

CASE 3960: Application of TEXAS  
PACIFIC FOR SALT WATER DISPOSAL,  
LEA COUNTY, NEW MEXICO.

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Case Number

3960

Application

Transcripts.

Small Exhibits

ETC.

dearnley-meier

SPECIALIZING IN: DEPOSITIONS, HEARINGS, STATE WENTS, 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 20, 1968

EXAMINER HEARING

-----  
IN THE MATTER OF: )  
)  
)

Application of Texas Pacific )  
Oil Company for salt water )  
disposal, Lea County, New )  
Mexico. )  
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Case Number 3960

BEFORE: Elvis A. Utz, Examiner

TRANSCRIPT OF HEARING

MR. UTZ: Case Number 3960.

MR. HATCH: Case 3960, Application of Texas Pacific Oil Company for salt water disposal, Lea County, New Mexico.

MR. RUSSELL: John F. Russell, on behalf of the applicant, and the witness is Mr. Ror Freels, who testified in the previous case.

MR. UTZ: Let the record show that he was sworn in the previous case.

(Whereupon, Applicant's Exhibits Numbers 1 through 5, inclusive, were marked for identification.)

RON FREELS

called as a witness, and having been previously sworn upon his oath, was examined and testified as follows:

DIRECT EXAMINATION

BY MR. RUSSELL:

Q Mr. Freels, are you familiar with Texas Pacific Oil Company application in Case No. 3960?

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 Formations -- I'd like to correct that into just the Queen Formations -- in the perforated interval from 3,380 feet to 3,458 feet in its

S. E. Eaton Well No. 7, located in Unit P of Section 12, Township 25 South, Range 37 East, Langlie-Mattix Pool, Lea County, New Mexico.

Q Do you have exhibits marked?

A Yes, we do. These are the ones that are stamped, and two different sets with exhibit numbers and case numbers marked on them.

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

A Yes, I have.

Q Will you take them in order, and identify the exhibits, and explain what they represent?

A Exhibit Number 1 is a plat of the area in which the proposed injection well is located. The plat shows that all of the producing wells in the horizons from which they are producing within two miles of the well, and show the location of the injection well as a yellow triangle.

The well is located 990 feet from the east line, and 330 feet from the south line of Section 12, Township 25 South, Range 37 East, Lea County, New Mexico. This well is to serve only the Eaton Lazos, which are in Section 12.

Exhibit 2 is a schematic of the proposed injection well. The schematic shows the well as 9 and five-eighths inch

casing at 304 feet, cemented to the surface with 250 sacks; and that the well has seven-inch casing at 3,497 feet, cemented with 400 sacks of cement. I fail to see a top of cement noted on this. We will have to provide that at a later date. It may be that this was an old well, and we do not have that information available to us.

The schematic also shows the top of the Seven Rivers at 2,760 feet, the top of the Queen at 3,245 feet. We propose to inject down tubing set into a packer at 3,280 feet, and we inject into perforations opposite the Queen from 3,380 to 3,458 feet.

This well also was plugged back, so these are the only intervals that will be open to perforations opposite the Queen.

Exhibit 3 is a log of the proposed injection well, which shows the top of the Seven Rivers at 2,760 feet. The top of the Queen is marked in red at 3,245 feet, and the perforations are shown opposite the Queen zone.

Exhibit 4 is an analysis of the water from our S. W. Eaton Battery No. 1. It shows the total chlorides of 91,140.

Exhibit 5 is a water analysis from the S. W. Eaton Battery No. 2, and this shows a very similar chloride content of 93,086 parts per million chlorides.

Q What quantity of water do you anticipate disposing through this well?

A We propose to inject approximately 700 barrels of water per month, and we will load the tubing casing annulus with inhibited crude, and provide a valve at the surface to monitor it.

Q Did you state whether that tubing was to be lined or not?

A No, I did not. We intend to again treat this water. We feel that we can inhibit this water at a much more economic rate than we can coat the tubing. Again, we will provide a coupon for monitoring the effectiveness of our treating campaign, and will submit quarterly reports to the Commission.

Q Were Exhibits 1 through 5 prepared by you or under your supervision and direction?

A They were.

Q In your opinion, would the granting of this application prevent premature abandonment of wells and protect the rights of other operators?

A It will.

MR. RUSSELL: Mr. Examiner, I offer in evidence Applicant's Exhibits 1 through 5, inclusive.

MR. UTZ: Without objection, Exhibits 1 through 5 will

be received into the record of this case.

(Whereupon, Applicant's Exhibits  
Numbers 1 through 5, inclusive,  
were received in evidence.)

CROSS EXAMINATION

BY MR. UTZ:

Q Mr. Freels, does your Eaton Lazos include all of  
Section 12?

A Yes, it does. They are Blinebry production and  
Langlie-Mattix production. We do not anticipate any problems  
with combining these waters in this area.

Q How many wells will this injection well serve?

A Actually, if you count on the map, there are 1, 2, 3,  
4, 5, 6, 7, 8, I believe it is eight wells. It must be ten  
wells. 4 and 4 is eight, and 2 is ten.

Q I count eleven.

A It is all of these wells on here. I'm trying to count  
them. 2, 4, 6, 10, 11, you are correct.

