

CASE 4006: Appli. of PETROLEUM  
CORP. OF TEXAS FOR A WATERFLOOD  
PROJECT, EDDY COUNTY, NEW MEXICO.

---

— dse Number

4006

Application  
Transcripts.

Small Exhibits

ETC.

GOVERNOR  
DAVID F. CARGO  
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

December 31, 1968

Honorable Jack M. Campbell  
Stephenson, Campbell & Olmsted  
Attorneys at Law  
Post Office Box 877  
Santa Fe, New Mexico

Re: Case No. 4005  
4006 ✓  
Order No. R-3648 and R-3649  
Applicant:  
Petroleum Corporation of Texas

Dear Sir:

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

Very truly yours,

A handwritten signature in cursive script, reading "A. L. Porter, Jr.", is written over the typed name.

A. L. PORTER, Jr.  
Secretary-Director

ALP/ir

Carbon copy of order also sent to:

Hobbs OCC   X    
Artesia OCC   X   - R-3649

Aztec OCC           

Other State Engineer Office  
Bureau of Land Management - R-3649

**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. 4006  
Order No. R-3649**

**APPLICATION OF PETROLEUM CORPORATION  
OF TEXAS FOR A WATERFLOOD PROJECT, EDDY  
COUNTY, NEW MEXICO.**

**ORDER OF THE COMMISSION**

**BY THE COMMISSION:**

This cause came on for hearing at 9 a.m. on December 27, 1968, at Santa Fe, New Mexico, before Examiner Daniel S. Mutter.

NOW, on this 31st day of December, 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, Petroleum Corporation of Texas, seeks permission to institute a waterflood project in the Red Lake Pool by the injection of water into the San Andres formation through its Paton Federal Well No. 2, located in Unit N of Section 6, Township 18 South, Range 27 East, NMPM, Eddy County, New Mexico, with injection into the perforated interval from approximately 1662 feet to 1699 feet.

(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 waterflood project should result in the recovery of otherwise unrecoverable oil, thereby preventing waste.

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CASE No. 4006  
Order No. R-3649

(5) That injection should be accomplished through 2 3/8-inch cement-lined tubing installed in a packer set at approximately 1650 feet; that the casing-tubing annulus should be filled with an inert fluid; and that a pressure gauge should be attached to the annulus at the surface in order to determine leakage in the casing, tubing, or packer.

(6) 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, Petroleum Corporation of Texas, is hereby authorized to institute a waterflood project in the Red Lake Pool by the injection of water into the San Andres formation through its Paton Federal Well No. 2, located in Unit M of Section 6, Township 18 South, Range 27 East, NMPM, Eddy County, New Mexico, injection to be accomplished through 2 3/8-inch tubing installed in a packer set at approximately 1650 feet, with injection into the perforated interval from approximately 1662 feet to 1699 feet;

PROVIDED HOWEVER, that the tubing shall be cement-lined; that the casing-tubing annulus shall be filled with an inert fluid; and that a pressure gauge shall be attached to the annulus at the surface in order to determine leakage in the casing, tubing, or packer.

(2) That the subject waterflood project is hereby designated the PETCO Red Lake 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 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.

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CASE No. 4006  
Order No. R-3649

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

STATE OF NEW MEXICO  
OIL CONSERVATION COMMISSION



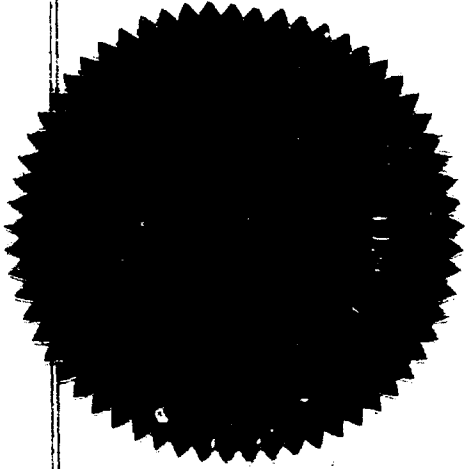
DAVID F. CARGO, Chairman



GUYTON B. HAYS, Member



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



esr/

DOUBLEDAY EXAMINER HEARING - WEDDAY - DECEMBER 27, 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 4005: Application of Petroleum Corporation of Texas for salt water disposal, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to dispose of produced salt water into the Pennsylvanian formation in the perforated interval from 9783 to 9946 feet in its State HPB Well No. 1 located in Unit D of Section 31, Township 12 South, Range 34 East, East Nighthower-Upper Pennsylvanian Pool, Lea County, New Mexico.

