

CASE 3931: Application of PAN AM.  
PETROLEUM CORP. FOR SALT WATER  
DISPOSAL, ROOSEVELT COUNTY, N.M.

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Case Number

3931

Application

Transcripts

Small Exhibits

ETC.

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

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



BEFORE THE  
NEW MEXICO OIL CONSERVATION COMMISSION  
Santa Fe, New Mexico  
November 12, 1968

IN THE MATTER OF:

Application of Pan American Petroleum  
Corporation for salt water disposal,  
Roosevelt County, New Mexico.

Case No. 3931

BEFORE: D. S. NUTTER

TRANSCRIPT OF HEARING

MR. NUTTER: Call Case 3931.

MR. HATCH: Application of Pan American Petroleum Corporation for salt water disposal, Roosevelt County, New Mexico.

MR. BUELL: For Panamerican, the same appearance as Case 3930, and I assume Mr. Wells is sworn and qualified for this case as well as for Case 3932.

MR. NUTTER: Mr. Wells is still under oath.

(Applicant's Exhibits 1 through 6 marked for identification.)

WILLIAM C. WELLS, JR., having been previously duly sworn, was examined and testified as follows:

DIRECT EXAMINATION

BY MR. BUELL:

Q Mr. Wells, look at what has been identified as Pan American Exhibit No. 1. What is that exhibit?

A Exhibit No. 1 is a plat of the Chaveroo Pool Area. All wells on the plat either are or have produced from the Chaveroo Pool. Our two proposed salt water disposal wells are designated by red arrows. The wells are the Farrell Federal Well No. 10 and the State "DF" Well No. 1.

Q Would you locate those wells for the record, please?

A Yes, Farrell Federal No. 10 is located in Unit F of Section 28, over on the left-hand side of the map; the

State "DF" No. 1 is located in Unit I, I believe, in Section 25, it's the northeast quarter of the southeast quarter of Section 25.

Q Mr. Wells, I realize you'll testify in detail later about the specific injection interval but for the benefit of the Examiner, let me ask you, will injection be into the San Andres Formation?

A Yes, sir, it will.

Q Will you turn to what has been identified as Exhibit No. 2? What is that exhibit?

A Exhibit No. 2 is a Gamma Ray Neutron log of our Farrell Federal Well No. 10. The exhibit shows the top of the San Andres marker at approximately 4,087 feet. It shows the current producing interval ranging over an interval from 4239 to 4389. This will also be our disposal interval.

Q Any other comments on that log?

A No, sir.

Q Look at Exhibit 3; what is it?

A Exhibit 3 is a similar Gamma Ray Neutron log of the State "DF" No. 1, the other disposal well. It shows the top of the San Andres marker, it shows the current producing interval over the interval from 4224 to 4341. It shows these perforations as squeezed off, this is as they will be under disposal

operations. It also shows the proposed disposal interval being from 4402 to 4422 down below. It shows these perforations open.

Q Any other comments on that log?

A No.

Q Turn to Exhibit No. 4, what is that exhibit?

A Exhibit 4 is a mechanical diagram of the Farrell Federal Well No. 10. On this diagram we have shown that we have 8 and 5/8ths surface casing set at 397 feet with 250 sacks of cement, the cement was circulated. We also show our 4 and 1/2-inch oil string set at 4433 with 800 sacks, we have a top of cement behind the oil string at 1350 feet. We show the current San Andres perforations as mentioned on the earlier log. We show that this will also be our proposed injection interval. We indicate that injection will be down 2 and 3/8ths-inch plastic-coated tubing set in a tension packer at about 4200 feet. We will load our annulus with inhibited fluid and will have a pressure gauge on the surface.

Q Turn now to Exhibit 5, please, Mr. Wells. What is that exhibit?

