

CASE 3977: Application of TEXAS
PACIFIC OIL COMPANY FOR SALT
WATER DISPOSAL, LEA COUNTY.

Case Number

3977

Application

Transcripts.

Small Exhibits

ETC.

4.
I have been thinking of you
very much lately. I hope you
are well. I am very well.
Yours truly,
F. M. Russell
Mrs. Russell

dearnley-meier

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

December 2, 1968

EXAMINER HEARING

IN THE MATTER OF:

Application of Texas Pacific)
Oil Company for salt water)
disposal, Lea County, New)
Mexico.)

Case No. 3977

BEFORE: Daniel S. Nutter, Examiner

TRANSCRIPT OF HEARING

MR. NUTTER: We will call next, Case 3977.

MR. HATCH: Application of Texas Pacific Oil Company
for salt water disposal, Lea County, New Mexico.

MR. RUSSELL: John F. Russell, representing the
applicant. I have one witness, Mr. John Walters.

(Whereupon, Applicant's Exhibits
Numbers 1 through 7, inclusive,
were marked for identification.)

JOHN WALTERS

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

DIRECT EXAMINATION

BY MR. RUSSELL:

Q Please state your name.

A John Walters.

Q Will you state your address, and by whom you are
employed, and in what capacity?

A John Walters, Midland, Texas, employed as an
engineer with Texas Pacific Oil Company.

Q Have you previously qualified to give expert
testimony before the Commission?

A No, I have not qualified before the Commission.

Q Would you please give a brief resume of your
educational background and your past experience?

A My educational background consists of a Bachelor of Science Degree from Texas A&M in 1954, and a Bachelor of Science Degree in Petroleum Engineering from Texas Tech in 1960. My experience consists of three years with Core Laboratory as Assistant Engineer, part of the time during which I was attending Texas Tech. My work included the Permian Basin and San Juan Basin. I worked in Odessa for three years, followed by five and a half years for independent operators in East Texas, south Louisiana, and Arkansas. In September of 1968, I again returned to the Permian Basin to work for Texas Pacific Oil Company.

Q You are familiar with the area in which the application pertains?

A I am familiar with the area.

MR. RUSSELL: Are the witness's qualifications acceptable?

MR. NUTTER: They are.

Q Are you familiar with the application of Texas Pacific Oil Company in Case No. 3977?

A Yes, I am familiar with that case.

Q What does the company seek to obtain by that application?

A Texas Pacific Oil Company seeks authority to dispose

of produced water into the Seven Rivers Formation in the perforated interval from 3,168 to 3,196 feet in its Farnsworth "4" Well No. 7 located in Unit F of Section 4, Township 26 South, Range 37 East, Langley-Mattix Pool, Lea County, New Mexico.

Q Have you prepared some exhibits in connection with this application?

A Yes, I have prepared a number of exhibits.

Q Now, referring to your exhibits, and identify them as you go along, explain what each of these exhibits reflects.

A Exhibit Number 1 is a map of the area showing the location of Farnsworth "4" Well No. 7 as a triangle in blue, located specifically in Unit F, 980 feet from the north line and 2,510 feet from the west line, Section 4, Township 26 South, Range 37 East. The map includes an area of a radius of two miles, and includes all wells completed in that area, and the area below shows the particular completion interval of each of these wells.

Q Mr. Walters, I am going to call your attention to the block in the lower right-hand corner which indicates this is Section 4, Township 25. Should that be corrected to be Township 26?

A Just a second. Let me check that. We are in 26, that is an error.

Q All right, continue.

A Exhibit No. 2 is a sketch of the well bore as we propose to complete it for water injection service. The well has surface casing cemented at 3,700 feet. The size of the surface casing is nine and five-eighths. It is cemented with 200 sacks, and cement has been circulated to the surface. The production strength consists of 3,247 feet of seven-inch casing, cemented with 600 sacks, with cement circulated to the surface. We propose to run a two-inch string of tubing to a depth of approximately 3,160 feet, and that that tubing be placed in the well bore without a packer, and that injection be gone through the tube and into the perforations in the intervals shown.

Now, we intend to inhibit the water we inject through the casing, and also to put an inert fluid in the casing tubing annulus, and to also monitor the fluid going into the well with a corrosion coupon, and to monitor the casing tubing annulus in case we have any pressure develop at any time.

We have had an injectivity test run on this well, and it will take water under a vacuum. The sketch also shows the top of the Yates, Seven Rivers, and Queen. However, injection will be into the Seven Rivers Formation.

All water produced for injection will be from a

Langley-Mattix Formation. We intend to inject water from our Farnsworth "4" Lease located in Section 4, and we also have tentative plans to inject water from our R. O. Gregory in Section 33, and our Gregory A of Section 33. The Farnsworth "4" produces approximately 3,600 barrels a month, the R. O. Gregory, 2,300 barrels per month, the Gregory A, 372.

In addition to Texas Pacific-operated water, we have been approached by Union of Texas for disposal of production of approximately 50 barrels a day from their Well No. 1, located in their Farnsworth 1, located in Section 4. This is a jointly owned well, but operated by Union of Texas. So we wish this production to be considered for disposal, also.

Q How many wells are on those leases which will be disposing of water?

A Farnsworth "4" has seven wells; the R. O. Gregory, two wells; and the Gregory A, one well; and Union of Texas, one well.

Q And your injectivity tests indicate that this well would take that quantity of water?

A Yes, we have injectivity -- capacity for in excess of current water production.

Q You did indicate you would maintain a gauge at the surface to detect any loss in pressure?

A Yes.

Q All right, go on to your next exhibit.

A The next is a production curve from the well, showing water in all production. The well was temporarily abandoned in May of 1968, because it is uneconomical to produce. At that time, it was producing less than 100 barrels of oil per month. The well has a cumulative production of 17,153 barrels of oil.

Exhibit 4 is a log of the well, and of the proposed intervals for injection, showing formation tops.

Exhibits 5, 6, and 7, consist of water analyses from the various batteries producing on the lease. The analysis shows the water not to be potable for human or animal consumption. It is a mineralized water. It shows the water compatible. We have a slight calcium carbonate scaling index, which will be no problem to control.

