

CASE 4009: Application of HUMBLE  
OIL & RFG. CO. FOR SALT WATER  
DISPOSAL, CHAVES COUNTY, N. MEX.

---

— dse Number

4009

Application  
Transcripts.

Small Exhibits

ETC.

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SPECIALIZING IN: DEPOSITIONS, HEARINGS, STATEMENTS, EXPERT TESTIMONY, DAILY COPY, CONVENTIONS

1120 SIMAS BLDG. • P. O. BOX 1092 • PHONE 243-6491 • ALBUQUERQUE, NEW MEXICO



BEFORE THE  
NEW MEXICO OIL CONSERVATION COMMISSION

Santa Fe, New Mexico

December 27, 1968

EXAMINER HEARING

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

Application of Humble Oil & )  
Refining Company for salt )  
water disposal, Chaves )  
County, New Mexico. )  
-----

Case No. 4009

BEFORE: Daniel S. Nutter, Examiner

TRANSCRIPT OF HEARING

MR. NUTTER: The next case will be Case 4009.

MR. HATCH: Case 4009, Application of Humble Oil & Refining Company for salt water disposal, Chaves County, New Mexico.

MR. KELLAHIN: Jason Kellahin, Kellahin & Fox, appearing for the applicant's attorney, Mr. Paul Eaton, who was unable to be here, on account of the weather. We have one witness that I would like to have sworn.

(Witness sworn.)

(Whereupon, Applicant's Exhibits Numbers 1, 2, 3, 4, inclusive, were marked for identification.)

B. K. BEVILL

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

DIRECT EXAMINATION

BY MR. KELLAHIN:

Q Would you state your name, please?

A B. K. Bevill.

Q By whom are you employed, and in what position?

A Humble Oil & Refining Company, Senior Production Engineer.

Q Where are you located?

A Hobbs, New Mexico.

Q Have you testified before the Oil Conservation Commission, and made your qualifications a matter of record?

A Yes, sir.

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

MR. NUTTER: Yes, they are.

Q Are you familiar with the application of Humble Oil & Refinery Company in Case No. 4009.

A Yes, sir.

Q Briefly what is proposed by Humble in this application?

A Humble proposes to recomplete its New Mexico State BX No. 3 to a salt water disposal well. It is presently completed in the Chaveroo and Andres Pay. We propose to inject water into the present interval into the San Andres.

Q Referring to what has been marked as applicant's Exhibit Number 1, would you identify that exhibit?

A Exhibit Number 1 is a plat or a map of the area showing the subject well. It also includes the Tobac Penn Pool, and the wells circled in red are San Andres wells, classified as Chaveroo and San Andres wells.

To the north in Section 16, you will note there is a dry hole, and also a dry hole in Section 9 right along the south line. To the north about two miles is a Chaveroo Pool.

Q The subject well and the wells circled in red producing from the San Andres are classified as Chaveroo Wells, are they not?

A Yes, sir.

Q And it is a formation that is presently producing?

A Yes, sir.

Q And the subject well is completed in the San Andres, is that correct?

A That is correct.

Q Which is the Chaveroo producing formation. Are the other wells shown on Exhibit Number 1 all Pennsylvanian wells?

A All except those circled in red.

Q Referring to what has been marked as Exhibit Number 2, would you identify that exhibit, please?

A Exhibit Number 2 is a schematic diagram of how the well is presently completed. On the left, you will note that it has tubing and what represents a pump and sucker rods.

On the right it shows how we plan to complete this well with tubing and a packer. The tubing will be plastic coated or cement lined. The annulus will be filled with inhibited water.

Q Will you put a pressure gauge on the casing tubing annulus at the surface?

A Yes.

Q What is the present condition of the well?

A The well is shut in right now. It's below the economic limit.

Q Has it been producing from the Chaveroo Pool?

A Yes, sir.

Q What has been, generally speaking, its productive history in this pool?

A The productive history of the particular wells that are encircled are very poor. As a matter of fact, they are probably in the advanced stage of depletion. No. 3 well is the worst one of the whole lot.

Q What was the last production you had from that well?

A Four and a half barrels a day.

Q And how much water was it producing with that?

A Approximately 76 per cent water.

Q Now, on conversion of this well to salt water disposal, what will be the source of water that will be disposed of in this well?

A The water produced with oil production from the San Andres wells are shown circled in red, and the Tobac Penn Wells. There will be three companies tied to the system initially, Humble, Cabot, and McAllister. Other companies are expected to

join when their leases start producing water.

Q What volume of water will you dispose of in this well?

A At present, approximately 360 barrels. We don't think it will give above 500.

Q Referring to what has been marked as Exhibit Number 3, would you identify that exhibit?

A Exhibit 3 is a log of the San Andres Formation covering only the San Andres.

Q In the subject well?

A In the subject well.

Q Referring to what has been marked as Exhibit Number 4, would you identify that exhibit?

A Exhibit Number 4 is a water analysis of the water from the Penn, and the Chaveroo, and the San Andres that will be commingled and injected into this well.

Q Now, you are disposing of water into a producing formation in this well. In your opinion, as an engineer, will this have any adverse effect on the San Andres Formation?

A No, we think it will possibly have some benefit.

Q That would be in repressuring the zone for production from the other San Andres wells?

