

CASE 5145: TEXAS PACIFIC OIL CO.  
For salt water disposal, Lea  
County, New Mexico

BEFORE THE  
NEW MEXICO OIL CONSERVATION COMMISSION  
Santa Fe, New Mexico  
January 16, 1974

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 No. 5145

BEFORE: Richard L. Stamets, Examiner.

TRANSCRIPT OF HEARING

A P P E A R A N C E S

For the New Mexico Oil Conser-  
vation Commission:

Thomas Derryberry, Esq.  
Legal Counsel for the Com-  
mission  
State Land Office Building  
Santa Fe, New Mexico

For the Applicant:  
(Texas Pacific Oil Company)

John F. Russell, Esq.  
Suite 412  
Hinkle Building  
Roswell, New Mexico

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E X H I B I T S

	<u>Marked</u>	<u>Admitted</u>
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MR. STAMETS: Call the next case, Case 5145.

MR. DERRYBERRY: Case 5145. Application of Texas Pacific Oil Company for salt water disposal, Lea County, New Mexico.

MR. RUSSELL: I'm John Russell, Roswell, New Mexico, appearing on behalf of the Applicant. I have one witness.

MR. STAMETS: Are there any other appearances in this case?

The witness will stand and be sworn, please.

(Witness sworn.)

CHARLES PICKERING

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

DIRECT EXAMINATION

BY MR. RUSSELL:

Q Please state your name, residence, the name of your employer and the capacity in which you are employed?

A My name is Charles Pickering. I live in Midland, Texas and employed by Texas Pacific Oil Company, Incorporated. I'm employed as senior engineer.

Q Have you previously qualified with expert testimony before this Commission?

A Yes, I have.

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STATE-WIDE DEPOSITION NOTARIES  
225 JOHNSON STREET  
SANTA FE, NEW MEXICO 87501  
TEL. (505) 982-0386

PICKERING-DIRECT

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Q Are you familiar with the Application in the Case No. 5145?

A Yes, sir.

Q What do you seek by this application?

A To inject salt water from the Bagley Siluro-Devonian Pool into the State "B" Lea County Well No. 2.

Q Have you prepared some Exhibits in connection with this Application?

A Yes, sir, I have.

Q I am referring to Applicant's Exhibit No. 1 --

MR. STAMETS: (Interrupting) Mr. Russell, we only have Exhibits 1 and 3.

MR. RUSSELL: We only have one copy of No. 2. I'll give it to you in a moment.

BY MR. RUSSELL:

Q Please explain what is reflected in Exhibit No. 1.

A This is a plat of the Bagley Pool area. It indicates the location of the subject well in standard location in Unit "B", Section 11. Township 12 South, Range 33 East. Also indicated are the present producers from the Bagley Siluro-Devonian Pool as indicated by green and former Bagley Siluro-Devonian producer in red. The other completions in that area are to the north, Bagley-Penn North and Bagley Penn.

PICKERING-DIRECT

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Q All right. Referring to what has been marked as Applicant's Exhibit 2, what does that reflect?

A This is a micro-log of the Devonian formation taken from the well bore of the State "B" Count No. 1 and No. 2. It indicates porous and probable intervals within the Devonian formation. It reflects the zones in which we intend to dispose of the water.

Q Is that marked by what appears to be perforations there on the log?

A No, these are micro-logs indications of the porous permeable zone. The top of the Devonian indicated by the shale break above it.

Q Now, referring you to what has been marked Applicant's Exhibit 3, what does that reflect?

A This is a schematic of the well bore of State Bia Camp Well No. 2 and there also gives pertinent data to completion data, available data in that well. The surface casing 13 and three-eighths set at 300 feet with 300 sacks of cement was circulated. The nine and five-eighths intermediate strain was set 3,874 feet with 3,500 sacks of cement. The top of the cement was 715 feet was indicated by a temperature survey. The five-and-a-half inch casing was set at 11,033 feet with 812 sacks of cement with the top of the cement indicated at

420 by temperature survey. We have a tubing string indicated in the well as proposed. It will be a paper string, three-and-a-half inch and two-and-seven-eighths inch with the packer set at 7,600 below the indicated top of the cement.

Q Is that plastic coated tubing?

A The tubing will be plastic coated.

Q And will the annulus be treated and inhibited fluid behind the pipe?

A Yes, sir.

Q What will you have at surface to reflect any leaks in this operation?

A We will endeavor to keep the whole full with the gauge on occasions to the annulus.

Q What is the rate of injection that you contemplate?

A We anticipate between 2,000 to 7,000 barrels of oil per day.

Q Will it be under pressure by gravity?

A It will be a pressured system. We anticipate no more than 500 currently and possibly up to 900 psi later. It's higher rates.

Q Now, what is the reason for this Application? Have you been disposing of your water up to now?

A We have been participating with Amerada Hess

PICKERING-DIRECT

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Corporation in their disposal system. This system has become of late somewhat unable to handle the total volume of fluid all the time. So, we have had occasional spills, battery, due to this water backing up. We had to have truck water in order to maintain our production and have suffered a loss of production due to this lack of facilities.

Q Now, the Amarada has an injection well in the area of your proposed injection well?

A That well is located southwest of our proposed injection well.

Q Immediate offset?

A Yes.

Q All right. Now, going back to Exhibit No. 3, what is this interval between 11,032 feet and 11,041 feet?

A That is open hole interval. We attempted to deepen that well, entered mechanical problems. We were unable to even get passed this point.

Q But you did perforate the open hole in that area?

A Perforated the open hole.

Q What is the formation in which you'll be disposing of the salt water?

A That will be the Devonian formation.

Q Were Exhibits 1, 2 and 3 prepared by you or under



PICKERING-DIRECT  
CROSS

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your direction and supervision?

A Yes, sir.

MR. RUSSELL: At this time I would like to offer  
Applicant's Exhibits 1, 2 and 3.

MR. STAMETS: Without objection, they will be  
admitted in evidence.

MR. RUSSELL: I have no further questions of this  
witness. (Whereupon, Applicant's Exhibits  
Nos. 1, 2 and 3 were admitted.)

CROSS EXAMINATION

BY MR. STAMETS:

Q Mr. Pickering, is the five-and-a-half inch casing  
perforated at any point?

A Yes, sir, perforations are under completion in our  
remedial work and they are from 10,879.4, 10,953 to 965 and  
10,956 to 988 and 11,015 to 11,041. We did perforate that  
open hole.

Q Top perforation is 10,870 feet?

A Yes, sir.

Q Your disposed fluid would be going into all of  
those perforations from that point on down?

A Yes, sir.

Q Those perforations have been treated with acid?

A Yes.

PICKERING-CROSS

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Q Now, Mr. Pickering, you propose to set your tubing and packer about 3,000 feet above these perforations, although a couple of hundred feet below the top of the cement. By temperature survey, do you have any indication that the cement is bonded to that casing?

