

BEFORE THE
OIL CONSERVATION COMMISSION
March 28, 1956
Hobbs, New Mexico

In the matter of the application of Continental Oil Company for an order granting an exception to Rule 309 (a) of the Statewide Rules and Regulations of the New Mexico Oil Conservation Commission to permit the production of more than eight wells into a common tank battery in the Anderson Ranch Wolfcamp Pool, Lea County, New Mexico.

CASE 1043

Applicant, in the above-styled cause, seeks an order approving a common tank battery to receive production from a maximum of nine producing oil wells on its Anderson Ranch Unit, Anderson Ranch Wolfcamp Pool, Lea County, New Mexico; said wells located in Sections 2 and 11, Township 16 South, Range 32 East, Lea County, New Mexico.

In the matter of the application of Continental Oil Company for an order granting an exception to Rule 309 (a) of the Statewide Rules and Regulations of the New Mexico Oil Conservation Commission to permit the production of more than eight wells into a common tank battery in the Eunice-Monument Pool, Lea County, New Mexico.

CASE 1044

Applicant, in the above-styled cause, seeks an order approving a common tank battery to receive production from a maximum of seventeen oil wells on its A. E. Meyer B-L lease, Eunice-Monument Pool, Lea County, New Mexico; said property consisting of Lots 1, 2, 3, 6, 7, 8, 9, 10, 11, 14, 15 and 16, SE/4 and the E/2 SW/4 Section 4, Township 21 South, Range 36 East, Lea County, New Mexico.

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 In the matter of the application of Continental Oil Company for an order granting an exception to Rule 309 (a) of the Statewide Rules and Regulations of the New Mexico Oil Conservation Commission to permit the production of more than eight wells into a common tank battery in the Arrowhead Pool, Lea County, New Mexico.
 Applicant, in the above-styled cause, seeks an order approving a common tank battery to receive production from a maximum of twelve producing wells on its State J-2 Lease, Arrowhead Pool, Lea County, New Mexico; said property consisting of the N/2 and SE/4 of Section 2, Township 22 South, Range 36 East, Lea County, New Mexico.
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CASE 1045

BEFORE:

Warren W. Mankin, Examiner

TRANSCRIPT OF HEARING

EXAMINER MANKIN: Next is Case 1043, which is Continental's application for an exception to Rule 309 for wells in the Anderson Ranch Wolfcamp Pool and then we have Case 1044 which is Continental's application for exception to Rule 309 for wells in the Eunice-Monument Pool and Case 1045 which is Continental's application for exception to Rule 309 (a) for wells in the Arrowhead Pool. Mr. Lyon would you make a recommendation that these three cases be considered for purposes of testimony only to be consolidated.

MR. LYON: Yes, sir, I would like to request that these three cases be consolidated for purposes of hearing.

MR. MANKIN: For purposes of testimony only, but to be considered separately as separate orders.

MR. LYON: Yes, sir.

MR. MANKIN: Is there objection to consolidating these for purposes of testimony for expediting the hearing? If not, they will be so consolidated for purposes of testimony.

MR. LYON; I have three witnesses on these cases, I would like for them to be sworn in.

Mr. Examiner, in the way of introduction I would like to state that these leases have been producing as we proposed in the application for some time and although we realize that we are supposed to be cognizant of the Rules and Regulations of the Commission, we were not aware that a situation like this was in violation of the rules until several applications of this type had been filed. When we saw those cases we checked our own leases to see if we were in violation of this rule and finding these three cases, we filed these three applications in order to put us in conformance with the rules and regulations in order to get exceptions for these.

MR. GURLEY: Mr. Lyon, how long have you been in violation of the rule to your knowledge?

MR. LYON: It varies as to the three leases. But it is a good number of years.

MR. GURLEY: Would you in each case bring the date out please.

MR. LYON: We will bring the date out.

ROBERT E. COOK

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

DIRECT EXAMINATION

by Mr. Lyon:

Q. State your name for the record please.

A. Robert E. Cook.

Q. And by whom are you employed?

A. Continental Oil Company.

Q. In what capacity?

A. Production Engineer.

Q. And what is your education and experience which qualifies you for this position?

A. I was graduated from the University of Pittsburg in June 1952 with a Bachelor of Science Degree in Petroleum Engineering, and subsequent to that I was employed by Continental Oil Company as reservoir engineer for three years and for the past year as production engineer in the Hobbs District Office.

Q. As a production engineer in the Hobbs District, are you familiar with the Anderson Ranch Unit?

A. I am.

Q. And the wells located on it?

A. I am.

Q. Are the witness' qualifications acceptable?

MR. MANKIN: They are.

Q. Mr. Cook, have you prepared an exhibit showing the lease?

A. I have.

Q. Mr. Cook, referring to the Exhibit which has been marked Exhibit No. 1 in this case, would you please describe the information shown on that.

A. Exhibit No. 1 shows the outline of the Anderson Ranch Unit in red and the approximate location of the Anderson Ranch Wolfcamp battery --- the Anderson Ranch Unit Wolfcamp battery and the position of the Devonian and Wolfcamp wells which are within the Anderson Ranch Unit. Plus the offset ownership leases and the approximate locations of wells on these offset ownership leases.

