

**CASE 3797: Application of ERNEST  
A. HANSON FOR SALT WATER DISPOSAL,  
LEA COUNTY, NEW MEXICO.**

Case Number

3797

Application

Transcripts.

Small Exhibits

ETC.

GOVERNOR  
DAVID F. CARGO  
CHAIRMAN

State of New Mexico  
Oil Conservation Commission



LAND COMMISSIONER  
GUYTON B. HAYS  
MEMBER

P. O. BOX 2088  
SANTA FE

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

July 3, 1968

Mr. Jason Kellahin  
Kellahin & Fox  
Attorneys at Law  
Post Office Box 1769  
Santa Fe, New Mexico

Re: Case No. 3797  
Order No. R-3449  
Applicant:  
ERNEST A. HANSON

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       

Aztec OCC       

Other State Engineer Office

BEFORE THE OIL CONSERVATION COMMISSION  
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. 3797  
Order No. R-3449

APPLICATION OF ERNEST A. HANSON  
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 June 26, 1968,  
at Santa Fe, New Mexico, before Examiner Elvis A. Uts.

NOW, on this 3rd day of July, 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, Ernest A. Hansen, is the owner and  
operator of the Mescalero Ridge Unit "35" Well No. 11, located  
in Unit W of Section 35, Township 19 South, Range 34 East, NMNM,  
Pearl-Queen Pool, Lea County, New Mexico.

(3) That the applicant proposes to utilize said well to  
dispose of produced salt water into the Queen formation, with  
injection into the perforated interval from approximately  
4604 feet to 5036 feet.

(4) That the injection should be accomplished through  
2 3/8-inch tubing installed in a packer set at approximately  
4550 feet; that the casing-tubing annulus should be filled

-2-

CASE No. 3797

Order No. R-3449

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 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:

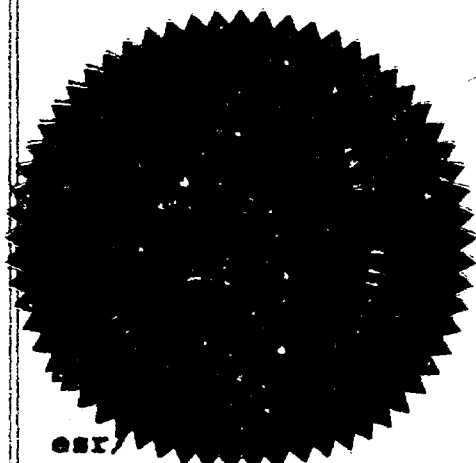
(1) That the applicant, Ernest A. Hanson, is hereby authorized to utilize his Mescalero Ridge Unit "35" Well No. 11, located in Unit N of Section 35, Township 19 South, Range 34 East, NMPM, Pearl-Queen Pool, Lea County, New Mexico, to dispose of produced salt water into the Queen formation, injection to be accomplished through 2 3/8-inch tubing installed in a packer set at approximately 4550 feet, with injection into the perforated interval from approximately 4604 feet to 5036 feet;

PROVIDED HOWEVER, 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 tubing or packer.

(2) That the applicant shall submit monthly reports of his 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 P. Cargo*  
DAVID P. CARGO, Chairman

*Guyton B. Hays*  
GUYTON B. HAYS, Member

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

esr

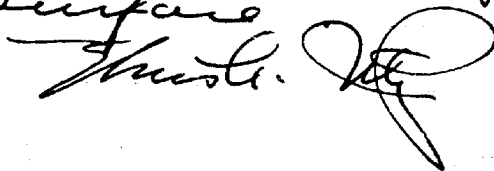
Case 3797

Heard 6-26-65

Rec. 6-28-65

Grant Ernest A. Hanson permission  
to convert his Mescaleas Ridge  
unit (35) #1 to a SWD well in the  
Heard-Queen Pool. Location N-35-  
29S-34E. Lea.

Injection shall be thru 2 3/8 tubing  
under a packer set at approx 4550'.  
Injection shall be into Queen after  
~~4563 to 5606~~ thru perfor at 4604-08,  
4934-35 & 5032-36. Annulus shall be  
filled with inert fluid + gauges  
or open at the surface

Trust. 