A Exhibit 5 is a mechanical diagram similar to the last one on our State "DF" No. 1. It also shows the 8 and 5/8ths-inch surface pipe set at 448 feet with 250 sacks of

cement which was circulated. We show the 4 and 1/2-inch oil string at 4498 set with 800 sacks and top of cement at 1400 feet. We show the current San Andres producing interval which here is shown as squeezed San Andres perforation ranging over the interval from 4224 to 4228 and show the proposed injection interval from 4402 to 4422. I would like to bring out a point right here, the proposed injection interval on this well, you notice is different from the present producing interval. This is below what we feel is a water-oil contact in this area. The San Andres is non-productive at this depth, it's water bearing. We also show that we will load the annulus with an inhibited fluid on this well and have a positive surface pressure gauge.

Q Based on information furnished you, are all subsurface waters at a more shallow depth than the total depth of the surface casing in both these wells?

A Yes, they are.

Q Based on the method of casing, cementing and completion, do you see how the injected salt water can enter any other zone than the objective zone?

A No, sir, I don't believe it could.

Q Look at Exhibit 6, if you will. What does that exhibit show?

A This is a pertinent data sheet showing various factors pertaining to this case. I believe it's pretty well self-explanatory except for three or four things I would like to bring out, or emphasize. One, the water to be disposed of will have a chloride content of some 144,000 parts per million. The anticipated rates in the Farrell Federal Well No. 10 will be 150 to 200 barrels of water per day. The rates into the State "DF" No. 1 will be 100 to 150 barrels of water per day. The source of our produced water will be our Farrell Federal Lease, our State "DB" Lease, our Wolf Federal Lease and our Homm, H-o-m-m, Federal Lease.

Q Will the approval of this application be in the interest of conservation in that it will eliminate surface disposal of salt water and possible contamination of surface and subsurface waters?

A Yes, sir, it will.

MR. BUELL: May it please the Examiner, that's all we have by way of direct at this time.

MR. NUTTER: Any questions of this witness?

CROSS EXAMINATION

BY MR. NUTTER:

Q Mr. Wells, on your Farrell well, which leases will be furnishing water for that well?



A Strictly the Farrell Federal Lease.

Q That will all come from that lease?

A Yes.

Q That lease is confined to Section 28?

A Yes, sir, 16 wells.

Q Now, for the other one, the "DF", which leases will be contributing water to that well?

A Three leases, our Wolf Federal which is located in the northeast quarter of Section 19, Township 7 South, Range 34 East, it's in the upper right-hand portion of the map. Also the Homm Federal which is the north half of Section 20 just to the east of the Wolf; and our State "DB" Lease which is the west half and the southwest quarter of the southeast quarter of Section 25, just to the west of our disposal well.

Q Is this "DF" No. 1 the only well on that lease?

A Yes, sir, it is on this particular tract.

Q But you do have some additional acreage on the lease?

A Yes.

Q That's the one that you are going to reperforate down below the water-oil contact. Are any wells in this area producing from that interval that you will be disposing into?

A No, sir, we have investigated the offset logs and

the logs in the general area, and this seems to be in general 20 to 30 feet below any comparable producing zone. You will notice on the Gamma Ray Neutron log, also, there is a dense stringer just below our injection interval.

Q So while we probably can in all sincerity call this a disposal well, the other one may not be a disposal well in the strictest sense of the word. You are going to be injecting water into the producing interval there?

A Yes.

Q And you may be maintaining pressure in the zone or waterflooding it or doing something other than disposing of water, actually.

A Based on field performance out here, we don't feel that we will gain any benefit from injecting into the producing intervals; if we should, however, we will gladly come back in and convert this to a pressure maintenance project.

MR. BUELL: We will certainly watch it closely.

Q (By Mr. Nutter) But the disposal will be into the producing interval and it will be into the same zone that offsetting wells are producing from?

A Yes.

Q And in each case you will be using plastic-coated tubing with the annulus loaded with an inhibited fluid and equipped with a gauge?

A Yes, sir.

MR. NUTTER: Any other questions of Mr. Wells?  
He may be excused.

(Witness excused.)

MR. KELLY: I would like to make a statement.

MR. NUTTER: Did you wish to offer your exhibits?

MR. BUELL: Yes, let me formally offer the exhibits,  
1 through 6, inclusive.

MR. NUTTER: Applicant's Exhibits 1 through 6  
will be admitted in evidence.