Q That is quite a substantial bit of production, is it  
not?

A Yes, this is a lease which we feel has quite a  
future of several years yet.

Q And what condition is the No. 7 well in the present  
time?



A The No. 7 well, it has been shut in for some time. I do not know exactly how long it has been shut in, but it has been shut in for some time.

Q Is the tubing in the hole?

A I don't think so. Generally, we remove the tubing on these wells when they are shut, so we will have to bring additional tubing to the well, and we do plan on this one also running a packer.

Q Now, 400 sacks on seven-inch casing would bring the cement pretty high, would it not?

A It should bring it well up into the Seven Rivers. Until I had an opportunity to look into our files to see whether we had a caliper of this, I would hesitate to guess. Seven hundred sacks should have brought the cement quite a ways up the hole.

Q What do they usually drill the hole size?

A We have 9 and five-eighths inch casing, so we probably drilled at most a 8 and three-quarter inch hole. It should be a pretty tight fit.

MR. UTZ: Any other questions?

MR. RUSSELL: No other questions.

MR. UTZ: That will be taken under advisement.

I N D E X

<u>WITNESS</u>	<u>PAGE</u>
RON FREELS	
Direct Examination by Mr. Russell	2
Cross Examination by Mr. Utz	6

<u>EXHIBITS</u>	<u>MARKED</u>	<u>OFFERED AND ADMITTED</u>
Applicant's Exhibits Numbers 1 through 5	2	6

STATE OF NEW MEXICO     )  
                                   )     ss  
 COUNTY OF BERNALILLO    )

I, SAM 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.

Sam Mortelette  
 COURT REPORTER

I do hereby certify that the foregoing is  
 a complete record of the proceedings in  
 the Examiner hearing of Case No. 3862  
 heard by me on 11-30-1965.  
Sam Mortelette, Examiner  
 New Mexico Oil Conservation Commission

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. 3960  
Order No. R-3608

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 8:30 a.m. on November 20, 1968, at Santa Fe, New Mexico, before Examiner Elvis A. Ute.

NOW, on this 27th 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, Texas Pacific Oil Company, is the owner and operator of the S. E. Eaton Well No. 7, located in Unit P of Section 12, Township 25 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 Queen formation, with injection into the perforated interval from approximately 3380 feet to 3458 feet.

(4) That the injection should be accomplished through 2 3/8-inch plastic-lined tubing installed in a packer set at approximately 3245 feet; that the casing-tubing annulus should be filled with an inert fluid; and that a pressure gauge should

-2-

CASE No. 3960  
Order No. R-3608

be attached to the annulus at the surface in order to determine leakage in the casing, tubing, or packer.

(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 S. E. Eaton Well No. 7, located in Unit P of Section 12, Township 25 South, Range 37 East, NMPM, Langlie-Mattix Pool, Lea County, New Mexico, to dispose of produced salt water into the Queen formation, injection to be accomplished through 2 3/8-inch tubing installed in a packer set at approximately 3245 feet, with injection into the perforated interval from approximately 3380 feet to 3458 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 at the surface in order to determine leakage in the casing, 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.

STATE OF NEW MEXICO  
OIL CONSERVATION COMMISSION

  
DAVID F. CARGO, Chairman

GUYTON B. HAYS, Member

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

Case 3860

Heard 11-20-68

Rec. 11-22-68.

Grant D & P permission to convert  
their S.E. Eaton #7 - P-12-255-375  
Langlie Mat. Injection shall be  
thru 2 3/8" internally plaster  
coated tubing & under a packer  
it to be set at approx 3245' & into  
the Queen fluv. thru perfor.  
3380-3458. The Annulus shall  
be loaded with inert fluid  
w/ press. gauge at surface.  
This ~~leak~~ ~~is~~ well is  
an edge well to L. of. so should  
be cut S.N.D. The lease is  
a good lease with 11 wells.  
so economics should not  
be a problem.

— Fred L. W.

Application was to inject into  
7-River and Queen but  
schematic shows Top of Queen  
at 3245 - so shall order read  
only the Queen?

George

OK  
C. W.

into the Yeso formation through parallel strings of tubing. The wells and completion intervals are as follows:

Johnston BE Well No. 1, Unit A of Section 8;  
Producing interval - 1270 feet to 1670 feet;  
Disposal interval - 2120 feet to 2950 feet;

Nix-Curtis BH Well No. 1, Unit I of Section 25;  
Producing interval - 1442 feet to 1684 feet;  
Disposal interval 2292 feet to 3121 feet;

