BEFORE THE

NEW MEXICO OIL CONSERVATION COMMISSION

Santa Fe, New Mexico

December 18, 1968

REGULAR HEARING

IN THE MATTER OF:

Application of H.N. Sweeney and Paul Slayton for an exception to Order No. R-3221, as amended, Chaves County, New Mexico.

Case No. 3998

BEFORE: A. L. Porter, Jr., Secretary Director
Guyton Hays, Land Commissioner
Governor David F. Cargo, Chairman
George Hatch, Counsel

TRANSCRIPT OF HEARING

MR. PORTER: We will take up Case 3998.

MR. HATCH: Case 3998, application of H. N. Sweeney and Paul Slayton for an exception to Order No. R-3221, as amended, Chaves County, New Mexico.

MR. MORRIS: If the Commission please, I am Dick Morris of Montgomery, Federici, Andrews, Hannahs and Morris, Santa Fe, New Mexico, appearing on behalf of the applicant in this case. We will have two witnesses, only one of whom is available at this time. I would like to call first to the stand, Mr. A. L. Dougherty.

(Witness sworn.)

A. L. DOUGHERTY

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

DIRECT EXAMINATION

BY MR. MORRIS:

Q Mr. Dougherty, please state your name for the record.

A A. L. Dougherty.

Q Where do you live, Mr. Dougherty?

A O'Brien Headquarters, northeast of Roswell.

Q Where is the O'Brien Headquarters located with respect to some of the communities in that area?

A It is ten miles south of Elkins.

Q Where is the headquarters located with respect to the Devonian and San Andres wells that are involved in Mr. Sweeney and Mr. Slayton's application?

A Well, approximately a mile northwest.

Q How long have you lived in this area?

A Thirty-eight years.

Q What is your position with the O'Brien Ranch?

A Ranch Foreman.

Q How long have you been Ranch Foreman?

A Four and a half years.

Q Approximately how large is the O'Brien Ranch?

A There are 80,000 acres.

Q And are the wells and tank batteries, and disposal pits that are the subject of this application, all located on the O'Brien Ranch?

A Yes, they are.

Q Do you run cattle on your ranch?

A Yes, sir.

Q How do you water those cattle?

A They are watered from pit-type dirt tanks.

MR. POPTER: From what?

THE WITNESS: Pit tanks, dirt tanks.

Q What is the source of the water?

A It is all runoff water, rain water.

Q Do you have any windmills at all on your ranch?

A Well, we have one windmill eight miles north of the headquarters.

Q It is eight miles north of the headquarters, and I believe you said the tank batteries and pits are approximately one mile south of your headquarters?

A That's right.

Q What is the source of water for your use around your headquarters?

A For drinking water, we use cistern water, and house water is from a pit tank a mile north of the house.

MR. PORTER: What do you use for drinking water?

THE WITNESS: Cistern water, rain water.

Q What is the closest windmill that you are aware of to the wells and tank batteries and disposal pits involved in this application?

A Approximately six miles west.

Q Is that located on the O'Brien Ranch?

A No, it isn't.

Q Do you know whose property that is located on?

A It is on the Lyman Graham Ranch.

Q That is approximately six miles west?

A Yes.

MR. PORTER: Do you know how deep that water is there?

THE WITNESS: It would be approximately 200 feet, in that neighborhood.

MR. HAYS: Is it good drinking water?

THE WITNESS: Might be for stock water, but not for humans.

Q (By Mr. Morris) Have there been any attempts that you are familiar with to develop some ground water in the area of your headquarters?

A There have been, no telling how many wells drilled.

Q Would you approximate how many have been drilled?

A Oh, 50. Forty, 50.

Q And has there been any success in developing ground water?

A The one well north of the house is all, eight miles north.

MR. HAYS: Is that sweet water, too?

THE WITNESS: Yes, sir, it is good water.

Q Is that well located in an area that is of different terrain than --

A It is in deep sand.

Q Now, you say approximately 50 wells have been drilled. Were those all drilled seeking fresh water?

