper Santa Fe "A"*  
Waterflood Project

Injection Well:

TOWNSHIP 17 NORTH, RANGE 9 WEST, NMPM

*Santa Fe "A" Well No. 83* Well to be drilled 1335 feet from the South line  
and 5 feet from the East line of Section 1.

(2) That the subject waterflood projects shall be governed  
by the provisions of Rules 701, 702, and 703 of the Commission  
Rules and Regulations;

PROVIDED HOWEVER, that the Secretary-Director of the Commis-  
sion may approve such additional injection wells and producing  
wells at <sup>unorthodox and</sup> unorthodox locations within said project areas as may be  
necessary to complete efficient injection and production patterns;  
provided said wells are drilled no closer than 5 feet to  
the outer boundary of said waterflood project areas nor closer  
than 5 feet to any quarter-quarter section or subdivision  
inner boundary, and provided that the application therefor has been  
filed in accordance with Rule 701 B of the Commission Rules and

CASE No. 4340

*and accompanied by evidence that the operator of any productive  
lease offsetting the proposed location has assented thereto.*

Regulations. The showing of well response as required by Rule 701 E-5 shall not be necessary before obtaining administrative approval for the conversion of additional wells to water injection.

(3) That monthly progress reports of the waterflood projects herein authorized shall be submitted to the Commission in accordance with Rules 704 and 1120 of the Commission Rules and Regulations.

(4) 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.

DRAFT

GMH/esr  
May 12, 1970

BEFORE THE OIL CONSERVATION COMMISSION  
OF THE STATE OF NEW MEXICO

CASE No. 4340  
Order No. R-3955-A

IN THE MATTER OF THE APPLICATION OF  
TESORO PETROLEUM CORPORATION FOR THREE  
WATERFLOOD PROJECTS AND UNORTHODOX  
INJECTION WELL LOCATIONS, MCKINLEY  
COUNTY, NEW MEXICO.

NUNC PRO TUNC ORDER

BY THE COMMISSION:

It appearing to the Commission that due to clerical error,  
Order No. R-3955, dated May 5, 1970, does not correctly state  
the intended order of the Commission in one particular,

IT IS THEREFORE ORDERED:

(1) That the location of the Santa Fe Well No. 22 to be  
drilled in the Tesoro South Hospah Upper Santa Fe Waterflood  
Project area, as set forth in Order (1), Page 3, of Order No.  
R-3955, is hereby corrected to read:

"Santa Fe Well No. 22 to be drilled 1200 feet from the  
North line and 65 feet from the West line of Sec-  
tion 7;"

rather than:

"Santa Fe Well No. 22 to be drilled 1200 feet from the  
North line and 651 feet from the West line of Sec-  
tion 7;"

(2) That this order shall be effective nunc pro tunc as of  
May 5, 1970.

DONE at Santa Fe, New Mexico, on this \_\_\_\_\_ day of May,  
1970.

CASE 4341: Appli. of PAN AMERICAN  
FOR 2 NON-STANDARD GAS PRORATION  
UNITS, LEA COUNTY.

62-5