DOCKET: EXAMINER HEARING - WEDNESDAY - JUNE 26, 1968

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

The following cases will be heard before Elvis A. Utz, Examiner,  
or A. L. Porter, Jr., Alternate Examiner:

CASE 3788: Application of Texaco Inc. 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 Grayburg-San Andres formation through its New Mexico State "W" NCT-1 Well No. 1 located in Unit O of Section 13, Township 17 South, Range 34 East, Vacuum (Grayburg-San Andres) Oil Pool, Lea County, New Mexico.

CASE 3789: Application of Tenneco Oil Company for a unit agreement, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval of the Mesa Queen Unit Area comprising 1,040 acres, more or less, of state lands in Township 16 South, Range 32 East, Mesa-Queen Pool, Lea County, New Mexico.

CASE 3790: Application of Tenneco Oil Company for a waterflood project, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to institute a waterflood project in its Mesa Queen Unit Area by the injection of water into the Queen formation through 12 wells located in Sections 16, 17, and 20, Township 16 South, Range 32 East, Mesa-Queen Pool, Lea County, New Mexico.

CASE 3573 (Reopened):

In the matter of Case 3573 being reopened pursuant to the provisions of Order No. R-3240 to permit all interested parties to appear and show cause why the temporary rules for the South Corbin-Strawn Oil Pool, Lea County, New Mexico, which include a provision for 160-acre spacing units and a 4000 to one gas-oil ratio limit, should remain in effect.

CASE 3791: Application of Kewanee Oil Company for a unit agreement, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks approval of the Square Lake "12" Unit Area comprising 1,360 acres, more or less, of Federal lands in Township 17 South, Ranges 29 and 30 East, Square Lake Pool, Eddy County, New Mexico.

CASE 3792: Application of Kewanee Oil Company 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 formation underlying its Square Lake "12" Unit Area through seven wells located in Sections 1 and 12, Township 17 South, Range 29 East, and Sections 6 and 7, Township 17 South, Range 30 East, Square Lake Pool, Eddy County, New Mexico.

CASE 3793: Application of Gulf Oil Corporation for salt water disposal, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks authority to dispose of produced salt water into the Grayburg formation in the interval from approximately 3812 feet to 3900 feet in its Keohane "C" Federal Well No. 3 located in Unit I of Section 21, Township 18 South, Range 31 East, Shugart Yates-Seven Rivers-Queen-Grayburg Pool, Eddy County, New Mexico.

CASE 3794: Application of Gulf Oil Corporation for salt water disposal, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to dispose of produced salt water into the San Andres formation adjacent to the Eunice-San Andres Pool in the interval from approximately 4100 feet to 4900 feet in the Warren Petroleum Corporation Eunice Plant SWD Well No. 1, located 2255 feet from the North line and 908 feet from the East line of Section 3, Township 22 South, Range 37 East, Lea County, New Mexico.

CASE 3795: Application of Pan American Petroleum Corporation for a pool creation and discovery allowable, Lea County, New Mexico. Applicant, in the above-styled cause, seeks the creation of the Bate-Yates Pool in Lea County, New Mexico, comprising the S/2 of Section 26 and the N/2 of Section 35, both in Township 19 South, Range 33 East, and for the assignment of approximately 16,750 barrels of oil discovery allowable to the discovery well, its Bate Federal Well No. 1 located in Unit N of said section 26.

CASE 3796: Application of The Superior Oil Company for the creation of a new pool, assignment of discovery allowable, and the promulgation of pool rules, Lea County, New Mexico. Applicant, in the above-styled cause, seeks the creation of a new upper Pennsylvanian oil pool for its State D COM Well No. 1 located in Unit G of Section 4, Township 14 South, Range 34 East, Lea County, New Mexico, and for the assignment of an oil discovery allowable in the amount of approximately 52,010 barrels to said well. Applicant further seeks the promulgation of special pool rules for said pool, including a provision for 160-acre proration units.

CASE 3797: Application of Ernest A. Hanson 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 overall interval from approximately 4604 to 5036 feet in his Mescalero Ridge Unit "35" Well No. 11 located in Unit N of Section 35, Township 19 South, Range 34 East, Pearl-Queen Pool, Lea County, New Mexico.



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

1120 SIMAS BLDG. • P. O. BOX 1092 • PHONE 243-4491 • ALBUQUERQUE, NEW MEXICO



BEFORE THE  
NEW MEXICO OIL CONSERVATION COMMISSION  
Santa Fe, New Mexico  
June 26, 1968

EXAMINER HEARING

IN THE MATTER OF:

Application of Ernest A. Hanson  
for salt water disposal, Lea  
County, New Mexico.