A Possible pressure maintenance.

Q In your opinion, will any waste occur if you convert



this well to salt water disposal?

A No, sir.

Q Will anyone's correlative rights be impaired in any way?

A No, sir.

Q Were Exhibits 1 through 4 prepared by you or under your supervision?

A Yes, sir.

MR. KELLAHIN: At this time I would like to offer in evidence Applicant's Exhibits 1 through 4.

MR. NUTTER: Humble's Exhibits 1 through 4 will be admitted in evidence.

(Whereupon, Applicant's Exhibits Numbers 1, 2, 3, 4, inclusive, were admitted in evidence.)

MR. KELLAHIN: That is all I have on Direct Examination.

CROSS EXAMINATION

BY MR. NUTTER:

Q Mr. Bevill, you mentioned that Cabot, McAllister, and Humble would be contributing water to this disposal well. Where are the leases in the area operated by those three companies?

A In Section 29, there are Cabot Leases, they are all producing water. And McAllister, you notice in Section 28,

shows McAllister No. 1-KD. They have a battery there.

Q And then these leases immediately north of that McAllister, all the yellow leases are Humble?

A All the yellow are Humble or Humble Leases. The ones circled in red inside the leases, they are farmed out to small petroleum companies. Now, the lease in 21, designated Humble BW Lease, has one Pennsylvanian well that produces approximately 18 barrels of water a day.

Q That is that No. 6 there?

A No. 6 well. It is our only Pennsylvanian well that produces water as of this time. All of the San Andres wells produce water.

Q Now, the five wells circled in red are the San Andres wells?

A Yes, sir.

Q And so your San Andres wells, plus your No. 6 well, the McAllister KD1, plus the Cabot well in Section 29 are the ones that are making this current 360 barrels?

A Yes, sir.

Q And it may go up as high as 500?

A Possibly.

Q Now, what size of tubing is this?

A Two-inch.

Q And it is installed in a packer at 4,250?

A It will be.

Q You have four and a half-inch pipe at 4520, cemented to 3100?

A Yes, sir.

Q Which would be back into the seven and five-eighths intermediate, is that correct, which is at 3604?

A That is correct.

Q And then you have ten and three-quarter at 403. Is that 403 feet sufficient to case off all the fresh water sands in this area?

A Yes, sir.

MR. NUTTER: Any further questions of the witness?  
You may be excused. Do you have anything further, Mr. Kellahin?

MR. KELLAHIN: That is all.

MR. NUTTER: Does anyone have anything they wish to offer in Case 4009? We will take the case under advisement, and call Case 4010.

Mr. Kellahin, shall we send the order in this case to you or Mr. Eaton?

MR. KELLAHIN: Send it to Mr. Eaton, please.

I N D E X

<u>WITNESS</u>	<u>PAGE</u>
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<u>EXHIBITS</u>	<u>MARKED</u>	<u>OFFERED AND ADMITTED</u>
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STATE OF NEW MEXICO     )  
                                   )     ss.  
 COUNTY OF BERNALILLO    )

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

*Samuel Mortelette*  
 COURT REPORTER

I do hereby certify that the foregoing is  
 a complete record of the proceedings in  
 the hearing held on Case No. 4009  
 held by me on 12/27, 1968

*[Signature]*  
 New Mexico Oil Conservation Commission

GOVERNOR  
DAVID F. CARGO  
CHAIRMAN

State of New Mexico  
**Oil Conservation Commission**



LAND COMMISSIONER  
GUYTON B. HAYS  
MEMBER

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

P. O. BOX 2088  
SANTA FE

December 31, 1968

Mr. Paul Eaton  
Hinkle, Bondurant & Christy  
Attorneys at Law  
Post Office Box 10  
Roswell, New Mexico 88201

Re: Case No. 4009  
Order No. R-3654  
Applicant:  
Humble Oil & Refining Company

Dear Sir:

Enclosed herewith are two copies of the above-referenced Commission order recently entered in the subject case.

Very truly yours,

A. L. PORTER, Jr.  
Secretary-Director

ALP/ir

Carbon copy of order also sent to:

Hobbs OCC X

Artesia OCC X

Aztec OCC           

Other            State Engineer Office

Mr. Jason Kellahin

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. 4009  
Order No. R-3654

APPLICATION OF HUMBLE OIL & REFINING  
COMPANY FOR SALT WATER DISPOSAL, CHAVES  
COUNTY, NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 a.m. on December 27, 1968,  
at Santa Fe, New Mexico, before Examiner Daniel S. Mutter.

NOW, on this 31st day of December, 1968, the Commission, a  
quorum being present, having considered the testimony, the record,  
and the recommendations of the Examiner, and being fully advised  
in the premises,

FINDS:

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

(2) That the applicant, Humble Oil & Refining Company, is  
the owner and operator of the New Mexico "BX" State Well No. 3,  
located in Unit G of Section 16, Township 8 South, Range 33 East,  
NMPM, Chaveroo-San Andres Pool, Chaves County, New Mexico.

(3) That the applicant proposes to utilize said well to  
dispose of produced salt water into the San Andres formation,  
with injection into the perforated interval from approximately  
4273 feet to 4329 feet.

