

CASE 3966: Application of TEXAS  
PACIFIC FOR SALT WATER DISPOSAL,  
LEA COUNTY, NEW MEXICO.

---

Case Number

3966

Application

Transcripts.

Small Exhibits

ETC.

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

EXAMINER HEARING

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

BEFORE: Elvis A. Utz, Examiner

TRANSCRIPT OF HEARING

MR. UTZ: Case Number 3966.

MR. HATCH: Case 3966, application of Texas Pacific Oil Company for salt water disposal, Lea County, New Mexico.

MR. RUSSELL: John F. Russell, appearing on behalf of the applicant. I have one witness, Ron Freels, who testified in the prior case.

(Whereupon, Applicant's Exhibits Numbers 1 through 4, 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 acquainted with the application of Texas Pacific Oil Company in Case Number 3966?

A Yes, I am. This is the application of the Texas Pacific Oil Company for authority to dispose of produced salt water into the Drinkard Formation in the open-hole interval from 6,333 feet to 6,419 feet in its Boyd Well No. 1, located in Unit G of Section 23, Township 22 South, Range 37 East, Drinkard Pool, Lea County, New Mexico.

Q Mr. Freels, have you prepared exhibits in connection with this application?

A Yes, I have.

Q Will you please identify and explain what each exhibit portrays?

A Exhibit Number 1 is a plat of the area surrounding the proposed injection well. The plat shows the location and producing zones of all wells, and it identifies the proposed injection well with a yellow triangle.

The proposed injection well is Texas Pacific Oil Company Boyd No. 1, which is located 2,310 feet from the north line, and 2,310 feet from the east line of Section 23, Township 22 South, Range 37 East, in Lea County, New Mexico.

We are proposing to dispose of approximately 300 barrels of water per month into this well. The source of the water from this well would be our Boyd Well 3-A, and 5-B. And we also propose to truck water, it is a very minor amount of water, approximately 80 barrels a month from Eva Owens Well No. 1. I don't believe it even shows on that map. No, it does not. It is from our Well No. 1, Eva Owens No. 1, and also from our Eva Owens No. 1-M. We propose to truck about another 60 barrels of water from it. The total water we propose to inject is approximately 300 barrels per month.

Exhibit Number 2 is a schematic of the proposed injection well. This schematic shows that 13 and three-eighths

inch casing was cemented at 295 feet with 275 sacks of cement, the cement was to the surface. Nine and five-eighths inch casing was submitted at 2,738 feet with 2,000 sacks of cement; top of the cement was at the surface. Five and one-half inch casing was cemented at 6,333 feet with 400 sacks of cement. The top of the cement was 5,020 feet.

The schematic also shows that the top of the San Andres is at 4,055 feet, the Glorieta at 5,002 feet, the Blinbry at 5,400 feet, the Tubb at 5,920 feet, and the Drinkard at 6,240 feet.

We propose to inject down tubing sets in a packer at 6,250 feet, and inject into the open-hole interval below the five and a half inch casing, which is the interval from 6,033 feet to 6,419 feet. We will load the annulus between the tubing and the casing with inhibited fluid, and put a pressure gauge at the surface to monitor this.

Q Now, the little circles there are merely reflecting cement, are they not?

A That's right. This is just one draftsman's way of showing where the top of the cement was.

Exhibit Number 3 is a log of the proposed injection well. It shows the top of the Tubb at -- in fact, there is an error here. This shows the top of the Tubb at 5,910 feet. The

Tubb is actually at 5,920 feet. That should be corrected on there.

Q It will then coincide with your schematic?

A Which is the correct top, too.

And it shows that five and a half inch casing is set 6,333 feet, and at open-hole interval is down to 6,419 feet.

Exhibit Number 4 is an analysis of the water that is to be disposed into this well, and shows that the chlorides are 143,000 parts per million.

Q What is the status of your Boyd No. 1 Well at this time?

A The Boyd No. 1 is presently TA'd, as I recall. It is a shut-in, this well has been shut in. It has, in the past, produced a cumulative of 110,706 barrels of oil. However, it is not producing at the present time.

Q Do you think the granting of this application would prevent waste through premature abandonment of wells, and protect other rights in the area?

A Yes, I do.

Q Were Exhibits 1 through 4 produced under your direction and supervision?

A Yes.

MR. RUSSELL: I offer Applicant's Exhibits 1 through 4

into the evidence.

MR. UTZ: Without objection, Exhibits 1 through 4 will be entered into the record.

(Whereupon, Applicant's Exhibits Numbers 1 through 4, inclusive, were admitted in evidence.)

