

CASE 3752: Application of SUNRAY  
DX OIL CO. for a pilot waterflood  
project, Chaves County.

Case Number

3752

Application  
Transcripts.

Small Exhibits

ETC.

**Sunray DX Oil Company**

P. O. Box 1416  
Roswell, New Mexico 88201



District Office

July 22, 1968

*File  
Chcc 3752*

New Mexico Oil Conservation Commission  
P. O. Box 2088  
Santa Fe, New Mexico

Attention: Mr. A. L. Porter, Jr.  
Secretary-Director

RE: Sunray DX Chaveroo  
Federal "X" Pilot  
Waterflood Project  
R-3406

Gentlemen:

This is to inform you that Sunray commenced active water injection into its New Mexico "X" Federal No. 5 well on July 20, 1968. Initial injection rate was 50 BPH @ 1325 psig. This action was taken in accordance with Order No. R-3406.

Yours truly,

SUNRAY DX OIL COMPANY

RALPH L. MANESS  
Acting District Engineer

cc: New Mexico Oil Conservation Commission  
P. O. Box 1980  
Hobbs, New Mexico 88240

68 JUL 22 AM 10 37

OIL CONSERVATION COMMISSION

P. O. BOX 2088

SANTA FE, NEW MEXICO 87501

May 20, 1968

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Y  
  
Sunray DK Oil Company  
P. O. Box 1416  
Roswell, New Mexico

Attention: Mr. John Hastings

Gentlemen:

Reference is made to your letter of May 13, 1968, requesting exemption from the monthly testing requirement of Rule 701 E 3 for your New Mexico Federal X Well No. 4, located in Unit L of Section 11, Township 8 South, Range 33 East, Chaves County, New Mexico, which is producing into the same tank battery as other wells on the same lease which are in the pilot waterflood area authorized by Order No. R-3406.

Sunray DK Oil Company is hereby authorized an exception to the aforesaid testing requirements for the subject well until such time as secondary response is evident in the affected area and the wells are capable of producing the maximum waterflood allowable for the project area.

Very truly yours,

A. L. PORTER, Jr.  
Secretary-Director

ALP/DSN/esr

cc: Oil Conservation Commission - Hobbs  
United States Geological Survey - Roswell

# Sunray DX Oil Company



District Office

P. O. Box 1416  
Roswell, New Mexico

May 13, 1968

New Mexico Oil Conservation Commission  
P. O. Box 2088  
Santa Fe, New Mexico

60 MAY 14 AM 8 30

Attention: Mr. A. L. Porter, Jr.

RE: Exception to Statewide Rule 701  
SDX Chaveroo Federal "X" Water-  
flood Project - R-3406  
Chaveroo San Andres Pool  
Chaves County, New Mexico

Gentlemen:

Sunray DX Oil Company requests an exception to requirement E-3 of Statewide Rule 701 which requires that any well outside a prorated waterflood project area which produces into common facilities with wells inside the prorated project area be tested once each month and the results of such tests included on the monthly Commission Form C-120 filed for the subject project.

As stated in the examiner hearing of April 24, the subject injection project was intended primarily as a salt water disposal project. There is currently one well outside the prorated waterflood area with production of 6 BOPD. It is requested that monthly testing and reporting of this one well be deferred until such time as secondary response is evident in the waterflood area.

Yours truly,

SUNRAY DX OIL COMPANY

John Hastings  
District Engineer

JH/RLM/nsh

cc: NMOGC - Hobbs

DAVID  
CHAIRMAN

State of New Mexico

## Oil Conservation Commission

LAND COMMISSIONER  
GUYTON B. HAYS  
MEMBER



P. O. BOX 2088  
SANTA FE

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

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May 1, 1968

Mr. Booker Kelly  
White, Gilbert, Koch & Kelly  
Attorneys at Law  
Post Office Box 787  
Santa Fe, New Mexico

Dear Sir:

Reference is made to Commission Order No. R-3406, recently entered in Case No. 3752, approving the Sunray DX Chaveroo Federal X Pilot Waterflood Project.

Injection is to be through the one authorized water injection well which shall be equipped with 2-inch cement-lined tubing set in a packer at approximately 4225 feet. The casing-tubing annulus shall be loaded with an inert fluid and left open at the surface or equipped with a pressure gauge to facilitate detection of leakage in the packer or the tubing.