(4) That the injection should be accomplished through  
2-inch plastic-lined tubing installed in a packer set at  
approximately 4250 feet; that the casing-tubing annulus should  
be filled with an inert fluid; and that a pressure gauge should

-2-

CASE No. 4009

Order No. R-3654

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:

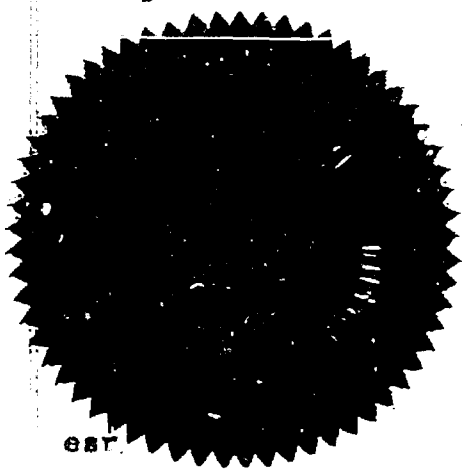
(1) That the applicant, Humble Oil & Refining Company, is hereby authorized to utilize its New Mexico "BX" State Well No. 3, located in Unit G of Section 16, Township 8 South, Range 33 East, NMPM, Chaveroo-San Andres Pool, Chaves County, New Mexico, to dispose of produced salt water into the San Andres formation, injection to be accomplished through 2-inch tubing installed in a packer set at approximately 4250 feet, with injection into the perforated interval from approximately 4273 feet to 4329 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*  
DAVID F. CARGO, Chairman

*Guston B. Hays*  
GUSTON B. HAYS, Member

*A. L. Porter, Jr.*  
A. L. PORTER, Jr., Secretary-Director



DOCKET: EXAMINER HEARING - FRIDAY - DECEMBER 27, 1968

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

The following cases will be heard before Daniel S. Nutter, Examiner, or  
Elvis A. Utz, Alternate Examiner:

- CASE 4005: Application of Petroleum Corporation of Texas for salt water disposal, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to dispose of produced salt water into the Pennsylvanian formation in the perforated interval from 9783 to 9946 feet in its State HIB Well No. 1 located in Unit D of Section 31, Township 12 South, Range 34 East, East Nighower-Upper Pennsylvanian Pool, Lea County, New Mexico.
- CASE 4006: Application of Petroleum Corporation of Texas for a waterflood project, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks authority to institute a waterflood project by the injection of water into the San Andres formation through its Raven Federal Well No. 2 located in Unit N of Section 6, Township 18 South, Range 27 East, Red Lake Pool, Eddy County, New Mexico.
- CASE 4007: Application of Paul DeClava : dual completion and salt water disposal, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to dually complete his Bagley State Well No. 1 located in the NW/4 NW/4 of Section 34, Township 11 South, Range 34 East, Lea County, New Mexico, in such a manner as to produce oil from the Bagley-Pennsylvanian Pool and to dispose of produced salt water down the annulus between the production casing and the intermediate casing into the San Andres, Permian, and possibly other formations in the interval from approximately 7793 feet to 7858 feet.
- CASE 4008: Application of Paul DeClava : dual completion and salt water disposal, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to dually complete his Shell State Well No. 1 located in the NW/4 NE/4 of Section 19, Township 11 South, Range 34 East, Lea County, New Mexico, in such a manner as to produce oil from the Knox-Pennsylvanian Pool and to dispose of produced salt water down the annulus between the production casing and the intermediate casing into the San Andres, Permian, and possibly other formations in the interval from approximately 7774 feet to 7820 feet.

- CASE 4009: Application of Humble Oil & Refining Company for salt water disposal, Chaves County, New Mexico. Applicant, in the above-styled cause, seeks authority to dispose of produced salt water into the San Andres formation in the perforated interval from approximately 4273 feet to 4329 feet in its New Mexico "BX" State Well No. 3 located in Unit G of Section 16, Township 8 South, Range 33 East, Chaverco-San Andres Pool, Chaves County, New Mexico.
- CASE 4010: Application of John H. Trigg for a waterflood project, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks authority to institute a waterflood project by the injection of water into the Grayburg-San Andres formations through his Empire "J" Federal Well No. 1 located in Unit P of Section 1, Township 18 South, Range 26 East, Red Lake Grayburg-San Andres Pool, Eddy County, New Mexico.
- CASE 4011: Application of Sam D. Ares 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 formation in the open-hole interval from approximately 3520 feet to 3639 feet in his Charles Whitten Well No. 5 located in Unit B of Section 4, Township 24 South, Range 36 East, Jalmat Pool, Lea County, New Mexico.
- CASE 4012: Application of Sam D. Ares for salt water disposal, Lea County, New Mexico. Applicant, in the above-styled cause, seeks the amendment of Order No. R-3602 to authorize the disposal of produced salt water into the Yates-Seven Rivers formations in the open-hole interval from approximately 3363 feet to 3650 feet in his Everett Well No. 4, located in Unit M, Section 35, Township 24 South, Range 36 East, Jalmat Pool, Lea County, New Mexico. The subject disposal well would be in lieu of the Everett Well No. 2, previously authorized for disposal by Order No. R-3602.
- CASE 4013: Application of Redfern Development Corporation and Wil-Mc Oil Corporation for salt water disposal, Lea County, New Mexico. Applicants, in the above-styled cause, seek authority to dispose of produced salt water into the San Andres formation in the interval from approximately 4200 feet to 4300 feet in the Wil-Mc State Well No. 1-K, located in Unit O of Section 11, Township 10 South, Range 32 East, Mescalero-San Andres Pool, Lea County, New Mexico.