CASE NUMBER  
3797

BEFORE: ELVIS A. UTZ, Examiner

TRANSCRIPT OF HEARING

MR. UTZ: Case 3797.

MR. HATCH: Application of Ernest A. Hanson for salt water disposal, Lea County, New Mexico.

MR. KELLAHIN: If the Examiner please, Jason Kellahin, Kellahin and Fox, appearing for the applicant. We have one witness. I would like to have him sworn.

(Witness sworn.)

MR. UTZ: Any other appearances?

MR. KELLAHIN: If the Examiner please, if we could utilize the exhibits attached to the application in this case as the exhibits to be introduced.

MR. UTZ: Unless you want to change them, I think that will be in order, Mr. Kellahin. You want a copy of them or do you have a copy?

MR. KELLAHIN: No. We have a copy.

HARRY F. SCHRAM

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

DIRECT EXAMINATION

BY MR. KELLAHIN:

Q Would you state your name, please?

A Harry F. Schram.

Q By whom are you employed and what position?

A I am exploration manager for Ernest A. Hanson in Roswell, New Mexico.

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

A Yes, I have.

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

MR. UTZ: If he has qualified before, they are.

Q (By Mr. Kellahin) Mr. Schram, are you familiar with the application of E. A. Hanson in Case 3797?

A Yes, sir.

Q Briefly what is proposed by Ernest Hanson in this case?

A This is a request to dispose of produced salt water into the Queen formation in the overall interval from approximately 4604 to 5,036 feet in our Mescalero Ridge Unit "35" Well Number 11 located in Unit N, Section 35, Township 19 South, Range 34 East, in the Pearl-Queen Pool, Lea County, New Mexico.

Q You filed an application with the Commission in this case, did you not?

A Yes, sir.

Q And to that application you attached certain exhibits?

A No, sir. There's a dry hole offsetting our Number 11 Well which was drilled by the J. P. Driscoll which was the Number 1 Pure State, 1-A Pure State.

Q You stated the perforated interval 4604 feet to 5036, approximately?

A Yes, sir.

Q Is that in the Pearl-Queen formation?

A Yes, sir. That is in the Queen formation.

Q What is the present status of the proposed disposal well?

A The well is shut in.

Q Has it made any oil?

A No. We tested it for ninety days on three-and-a-half-inch tubing and the well produced approximately 650 to 700 barrels of salt water per day with no oil.

Q And all the wells in the area are owned and operated by Ernest A. Hanson, is that correct?

A Yes, sir.

Q And there's no production offsetting the proposed disposal well that is not owned by Hanson, is this correct?

A That is correct.

Q Referring to the next exhibit, which we would like to have marked as Exhibit Number 2, would you identify that exhibit,

please?

(Whereupon, Exhibit Number 2  
was marked for identification.)

A Yes, sir, this is a ~~diagrammatic~~ sketch of the proposed salt water disposal well. You have eight and five-eighths set at 230 feet with 125 sacks of cement. Now, this cement did circulate to the surface. The hole was then drilled with seven and seven-eighths-inch hole to total depth of 5106 and five-and-a-half-inch casing was run to that depth and cemented with 350 sacks of cement. The top of the cement coming back to 3650 as measured by temperature survey.

The well was then perforated at three separate intervals, 4604 to 08, 4934 to 35 and 5032 to 36. Now, our proposal is that we run two-and-three-eighths-inch tubing with a Halliburton R-3 packer set at approximately 4550 and inject down that tubing. We'll have proposed to use inhibited fluid behind the tubing in the annulus and using a pressure gauge on the surface to be able to check that annulus for any pressure differences.

Q How about the inside of the tubing?

A We do not propose to coat that tubing. One reason is that the water is relatively fresh and the other reason is that we feel by experience that coated tubing doesn't really do too much good because most of your corrosion takes place

A Yes.

MR. KELLAHIN: The fourth exhibit attached to the application was the log. Could we have that marked?

MR. UTZ: ~~Excuse me~~. Cl on that 747, that's your salt, is that right?

THE WITNESS: Down at the bottom, your probable mineral composition, your Na Cl and Na<sub>2</sub> SO<sub>4</sub>, which are 1240 and 1280 respectively.

MR. UTZ: How about that SO<sub>4</sub>, isn't it pretty corrosive?