As to allowable, our calculations indicate that 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 168 barrels per day when the Southeast New Mexico normal unit allowable is 42 barrels per day or less.

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.

-2-

Mr. Booker Kelly  
White, Gilbert, Koch & Kelly  
Attorneys at Law  
Santa Fe, New Mexico

May 1, 1968

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 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/DSN/ir

cc: Oil Conservation Commission Offices in Hobbs and Artesia,  
New Mexico

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

State of New Mexico  
Oil Conservation Commission



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

April 29, 1968

Re: Case No. 3752  
Order No. R-3406  
Applicant:  
**SUNRAY DX OIL COMPANY**

Enclosed herewith is a copy of the above-referenced Commission order recently entered in the subject case. Letter pertaining to conditions of approval and maximum allowable to follow.

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

Hobbs OCC       x        
 Artesia OCC       x        
 Aztec OCC                     
 State Engineer x

Other \_\_\_\_\_



BEFORE THE OIL CONSERVATION COMMISSION  
OF THE STATE OF NEW MEXICO

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

CASE No. 3752  
Order No. R-3406

APPLICATION OF SUNRAY DX OIL COMPANY  
FOR A PILOT WATERFLOOD PROJECT, CHAVES  
COUNTY, NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 a.m. on April 24, 1968,  
at Santa Fe, New Mexico, before Examiner Daniel S. Nutter.

NOW, on this 29th day of April, 1968, 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, Sunray DX Oil Company, seeks per-  
mission to institute a pilot waterflood project in the Chaveroo-  
San Andres Pool by the injection of water into the San Andres  
formation through its New Mexico "X" Federal Well No. 5, located  
in Unit G of Section 10, Township 2 South, Range 33 East, NMPM,  
Chaves County, New Mexico.

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

(4) That the proposed pilot waterflood project should result  
in the recovery of otherwise unrecoverable oil, thereby preventing  
waste.

-2-

CASE No. 3752

Order No. R-3406

(5) That the subject application should be approved and the project should be governed by the provisions of Rules 701, 702, and 703 of the Commission Rules and Regulations.

IT IS THEREFORE ORDERED:

(1) That the applicant, Sunray DX Oil Company, is hereby authorized to institute a pilot waterflood project in the Chaveroo-San Andres Pool by the injection of water into the San Andres formation through its New Mexico "X" Federal Well No. 5, located in Unit G of Section 10, Township 8 South, Range 33 East, NMPM, Chaves County, New Mexico.

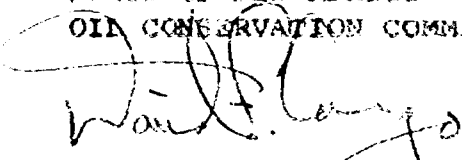
(2) That the subject pilot waterflood project is hereby designated the SDX Chaveroo Federal X Waterflood Project and shall be governed by the provisions of Rules 701, 702, and 703 of the Commission Rules and Regulations.

(3) That monthly progress reports of the pilot waterflood project 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

  
ARTHUR B. MAYO, Member

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

  
esr/

DOCKET: EXAMINER HEARING - WEDNESDAY - APRIL 24, 1968

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

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

- CASE 3750: Application of Pan American Petroleum Corporation for an unorthodox gas well location, Lea County, New Mexico. Applicant, in the above-styled cause, seeks an exception to Rule 104 C II to permit the drilling of its State "AZ" Well No. 4 at an unorthodox gas well location 990 feet from the North and East lines of Section 34, Township 12 South, Range 34 East, West Ranger Lake-Devonian Pool, Lea County, New Mexico. The E/2 of said Section 34 would be dedicated to said well.
- CASE 3751: Application of Pennzoil Company for a dual completion and tubing exception, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval for the dual completion (conventional) of its Hudson Federal 29 Well No. 1 located in Unit B of Section 29, Township 18 South, Range 33 East, South Corbin Field, Lea County, New Mexico, in such a manner as to produce oil from the Wolfcamp formation through 1.38-inch ID tubing and gas from the Morrow formation through 2-inch tubing. Further, applicant seeks an exception to the tubing requirements of Commission Rule 107 in that said 1.38-inch tubing would set more than 250 feet above the uppermost Wolfcamp perforation.
- CASE 3752: Application of Sunray DX Oil Company for a pilot waterflood project, Chaves County, New Mexico. Applicant, in the above-styled cause, seeks authority to institute a pilot waterflood project in the Chaveroo-San Andres Pool by the injection of water into the San Andres formation through its New Mexico "X" Federal Well No. 5 located in Unit G of Section 10, Township 8 South, Range 33 East, Chaves County, New Mexico.
- CASE 3753: Application of Amerada Petroleum Corporation for a waterflood expansion, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to expand its Langlie Mattix Woolworth Waterflood Project by the injection of water into the Seven Rivers-Queen formation through an injection well to be drilled at an unorthodox location 75 feet from the North line and 2635 feet from the West line of Section 27, Township 24 South, Range 37 East, Langlie Mattix Pool, Lea County, New Mexico.
- CASE 3754: Application of Continental Oil Company for a non-standard gas proration unit, Lea County, New Mexico. Applicant, in the above-styled cause, seeks the consolidation of two existing