CASE 4006: Application of Petroleum Corporation of Texas for a waterflood project, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks authority to institute a waterflood project by the injection of water into the San Andres formation through its Paton Federal Well No. 2 located in Unit N of Section 6, Township 18 South, Range 27 East, Red Lake Pool, Eddy County, New Mexico.

CASE 4007: Application of Paul DeLave for dual completion and salt water disposal, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to dually complete his Bagley State Well No. 1 located in the NW/4 NW/4 of Section 34, Township 11 South, Range 34 East, Lea County, New Mexico, in such a manner as to produce oil from the Bagley-Pennsylvanian Pool and to dispose of produced salt water down the annulus between the production casing and the intermediate casing into the San Andres, Garsden, and possibly other formations in the interval from approximately 7799 feet to 7858 feet.

CASE 4008: Application of Paul DeLave for dual completion and salt water disposal, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to dually complete his Shell State Well No. 1 located in the NW/4 NE/4 of Section 19, Township 11 South, Range 34 East, Lea County, New Mexico, in such a manner as to produce oil from the Ino-Park-Pennsylvanian Pool and to dispose of produced salt water down the annulus between the production casing and the intermediate casing into the San Andres, Garsden, and possibly other formations in the interval from approximately 7741 feet to 7800 feet.

- CASE 4009: Application of Humble Oil & Refining Company for salt water disposal, Chaves County, New Mexico. Applicant, in the above-styled cause, seeks authority to dispose of produced salt water into the San Andres formation in the perforated interval from approximately 4273 feet to 4329 feet in its New Mexico "BX" State Well No. 3 located in Unit G of Section 16, Township 8 South, Range 33 East, Chaveroo-San Andres Pool, Chaves County, New Mexico.
- CASE 4010: Application of John H. Trigg for a waterflood project Eddy County, New Mexico. Applicant, in the above-styled cause, seeks authority to institute a waterflood project by the injection of water into the Grayburg-San Andres formations through his Empire "J" Federal Well No. 1 located in Unit P of Section 1, Township 18 South, Range 26 East, Red Lake Grayburg-San Andres Pool, Eddy County, New Mexico.
- CASE 4011: Application of Sam D. Ares for salt water disposal, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to dispose of produced salt water into the Yates-Seven Rivers formation in the open-hole interval from approximately 3520 feet to 3639 feet in his Charles Whitten Well No. 5 located in Unit B of Section 4, Township 24 South, Range 36 East, Jalmat Pool, Lea County, New Mexico.
- CASE 4012: Application of Sam D. Ares for salt water disposal, Lea County, New Mexico. Applicant, in the above-styled cause, seeks the amendment of Order No. R-3602 to authorize the disposal of produced salt water into the Yates-Seven Rivers formations in the open-hole interval from approximately 3363 feet to 3650 feet in his Everett Well No. 4, located in Unit M. Section 35, Township 24 South, Range 36 East, Jalmat Pool, Lea County, New Mexico. The subject disposal well would be in lieu of the Everett Well No. 2, previously authorized for disposal by Order No. R-3602.
- CASE 4013: Application of Redfern Development Corporation and Wil-Mc Oil Corporation for salt water disposal, Lea County, New Mexico. Applicants, in the above-styled cause, seek authority to dispose of produced salt water into the San Andres formation in the interval from approximately 4200 feet to 4300 feet in the Wil-Mc State Well No. 1-K, located in Unit O of Section 11, Township 10 South, Range 32 East, Mescalero-San Andres Pool, Lea County, New Mexico.



CASE 4014: Application of Ralph Lowe for salt water disposal, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to dispose of produced salt water into the Lower Devonian formation in the perforated interval from approximately 12,350 feet to 12,455 feet in his "C" Devonian Unit Well No. 1 located in Unit O of Section 16, Township 10 South, Range 36 East, South Crossroads-Devonian Pool, Lea County, New Mexico.

CASE 3991: (Continued and Readvertised)

Application of Roger C. Hanks, Ltd., for salt water disposal, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to dispose of produced salt water into the lower Devonian formation in the open-hole interval from approximately 10,804 feet to 10,885 feet in its Monterey State Well No. 1 located in Unit A of Section 11, Township 10 South, Range 32 East, Mescalero Field, Lea County, New Mexico.

