

CASE 1765: Application of OHIO OIL
for a salt water disposal well -
(State B-4286 "A" Well No. 2.

Case No.

1765

Application, Transcript,
Small Exhibits, Etc.

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. 1765
Order No. R-1500

APPLICATION OF THE OHIO OIL
COMPANY FOR A SALT WATER DIS-
POSAL WELL IN SECTION 2, TOWN-
SHIP 17 SOUTH, RANGE 36 EAST,
LEA COUNTY, NEW MEXICO

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 o'clock a.m. on September 30, 1959, at Santa Fe, New Mexico, before Daniel S. Nutter, Examiner duly appointed by the Oil Conservation Commission of New Mexico, hereinafter referred to as the "Commission," in accordance with Rule 1214 of the Commission Rules and Regulations.

NOW, on this 11 day of October, 1959, the Commission, a quorum being present, having considered the application, the evidence adduced, and the recommendations of the Examiner, Daniel S. Nutter, 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, The Ohio Oil Company, is the owner and operator of the State B-4286 "A" Well No. 2, located 1650 feet from the North line and 2310 feet from the West line of Section 2, Township 17 South, Range 36 East, N.M.P., Lea County, New Mexico.

(3) That the said State B 4286 "A" Well No. 2 was originally completed to a total depth of 5530 feet but has since been effectively plugged back to 6000 feet.

(4) That the applicant proposes to recomplete said State B 4286 "A" Well No. 2 in such a manner as to permit the injection of salt water down tubing into the San Andres formation with the proposed injection zone from 5725 feet to 5968 feet.

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Case No. 1765

Order No. R-1500

(5) That a Baker Model "D" packer should be set above the injection interval as proposed by the applicant.

(6) That the applicant's proposed salt water disposal program will not jeopardize the production of oil, gas, or fresh water in the area and is consonant with sound conservation practices.

IT IS THEREFORE ORDERED:

(1) That the applicant, The Ohio Oil Company, be and the same is hereby authorized to utilize the State B-4286 "A" Well No. 2, located 1650 feet from the North line and 2310 feet from the West line of Section 2, Township 17 South, Range 36 East, N.M.P.M., Lea County, New Mexico, for the purpose of disposing of produced salt water into the San Andres formation in the interval from 5725 to 5968 feet.

PROVIDED HOWEVER, That the salt water shall be injected through tubing and provided further that a Baker Model "D" packer shall be set above the injection interval.

(2) That the applicant shall submit monthly reports of its disposal operations in accordance with Rules 704 and 1119 of the Commission's Rules and Regulations.

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

STATE OF NEW MEXICO
OIL CONSERVATION COMMISSION

John Burroughs
JOHN BURROUGHS, Chairman

Murray E. Morgan
MURRAY E. MORGAN, Member

A. E. Porter, Jr.
A. E. PORTER, Jr., Member & Secretary



lcr/

*Copy
1765*

*Set for
hrg 9-30*

THE OHIO OIL COMPANY

P.O. BOX 2107

HOBBS, NEW MEXICO

September 2, 1959

cc
New Mexico Oil
Conservation Commission
P.O. Box 37
Santa Fe, New Mexico

Re: Exception to Rule 70 (a). Permit
for injection of water into a zone
non-productive of oil or gas.

Gentlemen:

The Ohio Oil Company, with offices at Hobbs, New Mexico, respectfully requests exception to Rule 70 (a) for the purpose of securing a permit under Rule 70 (c) to recomplete its State B 4286 "A" Well No. 2, Sec. 2 T10S R36E to a salt water disposal well and dispose of produced oil field brines from the Lovington Abo and Lovington San Andres Pools.

The Ohio Oil Company further deposes and states the following:

- A. That proposed disposal well is located 1650' ENL & 2310' FWL of Sec. 2 T10S R36E, NMPM, Lea County, New Mexico.
- B. That said well was originally drilled to a total depth of 8530' to penetrate the Lovington Abo formation and was plugged and abandoned.
- C. That water to be injected into said well is mineralized to such a degree to be unfit for domestic, stock, irrigation and/or other general use.
- D. That water is to be injected into a zone greater than Triassic age which is non-productive of oil and/or gas within a radius of two miles from said well and contains no water fit for domestic, stock, irrigation and/or general use.
- E. That said well will be recompleted as per the attached "Application to Dispose of Salt Water by Injection into a Porous Formation Not productive of Oil or Gas" and schematic diagram, so as to inject water into the Lower San Andres formation.

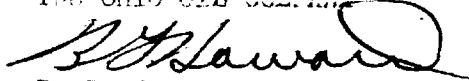
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Mailed
9-15-59
JH*

F. Applicant further deposed that copy of this letter, "Application to Dispose of Salt Water by Injection into a Porous Formation Not Productive of Oil or Gas", and plat showing the location of all oil and gas wells, including drilling wells and dry holes within one-half mile of said well, have been sent to the State Engineer's office and all offset operators via registered mail.

The Ohio Oil Company further requests that in the event this application is not granted administratively, it be set for public hearing.

Yours very truly,

THE OHIO OIL COMPANY


By: B. G. Howard,
Superintendent

BGH:b
Encs.

cc: State Engineer's Office
Offset Operators

The Ohio Oil Co.

Legal Department

September 18, 1959

W. Hume Everett
Division Attorney

Thomas H. McClary

J. O. Terrell Couch

Warren B. Leach, Jr.
Attorney

P.O. Box 3128
Houston, Texas

New Mexico Oil Conservation Commission
Attention: Mr. A. L. Porter, Jr.
Secretary-Director
Box 871
Santa Fe, New Mexico

Dear Sir:

Re: Case 1765 - Sept. 30, 1959 Examiner's
Docket

Thank you very much for your letter of September 15 giving the reason that our Application in the above case was set for hearing.