(Whereupon, Applicant's Exhibits 1  
through 6 offered and admitted in  
evidence.)

MR. NUTTER: Do you have anything else, Mr. Buell?

MR. BUELL: No, that's all.

MR. KELLY: Booker Kelly, White, Gilbert, Koch and  
Kelly, appearing on behalf of Tenneco Oil Company. Tenneco  
is an operator in Chaveroo-San Andres Field and wishes to  
support the application.

MR. NUTTER: Thank you. Does anyone have anything  
further to offer in Case 3931? We will take the case under  
advisement, and take a 15 minute recess.

I N D E X

| WITNESS                         |        | PAGE                 |
|---------------------------------|--------|----------------------|
| <u>WILLIAM C. WELLS, JR.</u>    |        |                      |
| Direct Examination by Mr. Buell |        | 2                    |
| Cross Examination by Mr. Nutter |        | 6                    |
| EXHIBITS                        | MARKED | OFFERED AND ADMITTED |
| Applicant's 1 through 6         | 2      | 9                    |

STATE OF NEW MEXICO )  
 ) ss  
 COUNTY OF BERNALILLO )

I, ADA DEARNLEY, Court Reporter 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, and that the same is a true and correct record to the best of my knowledge, skill and ability.

WITNESS my hand this 25th day of November, 1968.

*Ada Dearnley*  
 ADA DEARNLEY

I do hereby certify that the foregoing is a complete record of the proceedings in the Executive Hearing of Case No. 3931 heard by me on 11/12/68.

*[Signature]*  
 New Mexico Oil Conservation Commission

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

November 19, 1968

Mr. Guy Buell  
Pan American Petroleum Corporation  
Post Office Box 1410  
Fort Worth, Texas 76101

Re: Case No. 3931  
Order No. R-3578  
Applicant:  
Pan American Petroleum Corp.

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 of order also sent to:

Hobbs OCC x

Artesia OCC       

Aztec OCC       

Other State Engineer Office

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. 3931  
Order No. R-3578

APPLICATION OF PAN AMERICAN PETROLEUM  
CORPORATION FOR SALT WATER DISPOSAL,  
ROOSEVELT COUNTY, NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 a.m. on November 12, 1968,  
at Santa Fe, New Mexico, before Examiner Daniel S. Nutter.

NOW, on this 19th day of November, 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, Pan American Petroleum Corporation,  
is the owner and operator of the State "DF" Well No. 1, located  
in Unit I of Section 25, and the Farrell Federal Well No. 10,  
located in Unit F of Section 28, both in Township 7 South, Range  
33 East, NMPM, Chaveroo-San Andres Pool, Roosevelt County, New  
Mexico.

(3) That the applicant proposes to utilize said wells to  
inject produced salt water into the San Andres formation, with  
injection into the intervals as follows:

The perforated interval from approximately  
4402 feet to 4422 feet in its State "DF"  
Well No. 1; and

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CASE No. 3931  
Order No. R-3578

The perforated interval from approximately 4239 feet to 4389 feet in its Farrell Federal Well No. 10.

(4) That the subject wells should be classified as pressure maintenance project injection wells.

(5) That the subject pressure maintenance projects are in the interest of conservation and should result in greater ultimate recovery of oil, thereby preventing waste.

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

IT IS THEREFORE ORDERED:

(1) That the applicant, Pan American Petroleum Corporation is hereby authorized to institute two pressure maintenance projects in the Chaveroo-San Andres Pool, Roosevelt County, New Mexico, by the injection of water into the San Andres formation through the following-described wells in Township 7 South, Range 33 East, NMPM, Roosevelt County, New Mexico:

Pan American State "DF" Pressure Maintenance Project

State "DF" Well No. 1, located in Unit I of Section 25 — injection to be accomplished through 2 3/8-inch tubing installed in a packer set at approximately 4370 feet, with injection into the perforated interval from approximately 4402 feet to 4422 feet; and

Pan American Farrell Pressure Maintenance Project

Farrell Federal Well No. 10, located in Unit F of Section 28 — injection to be accomplished through 2 3/8-inch tubing installed in a packer set at approximately 4200 feet, with injection into the perforated interval from approximately 4239 feet to 4389 feet;

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

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CASE No. 3931  
Order No. R-3578

(3) That the subject pressure maintenance projects shall be governed by the provisions of Rules 701, 702, and 703 of the Commission Rules and Regulations.