A No, sir, we do not have the cement bond log.

Q Is the water that you will be disposing of here corrosive?

A There have been no corrosive problems as such in the Bagley Siluro-Devonian Field to any extent, not to the extent that they have to treat for it. We anticipate there may be some problem handling the water. Even so, Amarada is not reported any severe corrosion problems. I mentioned this casing, during treatment has been tested to 1,500 pounds during acidizing treatments.

Q Mr. Pickering, if the cement is not bonded behind this pipe, there might even be holidays in the cement behind the pipe and the water did corrode the five-and-a-half inch casing in this 3,000-foot interval, the injected water could actually enter other zones instead of the Devonian, is that not correct?

A That is true. There has also been water injection into the Bagley-Penn zones, the Collier and the Ranger Lake

PICKERING-CROSS

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and the Burton. Those were salt water disposal zones in the other two Amarada wells and shut down due to high pressure.

Q It could migrate even up above the top of the cement into the zones between the nine-and-five-eighths and the five-and-a-half up at 3,500 feet or 3,874, I believe?

A If it is very poor cement, it is possible.

Q Why have you chosen not to put additional tubing into this hole?

A It's a mechanical problem, the volumes of water we need to dispose of and the rate through this tubing would put a friction pressure at packer surface and cause us maintenance problems as well as operational problems.

Q If required to, would T.P. install coupon corrosion equipment in this well and submit a report to the Commission?

A Certainly.

Q Your low rate was 2,000 barrels of water per day, what is your high end of that?

A 7,000. We're presently looking at a design for 5,000. The purpose of this would be to increase production from some of our present producers, primarily State "D" No. 1 and State BTL No. 1. We hope to increase production of those wells by getting greater draw down.

Q Do you have any structural map of this, do you know

PICKERING-CROSS

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if the proposed injection is located on the low portion of the field?

A It is on the low portion of the field. This is a water-drive field which is apparent from what well producers call watering out is the reason we're -- with the exception of State "B", No. 1, and that's where it watered out.

MR. STAMETS: Are there any other questions of this witness? You may be excused.

(Witness excused.)

MR. STAMETS: Do you have anything further, Mr. Russell?

MR. RUSSELL: I have nothing further, Mr. Examiner.

MR. STAMETS: Any statements? If not, we will take the case under advisement.

STATE OF NEW MEXICO }  
COUNTY OF SANTA FE ) ss.

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

*Richard L. Nye*  
COURT REPORTER,

I do hereby certify that the foregoing is a correct record of the proceedings in the Hearing before the New Mexico Oil Conservation Commission, Case No. 5745, heard by me on *Jan 16*, 19*74*.  
*Richard L. Nye*, Examiner  
New Mexico Oil Conservation Commission

THE NYE REPORTING SERVICE  
STATE-WIDE DEPOSITION NOTARIES  
225 JOHNSON STREET  
SANTA FE, NEW MEXICO 87501  
TEL. (505) 932-0386



# **OIL CONSERVATION COMMISSION**

STATE OF NEW MEXICO  
P. O. BOX 2088 - SANTA FE  
87501

GOVERNOR  
BRUCE KING  
CHAIRMAN

LAND COMMISSIONER  
ALEX J. ARMIJO  
MEMBER

STATE GEOLOGIST  
A. L. PORTER, JR.  
SECRETARY - DIRECTOR

February 13, 1974

Mr. John Russell  
Post Office Drawer 640  
Hinkle Building  
Roswell, New Mexico 88201

Re: Case No. 5145

Order No. R-4718

Applicant:

Texas Pacific Oil Co.

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.*

A. L. PORTER, Jr.  
Secretary-Director

ALP/ir

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. 5145  
Order No. R-4718

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 January 16, 1974,  
at Santa Fe, New Mexico, before Examiner Richard L. Stamets.

NOW, on this 13th day of February, 1974, 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 State "B" Well No. 2, located in Unit B  
of Section 11, Township 12 South, Range 33 East, NMPM, Bagley  
Siluro-Devonian Pool, Lea County, New Mexico.

(3) That the applicant proposes to utilize said well to  
dispose of produced salt water into the Devonian formation, with  
injection into the perforated interval from approximately 10,872  
feet to 11,032 feet.

(4) That the injection should be accomplished through  
2 7/8-inch or larger plastic-lined tubing installed in a packer  
set within 100 feet of the top of the Pennsylvanian formation;  
that the casing-tubing annulus should be filled with an inert  
fluid; and that a pressure gauge should be attached to the annulus  
and that tubing and annular pressures should be reported monthly  
on Form C-120A 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:

-2-

CASE NO. 5145  
Order No. R-4718

(1) That the applicant, Texas Pacific Oil Company, is hereby authorized to utilize its State "B" Well No. 2, located in Unit B of Section 11, Township 12 South, Range 33 East, NMPM, Bagley Siluro-Devonian Pool, Lea County, New Mexico, to dispose of produced salt water into the Devonian formation, injection to be accomplished through 2 7/8-inch or larger tubing installed in a packer set within 100 feet of the top of the Pennsylvanian formation, with injection into the perforated interval from approximately 10,872 feet to 11,032 feet;

PROVIDED HOWEVER, that the tubing shall be plastic-lined; that the casing-tubing annulus shall be filled with an inert fluid; that a pressure gauge shall be attached to the annulus; and that tubing and annular pressures shall be reported monthly on Form C-120A 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.

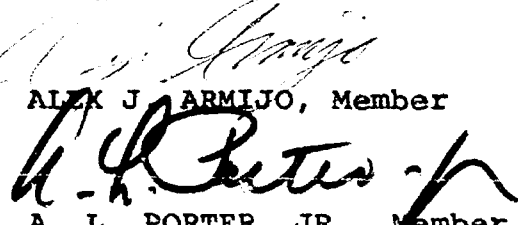
(3) That jurisdiction of this cause is retained for the entry of such further orders as the Commission may deem necessary.

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

STATE OF NEW MEXICO  
OIL CONSERVATION COMMISSION

I. R. TRUJILLO, Chairman

  
ALEX J. ARMIJO, Member

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

S E A L

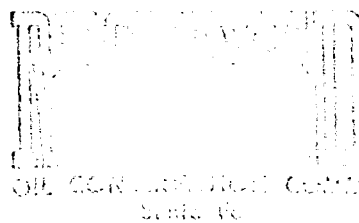
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TEXAS PACIFIC OIL COMPANY, INC.

P.O. Box 4067  
Midland, Texas 79701

January 25, 1974



New Mexico Oil Conservation Commission  
P.O. Box 2088  
Santa Fe, New Mexico 87501

Attention: Mr. Richard L. Stamets

APPLICATION TO CONVERT STATE "B" A/C-1  
WELL NO. 2 TO SALT WATER DISPOSAL SERVICE  
BAGLEY SILURO DEVONIAN POOL  
LEA COUNTY, NEW MEXICO

Gentlemen:

In support of our Case No. 5145 (Docket No. 2-74) I have attached an electric log and a summary of the status of formations penetrated by the subject well. The formation tops have been marked in pencil on the log.