It is my understanding that the Lower San Andres formation, into which we contemplate disposal of salt water, is a separate reservoir from that portion of the San Andres which is productive of oil in the area, and I had, therefore, assumed that the two portions of the San Andres formation would be regarded as separate formations for the purposes of applying Statewide Rule 701.

I have not discussed this matter with Mr. B. G. Howard, who filed the application for The Ohio Oil Company, and my understanding that the two portions of the San Andres formation are separate may be in error. However, I feel sure that a full statement of the facts necessary for Commission action can and will be presented at the hearing.

Thank you again for your reply to my letter.

Very truly yours,

J. O. Terrell Couch
J. O. TERRELL COUCH

JOTC/1

Air Mail

OIL CONSERVATION COMMISSION

P. O. BOX 871
SANTA FE, NEW MEXICO

September 15, 1959

Mr. J. O. Terrell Couch
The Ohio Oil Company
P. O. Box 3128
Houston, Texas

Dear Mr. Couch:

Reference is made to your letter of September 14, 1959, wherein you inquired as to why the Ohio Oil Company's application for administrative approval to convert its State B-4286 "A" Well No. 2 into a salt water disposal well had been set by the Commission for hearing on the September 30th examiner docket.

The Ohio proposal is to inject into the Lower San Andres formation in the SE/4 NW/4 of Section 2, Township 17 South, Range 36 East. There are producing wells completed in the San Andres formation in the NW/4 NE/4 and the SW/4 NE/4 of Section 2, a distance less than a quarter of a mile from your No. 2 well. Rule 701 provides for administrative approval for the conversion of wells only into formations non-productive of oil or gas within a radius of two miles from the proposed injection well. Any exception to this requirement must have a hearing.

Very truly yours,

A. L. PORTER, Jr.
Secretary-Director

ALP/ir

The Ohio Oil Co.

Legal Department

W. Hume Everett
Division Attorney

September 14, 1959

P.O. Box 3128
Houston, Texas

Thomas R. McLroy
J. C. Terrell Couch
Warren B. Leach, Jr.
Attorneys

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

Gentlemen:

Re: Proposed Exception to Rule 701

The Ohio Oil Company's Hobbs office has previously filed application dated September 2, 1959 seeking authority to convert its State B 4286 "A" Well No. 2 into a salt water disposal well, together with authority to dispose of salt water as recompleted.

It is my understanding that the case has been set for hearing on your September 30 Examiner's Docket. Please advise me whether there has been objection to the Ohio's proposed action, or whether there is some other reason the application cannot be granted without the necessity of hearing.

Very truly yours,


J. C. TERRELL COUCH

JOTC/1

DOCKET: EXAMINER HEARING SEPTEMBER 30, 1959

Oil Conservation Commission - 9 a.m., Mabry Hall, State Capitol, Santa Fe, New Mexico

The following cases will be heard before Daniel S. Nutter, Examiner, or A. L. Porter, Jr., Secretary-Director.

CONTINUED CASE

CASE 1739: Application of Shell Oil Company for approval of a unit agreement. Applicant, in the above-styled cause, seeks an order approving its Henshaw Deep Unit Agreement comprising 4824 acres, more or less, of Federal and State lands in Township 16 South, Ranges 30 and 31 East, Eddy County, New Mexico.

NEW CASES

CASE 1760: Application of The Atlantic Refining Company for an automatic custody transfer system and for permission to produce more than 16 wells into a common tank battery. Applicant, in the above-styled cause, seeks an order authorizing it to install an automatic custody transfer system to handle the production from all Horseshoe-Gallup oil wells on its Navajo "B" Lease comprising certain acreage in Township 31 North, Range 16 West, San Juan County, New Mexico.

CASE 1761: Application of Stanton Oil Company, Ltd., for a pilot water flood project. Applicant, in the above-styled cause, seeks an order authorizing it to institute a pilot water flood project in the Turkey Track Pool in Eddy County, New Mexico, by the injection of water into the Queen formation through four wells located in Section 34, Township 18 South, Range 29 East.

CASE 1762: Application of Newmont Oil Company for an unorthodox water injection well location. Applicant, in the above-styled cause, seeks an order authorizing it to reopen and utilize for water injection a well located on an unorthodox location at a point 1620 feet from the North line and 1020 feet from the West line of Section 32, Township 16 South, Range 31 East, Square Lake Pool, Eddy County, New Mexico.

CASE 1763: Application of Southwestern Hydrocarbon Company for an order abolishing the Sawyer-San Andres and South Sawyer-San Andres Oil Pools in Lea County, New Mexico, and creating the Sawyer-San Andres Gas Pool; or in the alternative for an order extending the horizontal limits of the South Sawyer-San Andres Oil Pool to include the NE/4 of Section 6, the N/2 of Section 5 and the NW/4 of Section 4, Township 10 South, Range 38 East, Lea County, New Mexico, and removing all gas-oil ratio limitations for wells in said pool; or in the alternative for an order combining the Sawyer-San Andres and the South Sawyer-San Andres Oil Pools as well as the intervening acreage, and removing all gas-oil ratio limitations for such pool.

CASE 1764: Application of Standard Oil Company of Texas for an unorthodox gas well location. Applicant, in the above-styled cause, seeks an order authorizing an unorthodox gas well location in the Atoka-Pennsylvanina Gas Pool, at a point 1850 feet from the South line and 1650 feet from the East line of Section 14, Township 18 South, Range 26 East, Eddy County, New Mexico.