Q These samples were taken from the batteries on the leases?

A Yes, they are current samples taken in November.

Q Now, the tubing will not be lined, will it?

A We do not propose that, because of economics, our lease has an approximate three-year economic limit. If we impose any additional expenses on the lease, it would be somewhat less, and we feel it is to our advantage to inhibit

the water as necessary.

Q With the cement program and the checks you were making on it, do you feel it will protect any of the other zones?

A Yes, we do. We feel there would be no danger to any formation as a result of this type of injection.

Q In your opinion, would the granting of this application prevent waste due to premature abandonment of wells, and also protect correlative rights?

A Yes.

Q Were the exhibits prepared by you or under your direction and supervision?

A Yes, they were.

MR. RUSSELL: At this time, I offer into evidence Applicant's Exhibits 1 through 7.

MR. NUTTER: Exhibits 1 through 7 will be admitted into evidence.

(Whereupon, Applicant's Exhibits Numbers 1 through 7, inclusive, were admitted in evidence.)

MR. RUSSELL: I have no further questions of this witness.

CROSS EXAMINATION

BY MR. NUTTER:

Q Mr. Walters, what is the description of the Farnsworth "4" Lease? Is it all of the north half of Section 4, with the exception of that 140 that belongs to Union Texas?

A Yes, that would be the southwest of the northeast.

Q And then the Gregory and the Gregory A, what is the description of those leases?

A The Gregory, R. O. Gregory consists of the southwest, west of the northwest.

Q In other words, that is the one there that has the 4D?

A Yes.

Q And the numbers 2 and 7-A, and then the No. 3 there?

A That's correct. And then RA, consists of the east half of the northwest, and also consists of the northwest, but those wells are all temporarily abandoned, they are not producing.

Q Which ones?

A Consisting of the east half of the northeast, and also the east half of the southeast, and it consists of the entire northwest quarter. Essentially, these are all one basic lease. There are just a few different interests in them.

Q You said you have two wells on the Gregory. Which two are producing wells on the Gregory?

A It is the Gregory No. 1 and the Gregory No. 3. And I think I have misstated the ownership on that just a little bit. No. 3 is located in the southwest, southwest; and the No. 1 is located in the southwest of the southeast.

Q Are you in Section 33?

A Yes, sir. No. 3 in the southwest of the southwest.

Q That is the R. O. Gregory?

A Right. But the southeast of the southwest is part of the Gregory A. You see where the 7-A is? Well, it is temporarily abandoned. I misstated it in my first statement.

Q That is part of Gregory A?

A Part of Gregory A. And the other R. O. Gregory well is the southwest of the southeast. There are two wells in that section. You note one of them is a Jalmat gas well.

Q And then I think you said that the Farnsworth produces 3,600 barrels a month of water?

A 3,600 barrels per month.

Q And the Gregory, 2,300 barrels a month?

A The R. O. Gregory, the two wells produce 2,300 barrels a month.

Q And the Gregory A is 372 a month?

A Yes. We only have one well, that is the No. 5 located in the east half -- well, it is located in the northeast of the southeast.

Q And how much water does the Union Texas well there make?

A They advise us it made approximately 50 barrels a day, similar to these wells.

Q That would be about 1,500 a month?

A I believe it would be -- yes, total.

Q So we have about 7,800 a month, or approximately 260 barrels a day.

Now, you stated that you have run an injectivity test on this well?

A Yes, it will run in excess of 100 barrels an hour.

Q So you anticipate no problem at all in getting the water into the well?

A That is correct.

Q And all injection will be into the Seven Rivers Formation?

A That's correct.

Q Now, what type of tests did you plan to run there? You said you were going to monitor for corrosion.

A We plan to use a corrosion coupon.

Q And you mentioned that the water would be treated prior to disposal?

A We plan to treat it.

MR. NUTTER: Are there any further questions of Mr. Walters? You may be excused. Do you have anything further?

MR. RUSSELL: Nothing further.

MR. NUTTER: Does anyone have anything they wish to offer in Case 3977? We will take the case under advisement.

I N D E X

<u>WITNESS</u>	<u>PAGE</u>
JOHN WALTERS	
Direct Examination by Mr. Russell	2
Cross Examination by Mr. Nutter	9

<u>EXHIBITS</u>	<u>MARKED</u>	<u>OFFERED AND ADMITTED</u>
Applicant's Exhibits Numbers 1 through 7	2	8

STATE OF NEW MEXICO)
) ss
 COUNTY OF BERNALILLO)

I, SAMUEL MORTELETTE, Court Reporter in and for the County of Bernalillo, State of New Mexico, do hereby certify that the foregoing and attached Transcript of Hearing before the New Mexico Oil Conservation Commission was reported by me, and that the same is a true and correct record of the said proceedings, to the best of my knowledge, skill and ability.

Samuel Mortelette
 COURT REPORTER

I do hereby certify that the foregoing is
 a complete record of the proceedings in
 the Director's Hearing of Case No. 3977,
 heard by me on 12/2, 1968.

[Signature], Heariner
 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

December 9, 1968


Mr. John Russell
Attorney at Law
Post Office Drawer 640
Roswell, New Mexico 88201

Re: Case No. 3977
Order No. 3978
Applicant: R-3620 & R-3621
Texas Pacific Oil Company-

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. 3977
Order No. R-3620

APPLICATION OF TEXAS PACIFIC OIL
COMPANY FOR SALT WATER DISPOSAL,
LEA COUNTY, NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 a.m. on December 2, 1968, at Santa Fe, New Mexico, before Examiner Daniel S. Nutter.

NOW, on this 9th day of December, 1968, the Commission, a quorum being present, having considered the testimony, the record, and the recommendations of the Examiner, and being fully advised in the premises,

FINDS:

(1) That due public notice having been given as required by law, the Commission has jurisdiction of this cause and the subject matter thereof.