CASE 4015: Application of Wilson Oil Company for salt water disposal, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to dispose of produced salt water into the Yates-Seven Rivers formations, Wilson Yates-Seven Rivers Pool, Lea County, New Mexico, through the following six wells:

TOWNSHIP 21 SOUTH, RANGE 34 EAST

Wilson State Well No. 9 located in Unit F of Section 13;

Shell State Well No. 13 located in Unit H of Section 13;

Wilson State Well No. 8 located in Unit O of Section 13;

Wilson State Well No. 20 located in Unit B of Section 23;

Wilson State Well No. 21 located in Unit J of Section 23;

TOWNSHIP 21 SOUTH, RANGE 35 EAST

Wilson State Well No. 1-A located in Unit G of Section 7;

Applicant further seeks an administrative procedure whereby other wells in said pool may be approved for disposal purposes without the requirement of notice and hearing.

dearnley-meier reporting service, inc.

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

1120 SIMAS BLDG. • P. O. BOX 1092 • PHONE 243-6691 • ALBUQUERQUE, NEW MEXICO



BEFORE THE  
NEW MEXICO OIL CONSERVATION COMMISSION

Santa Fe, New Mexico

December 27, 1968

EXAMINER HEARING

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IN THE MATTER OF: )

Application of Petroleum )  
Corporation of Texas for )  
waterflood project, Eddy )  
County, New Mexico. )  
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Case No. 4006

BEFORE: Daniel S. Nutter,  
Examiner

TRANSCRIPT OF HEARING

MR. NUTTER: We will call Case 4006.

MR. HATCH: Case 4006, application of Petroleum Corporation of Texas for a waterflood project, Eddy County, New Mexico.

MR. CAMPBELL: Jack M. Campbell, of Stephenson, Campbell and Olmsted, Santa Fe, New Mexico, appearing for the applicant. We have one witness in this case, Mr. Harrison.

MR. NUTTER: You are still under oath.

(Whereupon, Applicant's Exhibits  
Numbers 1, 2, and 3, inclusive,  
were marked for identification.)

B. G. HARRISON

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

DIRECT EXAMINATION

BY MR. CAMPBELL:

Q Will you state your name, please?

A B. G. Harrison.

Q By whom are you employed, and in what capacity, and where is your office located, Mr. Harrison?

A I am employed by Petroleum Corporation of Texas as Manager of Secondary Recovery. Our offices are in Breckenridge, Texas.

Q You are a petroleum engineer?

A Yes, sir.

Q Have you testified previously before this Commission, or its Examiners in that capacity?

A Yes, I have.

Q Are you acquainted with the application of Petroleum Corporation of Texas for a waterflood project in Eddy County, New Mexico, Case No. 4006 before the Commission?

A Yes, I am.

Q Will you state in general terms what you are seeking by this application?

A We seek authority to inject water into the San Andres Formation through Petroleum Corporation of Texas Patent Federal No. 2.

Q I hand you what has been identified as Applicant's Exhibit Number 1 in this case. Referring to this exhibit, will you identify the wells which you have shown in blue and red on this, including the proposed injection well which is also circled in dashed red lines.

A Yes. The plat shows outlined in the cross-hatched area, the Atlantic-Richfield West Red Lake Unit. The wells and well numbers which have red triangles around them are the initial four injection wells proposed by Atlantic-Richfield in their waterflood program, which involves both the Premier and

the San Andres zones. This unit has previously been approved by the Oil Conservation Commission.

The well numbers which are shown in blue triangles are the expansion program proposed by Atlantic within their unit.

Our Paton Federal No. 2, circled in red and also shown in a blue triangle, is located in the southwest quarter of the southwest -- pardon me, in the southeast quarter of the southwest quarter of Section 6. This well is proposed at this time to be used for salt water injection, which will have a little over 80 barrels per day; by then, at the time the Atlantic-Richfield flood is expanded to include the other wells shown in blue, then we propose to go to full scale injection on Paton Federal No. 2, as a cooperative measure with Atlantic-Richfield, and also to protect correlative rights across the lease boundaries.

Q Now, you have also shown on this plat a green outline north of the Atlantic-Richfield unit. What does that indicate?

A The leases outlined in green are the leases operated by Petroleum Corporation of Texas.

Q Then this includes all of that area to the north, except the Atlantic leases in the south half of Section 6 and the south half of Section 5, and the Atlantic leases on the northwest quarter of the northeast quarter, the southwest quarter

of the northeast quarter, and the northwest quarter of the southeast quarter of Section 6, is that correct?