Wednesday, April 24, 1968 Examiner Hearing  
-2-


(Case 3754 continued)

non-standard gas proration units into one 280-acre unit comprising the SW/4, W/2 SE/4, and SE/4 SE/4 of Section 35, Township 23 South, Range 36 East, Jalmat Gas Pool, Lea County, New Mexico, to be dedicated to its Stevens A-35 Wells Nos. 1 and 2 located in Units J and L, respectively, of said Section 35. Said Well No. 1 is presently dedicated to a 120-acre unit comprising the W/2 SE/4 and SE/4 SE/4 of said Section 35, and said Well No. 2 is presently dedicated to a 160-acre unit comprising the SW/4 of said Section 35.

CASE 3755: Application of Dugan Production Corporation for the creation for an oil pool and for special pool rules, San Juan County, New Mexico. Applicant, in the above-styled cause, seeks the creation of the North Shiprock-Dakota Oil Pool comprising the NE/4 of Section 14, Township 30 North, Range 18 West, San Juan County, New Mexico, and the establishment of special pool rules therefor providing for development on 2 1/2-acre spacing with a provision that each 40-acre tract be subject to a single Northwest New Mexico normal unit allowable.

RECEIVED  
'68 APR 2 AM 1  
**Sunray DX Oil Company**

April 1, 1968

  
District Office  
P. O. Box 1416  
Roswell, New Mexico

*Case 3752*

New Mexico Oil Conservation Commission  
P. O. Box 2088  
Santa Fe, New Mexico

RE: Application for Water Injection  
Chaveroo Field  
Chaves County, New Mexico

Gentlemen:

Sunray DX Oil Company hereby notifies the Oil Conservation Commission of Sunray's desire to inject water in its New Mexico "X" Federal No. 5 Well in the Chaveroo Field, Chaves County, New Mexico.

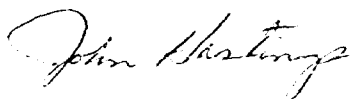
We propose to re-inject produced salt water from Sunray's "X" Federal Lease, and studies and negotiations are currently underway to include Atlantic Richfield's "BF" State Lease, Champlin's State "3" Lease and Sunray's "AZ" State Lease. This water injection will be into the producing zone of the San Andres.

This application is being made in accordance with Rule 701. All information necessary to this application is attached. Sunray DX respectfully request that this matter be scheduled for hearing before the Commission as soon as possible.

Copies of this letter, with attachments, have been sent to the Oil Conservation Commission Office in Hobbs, and the USGS Office in Hobbs as evidenced by the attached postal receipts.

Yours truly,

SUNRAY DX OIL COMPANY



John Hastings  
Roswell District Engineer

JH/RLM/nsh

Attachments

cc: NMOCC, Hobbs  
USGS, Hobbs

DOCKET MAILED

Date 4-10-68

REGISTERED NO. 9134

Value \$ 71	Special Delivery \$
Reg. Fee \$ 75	Return Receipt \$ 10
Handling Charge \$	Restricted Delivery \$
Postage \$ 24	<input type="checkbox"/> AIRMAIL

POSTMASTER (By) [Signature]

FROM Sunny D. O. J.

TO M. S. D. S.