(2) That the applicant, Texas Pacific Oil Company, is the owner and operator of the Farnsworth "4" Well No. 7, located in Unit F of Section 4, Township 26 South, Range 37 East, NMPM, Langlie-Mattix Pool, Lea County, New Mexico.

(3) That the applicant proposes to utilize said well to dispose of produced salt water into the Seven Rivers formation, with injection into the perforated interval from approximately 3168 feet to 3196 feet.

(4) That the injection should be accomplished through 2 3/8-inch tubing set at approximately 3162 feet; that the casing-cubing annulus should be filled with an inert fluid; and that a pressure gauge should be attached to the annulus at the surface in order to determine leakage in the casing or tubing.

(5) That the produced salt water should be continuously treated prior to injection to prevent casing and tubing corrosion, and coupon tests should be conducted continuously on said well and

-2-

CASE No. 3977
Order No. R-3620

the results thereof filed quarterly with the Commission until further notice from the Secretary-Director of the Commission.

(6) That approval of the subject application will prevent the drilling of unnecessary wells and otherwise prevent waste and protect correlative rights.

IT IS THEREFORE ORDERED:

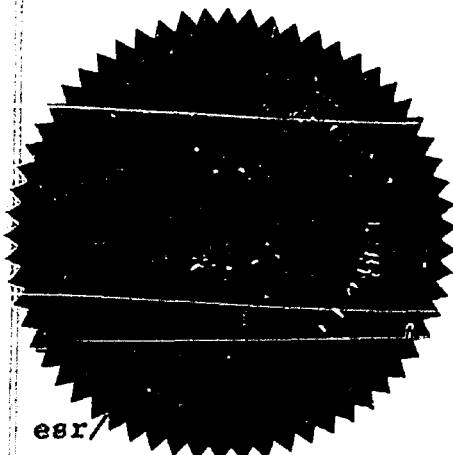
(1) That the applicant, Texas Pacific Oil Company, is hereby authorized to utilize its Farnsworth "4" Well No. 7, located in Unit F of Section 4, Township 26 South, Range 37 East, NMPM, Langlie-Mattix Pool, Lea County, New Mexico, to dispose of produced salt water into the Seven Rivers formation, injection to be accomplished through 2 3/8-inch tubing set at approximately 3162 feet, with injection into the perforated interval from approximately 3168 feet to 3196 feet;

PROVIDED HOWEVER, that the produced salt water shall be continuously treated prior to injection to prevent casing and tubing corrosion, and coupon tests shall be conducted continuously on said well and the results thereof filed quarterly with the Commission until further notice from the Secretary-Director of the Commission; that the casing-tubing annulus shall be filled with an inert fluid; and that a pressure gauge shall be attached to the annulus at the surface in order to determine leakage in the casing or tubing.

(2) That the applicant shall submit monthly reports of its disposal operations in accordance with Rules 704 and 1120 of the Commission Rules and Regulations.

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

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



STATE OF NEW MEXICO
OIL CONSERVATION COMMISSION

DAVID F. CARGO, Chairman

GUYTON B. HAVE, Member

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

LAW OFFICES OF
JOHN F. RUSSELL
412 HINKLE BUILDING
P. O. DRAWER 640
ROSWELL, NEW MEXICO 88201
November 25, 1968

TELEPHONE 622-4641
AREA CODE 505

Mr. A. L. Porter, Jr.
Secretary-Director
Oil Conservation Commission
Box 2088
Santa Fe, New Mexico 87501

Re: Texas Pacific Oil Company Applications in
Cases No. 3977 and 3978.

Dear Mr. Porter:

I transmit herewith, in triplicate, the exhibits of Texas
Pacific Oil Company to be filed in Cases No. 3977 and 3978
which have been set for hearing before the Examiner on
December 2nd.

Very truly yours,

John F. Russell
by D.L.
John F. Russell

JFR:d
Enclosures

CASE 3973: Application of Taylor Pruitt 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 perforated interval from approximately 4088 to 4466 feet in the Humble-State Game Commission Well No. 3 located in Unit J of Section 26, Township 7 South, Range 32 East, Chaveroo-San Andres Pool, Roosevelt County, New Mexico.

CASE 3974: Application of Franklin, Aston & Fair, Inc., for salt water disposal, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks authority to dispose of produced salt water into the Abo formation in the intervals from 6762 feet to 6778 feet and from 6810 feet to 6832 feet in its Brigham H Well No. 2 located in the NW/4 SW/4 of Section 21, Township 17 South, Range 30 East, Loco Hills-Abo Pool, Eddy County, New Mexico.

CASE 3975: Application of Franklin, Aston & Fair, Inc. for the creation of a new oil pool and for special pool rules, Roosevelt County, New Mexico. Applicant, in the above-styled cause, seeks the creation of a new San Andres oil pool for its Bluitt Federal Well No. 1 located 1980 feet from the South line and 660 feet from the East line of Section 13, Township 8 South, Range 37 East, Roosevelt County, New Mexico, and for the promulgation of temporary special rules therefor including a provision for 80-acre spacing and proration units.

CASE 3976: Application of Franklin, Aston & Fair, Inc. 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 4315 feet to 4340 feet in its Mark Federal Well No. 5 located in Unit O of Section 25, Township 7 South, Range 35 East, Todd-Lower San Andres Pool, Roosevelt County, New Mexico.

