

Casa No.

297

---

Application, Transcript,  
Small Exhibits, Etc.

Case No.

297

Application, Transcript,  
Small Exhibits, Etc.

BEFORE THE  
OIL CONSERVATION COMMISSION  
STATE OF NEW MEXICO

~~~~~

TRANSCRIPTION OF HEARING

CASE NO. 297

August 7, 1951  
(DATE)

E. E. FREESON  
ADA DEARNLEY  
COURT REPORTERS  
BOX 1302  
PHONE 2-4147  
ALBUQUERQUE, NEW MEXICO

MR. SHEPARD: The next case is Case 297.

(Mr. Graham reads the Notice of Publication.)

MR. MADOLE: If it please the Commission, the purpose of this application is for an approval of an unorthodox drilling location, primarily for the purpose of determining the feasibility of a water-flood program. The details of a water-flood program in the event that the well reveals sufficient data to justify the water-flooding program will be presented to the Commission at a later date because it is premature at this time to present a complete water-flood program. The wells drilled on this Penrose-Skelly pool have not been cored sufficiently to determine the feasibility of a water-flood program. In this well is to be put down for the sole purpose of running full cores in the sand to determine that possibility. Under the contract of the Aurora Gasoline Company and Mr. Willingham, the owner of the adjacent property, in the event that the water-flood program proves feasible, Aurora Gasoline Company is to purchase this adjacent land. In the event that the water-flood program does not prove feasible, then the 40 acre tract on which the well is applied for will be returned to Mr. Willingham. The determination of whether or not the well will be used as an in-pit well in the event of a successful water-flooding program will of course depend upon the complete water flooding program to be presented to the Commission at a later date. They have made applications for an allowable for this well in the event it proves capable of production.

BEFORE THE  
OIL CONSERVATION COMMISSION  
STATE OF NEW MEXICO

-----

In re: In the matter of the application  
of Aurora Gasoline Company for an order  
authorizing an unorthodox well location  
and approval of a water-flooding program  
for secondary recovery in the NE<sup>1</sup>/<sub>4</sub> of  
Section 34, Township 22 S, Range 37 E,  
NMPM (Penrose Skelly pool), Lea County,  
New Mexico.

Case  
No. 297

TRANSCRIPT OF HEARING

August 7, 1951

(See transcript in Case 269 and 270 for register  
of attendance and appearances.)

To be allocated by the Commission as it sees fit. But in no event will the five wells on the northeast quarter receive more than the existing four wells at this time. It can be divided as the Commission sees fit in that manner. Mr. Shier is our witness.

JACK SHIER,

having been first duly sworn, testified as follows:

DIRECT EXAMINATION

By MR. MADOLE:

Q Will you please state your name?

A Jack Shier.

Q What is your position with the Aurora Gasoline Company?

A I am in charge of the West Texas operation operating out of Midland.

Q What is the primary business of the Aurora Gasoline Company?

A They are refiners, primarily.

Q Is it true that you have entered into a contract for the purchase of the properties of J. E. Willingham which will be identified in this case?

A Yes.

Q And that this well is primarily an exploratory well for the purpose of determining the feasibility of a water-flood program?

A That is correct.

Q You are not a qualified geologist or petroleum engineer, are you?

A No, sir.

(Witness excused.)

G. D. SIMON,

having been first duly sworn, testified as follows:

DIRECT EXAMINATION

By MR. MADOLE:

Q Mr. Simon, state your name to the Commission.

A G. D. Simon.

Q Have you previously testified before the Commission?

A No, sir.

Q Will you please state your qualifications and previous experience?

A I am a graduate of the University of Pittsburg, the Petroleum Engineering Department, 1943, and completed approximately seven years of drilling and production experience with the Texas Company. And I am now employed with the Consulting Firm of DeChicchis in Midland Texas.

Q Are you a registered engineer in the State of Texas?

A Yes, sir.

Q Have you had occasion to make a study of this proposed project of the Aurora Gasoline Company?

A Yes, sir, I have. I began the preliminary study for water-flood there and I am now working with the Earlanher Engineering Company out of Tulsa, who are to prepare a formal reservoir study of this water-flood project as soon as the well for which we are making application has been drilled and cored.

Q What is the purpose of this well for which you have made application?

A The primary purpose of this well is to core the Penrose-Skelly Field in order that sufficient laboratory and associated flood tests can be conducted in order to determine the feasibility of water-flooding the Penrose-Skelly Field.

Q The Aurora Gasoline Company is the owner of the 40 acre tract on which the application is based?

A That is correct.

Q Do you have a map showing the lands owned by Willingham in this area?

A Yes, sir.

Q In the event that water-flooding proves feasible, would you state to the Commission what your proposal is with reference to the water-flooding program and the lands included therein?

A At this time we are proposing to drill the subject well in the northeast quarter of Section 34, Township 22S, Range 37E, Penrose-Skelly Field. This particular well will be applicable to the northeast quarter of Section 34. And at this time it is somewhat impossible to give any definite plan for water-flood spacing. That will have to be entirely dependent upon the core analysis which we hope to make from the diamond coring recovery.

Q Do you propose to make the information from the drilling of this well available to the other owners in the immediate area for the purpose of instituting a comprehensive water-flooding program in that area?

A Yes, sir.



MR. MADOLE: Any other questions the Commission would like to hear with reference to it?

BY MR. GRAHAM:

Q Where will the water be obtained?

A At the present time we have three possible sources of water. The first source will be your Rustler formation at approximately 1,134 feet. We hope to make this our source formation as it has proved very efficient in other water-flood projects in Ward County, Texas. Should however, this formation fail to give us the necessary amount of water which we desire, we intend to explore the Santa Rosa Sands at approximately 735 feet, and also the Fresh Water Sands in the neighborhood of 300 feet.

MR. MADOLE: Before any water-flooding program is undertaken, the entire program will be further submitted to the Commission before any injection of water of any type in the formations upon which the application is based, is that true?

A That is correct. We intend to submit to the commission a complete and detailed report of our core analysis and proposed injection program.

Q And request approval of the same before any water-flooding program is instituted?

A That is correct.

MR. GRAHAM: What contact has been made with these other owners in the pool?

MR. MADOLE: Let's have Mr. Shier. Isn't it true that the

matter has been discussed with Skelly, with Humble, and with Shell, and no opposition has been voiced. In fact they are deeply interested in the project. Is that not correct?