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

(5) That jurisdiction of this cause is retained for the entry of such further orders as the Commission may deem necessary.

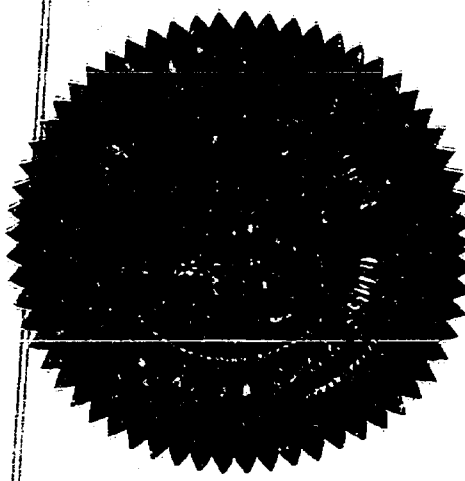
DONE at Santa Fe, New Mexico, on the day and year hereinabove designated.

STATE OF NEW MEXICO  
OIL CONSERVATION COMMISSION

  
DAVID E. CARGO, Chairman

  
GUYTON B. HAYS, Member

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



esr/



DOCKET: EXAMINER HEARING - TUESDAY - NOVEMBER 12, 1968

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

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

CASE 3927: Application of Gulf Oil Corporation for an unorthodox oil well location, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to drill a producing oil well at an unorthodox location 5 feet from the North line and 1,315 feet from the West line of Section 33, Township 19 South, Range 35 East, as an infill well in the West Pearl Queen Unit Waterflood Project, Pearl-Queen Pool, Lea County, New Mexico.

CASE 3928: Application of Jake L. Hamon for the creation of a new oil pool and for special pool rules, Lea County, New Mexico. Applicant, in the above-styled cause, seeks the creation of a new Devonian oil pool for its State "K-33" Well No. 1 located 1980 feet from the South and West lines of Section 30, Township 16 South, Range 36 East, Lea County, New Mexico, and for the promulgation of special rules therefor including a provision for 80-acre proration units.

CASE 3929: Application of Leonard Latch for three waterflood projects, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks authority to institute three waterflood projects by the injection of water into the Yates formation through five wells on his Saunders A, B, and Travis leases located in Sections 12 and 13 of Township 17 South, Range 27 East, Empire (Yates-Seven Rivers) Pool, Eddy County, New Mexico.

CASE 3930: Application of Pan American Petroleum Corporation for a dual completion and water injection, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to dually complete its Meyers "B" Federal Well No. 4 located in Unit E of Section 21, Township 24 South, Range 37 East, Lea County, New Mexico, in such a manner as to permit the production of gas from the perforated interval 2950 feet to 3090 feet, Jalmat Gas Pool, and the injection of water for secondary recovery purposes into the Seven Rivers-Queen formations, Langlie-Mattix Pool, in the open-hole interval from 3295 feet to 3650 feet through parallel strings of tubing.

CASE 3931: Application of Pan American Petroleum Corporation for salt water disposal, Roosevelt County, New Mexico. Applicant, in the above-styled cause, seeks authority to dispose of produced salt water into the San Andres formation in the interval from 4239 feet to 4389 feet in its Farrell Federal Well No. 10 located in Unit F of Section 28, Township 7 South, Range 33 East, and in

November 12, 1968

Examiner Hearing

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Docket No. 33-68

(Case 3931 continued)

the interval from 4402 to 4422 feet in its State "DF" Well No. 1 located in Unit I of Section 25, Township 7 South, Range 33 East, Chaveroo-San Andres Pool, Roosevelt County, New Mexico.