CASE 3977: Application of Texas Pacific 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 Seven Rivers formation in the perforated interval from 3168 feet to 3196 feet in its Farnsworth "4" Well No. 7 located in Unit F of Section 4, Township 26 South, Range 37 East, Langlie-Mattix Pool, Lea County, New Mexico.

with mud
10/1/58

*current tests
 to surface
 w/ pumps
 found
 treat w/*

9-5/8" Csg. @ 307' w/200 sx.
 Cement circulated to surface

Farnsworth 3600 Bbl/mo (1 well)
 Gregory 2500 (2 wells)
 Gregory A 372 (1 well)
 North Texas
 well in G-4 (1 well)
 1500

BEFORE EXAMINER NUTTER
 OIL CONSERVATION COMMISSION
 APPN EXHIBIT NO. 2
 CASE NO. 3977

7772

260
 30/7800
 60
 180

Yates @ 2570'
*hydrocarbon bearing
 inter. fluid*

Seven Rivers @ 2800'

2 3/8 inch
 167 @ 3162'

Perforations 3168' - 3196'

Queen
 @ 3202'

7" Csg. @ 3247' w/600 sx.
 Cement circulated to surface

TD: 3248'
 PBTD: 3217'

TEXAS PACIFIC OIL COMPANY
 Farnsworth "4" No. 7 Unit F
 Elevation 2991.8' GL
 980' FWL & 2310' FWL
 Sec. 4, T-26-S, R-37-E
 Langlie Mattix Pool
 Lea County, New Mexico

TEXAS PACIFIC COAL & OIL MIDLAND OFFICE

THE WESTERN COMPANY

WARRANT

WARRANT NO. 100

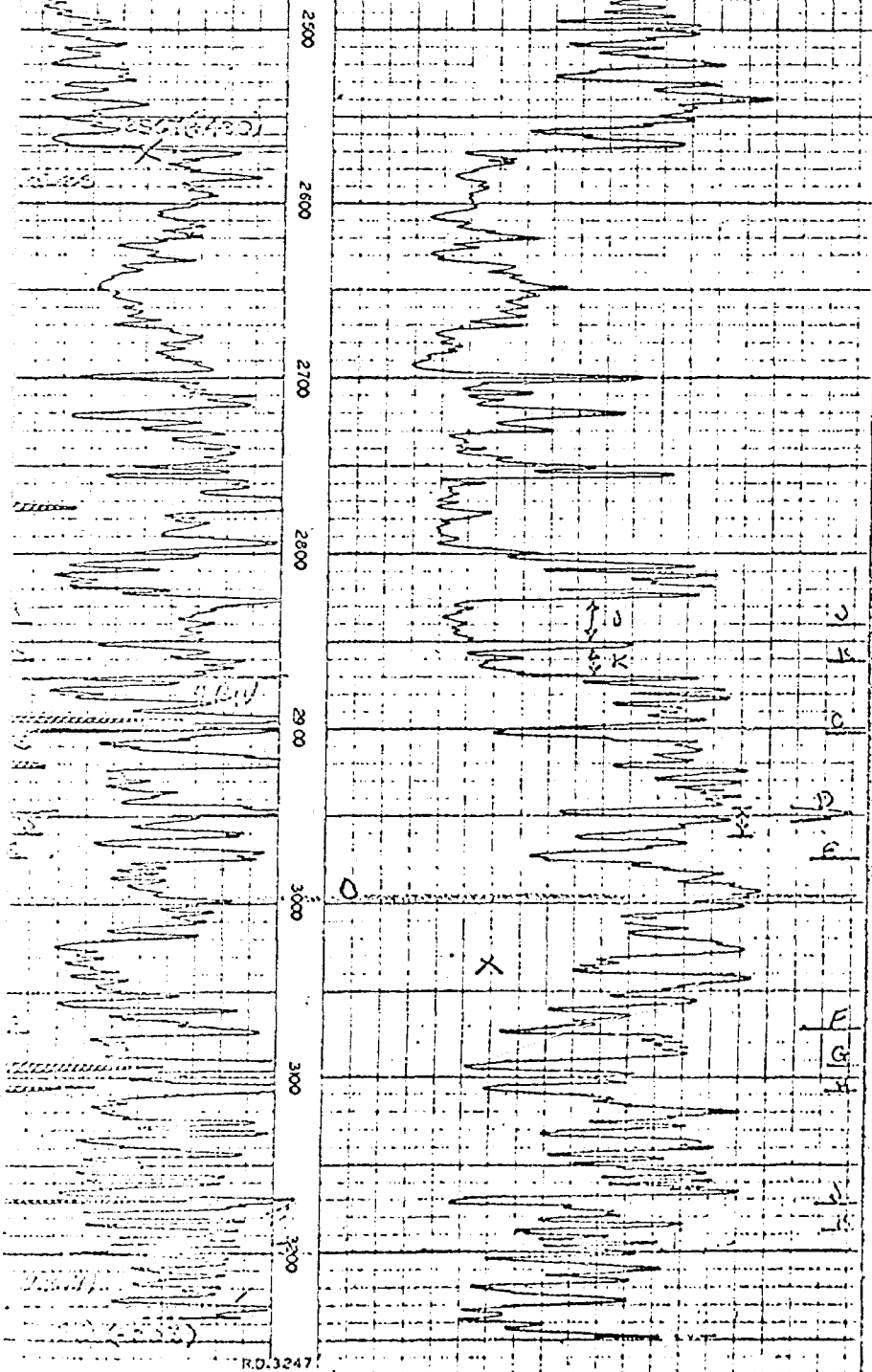
COMPANY	WARRANT NO.	LOCATION
WELL	WARRANT NO.	WARRANT NO.
FIELD	WARRANT NO.	WARRANT NO.
COUNTY	STATE	Elev. est. 2997' DF
LOCATION	1930' FNL-2510' FNL, SEC. 4	2989' Gr.
LOG MEAS FROM HOLEY DRIVE SUSHING	FILE NO.	LOG NO. 05510
DEIG MEAS FROM	FILE NO.	LOG NO. 05510
FLUM. DATUM	22000 LEVEL	FILE NO. 05510

TYPE OF LOG	DATE	TIME
DATE	8-20-55	8-20-55
TOTAL DEPTH (FEET)	3248	3248
EFFECTIVE DEPTH (FEET)	3248	3248
EFFECTIVE DEPTH (WESTERN)	3248	3248
TOP OF LOGGED INTERVAL	3248	3248
BOTTOM OF LOGGED INTERVAL	3248	3248
TYPE OF FLUID IN HOLE	FILE NO.	LOG NO. 05510
FLUID LEVEL	FILE NO.	LOG NO. 05510
SOURCE STRENGTH & TYPE	FILE NO.	LOG NO. 05510
SOURCE SPACING	FILE NO.	LOG NO. 05510
DETECTOR CLASS	FILE NO.	LOG NO. 05510
DETECTOR TYPE	FILE NO.	LOG NO. 05510
DETECTOR LENGTH	FILE NO.	LOG NO. 05510
OD OF INSTRUMENT	FILE NO.	LOG NO. 05510
TIME CONSTANT, SEC	FILE NO.	LOG NO. 05510
WINDING SPEED, FT. MIN.	FILE NO.	LOG NO. 05510
WINDING VARIATION	FILE NO.	LOG NO. 05510
WINDING REFERENCE	FILE NO.	LOG NO. 05510
RECORDED BY	FILE NO.	LOG NO. 05510
WITNESSED BY	FILE NO.	LOG NO. 05510