CASE 4014: Application of Ralph Lowe for salt water disposal, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to dispose of produced salt water into the Lower Devonian formation in the perforated interval from approximately 12,350 feet to 12,455 feet in his "C" Devonian Unit Well No. 1 located in Unit O of Section 16, Township 10 South, Range 36 East, South Crossroads-Devonian Pool, Lea County, New Mexico.

CASE 3991: (Continued and Readvertised)

Application of Roger C. Hanks, Ltd., for salt water disposal, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to dispose of produced salt water into the lower Devonian formation in the open-hole interval from approximately 10,804 feet to 10,885 feet in its Monterey State Well No. 1 located in Unit A of Section 11, Township 10 South, Range 32 East, Mescalero Field, Lea County, New Mexico.

CASE 4015: Application of Wilson 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, Wilson Yates-Seven Rivers Pool, Lea County, New Mexico, through the following six wells:

TOWNSHIP 21 SOUTH, RANGE 34 EAST

Wilson State Well No. 9 located in Unit F of Section 13;

Shell State Well No. 13 located in Unit H of Section 13;

Wilson State Well No. 8 located in Unit O of Section 13;

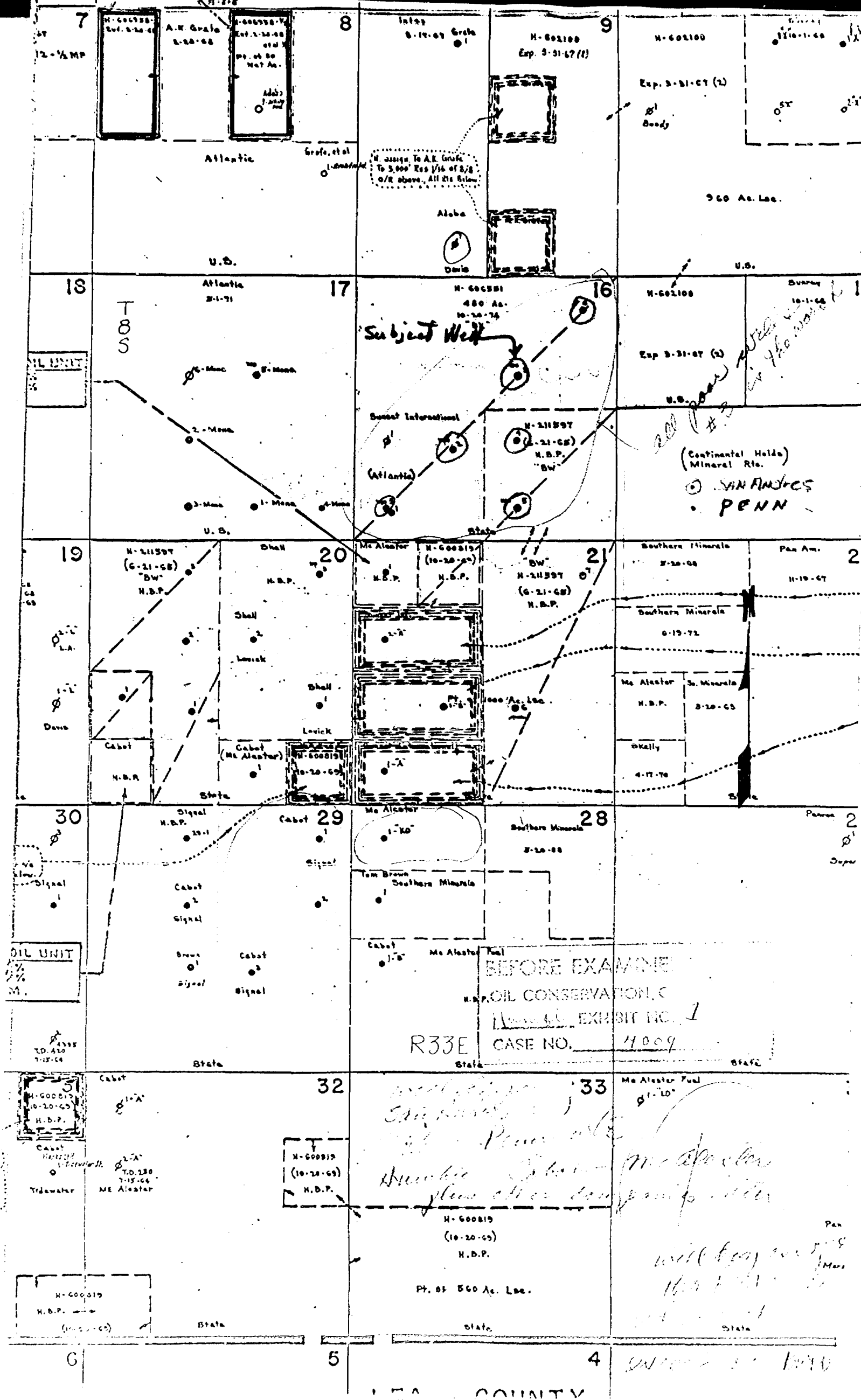
Wilson State Well No. 20 located in Unit B of Section 23;

Wilson State Well No. 21 located in Unit J of Section 23;

TOWNSHIP 21 SOUTH, RANGE 35 EAST

Wilson State Well No. 1-A located in Unit G of Section 7;

Applicant further seeks an administrative procedure whereby other wells in said pool may be approved for disposal purposes without the requirement of notice and hearing.