Bagley Pool Area productive formations encountered in the subject well below the proposed packer setting depth (7600') are either (1) non-pay, (2) depleted, (3) disposal zones in offset wells, or (4) under consideration for secondary recovery. All other formations are either impermeable or salt water bearing strata. Fresh water formations are protected primarily by the 13 3/8" surface string and secondarily by the 9 5/8" and 5 1/2" casing strings.

This protection would seem adequate in view of the anticipated formation injection pressures. Injection tests run after acidizing the Devonian formation indicated a 2.5 BPM rate at 500 psi surface pressure. The calculated friction drop through the 2 7/8" treating string is 407 psi. This leaves 93 psi to move the water into the formation. Assuming that doubling the rate quadruples the pressure differential, the maximum differential across the casing below the packer would be about 400 psi.

If the 5 1/2" casing would fail and there is insufficient cement bonding between pipe and formation, this differential would be transmitted to the surface and detected by use of a permanently installed pressure gauge. The well and water disposal pumps will be at the same location and will be attended daily.

In summary, the 7600' packer setting depth will allow:

1. Lower surface operating pressures allowing us to handle larger volumes of water safely.
2. Access to Pennsylvanian strata for future injection capacity and/or possible secondary recovery operations.

New Mexico Oil Conservation Commission

Application to Convert State "B" A/c-1  
Well No. 2 to Salt Water Disposal Service  
Bagley Siluro Devonian Pool  
Lea County, New Mexico

January 25, 1974

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3. Installation of high volume lift equipment which will increase production rates and ultimate recovery from the Bagley Siluro Devonian Pool.
4. Less tubular goods to be placed in the hole. Since tubing is in such short supply, its availability is as much a factor as its cost.

If we can furnish any additional information in this matter, please advise.

Thank you for your consideration.

Yours very truly,

TEXAS PACIFIC OIL COMPANY, INC.



R.J. Womack  
District Manager

CWP:kg

attach.

STATE "B" A/C-1 NO. 2  
UNIT B, SEC. 11, T-12-S, R-33-E  
SUMMARY OF THE STATUS OF FORMATIONS PENETRATED

<u>FORMATION</u>	<u>TOP</u>	<u>ROCK TYPE, CONTENT, STATUS</u>
Yates	2495'	Anhydrite, Dolomite & Shale - Salt water. Non productive in Bagley Pool Area.
San Andres	3768'	Dense, impervious Dolomite and Dolomitic sands containing an estimated 20% oil and 80% salt water. Non productive in Bagley Pool Area.
Glorieta	5140'	Impervious Dolomites, Sands and Shale. Salt water bearing. Non productive in Bagley Pool Area.
Tubb	6525'	Dolomite, Sand & Shale. Salt water bearing. Non productive in Bagley Pool Area.
Abo	7280'	Shale, Anhydrite, Dolomite and salt. Contains salt water. Non productive in Bagley Pool Area.
Wolfcamp	8430'	Limestone and Shale - sub-divided as follows:
<u>Upper Penn Gas Pay:</u>		8650'-8712'. DST 8680'-8750'. Recovered 65' mud with no shows. Flowing pressures 30-55 psi. Two completions in Units C & D, Sec. 3, T-12-S, R-33-E are presently carried as temporarily abandoned and disconnected, respectively.
<u>Bough "C":</u>		8897'. Shaly Limestone. Non productive but oil bearing. Considered to have been productive in State "B" A/c-1 No. 3, located in Unit I, Section 2, T-12-S, R-33-E. This well is shut in. Otherwise considered to be of too low quality for pay zone in this area of Bagley Pool.
<u>Bursum Zones 4&amp;5:</u>		8970'. Limestone. Oil bearing pay in Bagley Penn and North Bagley Penn Pools. These were water disposal zones in west and northwest offsets. (Amerada Hess Corporation Chambers No. 2, Unit C, Section 11, T-12-S, R-33-E and BTB No. 4 Unit N, Section 3, T-12-S, R-33-E). TPOCI is presently considering these zones for future water injection intervals with secondary recovery possibilities updip.
Penn.-Cisco		
<u>Ranger Lake:</u>		9098'. Limestone. Considered salt water bearing at this depth. Tests in State "B" A/c-1 Well No. 3, located in Unit I, Section 2, T-11-S, R-33-E resulted in flowing salt water from this interval. It was also a water disposal zone in the aforementioned offsetting disposal wells.

State "B" A/c-1 No. 2  
Summary of the Status of Formations Penetrated

Page 2

Penn.-Cisco (continued)

		<u>Felmont:</u> 9230'. Limestone. Oil and salt water bearing. Considered non-commercial. It was also a salt water disposal zone in offsetting wells.
		<u>Dallas:</u> 9350'. Limestone. Oil and water bearing but dense and non-commercial in this well. Nearest production is from TPOCI State "C" No. 4, located in Unit M, Section 2, T-12-S, R-33-E. October, 1973 producing rate was 32 BOPD and 35 BWPD.
Penn.-Canyon	9467'	Limestone and shale. Dense and impermeable in this area of the Bagley Pool.
Penn.-Strawn	9697'	Limestone and Shale. Considered non-pay in this area. At least three attempts, north, northeast and northwest, to complete in the Strawn have been unsuccessful (State "B" A/c-1 No. 3, Unit I, Sec. 2; State "C" A/c-1 No. 4, Unit M, Sec. 2; and MGF Amerada Federal No. 1, Unit M, Sec. 3; all in T-12-S, R-33-E).
Penn.-Atoka	10,150'	Shale and shaly limestone. Impervious water bearing strata.
Mississippian	10,350'	Dense limestone. No established production in the Bagley Pool Area.
Woodford	10,750'	Shale. Non productive - impermeable.

CWP:kg  
1/25/74

CASE 5145: 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 Devonian formation in the perforated interval from 10,872 feet to 11,032 feet in its State "B" Well No. 2 located in Unit B of Section 11, Township 12 South, Range 33 East, Bagley Siluro-Devonian Pool, Lea County, New Mexico.

CASE 4969: (Reopened)

In the matter of Case No. 4969 being reopened pursuant to the provisions of Order No. R-4557, which order established a temporary special depth bracket allowable for the Tocito Dome-Pennsylvanian "D" Oil Pool, San Juan County, New Mexico. All interested parties may appear and show cause why the special allowable should be made permanent.

CASE 5146: Application of Midwest Oil Corporation for a unit agreement, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks approval for the Target Unit Area comprising 5120 acres, more or less, of State and Federal lands in Townships 25 and 26 South, Range 25 East, Eddy County, New Mexico.