BIT SIZE	CASING	WT LB.	CASING RECORD		INTERVAL	FROM RA LOG
			FROM WELL RECORD	TO		
3 1/2"	5 5/8"		100	TO 3248		TO 3248

BEFORE EXAMINER NUTTER
OIL CONSERVATION COMMISSION
APPN EXHIBIT NO. 4
CASE NO. 33977

Reproduced By
West Texas Electrical Log Service





UNITED CHEMICAL CORPORATION

OF NEW MEXICO

601 NORTH LEECH

P. O. BOX 1499

HOBBS, NEW MEXICO 88240

BEFORE EXAMINATION OIL CONSERVATION OF <i>APPN</i> EXHIBIT NO. <i>5</i> CASE NO. <i>3977</i>	Company	Texas Pacific	
	Field	Langlie Mattix	
	Lease	Farnsworth (4) Battery 3	Sampling Date 11/6/68
	Type of Sample		

WATER ANALYSIS

IONIC FORM	me/l *	mg/l *
Calcium (Ca++)	12.08	242
Magnesium (Mg++)	69.16	841
Sodium (Na+)	Calculated 291.47	6701
Iron		2
Bicarbonate (HCO ₃ -)	14.60	891
Carbonate (CO ₃ -)	12.00	360
Hydroxide (OH-)	NOT	FOUND
Sulphate (SO ₄ -)	29.96	1439
Chloride (Cl-)	316.15	11,211
8.4 ph c 68°F		
Dissolved Solids on Evap. at 103° - 105° C		
Hardness as Ca CO ₃	81.24	4062
Carbonate Hardness as CaCO ₃ (temporary)	26.60	1330
Non-Carbonate Hardness as CaCO ₃ (permanent)	54.64	2732
Alkalinity as CaCO ₃	26.60	1330
Specific Gravity c 68° F	1.010	

* mg/l = milligrams per Liter

* me/l = milliequivalents per Liter

Calcium carbonate scaling index positive at 86° F

Calcium sulfate scaling index negative

//////////////////////////////////// *Makes Water Work* //////////////////////////////////////



UNITED CHEMICAL CORPORATION

OF NEW MEXICO

601 NORTH LEECH

P. O. BOX 1499

HOBBS, NEW MEXICO 88240

Company Texas PacificField Langlie MattixBEFORE EXAMINER NLease, Gregory Battery #1Sampling Date 11/6/68APPN EXHIBIT NO. 6 Type of SampleCASE NO. 3977

WATER ANALYSIS

IONIC FORM	me/l *	mg/l *
Calcium (Ca++)	13.97	280
Magnesium (Mg++)	35.20	428
Sodium (Na+)	Calculated	2372
Iron		0.03
Bicarbonate (HCO ₃ -)	23.20	1415
Carbonate (CO ₃ -)	4.40	130
Hydroxide (OH-)	NOT	FOUND
Sulphate (SO ₄ -)	26.03	1250
Chloride (Cl-)	98.70	3500
8.3 pH c 68 °F		
Dissolved Solids on Evap. at 103° - 105° C		
Hardness as Ca CO ₃	49.17	2459
Carbonate Hardness as CaCO ₃ (temporary)	27.60	1380
Non-Carbonate Hardness as CaCO ₃ (permanent)	21.57	1079
Alkalinity as CaCO ₃	27.60	1380
Specific Gravity c 68° F	1.000	

MOORE BUSINESS FORMS INC. LA

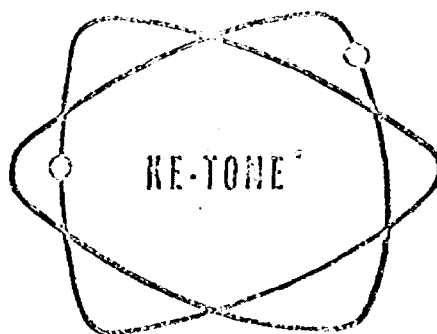
* mg/l = milligrams per Liter

* me/l = milliequivalents per Liter

Calcium Carbonate scaling index positive at 86° F

Calcium sulfate scaling index negative

//////////////////////////////////// *Makes Water Work* //////////////////////////////////



UNITED CHEMICAL CORPORATION

OF NEW MEXICO

601 NORTH LEECH

P. O. BOX 1499

HOBBS, NEW MEXICO 88240

Company Texas PacificField Langlie Mattix

BEFORE EXAMINED

OIL CONSERVATION C

Lease

Farnsworth #1 Battery #1Sampling Date 11/6/68APPN EXHIBIT NO. 7

Type of Sample

CASE NO. 3977

WATER ANALYSIS

IONIC FORM	me/l *	mg/l *
Calcium (Ca++)	7.24	145
Magnesium (Mg++)	75.50	918
Sodium (Na+)	Calculated	6820
Iron		34
Bicarbonate (HCO ₃)	19.40	610
Carbonate (CO ₃ -)	10.00	300
Hydroxide (OH-)	NOT	FOUND
Sulphate (SO ₄ -)	65.19	3131
Chloride (Cl-)	284.82	10,100
8.4 pH c 68 °F		
Dissolved Solids on Evap. at 103°-105° C		
Hardness as Ca CO ₃	82.74	4137
Carbonate Hardness as CaCO ₃ (temporary)	29.40	1470
Non-Carbonate Hardness as CaCO ₃ (permanent)	53.34	2667
Alkalinity as CaCO ₃	29.40	1470
Specific Gravity c 68° F	1.010	