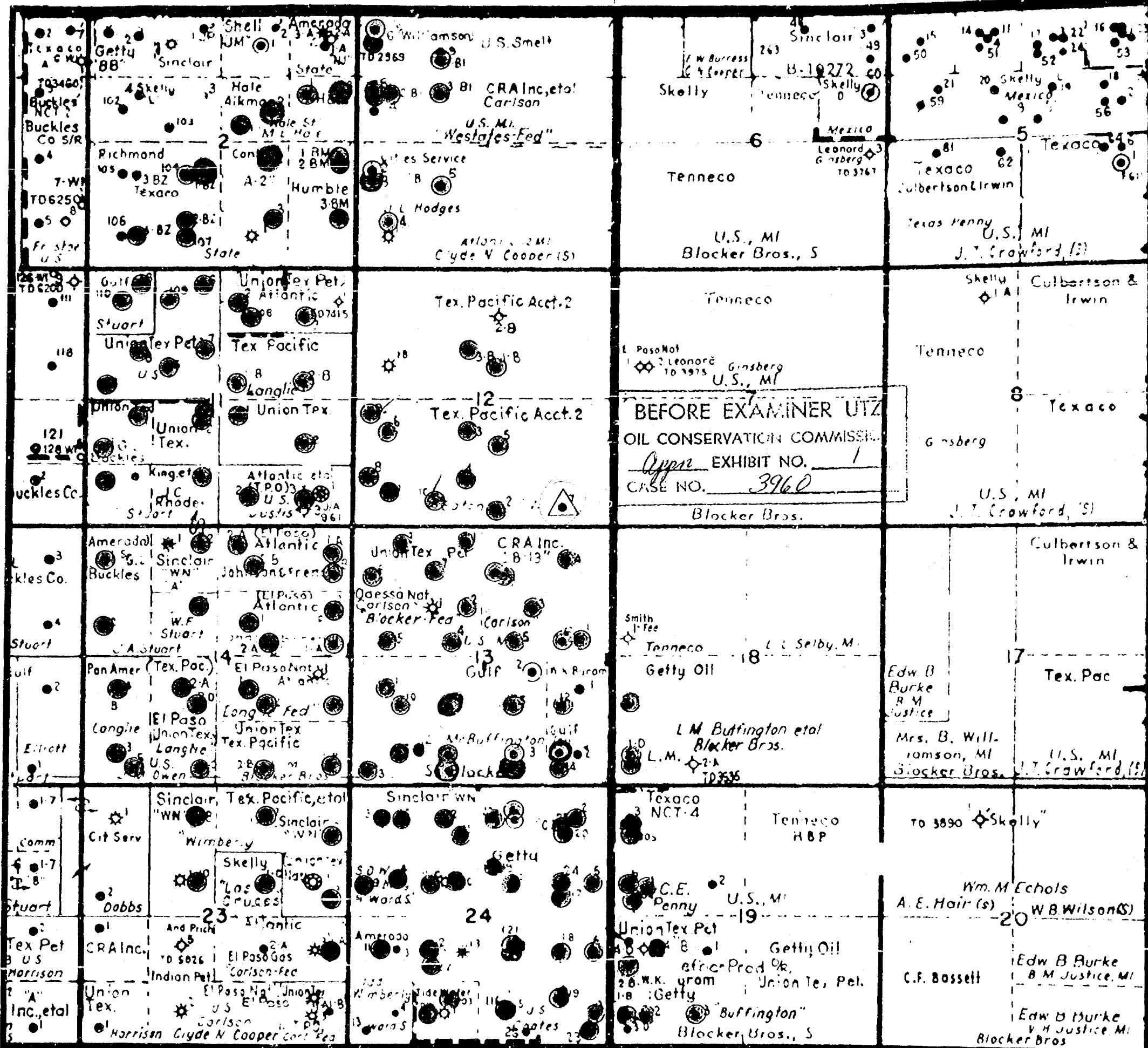
A. W. Gerard Well No. 2, Unit J of Section 25;  
Producing interval - 1316 feet to 1696 feet;  
Disposal interval - 1824 feet to 2572 feet;

CASE 3959: 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 2960 feet to 3068 feet in its L. Gutman Well No. 2 located in Unit J of Section 29, Township 25 South, Range 37 East, Langlie-Mattix Pool, Lea County, New Mexico.

CASE 3960: 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-Queen formations in the perforated interval from 3380 feet to 3458 feet in its S. E. Eaton Well No. 7, located in Unit P of Section 12, Township 25 South, Range 37 East, Langlie-Mattix Pool, Lea County, New Mexico.

CASE 3961: 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 Yates-Seven Rivers formations in the open-hole interval from 3476 feet to 3510 feet in its Meyers "C" Well No. 2 located in Unit C of Section 22, Township 24 South, Range 36 East, Jalmat Pool, Lea County, New Mexico.

CASE 3962: 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 Queen formation in the perforated interval from 3180 feet to 3214 feet in its Farnsworth 4 Well No. 9 located in Unit C of Section 4, Township 26 South, Range 37 East, Langlie-Mattix Pool, Lea County, New Mexico.



Proposed Water Disposal Well



Langlie Mattix 7-Rivers Queen



Justis Glorietta



Justis Blinobry



Justis Devonian



Justis Fusselman



Justis McKee



Justis Ellenburger



9-5/8" Csg. @ 304' w/ 250 sx.  
Cement circulated

T.C. ?

2-3/8" tubing set @ 3280'

Perforations 3380 - 84', 3388 - 98'  
3404 - 10', 3416 - 20'  
3428 - 32', 3444 - 50'  
3454 - 58'

7" Csg. @ 3497' w/400 sx.