CASE 5147: Application of Mesa Petroleum Corporation for compulsory pooling, Lea County, New Mexico. Applicant, in the above-styled cause, seeks an order pooling all mineral interests in the Morrow formation underlying the S/2 of Section 12, Township 16 South, Range 35 East, North Shoe Bar Field, Lea County, New Mexico, to be dedicated to a well to be drilled at a standard location for said unit in Unit O of said Section 12. Also to be considered will be the cost of drilling and completing said well and the allocation of such costs, as well as actual operating costs and charges for supervision. Also to be considered is the designation of applicant as operator of the well and a charge for risk involved in drilling said well.

CASE 5148: Application of Coquina Oil Corporation for an unorthodox gas well location, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks authority to drill a well at an unorthodox gas well location 990 feet from the North and East lines of Section 16, Township 19 South, Range 25 East, Boyd-Morrow Gas Pool, Eddy County, New Mexico, the N/2 of said Section 16 to be dedicated to said well.

CASE 5149: Application of Cities Service Oil Company for compulsory pooling, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks an order pooling all mineral interests in the Pennsylvanian formation underlying the N/2 of Section 33, Township 21 South, Range 27 East, Eddy County, New Mexico, to be dedicated to a well to be drilled at a standard Pennsylvanian gas well location for said unit. Also to be considered will be the cost of drilling and completing said well and the allocation of such costs, as well as actual operating costs and charges for supervision. Also to be considered is the designation of applicant as operator of the well and a charge for risk involved in drilling said well.

CASE 5150: Application of Hanson Oil Corporation for a waterflood project, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to institute a waterflood project by the injection of water into the Queen formation through 10 wells in its Mescalero Ridge Unit Area in Sections 26 and 35, Township 19 South, Range 34 East, Pearl-Queen Pool, Lea County, New Mexico.

CASE 5151: Application of Penroc Oil Corporation for a dual completion, Eddy County, New Mexico. Applicant, in the above-styled cause seeks approval for the dual completion (conventional) of its Dero-Federal A-Com Well No. 1, located in Unit N of Section 35, Township 19 South, Range 28 East, Eddy County, New Mexico, in such a manner as to produce gas from the Winchester-Wolfcamp gas pool and an undesignated Strawn gas pool through the casing-tubing annulus and through tubing.

CASE 5152: Application of Petro-Lewis Corporation for a Special Depth Bracket Allowable, Media-Entrada Oil Pool, Sandoval County, New Mexico. Applicant, in the above-styled cause, seeks a special depth bracket allowable for the Media-Entrada Oil Pool, Township 19 North, Range 3 West, Sandoval County, New Mexico.

CASE 5140: (Continued from the January 3, 1974, Examiner Hearing)

Application of Pierce & Dehlinger for compulsory pooling, Vada-Pennsylvanian Pool, Lea County, New Mexico. Applicant, in the above-styled cause, seeks an order pooling all mineral interests in the Vada-Pennsylvanian Pool underlying the NW/4 of Section 24, Township 9 South, Range 33 East, Lea County, New Mexico, to be dedicated to the King Resources Sheridan Well No. 1-A located in Unit C of said Section 24. Also to be considered is designation of the applicant as operator of the NW/4 of said Section 24 and the well located thereon, provision for allocation of actual operating costs and charges for supervision, and allocation of costs for reworking said well including a 200% charge attributable to any non-consenting working interest owner's pro rata share of said workover costs, for the risk involved in said workover.

CASE 4956: (Reopened) (Continued from the January 3, 1974, Examiner Hearing)

Application of Pierce & Dehlinger for a determination of well costs, Lea County, New Mexico. Applicant, as operator of the Sheridan Well No. 1 located in Unit M of Section 13, Township 9 South, Range 33 East, Lea County, New Mexico, to which well is dedicated the SW/4 of said Section 13, all mineral interests in the Vada-Pennsylvanian Pool thereunder having been pooled by Commission Order No. R-4560, seeks the determination of reasonable well costs attributable to applicant and to King Resources, including, but not limited to, the costs of reworking and placing said Sheridan Well No. 1 back on production and attorneys fees in connection therewith. Applicant further seeks an order assessing, as a charge for the risk involved in the reworking of the well, 120% of the pro rata share of the reasonable well costs attributable to the working interest of King Resources.

DOCKET: EXAMINER HEARING - WEDNESDAY - JANUARY 16, 1974

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

The following cases will be heard before Richard L. Stamets, Examiner, or Daniel S. Nutter, Alternate Examiner:

- ALLOWABLE: (1) Consideration of the allowable production of gas for February, 1974, from fifteen prorated pools in Lea, Eddy, Roosevelt and Chaves Counties, New Mexico;
- (2) Consideration of the allowable production of gas from nine prorated pools in San Juan, Rio Arriba, and Sandoval Counties, New Mexico, for February, 1974.

CASE 5110: (Continued from the November 15, 1973, Examiner Hearing)

In the matter of the hearing called by the Oil Conservation Commission on its own motion to consider extending the horizontal limits of the Washington Ranch-Morrow Gas Pool, Eddy County, New Mexico, to include the S/2 of Section 28, Township 25 South, Range 24 East.

Also to be considered will be the institution of gas prorationing in said pool to provide for fixing the total allowable natural gas production from said pool to an amount equal to reasonable market demand and to the capacity of the gas transportation facilities. Also to be considered will be the adoption of special rules and regulations for said pool including a provision for allocating the allowable production among the wells in the pool.

CASE 5111: (Continued from the November 15, 1973, Examiner Hearing)

In the matter of the hearing called by the Oil Conservation Commission on its own motion to consider extending the horizontal limits of the Burton Flats-Morrow Gas Pool, Eddy County, New Mexico, to include the S/2 of Section 34, Township 20 South, Range 28 East, and the N/2 of Sections 8 and 9, and all of Section 10, Township 21 South, Range 27 East.

Also to be considered will be the institution of gas prorationing in said pool to provide for fixing the total allowable natural gas production from said pool to an amount equal to reasonable market demand and to the capacity of the gas transportation facilities. Also to be considered will be the adoption of special rules and regulations for said pool including a provision for allocating the allowable production among the wells in the pool.

CASE 5112: (Continued from the November 15, 1973, Examiner Hearing)

In the matter of the hearing called by the Oil Conservation Commission on its own motion to consider extending the horizontal limits of the Burton Flats-Strawn Gas Pool, Eddy County, New Mexico, to include all of Section 10, Township 21 South, Range 27 East.

(Case 5112 continued from Page 1)

Also to be considered will be the institution of gas prorationing in said pool to provide for fixing the total allowable natural gas production from said pool to an amount equal to reasonable market demand and to the capacity of the gas transportation facilities. Also to be considered will be the adoption of special rules and regulations for said pool including a provision for allocating the allowable production among the wells in the pool.