* mg/l = milligrams per liter

* me/l = milliequivalents per liter

Calcium carbonate scaling index positive at 86° F

Calcium sulfate scaling index negative

//////////////////////////////////// *Makes Water Work* //////////////////////////////////////

LAW OFFICES OF
JOHN F. RUSSELL
412 HINKLE BUILDING
P. O. DRAWER 640
ROSWELL, NEW MEXICO 88201

TELEPHONE 622-1641
AREA CODE 505

November 14, 1968

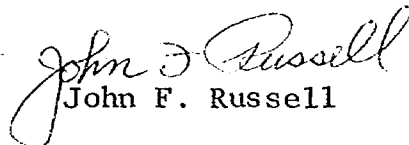
Mr. A. L. Porter, Jr.
Secretary-Director
Oil Conservation Commission
P. O. Box 2088
Santa Fe, New Mexico 87501

Dear Mr. Porter:

I transmit herewith, in triplicate, two Applications of
Texas Pacific Oil Company for the disposal of produced
salt water.

The exhibits have not been completed at this time but
will be forwarded as soon as ready.

Very truly yours,


John F. Russell

JFR:d
Enclosures

DOCKET MAILED

11-21-68

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BEFORE THE OIL CONSERVATION COMMISSION

STATE OF NEW MEXICO

IN THE MATTER OF THE APPLICATION OF)
TEXAS PACIFIC OIL COMPANY FOR PER-)
MISSION TO DISPOSE OF PRODUCED SALT)
WATER INTO THE SEVEN RIVERS FORMATION)
THROUGH THE PERFORATED INTERVALS FROM)
APPROXIMATELY 3168 FEET TO 3196 FEET)
IN ITS FARNSWORTH "4" WELL NO. 7,)
LOCATED IN UNIT "F" OF SECTION 4,)
TOWNSHIP 26 SOUTH, RANGE 37 EAST,)
LANGLIE MATTIX POOL, LEA COUNTY,)
NEW MEXICO.)

No. 3977

APPLICATION

COMES NOW Texas Pacific Oil Company, a division of Joseph E. Seagram & Sons, Inc., by its Attorney, John F. Russell, and states:

1. Applicant proposes to commence the disposal of salt water produced from the Seven Rivers and Queen Formations by injection into the Seven Rivers Formation through the perforated intervals from approximately 3168 feet to 3196 feet in its Farnsworth "4" Well No. 7, located in Unit "F" of Section 4, Township 26 South, Range 37 East, Langlie Mattix Pool, Lea County, New Mexico.

2. The water being disposed of is not suitable for domestic or agricultural purposes and the disposal of said water, as proposed, will not impair production of oil, gas or fresh water from the reservoir nor will it impair correlative rights.

3. Applicant attaches hereto as Exhibit "1" a plat showing the location of the proposed injection well and all wells within two miles of said proposed injection well and the names of the lessees.

4. Applicant attaches hereto as Exhibit "2" a diagramatic

sketch showing the manner of completing the proposed injection well.

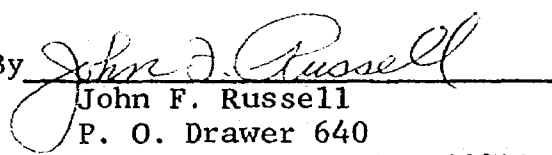
5. Applicant will present at the time of the hearing the well log of the proposed injection well.

WHEREFORE, Applicant requests that the Commission set this matter down for hearing before its Examiner, publish notice as required by law and, after hearing, issue its order authorizing the disposal of salt water as aforesaid.

Respectfully submitted,

TEXAS PACIFIC OIL COMPANY,
A division of
Joseph E. Seagram & Sons, Inc.

By


John F. Russell
P. O. Drawer 640
Roswell, New Mexico 88201

Applicant's Attorney

DATED:

9-5/8" Csg. @ 307' w/200 sx.
Cement circulated to surface

Yates @ 2570'

Seven Rivers @ 2800'

Perforations 3168' - 3196'

7" Csg. @ 3247' w/600 sx.
Cement circulated to surface

TD: 3248'
PBD: 3217'

Queen
@ 3202'

TEXAS PACIFIC OIL COMPANY

Farnsworth "4" No. 7 Unit F
Elevation 2991.8' GL
980' FNL & 2310' FWL
Sec. 4, T-26-S, R-37-E
Langlie Mattix Pool
Lea County, New Mexico