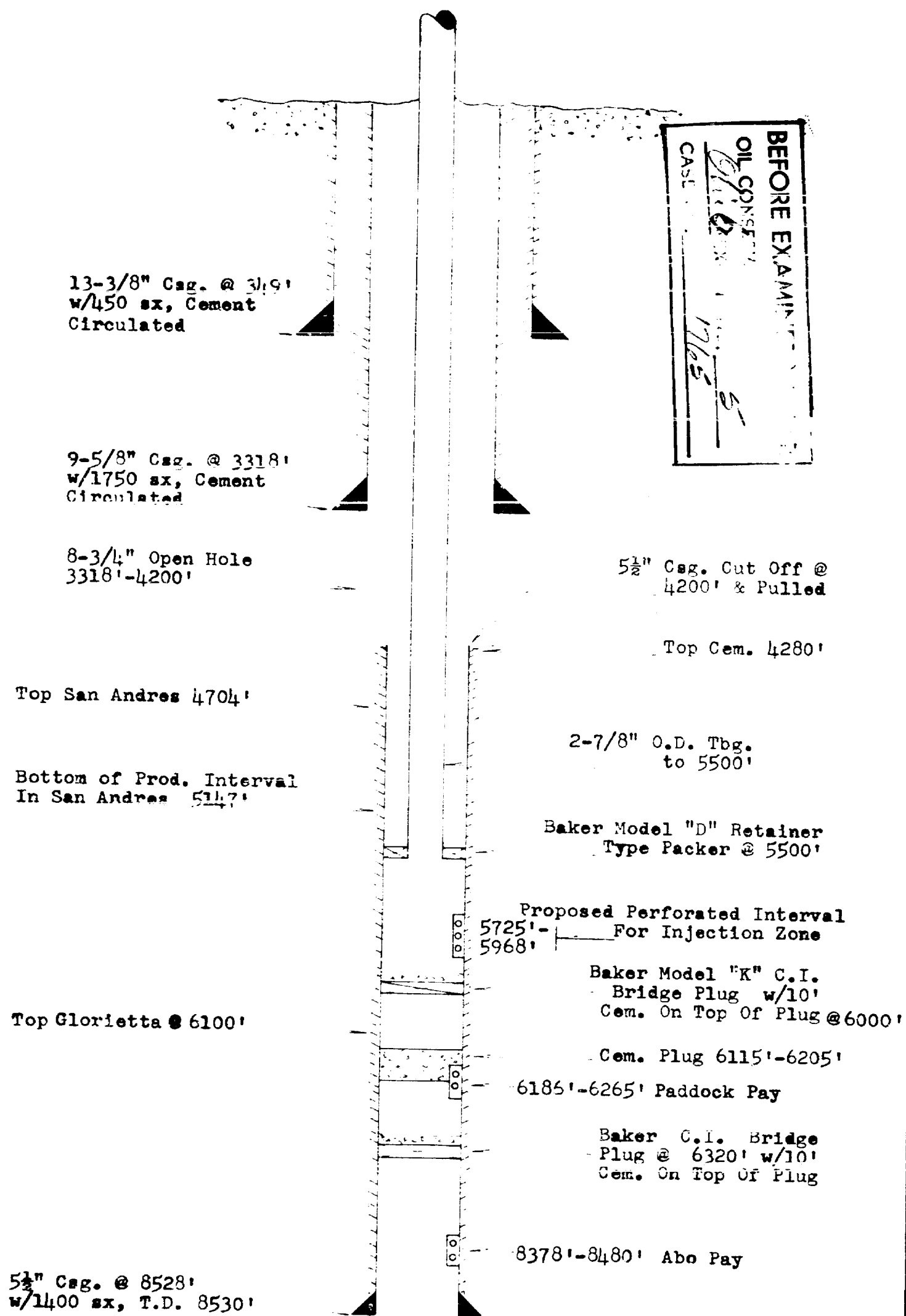
- CASE 1765: Application of The Ohio Oil Company for a salt water disposal well. Applicant, in the above-styled cause, seeks an order authorizing the disposal of produced salt water into the Lower San Andres formation through its State B-4286 "A" Well No. 2, located in Unit F, Section 2, Township 17 South, Range 36 East, Lea County, New Mexico. The proposed injection interval is from 5725 feet to 5968 feet.
- CASE 1766: Application of Northwest Production Corporation for an oil-oil dual completion. Applicant, in the above-styled cause, seeks an order authorizing the dual completion of its "S" Well No. 16-2, located in the SW/4 SW/4 of Section 2, Township 24 North, Range 4 West, Rio Arriba County, New Mexico, in such a manner as to produce oil from an undesignated Gallup oil pool and to produce oil from an undesignated Dakota oil pool through parallel strings of tubing.
- CASE 1767: Application of El Paso Natural Gas Products Company for permission to produce more than 16 wells in a common tank battery. Applicant, in the above-styled cause, seeks an order authorizing the production of a maximum of 35 wells in the Horseshoe-Gallup Oil Pool into a common tank battery. Said wells are located on applicant's Horseshoe Ute Lease comprising portions of Sections 27, 28, 33 and 34, Township 31 North, Range 16 West, San Juan County, New Mexico.
- CASE 1768: Application of T. F. Hodge for the rededication of acreage assigned to three oil wells in the Jalmat Gas Pool. Applicant, in the above-styled cause, seeks an order rededicating the acreage assigned to three oil wells on his Mary E. Wills Lease, Section 33, Township 26 South, Range 37 East, Jalmat Gas Pool, Lea County, New Mexico. Applicant proposes to dedicate 40 acres to each of the three wells, said 40-acre units not to comprise a quarter-quarter section or legal subdivision.
- CASE 1769: Application of Pan American Petroleum Corporation for approval of a unit agreement. Applicant, in the above-styled cause, seeks an order approving its Northeast Hogback Unit Agreement, comprising 10,572 acres, more or less, in Township 30 North, Range 16 West, San Juan County, New Mexico.
- CASE 1770: Application of Pan American Petroleum Corporation for approval of a lease automatic custody transfer system. Applicant, in the above-styled cause, seeks an order authorizing the automatic custody transfer of oil produced from its Lois Wengerd Lease in Sections 23 and 24, Township 12 South, Range 37 East, Gladiola-Devonian Pool, Lea County, New Mexico.
- CASE 1771: Application of Pan American Petroleum Corporation for approval of a lease automatic custody transfer system. Applicant, in the above-styled cause, seeks an order authorizing the automatic custody transfer of oil produced from its USA Malco Refinery "F" Lease, Section 1, Township 18 South, Range 27 East, Empire-Abo Pool, Eddy County, New Mexico.
- CASE 1772: Application of Pan American Petroleum Corporation for approval of an automatic custody transfer system for four state leases in the Empire-Abo Pool, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks an order amending Order No. R-1292 to provide for automatic custody transfer of oil commingled thereunder.