CASE 5113: (Continued from the November 15, 1973, Examiner Hearing)

In the matter of the hearing called by the Oil Conservation Commission on its own motion to consider the institution of gas prorationing in the Burton Flats-Atoka Gas Pool, Eddy County, New Mexico, and to provide for fixing the total allowable natural gas production from said pool to an amount equal to reasonable market demand and to the capacity of the gas transportation facilities. Also to be considered will be the adoption of special rules and regulations for said pool including a provision for allocating the allowable production among the wells in the pool.

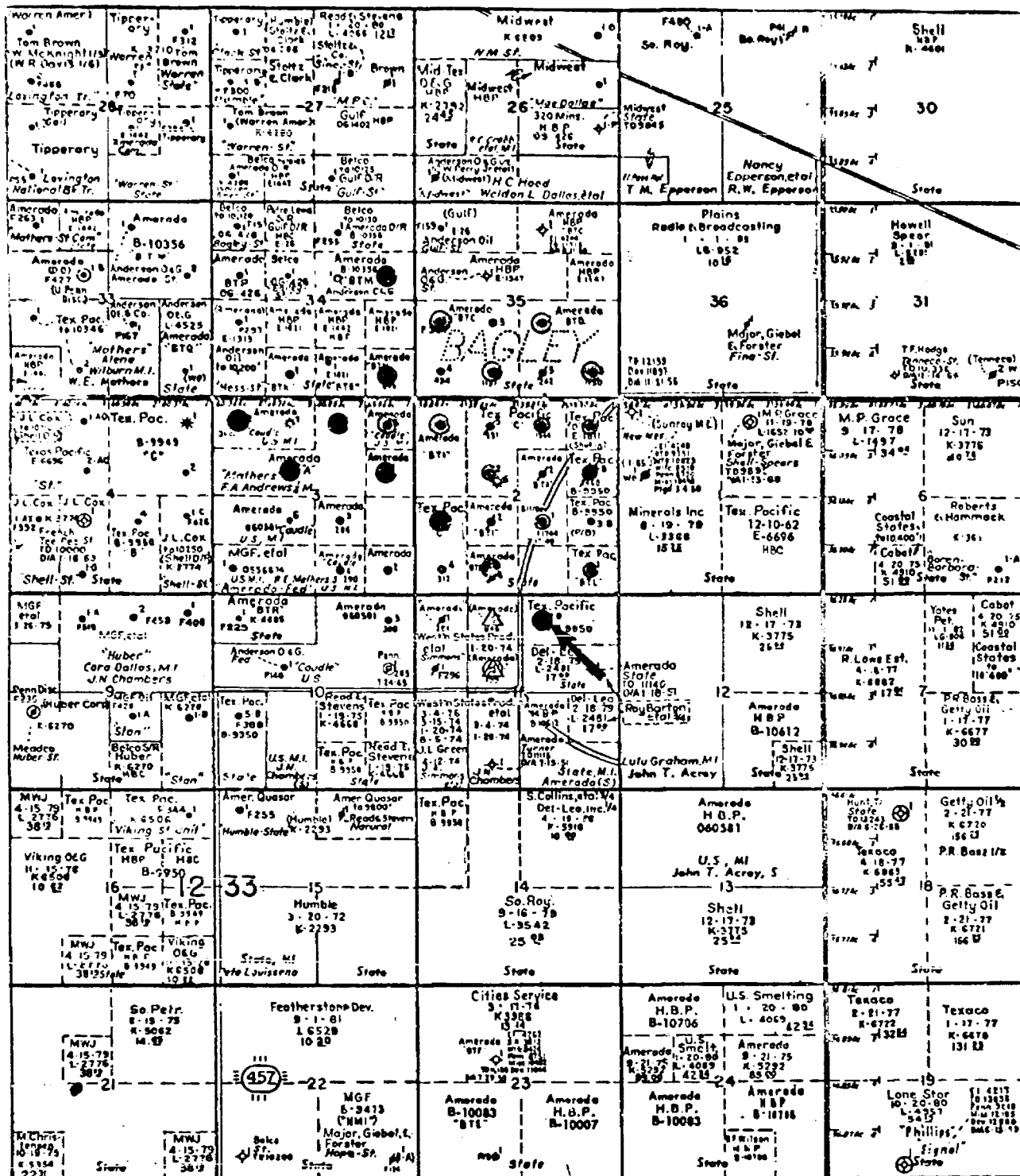
CASE 5124: (Continued from the November 28, 1973, Examiner Hearing)

Application of Belco Petroleum Corporation for compulsory pooling and an unorthodox gas well location, Lea County, New Mexico. Applicant, in the above-styled cause, seeks an order pooling all mineral interests underlying the S/2 of Section 30, Township 20 South, Range 33 East, South Salt Lake-Morrow Gas Pool, Lea County, New Mexico, to be dedicated to a well to be drilled at an unorthodox location 660 feet from the South line and 1300 feet from the East line of said Section 30. Also to be considered will be the cost of drilling and completing said well and the allocation of such costs, as well as actual operating costs and charges for supervision. Also to be considered is the designation of applicant as operator of the well and a charge for risk involved in drilling said well.

CASE 5143: Application of El Paso Natural Gas Company for an unorthodox gas well location, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks approval for the unorthodox location of its proposed Rocky Arroyo "D" Com. Well No. 2 in the center of Unit L of Section 4, Township 22 South, Range 22 East, Rocky Arroyo-Morrow Gas Pool, Eddy County, New Mexico, the S/2 of said Section 4 to be dedicated to the well.

CASE 5144: Application of Depco, Inc. for two waterflood projects, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks authority to institute two waterflood projects by the injection of water into the Grayburg-San Andres formation through six wells located on applicant's State 647 lease in Sections 31 and 32, Township 17 South, Range 28 East, Artesia Pool, Eddy County, New Mexico, and through one well on the Kersey and Company Ramapo "A" Lease in said Section 32.





R - 33 - E

LEGEND:

- Bagley Siluro-Devonian Producer
- Former Bagley Siluro-Dev. Prod.
- Bagley Penn or Bagley Penn, North Completions

TEXAS PACIFIC OIL CO., INC.

BAGLEY POOL AREA  
LEA COUNTY, NEW MEXICO  
STATE "B" A/C NO. 1 WELL NO. 2  
PROPOSED SALT WTR. DISPOSAL WELL

Date: 1-14-74

Scale 1" = 4000' By: CWP

BEFORE EXAMINED STAMETS  
OIL CO. OF NEW MEXICO  
APPR. \_\_\_\_\_  
CITY \_\_\_\_\_  
STATE \_\_\_\_\_  
Hearing Date 1/16/74

OPERATOR Texas Pacific Oil Company, Inc.