MR. SHIER: That is correct. They were all interested in it.

MR. SPURRIER: There are representatives of both companies here. Shall we ask them if they have any comments?

MR. MADOLE: We would be glad to have them.

MR. GRAHAM: What about the attitude of the mineral interest holders?

MR. SHIER: I didn't hear the question.

MR. GRAHAM: What seems to be the attitude of the royalty owners?

MR. SHIER: The companies we mentioned are in most cases owners of the royalties. As far as the mineral owners are concerned, they are scattered from coast to coast. This property has been in production many, many years.

MR. SPURRIER: Do any of the offset operators have any comments to make on this water-flooding, any questions?

MR. CAMPBELL: May I ask Mr. Simon a question? What was the original source of the reservoir energy in the pool?

MR. SIMON: It was a solution gas-drive nature.

MR. CAMPBELL: No water?

MR. SIMON: Well, at the present time the wells are down to stripper production and there is no water being produced on the subject lease.

MR. CAMPBELL: Are you going into this venture on the assumption the wells in that field will not fully drain the reservoir?

MR. SIMON: Well that is a pretty difficult question. We are going at it with the approach of a water-flood program and the object would be to recover all the oil which hasn't been produced through primary means.

MR. SHEPARD: Anyone else?

MR. GRAHAM: Roughly, what is the production history of that pool, of that area. It has gradually gone down?

MR. SIMON: Yes, that is correct.

MR. SHIER: It has come down to where it is just stripper production. I think it is about 5 barrels.

MR. SIMON: The lease we are interested in at the present time averages between 3 to 5 barrels per day.

MR. GRAHAM: That is a characteristic of that entire pool of which you are flooding only a part?

MR. SIMON: Well, generally speaking, the pool is on decline at the present time and what has not already reached the stripper stage should be reached in the not very near future. I would say offhand some of the wells are still flowing. But those that are still flowing still make, I would say, less than 10 barrels per day.

MR. GRAHAM: Our records show that that pool is declining and needs lift.

MR. SHIER: That is what we want to do.

MR. MADOLE: Any water-flooding program which is afterwards submitted to the Commission, necessarily any water-flooding injected into the formation, will prove of benefit to all operators in the pool. Is that not true to a certain extent?

MR. SIMON: That is correct. The chances are the offset operators will feel the benefits of the water flood and perhaps of a more outstanding nature will be the information we will learn from water-flooding in that particular area, which could be very helpful to other operators in associated areas.

MR. SHEPARD: Any further questions. If not, you will be excused.

-0-0-

STATE OF NEW MEXICO )  
                          ) SS.  
COUNTY OF BERNALILLO )

I HEREBY CERTIFY that the foregoing and attached transcript of proceedings in Case No. 297 before the Oil Conservation Commission, taken on August 7, 1951, is a true and correct record of the same to the best of my knowledge, skill and ability.

DATED at Albuquerque, this 28 day of August, 1951.

G. G. Green  
REPORTER

MR. SPURRIER: Let the record show that the following letter was introduced and made a part of the record in Case 297. It is a letter from the Skelly Oil Company dated August 3, 1951, in re case 297.

-9-

September 12, 1931

Aurora Gasoline Company  
Wright Building  
Tulsa, Oklahoma

Attention - Mr. Maurice Shiller

Re - Core Analysis  
T.O. May Well No. 5  
Sec. 34, T.22-S., R.37-E.  
Lea County, New Mexico

Gentlemen:

Attached are results of analysis, together with profile and summary, covering core received from your above well.

The Penrose (Queen) sand was diamond cored and results of the analysis indicate 33.8 net feet of oil sand with low porosity and low permeability. The oil sand occurs in 4 separate sections throughout an interval of 182 feet from 3577.8 to 3679.8 feet.

Based on the data from this one core alone it may be calculated that a primary oil recovery by gas expansion of 4100 barrels per acre should be obtained from the area of which this core is representative. An effective water flood following primary depletion may yield an additional oil recovery of 2300 barrels per acre. The average recovery to date from this property has been only 1380 barrels per acre indicating a possible 5020 barrels per acre of primary and secondary oil yet to be produced.

If the low primary recovery to date is due to poor drainage caused by the low permeability, it is possible that closer spacing should yield substantially more oil. Therefore, it is recommended that the present core well be completed possibly by hydraulic fracturing. Bottom hole pressure test and production test data might then indicate whether or not there is sufficient oil yet to be recovered under primary methods to be economically attractive. A water flood would be a possibility if water injection would be profitable.

Mr. Maurice Shiller  
Mr. J. D. Williams (2)

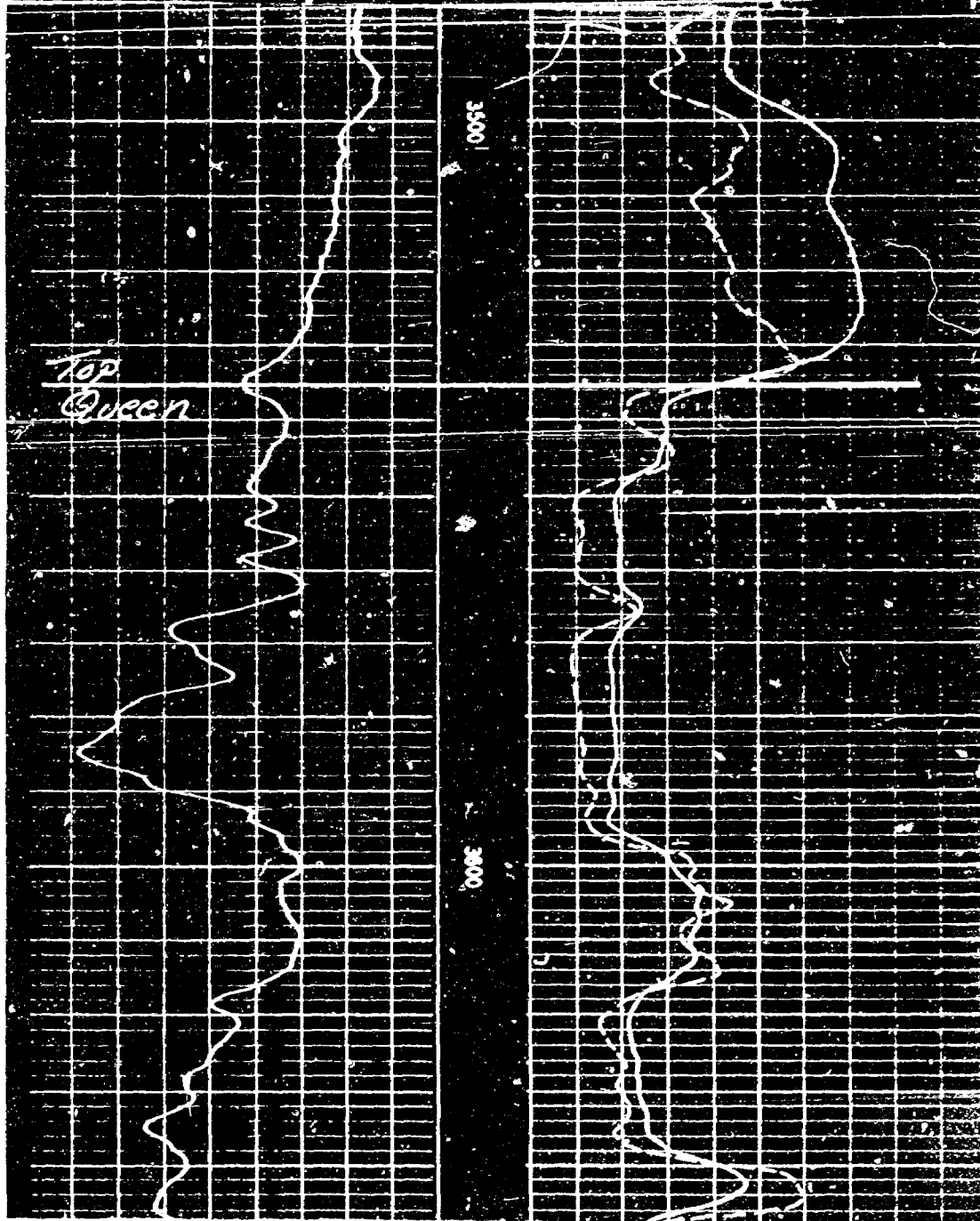