754 1416

754 1157

POSTMARK OF [Circular Stamp: APR 1 1966]

MAILING OFFICE

POD Form 3806, Dec. 1965 RECEIPT FOR REGISTERED MAIL

REGISTERED NO. 9135

Value \$ 71	Special Delivery \$
Reg. Fee \$ 75	Return Receipt \$ 10
Handling Charge \$	Restricted Delivery \$
Postage \$ 24	<input type="checkbox"/> AIRMAIL

POSTMASTER (By) [Signature]

FROM Sunny D. O. J.

754 1416

TO M. M. C. J. & Mrs. Corbin

754 1416

POSTMARK OF [Circular Stamp: APR 1 1966]

MAILING OFFICE

POD Form 3806, Dec. 1965 RECEIPT FOR REGISTERED MAIL

SUPPLEMENTAL DATA  
FOR CONVERTING NEW MEXICO "X" FEDERAL NO. 5  
TO WATER INJECTION SERVICE

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LEASE: New Mexico "X" Federal

FIELD: Chaveroo

WELL NO: 5

LOCATION: 1980' FNL & 1980' FEL of Section 10, T-8-S, R-33-E, Chaves  
County, New Mexico

DATE COMPLETED: 11-7-67

PRESENT STATUS: Pumping 3 BOPD and 25 BWP. (Approaching economic Limit)

PRODUCING FORMATION: San Andres

PROPOSED STATUS: Convert to water injection service in San Andres

TYPE INJECTION FLUID: Produced salt water

FORMATION IN WHICH WATER IS TO BE INJECTED: San Andres

TOP OF FORMATION: 3664

BOTTOM OF FORMATION: Not penetrated. TD 4448'

PROPOSED INJECTION INTERVAL: Present perforations 4271' - 4358'

SOURCE OF INJECTION WATER: Produced salt water from Sunray's New Mexico "X"  
Federal Lease. Negotiations are underway to also include Atlantic  
Richfield's "BF" State Lease, Champlin's State "3" Lease, and Sun-  
ray's "AZ" State Lease.

ANTICIPATED VOLUMES: 200 BPD min.; 800 BPD max.

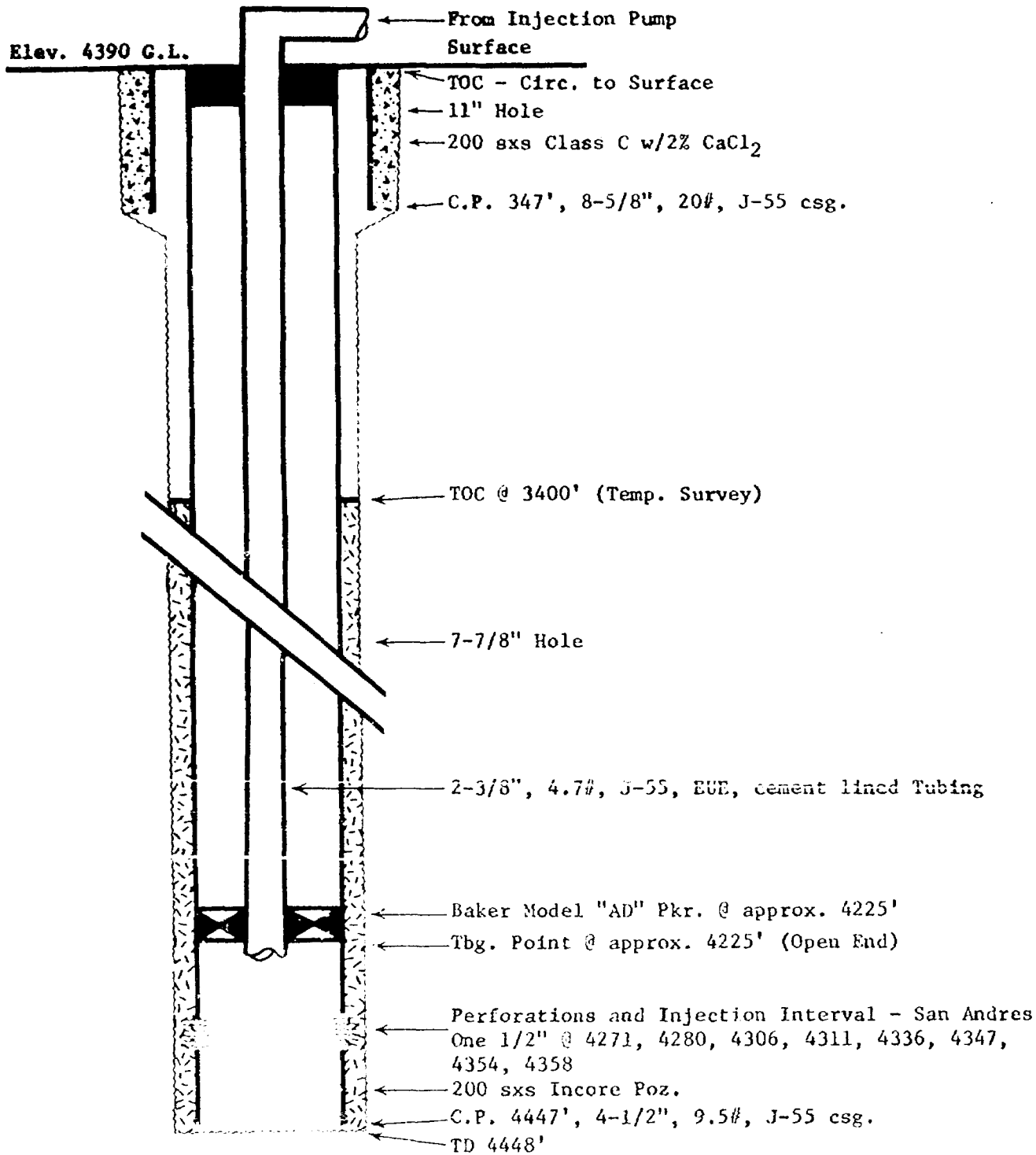
ANTICIPATED INJECTION PRESSURE: 1500 psig