LEASE State "B" A/c-1

WELL NO. 2

FIELD Bagley Siluro Devonian

LOCATION 1980' FE L & 660' FN L

SEC. 11, T-12-S, R-33-E

COUNTY Lea

STATE New Mexico

ELEVATION 4243' DF 4233' GL

TD 11,041' PBTD \_\_\_\_\_ COMPL 5-18-52  
(Date)

AVAILABLE DATA

LOGS: Electric, GR, ML, Neutron

SAMPLE LOGS.

CORE: 8945'-9045'

DST: 8680'-8750', 9000'-9045', 10,875'-987', 10,987'-11,022'

PVT:

BHP:

COMPLETION & REMEDIAL WORK

Acidized with 2500 gals. through perforations 10,936'-10,987'. IPT: 600 BOPD

4/70 - Squeezed perforations, perforated 10,870'-924' and 10,953'-965' w/1 spf. Acidized with 5000 gals. Tested 31 BOPD with 532 BW, Gas TSTM.

12/73 - Drilled out cement to 10,998', perforated 10,966'-998' w/4 jspf. Acidized w/5000 gals. HCl.

1/74 - Deepened to 11,041'. (Junk in hole). Perforated 11,014'-041' w/2 jspf. Acidized w/5000 gals. HCl. Test injection rate: 2.5 BPM @ 500 psi.

13 3/8" @  
300' w/300  
sx. (circ.)

9 5/8" @ 3874'  
w/3500 sx.  
Top Cmt: 715'

✓ ✓ Psych & Wcd

10870

BEFORE EXAMINER STAMETS
OIL COMMISSION
APPR. BY <u>11.10.3</u>
CASE NO. <u>5145</u>
SUBJECT <u>TP</u>
Hearing Date <u>1/14/74</u>

(FUTURE WELL WORK)

11,032'

11,041'

5 1/2" @

11,033' w/  
812 sx. Top

Cmt. @ 7420'

OPERATOR: Texas Pacific Oil Company, Inc.

LEASE NAME: State "B" A/c-1

WELL NO

2

By Temp Survey

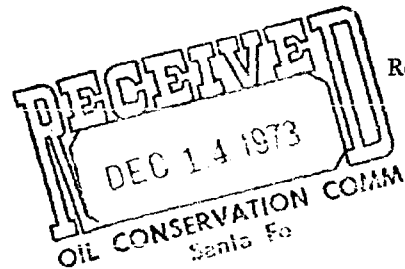
Case No. 5195

TEXAS PACIFIC OIL COMPANY

P. O. Box 1069  
Hobbs, New Mexico 88240

December 13, 1973

N.M. Oil Conservation Commission  
P. O. Box 2088  
Santa Fe, New Mexico 87501



Re: Application to Convert Well  
to Salt Water Disposal Service  
Bagley Siluro Devonian Pool  
Lea County, New Mexico

Gentlemen:

Texas Pacific requests that our application to convert the following described well to salt water disposal service be set for hearing.

State "B" A/c-1 Well No. 2  
Unit B, Sec 11, T-12-S; R-33-E  
660' FNL & 1980' FEL of Section  
Bagley Siluro Devonian Pool  
Lea County, New Mexico

This well is a northeast diagonal offset to the L. H. Chambers No. 1 which is the current disposal well (R-3377, 2-12-68) for a jointly-owned system operated by Amerada-Hess. Injection into this well has been by gravity; however, the well has recently begun to pressure up. The increase in pressure has caused system upsets which resulted in two major spills on our State "D" A/c-1 Lease during November. Production from this lease was down 55 BOPD from the October rate due to operational difficulties experienced as a result of our inability to dispose of all water produced.

In order to maintain our current producing rates and prevent future operating problems, Texas Pacific requests that we be given temporary permission to dispose of produced water into this well, pending a formal hearing. If this request is approved, we will investigate equipment modifications to increase withdrawals and will determine the feasibility of returning temporarily abandoned wells to producing status.

DOCKET NUMBER  
Date 1-4-74

Attached are: (1) Form C-108 (2) plat of area (3) diagrammatic sketch of proposed completion (4) copy of log of well, and (5) waiver from offset operator.

Thank you for your consideration.

Yours truly,  
TEXAS PACIFIC OIL CO., INC.

*Lloyd A. Wright*  
Lloyd A. Wright  
Area Superintendent

LAW:tk  
Attachment

cc: Amerada-Hess Corp. - Seminole, Texas  
Altha Acrey - Tatum, New Mexico

Case No. 5145

Form C-108  
Revised 3-1-68NEW MEXICO OIL CONSERVATION COMMISSION  
APPLICATION TO DISPOSE OF SALT WATER BY INJECTION INTO A POROUS FORMATION

OPERATOR <b>TEXAS PACIFIC OIL CO., INC.</b>		ADDRESS <b>P. O. Box 1069 - Hobbs, New Mexico 88240</b>	
LEASE NAME <b>State "B" A/c-1</b>	WELL NO. <b>2</b>	FIELD <b>Bagley Siluro Devonian</b>	COUNTY <b>Lea</b>
LOCATION UNIT LETTER <b>B</b> ; WELL IS LOCATED <b>660</b> FEET FROM THE <b>North</b> LINE AND <b>1980</b> FEET FROM THE <b>East</b> LINE, SECTION <b>11</b> TOWNSHIP <b>12-S</b> RANGE <b>33-E</b> NMPM.			
CASING AND TUBING DATA			
NAME OF STRING	SIZE	SETTING DEPTH	SACKS CEMENT
SURFACE CASING	<b>13-3/8"</b>	<b>300'</b>	<b>500</b>
INTERMEDIATE	<b>9-5/8"</b>	<b>3874'</b>	<b>3500</b>
LONG STRING	<b>5-1/2"</b>	<b>11,033'</b>	<b>822</b>
TUBING			NAME, MODEL AND DEPTH OF TUBING PACKER
NAME OF PROPOSED INJECTION FORMATION <b>Devonian</b>		TOP OF FORMATION <b>10,862'</b>	BOTTOM OF FORMATION <b>Not penetrated</b>
IS INJECTION THROUGH TUBING, CASING, OR ANNULUS? <b>Tubing</b>		PERFORATIONS OR OPEN HOLE? <b>Perforations</b>	PROPOSED INTERVAL(S) OF INJECTION <b>10,872 - 11,032' (various intervals)</b>
IS THIS A NEW WELL DRILLED FOR DISPOSAL? <b>No</b>		IF ANSWER IS NO, FOR WHAT PURPOSE WAS WELL ORIGINALLY DRILLED? <b>Devonian producing well</b>	
HAS WELL EVER BEEN PERFORATED IN ANY ZONE OTHER THAN THE PROPOSED INJECTION ZONE? <b>No</b>			
LIST ALL SUCH PERFORATED INTERVALS AND SACKS OF CEMENT USED TO SEAL OFF OR SQUEEZE EACH			
DEPTH OF BOTTOM OF DEEPEST FRESH WATER ZONE IN THIS AREA <b>150' (est.)</b>		DEPTH OF BOTTOM OF NEXT HIGHER OIL OR GAS ZONE IN THIS AREA <b>Penn (Collier) 9950'</b>	
DEPTH OF TOP OF NEXT LOWER OIL OR GAS ZONE IN THIS AREA <b>None</b>			
ANTICIPATED DAILY INJECTION VOLUME (BBLS.) <b>2000</b>	MINIMUM <b>7000</b>	MAXIMUM <b>Closed</b>	IS INJECTION TO BE BY GRAVITY OR PRESSURE? <b>Gravity</b>
ANSWER YES OR NO WHETHER THE FOLLOWING WATERS ARE MINERALIZED TO SUCH A DEGREE AS TO BE UNFIT FOR DOMESTIC, STOCK, IRRIGATION, OR OTHER GENERAL USE - <b>Yes</b>		WATER TO BE DISPOSED OF <b>Yes</b>	
NAME AND ADDRESS OF SURFACE OWNER (OR LESSEE, IF STATE OR FEDERAL LAND) <b>Mrs. Altha Acrey West Star Route Tatum, New Mexico 88267</b>		NATURAL WATER IN DISPOSAL ZONE <b>Yes</b>	
LIST NAMES AND ADDRESSES OF ALL OPERATORS WITHIN ONE-HALF (1/2) MILE OF THIS INJECTION WELL <b>Amerada Hess - Seminole, Texas</b>		ARE WATER ANALYSES ATTACHED? <b>No</b>	
HAVE COPIES OF THIS APPLICATION BEEN SENT TO EACH OF THE FOLLOWING? <b>Yes</b>			
SURFACE OWNER <b>Yes</b>			
EACH OPERATOR WITHIN ONE-HALF MILE OF THIS WELL <b>Yes</b>			
ARE THE FOLLOWING ITEMS ATTACHED TO THIS APPLICATION (SEE RULE 701-B) <b>Yes</b>		ELECTRICAL LOG <b>Yes</b>	
		DIAGRAMMATIC SKETCH OF WELL <b>Yes</b>	