Maurice Shiller



SCHLUMBERGER

WELL SURVEYING CORPORATION

|                                      |                                  |                                            |
|--------------------------------------|----------------------------------|--------------------------------------------|
| <b>Location of Well</b>              | <b>COMPANY:</b> STEELT OIL CO.   | <b>COUNTY:</b> LRA                         |
|                                      |                                  | <b>FIELD OR LOCATION OF WELL:</b> DRINKARD |
|                                      | <b>WELL:</b> H. O. SIMS #16      | <b>COMPANY:</b> STEELT OIL CO.             |
|                                      |                                  |                                            |
|                                      | <b>FIELD:</b> DRINKARD           |                                            |
| 660 FSL & 510 FWL<br>SEC. 34 22S-37E | <b>LOCATION:</b> SEC. 34 22S-37E |                                            |
|                                      | <b>COUNTY:</b> LRA               |                                            |
| <b>Elevation: D.F.:</b> 3335         | <b>STATE:</b> NEW MEXICO         |                                            |
| <b>K.B.:</b>                         | <b>FILING No.:</b>               |                                            |
| <b>or G.L.:</b>                      |                                  |                                            |



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. 297  
ORDER NO. R-103

IN THE MATTER OF THE APPLICATION OF  
THE AURORA GASOLINE COMPANY FOR  
APPROVAL OF AN UNORTHODOX WELL  
LOCATION AND FOR APPROVAL OF A WATER  
FLOODING PROGRAM FOR SECONDARY  
RECOVERY IN THE NE/4 SECTION 34, T. 22 S,  
R. 37 E, N.M.P.M., (Penrose-Skelly Pool,)  
LEA COUNTY, NEW MEXICO

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on regularly for hearing at 10: a. m. on the 7th day of August, 1951, at Santa Fe, New Mexico, before the Oil Conservation Commission of New Mexico, hereinafter referred to as the Commission, upon the application of the Aurora Gasoline Company for approval of an unorthodox well location for the purpose of drilling a test well 1310 feet south of the north line and 1310 feet west of the east line of section 34, T. 22 S, R. 37 E, N.M.P.M., for the purpose of determining whether or not it is practicable or feasible to carry on a water flooding program in the "Queen" or "Grayburg" formation in the Penrose Skelly pool for the purpose of obtaining the greatest possible ultimate recovery of oil and gas.

NOW, on this 15th day of October, 1951, the Commission, a quorum being present, having considered said application, and the evidence introduced in support thereof, and being fully advised in the premises,

FINDS: 1. That due notice of said hearing was given and published as required by law, and the Commission has jurisdiction of this cause and the matters involved therein.

2. That it is in the interest of the conservation of oil and gas and the prevention of waste that the applicant be permitted to drill a well at said unorthodox location as an experimental well to determine the feasibility of carrying on a secondary recovery program for the recovery of oil and gas from the "Queen" or "Grayburg" formation in the Penrose Skelly pool, and that in the event said secondary recovery program does not prove to be practicable or feasible, that applicant should be permitted to complete said well if the same proves to be capable of producing oil or gas in paying quantities subject to the further order of the Commission, fixing or allocating an allowable, therefore, after a regular hearing held for such purpose.

IT IS THEREFORE ORDERED: 1. That the application of the Aurora Gasoline Company for the drilling of a test well at an unorthodox location 1310 feet south of the north line and 1310 feet west of the east line of section 34, T. 22 S, R. 37 E, N.M.P.M., in the Penrose Skelly pool, situated in Lea County, New Mexico, be, and the same is hereby approved upon the condition that said well be drilled as an experimental well for the purpose of determining the feasibility of carrying on a secondary recovery program for the purpose of obtaining the greatest possible ultimate recovery of oil and gas from the "Queen" or "Grayburg" formation in the

Penrose Skelly pool, and in the event said secondary recovery program should not prove to be practicable or feasible and said well is completed as a well capable of producing oil or gas from said formation that the same may be completed as a producing well subject to such allowable as may hereafter be assigned or allocated thereto by the Commission after a regular hearing thereon.

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

STATE OF NEW MEXICO  
OIL CONSERVATION COMMISSION

*Edwin L. Mechem*

EDWIN L. MECHEM, Chairman

*Guy Shepard*

GUY SHEPARD, Member

*R. R. Spurrer*

R. R. SPURRIER, Secretary





# SKELLY OIL COMPANY

PRODUCTION DEPARTMENT

J. S. FREEMAN  
VICE PRESIDENT

E. A. JENKINS  
GENERAL SUPERINTENDENT

TULSA 2, OKLAHOMA

August 3, 1951

OIL CONSERVATION COMMISSION  
SANTA FE, NEW MEXICO.