THE WITNESS: The only place we have found any corrosion out there, and it's not corrosion, but the only problem that we have ever identified is that you have a hardening of your sucker rods and which shouldn't affect this injection well at all.

Q (By Mr. Kellahin) You won't have any sucker rods in the injection well, will you?

A No. We will after several years out there. This is the only bad thing we have found about the water. We have never noticed any corrosion at all on anything.

Q If we assume that there might be some corrosion, Mr. Schram, would the manner of completion with an inhibited

fluid in the casing tubing annulus with a pressure gauge on the casing tubing annulus warn you of any leak?

A Yes. It would show us any leaks at all. Particularly with our proposed pressure, which we feel will run up to as high as 200 pounds, would indicate immediately any leaks, I think.

MR. KELLAHIN: Could we have the log marked as Exhibit 4?

(Whereupon, Exhibit Number 4 was marked for identification.)

Q Referring to Exhibit Number 4, do you have any comment on that?

A No. This merely shows the top of your Queen formation in addition to local formation tops that we use in the area and it also shows the perforations in the well.

Q You stated that the source of the water to be disposed of in this well are the Pearl-Queen Wells owned and operated by E. A. Hanson. What volume of water do you anticipate will be injected in the well?

A Well, 800 barrels based on a very recent test of every well on this Mescalero Ridge.

Q In your opinion, would the well have the capacity to take additional water?

A Yes, sir.

Q Do you anticipate that it will take water under vacuum or under pressure?

A No. I believe it would be under pressure based on Gulf's waterflood to the west or to the east.

Q Approximately what pressure would you anticipate?

A Well, I would anticipate about 2,000 pounds and at some later date I think it would be very low to begin with.

Q What is the closest well producing from the same formation, Mr. Schram?

A The closest well would be a direct offset to the north.

MR. UTZ: Number 8?

THE WITNESS: Yes, sir.

Q (By Mr. Kellahin) In your opinion, will the injection of water into the Pearl-Queen in your Number 11 well have any adverse effect on the Number 8 Well?

A Well, we are not real sure. We don't think so because of the fact we are not making any oil at all out of the Number 11. It has been shut in for some time now. We have no indication that it would, however. Well, in anticipating that it might, we would be able to test those wells every thirty days with a roller tester that we do keep on the lease.



Q You would make a test every thirty days on the well?

A We do, anyway.

Q Would you be willing to file any reports on that with the Commission in the event they requested it?

A Yes.

MR. UTZ: What type test?

THE WITNESS: What it is, it's a gas-oil ratio test. In this case we use what we call a roller-well checker and it's a portable trailer-mounted unit. What it is, it's a tester whereby you can measure the oil, water and gas and you just break out a hammer union and plug this thing in and go ahead and check your well.

MR. PORTER: Portable tester?

THE WITNESS: Yes, sir.

MR. KELLAHIN: At this time we offer in evidence Exhibits 1 through 4, inclusive.

MR. UTZ: Without objection Exhibits 1, 2 and 3 and 4 will be entered into the record of this case.

(Whereupon, Exhibit Numbers 1, 2, 3 and 4 were offered and admitted in evidence.)

MR. KELLAHIN: That's all I have on direct examination, Mr. Utz.

## CROSS EXAMINATION

BY MR. UTZ:

Q Did you mention a waterflood in this area in the Queen formation, was it Gulf?

A Yes, sir.

Q Where is it located?

A It is in Section 31 of 19, 35, is where the closest east boundary is, approximately two miles from our injection, proposed injection well, Gulf well.

Q Would that be on the west?

A The Gulf would be to the east of us, two miles to the east. It is shown on the plat there. It's Gulf's West Pearl-Queen Unit.

Q And they are injecting water for other purposes in the same interval, the Queen formation?

A Roughly the same interval. I don't believe they are perforated in this zone. I don't know it's present in their flood.

Q They obviously wouldn't be injecting water if they didn't think it was going to be beneficial to them, would they?

A Right.

Q In regard to your Exhibit Number 4, I notice you show, well, the Queen formation and the top of the Lower Queen and then the Penrose Section. Is the Penrose Section actually

a part of the Queen?

A Yes, sir. I think it's considered as being a part of the Queen formation.

Q The lower part of the Queen?

A Yes, sir.

Q And is your well opened in the Penrose Section, I believe?