MR. RUSSELL: I have no further questions.

CROSS EXAMINATION

BY MR. UTZ:

Q Mr. Freels, how many wells on your Boyd are you going to --

A We propose to dispose only water from a total of the two wells on our Boyd Lease, and those are wells 3-A -- three, which is Unit A; and 5, which is 5-B. Those are the only two wells producing water.

Q The other two are not producing?

A They are apparently not producing water. Maybe we should add a point, that as they do or should they begin to produce water, we would like to dispose of them in this well. But at the present time, they are not, and we are going to bring or truck water in from our Eva Owens 1, 1-M, apparently this is a dual well, it is a dual Blinebry well, which is on the map area, but these are very insignificant volumes of water. But we had no other point to dispose of them. The total



water from those two wells is approximately 140 barrels per month, for those two wells combined.

Q A total of about 300 barrels per month?

A Total for all wells.

Q Now, you don't propose to plastic-coat the tubing on this, either?

A No, we feel fairly confident that we can inhibit this water more cheaply than we can coat the tubing, and that we can effectively inhibit the water, plus we will monitor it with a coupon at the surface to insure it is an effective inhibiting program.

Q What kind of production are you getting from these wells on the lease?

A The No. 3-A is producing 202 barrels of water -- barrels of oil per month, and the 5-B is producing 202 barrels of oil per month. The No. 3 is producing currently about 93 barrels of water per month, and the 5-B about 62 at this time.

Q Of course, your other wells on the lease are fair producers?

A I don't have that information. I feel certain they are. This is an economic lease that we anticipate being around for some time.

MR. UTZ: Any other questions?

MR. RUSSELL: No further questions.

MR. UTZ: The witness may be excused. The case will be taken under advisement, and the hearing is adjourned.

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 4	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. 3966,  
heard by me on 11-22-66, B.F.  
Sam Mortelette, Examiner  
New Mexico Oil Conservation Commission

OIL CONSERVATION COMMISSION

P. O. BOX 2088

SANTA FE, NEW MEXICO 87501

November 27, 1968

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

Dear Sir:

Enclosed herewith is Commission Order No. R-3607, entered in Case No. 3966, approving the Texas Pacific Drinkard Boyd Waterflood Project.

Injection is to be through the one authorized water injection well, which shall be equipped with 2 3/8 inch plastic-lined tubing set in a packer at approximately 6250 feet. The casing-tubing annulus shall be loaded with an inert fluid and equipped with a pressure gauge at the surface to facilitate detection of leakage in the casing, tubing or packer.

As to allowable, our calculations indicate that when all of the authorized injection wells have been placed on active injection, the maximum allowable which this project will be eligible to receive under the provisions of Rule 701-E-3 is 288 barrels per day when the Southeast New Mexico normal unit allowable is 42 barrels per day or less.

Please report any error in this calculated maximum allowable immediately, both to the Santa Fe office of the Commission and the appropriate district proration office.

In order that the allowable assigned to the project may be kept current, and in order that the operator may fully benefit from the allowable provisions of Rule 701, it behooves him to promptly notify both of the aforementioned Commission offices by letter of any change in the status of wells in the project area, i.e., when active injection commences, when additional injection or producing wells are

OIL CONSERVATION COMMISSION

P. O. BOX 2088

SANTA FE, NEW MEXICO 87501

-2-

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

drilled, when additional wells are acquired through purchase or  
unitization, when wells have received a response to water injection,  
etc.

Your cooperation in keeping the Commission so informed as to the  
status of the project and the wells therein will be appreciated.

Very truly yours,

A. L. PORTER, Jr.  
Secretary-Director

ALP/DSN/ir

Enclosures

cc: Oil Conservation Commission  
Post Office Box 1980  
Hobbs, New Mexico.

Mr. D. E. Gray  
State Engineer Office  
Santa Fe, New Mexico

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. 3966  
Order No. R-3607

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. Utz.

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 Boyd Well No. 1, located in Unit G of Section 23, Township 22 South, Range 37 East, NMPM, Drinkard Pool, Lea County, New Mexico.

(3) That the applicant proposes to utilize said well to inject produced salt water into the Drinkard formation, with injection into the open-hole interval from approximately 6333 feet to 6419 feet.

(4) That the subject well should be classified as a pilot waterflood injection well.

(5) That the wells in the project area are in an advanced state of depletion and should properly be classified as "stripper" wells.

-2-

CASE No. 3966  
Order No. R-3607

(6) That the proposed waterflood project should result in the recovery of otherwise unrecoverable oil, thereby preventing waste.