RECEIVED  
AUG 6 1951

W. P. WHITMORE  
CHIEF PETROLEUM ENGINEER

G. W. SELINGER  
PROBATION ATTORNEY

J. H. McCULLOCH  
CHIEF CLERK

Re: Case No. 297

Oil Conservation Commission  
State of New Mexico  
Box 871  
Santa Fe, New Mexico

Gentlemen:

We are in receipt of notice in Case 297 in the matter of the application of Aurora Gasoline Company for an order authorizing an unorthodox well location and approval of a water flooding program for secondary recovery in the NE/4 of Section 34, Township 22 South, Range 37 East, NMPM, in the Penrose-Skelly Pool, Lea County, New Mexico.

It is our understanding that the proposed well for water flooding purposes is to be located 1310' from the North line and 1310' from the East line of the NE/4 of Section 34. Skelly owns offset acreage to the South and Southwest, and this is to advise that we do not have any objection to the location of such well for the purposes indicated in the notice thereof, and urge the Commission to approve the location of the well as indicated in the notice for the purposes stated therein.

We presume that the hearing, which we will be unable to attend, will be confined to the matters indicated in the notice, and the presentation of additional information would necessarily have to await the results of the drilling of such well which could be the subject matter of an additional hearing in the event same becomes necessary.

Yours very truly,

*George W. Selinger*  
George W. Selinger

GWS:dd

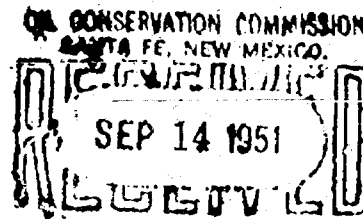
cc: Aurora Gasoline Company  
Wright Building  
Tulsa, Oklahoma

J. M. HERVEY  
HIRAH M. DOW  
CLARENCE E. HINKLE  
W. E. DONDUKANT, JR.  
GEORGE H. HUNKER, JR.

ROSS MADOLE  
WILLIAM C. SCHAUER

LAW OFFICES  
HERVEY, DOW & HINKLE  
ROSWELL, NEW MEXICO

September 12, 1951



R. R. Spurrier  
New Mexico Oil  
Conservation Commission  
Santa Fe, New Mexico

Dear Dick:

We enclose original and several copies of an Order which we have prepared for the approval by the Commission of an unorthodox well location of the Aurora Gasoline Company in the NE $\frac{1}{4}$  Sec. 34, Twp. 22 S, Rge. 37 E., N.M.P.M.

You will note that this Order simply provides for the approval of the location and the drilling of the well as an experimental well to determine the feasibility of water flooding in the area. In the event water flooding does not appear to be practicable and the well is capable of producing oil in paying quantities it is to be completed and an allowable assigned by the Commission at a subsequent hearing. This was Mr. Madole's understanding of the decision of the Commission.

We would appreciate your having the Order signed and sending us a signed copy at your very earliest convenience.

Yours sincerely,

HERVEY, DOW & HINKLE

By 

CFH:gc

Encs.

Aug 7 hearing

LAW OFFICES

HERVEY, DOW & HINKLE

ROSWELL, NEW MEXICO

J. M. HERVEY  
HIRAM N. DOW  
CLARENCE E. HINKLE  
W. E. RONDURANT, JR.  
GEORGE H. HUNKER, JR.

ROSS MADOLE  
WILLIAM O. SCHAUER

July 19, 1951

*Graham*

Mr. R. R. Spurrier  
Executive Secretary  
New Mexico Oil Conservation Commission  
Santa Fe, New Mexico

*Recd  
Sat. July 21*

Dear Dick:

You will recall that I talked to you over the telephone in regard to the proposed application of the Aurora Gasoline Company for the purpose of having approved an unorthodox well location to be used as an injection well in connection with a proposed water flooding secondary recovery program in the Penrose-Skelly Field. We enclose the application in triplicate and would like for you to give notice by publication as quickly as possible, to the end that a hearing may be had at an early date.

I believe that you stated that you thought it would be possible to set the hearing on August 8, as you thought perhaps you had another matter which would be set at that time.

Anything you can do to expedite the hearing will be appreciated.

Yours very truly,

HERVEY, DOW & HINKLE

BY *James F. Hinkle*

CEH:vb

Enc.

*Case 297*

NEW MEXICO OIL CONSERVATION COMMISSION

SANTA FE, NEW MEXICO

IN THE MATTER OF THE APPLICATION  
OF THE AURORA GASOLINE COMPANY  
FOR APPROVAL OF AN UNORTHODOX  
WELL LOCATION AND FOR APPROVAL  
OF A WATER FLOODING PROGRAM FOR  
SECONDARY RECOVERY IN THE NE $\frac{1}{4}$   
SEC. 34, TWP. 22 S, RGE. 37 E,  
N.M.P.M., LEA COUNTY, NEW MEXICO.

CASE NO. 297

APPLICATION FOR APPROVAL  
OF UNORTHODOX WELL LOCATION AND FOR APPROVAL  
OF WATER FLOODING PROGRAM

New Mexico Oil Conservation Commission  
Santa Fe  
New Mexico

Comes the undersigned, THE AURORA GASOLINE COMPANY, and hereby makes application for the approval of the drilling of a well at an unorthodox location in the NE $\frac{1}{4}$  of Sec. 34, Twp. 22 S, Rge. 37 E, N.M.P.M., in the Penrose-Skelly Field, Lea County, New Mexico, said well to be used for the purpose of injecting water into the "Queen" or "Penrose" Formation of the Guadalupe Group of the Permian Series for the purpose of maintaining reservoir pressure for secondary recovery, and in the event conditions are not found to be favorable for water flooding in said formation and said well should encounter oil or gas in paying quantities, that applicant be permitted to complete said well as a producing well, and that the allowable for the 40-acre legal subdivision upon which the same is located be shared or prorated between the two wells located upon said 40-acre legal subdivision.