A Yes, sir.

Q Did some of them hit water?

A I know of two that hit salt water.

Q Was any attempt made to develop that water for stock water?

A No, sir.

Q And what was the experience there?

A Cattle wouldn't drink it.

Q Were some of these wells drilled in connection with seismograph explorations in this area?

A Well, some were. Most of them were drilled by O'Brien.

Q Were some of them drilled as seismograph holes?

A Two of them were looked into, if they had water in.

Q How deep were those holes?

A About 80 feet. They was in a dry lake bed.

MR. PORTER: But the quality of the water wasn't satisfactory?

THE WITNESS: No, it wasn't usable.

Q Does the O'Brien Ranch have any objection to the

application of Mr. Sweeney and Mr. Slayton to continue to dispose of salt water in surface pits around the wells on the O'Brien Ranch?

A No, they don't.

MR. MORRIS: That is all I have of the witness.

MR. PORTER: Does anyone have any questions of this witness? Mr. Nutter.

CROSS EXAMINATION

BY MR. NUTTER:

Q Mr. Dougherty, you mentioned the well that is eight miles north of the ranch house. Now, that is north of a topographical feature in this area known as Railroad Mountain, is it not?

A That's right.

Q What is Railroad Mountain?

A I'm not sure what it was. It is a long, narrow mountain that raises up above the ground.

Q Have you ever heard that described as being a dike?

A No.

Q It is a ridge of rock extending up above the surface of the ground? It is a long, narrow ridge of rock, and approximately how long is it, Mr. Dougherty?

A Well, it goes from north of Roswell into Texas, that

I know of.

Q And south of your ranch, there is another similar feature, is there not?

A Devils Racetrack, I believe.

Q And it is another long, narrow --

A But it doesn't stick up out of the ground very much.

Q Approximately where is the O'Brien Ranch with respect to these two Devils Racetracks? Is it in between the two of them?

A It would be in between the two of them.

Q And this is in between these two dikes is where the efforts to find this drinkable water has been so unsuccessful?

A Well, it has been on the north of Railroad Mountain, too.

Q Well, did you get a good well north of the mountain?

A Well, it is on a different ranch. We drilled 700 feet north of there, and drilled a hole 700 feet deep, and didn't get usable water.

MR. PORTER: Did you testify how deep that well is? I mean, eight miles north of the ranch, that one well?

THE WITNESS: 80-some, 83 feet, I believe.

Q Whereabouts is that from the town of Elkins?

A Three miles southwest.

Q And it is on the immediate south side of the highway, is it not?

A Yes, sir.

Q On the south of the railroad tracks?

A Yes.

Q Approximately 80-some feet?

A Yes.

Q Now, the Highway Department quadrangle maps, Map No. 82 of this area, shows that in Section 35 of Township 8, Range 28 East, there is a ranch house, a windmill, and two lakes depicted on that map. Could you describe the status of those two lakes shown there on that map?

A I believe that would be where my house is, isn't it?

Q I believe you are right.

A The lake right south of the house has water in it, and the other lake is a dry lake bed.

Q That is a dry lake bed?

A Yes, sir.

Q Where does the water come from, as far as the water in that lake that does not have water in it?

A Runoff from the north, north and west.

Q From Palma Mesa?

A Yes, sir.

GOVERNOR
DAVID F. CARGO
CHAIRMAN

State of New Mexico
Oil Conservation Commission

LAND COMMISSIONER
GUYTON B. HAYS
MEMBER

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

P. O. BOX 2088
SANTA FE

December 23, 1968

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

Re: Case No. 3998
Order No. R-3636
Applicant:
H. N. Sweeney & Paul Slayton

Dear Sir:

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

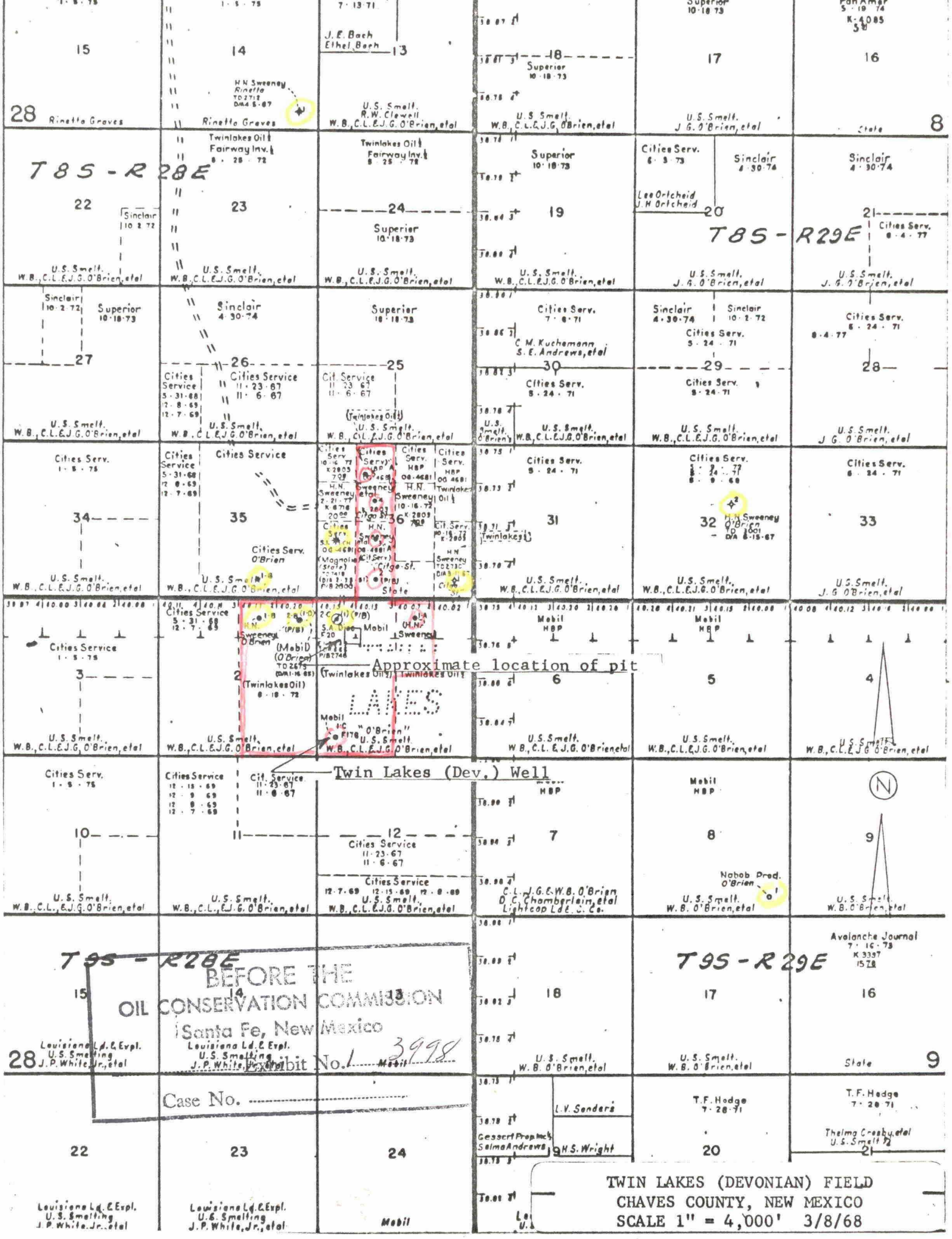
Very truly yours,

A. L. PORTER, Jr.
Secretary-Director

ALP/ir

Carbon copy x of order also sent to:

Hobbs OCC x
Artesia OCC
Aztec OCC
Other State Engineer Office - Santa Fe, New Mexico


