

BEFORE THE
OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO

TRANSCRIPT OF PROCEEDINGS

Case No. 370

Regular Hearing
May 20, 1952

OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO.

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ALBUQUERQUE, NEW MEXICO

BEFORE THE
OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO

May 20, 1952

In the Matter of:

Champlin Refining Company's appli-
cation for an order excepting its
State 'A' No. 1 NM Well, SW SE
32-10S-37E, Lea County, New Mexico
(In the Echol Pool) from provisions
of Oil Conservation Commission Rule
505, and granting an allowable to
said well equal to allowable other
producing wells in Echol Pool.

Case No. 370

(Notice of Publication read by Mr. Graham.)

MR. CAMPBELL: If the Commission please, I would like
first, for the record, to reflect a correction in the application.
In paragraph 1, numbered 1, in the next to the last line, the
fraction 49/40-S should be changed to 59/40-S; and in paragraph 2,
in the last line, the fraction 49/40-S should be changed to
58/40-S; and the acreage factor should be changed from 1.475 to
1.45. I would also like for the record to show that this appli-
cation is joined in by Harry W. Bass Drilling Company joining
with Champlin Refining Company, and I would like to enter appear-
ance in the case for the Harry W. Bass Drilling Company of Dallas,
Texas.

Would you swear Mr. Kenneth Smith, please?

MR. GRAHAM: Will you explain the reason for the change?

MR. CAMPBELL: The reason for the change is that I made an incorrect mathematical calculation. It is a case of 19 additional acres instead of 9 additional acres on the one well, and 18 additional acres instead of 9 acres on the other well. The acreage factor change is by virtue of the fact that there is less acreage in the second tract.

K E N N E T H L. S M I T H,
having been first duly sworn, testified as follows:

DIRECT EXAMINATION

By MR. CAMPBELL:

Q Will you state your name, please?

A Kenneth L. Smith.

Q By whom are you now employed?

A F. Kirk Johnson, Fort Worth, Texas.

Q Were you at the time the Champlin Refining Company well in the Echol Pool was drilled and completed employed by Champlin Refining Company?

A Yes.

Q Will you state, for the Commission, briefly, your professional education background?

A Geology major at the College of Wooster, Ohio, and B.S. Degree in Petroleum Engineering, University of Pittsburgh, Pennsylvania; registered engineer, professional engineer, Oklahoma; eight years with Stanolind Oil and Gas Company in the Engineering

Department; and two years at Champlin Refining Company in the Production Department.

MR. CAMPBELL: Are the qualifications of the witness satisfactory with the Commission?

MR. SPURRIER: They are.

Q Were you employed by Champlin Refining Company when they completed a well in the southwest quarter, southeast quarter of Section 32, Township 10 South, Range 37 East?

A Yes.

(Marked Exhibit No. 1, Case No. 370, for identification.)

Q I hand you what has been identified as Exhibit No. 1 and ask you to state to the Commission what that is.

A This is a plat of the immediate vicinity of the Echol field in Lea County showing the surface location of the three productive wells and the one non-productive well drilled to the Devonian Reservoir. It also shows three completion dates and their total depths of these wells.

Q Will you state to the Commission the location of The Texas Company well immediately south of your well?

A That well is a 660 foot offset to the south of our well and slightly to the west. It is along the correction line there.

Q That well, if it were on the 40-acre drilling unit south of the 18-acre tract, would be a unorthodox location, would it not?

A Yes.

Q Is it your understanding that The Texas Company has applied for and obtained authority for that location?

A Yes.

Q What is the allowable on your well at present?

A The allowable on our well is 311 barrels per day.

Q And that is based on a normal 40-acre allowable, is it?

A Yes, for wells that depth.

Q What is the allowable for The Texas Company well offsetting your well?

A Their present allowable is 444, approximately 444 barrels per day.

Q Referring to that map again, the Southern Production Company's well, what is the relationship of it in distance to the north line of Section 2?

A They are approximately 1,267 feet south of the section line in the entire lease.

Q That makes three wells slightly north of what would be the north-south center of that tract in Section 2, is that correct?

A Yes.

Q While you were employed by Champlin Refining Company, did you become acquainted with the production history of your well in this pool?

A Yes, I have.

(Marked Exhibit No. 2, for identification.)

Q I hand you what has been identified as Exhibit No. 2 and ask you to state to the Commission what that represents?

A Exhibit No. 2 is a series of productivity index tests that have been taken at three different producing rates to determine the wells ability to produce.

Q Will you state first how you took these tests, what period of time is involved, and then what the report showed?