In support of said application, the undersigned respectfully shows:

1. That the undersigned applicant is the owner by assignment of that certain Oil and Gas Lease dated October 2, 1935, made and entered into by Thomas O. May and wife, Ruby May, as lessors, and the Repollo Oil Company as lessee, insofar as said Oil and Gas Lease covers and affects the following described lands situated in Lea County, New Mexico, to-wit: SE $\frac{1}{4}$ NW $\frac{1}{4}$ NE $\frac{1}{4}$ , SW $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ , NE $\frac{1}{4}$ SW $\frac{1}{4}$ NE $\frac{1}{4}$ , NW $\frac{1}{4}$ SE $\frac{1}{4}$ NE $\frac{1}{4}$  Sec. 34, Twp. 22 S, Rge. 34 E, Lea County, New Mexico, containing 40 acres, more or less.

2. That there is attached hereto, made a part hereof, and for purposes of identification marked Exhibit "A", a plat showing the location of the proposed unorthodox well location, which is to be used as an intake well for water flooding, and which said well is located 1310 feet south of the north line, and 1310 feet west of the east line of Section 34, Twp. 22 S, Rge. 37 E, N.M.P.M. Said plat also shows the location of all surrounding producing wells in the Penrose-Skelly Field and the names of the lessees within one-half mile of the intake well and each offset operator.

3. That there is also attached hereto, made a part hereof and for purposes of identification marked Exhibit "B", a statement showing the production from the various surrounding wells in the Penrose-Skelly Field for the month of May, 1951.

4. That the proposed well, which is to be known as T. O. May No. 5, will be drilled to the "Queen" or "Penrose" Sand or Formation of the Guadalupe Group of the Permian Series. All surrounding wells indicated on the plat attached hereto as Exhibit "A" are producing from this formation at depths ranging from 3620 feet to 3714 feet. This formation generally consists of a finely grained sand of a tightly consolidated nature. The proposed well will be drilled to a depth of approximately 3500 feet with rotary tools and will be cored with a diamond core from that depth to a total depth of approximately 3700 feet. The cores are to be analyzed for bottom hole sample analysis, as well as other reservoir characteristics for determining the feasibility of a successful water flooding program. Should the results obtained from the core analysis indicate the possibility of a successful water flooding secondary recovery program, said well will be used as the initial injection well, and operations on such program

commenced as soon as possible after the completion of the same. Said well will be used as an experimental basis for determining the possibilities of a successful secondary recovery program in said area, and it is impossible at this time to state definitely the estimated amount of water to be injected daily.

That there is also attached hereto, made a part hereof, and for purposes of identification marked Exhibit "C", a copy of the notice of intention to drill said well, which has been heretofore filed with the New Mexico Oil Conservation Commission, and which shows the proposed casing program in connection with said well.

5. That said water flooding program will be under the supervision and direction of the undersigned applicant, whose address is 15911 Wyoming Avenue, Detroit 21, Michigan.

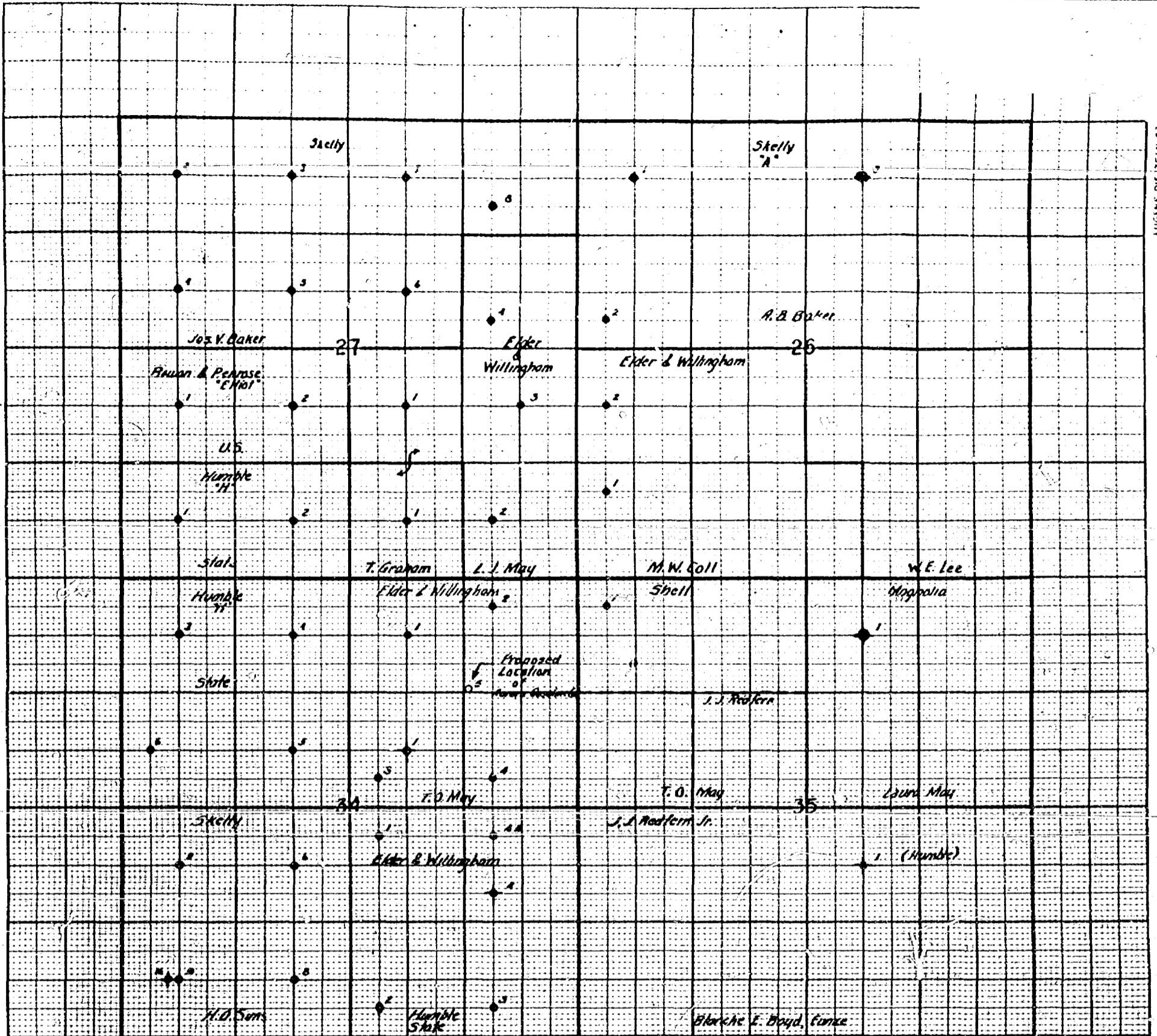
6. That in the event the core analysis or experiments carried on in connection with said well show that a water flooding secondary recovery program is not practicable or feasible in said formation, and said well is completed as a well capable of producing oil or gas in paying quantities, it would be desirable that said well be completed as a producing well, and in such event, the allowable for the 40-acre legal subdivision upon which the same is situated should be allocated between the two wells located upon said legal subdivision, to the end that the two wells may be permitted to produce, if capable of doing so, the full allowable for such 40-acre legal subdivision.