Docket No. 33-59

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- CASE 1773: Application of Pan American Petroleum Corporation for approval of two automatic custody transfer systems for seven federal leases in the Empire-Abo Pool, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks an order amending Order No. R-1399 to provide for automatic custody transfer of oil produced into the two commingled tank batteries authorized therein.
- CASE 1774: Application of Continental Oil Company for a non-standard gas unit. Applicant, in the above-styled cause, seeks the establishment of a 160-acre non-standard gas unit in an undesignated Tubb gas pool consisting of the E/2 NW/4 and the W/2 NE/4 of Section 15, Township 20 South, Range 37 East, Lea County, New Mexico, said unit to be dedicated to the applicant's Britt B-15 No. 10 Well, located in the SW/4 NE/4 of said Section 15.
- CASE 1775: Application of Continental Oil Company for a non-standard gas unit. Applicant, in the above-styled cause, seeks the establishment of a 160-acre non-standard gas unit in an undesignated Tubb gas pool consisting of the E/2 SE/4 of Section 15 and the W/2 SW/4 of Section 14, all in Township 20 South, Range 37 East, Lea County, New Mexico, said unit to be dedicated to the applicant's SEMU Well No. 70, located in the NW/4 SW/4 of said Section 15.
- CASE 1776: Application of Continental Oil Company for an exception to the overproduction shut-in provisions of Order R-520, as amended by Order R-967, for nine wells in the Jalmat Gas Pool. Applicant, in the above-styled cause, seeks an order allowing the following-described wells in the Jalmat Gas Pool to compensate for their overproduced status without being completely shut-in in order to prevent possible waste:
Ascarate D-24 Well No. 1, Unit T, Section 24, T-25-S, R-36-E, Danciger A-8 Well No. 2, Unit P, Section 8, T-23-S, R-36-E, Jack A-20 Well No. 4, Unit G, Section 20, T-24-S, R-37-E, Jack A-29 Well No. 3, Unit H, Section 29, T-24-S, R-37-E, Meyer A-29 Well No. 1, Unit O, Section 29, T-22-S, R-36-E, Meyer B-28 Well No. 1, Unit E, Section 28, T-22-S, R-36-E, State A-32 Well No. 4, Unit F, Section 32, T-22-S, R-36-E, Stevens A-34 Well No. 1, Unit E, Section 34, T-23-S, R-36-E, Wells B-1 Well No. 1, Unit A, Section 1, T-25-S, R-36-E, all in Lea County, New Mexico.
- CASE 1777: Application of El Paso Natural Gas Company for an exception to the overproduction shut-in provisions of Order R-520, as amended by Order R-967, for two wells in the Jalmat Gas Pool. Applicant, in the above-styled cause, seeks an order allowing its E. J. Wells Lease Well No. 13, Unit L, Section 5, and its Wells B-4 Lease Well No. 1, Unit D, Section 4, both in Township 25 South, Range 37 East, Jalmat Gas Pool, Lea County, New Mexico, to compensate for their overproduced status without being completely shut-in in order to prevent possible waste.
- CASE 1778: Application of Olsen Oils, Inc., for an exception to the overproduction shut-in provisions of Order R-520, as amended by Order R-967, for four wells in the Jalmat Gas Pool. Applicant, in the above-styled cause, seeks an order allowing the following-described wells in the Jalmat Gas Pool to compensate for their overproduced status without being completely shut-in in order to prevent possible waste:
Cooper E Well No. 2, NE/4 NW/4 of Section 14, T-24-S, R-36-E, Myers B Well No. 1, SE/4 NW/4 of Section 13, T-24-S, R-36-E, S. R. Cooper Well No. 1, SE/4 NE/4 of Section 23, T-24-S, R-36-E,
Winningham Well No. 3, NE/4 SE/4 of Section 30, T-25-S, R-37-E, all in Lea County, New Mexico.

- CASE 1779: Application of Jal Oil Company for an exception to the overproduction shut-in provisions of Order R-520, as amended by Order R-967, for four wells in the Jalmat Gas Pool. Applicant, in the above-styled cause, seeks an order allowing the following-described wells in the Jalmat Gas Pool to compensate for their overproduced status without being completely shut-in in order to prevent possible waste:
- Legal Well No. 2, NE/4 SE/4 of Section 21,
Dyer Well No. 3, SE/4 NE/4 of Section 31,
Jenkins Well No. 2, NE/4 SW/4 of Section 29,
Ropollo Well No. 1, SW/4 NW/4 of Section 28,
all in Township 25 South, Range 37 East, Lea County, New Mexico.
- CASE 1780: Application of Husky Oil Company for an exception to the overproduction shut-in provisions of Order R-520, as amended by Order R-967, for one well in the Jalmat Gas Pool. Applicant, in the above-styled cause, seeks an order allowing its Montecito Woolworth Well No. 2, Unit M, Section 33, Township 24 South, Range 37 East, Jalmat Gas Pool, Lea County, New Mexico, to compensate for its overproduced status without being completely shut-in in order to prevent possible waste.
- CASE 1781: Application of Texaco, Inc. for permission to continue producing an over-produced Jalmat gas well at a lesser rate. Applicant, in the above-styled cause, seeks an order authorizing it to produce its C. C. Fristoe (b) NCT-4 Well No. 2, Unit M, Section 31, Township 24 South, Range 37 East, Jalmat Gas Pool, Lea County, New Mexico, at a maximum rate of 2500 MCF per month for lease use until over production has been compensated for.