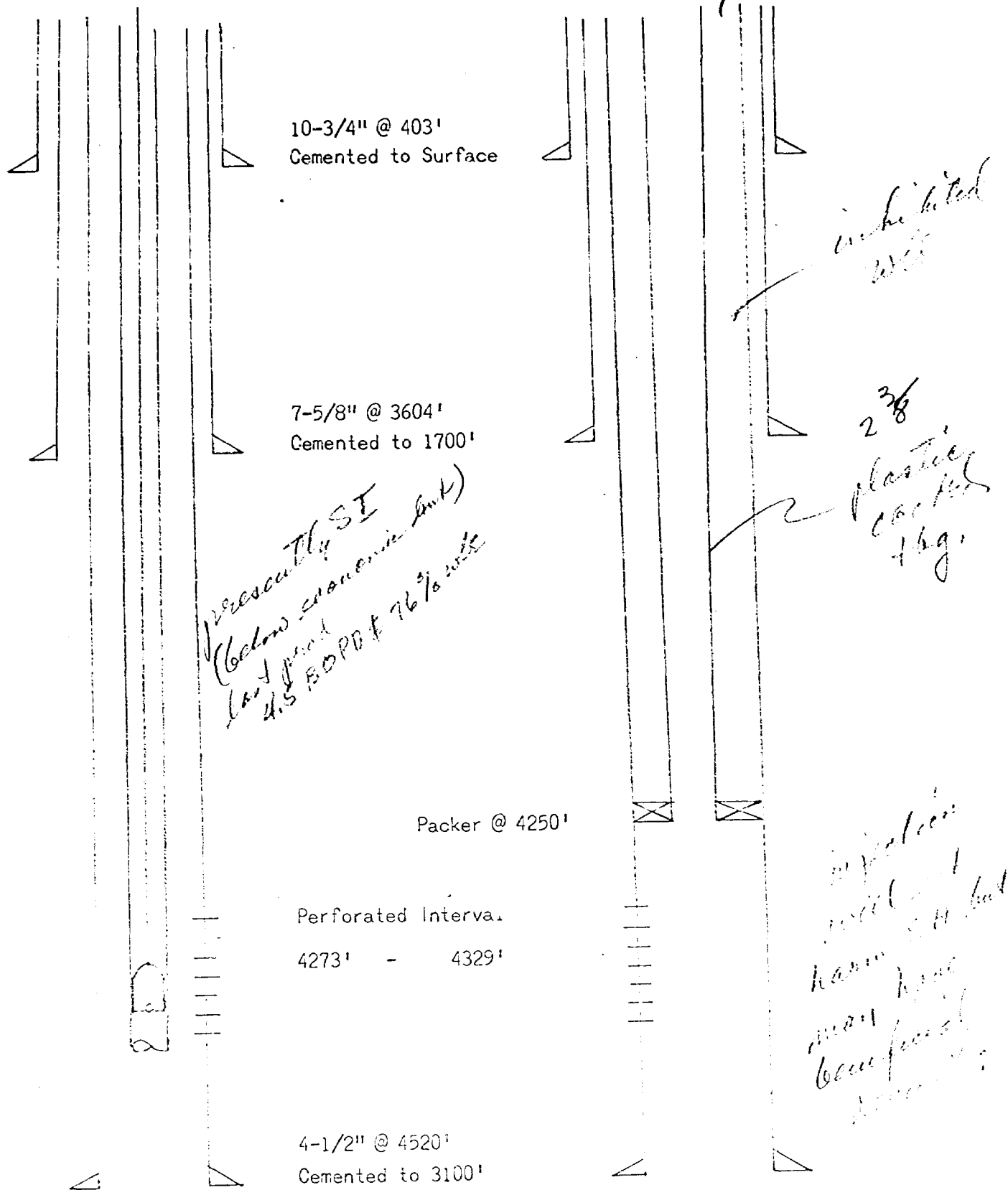


HUMBLE OIL & REFINING CO.