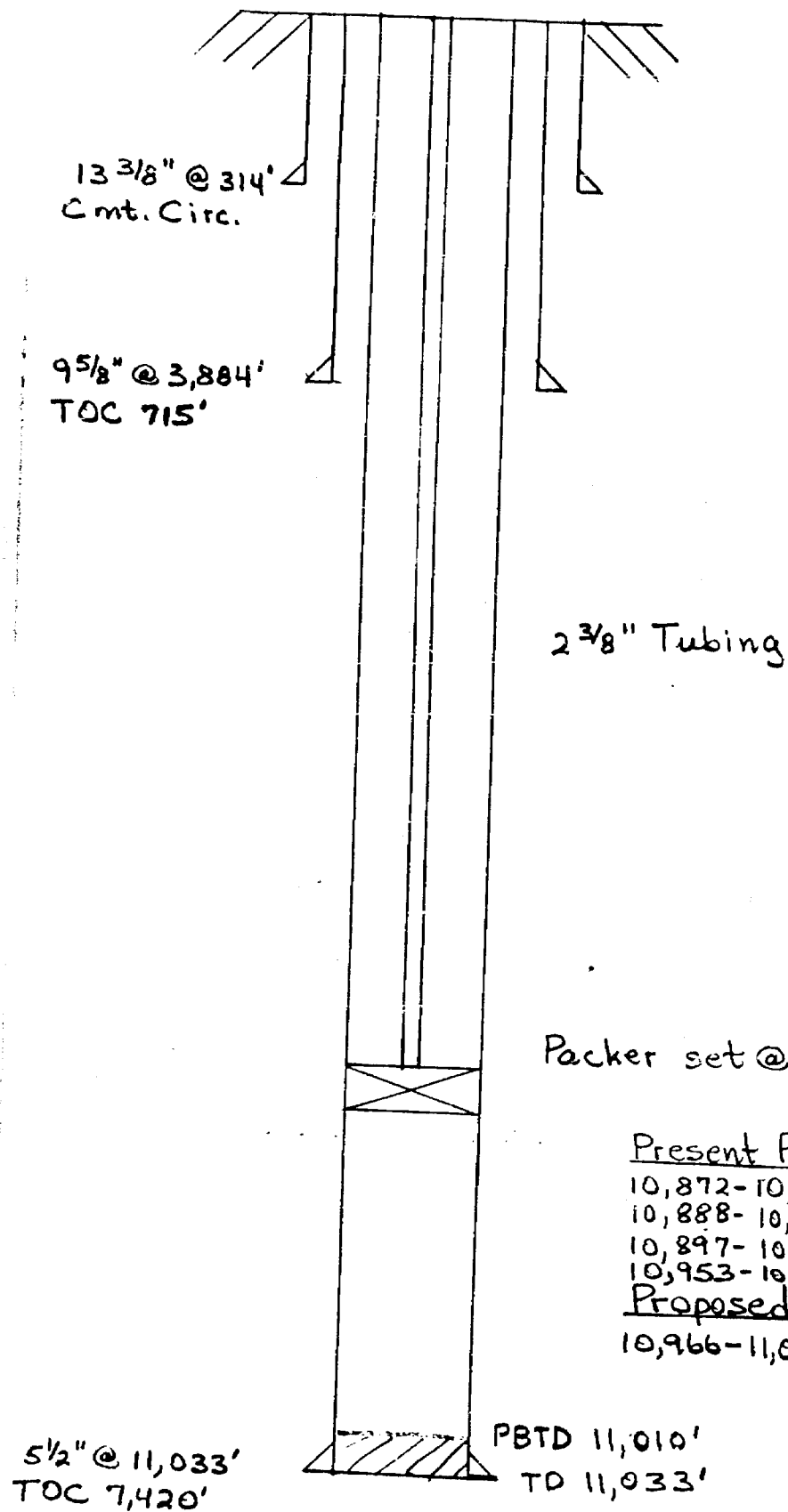
I hereby certify that the information above is true and complete to the best of my knowledge and belief.

*Lloyd Wright*  
(Signature)Area Superintendent  
(Title)12-13-73  
(Date)

NOTE: Should waivers from the surface owner and all operators within one-half mile of the proposed injection well not accompany this application, the New Mexico Oil Conservation Commission will hold the application for a period of 15 days from the date of receipt by the Commission's Santa Fe office. If at the end of the 15-day waiting period no protest has been received by the Santa Fe office, the application will be processed. If a protest is received, the application will be set for hearing, if the applicant so requests. SEE RULE 701.

# Proposed SWD Well

Texas Pacific Oil Co., Inc.  
State "B" Alc 1 Well No. 2  
Unit "B", 660' FN & 1980' FEL  
Sec 11, T12S, R 33 E  
Bagley Siluro Devonian Pool  
Lea County, New Mexico



Case No. 5145

TEXAS PACIFIC OIL COMPANY

P. O. Box 1069  
Hobbs, New Mexico 88240

December 13, 1973

N. M. Oil Conservation Commission  
P. O. Box 2088  
Santa Fe, New Mexico 87501

Re: Texas Pacific Oil Co., Inc.  
Request to Inject Produced Water  
Bagley Pool, Lea County, N. Mex.