A Yes. All of the leases operated in Sections 5 and 6 are either within the boundary of the unit operated by Atlantic-Richfield, with the exception of the Atlantic operated Malco Federal B.

Q Have you been in communication with Atlantic-Richfield about this matter?

A Yes, I have.

Q Is your proposal agreeable with Atlantic-Richfield, so far as you know?

A Yes, this particular well was chosen for injection, referring to the Paton Federal No. 2, in cooperation with Atlantic-Richfield, and we have a written agreement which had not been finalized, but the draft has been drawn which will provide for cooperation between the unit and the Paton Federal Lease.

Q Where will you obtain the water, the salt water which you intend to dispose of prior to the time you place this well on full injection?

A We propose to gather the produced water from all of our leases in Sections 5 and 6, to dispose of into the Paton Federal No. 2. This is in order that we may do away with our

present surface pits, and inject some 80 plus barrels per day of produced water, and enable us to continue with our oil production.

Q How long is it that it is anticipated before the expansion of the Atlantic-Richfield waterflood to require you to go to full injection?

A According to Atlantic engineering personnel, they expect to begin injection into their four initial wells as soon as water is available, and this should be very soon. They have the four wells prepared for injection. Then they feel that within six months they will expand into the second stage.

Q Where will you get the additional water necessary to complete your fillup and put this well on adequate injection, at adequate injection rates?

A Our agreement with Atlantic-Richfield provides for the purchase of pressured water from their injection plants.

Q That is water just to supplement the amount of water that you are injecting from salt water disposal, is that correct?

A Yes, sir.

Q I hand you what has been identified as Applicant's Exhibit Number 2, and ask you please to state what this is.

A This is a schematic diagram showing the casing program and the proposed tubing injection program, the well completion

of the Paton Federal No. 2.

Q Using this exhibit, would you identify for the Examiner how you intend to utilize this well, and what the injection area zone will be?

A At the present time, the well has a plugged back total depth of 1703 feet, with perforated intervals 1662 to 1667, and 1692 to 1699 in the San Andres Zone.

We propose to run cement-lined tubing with a tension packer, and set at approximately 1,650 feet, so that all injected water will be confined to the perforated interval of 1662 to 1699.

The lower set of perforations are indicated at 1712 to 1726, and which were squeezed off with cement in June of 1960, were water productive, and that is the reason they were squeezed off.

Q I hand you what has been identified as Applicant's Exhibit 3, and ask you to state what that is.

A This is a radioactive log, which was run by Halliburton Oil Well Cementing Company for the Ibex Company on 8-24-67, on completion of this well.

I have depicted on the log in blue the top of the San Andres; and in the red in intervals below 1650 feet are shown the two perforated intervals in the porous zones of the



San Andres. Also is shown the plugged back total depth of 1703 feet.

Q Can you give the Examiner some information about the production history and present status of the proposed injection well?

A This lease, the Paton Federal Lease is nearing the primary economic limit. This well is producing less than three barrels of oil per day, the Paton Federal No. 2 is that we propose to convert, so it is very rapidly approaching the economic limit.

Q Have you made any calculations as to the possible additional recovery that may be obtained from these leases in the Red Lake Field, in the event this waterflood project which has been commenced by Atlantic-Richfield is successful?

A Yes, the area outlined in green on the map, which are the leases operated by Petroleum Corporation of Texas, ultimately will produce about 740,000 barrels of oil. Our calculations would indicate that we can expect another 370,000 barrels through secondary recovery, should this flood prove successful.

Q Do you believe that if this application is granted, you will be able to prevent waste and provide for the recovery of additional oil, and that correlative rights of the owners in

the area will be protected?

A Yes, we believe this is the first step, and a necessary step in cooperation with Atlantic-Richfield. It also is a step toward protecting correlative rights, and in determining the proper injection pattern which will be necessary to successfully flood this reservoir.

Q It is your intention to continue to use this well for the disposal of whatever salt water may be produced from your leases in this area, is it not?

A Yes, that is true. Until such time as the program is expanded.

MR. CAMPBELL: I believe that is all the questions I have at this time, Mr. Examiner.

MR. NUTTER: Are there any questions of Mr. Harrison?

CROSS EXAMINATION

BY MR. NUTTER:

Q As I understand, the well has eight and five-eighths-inch casing, it is 917 feet with cement circulated to the surface, is that correct?

A Yes.

Q Is that surface string of casing sufficient to penetrate and seal off all the fresh water zones in this area?