NEW MEXICO "BX" STATE 3

Present Completion

Proposed Completion



BEFORE EXAMINER NUTTER

OIL CONSERVATION COMMISSION

EXHIBIT NO. 2

CASE NO. 4009

HUMBLE OIL & REFINING COMPANY

CHAVEROO SAN ANDRES POOL

WATER ANALYSIS

Source:	<u>Chaveroo</u>	<u>Penn</u>
Sodium	60,400 ppm	28,934 ppm
Calcium	8,690 ppm	6,280 ppm
Magnesium	3,005 ppm	936 ppm
Chloride	115,600 ppm	58,500 ppm
Sulfate	2,040 ppm	450 ppm
Bicarbonate	360 ppm	547 ppm
Carbonate	-	-
Hydrogen Sulfide	Trace	Trace
Iron	Trace	Trace
Specific Gravity	1.14 @ 79° F	1.07 @ 72° F
pH	6.0	7.0

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BEFORE EXAMINER NUTTER  
OIL CONSERVATION COMMISSION  
Humble EXHIBIT NO. 4  
CASE NO. 4009

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# HUMBLE OIL & REFINING COMPANY

MIDLAND, TEXAS 79701

PRODUCTION DEPARTMENT  
SOUTHWESTERN DIVISION  
C. A. LANGNER  
OPERATIONS MANAGER

December 3, 1968

POST OFFICE BOX 1600

*Case 4059*

New Mexico "BX" State 3  
Proposed Salt Water Disposal Well for  
Tobac Area System

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

Dear Sir:

Humble Oil & Refining Company respectfully requests a hearing before the Commission to consider its application to convert New Mexico "BX" State 3 to a salt water disposal well. It is in the Chaveroo San Andres Pool, located in Unit G, Section 16, T-8-S, R-33-E, Chaves County, New Mexico.

This well was originally drilled during April 1965 to the Penn Bough-C, 9,100 feet, which tested dry. During March 1966 the hole was cleaned out to 4,520 feet and 4-1/2-inch casing set at that depth. Completion was made in the San Andres from 4,273 to 4,329 feet. The well is now capable of less than five barrels of oil per day plus 76 percent water. One workover job to increase production was a complete failure.

It is Humble's opinion that no damage will result from disposing salt water into this well. Since all San Andres wells in the vicinity are in the advanced stage of depletion, some benefit may be derived.

Yours very truly,

*C. A. Langner*

C. A. LANGNER

BKB:csd

DOCKET MAILED

Date 12-17-68

NEW MEXICO OIL CONSERVATION COMMISSION

APPLICATION TO DISPOSE OF SALT WATER BY INJECTION INTO A POROUS FORMATION

*Case 4009*

OPERATOR <b>Humble Oil &amp; Refining Company</b>		ADDRESS <b>Box 2100, Hobbs, New Mexico 88240</b>	
LEASE NAME <b>New Mexico "BX" State</b>	WELL NO. <b>3</b>	FIELD <b>Chaveroo San Andres</b>	COUNTY <b>Chaves</b>
LOCATION UNIT LETTER <b>G</b> ; WELL IS LOCATED <b>1989</b> FEET FROM THE <b>North</b> LINE AND <b>1997</b> FEET FROM THE <b>East</b> LINE, SECTION <b>16</b> TOWNSHIP <b>8-S</b> RANGE <b>33-E</b> NMPM.			
CASING AND TUBING DATA			
NAME OF STRING	SIZE	SETTING DEPTH	SACKS CEMENT
SURFACE CASING	10-3/4	403	375
INTERMEDIATE	7-5/8	3604	500
LONG STRING	4-1/2	4520	200
TUBING	2	4250	NAME, MODEL AND DEPTH OF TUBING PACKER <b>Retrievable hookwall packer at 4250 feet.</b>
NAME OF PROPOSED INJECTION FORMATION <b>San Andres</b>		TOP OF FORMATION <b>4273 feet</b>	BOTTOM OF FORMATION <b>4329 feet</b>
IS INJECTION THROUGH TUBING, CASING, OR ANNULUS? <b>Tubing</b>		PERFORATIONS OR OPEN HOLES <b>Perforations</b>	PROPOSED INTERVAL(S) OF INJECTION <b>4273-4329</b>
IS THIS A NEW WELL DRILLED FOR DISPOSAL? <b>No</b>	IF ANSWER IS NO, FOR WHAT PURPOSE WAS WELL ORIGINALLY DRILLED? <b>Oil</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>100' Est.</b>		DEPTH OF BOTTOM OF NEXT HIGHER OIL OR GAS ZONE IN THIS AREA <b>None</b>	
ANTICIPATED DAILY INJECTION VOLUME (BBLs.) <b>360</b>		MINIMUM <b>500</b>	
OPEN OR CLOSED TYPE SYSTEM <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>		NATURAL WATER IN DISPOSAL ZONE <b>Yes</b>	
NAME AND ADDRESS OF SURFACE OWNER (OR LESSEE, IF STATE OR FEDERAL LAND) <b>Mr. Cliff Key, Box 355, Lovington, New Mexico 88260</b>		ARE WATER ANALYSES ATTACHED? <b>Yes</b>	
LIST NAMES AND ADDRESSES OF ALL OPERATORS WITHIN ONE-HALF (1/2) MILE OF THIS INJECTION WELL			
<b>Atlantic-Richfield Corp., Box 1978, Roswell, New Mexico 88201</b>			
<b>Wil-Mc Oil Corp., 1108 Fidelity Union Building, Dallas, Texas 75201</b>			
HAVE COPIES OF THIS APPLICATION BEEN SENT TO EACH OF THE FOLLOWING?		THE NEW MEXICO STATE ENGINEER	
SURFACE OWNER <b>Yes</b>		<b>-</b>	
EACH OPERATOR WITHIN ONE-HALF MILE OF THIS WELL <b>Yes</b>		<b>-</b>	
ARE THE FOLLOWING ITEMS ATTACHED TO THIS APPLICATION (SEE RULE 701-B)		DIAGRAMMATIC SKETCH OF WELL	
PLAT OF AREA <b>Yes</b>		<b>Yes</b>	
ELECTRICAL LOG <b>Yes</b>		<b>Yes</b>	

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

*[Signature]*  
(Signature)

*Dist. Supt.*  
(Title)

*Dec. 5, 1968*  
(Date)

NOTE: Should waivers from the State Engineer, 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.