THE OHIO OIL COMPANY
State B-4286 "A" - Well No. 2
PROPOSED SWD WELL

Exhibit No. 5
Case No. 1265

STATE OF : New Mexico
COUNTY OF : Lea

B. G. Howard, of lawful age, being first duly sworn, states that he is Superintendent for The Ohio Oil Company with offices at Hobbs, New Mexico and that the following have been duly notified this date, via registered mail, of request for permit for injection of water into a zone non-productive of oil or gas in The Ohio Oil Company's State B 4286 "A" Well No.2, Sec.2 T17S R36E, Lea County, New Mexico by copy of letter request, "Application to Dispose of Salt Water by Injection into a Porous Formation Not Productive of Oil or Gas" and lease plat showing location of all oil or gas wells including drilling wells and dry holes within one-half mile radius of said well:

STATE ENGINEER

RECEIVED

State Engineer Office
Pan American Pet. Corp.
Phillips Petroleum Co.
Magnolia Petroleum Co.
Skelly Oil Co.
Lee Drilling Co.
Humble Oil & Refining Co.
Cities Service Oil Co.
Amerada Petroleum Corp.
Shell Oil Company

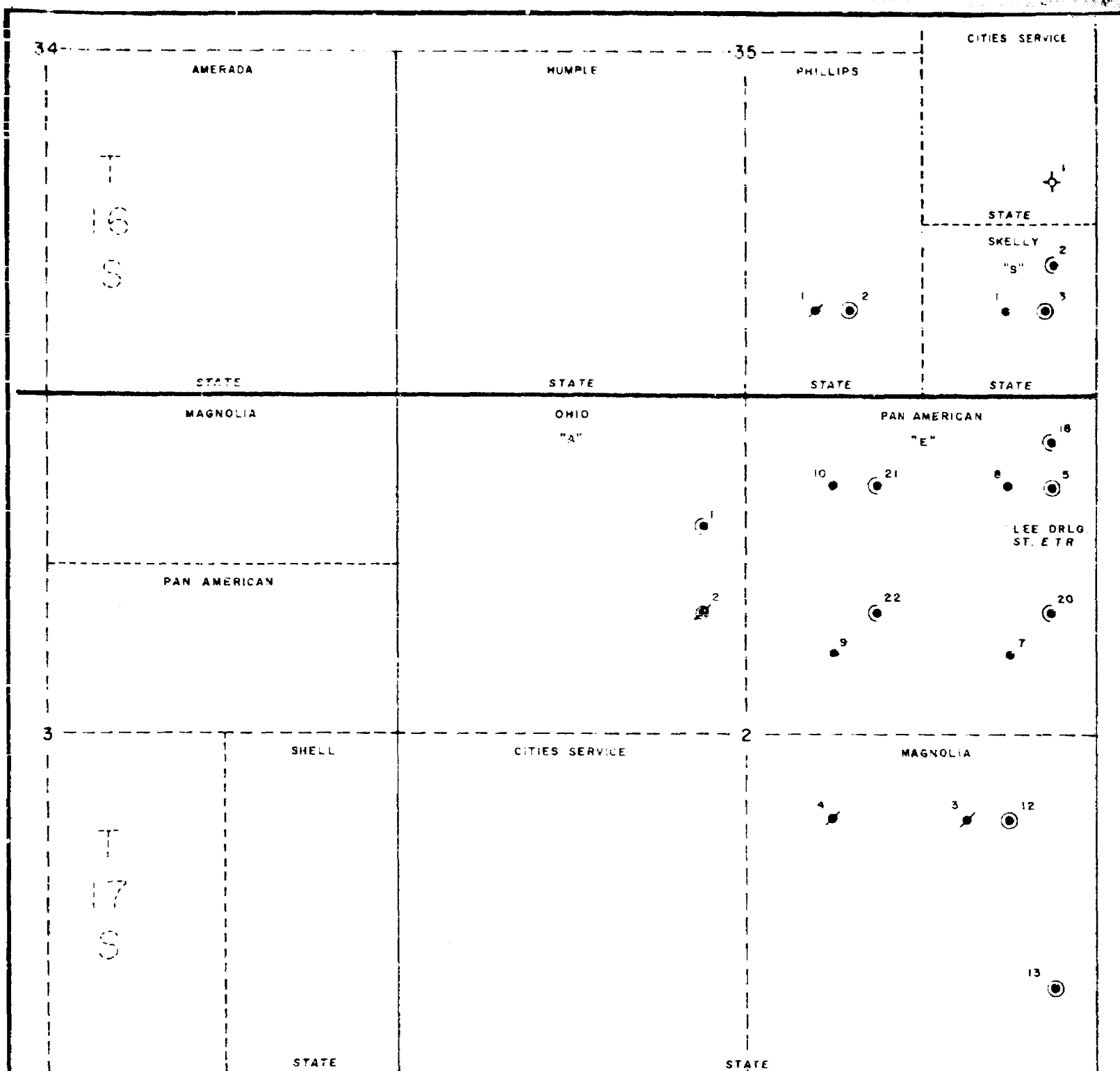
P. O. Box 1079, Santa Fe, N. M.
P. O. Box 68, Hobbs, New Mexico
P. O. Box 2105, Hobbs, New Mexico
P. O. Box 2406, Hobbs, New Mexico
P. O. Box 38, Hobbs, New Mexico
P. O. Box 1109, Midland, Texas
P. O. Box 2347, Hobbs, New Mexico
P. O. Box 97, Hobbs, New Mexico
P. O. Drawer D, Monument, N. M.
P. O. Box 845, Roswell, New Mexico

THE OHIO OIL COMPANY

By: *B. G. Howard*
Superintendent

Subscribed and sworn to before me, a Notary Public, in and for said County and State, this 2nd day of September, 1959.