2/10/47

TEXAS PACIFIC COAL & OIL MIDLAND OFFICE

WEST TEXAS COMPANY

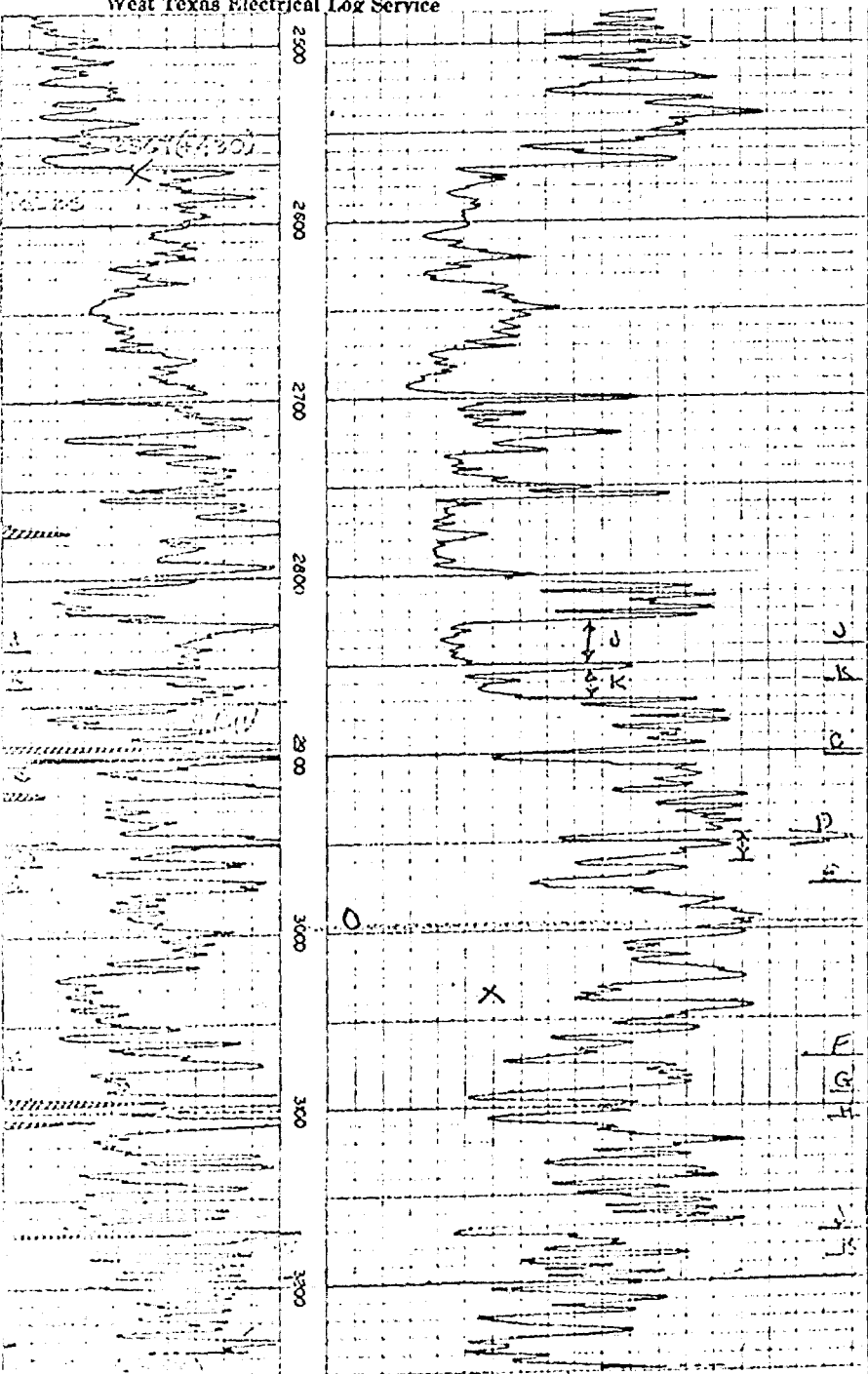
WATSON

COMPANY	WEST TEXAS COMPANY	LOCATION	MIDLAND OFFICE
WELL	KELLY DRIVE	FILE NO.	
FIELD	CANAL CITY	LOG NO.	05426
COUNTY	LEA	STATE	TEXAS
LOCATION	1980 FAL - 1980 FAL SEC. 14		
	1245-1437E		
LOG MEAS FROM KELLY DRIVE BUSHING		ELEV. est.	2997' DF
DRG. MEAS FROM			2989' Gr.
PERM DATUM	GROUND LEVEL		

TYPE OF LOG	5/4	5/4
RUN NO.	ONE	ONE
DATE	8-20-59	8-20-59
TOTAL DEPTH (DRILLER)	3248	3248
EFFECTIVE DEPTH (DRILLER)	3248	3248
EFFECTIVE DEPTH (PHYSICIAN)	3248.5	3248.5
TOP OF LOGGED INTERVAL	SURF	SURF
BOTTOM OF LOGGED INTERVAL	3248.5	3247
TYPE OF FLUID IN HOLE	MUD	MUD
FLUID LEVEL	FULL	FULL
SOURCE STRENGTH & TYPE	13.2	13.2
SCALING	SCALING	SCALING
DETECTOR CLASS	0.61	0.61
DETECTOR TYPE	0.61	0.61
DETECTOR LENGTH	4	4
OD OF INSTRUMENT	3 5/8	3 5/8
TIME CONSTANT, SEC	2.0	2.0
LOGGING SPEED, FT. MIN.	30-60	30-60
STATISTICAL VARIATION	RECORDED	RECORDED
SENSITIVITY REFERENCE	0.533	0.560
RECORDED BY	SMITH	
WITNESSED BY	MR. WATSON	

CASING RECORD		INTERVAL	
BIT SIZE	CASING	WT LB	FROM WELL RECORD
5 5/8	5 5/8		TO SOL
			TO 3248.5
			TO
			TO

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West Texas Electrical Log Service





UNITED CHEMICAL CORPORATION

OF NEW MEXICO

601 NORTH LEECH

P. O. BOX 1499

HOBBS, NEW MEXICO 88240

Company Texas PacificField Langlic MattixLease Farnsworth (4) Battery 3 Sampling Date 11/6/68

Type of Sample _____

WATER ANALYSIS

IONIC FORM	me/l *	mg/l *
Calcium (Ca++)	12.08	242
Magnesium (Mg++)	69.16	841
Sodium (Na+)	Calculated 291.47	6701
Iron		2
Bicarbonate (HCO ₃)	14.60	891
Carbonate (CO ₃ -)	12.00	360
Hydroxide (OH-)	NOT	FOUND
Sulphate (SO ₄ -)	29.96	1439
Chloride (Cl -)	316.15	11,211
8.4 ph c 68 °F		
Dissolved Solids on Evap. at 103° - 105° C		
Hardness as Ca CO ₃	81.24	4062
Carbonate Hardness as CaCO ₃ (temporary)	26.60	1330
Non-Carbonate Hardness as CaCO ₃ (permanent)	54.64	2732
Alkalinity as CaCO ₃	26.60	1330
Specific Gravity c 68° F	1.010	

MOORE BUSINESS FORMS INC. LA

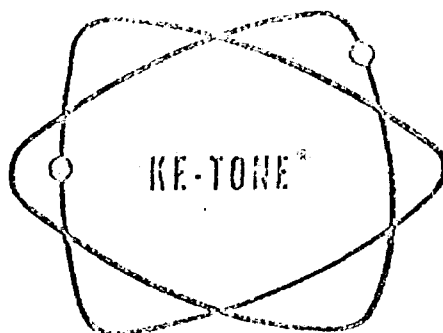
* mg/l = milligrams per Liter

* me/l = milliequivalents per Liter

Calcium carbonate scaling index positive at 86° F

Calcium sulfate scaling index negative

//////////////////////////////////// *Makes Water Work* //////////////////////////////////////



