

dearnley-meier

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1170 SIMAS BLDG. • P. O. BOX 1092 • PHONE 243-4491 • 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. 3978

BEFORE: Daniel S. Nutter, Examiner

TRANSCRIPT OF HEARING

BEFORE EXAMINER ATANACK
OIL CONSERVATION DIVISION

EXHIBIT "B"

EXHIBIT NO. 5

12607

MR. NUTTER: Case No. 3978.

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

MR. RUSSELL: John F. Russell, representing the
applicant, and I have one witness, the same witness who
previously testified.

(Whereupon, Applicant's Exhibits
Numbers 1 through 6, inclusive,
were marked for identification.)

JOHN WALTERS

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

DIRECT EXAMINATION

BY MR. RUSSELL:

Q You are the same John Walters who testified in the
prior case?

A Yes, I am.

Q Are you acquainted with Texas Pacific application in
Case 3978?

A Yes, I am.

Q What do you seek by that application?

A Texas Pacific Oil Company seeks authority to dispose
of produced salt water into the Seven Rivers-Queen Formation in
the perforated interval from 3,148 feet to 3,450 feet in its

McKinney Well No. 1, located in Unit A of Section 36, Township 24 South, Range 36 East, Langley-Mattix Pool, Lea County, New Mexico.

Q Have you prepared exhibits in connection with this application?

A I have a number of exhibits.

Q Identify the exhibits as you go along, and explain what they portray.

A Exhibit Number 1 is a plat showing the well location, and the well is located 660 feet from the north line and 660 feet from the east line, in Unit A, Section 36, Township 24 South, Range 36 East. It is marked on the map by a triangle colored in yellow. The plat includes an area of a radius of two miles, showing all wells within the area, and the legend on the map shows the particular interval or pool in which these wells are completed.

Q While you are on Exhibit 1, will you explain what wells you will be taking water from to dispose into the McKinney well?

A We plan primarily to dispose of water from the Watkins Lease.

Q Can you identify it?

A It is located in Section 35, directly one mile to the

south. On the map, it is shown as Woolworth, but this is actually Watkins. It consists of the east half of the northeast quarter.

We also intend to dispose of water from our Woolworth Lease located in Section 26. It consists of the south half of the southeast quarter. Therefore, these leases are contiguous. The Woolworth Lease has one producing well, and the Watkins Lease has two producing wells.

Q All right. Continue.

A Texas Pacific Exhibit Number 2 is a well bore sketch, showing the proposed completion method of the well. The well has a ten and three-quarter-inch casing, cemented at 298 feet with 200 sacks circulated to the surface. Seven-inch casing is set at 3,148, with 500 sacks. The top of the cement is calculated at 2,085 feet. The well bore sketch also shows formation tops, and it shows that our procedure for completion as a water injection well will be to run a packer on either two-inch or two and a half-inch plastic-coated tubing to a depth of approximately 3,130 feet, which is approximately 18 to 20 feet above the shoe of the casing.

Our original application shows that we applied for injection into the interval 3148 to 3450. However, a check of our records has shown that the well had been plugged back at an

earlier date, and the interval that we propose to use will be 3,148 to 3,210, the current plug-back depth, this being an open-hole disposal.

Q That is within the interval covered by the application?

A Yes, it is within the interval.

Q And you ask at this time that your application be amended to show this change?

A Yes.

MR. NUTTER: In other words, the interval will be lessened, and it will be into the open-hole interval rather than the perforated interval?

THE WITNESS: Right.

MR. NUTTER: The application will be so amended.

Q Will there be any fluids placed in the tubing or casing annulus here?

A We intend to load the tubing casing annulus with an inert treated fluid, and we will monitor the tube and casing annulus pressure with a pressure gauge to be installed at the time the well is completed as an injection well.

Q Now, this particular disposal, do you anticipate the leases will have a longer life than in the prior case?

A Yes, these leases have a life of approximately six years or longer, and we feel that the expenditure can be justified.

at this time. In addition to the Watkins Woolworth Leases, we would -- we intend to make this well available for other operators in the area, should they desire to use this well for disposal purposes.

Q Did you take an injectivity test on this well?