TD: 3523'  
PBTD: 3466'

Seven Rivers @ 2760'

Queen @ 3245'

BEFC EXAMINER UTZ	
OIL FIELD EXAMINATION	
Appr. EXHIBIT NO.	2
CASE NO.	3960

CASE 3960 EXH. 2

TEXAS PACIFIC OIL COMPANY  
S.E. Eaton No. 7 Unit "P"  
Elevation 3091' GL  
990' FEL & 330' FSL  
Sec. 12, T-25-S, R-37-E  
Langlie Mattix Pool  
Lea County, New Mexico

# THE WESTERN COMPANY

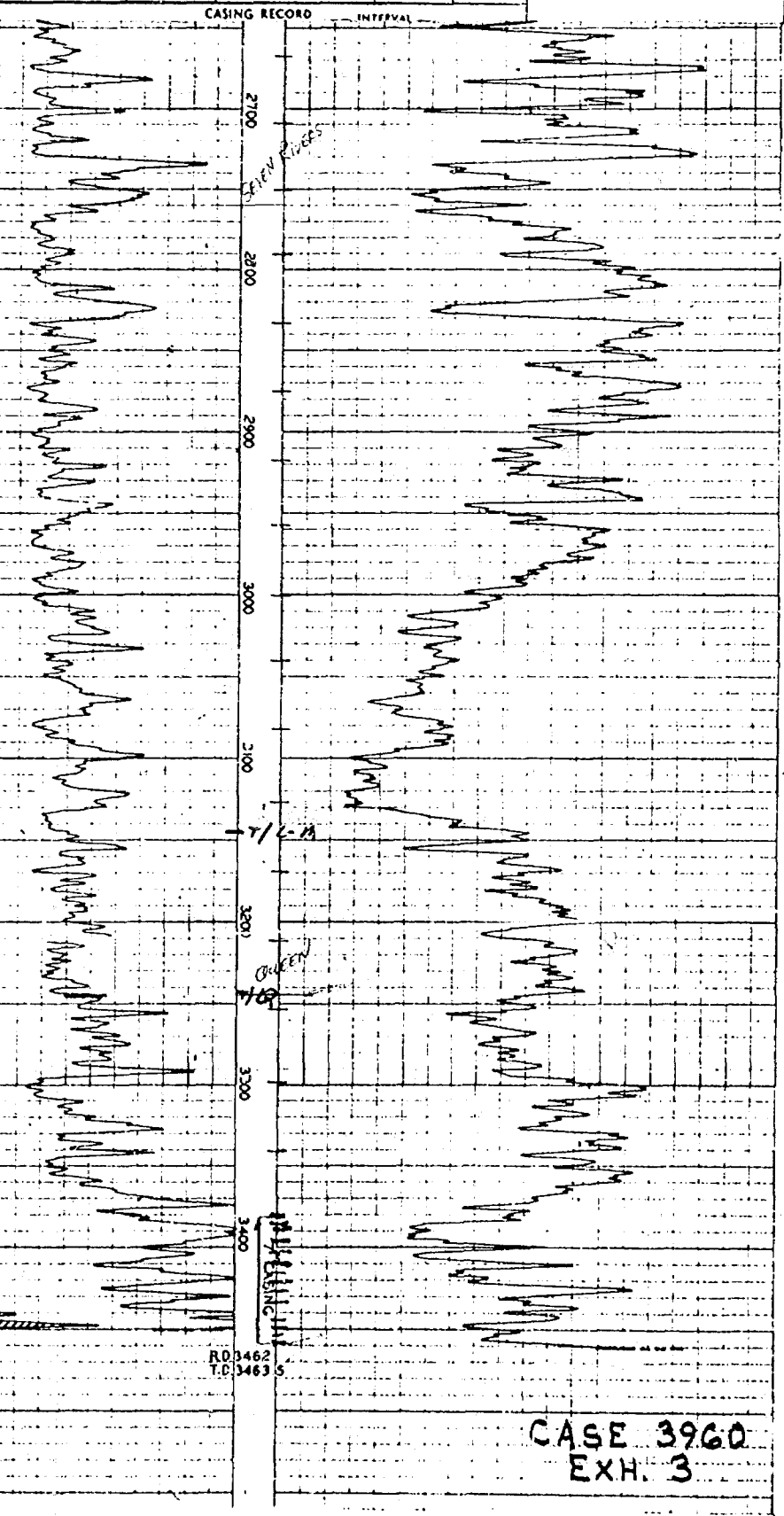
## GAMMATRON

Standardized Radioactivity Log

COMPANY	EATON #7	LOCATION
WELL	LANGLE MATTIX	
COUNTY	LEA	STATE N. M.
LOCATION	990' FEL & 300' FSL, SEC. 12, T-25-S, R-37-E	FILE NO.
		LOG NO. 1592
LOG MEAS FROM	TOP ROTARY TABLE	ELEV 3101.8
ORIG MEAS FROM	TOP ROTARY TABLE	ELEV 3101.8
PERM DATUM	GROUND LEVEL	ELEV 3091.2