CASE 3932: Application of Pan American Petroleum Corporation for down-hole commingling, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to commingle production from the Justis-Blinebry and Justis-Fusselman Pools in the wellbore of its State "AJ" Well No. 6 located in Unit M of Section 30, Township 25 South, Range 38 East, Lea County, New Mexico, with the provision that no more than one single allowable will be produced from said well.

CASE 3933: Application of Texaco, Inc., for a waterflood project, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to institute a pilot waterflood project by the injection of water into the Drinkard formation through its C. H. Lockhart Federal NCT Well No. 8 located in Unit P of Section 18, Township 22 South, Range 38 East, Drinkard Pool, Lea County, New Mexico. Applicant further seeks a procedure whereby said project may be expanded administratively without a showing of a well response.

CASE 3934: Application of Texaco Inc., for a waterflood project, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to institute a waterflood project by the injection of water into the Drinkard formation through the Drinkard string of its multiple completed (tubingless) V. M. Henderson Well No. 8 located in Unit E of Section 30, Township 21 South, Range 37 East, Drinkard Pool, Lea County, New Mexico.

CASE 3935: Application of Sinclair Oil Corporation for a waterflood project, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to institute a pilot waterflood project by injection of water into the Yates and Seven Rivers formations through its B Davis Well No. 1 located 330 feet from the South and West lines of Section 34, Township 23 South, Range 36 East, Jalmat Pool, Lea County, New Mexico.

November 12, 1968

Examiner Hearing

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Docket No. 33-68

- CASE 3936: Application of Tenneco 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 and Seven Rivers formations in the perforated interval from approximately 2920 feet to 3134 feet in its E. J. Wells Well No. 2 located in Unit G of Section 12, Township 25 South, Range 36 East, Jalmat Pool, Lea County, New Mexico.
- CASE 3937: Application of Anadarko Production Company for an amendment to Order No. R-2977, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks the amendment of Order No. R-2977, as corrected by Order No. R-2977-A, which authorized a cooperative waterflood project in the Square Lake Pool, Eddy County, New Mexico, to delete the water injection well previously authorized to be drilled 2630 feet from the South line and 2650 feet from the East line of Section 31, Township 16 South, Range 31 East, and to authorize for water injection its Grier Federal Well No. 6 located 1980 feet from the South and East lines of said Section 31.
- CASE 3938: Application of Aztec Oil & Gas Company for compulsory pooling and a non-standard proration unit, San Juan County, New Mexico. Applicant, in the above-styled cause, seeks an order pooling all mineral interests in the Pictured Cliffs formation underlying Lots 6, 7, NE/4 SW/4, and SE/4 SW/4 of Section 6, Township 29 North, Range 10 West, Aztec-Pictured Cliffs Gas Pool, San Juan County, New Mexico. Said non-standard unit to be dedicated to a well to be drilled 1830 feet from the South line and 1530 feet from the West line of said Section 6. Also to be considered will be the costs of drilling said well, a charge for the risk involved, a provision for the allocation of actual operating costs, and the establishment of charges for supervision of said well.
- CASE 3939: Application of Aztec Oil & Gas Company for four unorthodox gas well locations, San Juan County, New Mexico. Applicant, in the above-styled cause, seeks approval of unorthodox Blanco-Mesaverde Gas Pool locations for four wells located as follows:

SAN JUAN COUNTY, NEW MEXICO

Township 30 North, Range 11 West

Hampton Well No. 4 - 1,140 feet from the West line  
and 970 feet from the North line  
of Section 13

November 12, 1968

Examiner Hearing

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Docket No. 33-68

(Case 3939 continued)

Township 31 North, Range 12 West

Richardson Well No. 7 - 1,584 feet from the East line  
and 1,621 feet from the South line  
of Section 15

East Well No. 10 1,770 feet from the North line  
and 790 feet from the West line of  
Section 26

East Well No. 8 790 feet from the South and East  
lines of Section 26.

CASE 3940: Application of Shell Oil Company for an amendment to Order No. R-2808, Lea County, New Mexico. Applicant, in the above-styled cause, seeks the amendment of Order No. R-2808 to permit the dedication of a non-standard proration unit authorized therein to its Livingston Wells Nos. 7 and 2 located in Units V and W, respectively, of Section 3, Township 21 South, Range 37 East, Tubb Gas Pool, Lea County, New Mexico. Applicant further seeks authority to produce the allowable assigned to said unit from either of the aforesaid wells in any proportion.