A This well had an injectivity test run on it on November 8, 1968. It took 200 barrels per hour on a vacuum, which will give an approximate capacity of 4,800 barrels per day, which is well above the anticipated volumes that we have planned for injection at this time.

Our Woolworth Lease produces approximately 775 barrels of water per month. Our Watkins Lease produces approximately 27,000, so we anticipate approximately 1,000 barrels a day for the well at this time. Of course, this may be increased, at which time we plan for disposal of other leases, either those belonging to Texas Pacific or other operators in the area.

Exhibit 3 is a production curve for the well, showing oil and water production from the date the well was completed in 1949 until the date it was temporarily abandoned in 1968. The well has a cumulative oil production of 23,360 barrels of oil. The last production for the well was experienced in May of 1968.

Q What was the rate at that time?

A Forty barrels of oil per month, and 279 barrels of water.

Exhibit 4 is a gamma ray neutron log of the well, and also shows formation tops, and the location of the casing shoe, as well as a proposed interval for injection.

Exhibits 5 and 6 are water analysis from the Watkins and Woolworth Leases, and these analyses show a chloride content of approximately 3,000 parts per million, not considered potable for human or animal consumption, and that is a mineralized water. Tests show that the water has a slightly positive scaline index, and that it is compatible with the formation.

Q Would the granting of this application prevent waste due to premature abandonment of wells, and protect correlative rights?

A Yes.

Q Were Exhibits 1 through 6 prepared by you or under your supervision and direction?

A Yes, they were.

MR. RUSSELL: I move the introduction of Applicant's Exhibits 1 through 6.

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

MR. RUSSELL: No further questions.

(Whereupon, Applicant's Exhibits
Numbers 1 through 6, inclusive,
were admitted in evidence.)

CROSS EXAMINATION

BY MR. NUTTER:

Q Mr. Walters, as I understand, the two leases that will be contributing to this injection program are your Woolworth Lease in the south half of the southeast quarter of Section 26 --

A Yes.

Q And then the 40-acre lease being northeast of northeast of Section 45?

A It would be -- there is an 80-acre lease. It would be the east half of that quarter.

Q East half of the northeast?

A Right. There are two 40-acre locations.

Q Those are all Jalmat wells that are completed on these two leases?

A That's correct.

Q You will be injecting into the producing interval of the Langley-Mattix Pool in this McKinney No. 1 Well?

A Yes, sir.

Q Now, this is a Langley-Mattix well directly southeast, is it not?

A The Shell?

Q Well, that would be this reserve oil -- southeast?

A Yes, it is.

Q That would be that Reserve No. 2?

A Yes.

Q And that is the nearest Langley-Mattix well. Do you know what the perforated interval is of that well?

A No, I do not have that information. Let me point out that I did talk to Shell about their location. They had no objection to us injecting into that well.

Q You mentioned that you would run two or two and a half-inch tubing. That depends on how well the two-inch will handle it, I guess.

A In the availability of company stock.

Q Now, the annulus would be loaded with an inert fluid?

A Yes.

Q And equipped with a gauge at the surface?

A Yes.

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

MR. RUSSELL: I have nothing further.

MR. NUTTER: Does anyone have anything they wish to offer in Case 3978? We will take the case under advisement.

I N D E X

<u>WITNESS</u>		<u>PAGE</u>
JOHN WALTERS		
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<u>EXHIBITS</u>	<u>MARKED</u>	<u>OFFERED AND ADMITTED</u>
Applicant's Exhibits Numbers 1 through 6	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 hearing of Case No. 378 held by me on 12/2 1968.

Samuel Mortelette

 Examiner
 New Mexico Oil Conservation Commission

10-3/4" Csg. @ 298' w/200 sx.
Cement circulated to surface

Top of cement @ 2085'

Yates @ 2848'

Seven Rivers @ 3008'

Packer set @ 3130'

7" Csg. @ 3148' w/500 sx.