TYPE OF LOG	G/R	N/N	G/R	N/N
RUN NO.	1-NW	2-NW	1-NW	2-NW
DATE	12-22-58	12-22-58	12-30-58	12-30-58
TOTAL DEPTH (DRIER)	3412	3412	3523	3523
EFFECTIVE DEPTH (DRIER)	3412	3412	3463	3463
EFFECTIVE DEPTH (WATER)	3412	3412	3463.5	3463.5
TOP OF LOGGED INTERVAL	SURF.	SURF.	2500	2500
BOTTOM OF LOGGED INTERVAL	3399	3410.5	3450.5	3462
TYPE OF FLUID IN HOLE	MUD	MUD	WATER	WATER
FLUID LEVEL	FULL	FULL	FULL	FULL
SOURCE STRENGTH & TYPE		13.5		13.5
SOURCE SPACING		13.5		13.5
DETECTOR CLASS	SCINT.	SCINT.	SCINT.	SCINT.
DETECTOR TYPE	D4G1	D6N1	D4G1	D6N1
DETECTOR LENGTH	4	4	4	4
OD OF INSTRUMENT	3 5/8	3 5/8	3 5/8	3 5/8
TIME CONSTANT	2.0-3.0	2.0-3.0	3.0	3.0
LOGGING SPEED	25-60	25-60	25	25
STATISTICAL VARIATION	RECORDED	RECORDED	RECORDED	RECORDED
SENSITIVITY REFERENCE	C-933	D-368	C-933	D-368
RECORDED BY	MC/KINZEY	MC/KINZEY	MC/KINZEY	MC/KINZEY
WITNESSED BY	MR. WATSON	MR. WATSON	MR. WATSON	MR. WATSON

BEFORE EXH. 3  
OIL CONSERVATION  
CASE NO. 3960



CASE 3960  
EXH. 3

TELEPHONE: HOBBS 393-6215



# UNITED CHEMICAL CORPORATION

OF NEW MEXICO

601 NORTH LEECH

P. O. BOX 1499

HOBBS, NEW MEXICO 88240

Company Texas Pacific

Field Tubb Drinkard

Lease Eaton SW Battery #1

Sampling Date 10/31/68

Type of Sample \_\_\_\_\_

## WATER ANALYSIS

IONIC FORM	me/l *	mg/l *
Calcium (Ca++)	255.54	5121
Magnesium (Mg++)	555.61	6756 *
Sodium (Na+) <u>Calculated</u>	1810.58	41,625
Iron		77
Bicarbonate (HCO <sub>3</sub> <sup>-</sup> )	3.20	195
Carbonate (CO <sub>3</sub> <sup>-</sup> )	3.20	96
Hydroxide (OH <sup>-</sup> )	NOT	FOUND
Sulphate (SO <sub>4</sub> <sup>-</sup> )	45.18	2170 *
Chloride (Cl <sup>-</sup> )	2570.15	91,140
8.3 ph c 68 °F		
Dissolved Solids on Evap. at 103° - 105° C		
Hardness as Ca CO <sub>3</sub>	811.15	40,558
Carbonate Hardness as CaCO <sub>3</sub> (temporary)	6.40	256
Non-Carbonate Hardness as CaCO <sub>3</sub> (permanent)	804.75	40,238
Alkalinity as CaCO <sub>3</sub>	6.40	256
Specific Gravity at 68° F <u>1.085</u>		

\* mg/l = milligrams per Liter

\* me/l = milliequivalents per Liter

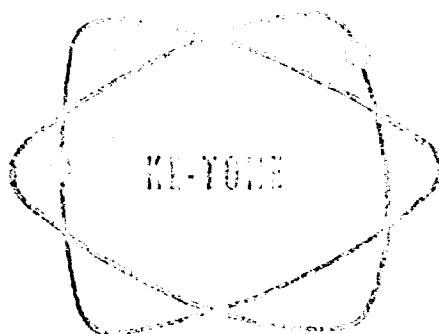
Calcium carbonate scaling index positive at 86° F

Calcium sulfate scaling index negative

BEFORE EXAMINER UTZ  
OIL CONSERVATION COMMISSION

UTZ EXHIBIT NO. 4  
CASE NO. 3860  
CASE 3960 EXH. 4

*Makes Water Work*



## UNITED CHEMICAL CORPORATION

OF NEW MEXICO

601 NORTH LEECH

P. O. BOX 1499

HOBBS, NEW MEXICO 88240

Company Texas PacificField Tubb DrinkardLease Eaton SW Battery #2Sampling Date 10/31/68

Type of Sample \_\_\_\_\_

## WATER ANALYSIS

IONIC FORM	me/l *	mg/l *
Calcium (Ca++)	169.71	3401
Magnesium (Mg++)	730.95	8888
Sodium (Na+)	Calculated 1787.30	41,090
Iron		112
Bicarbonate (HCO <sub>3</sub> -)	3.93	240
Carbonate (CO <sub>3</sub> -)	NOT	FOUND
Hydroxide (OH-)	NOT	FOUND
Sulphate (SO <sub>4</sub> -)	59.00	2834
Chloride (Cl-)	2625.03	93,086
6.5 pH @ 68 °F		
Dissolved Solids on Evap. at 103° - 105° C		
Hardness as Ca CO <sub>3</sub>	900.66	45,033
Carbonate Hardness as CaCO <sub>3</sub> (temporary)	3.93	197
Non-Carbonate Hardness as CaCO <sub>3</sub> (permanent)	896.73	44,837
Alkalinity as CaCO <sub>3</sub>	3.93	197
Specific Gravity @ 68° F	1.090	