A To the best of our knowledge, Mr. Nutter, this string

of casing would protect all fresh waters.

Q And then there is no intermediate string, but you have five and a half-inch casing at 1756, and the top of the cement on the string is up in the eight and five-eighths surface pipe?

A That's right, the cement has been filled in the annulus so it overlaps into the surface pipe.

Q What would you do with the annulus in this particular case?

A The tubing casing annulus?

Q Yes.

A We propose to fill it with fresh water containing a corrosion inhibitor.

Q Inhibited water. It will be equipped with a gauge at the surface?

A Yes.

Q Now, has Atlantic already put the four wells on injection that you show with the red triangles around them, or are they about to?

A No, in my conversation with one of the Atlantic-Richfield engineers this last week, he told me that the wells were prepared for injection, and as soon as the water company laid their line into their plant, they would begin injection, which should be within the next few days.

Q And the Commission has already approved the unit and also the waterflood project?

A That is my understanding.

Q Now, your ultimate plans would call for more than this one well on your leases, is that correct?

A Yes.

Q Would it be your intent to unitize the leases, or consolidate them in some manner?

A We feel that would be necessary.

Q In order to transfer allowables, and so forth, across the lease lines?

A Yes, and also there are some one-well leases that would be difficult to protect properly.

Q But for the time being we are talking about the Paton Federal Lease, and that lease only?

A Yes, sir.

Q As far as the flood is concerned?

A We have made some plans toward injection on the other leases, but these are not final.

Q I see.

A We have made engineers calculations, and have worked up flood patterns, but these are subject to the actual operation and the developments of the Atlantic-Richfield and the Paton

Federal No. 2 flood.

Q Is there a particular name for this interval of the San Andres that you are going to be flooding in this well?

A No, we don't define it as anything but being just a lower porosity development within the San Andres interval.

Q There is no particular nomenclature applicable?

A No, I don't think so.

MR. NUTTER: Any further questions? You may be excused.

MR. CAMPBELL: I would like to offer Applicant's Exhibits 1, 2, and 3.

MR. NUTTER: Petroleum Corporation's Exhibits 1 through 3 will be admitted in evidence.

(Whereupon, Applicant's Exhibits Numbers 1, 2, 3, inclusive, were admitted in evidence.)

MR. NUTTER: Anything further?

MR. CAMPBELL: Nothing.

MR. NUTTER: Does anyone have anything they wish to offer in Case 4006? We will take the case under advisement, and call Case 4007.

I N D E X

<u>WITNESS</u>		<u>PAGE</u>
B. G. HARRISON		
Direct Examination by Mr. Campbell		2
Cross Examination by Mr. Nutter		9

<u>EXHIBITS</u>	<u>MARKED</u>	<u>OFFERED AND ADMITTED</u>
Applicant's Exhibits Numbers 1 through 3	2	12

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

I, SAMUEL MORTELETTE, 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.

*Samuel Mortelette*  
 COURT REPORTER

I do hereby certify that the foregoing is  
 a correct record of the proceedings in  
 the case of *1006*  
 held on *12/27*, 19*63*.

*[Signature]*, Registrar  
 New Mexico Oil Conservation Commission

WUCCO

# PLA...GRAM

18-S 27-E

Company. Petroleum Corporation of Texas

Well No. 2 Lease Paton Federal


8-5/8" set @ 917' with 300 sx Cement. Cement circulated to surface.

*inhibited wtr gauge @ surf.*

No intermediate string of casing.

2-3/8" EUE tubing, cement lined.

Tension type packer set @ 1650'.

Perfs @ 1662' to 1667'

Perfs @ 1692' to 1699'

PBTD 1703'

Perfs @ 1712' to 1726'. Squeezed off 6-18-60.

5-1/2" casing set @ 1756' with 125 sx. Top cement @ 905' from Temp. Log. Cement inside 8-5/8" surface casing

TD 1757'

BEFORE EXAMINATION

OIL COMPOSITION

WELL NO. 2

CASE NO. 4006



PETROLEUM CORPORATION OF TEXAS

P. O. BOX 911

BRECKENRIDGE, TEXAS 76024

December 9, 1968

*Ce 4006*

State of New Mexico  
Oil Conservation Commission  
P. O. Box 2088  
Santa Fe, New Mexico 87501

Re: Paton Federal #2  
Unit N. Sec. 6,  
T18S, R27E, Red  
Lake Field, Eddy  
County, New Mexico

Gentlemen:

Please set for hearing our application to begin water injection into the above well and to commence secondary recovery operations on our leases in Sections 5 and 6, T18S, R27E - outlined in yellow on the attached plat.