UNITED CHEMICAL CORPORATION

OF NEW MEXICO

601 NORTH LEECH

P. O. BOX 1499

HOBBS, NEW MEXICO 88240

Company Texas Pacific

Field Langlie Mattix

Lease Farnsworth J Battery #1 Sampling Date 11/6/68

Type of Sample _____

WATER ANALYSIS

IONIC FORM	me/l *	mg/l *
Calcium (Ca++)	7.24	145
Magnesium (Mg++)	75.50	918
Sodium (Na+) Calculated	296.67	6820
Iron		34
Bicarbonate (HCO ₃ -)	19.40	610
Carbonate (CO ₃ -)	10.00	300
Hydroxide (OH-)	NOT	FOUND
Sulphate (SO ₄ -)	65.19	3131
Chloride (Cl-)	284.82	10,100
8.4 ph c 68 °F		
Dissolved Solids on Evap. at 103° - 105° C.		
Hardness as Ca CO ₃	82.74	4137
Carbonate Hardness as CaCO ₃ (temporary)	29.40	1470
Non-Carbonate Hardness as CaCO ₃ (permanent)	53.34	2667
Alkalinity as CaCO ₃	29.40	1470
Specific Gravity c 68° F 1.010		

MOORE BUSINESS FORMS INC. LA

* mg/l = milligrams per Liter

* me/l = milliequivalents per Liter

Calcium carbonate scaling index positive at 86° F

Calcium sulfate scaling index negative

//////////////////////////////////// *Makes Water Work* //////////////////////////////////



UNITED CHEMICAL CORPORATION

OF NEW MEXICO

601 NORTH LEECH

P. O. BOX 1499

HOBBS, NEW MEXICO 88240

Company Texas PacificField Langlie MattixLease Gregory Battery #1 Sampling Date 11/6/68

Type of Sample _____

WATER ANALYSIS

IONIC FORM	me/l *	mg/l *
Calcium (Ca++)	13.97	280
Magnesium (Mg++)	35.20	428
Sodium (Na+)	Calculated 103.16	2372
Iron		0.03
Bicarbonate (HCO ₃ -)	23.20	1415
Carbonate (CO ₃ -)	4.40	130
Hydroxide (OH-)	NOT	FOUND
Sulphate (SO ₄ -)	26.03	1250
Chloride (Cl-)	98.70	3500
8.3 ph c 68 °F		
Dissolved Solids on Evap. at 103° - 105° C		
Hardness as Ca CO ₃	49.17	2459
Carbonate Hardness as CaCO ₃ (temporary)	27.60	1380
Non-Carbonate Hardness as CaCO ₃ (permanent)	21.57	1079
Alkalinity as CaCO ₃	27.60	1380
Specific Gravity c 68° F	1.000	

MOORE BUSINESS FORMS INC. LA

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* me/l = milliequivalents per liter

Calcium Carbonate scaling index positive at 86° F

Calcium sulfate scaling index negative

//////////////////////////////////// *Makes Water Work* //////////////////////////////////////

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. 3977

Order No. R- 3620

APPLICATION OF TEXAS PACIFIC OIL
COMPANY FOR SALT WATER DISPOSAL,
LEA COUNTY, NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 a.m. on December 2, 1968,
at Santa Fe, New Mexico, before Examiner Daniel S. Nutter

NOW, on this day of December, 1968, the Commission, a
quorum being present, having considered the testimony, the record,
and the recommendations of the Examiner, and being fully advised
in the premises,

FINDS:

(1) That due public notice having been given as required by
law, the Commission has jurisdiction of this cause and the subject
matter thereof.

(2) That the applicant, Texas Pacific Oil Company,
is the owner and operator of the Farnsworth "4" Well No. 7,
located in Unit F of Section 4, Township 26 South, Range
37 East, NMPM, Langlie-Mattix Pool, Lea
County, New Mexico.

(3) That the applicant proposes to utilize said well to
dispose of produced salt water into the Seven Rivers
formation, with injection into the perforated interval
from approximately 3168 feet to 3196 feet.

(4) That the injection should be accomplished through
2 3/4-inch ^{tubing} ~~plastic lined tubing installed in a packer set at~~

approximately 3162 feet; that the casing-tubing annulus should be filled with an inert fluid; and that a pressure gauge should be attached to the annulus ~~or the annulus left open~~ at the surface in order to determine leakage in the casing, ^{or} tubing, ~~or packer~~.

(6) ~~(5)~~ That approval of the subject application will prevent the drilling of unnecessary wells and otherwise prevent waste and protect correlative rights.

IT IS THEREFORE ORDERED:

(1) That the applicant, Texas Pacific Oil Company, is hereby authorized to utilize its Farnsworth "4" Well No. 7, located in Unit F of Section 4, Township 26 South, Range 37 East, NMPM, Langlie-Mattix Pool, Lea County, New Mexico, to dispose of produced salt water into the Seven Rivers formation, injection to be accomplished through 2 3/8-inch tubing installed in a packer set at approximately 3162 feet, with injection into the perforated interval from approximately 3168 feet to 3196 feet;

PROVIDED HOWEVER, ~~that 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 ~~or the annulus left open~~ at the surface in order to determine leakage in the casing, ^{or} tubing, or packer.

(2) That the applicant shall submit monthly reports of its disposal operations in accordance with Rules 704 and 1120 of the Commission Rules and Regulations.

(3) 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.

(10) That the produced salt water should be continuously treated prior to injection to prevent corrosion and tubing failure. The applicant is directed to submit monthly reports of its disposal operations in accordance with Rules 704 and 1120 of the Commission Rules and Regulations. The applicant is directed to submit monthly reports of its disposal operations in accordance with Rules 704 and 1120 of the Commission Rules and Regulations.