(7) That the subject application should be approved and the project 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, Texas Pacific Oil Company, is hereby authorized to institute a pilot waterflood project in the Drinkard Pool by the injection of water into the Drinkard formation through its Boyd Well No. 1, located in Unit G of Section 23, Township 22 South, Range 37 East, NMPM, Lea County, New Mexico.

(2) That the subject pilot waterflood project is hereby designated the Texas Pacific Drinkard Boyd Waterflood Project and shall be governed by the provisions of Rules 701, 702, and 703 of the Commission Rules and Regulations.

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

(4) 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

esr/



ROUGH DRAFT FOR WATERFLOOD LETTERS

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

Dear Sir:

*Ref*  
*Enclosed herewith is* Commission Order No. R-3607, entered in Case No. 3966, approving the *Texas Pacific Drinkard Boyd* Waterflood Project.

*Injection is to be through the one authorized water injection well, which shall be equipped with <sup>2 7/8 inch</sup> plastic-lined tubing set in a packer at approximately 6250 feet. The casing-tubing annulus shall be loaded with an inert fluid and equipped with a pressure gauge at the surface to facilitate detection of leakage in the casing, tubing or packer.*

As to allowable, our calculations indicate that when all of the authorized injection wells have been placed on active injection, the maximum allowable which this project will be eligible to receive under the provisions of Rule 701-E-3 is 288 barrels per day when the Southeast New Mexico normal unit allowable is 42 barrels per day or less.

Please report any error in this calculated maximum allowable immediately, both to the Santa Fe office of the Commission and the appropriate district proration office.

In order that the allowable assigned to the project may be kept current, and in order that the operator may fully benefit from the allowable provisions of Rule 701, it behooves him to promptly notify both of the aforementioned Commission offices by letter of any change in the status of wells in the project area, i.e., when active injection commences, when additional injection or producing wells are drilled, when additional wells are acquired through purchase or unitization, when wells have received a response to water injection, etc.

Your cooperation in keeping the Commission so informed as to the status of the project and the wells therein will be appreciated.

Very truly yours,

A. L. PORTER, Jr.  
Secretary-Director

cc: OCC: Hobbs X  
Artesia         
Aztec       

---? USGS       

Mr. Frank Irby, State Engineer Office, Santa Fe, New Mexico

Mr. D. E. Gray

Case 3966

Heard 11-20-68

Rec. 11-22-68

Grant D & P. permission to convert  
this Bayd ~~to~~ - G-23-225-37E.  
Drunkard pool to Waterflood  
Injection well on its  
Bayd Drunkard pool  
waterflood project. Injection  
shall be thru 2  $\frac{3}{4}$  plastic coated  
tubing under a packer at  
approx. 6250 & then open  
hole from 6333-6419. Annulus  
shall be loaded w/ inert. fluid  
w/ pressure gauge at surface,

Thud D & P

CASE 3963: 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 3240 feet to 3290 feet in its Gregory "C" Well No. 3 located in Unit H of Section 35, Township 25 South, Range 37 East, Langlie-Mattix Pool, Lea County, New Mexico.

CASE 3964: 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 3080 feet to 3350 feet in its Legal Well No. 4 located in Unit J of Section 31, Township 25 South, Range 37 East, Jalmat Pool, Lea County, New Mexico.

CASE 3965: 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 perforated interval from 2600 feet to 3158 feet in its Harner Well No. 1 located in Unit O of Section 20, Township 25 South, Range 37 East, Jalmat Pool, Lea County, New Mexico.

CASE 3966: 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 Drinkard formation in the open-hole interval from 6333 feet to 6419 feet in its Boyd Well No. 1 located in Unit G of Section 23, Township 22 South, Range 37 East, Drinkard Pool, Lea County, New Mexico.



### Proposed Water Disposal Well



## Penrose Skelly



Langlie Mattix 7-Rivers Queen



## Blinobry Gas



## Blinebry Oil



**Tubb Gas**



Tubb Oil



Drinkard

BEFORE EXAMINER UTZ  
OIL CONSERVATION COMMISSION

Open EXHIBIT NO. 1  
CASE NO. 3966

TEXAS PACIFIC OIL COMPANY

SECTION 23; T-22-S, R-37-E

DRINKARD POOL

LEA COUNTY, NEW MEXICO

SCALE: 1" = 2000'      DATE:

CASE 3966

EXH. 1

13-3/8" Csg. @ 295' w/275 ex.  
Top of Cement - Surface

9-5/8" Csg. @ 2738' w/2000 ex.  
Top of Cement - Surface

Top of cement 5020'

2-3/8" tubing set into packer  
at about 6250'

5-1/2" Csg. @ 6333' w/400 ex.