ID: 3490'
PSTD: 3210'

BEFORE EXAMINATION MUTTER
OIL CONSERVATION COMMISSION
APPN EXHIBIT NO. 2
3978

TEXAS PACIFIC OIL COMPANY

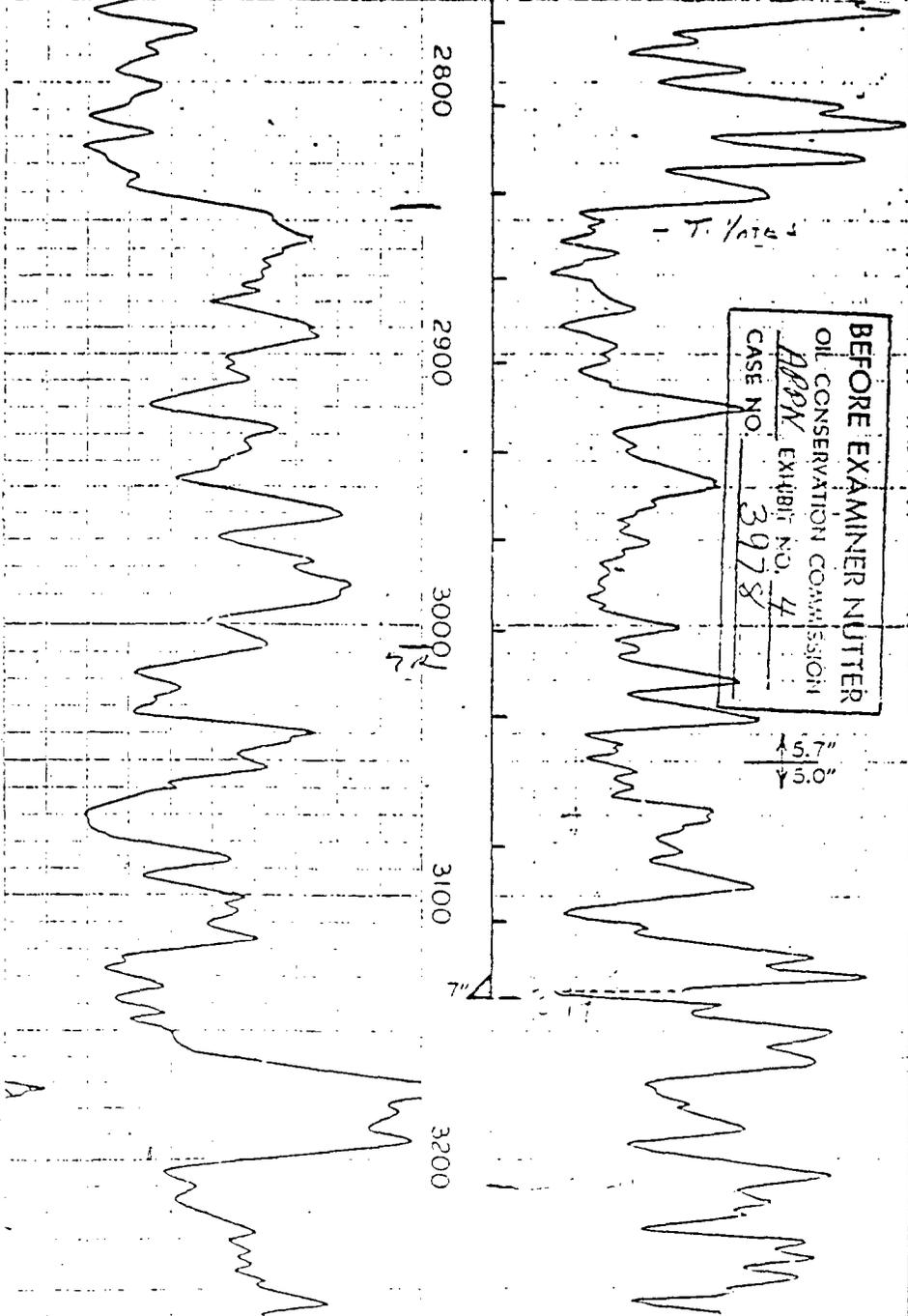
McKinney No. 1 Unit "A"
Elevation 3259'
660' FNL & 650' FEL
Sec. 36, T-24-S, R-36-E
Langlie Mattix Pool
Lea County, New Mexico

COMPANY: R. OLSEN OIL CO.
 WELL: McKinney NO. 1
 FIELD: COOPER JAL
 COUNTY: LSA STATE: N.Y.
 LOCATION: *

COMPANY: R. OLSEN OIL CO.
 WELL: JOHNSON NO. 1
 FIELD: COOPER JAL
 COUNTY: LSA STATE: N.Y.