Respectfully submitted,  
AURORA GASOLINE COMPANY

By Jack Shier

HERVEY, DOW & HINKLE

By James Hinkle  
Attorneys for Applicant



T22S R37E

SCALE 1"=1320'

PENROSE-SKELLY FIELD

AURORA GASOLINE COMPANY

T.O. MAY WELL NO. 5

N.E. 1/4 NE 1/4 SECTION 34

LEA COUNTY

NEW MEXICO



PENROSE-SKELLY FIELD  
LEA COUNTY, NEW MEXICO

PRODUCTION DATA

| COMPANY                | LEASE        | WELL NO. | PRODUCTION MAY, 1951 |
|------------------------|--------------|----------|----------------------|
| Elder & Willingham     | Coll         | 1        | 153                  |
| " " "                  | "            | 2        | 154                  |
| " " "                  | Graham E     | 1        | 172                  |
| " " "                  | Humble H     | 1        | 67                   |
| " " "                  | "            | 2        | 67                   |
| " " "                  | "            | 3        | 67                   |
| " " "                  | "            | 4        | 68                   |
| " " "                  | L. J. May    | 1        | 131                  |
| " " "                  | "            | 2        | 131                  |
| " " "                  | "            | 3        | 132                  |
| " " "                  | "            | 4        | 132                  |
| " " "                  | T. O. May    | 1        | 149                  |
| " " "                  | "            | 2        | 150                  |
| " " "                  | "            | 3        | 150                  |
| " " "                  | "            | 4        | 150                  |
| Humble Oil & Refg. Co. | State H      | 1        | 96                   |
| " " "                  | "            | 2        | 96                   |
| " " "                  | "            | 3        | 72                   |
| " " "                  | "            | 4        | 96                   |
| " " "                  | "            | 5        | 96                   |
| Shell Oil Co.          | T. O. May    | 1        | 50                   |
| Skelly Oil Co.         | Baker AB     | 1        | 50                   |
| " " "                  | "            | 2        | 151                  |
| " " "                  | Baker JV     | 2        | 165                  |
| " " "                  | "            | 3        | 115                  |
| " " "                  | "            | 4        | 122                  |
| " " "                  | "            | 5        | 115                  |
| " " "                  | "            | 6        | 132                  |
| " " "                  | "            | 7        | 138                  |
| " " "                  | "            | 8        | 139                  |
| " " "                  | H. O. Sims   | 6        | 184                  |
| " " "                  | "            | 8        | 159                  |
| " " "                  | "            | 9        | 184                  |
| " " "                  | "            | 10       | 115                  |
| Rowan & Penrose, Inc.  | Elliott A-27 | 1        | 81                   |
| " " "                  | "            | 2        | 82                   |

Exhibit "B"

NEW MEXICO OIL CONSERVATION COMMISSION

Santa Fe, New Mexico

NOTICE OF INTENTION TO DRILL

Notice must be given to the Oil Conservation Commission or its proper agent and approval obtained before drilling begins. If changes in the proposed plan are considered advisable, a copy of this notice showing such changes will be returned to the sender. Submit this notice in triplicate. One copy will be returned following approval. See additional instructions in Rules and Regulations of the Commission.

Midland, Texas

July 16, 1951

Place

Date

OIL CONSERVATION COMMISSION, Santa Fe, New Mexico,

Gentlemen:

You are hereby notified that it is our intention to commence the drilling of a well to be known as

Aurora Gasoline Company, T. O. May well No. 5 in NE 1/4

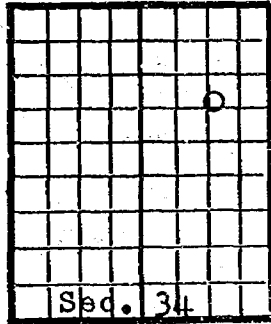
Company or Operator

Lease

of Sec. 34, T. 22S, R. 37E, N. M., P. M. Penrose-Skelley, Lea County.

N

The well is 1310 feet (N.) (S.) of the North line and 1310 feet (E.) (W.) of the East line of Sec. 34, T-22S, R-37E



(Give location from section or other legal subdivision lines. Cross out wrong directions.)

If state land the oil and gas lease is No. Assignment No.

If patented land the owner is T. O. May

Address Menard, Texas

If government land the permittee is

Address

The lessee is

Address

AREA 640 ACRES

LOCATE WELL CORRECTLY

We propose to drill well with drilling equipment as follows: Rotary to

total depth of 3700'

The status of a bond for this well in conformance with Rule 89 of the General Rules and Regulations of the Commission is as follows: Bond already on file

We propose to use the following strings of casing and to land or cement them as indicated:

| Size of Hole | Size of Casing | Weight Per Foot | New or Second Hand | Depth | Landed or Cemented | Feet Cement |
|--------------|----------------|-----------------|--------------------|-------|--------------------|-------------|
| 11"          | 9-5/8"         | 36#             | New                | 300   | cemented           | 250         |
| 7-7/8"       | 5 1/2"         | 14#             | New                | 3530  | cemented           | 250         |

If changes in the above plan become advisable we will notify you before cementing or landing casing. We estimate that the first productive oil or gas sand should occur at a depth of about 3550 feet.