Lester R. Green
My commission expires January 28, 1963



THE OHIO OIL COMPANY
 Lovington Field
 State B-4286 "A" Lease SWD Area
 Lea County, New Mexico
 Scale: 1" = 1000' Sept. 1, 1959

LEGEND

- Lovington San Andres
- ⊙ Lovington Abo
- ⊙ Lovington Paddock

STATE OF NEW MEXICO
OIL CONSERVATION COMMISSION

Revised 9 16 58

APPLICATION
TO DISPOSE OF SALT WATER BY INJECTION INTO A POROUS FORMATION
NOT PRODUCTIVE OF OIL OR GAS

Operator THE OHIO OIL COMPANY Address P.O. Box 2107, Hobbs, New Mexico

Lease State B 4286 "A" Well No 2 County Lea

Unit 1 Section 2 Township 17-S Range 36-E

This is an application to dispose of salt water produced from the following pool(s):

Lovington Abo; Lovington San Andres

Name of Injection Formation(s) Lower San Andres

Top of injection zone 5725' Bottom of injection zone: 5968'

Give operator, lease, well no., and location of any other well in this area using this same

zone for disposal purposes None

CASING PROGRAM

	Diameter	Setting Depth	Sacks Cement	Top of Cement
Surface	13-3/8"	349'	450 sx.	Circ. to surface
Intermediate	9-5/8"	3316'	1750 sx.	" " "
Long String	5-1/2"	8528'	1400 sx.	4280' (See attach.)

Will injection be through tubing casing, or annulus? Tubing

Size tubing 2-7/8" O.D. Setting depth: 5500' Packer set at: 5500'

Name and Model No. of packer Baker Model "D" cast iron retainer type

Will injection be through perforations or open hole? perforations

Proposed interval(s) of injection 5725' - 5810' & 5845' - 5968'

Well was originally drilled for what purpose? Lovington Abo production

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:
Abo 8378'-8443' & 8446'-8480' - Set C.I. bridge plug at 6320' & dumped 1 sx. cement on same.
Paddock 6186'-94' & 6202'-65' - 10 sx. plug 6115' to 6205' w/C.I. bridge plug at 6000' with
10' cement on top of same.

Give depth of bottom of next higher zone which produces oil or gas: 5147'

Give depth of top of next lower zone which produces oil or gas: 6100'

Give depth of bottom of deepest fresh water zone in area: 200'

Expected volume of salt water to be injected daily (barrels) 600

Will injection be by gravity or pump pressure? gravity Estimated pressure: vacuum

Is system open or close type? closed Is filtration or chemical treatment necessary? no

Is the water to be disposed of mineralized to such a degree as to be unfit for domestic, stock, irrigation, and/or other general use? yes

Is any water occurring naturally within the proposed disposal formation mineralized to such a degree as to be unfit for domestic, stock, irrigation, and/or other general use? yes

List all offset operators to the lease on which this well is located and their mailing address

Pan American Pet. Corp., P.O. Box 68, Hobbs, New Mexico

Phillips Petroleum Co., P.O. Box 2105, Hobbs, New Mexico

Magnolia Petroleum Co., P.O. Box 2406, Hobbs, New Mexico

Skelly Oil Co., P.O. Box 38, Hobbs, New Mexico

Lee Drilling Co., P.O. Box 1109, Midland, Texas

Humble Oil & Refining Co., P.O. Box 2347, Hobbs, New Mexico

Cities Service Oil Co., P.O. Box 97, Hobbs, New Mexico

Amerada Petroleum Corp., P.O. Drawer D, Monument, New Mexico

Shell Oil Company, P.O. Box 845, Roswell, New Mexico

Name and address of surface owner State Land

Have copies of this application been sent by registered mail or given to all offset operators, surface owners, and to the New Mexico State Engineer? yes

Is a complete electrical log of this well attached? yes

DISTRIBUTION: ●

NMCC(3)

State Engineer (1)

Offset Operators

Mr. C. S. Mills

Mr. J. A. Grimes

Mr. L. H. Snearer

Mr. D. V. Kitley

Mr. T. A. Steele

Mr. T. O. Webb

Mr. E. E. Feather

Operator: THE OHIO OIL COMPANY

By: B. G. Howard

Title: Superintendent

STATE OF New Mexico)
) ss.
County of Lea)

BEFORE ME, The undersigned authority, on this day personally appeared B. G. Howard known to me to be the person whose name is subscribed to the above instrument, who being by me duly sworn on oath states that he is duly authorized to make the above report and that he has knowledge of the facts stated therein and that said report is true and correct.

SUBSCRIBED AND SWORN TO before me this the 2 day of September, 19 59.

Notary Public in and for the County of Lea

My Commission Expires January 28, 1963

NOTE: Should waivers from all offset operators, the surface owner, and the State Engineer not accompany an application, the New Mexico Oil Conservation Commission will hold the application for a period of fifteen (15) days from date of receipt by the Commission's Santa Fe office. If at the end of said fifteen-day period, no protest nor request for hearing is received by the Santa Fe office, the application will then be processed.