CASE 3941: Application of Agua, Inc., for salt water disposal, Eddy County, New Mexico. Applicant, in the above-styled cause, proposes to dispose of produced salt water into the San Andres formation in the open-hole interval between the casing shoe set at 2050 feet and a cement plug at 5400 feet after cleaning out and acidizing the well between 2050 feet and 3600 feet in its Empire-Abo SWD Well No. 01, formerly the Humble Federal Empire-Abo Well No. 3, located in Unit O of Section 1, Township 18 South, Range 27 East, Empire-Abo Field, Eddy County, New Mexico.

CASE 3942: Application of Cities Service 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 and Seven Rivers formations in the perforated interval from approximately 3790 feet to 3834 feet in its Closson "B" Well No. 18 located in Unit M of Section 19, Township 22 South, Range 36 East, Jalmat Pool, Lea County, New Mexico.

November 12, 1968  
Examiner Hearing

Docket No. 33-68

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- CASE 3943: Application of Continental Oil Company for a dual completion, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to dually complete its Lynn A-28 Well No. 5, located in Unit A of Section 28, Township 23 South, Range 36 East, Lea County, New Mexico, in such a manner as to produce gas from the Yates formation of the Jalmat Gas Pool through the casing-tubing annulus and to dispose of produced salt water through tubing into the Seven Rivers formation of said pool in the interval from 3340 to 3374 feet.
- CASE 3944: Application of Sun Oil Company for a pressure maintenance project, Roosevelt County, New Mexico. Applicant, in the above-styled cause, seeks authority to institute a pressure maintenance project in its James McFarland Lease by the injection of water into the San Andres formation through its James McFarland Well No. 4 located in the NW/4 SW/4 of Section 20, Township 7 South, Range 33 East, Chaveroo-San Andres Pool, Roosevelt County, New Mexico. Applicant further seeks the promulgation of special rules to govern operation of said pressure maintenance project.
- CASE 3945: Application of Mobil Oil Corporation for lease commingling, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to commingle Vacuum Grayburg-San Andres production from its State "G" lease comprising the W/2 NE/4 and SE/4 NE/4 of Section 24, Township 17 South, Range 34 East, Lea County, New Mexico, with Vacuum Grayburg-San Andres production from that portion of its Bridges State lease comprising the W/2 of said Section 24, allocating the production to each lease on the basis of monthly well tests.

PAN AMERICAN PETROLEUM CORPORATION  
ENGINEERING CHART

SUBJECT \_\_\_\_\_

FILE \_\_\_\_\_  
APPN \_\_\_\_\_  
DATE \_\_\_\_\_  
BY \_\_\_\_\_

SWD - Chaveroo Pool -  
SWD Wells  
Forrell Fed Well #10  
Star DF #1

LOC - F-1980 FNL 81980 FNL  
LOC - F-1980 FNL 81980 FNL  
LOC - F-1980 FNL 81980 FNL  
LOC - F-1980 FNL 81980 FNL

250-350 Disposal intervals: Sany. Artes.  
100-200 Forrell Fed 4239-4389 depths  
100-150 DF #1 4402 4422

Nov 12 - Counting log & dual log  
Tri - deadline for app. -

# PAN AMERICAN PETROLEUM CORPORATION

OIL AND GAS BUILDING

P. O. BOX 1410

FORT WORTH, TEXAS—76101

D. L. RAY  
DIVISION ENGINEER

November 1, 1968

MAIN OFFICE OCC

Nov 5 AM 8 25

File: GHF-567-986.510.1

Subject: Salt Water Disposal Into  
San Andres Interval,  
Farrell Federal Well No. 10  
and State "DF" Well No. 1  
Chaveroo-San Andres Pool,  
Roosevelt County, New Mexico

Car 3931

New Mexico Oil Conservation Commission (3)  
P. O. Box 871  
Santa Fe, New Mexico 87501

Gentlemen:

Reference is made to a conversation between your Mr. George Hatch and Bill Wells of this office on October 23, 1968, wherein Pan American Petroleum Corporation requested that a hearing be docketed on November 12, 1968, to consider our application for salt water disposal in the Chaveroo-San Andres Pool, Roosevelt County, New Mexico.