Additional information:

Approved \_\_\_\_\_, 19\_\_\_\_

except as followz:

Sincerely yours,

Aurora Gasoline Company  
Company or Operator

By \_\_\_\_\_

G. D. Simon

Position Petroleum Engineer

Send communications regarding well to:

OIL CONSERVATION COMMISSION,

By \_\_\_\_\_

Name M. S. Schiller

Title \_\_\_\_\_

Address 308 Wright Building  
Tulsa, Oklahoma

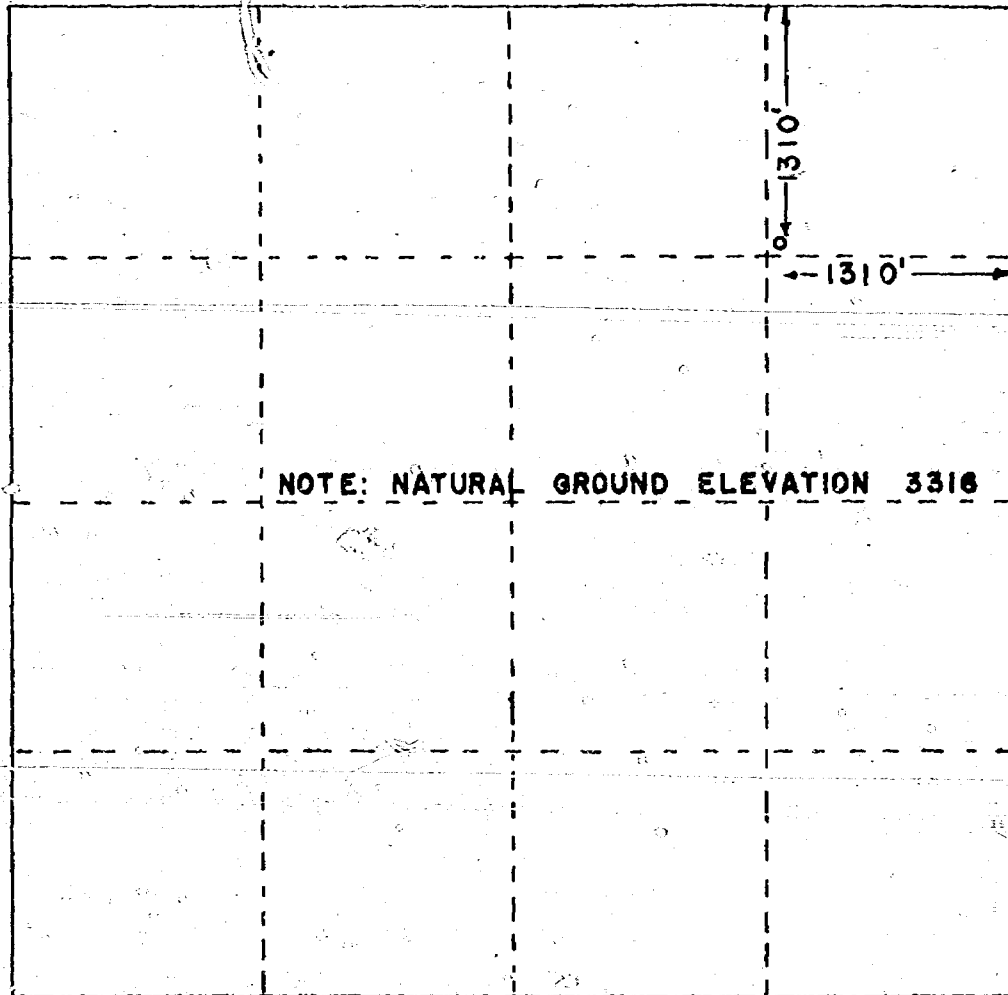
Exhibit "C"

WELL LOCATION SURVEY PLAT

COMPANY AURORA GASOLINE CO.

LEASE T.O. MAY

WELL NO. 5



SEC. 34, TWP. 22 S., RGE. 37 E., N.M.P.M.

I HEREBY CERTIFY THAT THIS PLAT WAS MADE FROM NOTES TAKEN IN THE FIELD BY ME AND THAT THE SAME IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF

*John W West*

JOHN W. WEST, PE & L S NO. 676

JULY 6, 1951

RAMBOUGH ENGINEERING

September 12, 1951

Aurora Gasoline Company  
Wright Building  
Tulsa, Oklahoma

Attention - Mr. Maurice Shiller

Re - Core Analysis  
T. O. May Well No. 5  
Sec. 34, T.22-S., R.37-E.  
Lea County, New Mexico

Gentlemen:

Attached are results of analysis, together with profile and summary, covering core received from your above well.

The Penrose (Queen) sand was diamond cored and results of the analysis indicate 33.8 net feet of oil sand with low porosity and low permeability. The oil sand occurs in 4 separate sections throughout an interval of 102 feet from 3577.8 to 3679.8 feet.

Based on the data from this one core alone it may be calculated that a primary oil recovery by gas expansion of 4100 barrels per acre should be obtained from the area of which this core is representative. An effective water flood following primary depletion may yield an additional oil recovery of 2300 barrels per acre. The average recovery to date from this property has been only 1380 barrels per acre indicating a possible 5020 barrels per acre of primary and secondary oil yet to be produced.

If the low primary recovery to date is due to poor drainage caused by the low permeability, it is possible that closer spacing should yield substantially more oil. Therefore, it is recommended that the present core well be completed possibly by hydraulic fracturing. Bottom hole pressure test and production test data might then indicate whether or not there is sufficient oil yet to be recovered under primary methods to be economically attractive. If this should prove to be possible then water injection would be indicated.