A Yes, sir. It's opened in what we designate as the Middle Penrose; also the Upper Penrose.

MR. UTZ: Are there any other questions?

CROSS EXAMINATION

BY MR. PORTER:

Q On that proposed injection well, Mr. Schram, how much oil has that produced?

A Well, actually, I doubt very little from the very beginning, although it was potentialed at one time, the amount has been very, very small, well, ever since it was drilled and it hasn't produced anything in the last, oh, year or two.

Q It's been a marginal well?

A Yes, sir.

Q Are you proposing to inject through the same perforations that you produced through?

A Yes, sir.

MR. PORTER: That's all I have.

MR. UTZ: The witness may be excused.

(Witness excused.)

MR. UTZ: Any statements? The case will be taken under  
advisement.

I N D E X

<u>WITNESS</u>	<u>PAGE</u>
HARRY F. SCHRAM	
Direct Examination by Mr. Kellahin	2
Cross Examination by Mr. Utz	12
Cross Examination by Mr. Porter	13

E X H I B I T S

<u>NUMBER</u>	<u>MARKED FOR IDENTIFICATION</u>	<u>OFFERED AND ADMITTED IN EVIDENCE</u>
Exhibit #1	4	11
Exhibit #2	6	11
Exhibit #3	7	11
Exhibit #4	9	11

STATE OF NEW MEXICO     )  
                                   ) ss  
 COUNTY OF BERNALILLO    )

I, ADA DEARNLEY, Notary Public 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.

Witness my Hand and Seal this 9th day of July, 1968.

  
 NOTARY PUBLIC

My Commission Expires:

June 19, 1971

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 3292 heard by me on June 26, 1968.

  
 Examiner  
 New Mexico Oil Conservation Commission

## NEW MEXICO OIL CONSERVATION COMMISSION

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

OPERATOR <b>Ernest A. Hanson</b>		ADDRESS <b>P. O. Box 1515, Roswell, New Mexico</b>			
LEASE NAME <b>Mescalero Ridge Unit "35"</b>	WELL NO. <b>11</b>	FIELD <b>Pearl Queen</b>	COUNTY <b>Lea</b>		
LOCATION UNIT LETTER <b>N</b> ; WELL IS LOCATED <b>990</b> FEET FROM THE <b>South</b> LINE AND <b>1980</b> FEET FROM THE <b>West</b> LINE, SECTION <b>35</b> TOWNSHIP <b>19-S</b> RANGE <b>34-E</b> NMFM. <b>Perm. 1965</b>					
CASING AND TUBING DATA					
NAME OF STRING	SIZE	SETTING DEPTH	SACKS CEMENT	TOP OF CEMENT	TOP DETERMINED BY
SURFACE CASING	<b>8-5/8"</b>	<b>230'</b>	<b>125</b>	<b>Circulated</b>	
INTERMEDIATE					
LONG STRING	<b>5-1/2"</b>	<b>5105'</b>	<b>350</b>	<b>3650'</b>	<b>Temp. Survey</b>
TUBING	<b>2-3/8"</b>	<b>4550'</b>	NAME, MODEL AND DEPTH OF TUBING PACKER <b>Halliburton R-3 @ 4550'</b>		
NAME OF PROPOSED INJECTION FORMATION <b>Queen Formation</b>		TOP OF FORMATION <b>4563'</b>		BOTTOM OF FORMATION <b>5106'</b>	
IS INJECTION THROUGH TUBING, CASING, OR ANNULUS? <b>Tubing</b>		PERFORATIONS OR OPEN HOLES? <b>Perforations</b>		PROPOSED INTERVAL(S) OF INJECTION <b>4604-08', 4934-35' &amp; 5032-36'</b>	
IS THIS A NEW WELL DRILLED FOR DISPOSAL? <b>No</b>		IF ANSWER IS NO, FOR WHAT PURPOSE WAS WELL ORIGINALLY DRILLED? <b>Producing oil 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>Unknown</b>		DEPTH OF BOTTOM OF NEXT HIGHER OIL OR GAS ZONE IN THIS AREA <b>Unknown</b>		DEPTH OF TOP OF NEXT LOWER OIL OR GAS ZONE IN THIS AREA <b>Unknown</b>	
ANTICIPATED DAILY INJECTION VOLUME (BBL/D.)	MINIMUM <b>750</b>	MAXIMUM <b>2000</b>	OPEN OR CLOSED TYPE SYSTEM <b>Open</b>	IS INJECTION TO BE BY GRAVITY OR PRESSURE? <b>Pressure</b>	APPROX. PRESSURE (PSI) <b>2000</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			WATER TO BE DISPOSED OF <b>Yes</b>		
			NATURAL WATER IN DISPOSAL ZONE <b>Yes</b>		
			ARE WATER ANALYSES ATTACHED? <b>Yes</b>		
NAME AND ADDRESS OF SURFACE OWNER (OR LESSEE, IF STATE OR FEDERAL LAND) <b>W. M. Snyder, Estate, Box 726, Lovington, New Mexico</b>					
LIST NAMES AND ADDRESSES OF ALL OPERATORS WITHIN ONE-HALF (1/2) MILE OF THIS INJECTION WELL					
<b>Sinclair Oil &amp; Gas Co., P. O. Box 1470, Midland, Texas</b>					
<b>Monsanto Co., 101 No. Marienfeld, Midland, Texas</b>					
<b>Signal Oil &amp; Gas Co., 509 W. Texas, Midland, Texas</b>					
<b>El Paso Natural Gas Co., 2007 Wildo Bldg., Midland, Texas</b>					
DOCKET MAILED Date <b>6-13-68</b>					
HAVE COPIES OF THIS APPLICATION BEEN SENT TO EACH OF THE FOLLOWING?		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)		PLAT OF AREA <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.