\* mg/l = milligrams per Liter

\* me/l = milliequivalents per Liter

Calcium carbonate scaling index slightly positive at 104 ° F

Calcium sulfate scaling index negative

BEFORE EXAMINER UTZ  
OIL CONSERVATION COMMISSION  
EXHIBIT NO. 5  
CASE NO. 3960 EXH. 5

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

BEFORE THE OIL CONSERVATION COMMISSION

STATE OF NEW MEXICO

66 AM 8 09  
Nov 13 '88

IN THE MATTER OF THE APPLICATION OF )  
TEXAS PACIFIC OIL COMPANY FOR PER- )  
MISSION TO DISPOSE OF PRODUCED WATER )  
INTO THE SEVEN RIVERS-QUEEN FORMATIONS )  
IN THE PERFORATED INTERVALS FROM 3380 )  
FEET TO 3458 FEET IN ITS S. E. EATON )  
WELL No. 7, LOCATED IN UNIT "P" OF )  
SECTION 12, TOWNSHIP 25 SOUTH, RANGE )  
37 EAST, LANGLIE MATTIX POOL, LEA )  
COUNTY, NEW MEXICO. )

No. 3960

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 Yates, Seven Rivers and Queen Formations by injection into the Seven Rivers and Queen Formations in the perforated intervals from 3380 feet to 3458 feet in its S. E. Eaton Well No. 7, located in Unit "P" of Section 12, Township 25 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 attaches hereto as Exhibit "3" a graph showing the production history of the aforesaid well.

6. 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  
John F. Russell  
P. O. Drawer 640  
Roswell, New Mexico 88201

Applicant's Attorney

DATED:



TEXAS PACIFIC OIL COMPANY

SECTION 12; T-25-S, R-37-E

LANGLIE MATTIX SEVEN RIVERS QUEEN POOL

LEA COUNTY, NEW MEXICO

SCALE: 1" = 2000'

DATE: \_\_\_\_\_

9-5/8" Csg. @ 304' w/ 250 sx.  
Cement circulated

2-3/8" tubing set @ 3280'

Perforations 3380 - 84', 3388 - 98'  
3404 - 10', 3416 - 20'  
3428 - 32', 3444 - 50'  
3454 - 58'

T.C.  
7" Csg. @ 3497' w/400 sx.

TD: 3523'  
PBTD: 3466'

Seven Rivers @ 2760'

Queen @ 3245'

TEXAS PACIFIC OIL COMPANY

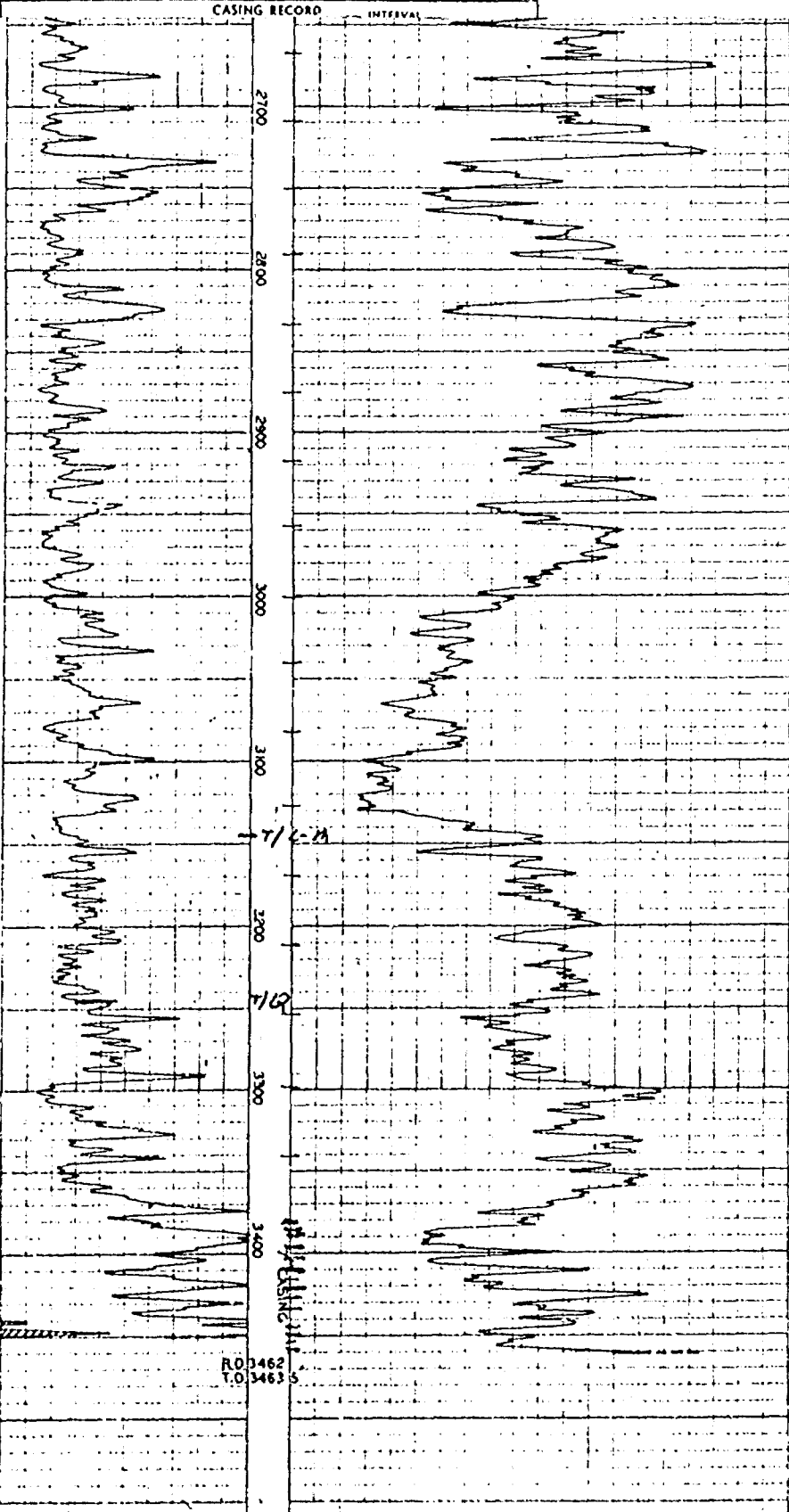
S.E. Eaton No. 7 Unit "P"  
Elevation 3091' GL  
990' FEL & 330' FSL  
Sec. 12, T-25-S, R-37-E  
Langlie Mattix Pool  
Lea County, New Mexico