Open Hole

TD: 6419'

San Andres 4055'

Glorieta 5002'

Blinberry 5400'

Tubb 5920'

Drinkard (Est.) 6240'

CASE 3966

EXH. 2

TEXAS PACIFIC OIL COMPANY

Boyd No. 1 Unit "G"  
Elevation 3332' DF  
2310' FNL & 2310' FEL  
Sec. 23, T-22-S, R-37-E  
Lea County, New Mexico  
Drinkard Pool

BEFORE EXAMINER UTZ

OIL CONSERVATION COMMISSION

EXHIBIT NO. 2

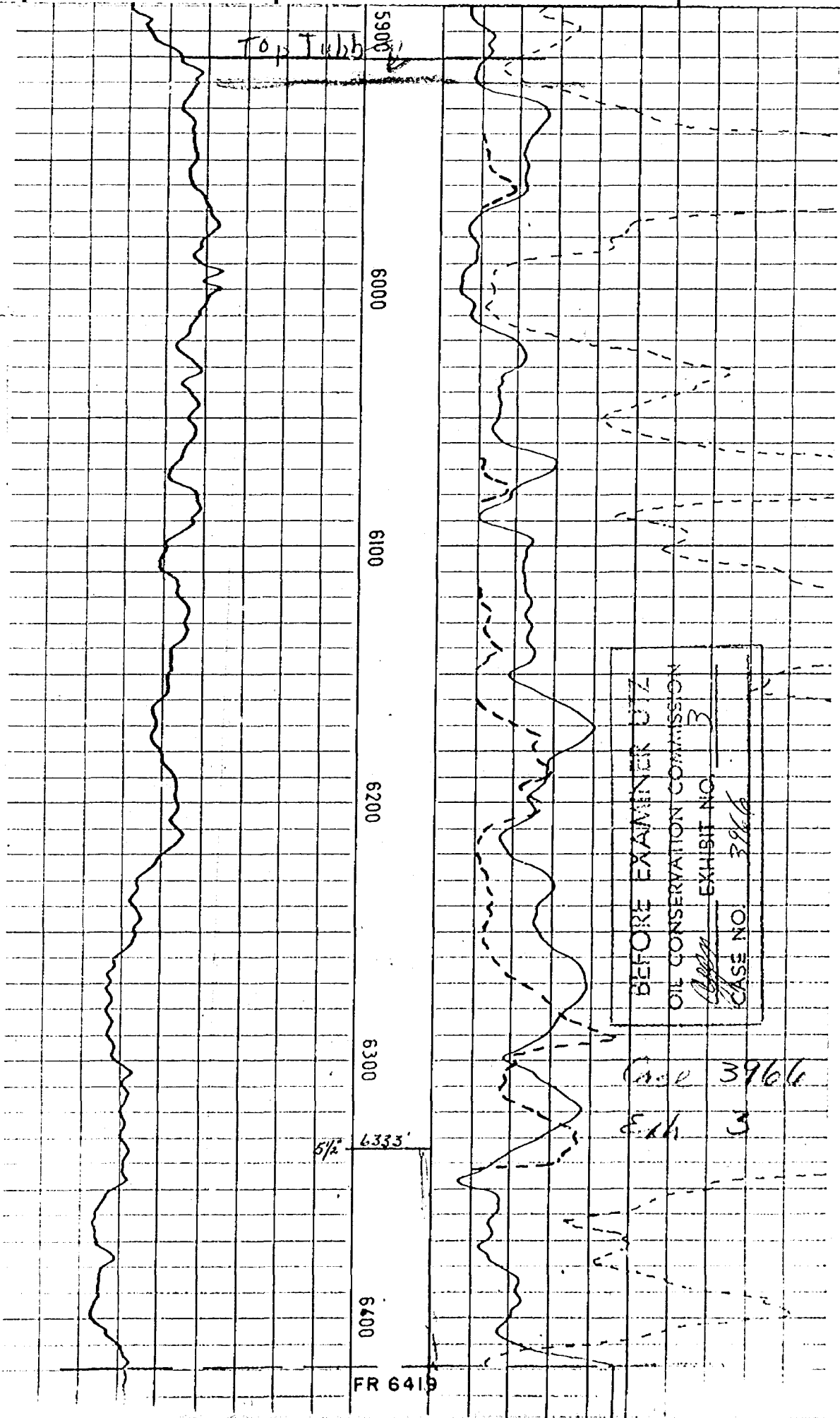
CASE NO. 3966

Location of Well  
For file 6347-72  
6347-6419  
Drinkard 1A

5  
3332  
2638  
23-27S-37E  
Elevation: D.F.: 3332  
or G.L.:

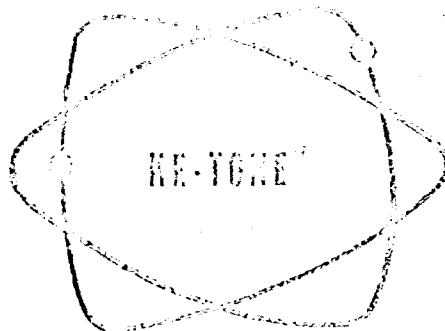
COMPANY: R. OLSEN OIL CO.  
WELL: BOYD #1  
RUN NO.: 1  
FIELD: DRINKARD  
SURVEY:  
COUNTY: LRA  
STATE: NEW MEXICO  
FILING No.

COMPANY: E. OLSEN OIL CO.  
WELL: BOYD #1  
SURVEY:  
COUNTY: LRA  
STATE: NEW MEXICO



BEFORE EXAMINER UZ  
OIL CONSERVATION COMMISSION  
EXHIBIT NO. 3  
CASE NO. 3966

Page 3966  
Exh. 3



## UNITED CHEMICAL CORPORATION

OF NEW MEXICO

601 NORTH LEECH

P. O. BOX 1499

HOBBS, NEW MEXICO 88240

Company Texas PacificField DrinkardLease Boyd Battery #1Sampling Date 10/31/68Type of Sample Heater (Well 3 & 5)

## WATER ANALYSIS

IONIC FORM	me/l *	mg/l *
Calcium (Ca++)	602.59	12,076
Magnesium (Mg++)	309.47	3763
Sodium (Na+) Calculated	3151.08	72,443
Iron		63
Bicarbonate (HCO <sub>3</sub> -)	2.49	152
Carbonate (CO <sub>3</sub> -)	NOT	FOUND
Hydroxide (OH-)	NOT	FOUND
Sulphate (SO <sub>4</sub> -)	27.77	1334
Chloride (Cl-)	4032.88	143,010
<div style="border: 1px solid black; padding: 5px; display: inline-block;"> BEFORE EXAMINER UTZ  OIL CONSERVATION COMMISSION  EXHIBIT NO. <u>4</u>  CASE NO. <u>3966</u> </div>		
5.7° c 68° F		
Dissolved Solids on Evap. at 103° - 105° C		
Hardness as Ca CO <sub>3</sub>	912.06	45,603
Carbonate Hardness as CaCO <sub>3</sub> (temporary)	2.49	125
Non-Carbonate Hardness as CaCO <sub>3</sub> (permanent)	909.57	45,479
Alkalinity as CaCO <sub>3</sub>	2.49	125
Specific Gravity @ 68° F	1.135	

\* mg/l = milligrams per Liter

\* me/l = milliequivalents per Liter

Calcium carbonate scaling index slightly positive at 104° F

Calcium sulfate scaling index positive

CASE 3966

EXH. 4

//////////////////////////////////// *Mahar Water Work* //////////////////////////////////

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 WATER )  
INTO THE DRINKARD FORMATION THROUGH )  
THE OPEN HOLE INTERVAL FROM APPROXI- )  
MATELY 6333 FEET TO 6419 FEET IN ITS )  
BOYD WELL No. 1, LOCATED IN UNIT "G" )  
OF SECTION 23, TOWNSHIP 22 SOUTH, )  
RANGE 37 EAST, DRINKARD POOL, LEA )  
COUNTY, NEW MEXICO. )

No. 3966

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, Queen and Drinkard Formations by injection into the Drinkard Formation through open hole interval from approximately 6333 feet to 6419 feet in its Boyd Well No. 1, located in Unit "G" of Section 23, Township 22 South, Range 37 East, Drinkard 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

FILED  
68 May 13 AM 8 12



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.