MAXIMUM INJECTION PRESSURE: 2000 psig

NEW MEXICO "X" FEDERAL No. 5

1980' FNL & 1980' FEL of SECTION 10, T-8-S, R-33-E

CHAVES COUNTY, NEW MEXICO





dearnley-meier reporting service, inc.

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

1120 SIMMS BLDG. • P. O. BOX 1092 • PHONE 243-6491 • ALBUQUERQUE, NEW MEXICO

BEFORE THE  
NEW MEXICO OIL CONSERVATION COMMISSION  
Santa Fe, New Mexico  
April 24, 1968  
EXAMINER HEARING

IN THE MATTER OF:

Application of Sunray DX Oil ) Case 3752  
Company for a pilot waterflood )  
project, Chaves County, New Mexico )

BEFORE: Daniel S. Nutter, Examiner

TRANSCRIPT OF HEARING

MR. NUTTER: We'll call next Case 3752.

MR. HATCH: Case 3752. Application of Sunray DX Oil Company for a pilot waterflood project, Chaves County, New Mexico.

MR. KELLY: Booker Kelly of White, Gilbert. Koch & Kelly on behalf of the Applicant. I have one witness and ask that he be sworn.

(Witness sworn)

(Whereupon, Applicant's Exhibits 1 through 4 marked for identification)

RALPH MANESS

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

DIRECT EXAMINATION

BY MR. KELLY:

Q Would you state your name, position, and employer, please?

A My name is Ralph Maness. I am Production Engineer with Sunray DX Oil Company in Roswell.

Q Have you previously testified as an expert in front of this Commission?

A Yes, I have.

Q Will you briefly state what Sunray seeks by the

application?

A Yes, we seek to convert our New Mexico "X" Federal No. 5 Well to water injection. The primary purpose of this injection service is for salt water disposal, however, any benefit we may derive from this injection service -- any waterflood benefit will aid us considerably in reviewing possible waterflood operations in other parts of the field.

Q But the application was submitted as a salt water injection well?

A Yes, it was.

Q Referring to what is marked Exhibit 1, would you locate the proposed injection well?

A Yes, Runnels injection well is located in the southwest quarter of the northeast quarter of Section 10, 8 South, 33 East.

Q And what is the present status of the well?

A It is producing now at a rate of three barrels of oil per day and twenty-five barrels of water per day which is it's now approaching its economic limit.

Q In what zone is it producing from?

A From the San Andres zone.

Q Who are your offset operators?

A Atlantic Richfield to the north and Infield to the east and that is the only offset operators. Humble offsets us to the west and south, however they have no production in that section.