T 8 S - R 28 E
T 8 S - R 29 E
T 9 S - R 28 E
T 9 S - R 29 E
Approximate location of pit
Twin Lakes (Dev.) Well
LAKES
BEFORE THE
OIL CONSERVATION COMMISSION
Santa Fe, New Mexico
Exhibit No. 1
Case No.
TWIN LAKES (DEVONIAN) FIELD
CHAVES COUNTY, NEW MEXICO
SCALE 1" = 4,000' 3/8/68

BEFORE THE
OIL CONSERVATION COMMISSION
Santa Fe, New Mexico
Exhibit No. 2
Case No. 3998

TWIN LAKES FIELD
Chaves County, N.M.
■ Surface Pit

NEW MEXICO OIL CONSERVATION COMMISSION
GAS - OIL RATIO TESTS

C-116
Revised 1-1-65

Operator	Pool	County
Twinlakes Oil Company	Twin Lakes San Andres	Chaves

Address: Box 1582, Roswell, N. M. 88201

TYPE OF TEST - (X): Scheduled [X] Completion [ ] Special [ ]

LEASE NAME	WELL NO.	LOCATION U	S	T	R	DATE OF TEST	STATUS	CHOKE SIZE	TBG. PRESS.	DAILY ALLOWABLE	LENGTH OF TEST HOURS	PROD. DURING TEST WATER BBLS.	GRAV. OIL	OIL BBLS.	GAS M.C.F.	GAS - OIL RATIO CU.FT/BBL
Citgo State	4	F	36	8S	28E	9-1-68	P	-	-	17	24	2	24°	17	5.7	336/1
Citgo State A	2	N	36	8S	28E	9-2-68	F	12/64	180	29	24	-	24°	22	78	3545/1
	3	K	36	8S	28E	8-31-68	F	12/64	295	49	24	-	24°	45	129	2867/1
	5	C	36	8S	28E	8-30-68	F	16/64	0.80	29	24	15	24°	70	36	514/1
J'Brien A	1	B	1	9S	28E	9-1-68	P	-	-	10	24	1.5	24°	7.5	TSTM	-

No well will be assigned an allowable greater than the amount of oil produced on the official test.

During gas-oil ratio test, each well shall be produced at a rate not exceeding the top unit allowable for the pool in which well is located by more than 25 percent. Operator is encouraged to take advantage of this 25 percent tolerance in order that well can be assigned increased allowables when authorized by the Commission.

Gas volumes must be reported in MCF measured at a pressure base of 15.025 psia and a temperature of 60° F. Specific gravity base will be 0.60.

Report casing pressure in lieu of tubing pressure for any well producing through casing.

Mail original and one copy of this report to the district office of the New Mexico Oil Conservation Commission in accordance with Rule 301 and appropriate pool rules.

BEFORE THE
OIL CONSERVATION COMMISSION
Santa Fe, New Mexico
Exhibit No. 3
Case No. 3998

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

/s/ H. N. Sweeey
(Signature)
Vice President
(Title)
September 3, 1968
(Date)

NEW MEXICO OIL CONSERVATION COMMISSION

GAS – OIL RATIO TESTS

C-116
Revised 1-1-65

Operator: Mobil Oil Corp | Pool: Twin Lakes Devonian | County: Chaves

Address: Box 633 Midland, Texas 79701 | TYPE OF TEST – (X) | Scheduled ☐ | Completion ☐ | Special ☒

LEASE NAME	WELL NO.	LOCATION U	S	T	R	DATE OF TEST	STATUS	CHOKE SIZE	TBG. PRESS.	DAILY ALLOW-ABLE	LENGTH OF TEST HOURS	PROD. DURING TEST WATER BBLS.	GRAV. OIL	OIL BBLS.	GAS M.C.F.	GAS – OIL RATIO CU.FT/BBL
C.L. O'Brien "C"	1	M	1	9S	28E	8-5-68		2"	40	39	24	90	51	60	95	1900

Request Allowable INCREASE

No well will be assigned an allowable greater than the amount of oil produced on the official test.

During gas-oil ratio test, each well shall be produced at a rate not exceeding the top unit allowable for the pool in which well is located by more than 25 percent. Operator is encouraged to take advantage of this 25 percent tolerance in order that well can be assigned increased allowables when authorized by the Commission.