A These tests were run by a consulting engineering firm from Midland, and in order to determine our exact productivity on the well, this well was taken at three different rates, a high rate, an intermediate rate and low rate, and the bottom hole pressure of the well was measured for each of the rates in order to determine the actual productivity index of the well. These rates, to be exact, were run at 186 barrels per day, 330 barrels per day, and 634 barrels of oil per day, and the rate was maintained at this rate and bottom hole pressure measured after it had equalized and remained constant.

Q What did you find after you made your test?

A We found that at the rate of 630 barrels of oil per day the well produced its volume of oil on a 12-64 choke with a bottom hole pressure drop. From shut-in static pressure it dropped down approximately 200 pounds, which gave a P. I. of 3.14, which is an exceptionally good P. I. for a well of this nature.

(Exhibit No. 3 marked for identification.)

Q I hand you what has been identified as Exhibit No. 3 and ask you to state what that is.

A This is a complete electrical log of Champlin Refining and Harry E. Bass Drilling Company subject well under discussion showing both a micro log and a regular Schlumberger survey of the well.

Q Are you acquainted with the general geological picture in this area by virtue of the drilling of a dry hole you referred to to the west of your well?

A Yes.

Q With your knowledge of that, what is your opinion as to the probable extent of this particular oil pool?

A My firm opinion of the nature of this field is that what we have encountered here is what might be termed a pimple type reservoir or reservoir of very small aerial extent, and from the data that we have collected from the subsea tops that have been encountered on the Devonian in the four wells drilled in this immediate area, in my opinion there is little chance for any extension of this field. The two wells that came in fairly low, which was Champlin's well and Southern Production Company, have dropped off considerably from the original well drilled by The Texas Company which came in quite high. There is a difference of 200 feet, 200 feet low, than the discovery well, the dry hole was 446 feet lower, which definitely cuts it off. Contrary to what information we have available, it shows to be of a very small

area in extent with small chance of there being additional development in this field.

Q What is the position, structural, of the Southern Production well in relation to your well?

A The well is approximately flat. Their well came minus 7,766 feet and Champlin Bass came in at minus 7,769 feet, a difference of three feet on the subsea.

Q With the structural positions of those two wells and the knowledge of your structure of the dry hole, you are able to pretty well delineate the aerial extent of this particular pool, is that correct?

A That is correct.

Q Will you state to the Commission what it is that Champlin Refining Company is asking in this application?

A We are asking that our well be given an allowable, increased its allowable to be able to produce at the same rate as has been given to the other two wells in the area. Over a period of time, with further development improbable, at least at the present time in this field due to the geological information collected to date, the other two wells are producing at a 50 per cent higher rate than our well, which in turn over a period of time would mean that they would recover 50 per cent more oil than we would in having drilled. They have spent the same amount of money, their recovery would be considerably increased, and it would work an undue hardship upon the owners of the well, ours to

the north.

Q What is your position insofar as the fact that The Texas Company well is located only a normal distance from your well insofar as the differential in allowable is concerned. Do you consider that to be a factor that the Commission should consider?

A Yes, I do, there being only a 660 offset from our well and being given a 50 per cent greater allowable than we are allowed to produce can cause us not to be able to recover the amount of oil which we should receive out of this water-type drive reservoir.

Q In connection with the ability of your well to make this additional allowable, I understood you to say that your allowable, if your request is granted, would be increased to 440 barrels a day?

A Yes.

Q You have testified from the P. I. test, and you have studied the Schlumberger electric log, and are acquainted with the production history of your well, in your opinion will your well make 440 barrels per day allowable without damage to the well or the reservoir?

A Definitely so. The well has the ability to produce a considerable greater amount of oil than this. Our one P. I. was run at the rate of 634 barrels of oil per day and only reduced the bottom hole pressure approximately 200 pounds at 440, or 50 barrels of oil per day there would be even less drop in bottom

hole pressure than that, and at the present time there has been no water showing in our well, or to the best of my knowledge, in any of the offset wells in this field.

Q I think the Commission records will show that some difficulty has been encountered in connection with The Texas Company well insofar as its making its present allowable is concerned. Are you acquainted with that situation?

A To some extent.

Q In your opinion, based on your study of the well records in this field, is it your opinion that The Texas Company well if it were, if it had been completed in a normal way would have made its full allowable?

A That is my definite opinion, that if the same completion methods had been used on The Texas Company well, it would probably be of a greater productivity than either the two offset wells. Our well has about the same, Champlin well has about the same productive characteristics as the Southern Production Company well. They have run a similar set of P. I. tests on their well and have come out very close to being the same. The Texas well is located higher on structure and possibly has a greater pay section. They have used considerable acid in attempting to re-complete and complete their well. The fact of the matter several thousand gallons, but the significant fact was that both Southern Production and ourselves only used 500 gallons of a different type acid and received the well with a light productivities that

we got. The main difference, I believe, in the wells is the methods in which they were completed and that The Texas Company well does have possibilities of being a more productive well than either of the two offsets.