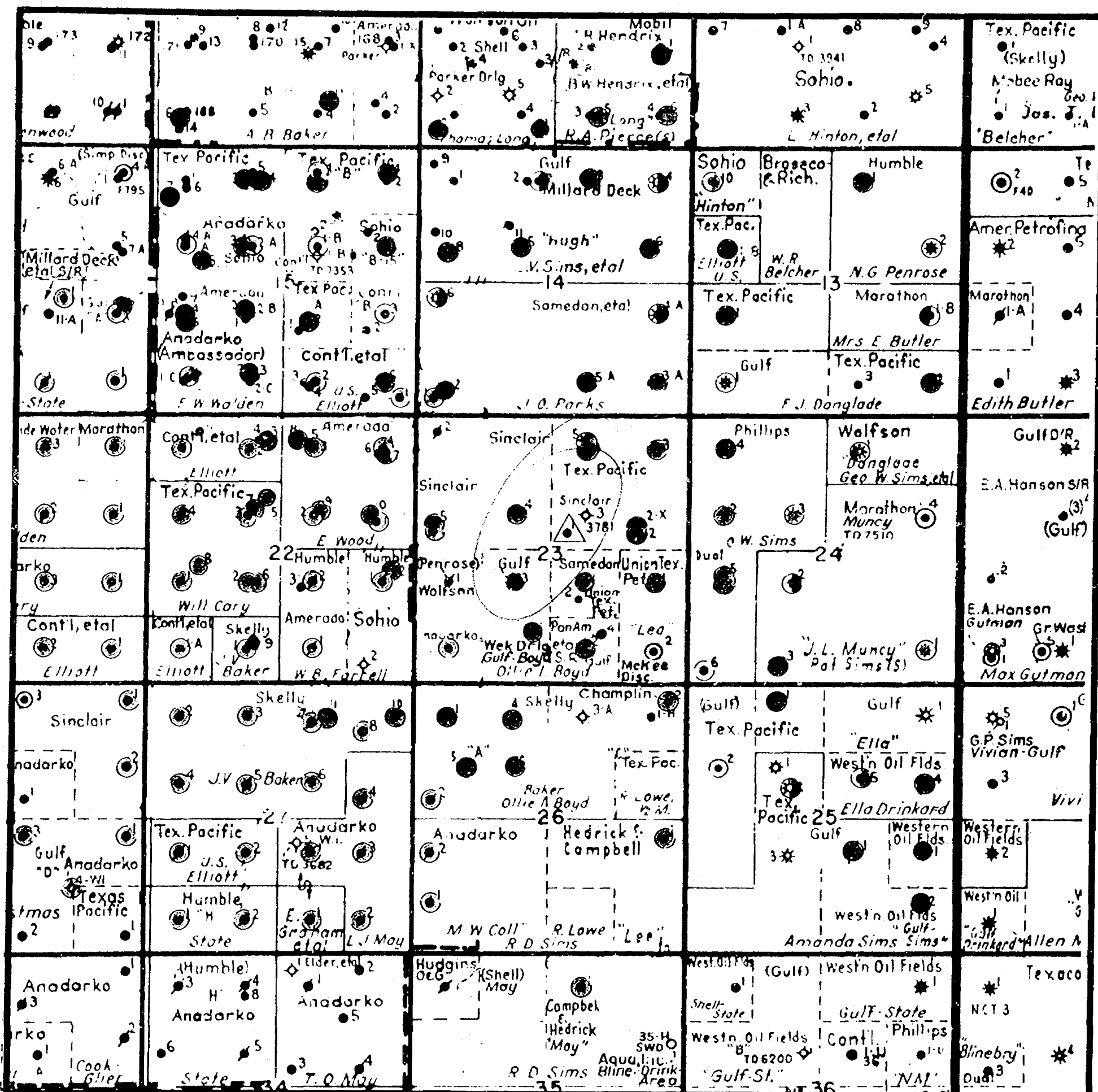
WHEREFORE, Applicant requests that the Commission set this matter down for hearing before its Examiner, publish notice as required by law and after hearing issue its order authorizing the disposal of salt water as aforesaid.

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

DATED:



Proposed Water Disposal Well



Penrose Skelly



Langlie Mattix 7-Rivers Queen



Blinobry Gas



Blinobry Oil



Tubb Gas



Tubb Oil



Drinkard



Cary Montoya

## TEXAS PACIFIC OIL COMPANY

SECTION 23; T-22-S, R-37-E

DRINKARD POOL

LEAKE COUNTY, NEW MEXICO

SCALE: 1" = 2000'

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

13-3/8" Csg. @ 295' w/275 sx.  
Top of Cement - Surface

9-5/8" Csg. @ 2738' w/2000 sx.  
Top of Cement - Surface

San Andres 4055'

5020

Top of cement 5020'

Glorieta 5002'

Blinberry 5400'

Tubb 5920'

Drinkard (Est.) 6240'

*Plaster coated*  
2-3/8" tubing set into packer  
at about 6250'

5-1/2" Csg. @ 6333' w/400 sx.