Q Where will your production come from?

A Our present plans call for injection of water from our New Mexico "X" Federal Lease of which there are four wells on that lease, three in Section 10 and 1 in the southwest quarter of Section 11, however, we are negotiating with Atlantic Richfield to include their State BF Lease which is in Section 3 directly to the north and Champlin's State 3 Lease which is also in Section 3 to the north, and we also are studying the possibility of including our State AZ Lease which is in Section 33 and 34 of 7 South, 33 East; as to whether we will include our State AZ Lease depends upon negotiations with other companies in the areas surrounding our AZ Lease in accordance with possible other pilot waterflood projects.

Q But your most immediate plans are just to handle your wells?

A Correct.

Q What is the production of both oil and water of

those wells?

A Well, they average from five to twenty-five barrels a day total lease production out of the five wells now, runs about seventy-five barrels a day.

Q Now, referring to what has been marked Exhibit 2 your diagrammatic sketch, would you explain the installation you propose?

A Yes. We have four and a half inch 9.5 J55 casing set through the San Andres, TD of 4,448 and we propose to run cement lined tubing to a depth of approximately 4225 set with a Model AD Packer and load the annulus with inert fluid and inject down this tubing into our present perforations which are from 4,271 to 4,358.

Q And the tubing will be plastic coated?

A Cement lined.

Q Is there any fresh water in the area?

A None that we are aware of that is not covered by a surface casing.

Q The water that you are injecting, what type water is that?

A This will be produced water, salt water.

Q You are just going to be putting it back in

the same zone?

A Yes, sir.

Q Do you feel that the installation that you propose will sufficiently protect against migration of this water to any other zone?

A Yes.

Q Now, what is the maximum amount of water do you feel that you will be injecting into this well?

A Should Atlantic's, Champlin's, and our AZ Lease be included, the maximum amount of injection would run somewhere around 800 barrels a day; however, should these leases not be included, it will run approximately from 200 to 250 barrels a day.

Q What is your anticipated injection pressure?

A Approximately 1,500 pounds.

Q You don't think that the well will have any trouble taking the maximum estimated amount of water?

A No, sir, we don't believe it will.

Q Do you have any opinion as to the effect that this injected water would have in the production zone?

A We have not really studied this from the standpoint of a waterflood project. We presume that there will be some benefit, but as I said, our primary

purpose in this injection service was for salt water disposal.

Q You don't anticipate it would have any adverse effect?

A No, I do not.

Q This is an area where you are under a show cause order to dispose of your order other than unlined pits by January 1st, is that right?

A Yes, sir, that's right.

Q You have an Exhibit 3, which is a log of the well, is that right?

A Yes, sir, I do.

Q Do you have any comments you wish to make on that?

A Only that the existing perforations are shown on the log by red marks from 4,271 to 4,358 and are shown there on the map, on the log. This is the zone which we will be injecting water into.

Q And your Exhibit 4 is just the data basically, that you've testified to?

A Yes, it's a statement of the data which we are proposing.

Q In your opinion, would the granting of this

application prevent waste and not have any adverse effect on anyone's correlative rights?

A Yes, sir.

MR. KELLY: That's all we have on Direct.

CROSS EXAMINATION

BY MR. NUTTER:

Q This map, Exhibit No. 1, is labeled Structure Map, but I don't see any structure lines on it. What is the relative position of this well with -- as far as the wells to the north are concerned?

A It is relatively the same, it's approximately, I think, ten foot lower than the other wells to the north.

Q Now, this is the Tobac-Pennsylvanian pool to the southwest of your lease.

A Yes, sir.

Q But I think there are some San Andres wells in the intervening area between the Tobac and the main body of the Chaveroo. Where would those be?

A Those are the wells there in Section 16 of 8 South, 33 East.

Q And Humble has how many San Andres wells in that area?



A I'm not sure of the exact number, sir. I count four there.

Q The wells that show the production tests are the San Andres wells, aren't they?

A I believe so, yes, sir.

Q So these wells over here to the west of you in Section 9 would also be San Andres wells?

A Yes, sir.

Q But as far as the main body of the Chaveroo pool is concerned, you are an edge well to the south?

A Yes, sir.

Q What is the drive mechanism in the Chaveroo pool, Mr. Maness?

A It's solution gas drive.