BEFORE THE
OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO

IN THE MATTER OF:
CASE 1765

TRANSCRIPT OF HEARING

SEPTEMBER 30, 1959

BEFORE THE
OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO
SEPTEMBER 30, 1959

IN THE MATTER OF:

CASE 1765 Application of The Ohio Oil Company for a salt :
water disposal well. Applicant, in the above- :
styled cause, seeks an order authorizing the :
disposal of produced salt water into the Lower :
San Andres formation through its State B-4286 :
"A" Well No. 2, located in Unit F, Section 2, :
Township 17 South, Range 36 East, Lea County, :
New Mexico. The proposed injection interval is: :
from 5725 feet to 5968 feet. :

BEFORE:

Daniel S. Nutter, Examiner.

T R A N S C R I P T O F P R O C E E D I N G S

MR. NUTTER: Take next Case 1765.

MR. PAYNE: Case 1765. Application of The Ohio Oil
Company for a salt water disposal well.

MR. NEWMAN: Kirk Newman of Atwood & Malone, Roswell,
New Mexico, representing the applicant. We have one witness.

(Witness sworn)

THOMAS O. WEBB,
called as a witness, having been first duly sworn, testified as
follows:

DIRECT EXAMINATION

BY MR. NEWMAN:

Q Will you state your name and employment, please?

A My name is Thomas O. Webb. I'm employed by The Ohio Oil Company in the capacity of area petroleum engineer in Hobbs, New Mexico.

Q Have you previously testified before this Commission?

A No, I have not.

Q For the Commission, would you state briefly your professional and educational background, please?

A I graduated from the New Mexico School of Mines in May, 1949, receiving a B. S. degree in petroleum engineering. Shortly thereafter I went to work for The Ohio Oil Company, and was placed in their engineering department in February, 1951. I have worked as a petroleum engineer for that firm throughout the Permian Basin since that time. I was placed in the supervisory capacity in May, 1955.

MR. NEWMAN: Are the witness' qualifications acceptable?

MR. NUTTER: Yes, sir.

Q Are you familiar with the application in this case?

A Yes, sir.

Q Would you state briefly the nature and the purpose of this application?

A This is an application of The Ohio Oil Company for a salt water disposal well, and for authority to utilize a Lower San Andres formation as a salt water disposal horizon. The Ohio Oil

Company owns and operates one lease in the Lovington area, the State B-4286 "A" lease, containing one producing well, and one plugged and abandoned well. The producing well, Well No. 1, is completed in the Lovington Abo Pool, and presently produces approximately 60 barrels of oil and 184 barrels of water per day. We have determined by analysis that the waters produced by Well No. 1 are not potable in that the Lovington area salt water disposal committee has concluded that the underground disposal of produced oil fill brines will be necessary in the foreseeable future, and since we produce a considerable volume of water from our one well, we have determined that we should take precautionary measures to protect the fresh water bearing sand in our lease.

Q Mr. Webb, would you refer to what has been marked as Applicant's Exhibit 1 and state what that Exhibit shows, please, sir?

A Exhibit No. 1 is a map of the Lovington Field, Lea County, New Mexico, indicating all mineral ownership and all producing wells, to the best of my knowledge. Also indicated on the map are the present pool limits of the Lovington San Andres Pool, which are indicated in orange. The Ohio Oil Company property is indicated in yellow. It may be noted that The Ohio lease is situated on the extreme western flank of the Lovington San Andres Pool. Also shown on the map is the proposed salt water disposal well, our Well No. 2, which is the southernmost well on the -- on The Ohio's property.

Q Mr. Webb, would you now refer to what has been marked as Applicant's Exhibit 2, and state what this Exhibit shows, please, sir?

A Exhibit No. 2 is a plat of the Lovington area in the vicinity of The Ohio's lease, and contains a circle of one-half mile radius drawn around the proposed salt water disposal well. Here again, mineral ownership and oil-producing wells are shown, to the best of my knowledge. This Exhibit, by the way, is presented as a supplement to Exhibit No. 1, and is intended to satisfy the requirement of Rule 701-B. All of the operators within the one-half mile radius have received a copy of the application in this case.

Q Mr. Webb, would you please refer to what has been marked as Exhibit No. 3, and state briefly what this Exhibit shows?

A Exhibit No. 3 is a tabulation which shows the completion interval, the producing horizon, and the present productivity of all of the wells within the would be half mile radius of the proposed salt water disposal well. It may be seen from this tabulation that the area contains four producing Abo wells, one producing Paddock well, two producing San Andres wells, and the area also contains five San Andres wells which are presently either plugged and abandoned or shut in.

Q Would you now refer to your cross section which has been marked as Exhibit 4, and state to the Commission what that Exhibit shows?

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A Exhibit No. 4 is an east-west cross section which has been designated as cross section AA A Prime, and has been prepared through six offset wells in The Ohio's proposed salt water disposal well.

Q Is there a plat showing the location of AA Prime line there?

A Yes, sir. The wells that are included on this cross section are designated on the small plat from the right of the Exhibit. Reduced scale logs were utilized when available. The producing interval of the offset wells that are producing from the San Andres formation is shown in red along with completion data for each of those individual wells. By the way, this producing interval is typical for all San Andres wells in the Lovington San Andres Pool. We've also shown on this cross section, in blue, the proposed salt water disposal interval for The Ohio's Well No. 2. The lowermost San Andres oil-water contact was determined by the pressure maintenance study committee in a report entitled "Pressure Maintenance Study," to be at minus 1260. The deepest oil-water contact for the San Andres formation is also shown on the cross section. It may be noted that the proposed disposal zones for The Ohio's well is approximately 600 feet below the lowest oil-water contact for the San Andres formation. We have used logs to show formation lithology and porosity when available. It may be noted that several dense sections exist between the proposed disposal zone and the San Andres pay. It minimizes the possibility

of invasion of the oil pay by disposal wells.

Q Are the dense sections shown in color?