Gas volumes must be reported in MCF measured at a pressure base of 15.025 psia and a temperature of 60° F. Specific gravity base will be 0.60.

Report casing pressure in lieu of tubing pressure for any well producing through casing.

Mail original and one copy of this report to the district office of the New Mexico Oil Conservation Commission in accordance with Rule 301 and appropriate pool rules.

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

M. H. [illegible]
(Signature)

(Title)

(Date)

Mobil Oil Corporation

P.O. BOX 633
MIDLAND, TEXAS 79701

April 10, 1968

BEFORE THE
OIL CONSERVATION COMMISSION
Santa Fe, New Mexico
Exhibit No. 4
Case No. 3998

New Mexico Oil Conservation - 3
Commission
P. O. Box 2088
Santa Fe, New Mexico 87501

REQUEST FOR EXCEPTION
TO ORDER NO. R-3221
(SURFACE PIT ELIMINATION)
C. L. O'BRIEN "C" LEASE
TWIN LAKES (DEVONIAN) FIELD
CHAVES COUNTY, NEW MEXICO

Gentlemen:

Mobil Oil Corporation respectfully submits this request for an exception to Order No. R-3221 (surface pit elimination) upon the grounds of hardship and the absence of fresh water bearing aquifers in the vicinity of the below described lands. Mobil is the operator of the C. L. O'Brien "C" Well No. 1 located in the SW/SW of Sec. 1, T9S, R28E, Chaves County, New Mexico. Said well is the only well currently producing from the Devonian formation in the Twin Lakes Field. Average daily production during the month of January, 1968, was 31 barrels of oil and 39 barrels of water. The produced water is stored in a surface pit and disposed of by evaporation. The pit is located in the NW/NW of Sec. 1, T9S, R28E.

A recent investigation was conducted seeking a suitable underground disposal zone for the produced water. Based upon analysis of the log of Mobil's C. L. O'Brien "C" Well No. 2 (originally drilled to the Devonian but now a temporarily abandoned San Andres well), the basal Devonian appeared the most likely disposal zone. The quantity of produced water disposed of in the basal Devonian from the Knowles and East Cap Rock Fields clearly verifies the log analysis. However, the expenses of converting and equipping the C. L. O'Brien "C" Well No. 2 to dispose of produced water in the basal Devonian formation is conservatively estimated at $26,000. The reserves in the Twin Lakes (Devonian) Field make this expense prohibitive, since it is estimated that this lease will be wholly depleted in three or four years.

We also sought other means of disposal. We found no other disposal well is situated in this area. The expenses involved in trucking the produced water from this remote location would be greater than the costs of

conversion and are thus also prohibited by reason of the low reserves. In order to protectively line the disposal pit and adequately maintain such lining, the cost figures would exceed $40,000. It is also not economically feasible or mechanically desirable to inject this produced water into the basal Devonian formation through the well bore.

It is submitted that the reserves recoverable from said lease will be lost to the economy unless some satisfactory means of disposing of the producing water is discovered.

Our investigation of the geology of the Twin Lakes Field area convinces us that surface pit evaporation disposal constitutes no pollution hazard to fresh water sands, since they are either non-existent in this area, or under impermeable formations. The following geological observations are offered in support of this view:

1. Surface rocks in the vicinity of the Twin Lakes Field are Triassic redbeds and thin quaternary alluvium. Water in contact with Triassic rocks becomes saline because of the salts solution from the rocks. The water, if any, in the alluvium is probably saline because of contact with the Triassic rocks. At present, playa lakes lie on the surface in contact with surface rocks and the high evaporation rates result in saline waters. There are no tributary streams connected to or from the lakes which further concentrates the saline content of the water. Our findings indicate that all of the surface waters in the area are saline and have been for a considerable time. Thus, nature has contributed a polluted surface system.