Cooperation with Atlantic Richfield's proposed water flood program to the south will be maintained.

Produced water from the adjoining leases will be injected into Paton Federal #2 to begin with. Additional wells will be put on injection as offset producing wells respond.

Attached are Form C-108 (in triplicate), a diagrammatic sketch, a copy of a portion of the log, and a plat of the area for Paton Federal #2.

Very truly yours,

*T. A. Ford*

T. A. Ford  
Manager of Production

PCT/TAF:jde  
Attachments

cc: Atlantic Richfield Company  
Box 1978  
Roswell, New Mexico 88201

Mr. John H. Trigg  
110 E. 3rd  
Roswell, New Mexico 88201

Standard of Texas  
Box 1660  
Midland, Texas 79701

Department of the Interior  
USGS  
Roswell, New Mexico 88201

DOCKETED

Date 12-17-68



Page 2.  
December 9, 1968  
Re: Paton Federal #2

cc: State Engineer Office  
Capitol Building  
Santa Fe, New Mexico 87501

Stephenson, Campbell & Olmsted  
P. O. Box 877  
Santa Fe, New Mexico 87501

NEW MEXICO OIL CONSERVATION COMMISSION  
APPLICATION TO DISPOSE OF SALT WATER BY INJECTION INTO A POROUS FORMATION

OPERATOR Petroleum Corporation of Texas		ADDRESS Box 911, Breckenridge, Texas 76024			
LEASE NAME Paton Federal	WELL NO. 2	FIELD Red Lake	COUNTY Eddy		
LOCATION UNIT LETTER <u>N</u> ; WELL IS LOCATED <u>330</u> FEET FROM THE <u>S</u> LINE AND <u>2990</u> FEET FROM THE <u>E</u> LINE, SECTION <u>6</u> TOWNSHIP <u>18 S</u> RANGE <u>27 E</u> NMPM.					
CASING AND TUBING DATA					
NAME OF STRING	SIZE	SETTING DEPTH	SACKS CEMENT	TOP OF CEMENT	TOP DETERMINED BY
SURFACE CASING	8-5/8"	917	300	Surface	Circulation
INTERMEDIATE	None				
LONG STRING	5-1/2	1756	125	905'	Temp. Log.
TUBING	2-3/8"	1650	NAME, MODEL AND DEPTH OF TUBING PACKER Tension Type		
NAME OF PROPOSED INJECTION FORMATION San Andres		TOP OF FORMATION 1100'		BOTTOM OF FORMATION Unknown	
IS INJECTION THROUGH TUBING, CASING, OR ANNULUS? Cement Lined Tubing		PERFORATIONS OR OPEN HOLES? Perforations		PROPOSED INTERVAL(S) OF INJECTION 1662-67' and 1692-99'	
IS THIS A NEW WELL DRILLED FOR DISPOSAL? No		IF ANSWER IS NO, FOR WHAT PURPOSE WAS WELL ORIGINALLY DRILLED? Oil Producer		HAS WELL EVER BEEN PERFORATED IN ANY ZONE OTHER THAN THE PROPOSED INJECTION ZONE? Yes	
LIST ALL SUCH PERFORATED INTERVALS AND SACKS OF CEMENT USED TO SEAL OFF OR SQUEEZE EACH 1712-26' 150sx. squeeze 6-18-60					
DEPTH OF BOTTOM OF DEEPEST FRESH WATER ZONE IN THIS AREA Approx. 800'		DEPTH OF BOTTOM OF NEXT HIGHER OIL OR GAS ZONE IN THIS AREA None		DEPTH OF TOP OF NEXT LOWER OIL OR GAS ZONE IN THIS AREA 1712	
ANTICIPATED DAILY INJECTION VOLUME (BBL/S.)	MINIMUM 50 B/D	MAXIMUM 500 B/D	OPEN OR CLOSED TYPE SYSTEM Closed	IS INJECTION TO BE BY GRAVITY OR PRESSURE? Pressure	APPROX. PRESSURE (PSI) 800 max.
ANSWER YES OR NO WHETHER THE FOLLOWING WATERS ARE MINERALIZED TO SUCH A DEGREE AS TO BE UNFIT FOR DOMESTIC, STOCK, IRRIGATION, OR OTHER GENERAL USE - Yes			WATER TO BE DISPOSED OF Produced	NATURAL WATER IN DISPOSAL ZONE some	ARE WATER ANALYSES ATTACHED? No
NAME AND ADDRESS OF SURFACE OWNER (OR LESSEE, IF STATE OR FEDERAL LAND) Federal Land					
LIST NAMES AND ADDRESSES OF ALL OPERATORS WITHIN ONE-HALF (1/2) MILE OF THIS INJECTION WELL					
Atlantic Richfield Company, Box 1978, Roswell, New Mexico 88201					
John H. Trigg, 110 East 3rd, Roswell, New Mexico 88201					
Standard of Texas, Box 1660, Midland, Texas 79701					
HAVE COPIES OF THIS APPLICATION BEEN SENT TO EACH OF THE FOLLOWING?		SURFACE OWNER Yes		EACH OPERATOR WITHIN ONE-HALF MILE OF THIS WELL Yes	
ARE THE FOLLOWING ITEMS ATTACHED TO THIS APPLICATION (SEE RULE 701-B)		PLAT OF AREA Yes		ELECTRICAL LOG Yes	
				THE NEW MEXICO STATE ENGINEER Yes	
				DIAGRAMMATIC SKETCH OF WELL Yes	