Q And the perforations that you will be injecting this water in are the perforations that the well is presently producing from, is that correct?

A Yes, sir.

Q Now, this schematic diagram on Exhibit No. 2 shows the well closed at the surface. This annulus which will be loaded with an inert fluid can be left open or equipped with a pressure gauge in order to detect packer or tubing leakage, is that correct?

A Yes, sir.

MR. NUTTER: Does anyone have any further questions of Mr. Maness?

MR. KELLY: I would like just to move the introduction of Exhibits 1 through 4.

MR. NUTTER: Witness may be excused.

(Witness excused)

MR. NUTTER: Sunray DX's Exhibits 1 through 4 will be admitted in evidence.

(Whereupon, Applicant's Exhibits 1 through 4 were offered and admitted in evidence.)

MR. NUTTER: Does anyone have anything they wish to offer in Case 3752? We will take the case under advisement.

STATE OF NEW MEXICO    )  
                                   ) ss  
 COUNTY OF BERNALILLO   )

I, KAY EMBREE, Notary Public 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.

Witness my Hand and Seal this 29th day of April, 1968.

Kay Embree  
 NOTARY PUBLIC

My Commission Expires:

November 19, 1971

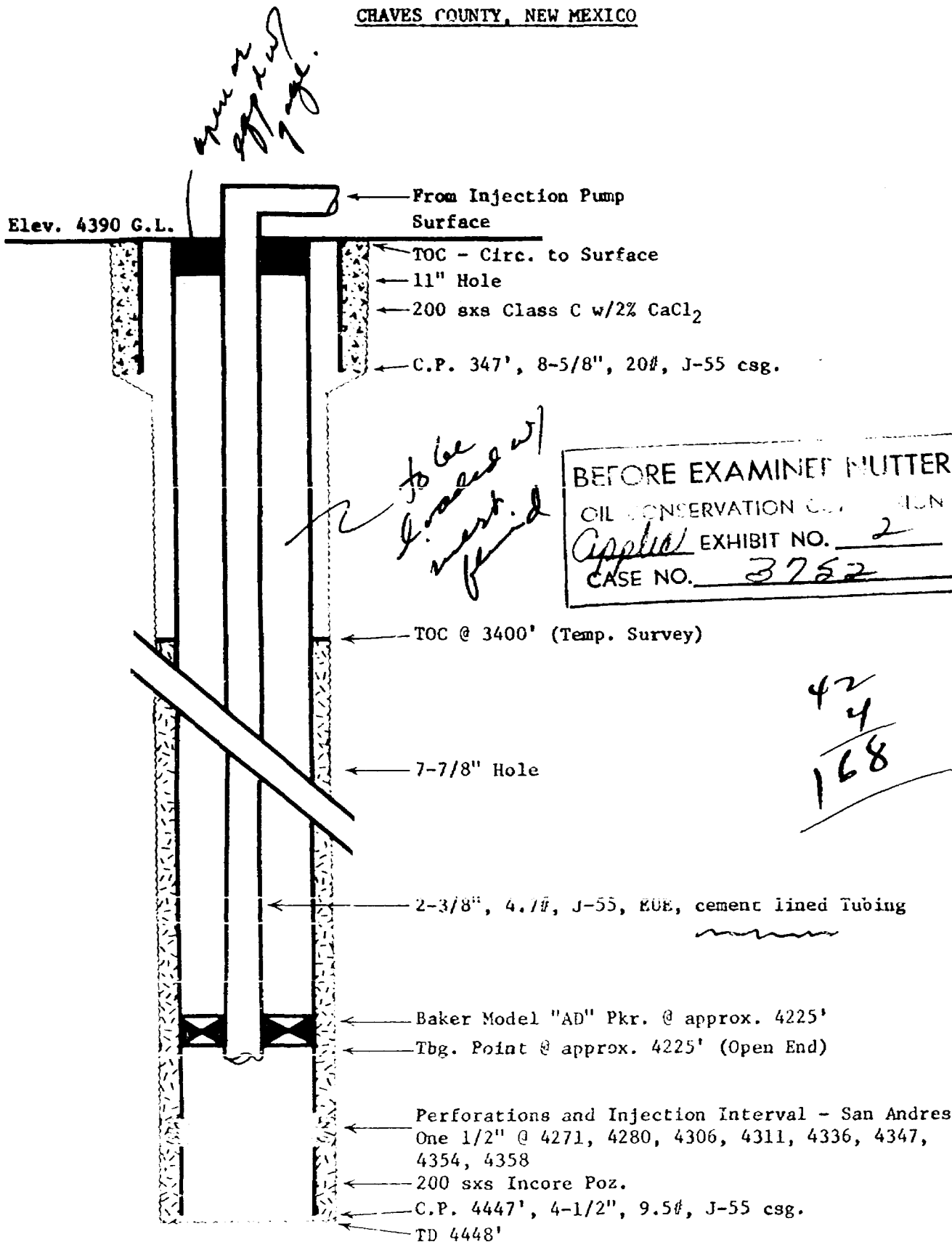
I do hereby certify that the foregoing is a correct record of the proceedings in the hearing of Case No. 3752 held by me on 4/24, 1968.