# THE WESTERN COMPANY **GAMMATRON** *Standardized Radioactivity Log*

|                                                                   |                      |
|-------------------------------------------------------------------|----------------------|
| COMPANY: <b>ELSEN OILS, INC.</b>                                  | LOCATION:            |
| WELL: <b>EATON #7</b>                                             |                      |
| FIELD: <b>LANGLIE MATTIX</b>                                      |                      |
| COUNTY: <b>LEA</b> STATE: <b>N. M.</b>                            |                      |
| LOCATION: <b>990' FEL &amp; 300' FSL, SEC. 12, T-25-S, R-37-E</b> | FILE NO: <b>1592</b> |
| LOG MEAS FROM: <b>TOP ROTARY TABLE</b> <b>1113101.8</b>           |                      |
| DRIG MEAS FROM: <b>TOP ROTARY TABLE</b> <b>1113101.8</b>          |                      |
| PERM DATUM: <b>GROUND LEVEL</b> <b>1113091.2</b>                  |                      |

| TYPE OF LOG               | G/R        | N/N        | G/R        | N/N        |
|---------------------------|------------|------------|------------|------------|
| RUN NO                    | 1-NW       | 1-NW       | 2-NW       | 2-NW       |
| DATE                      | 12-22-58   | 12-22-58   | 12-30-58   | 12-30-58   |
| TOTAL DEPTH (DRILLER)     | 3412       | 3412       | 3523       | 3663       |
| EFFECTIVE DEPTH (DRILLER) | 3412       | 3412       | 3463       | 3663       |
| EFFECTIVE DEPTH (WESTERN) | 3412       | 3412       | 3463.5     | 3663.5     |
| TOP OF LOGGED INTERVAL    | SURF.      | SURF.      | 2500       | 2500       |
| BOTTOM OF LOGGED INTERVAL | 3399       | 3410.5     | 3450.5     | 3462       |
| TYPE OF FLUID IN HOLE     | MUD        | MUD        | WATER      | WATER      |
| FLUID LEVEL               | FULL       | FULL       | FULL       | FULL       |
| SOURCE STRENGTH & TYPE    | SCINT.     | SCINT.     | SCINT.     | SCINT.     |
| SOURCE SPACING            | 13.5       | 13.5       | 13.5       | 13.5       |
| DETECTOR CLASS            | D4G1       | D6N1       | D4G1       | D6N1       |
| DETECTOR TYPE             | 4          | 4          | 4          | 4          |
| DETECTOR LENGTH           | 3 5/8      | 3 5/8      | 3 5/8      | 3 5/8      |
| O.D. OF INSTRUMENT IN     | 2.0-3.0    | 2.0-3.0    | 3.0        | 3.0        |
| TIME CONSTANT SEC         | 25-60      | 25-60      | 25         | 25         |
| LOGGING SPEED FT/MIN      | RECORDED   | RECORDED   | RECORDED   | RECORDED   |
| STATISTICAL VARIATION     | C-933      | D-368      | C-933      | D-368      |
| SENSITIVITY REFERENCE     | MC/KINZEY  | MC/KINZEY  | MC/KINZEY  | MC/KINZEY  |
| RECORDED BY               | MR. WATSON | MR. WATSON | MR. WATSON | MR. WATSON |
| WITNESSED BY              |            |            |            |            |





## UNITED CHEMICAL CORPORATION

OF NEW MEXICO

601 NORTH LEECH

P. O. BOX 1499

HOES, NEW MEXICO 88240

Company Texas PacificField Tubb DrinkardLease Eaton SW Battery #1Sampling Date 10/31/68