A Yes, sir. These dense sections are shown in orange. We have also included in the cross section logs of two offset wells that completely penetrated the San Andres. To show the continuity of these dense barriers further, we have examined logs completely across the Lovington San Andres Pool, and we determined the condition of this fieldwise.

Q Is it your opinion that because of these dense barriers there could be no communication between the producing zones and the --

A Yes, sir.

Q Do you have any further remarks in connection with this Exhibit?

A I believe not.

Q Will you please now refer to your schematic drawing of the proposed disposal well, which has been marked as Exhibit 5, and state what this Exhibit shows, please, sir?

A Exhibit No. 5 is a schematic diagram of the downhole equipment in the proposed salt water disposal well. Briefly covering the history of this well, the well is the State B-4286 "A" Well No. 2. And it is located 1650 feet from the North line, and 2310 feet from the West line of Section 2, Township 17 South, Range 36 East, Lea County, New Mexico. The well was originally completed in the Lovington Abo Pool in April, 1954. Water produc-

tion increased rapidly. Due to this water production, an unsuccessful attempt was made to recomplete the well in the Paddock pay. The well was subsequently plugged and abandoned in January, 1955. We propose to drill out the present cement plugs, set a Baker Model "K" cast iron bridge plug at a depth of 6,000 feet in the 5½ inch OD casing, and we propose to dump one sack of cement on top of this bridge plug. The 5½ inch casing will then be tested to ascertain that it is holding satisfactorily. The Lower San Andres interval, 5845 to 5968 will then be perforated, treated and tested for injectivity. If additional disposal capacity is needed, we propose to perforate and treat the Lower San Andres interval 5725 to 5810. We then propose to set a permanent production packer at a depth of 5500 feet in the 5½ inch OD casing. 2½ inch plastic coated plug which will serve as a disposal string, will then be inserted into this. Now, we know from experience gained during the drilling and plugging operations of this well that the open hole interval, 3318 to 4200, will support a full column of mud with absolutely no mud loss to the formation. We, therefore, propose to load the annular space behind the 2½ inch casing with fresh water mud. We will then install a pressure gauge at the surface of the well on the annular space. By observing the pressures on this gauge, we may immediately detect any leak which may develop in the disposal tubing. This diagram also illustrates how the fresh water sands in the vicinity of our lease, which the disposal well may have penetrated, will also be protected. The top of the red beds in the

vicinity of this particular lease are located approximately 200 feet below the surface. By observing Exhibit No. 5, you may see how the casing program which was used during the drilling and completion of this well will protect any fresh water bearing sand. It may be seen that the 13 3/8 inch casing is set at a depth of 349 feet, and that cement was circulated completely to the surface behind the string. In addition to that, the 9 5/8 inch casing is set at a depth of 3318 feet, and here again cement was circulated completely to the surface behind this string.

Q Mr. Webb. do you consider that there is any question whatsoever but that all the fresh water sands in this area will be protected?

A None whatsoever, in my opinion.

Q Is there any possibility of invasion of the injected water into the lower formations?

A No, sir. Exhibit No. 5 also illustrates how those pays which exist beneath the San Andres will be protected from invasion. First, if you will note, the Paddock pay is 218 feet below the bottom of the proposed disposal zone. The Paddock will be separated from the disposal zone by a cast iron bridge plug with a 10-foot cement cap. In addition to that, it will be separated by a 90-foot cement plug which was placed in the well during the plugging of the well.

Q You have selected the lower zone of the San Andres formation. Are there any other satisfactory and shallower zones

for the disposal of this water in this area?

A No, sir. The Lovington area of salt water disposal committee concluded there are no shallow zones in the Lovington area which would be suitable for salt water disposal purposes, and we concur in this opinion. We feel that the lower San Andres will provide the most adequate zone for salt water disposal purposes which is not productive of oil and/or gas.

Q Has this particular zone of the San Andres been used for salt water disposal previously?

A Yes, sir, it has. It has been used in several salt water disposal systems in Southeastern New Mexico. The Hobbs and the Eunice Monument Eumont systems serve as ideal examples of that, and in each case has proven to be quite satisfactory.

Q Mr. Webb, would the granting of this application in any way cause waste or affect correlative rights?

A No, sir.

Q Do you have any other remarks in connection with this application?

A No, sir.

MR. NEWMAN: I believe that's all the direct.

MR. NUTTER: Does anyone have any questions of Mr. Webb? If not, he may be excused.

MR. NEWMAN: Just a minute.

Q (By Mr. Newman) Were these Exhibits prepared by you or under your direction?

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A All with the exception of the cross section, which is Exhibit No. 4, and Exhibit No. 1, the map of the Lovington Field, which were prepared by our Midland Petroleum Engineering Department.

Q At your request?

A At my request, yes, sir.

MR. NEWMAN: We would like to offer Exhibits 1 through 5 in evidence.

MR. NUTTER: Ohio's Exhibits 1 through 5 will be entered. Does anyone have anything further they wish to offer in Case 1765? Take the case under advisement.

STATE OF NEW MEXICO)
) ss
 COUNTY OF BERNALILLO)

I, J. A. Trujillo, Notary Public in and for the County of Bernalillo, State of New Mexico, do hereby certify that the foregoing and attached Transcript of Proceedings before the New Mexico Oil Conservation Commission was reported by me in Stenotype and reduced to typewritten transcript by me, and that the same is a true and correct record to the best of my knowledge, skill and ability.

WITNESS my Hand and Seal this, the 6th day of October, 1959, in the City of Albuquerque, County of Bernalillo, State of New Mexico.

Joseph A. Trujillo
 NOTARY PUBLIC

My Commission Expires:

October 5, 1960

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 1765, heard by me on 9-30, 1959.

[Signature], Examiner
 New Mexico Oil Conservation Commission