Disposal will be into the San Andres interval in our Farrell Federal Well No. 10, located in Unit F, 1980' from north line and 1980' from west line, Section 28, T-7-S, R-33-E, Roosevelt County, New Mexico, and our State "DF" Well No. 1, located in Unit I, 660' from west line and 1980' from south line, Section 25, T-7-S, R-33-E, Roosevelt County, New Mexico.

Attached are exhibits to be used at this hearing, including:

- (1) Plat showing location of proposed disposal wells and all wells within a two mile radius.
- (2) Logs of the proposed injectors.
- (3) Diagramatic wellbore sketches showing the wells as equipped for injection.
- (4) Pertinent data sheet.

Yours very truly,

D. L. Ray *ghf*

WCW:kp

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. 3931

Order No. R- 3578

APPLICATION OF PAN AMERICAN PETROLEUM  
CORPORATION FOR SALT WATER DISPOSAL,  
ROOSEVELT COUNTY, NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 a.m. on November 12, 1968,  
at Santa Fe, New Mexico, before Examiner Daniel S. Nutter.

NOW, on this \_\_\_\_\_ day of November, 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, Pan American Petroleum Corporation,  
is the owner and operator of the State "DF" Well No. 1, located  
in Unit I of Section 25, and the Farrell Federal Well No. 10,  
located in Unit F of Section 28, both in Township 7 South, Range  
33 East, NMPM, Chaveroo-San Andres Pool, Roosevelt County, New  
Mexico.

(3) That the applicant proposes to utilize said wells to  
~~dispose of~~ <sup>inject</sup> produced salt water into the San Andres formation,  
with injection into the intervals as follows:

The perforated interval from approximately  
4402 feet to 4422 feet in its State "DF"  
Well No. 1; and



The perforated interval from approximately 4239 feet to 4389 feet in its Farrell Federal Well No. 10.

(4) That the subject wells should be classified as pressure maintenance project injection wells.

(5) That the subject pressure maintenance projects <sup>are</sup> in the interest of conservation and should result in greater ultimate recovery of oil, thereby preventing waste.

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

IT IS THEREFORE ORDERED:

(1) That the applicant, Pan American Petroleum Corporation, is hereby authorized to institute <sup>two</sup> pressure maintenance projects in the Chaveroo-San Andres Pool, Roosevelt County, New Mexico, by the injection of water into the San Andres formation through the following-described wells in Township 7 South, Range 33 East, NMPM, Roosevelt County, New Mexico:

Pan American State "DF" Pressure Maintenance Project  
State "DF" Well No. 1, located in Unit I of

Section 25 — injection to be accomplished through 2 3/8-inch tubing installed in a packer set at approximately 4370 feet, with injection into the perforated interval from approximately 4402 feet to 4422 feet;

and  
Pan American Farrell Pressure Maintenance Project  
Farrell Federal Well No. 10, located in Unit

F of Section 28 — injection to be accomplished through 2 3/8-inch tubing installed in a packer set at approximately 4200 feet, with injection into the perforated interval from approximately 4239 feet to 4389 feet;

PROVIDED HOWEVER, that <sup>in each well</sup> the tubing shall be plastic-lined; that the casing-tubing annulus shall be filled with an inert fluid; and that a pressure gauge shall be attached to the annulus in order to determine leakage in the tubing, casing, or packer.

(3) That the subject pressure maintenance project, ~~is hereby designated the~~ \_\_\_\_\_ ~~Pressure Maintenance Project and~~ shall be governed by the provisions of Rules 701, 702, and 703 of the Commission Rules and Regulations.

(4) That monthly progress reports of the pressure maintenance project, herein authorized shall be submitted to the Commission in accordance with Rules 704 and 1120 of the Commission Rules and Regulations.

(5) 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.