Q If the Commission were to grant this additional allowable to your well and there was subsequent development in the field which indicated that it was a larger aerial extent, and it developed that, for instance, that you had a well to the east on the 40-acre tract, would you be willing to then reduce the allowable to the normal 40-acre unit allowable?

A If further development of this field would prove us to be wrong in our conception of it being a small reservoir and we drilled our east 40, we would be most willing to have it put back on the original basis.

Q But it is your present opinion that such development would not be wise?

A That is our present opinion, that a prudent operator won't do any drilling in the immediate vicinity of our well.

MR. CAMPBELL: I believe that is all. I want to make a statement to the Commission after any other statements.

MR. RAY: I would like to ask the witness a question. Have you made any study of the porosity in the pay section in this pool?

A Yes, a study of only the information which is available from the electric log and the productivity index tests run on the

Champlin well and the Southern Production Company well.

MR. RAY: You have no information on The Texas Company's well?

A As to productivity index tests?

MR. RAY: You have no information that would indicate that the nature of the pay section in The Texas Company well is equivalent to the other two wells in the field?

A From the electric log in position in the structure, yes, it appears it has a chance of being a more productive well, but from the actual producing history of it, it hasn't been as yet, today.

MR. RAY: Would you deny the possibility that the pay section in our well might be tighter than found in your well and Southern Production's well?

A When the wells were originally completed all wells exhibited approximately the same characteristics until the acid was applied as stimulization, it is my understanding that your well used a regular type acid in large quantities and failed to receive the same type of reaction that the other two wells received with a very small amount of a different type of acid. It is my opinion that that may be one of the causes for the lower productivity received in The Texas Company well.

MR. RAY: This might also be caused by a tighter section in our well and a lower permeability in that zone.

A The evidence I have looked at to date doesn't indicate

that to me.

MR. RAY: But that would be a possibility?

A Extreme possibility.

MR. RAY: That is all.

MR. SPURRIER: Are there any other questions of this witness?

MR. MACEY: You made the statement that the Southern Production Company was producing about 50 per cent more oil than you were producing from your well?

A I didn't mean to make that statement, if I did. I meant that their allowable was approximately 50 per cent higher than ours.

MR. MACEY: Are you sure it is?

A I understand, that has been my understanding that it either is pending or about to be granted by this Commission.

MR. MACEY: The case is pending but there hasn't been any order issued on it. Do you happen to know how much The Texas Company well is producing at the present time?

A Yes, I think, I know approximately. I think they are producing at or slightly less than 300 barrels per day.

MR. MACEY: Your well is producing how much?

A 311 barrels per day until the recent cutback in pipeline runs.

MR. MACEY: That is all.

MR. SPURRIER: Any other question? If not, the witness

may be excused.

(Witness excused.)

MR. CAMPBELL: I would like to make a statement to summarize this testimony.

The application for the additional allowable in this particular area is based on two propositions. In the first place, as the Commission knows and it is apparent from this map, The Texas Company well was located and drilled at a point considerably north of what would be the approximate center of this rectangular 58-acre tract and results in a direct 436 offset from the south line of the Champlin Refining Company tract. If this well is completed, which we believe it will be to make a producer which will produce the allowable which has already been granted to The Texas Company well, it will certainly create a considerable differential in withdrawals and allowable from the two wells directly offsetting each other.

The second factor is that this is apparently an extremely small field. The obvious result of the allocation of the allowable on the basis of a well drilled that far north of the south line of The Texas Company tract and also the Southern Production tract is that all of that acreage is being added to their allowable and the ultimate withdrawals from the reservoir for the same investment will obviously be out of balance and the Champlin Refining Company and Harry W. Bass Drilling Company feel that in light of these

two situations in this particular field that they are entitled to the same allowable as the other two wells in the field are granted.

MR. CAMPBELL: Let the record show that exhibits are offered in evidence.

MR. SPURRIER: Without objection they will be received.

Any other comment in this case? The case will be taken under advisement.

The next case on the Docket is Case No. 371.

STATE OF NEW MEXICO)
 :
COUNTY OF BERNALILLO)

I HEREBY CERTIFY that the foregoing and attached transcript of hearing in Case No. 370 before the Oil Conservation Commission, State of New Mexico, at Santa Fe, on May 20, 1952, is a true and correct record of the same to the best of my knowledge, skill and ability.

DATED at Albuquerque, New Mexico, this _____ day of May, 1952.

REPORTER

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