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

A. H. Lindley, Jr. Engineer - Secondary Recovery December 10, 1968  
(Signature) S. H. Lindley, Jr. (Title) (Date)

NOTE: Should waivers from the State Engineer, the surface owner, and all operators within one-half mile of the proposed injection well, not accompany this application, the New Mexico Oil Conservation Commission will hold the application for a period of 15 days from the date of receipt by the Commission's Santa Fe office. If at the end of the 15-day waiting period no protest has been received by the Santa Fe office, the application will be processed. If a protest is received, the application will be set for hearing, if the applicant so requests. SEE RULE 701.

Well

PLAN-O-GRAM

18-S 27-E

Company Petroleum Corporation of Texas

Well No. 2 Lease Paton Federal


8-5/8" set @ 917' with 300 sx Cement. Cement circulated to surface.

No intermediate string of casing.

2-3/8" EUE tubing, cement lined.

Tension type packer set @ 1650'.

Perfs @ 1662' to 1667'

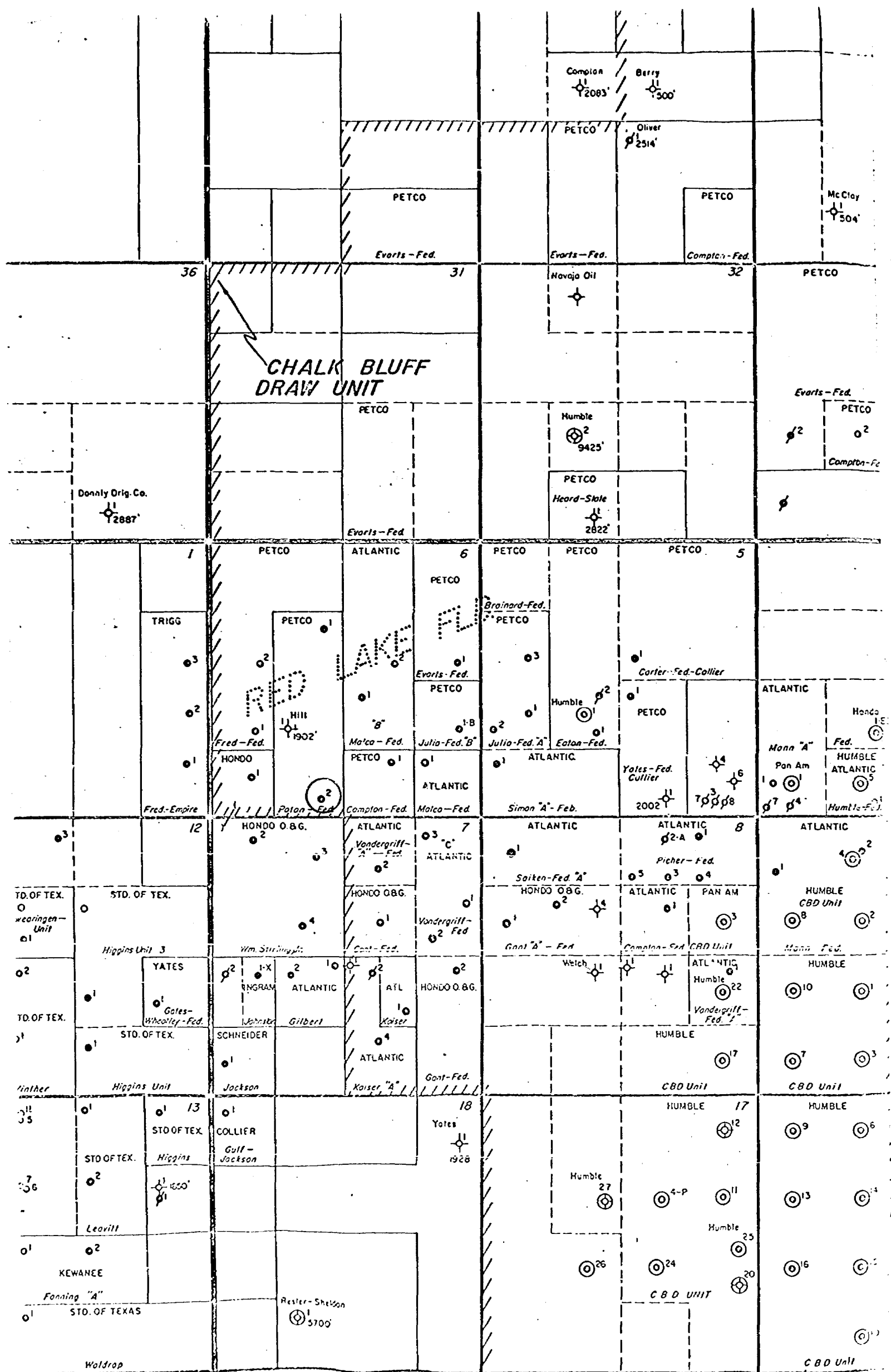
Perfs @ 1692' to 1699'