Yours very truly,

Rambough Engineering



cc - Mr. R. DeWitt (2)

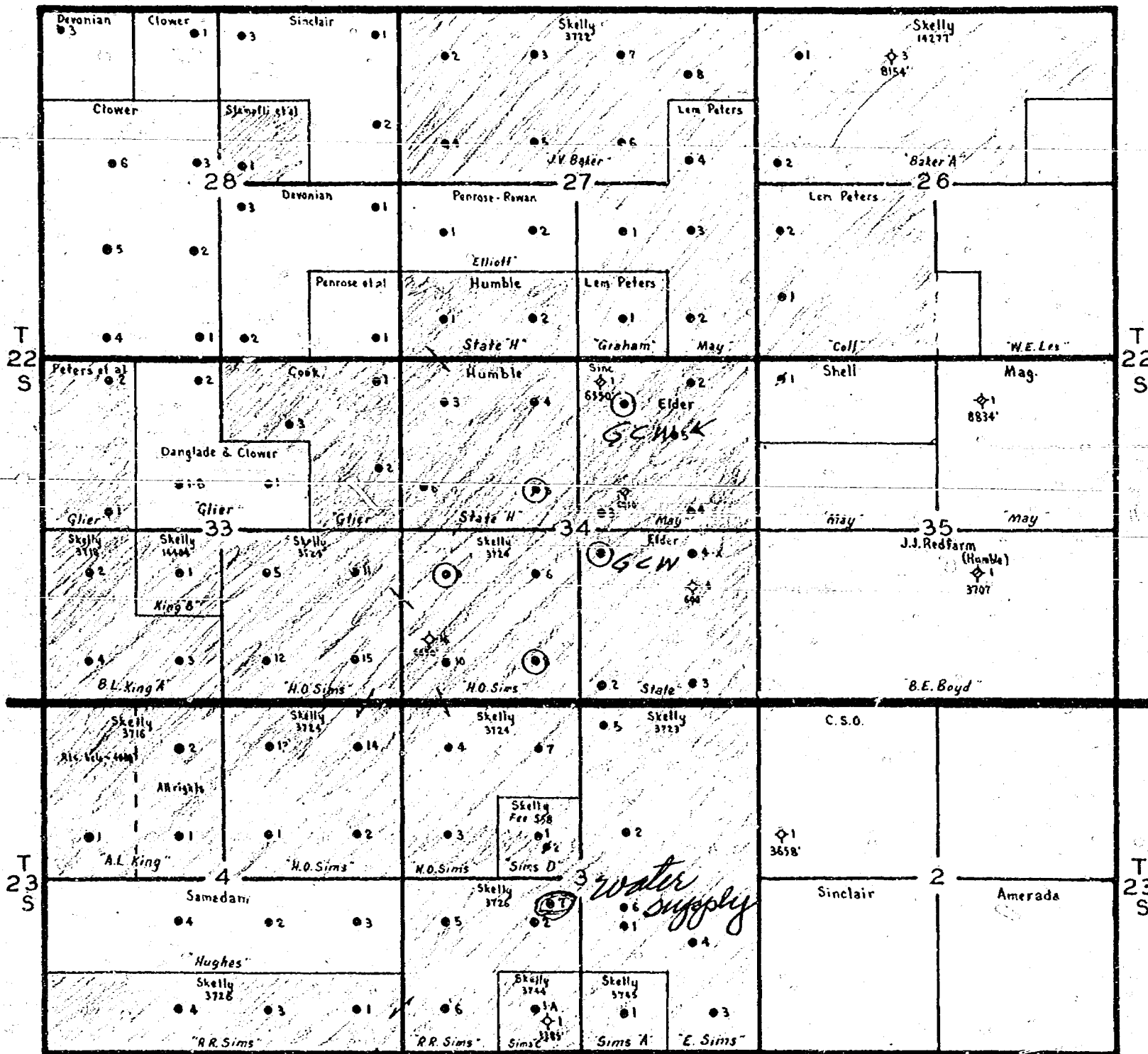
Plan 354 of #1 Skelly

LEA COUNTY - NEW MEXICO

DATE \_\_\_\_\_

R-37E

○ INJECTION WELL



R-37E

SCALE 1"=2000'

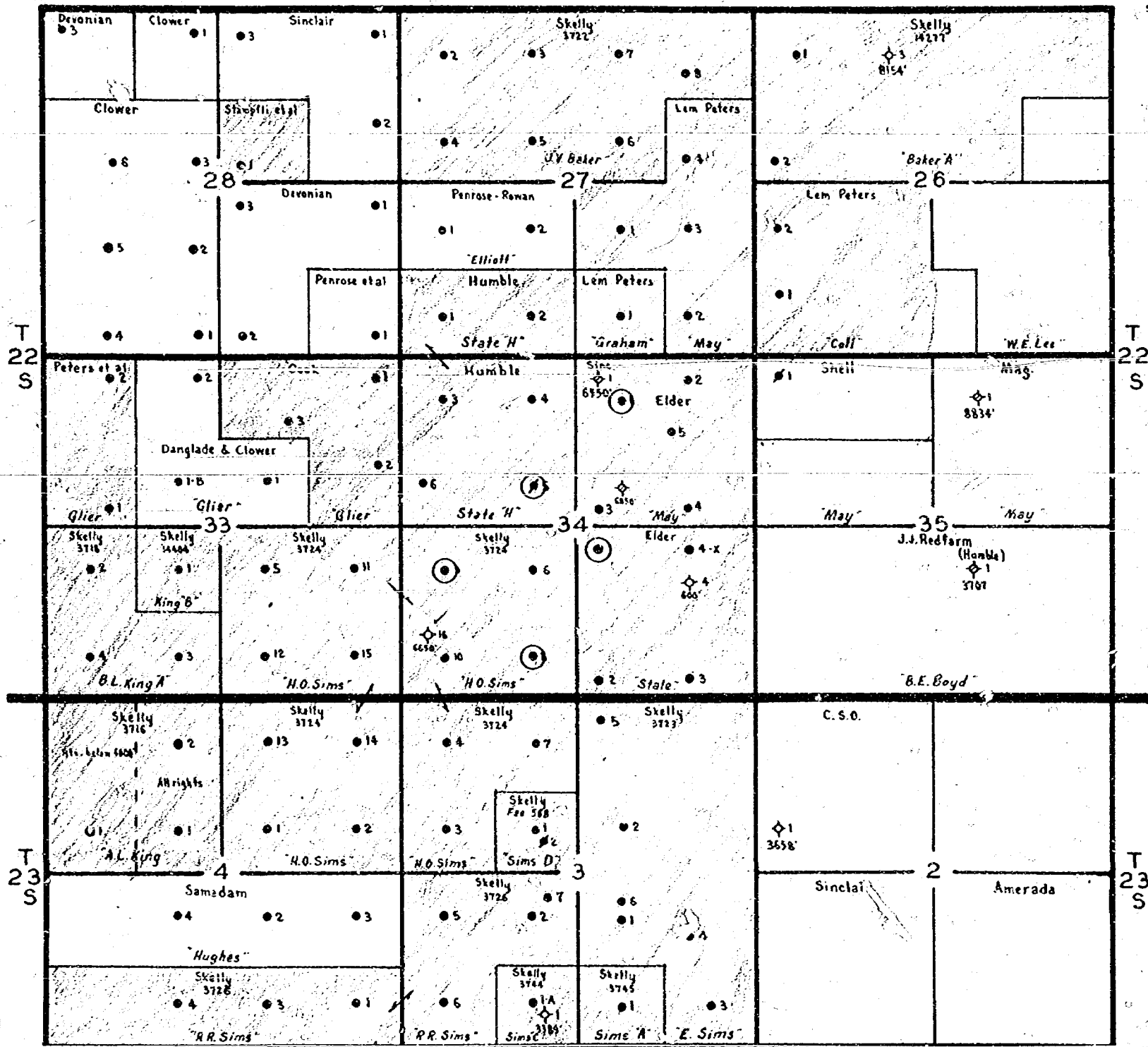
Skelly Cr #1 Case 357

LEA COUNTY - NEW MEXICO

DATE 11-20

○ INJECTION WELL

R-37E



R-37E

SCALE 1"=2000'