[Signature], Secretary  
 New Mexico Oil Conservation Commission

NEW MEXICO "X" FEDERAL NO. 5

1980' FNL & 1980' FEL of SECTION 10, T-8-S, R-33-E

CHAVES COUNTY, NEW MEXICO



SUPPLEMENTAL DATA  
FOR CONVERTING NEW MEXICO "X" FEDERAL NO. 5  
TO WATER INJECTION SERVICE

LEASE: New Mexico "X" Federal

FIELD: Chaveroo

WELL NO: 5

LOCATION: 1980' FNL & 1980' FEL of Section 10, T-8-S, R-33-E, Chaves  
County, New Mexico

DATE COMPLETED: 11-7-67

PRESENT STATUS: Pumping 3 BOPD and 25 BWPD. (Approaching economic Limit)

PRODUCING FORMATION: San Andres

PROPOSED STATUS: Convert to water injection service in San Andres

TYPE INJECTION FLUID: Produced salt water

FORMATION IN WHICH WATER IS TO BE INJECTED: San Andres

TOP OF FORMATION: 3664

BOTTOM OF FORMATION: Not penetrated. TD 4448'

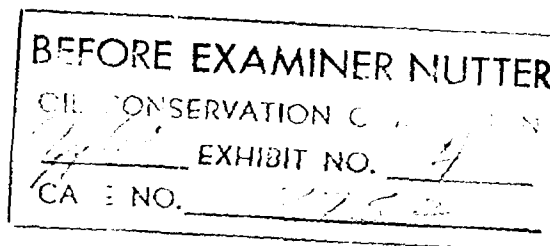
PROPOSED INJECTION INTERVAL: Present perforations 4271' - 4358'

SOURCE OF INJECTION WATER: Produced salt water from Sunray's New Mexico "X"  
Federal Lease. Negotiations are underway to also include Atlantic  
Richfield's "BF" State Lease, Champlin's State "3" Lease, and Sun-  
ray's "AZ" State Lease.

ANTICIPATED VOLUMES: 200 BPD min.; 800 BPD max.

ANTICIPATED INJECTION PRESSURE: 1500 psig

MAXIMUM INJECTION PRESSURE: 2000 psig



SUPPLEMENTAL DATA  
FOR CONVERTING NEW MEXICO "X" FEDERAL NO. 5  
TO WATER INJECTION SERVICE

LEASE: New Mexico "X" Federal

FIELD: Chaveroo

WELL NO: 5

LOCATION: 1980' FNL & 1980' FEL of Section 10, T-8-S, R-33-E, Chaves  
County, New Mexico

DATE COMPLETED: 11-7-67

PRESENT STATUS: Pumping 3 BOPD and 25 BWP. (Approaching economic Limit)

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TOP OF FORMATION: 3664

BOTTOM OF FORMATION: Not penetrated. TD 4448'

PROPOSED INJECTION INTERVAL: Present perforations 4271' - 4358'

SOURCE OF INJECTION WATER: Produced salt water from Sunray's New Mexico "X"  
Federal Lease. Negotiations are underway to also include Atlantic  
Richfield's "BF" State Lease, Champlin's State "3" Lease, and Sun-  
ray's "AZ" State Lease.

ANTICIPATED VOLUMES: 200 BPD min.; 800 BPD max.

ANTICIPATED INJECTION PRESSURE: 1500 psig

MAXIMUM INJECTION PRESSURE: 2000 psig