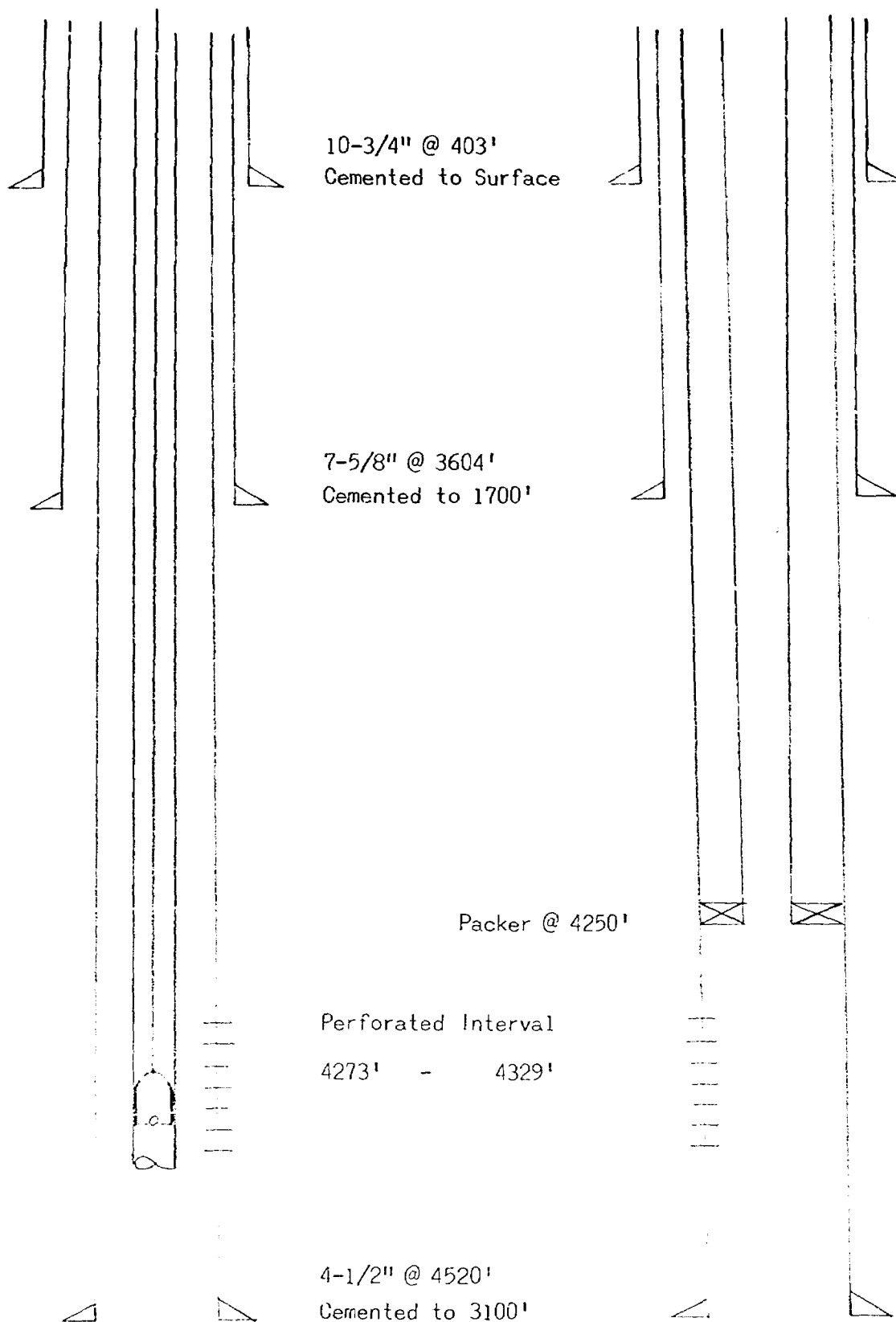
HUMBLE OIL & REFINING CO.