Gentlemen:

This is to inform you that we have no objection to your authorizing Texas Pacific Oil Co., Inc., to inject produced water into the Devonian formation in the following well:

State "B" A/c-1 No. 2  
Unit B, Sec 11, T-12-S; R-33-E  
Bagley Siluro Devonian Pool  
Lea County, New Mexico

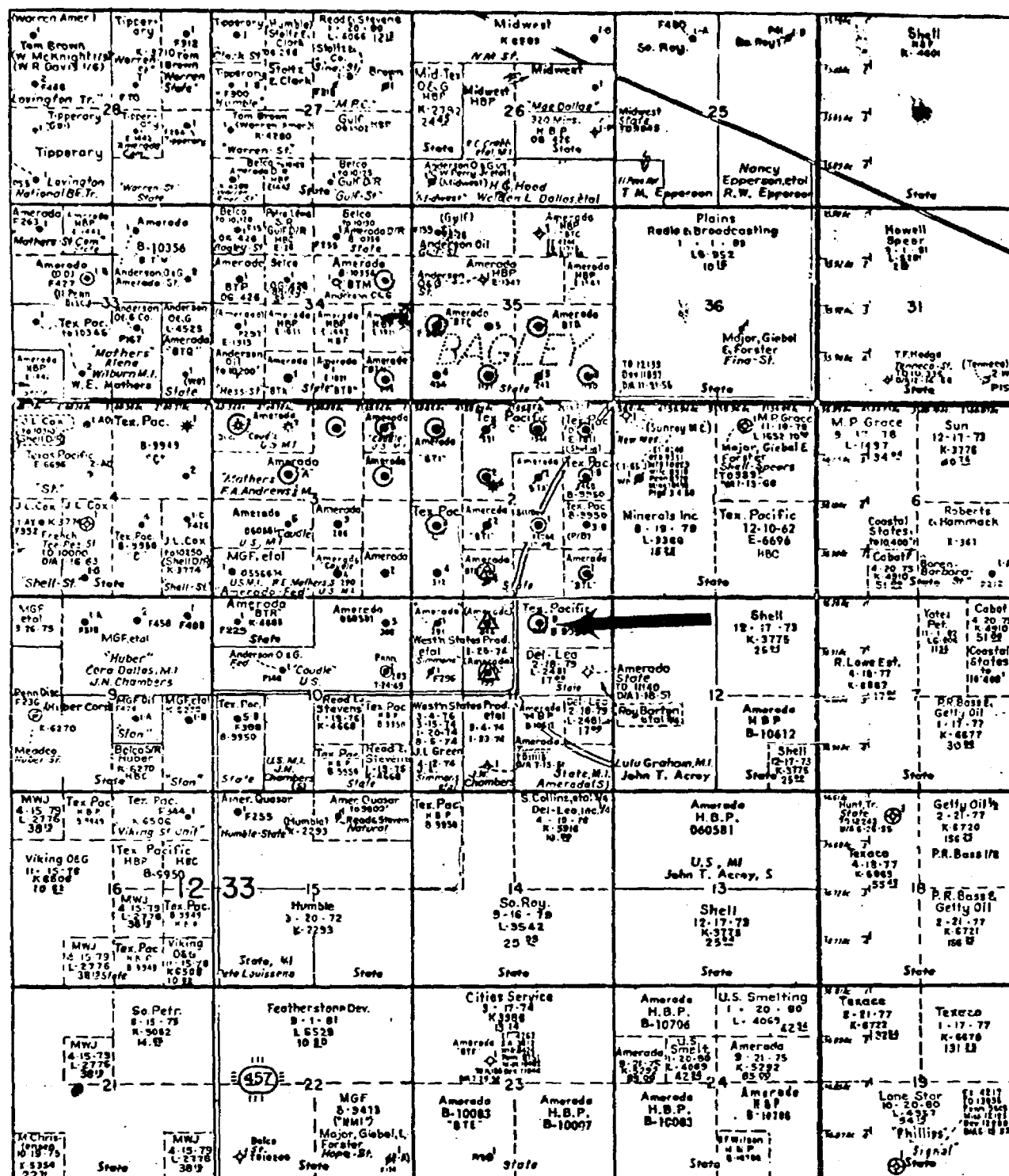
Yours truly,

Name

A. E. Snyder

Title

MGIR TECH SERV.  
Amerada Division-Amerada Hess Corp.  
Seminole, Texas



# LEGEND:

- Bagley Siluro-Devonian Producer
- Former Bagley Siluro-Dev. Prod.
- Bagley Penn or Bagley Penn, North Completions

## TEXAS PACIFIC OIL CO., INC.

BAGLEY POOL AREA  
LEA COUNTY, NEW MEXICO  
STATE "B" A/C NO. 1 WELL NO. 2  
PROPOSED SALT WTR. DISPOSAL WELL

Date: 11-30-73

Scale 1" = 4000' By: CWP



DRAFT

dr/

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. 5145

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

Order No. R- 4718

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 a.m. on January 16, 1974,  
at Santa Fe, New Mexico, before Examiner RICHARD L. STAMETS.

NOW, on this \_\_\_\_\_ day of January, 1974, 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 State "B" Well No. 2,  
located in Unit B of Section 11, Township 12 South, Range  
33 East, NMPM, Bagley Siluro-Devonian Pool, Lea  
County, New Mexico.

(3) That the applicant proposes to utilize said well to  
dispose of produced salt water into the Devonian  
formation, with injection into the perforated interval  
from approximately 10,872 feet to 11,032 feet.

(4) That the injection should be accomplished through  
2 7/8 -inch <sup>or larger</sup> plastic-lined tubing installed in a packer set ~~in~~  
within 100 feet of the top of the Pennsylvanian

CASE No. \_\_\_\_\_

*Formation ;*

approximately \_\_\_\_\_ 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~~ *and that tubing and annular pressures should be reported monthly on Form C-120-A* 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 State "B" Well No. 2 located in Unit B of Section 11, Township 12 South, Range 33 East, NMPM, Bagley Siluro-Devonian Pool, Lea County, New Mexico, to dispose of produced salt water into the Devonian formation, injection to be accomplished through 2 9/8 <sup>*or larger*</sup> -inch tubing installed in a packer set ~~at approximately~~ *within 100 feet of the top of the* Pennsylvanian formation, ~~with~~ <sup>*at*</sup> injection into the perforated interval from approximately 10,872 feet to 11,032 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 ;~~ *and that tubing and annular pressures shall be reported monthly on Form C-120-A* ~~or the annulus left open at the surface in order to determine~~ *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.