2. The seepage of oil well brines from pits thru several hundred feet of impermeable Triassic shales into the Santa Rosa water sand is so improbable as to constitute no real pollution hazard.

3. The Santa Rosa re-charge area is from a higher elevation to the west. Thus, any pollution hazard to the re-charge system is not present because the subject pits are so situated, both geographically and topographically, as to remove the possibility.

4. Any pollution hazard to the Ogallala acquifer lying to the east is impossible. The Ogallala is topographically higher and does not outcrop in the Twin Lakes Field area.

5. The volume of produced water requiring disposal is negligible in terms of time and accumulation.

The following items are attached for your information and evaluation:

(1) Three copies of map showing ownership and wells in the Twin Lakes Field and surrounding area.

(2) Three geological cross section and topographic maps of the vicinity of the Twin Lakes Field.

(3) Three copies of letter waiving objection from Land Owner.

(4) Three copies of letter of concurrence from Joint Interest Owner.

A fence enclosing the pit will be maintained and only water produced from Mobil's lease would be disposed of in this pit. C. L. O'Brien "C" Well No. 1 is the only producing well currently operated by Mobil in this area.

Mobil Oil Corporation respectfully submits that surface pit evaporation disposal of produced water from the C. L. O'Brien "C" Well No. 1 is the only economically feasible means of disposal and such method constitutes no pollution hazard in the Twin Lakes Field area. Mobil respectfully requests that this exception to Order No. R-3221 be granted administratively.

If additional evidence or information is required, please so advise us.

Yours very truly,

Original Signed By:
B. J. Tibbets

Ira B. Stitt
Division Operations Engineer

ADB/vp/nab
Attachments

bcc: D. B. Cooper
R. C. Elmore w/Attachments less Geol. Map
James Sperling w/Attachments less Geol. Map
General Accounting w/Attachments less Geol. Map
A. J. Monzingo - Hobbs
Glen Barb

CITIES SERVICE OIL COMPANY

CITGO

Vaughn Building
DON B. COBB
Box 4906, Midland, Texas 79701
OFFICE Telephone: 915 MU2-3711

April 8, 1968

New Mexico Oil Conservation Committee
P. O. Box 2088
Santa Fe, New Mexico 87501

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

Re: Exception to Order R-3221
O'Brien "C" Twin Lake Devonian,
Chaves County, New Mexico

Gentlemen:

Cities Service Oil Company is a joint owner of the Mobil Oil Corporation C. L. O'Brien "C" Lease Twin Lake Devonian Field, Chaves County, New Mexico.

Cities concurs with Mobil's application for exception to Order R-3221 (elimination of surface pits) and respectively requests continuance of disposing produced water into surface pits after January 1, 1969 on the subject lease. This area is outside of any designated fresh water basins and our investigation indicates there are no fresh water bearing acquifers which could be contaminated from surface disposal of oil field brines.

Unless an exception to the no pit order is issued, this will cause premature abandonment of the lease. This, in our opinion, is an economic waste and also deprives the State of New Mexico from future income derived from taxes.

Your favorable consideration of this matter will be appreciated.

Yours very truly,

E. F. Motter
Region Engineer
Western Region
Production Division

cc: Mobil Oil Corporation
P. O. Box 633
Midland, Texas 79701

WAIVER

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

SALT WATER DISPOSAL
C. L. O'BRIEN "C" LEASE
TWIN LAKES (DEVONIAN) FIELD
CHAVES COUNTY, NEW MEXICO

Gentlemen:

The undersigned surface and royalty owners, in the lands covered by the subject lease, have examined a copy of Hank Sweeney's request for an exception to Order No. R-3221 (surface pit elimination) and approve same. Please be advised that the undersigned surface and royalty owners support the request by Hank Sweeney for said exception.

Yours very truly,

Date November 5, 1968

JOHN G. O'BRIEN

By J. G. O'Brien

W. B. O'BRIEN

By W. B. O'Brien

BEFORE THE
OIL CONSERVATION COMMISSION
Santa Fe, New Mexico
Exhibit No. 6
Case No. 3998