LOG MEASURED FROM TUBING SPOOL ELEVATION *
 DRILLING MEASURED FROM T. SPOOL ELEVATION *
 TUBING SPOOL IS 4'
 PERMANENT DATUM BELOW OLD ROTARY ELEVATION *

RUN NUMBER	1	1
TYPE OF LOG	GAMMA RAY	NEUTRON
DATE	7-1-49	7-1-49
COMPANY DEPTH	3490'	3490'





UNITED CHEMICAL CORPORATION

OF NEW MEXICO

601 NORTH LEECI

P. O. BOX 1499

HOBBS, NEW MEXICO 88240

Company Texas Pacific

Field Jalmat Yates 7 Rivers

Lease Watkins #1 Sampling Date 10/31/68

Type of Sample _____

WATER ANALYSIS

IONIC FORM	me/l *	mg/l *
Calcium (Ca++)	31.94	640
Magnesium (Mg++)	21.71	264
Sodium (Na+)	Calculated	109.08
Iron		2
Bicarbonato (HCO ₃ -)	15.80	963
Carbonato (CO ₃ -)	NOT	FOUND
Hydroxide (OH-)	NOT	FOUND
Sulphate (SO ₄ -)	70.79	3400
Chloride (Cl-)	76.14	2700 ✓
7.2 pH @ 68 °F		
Dissolved Solids on Evap. at 103° - 105° C		
Hardness as CaCO ₃	55.65	2683
Carbonate Hardness as CaCO ₃ (temporary)	15.80	790
Non-Carbonate Hardness as CaCO ₃ (permanent)	37.85	1893
Alkalinity as CaCO ₃	15.80	790
Specific Gravity @ 68° F	1.000	

* mg/l = milligrams per Liter
 * me/l = milliequivalents per Liter

Calcium carbonate scaling index positive at 86° F
 Calcium sulfate scaling index positive

BEFORE EXAMINER NUTTER
 OIL CONSERVATION COMMISSION
 APPROV EXHIBIT NO. 5
 CASE NO. 8268

Makes Water Work



UNITED CHEMICAL CORPORATION
OF NEW MEXICO

601 NORTH LEECH P. O. BOX 1499
MORRIS, NEW MEXICO 88240

Company Texas Pacific Oil Company
Field _____
Lease C. D. Woolworth #1 Sampling Date 11/15/68
Type of Sample Well head

WATER ANALYSIS

IONIC FORM	me/l *	mg/l *
Calcium (Ca ⁺⁺)	39.32	783
Magnesium (Mg ⁺⁺)	16.28	198
Sodium (Na ⁻) (calculated)	62.39	1434
Iron		0.89
Bicarbonate (HCO ₃ ⁻)	22.31	1361
Carbonate (CO ₃ ⁻)		Not Found
Hydroxide (OH ⁻)		Not Found
Sulphate (SO ₄ ⁻)	31.92	1533
Chloride (Cl ⁻)	63.76	2261
pH @ 68° F <u>7.3</u>		
Dissolved Solids on Evap. at 103° - 105° C		
Hardness as CaCO ₃	55.60	2780
Carbonate Hardness as CaCO ₃ (temporary)	22.31	1116
Non-Carbonate Hardness as CaCO ₃ (permanent)	33.29	1665
Alkalinity as CaCO ₃	22.31	1116
Specific Gravity @ 68° F	1.005	

- * mg/l - milligrams per Liter
- * me/l - milliequivalents per Liter

Calcium Carbonate scaling index - positive at 86°F
Calcium Sulfate scaling index - negative

BEFORE EXAMINER NUTT
OIL CONSERVATION COMMISSION
APPN EXHIBIT NO. 6
CASE NO. 3478

~~~~~ *Makes Water Work* ~~~~~