*T.C.* Open Hole

TD: 6419'

TEXAS PACIFIC OIL COMPANY

Boyd No. 1 Unit "C"  
Elevation 3332' DP  
2310' FNL & 2310' FEL  
Sec. 23, T-22-S, R-37-E  
Lea County, New Mexico  
Drinkard Pool

Location of Well

6377-72  
6377-649 F.V.  
Drinfeld, Va.

COMPANY: N. OSTEEN OIL CO.

WELL: BOYD #1

RUN NO.: 1

FIELD: DRINKARD

SURVEY:

COUNTY:

STATE: VIRGINIA

FILING No.

COMPANY: N. OSTEEN OIL CO.

WELL: BOYD #1

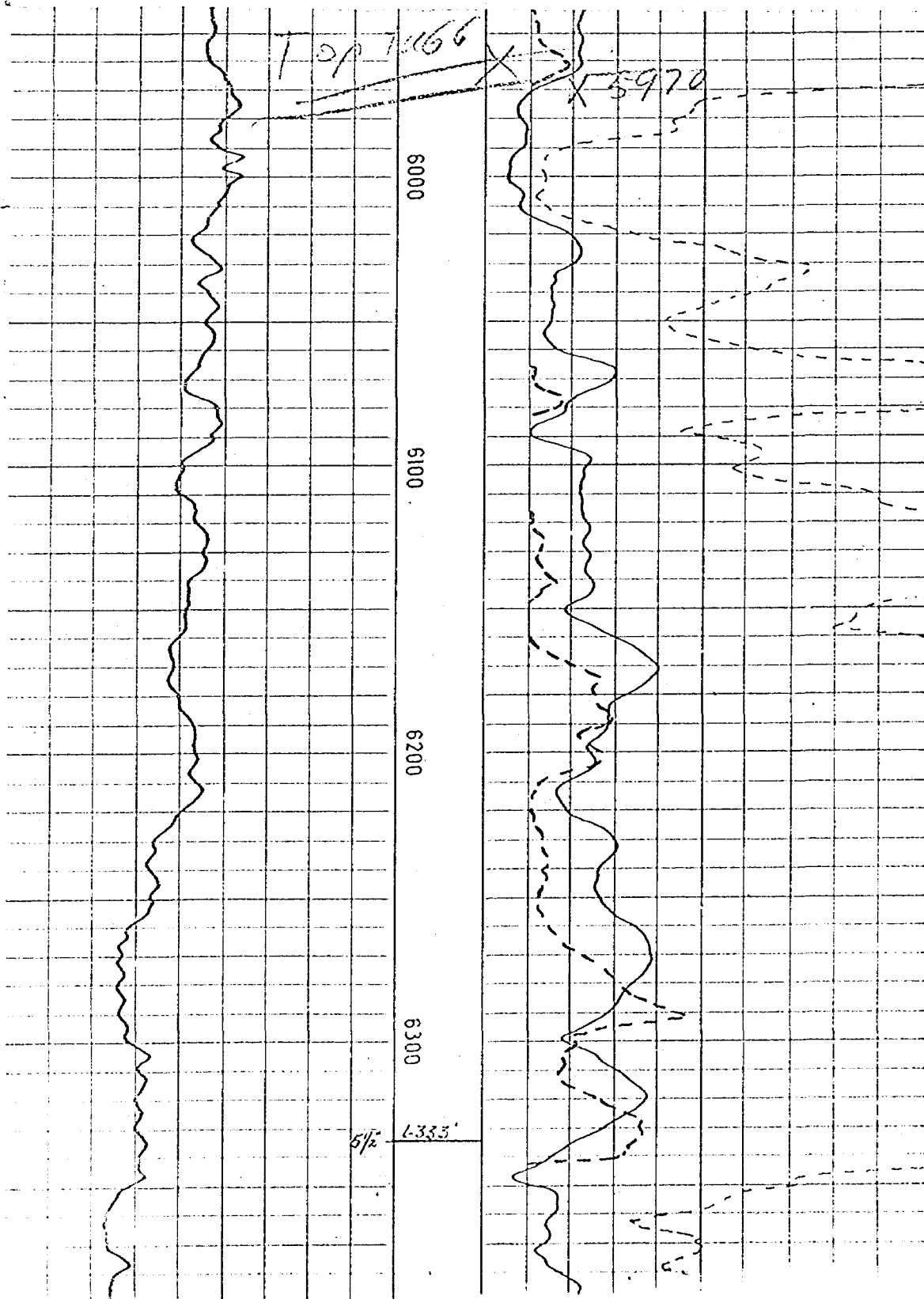
FIELD OR SURVEY:

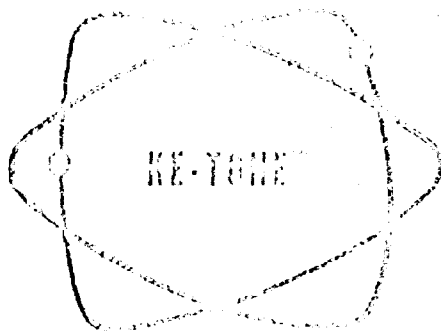
COUNTY:

23-22S-37E  
Elevation: D.F.: 3322

or G.L.:

First Reading . . . . . : 6419 ft.  
Last Reading . . . . . : 2738 ft.  
Footage Measured . . . . . : 3681 ft.  
Casing Shoe Depth: SCHLUMBERGER . . . : 2738 ft.  
DRILLER . . . . . : 2738 ft.  
Max. depth reached . . . . . : 6419 ft.  
Bottom Depth: DRILLER . . . . . : 6442 ft.  
Depth Datum R.T. 12' ABOVE GROUND





## UNITED CHEMICAL CORPORATION

OF NEW MEXICO

601 NORTH IEECH

P. O. BOX 1499

HOBS, NEW MEXICO 88240

Company: Texas PacificField: DrinkardLease: Boyd Battery #1Sampling Date: 10/31/68Type of Sample: Heater (Well 3 & 5)

## WATER ANALYSIS

IONIC FORM	me/l *	mg/l *
Calcium (Ca <sup>++</sup> )	602.59	12,076
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Sodium (Na <sup>+</sup> ) Calculated	3151.08	72,443
Iron		63
Bicarbonate (HCO <sub>3</sub> <sup>-</sup> )	2.49	152
Carbonate (CO <sub>3</sub> <sup>-</sup> )	NOT	FOUND
Hydroxide (OH <sup>-</sup> )	NOT	FOUND
Sulphate (SO <sub>4</sub> <sup>-</sup> )	27.77	1334
Chloride (Cl <sup>-</sup> )	4032.88	143,010
5.7 <sup>h</sup> c 68° F		
Dissolved Solids on Evap. at 103° - 105° C		
Hardness as Ca CO <sub>3</sub>	912.06	45,603
Carbonate Hardness as CaCO <sub>3</sub> (temporary)	2.49	125
Non-Carbonate Hardness as CaCO <sub>3</sub> (permanent)	909.57	45,479
Alkalinity as CaCO <sub>3</sub>	2.49	125
Specific Gravity c 68° F	1.135	

\* mg/l = milligrams per Liter

\* me/l = milliequivalents per Liter

Calcium carbonate scaling index slightly positive at 104° F

Calcium sulfate scaling index positive

===== Makes 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. 3966

Order No. R- 3607

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 9 a.m. on November 20, 1968,  
at Santa Fe, New Mexico, before Examiner Elvis A. Utz.

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, Texas Pacific Oil Company,  
is the owner and operator of the Boyd Well No. 1  
located in Unit G of Section 23, Township 22 South, Range  
37 East, NMPM, Drinkard Pool, Lea  
County, New Mexico.

(3) That the applicant proposes to utilize said well to  
~~dispose of~~ inject produced salt water into the Drinkard  
formation, with injection into the open-hole interval  
from approximately 6333 feet to 6419 feet.

(4) ~~That the injection should be accomplished through~~

~~\_\_\_\_\_ inch plastic-lined tubing installed in a packer set at~~

(5) That the proposed waterflood project should result  
in the recovery of otherwise unrecoverable oil, thereby  
preventing waste.

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

(4) That the subject well should be classified as a pilot waterflood  
injection well.  
(5) That the wells in the project area are in an advanced state of  
depletion and should properly be classified as "stripper" wells.

(5) ~~That the subject application should be approved and the project 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, Texas Pacific Oil Company,  
<sup>pilot</sup>  
is hereby authorized to institute a waterflood project in the  
Unit Area Drinkard Pool,  
by the injection of water into the Drinkard formation  
through <sup>its Boyd Well No. 1, located in Unit G of section 23,</sup> ~~the following-described wells in~~ Township 22  
~~North~~, South, Range 37 ~~West~~, East, NMPM, Lea County  
County, New Mexico:

(2) That the subject <sup>pilot</sup> waterflood project is hereby designated  
the Texas Pacific Drinkard Waterflood Project and shall  
be governed by the provisions of Rules 701, 702, and 703 of the  
Commission Rules and Regulations.

(3) That monthly progress reports of the waterflood project  
herein authorized shall be submitted to the Commission in accor-  
dance with Rules 704 and 1120 of the Commission Rules and Regula-  
tions.

(4) 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.