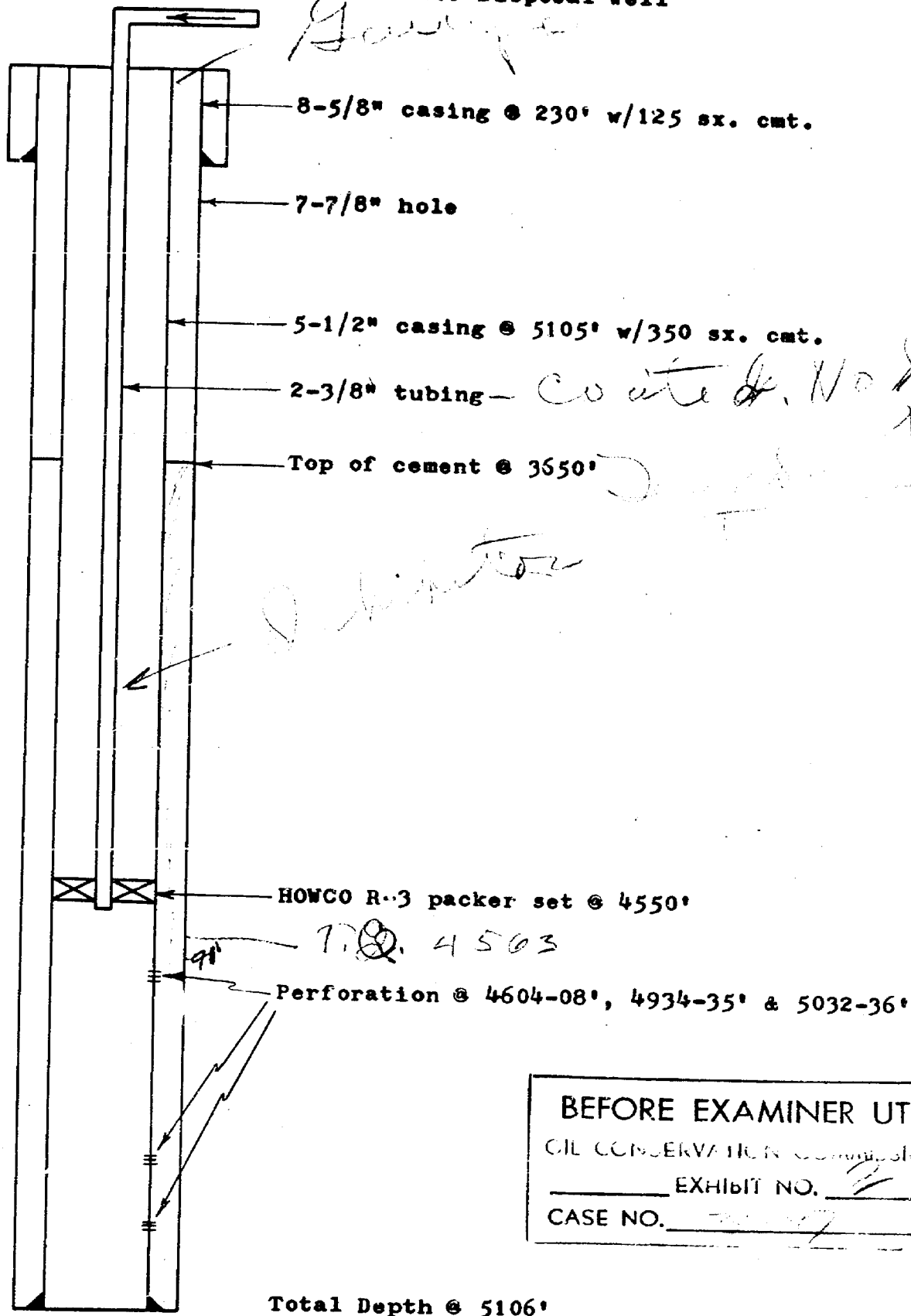
  
(Signature)**Exploration Manager**  
(Title)**May 17, 1968**  
(Date)

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.



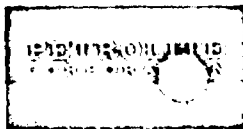


DIAGRAMMATIC SKETCH  
Salt Water Disposal Well



BEFORE EXAMINER UTZ  
OIL CONSERVATION COMMISSION  
EXHIBIT NO. 2  
CASE NO. 7-2-47

Chal 3797



TRETOLITE DIVISION  
389 Marshall Avenue / Saint Louis 19, Missouri

JAN 27 1968

## WATER ANALYSIS REPORT

COMPANY Hanson Oil Co. ADDRESS Roswell, N.M. DATE 1-26-68  
SOURCE Mescalero Ridge Unit DATE SAMPLED 1-20-68 ANALYSIS NO. 2040

- Analysis
1. PH 7.7
  2. H<sub>2</sub>S (Qualitative) Neg.
  3. Specific Gravity 1.000
  4. Dissolved Solids
  5. Suspended Solids
  6. Phenol Alkalinity (CaCO<sub>3</sub>)
  7. M. O. Alkalinity (CaCO<sub>3</sub>)
  8. Bicarbonate (HCO<sub>3</sub>)
  9. Chlorides (Cl)
  10. Sulfates (SO<sub>4</sub>)
  11. Calcium (Ca)
  12. Magnesium (Mg)
  13. Total Hardness (CaCO<sub>3</sub>)
  14. Total Iron (Fe)
  15. Barium (Qualitative)
  - 16.