PBTD 1703'

Perfs @ 1712' to 1726'. Squeezed off 6-18-60.

5-1/2" casing set @ 1756' with 125 sx. Top cement @ 905' from Temp. Log. Cement inside 8-5/8" surface casing

TD 1757'



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. 4006

Order No. R- 3649

APPLICATION OF PETROLEUM CORPORATION OF TEXAS  
FOR A WATERFLOOD PROJECT, EDDY COUNTY,  
NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 a.m. on December 27, 1968,  
at Santa Fe, New Mexico, before Examiner Daniel S. Nutter.

NOW, on this        day of December, 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, Petroleum Corporation of Texas,  
seeks permission to institute a waterflood project in the       

Unit Area, Red Lake Pool by  
the injection of water into the San Andres formation  
its Paton Federal Well No. 2, located in Unit N of Section 6,  
through injection wells in Section

Township 18 ~~North~~ South, Range 27 ~~West~~ East, NMPM,

Eddy County, New Mexico, with injection into the perforated  
interval from approximately 1662 feet to 1699 feet.

(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 waterflood project should result in  
the recovery of otherwise unrecoverable oil, thereby preventing  
waste.

(5) ~~that the applicant proposes to~~  
that injection should be accomplished through  
2 3/8-inch cement lined tubing installed in a packer set  
approximately 1650 feet; that the casing-tubing annulus should be filled  
with an inert fluid; but that a pressure gauge should be attached to the annulus at the surface  
in order to determine leakage in the casing, tubing, or packer.

(6) ~~131~~ 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, Petroleum Corporation of Texas, is hereby authorized to institute a waterflood project in the Unit Area Red Lake Pool by the injection of water into the San Andres formation ~~through the following described wells in Township~~ North, South, Range, West, East, NMPM, ~~County, New Mexico.~~

through its Paton Federal Well No. 2, located in Unit N of Section 6, Township 18 South, Range 27 East, NMPM, Eddy County, New Mexico, *with injection to be accomplished through 2 3/8-inch tubing installed in a packer set at approximately 1650 feet, with injection into the perforated interval from approximately 1662 feet to 1699 feet; Provided However, that the tubing shall be cement-lined; that tubing annulus shall be filled with an inert fluid; and that a pressure gauge shall be attached to the annulus at the surface in order to determine leakage in the casing, tubing, or packer.*

(2) That the subject waterflood project is hereby designated the PETCO Red Lake 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 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.

water fld proj.

Patoy Fed Well No 2  
N 6 - Twp 18 S R 27 E

San Andres -

Red Lake, Eddy Co.

perf int

1662 - 1699

Jack  
Campbell

DOCKET FILED

Date \_\_\_\_\_