Type of Sample \_\_\_\_\_

## WATER ANALYSIS

| IONIC FORM                                              | me/l *  | mg/l * |
|---------------------------------------------------------|---------|--------|
| Calcium (Ca++)                                          | 255.54  | 5121   |
| Magnesium (Mg++)                                        | 555.61  | 6756 * |
| Sodium (Na+) <u>Calculated</u>                          | 1810.58 | 41,625 |
| Iron                                                    |         | 77     |
| Bicarbonate (HCO <sub>3</sub> -)                        | 3.20    | 195    |
| Carbonate (CO <sub>3</sub> -)                           | 3.20    | 96     |
| Hydroxide (OH-)                                         | NOT     | FOUND  |
| Sulphate (SO <sub>4</sub> -)                            | 45.18   | 2170 * |
| Chloride (Cl-)                                          | 2570.15 | 91,140 |
| 8.3 pH @ 68 °F                                          |         |        |
| Dissolved Solids on Evap. at 103° - 105° C              |         |        |
| Hardness as CaCO <sub>3</sub>                           | 811.15  | 40,558 |
| Carbonate Hardness as CaCO <sub>3</sub> (temporary)     | 6.40    | 256    |
| Non-Carbonate Hardness as CaCO <sub>3</sub> (permanent) | 804.75  | 40,238 |
| Alkalinity as CaCO <sub>3</sub>                         | 6.40    | 256    |
| Specific Gravity @ 68° F <u>1.085</u>                   |         |        |

\* mg/l = milligrams per liter

\* me/l = milliequivalents per liter

Calcium carbonate scaling index positive at 86° F

Calcium sulfate scaling index negative

MEHRS WATER WORKS



# UNITED CHEMICAL CORPORATION

OF NEW MEXICO

601 NORTH LEECH

P. O. BOX 1499

HOBBS, NEW MEXICO 88240

Company Texas PacificField Tubb DrinkardLease Eaton SW Battery #2Sampling Date 10/31/68

Type of Sample \_\_\_\_\_

## WATER ANALYSIS

| IONIC FORM                                                        | me/l *  | mg/l * |
|-------------------------------------------------------------------|---------|--------|
| Calcium (Ca++)                                                    | 169.71  | 3401   |
| Magnesium (Mg++)                                                  | 730.95  | 8888   |
| Sodium (Na+) <span style="float: right;">Calculated</span>        | 1787.30 | 41,090 |
| Iron                                                              |         | 112    |
| Bicarbonate (HCO <sub>3</sub> -)                                  | 3.93    | 240    |
| Carbonate (CO <sub>3</sub> -)                                     | NOT     | FOUND  |
| Hydroxide (OH-)                                                   | NOT     | FOUND  |
| Sulphate (SO <sub>4</sub> -)                                      | 59.00   | 2834   |
| Chloride (Cl-)                                                    | 2625.03 | 93,086 |
| 6.5 pH @ 68 °F                                                    |         |        |
| Dissolved Solids on Evap. at 103° - 105° C                        |         |        |
| Hardness as Ca CO <sub>3</sub>                                    | 900.66  | 45,033 |
| Carbonate Hardness as CaCO <sub>3</sub> (temporary)               | 3.93    | 197    |
| Non-Carbonate Hardness as CaCO <sub>3</sub> (permanent)           | 896.73  | 44,837 |
| Alkalinity as CaCO <sub>3</sub>                                   | 3.93    | 197    |
| Specific Gravity @ 68° F <span style="float: right;">1.090</span> |         |        |

MOORE BUSINESS FORMS INC. 14

\* mg/l = milligrams per liter

\* me/l = milliequivalents per liter

Calcium carbonate scaling index slightly positive at 104 ° F

Calcium sulfate scaling index negative

//////////////////////////////////// *Mohas Water Work* //////////////////////////////////////

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. 3960

Order No. R- 2608

*gma* *[Signature]*  
APPLICATION OF TEXAS PACIFIC OIL  
COMPANY FOR SALT WATER DISPOSAL,  
LEA COUNTY, NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

8:30

This cause came on for hearing at 8 a.m. on November 20, 1968,  
at Santa Fe, New Mexico, before Examiner Elvis A. Utz.

NOW, on this 20 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, Texas Pacific Oil Company,  
is the owner and operator of the S. E. Eaton Well No. 7,  
located in Unit P of Section 12, Township 25 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-Queen  
formation, with injection into the perforated interval  
from approximately 3380 feet to 3458 feet.

(4) That the injection should be accomplished through  
2 3/8-inch plastic-lined tubing installed in a packer set at

approximately 3245 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, tubing, or packer.

(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 S. E. Eaton Well No. 7, located in Unit P of Section 12, Township 25 South, Range 37 East, NMPM, Langlie-Mattix Pool, Lea County, New Mexico, to dispose of produced salt water into the ~~Sage River~~ Queen formation, injection to be accomplished through 2 3/8-inch tubing installed in a packer set at approximately 3245 feet, with injection into the perforated interval from approximately 3380 feet to 3458 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, 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.