\*Milli equivalents per liter

Mg/L

\*Meq/L

2,950			
180			
HCO <sub>3</sub>	220	÷ 61	4
Cl	747	÷ 35.5	21
SO <sub>4</sub>	954	÷ 48	20
Ca	80	÷ 20	4
Mg	24	÷ 12.2	2
300			
1.3 ppm			

NOTED

JAN 28 1968

HANSON

BEFORE EXAMINER UTZ  
OIL CONSERVATION COMMISSION  
EXHIBIT NO. 3  
CASE NO. 3797

### PROBABLE MINERAL COMPOSITION

4	Ca	←	HCO <sub>3</sub>	4
2	Mg	←	SO <sub>4</sub>	20
39	Na	←	Cl	21

Saturation Values	Distilled Water 20°C
Ca CO <sub>3</sub>	13 Mg/L
Ca SO <sub>4</sub> • 2H <sub>2</sub> O	2,090 Mg/L
Mg CO <sub>3</sub>	103 Mg/L

Compound	Equiv. Wt.	X	Meq/L	=	Mg/L
Ca (HCO <sub>3</sub> ) <sub>2</sub>	81.04		4		324
Ca SO <sub>4</sub>	68.07				
Ca Cl <sub>2</sub>	55.50				
Mg (HCO <sub>3</sub> ) <sub>2</sub>	73.17				
Mg SO <sub>4</sub>	60.19		2		120
Mg Cl <sub>2</sub>	47.62				
Na HCO <sub>3</sub>	84.00				
Na <sub>2</sub> SO <sub>4</sub>	71.03		18		1,280
Na Cl	58.46		21		1,230

REMARKS Mr. Ernest A. Hanson, Box 1515 Roswell N.M.

Buford Parmer, Worsham, file

Respectfully submitted  
TRETOLITE COMPANY  
Ray Shaffner

Case 3797