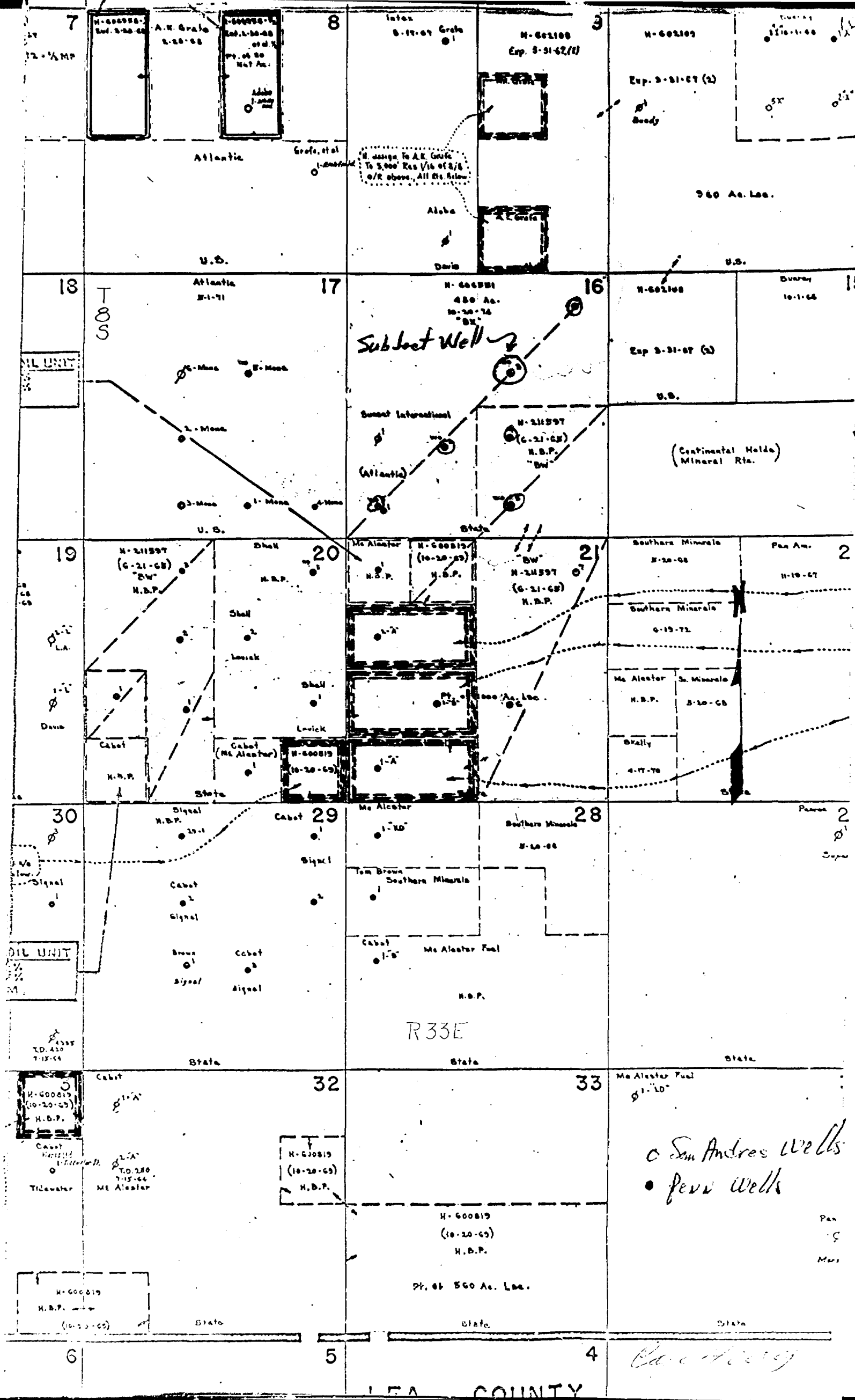
NEW MEXICO "BX" STATE 3

*Case 4009*

Present Completion

Proposed Completion





HUMBLE OIL & REFINING COMPANY

CHAVEROO SAN ANDRES POOL

WATER ANALYSIS

*Case 4009*

Source:	<u>Chaveroo</u>	<u>Penn</u>
Sodium	60,400 ppm	28,934 ppm
Calcium	8,690 ppm	6,280 ppm
Magnesium	3,005 ppm	936 ppm
Chloride	115,600 ppm	58,500 ppm
Sulfate	2,040 ppm	450 ppm
Bicarbonate	360 ppm	547 ppm
Carbonate	-	-
Hydrogen Sulfide	Trace	Trace
Iron	Trace	Trace
Specific Gravity	1.14 @ 79° F	1.07 @ 72° F
pH	6.0	7.0

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. 4009

Order No. R- 3654

APPLICATION OF HUMBLE OIL & REFINING  
COMPANY FOR SALT WATER DISPOSAL, CHAVES  
COUNTY, NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 a.m. on December 27, 1968,  
at Santa Fe, New Mexico, before Examiner Daniel S. Nutter

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

FINDS:

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

(2) That the applicant, Humble Oil & Refining Company,  
is the owner and operator of the New Mexico "BX" State Well No. 3,  
located in Unit G of Section 16, Township 8 South, Range  
33 East, NMPM, Chaveroo-San Andres Pool, Chaves  
County, New Mexico.

(3) That the applicant proposes to utilize said well to  
dispose of produced salt water into the San Andres  
formation, with injection into the perforated interval  
from approximately 4273 feet to 4329 feet.

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

approximately 4250 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, Humble Oil & Refining Company, is hereby authorized to utilize its New Mexico "BX" State Well No. 3, located in Unit G of Section 16, Township 8 South, Range 33 East, NMPM, Chaveroo-San Andres Pool, Chaves County, New Mexico, to dispose of produced salt water into the San Andres formation, injection to be accomplished through 2-inch tubing installed in a packer set at approximately 4250 feet, with injection into the perforated interval from approximately 4273 feet to 4329 feet;

PROVIDED HOWEVER, that the tubing shall be plastic-lined ~~as shown~~ 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 104 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 hereinafter designated.