Q. Mr. Cook have you prepared an exhibit which shows the flow lines into the battery on this lease?

A. I have.

Q. Referring to Exhibit No. 2, would you please describe the information shown on that exhibit?

A. Exhibit No. 2 shows the relative position of the nine Anderson Ranch Unit Wolfcamp wells with respect to the common tank battery into which these

wells are producing. The flow lines are leading to the nine well header from which flow is directed through the tank battery as shown on the Exhibit No. 2.

Q. Mr. Cook, have you prepared an exhibit showing the tank battery and the installation in the immediate area of the tank battery?

A. I have.

Q. Referring to what has been marked as Exhibit No. 3 in this case, would you describe the information shown on that exhibit?

A. Exhibit No. 3 shows the detail of the Anderson Ranch Unit Wolfcamp battery showing the one horizontal test separator, the one vertical production separator, one emulsion treater, one 1350 barrel Kobe settling tank, four 500 barrel storage tanks, and four 545 barrel storage tanks, with the layout of the piping diagram showing the flow stream of wells entering the battery on production and also the testing facilities which allow individual tests of separate wells.

Q. These wells can be tested individually during normal operations, is that correct?

A. They can.

Q. Mr. Cook, how many wells are producing into this battery from the Wolfcamp formation.

A. There are nine Wolfcamp wells producing into this battery.

MR. LYON: And what is the total daily allowable?

A. The February 1956 Schedule shows a total of 969 barrels per day allowable.

Q. And what is the storage capacity of this battery?

A. The total storage capacity of the battery is 4,180 barrels.

Q. How many days storage does this battery provide?

A. Based on the February 1956 schedule of 969 barrels per day there is approximately four days of storage.

Q. Is this storage adequate to provide sufficient flexibility in normal operations and for testing?

A. It is.

Q. Are these wells now producing into a common battery?

A. They are.

Q. How long have these nine wells been producing into a battery.

A. Since June 30 of 1955 at which time the Anderson Ranch Unit No. 18-W was potentialled.

Q. In your opinion has there been any waste or the impairment of correlative rights occurred as a result of producing more than eight wells into this battery?

A. There has not.

Q. Would an additional tank battery, which would be installed to avoid a violation of Rule 309 (a) be an economic burden on Continental Oil Company?

A. It would.

Q. Would it increase the efficiency of operations in the least?

A. It would not.

Q. Would it decrease the efficiency?

A. In my opinion, I believe it would.

MR. GURLEY: Why do you think it would decrease the efficiency?

A. Well, if you know the physiology of the pumpers, the more equipment you have on a lease the less --- well, shall I say, the lower the quality of information you get from a well being tested, etc. and we feel or at least I feel that by having one consolidated battery we will be getting optimum information from the wells flowing into that battery.

MR. LEON: Mr. Cook, as a matter of fact, wouldn't the tending of two batteries rather than one take considerably more of the pumper's time?

A. It would.

Q. And wouldn't it require considerably more accounting?

A. It would.

MR. GURLEY: Do you have sufficient equipment in your central tank battery at this time to enable you to comply with all of the necessary tests required by the Commission?

A. Yes, we do.

MR. GURLEY: You would not have to install any additional equipment?

A. No, we would not.

MR. LYON: Mr. Cook, have you prepared an exhibit which --- in the form of a statement which sets out most of the information which we have discussed here this morning?

A. Yes, I have.

MR. MANKIN: Mr. Cook, to further accent one additional battery for this additional well would be excessive, is it not true, that this is a Kobe type installation where it requires power oil, a very costly installation which would not be very effective for just one well?

A. That is right, we have two wells at the present on the Kobe installation and anticipate a third in the near future.

MR. LYON: That's all we have.

MR. MANKIN: Do you wish at this time to enter exhibits 1 thru 4 in evidence?

MR. LYON: Yes, we would like to introduce them as evidence.

MR. MANKIN: Is there objection to entering these four exhibits in evidence in this case? If not, they will be so entered. Is there anything further of this witness?

MR. LYON: Excuse me, there is one thing I would like to bring out. Mr. Cook, in referring to Exhibit No. 1, is this lease Anderson Ranch Unit, which was created by Order R-154 of the Commission and located in Sections 1, 2, 11, 12, 13 and 14 in Township 16 South, Range 32 East, Lea County, New Mexico.

A. Would you repeat the question, please.

Q. Is this lease, the subject of this hearing, The Anderson Ranch Unit, as created by Order No. R-154 of the Commission?

A. It is.

Q. And does this lease consist of all or parts of Sections, 1, 2, 11, 12, 13 and 14 in Township 16 South, Range 32 East, Lea County, New Mexico.

A. It is.

MR. CURLEY: I would like to ask one other question. Is this central tank battery capable of handling any more than the nine requested wells?

A. It can be arranged to do so.

Q. Do you know at this time whether you propose to in the future ask for additional -- or ask for another exception to the rule in adding wells to the tank?

A. We do not anticipate future development of the Wolfcamp at this time with the exception of six proven recompletion possibilities in the Devonian wells. But the Devonian wells we anticipate will last much longer than the Wolfcamp wells in the unit. For the most part the Wolfcamp wells are poor quality and will be depleted before the Devonian wells will be plugged back.

MR. CURLEY: You have no immediate plans for the near future to add additional burden on this tank?

A. That's right.

MR. MANKIN: The only other question is this as a unit is the royalty and the working interest have previously been communitized and which includes predominately state acreage, I believe, or is it all state acreage?

A. It is all state acreage.

MR. CURLEY: Have you received permission from the State Land Office in this respect?

A. Not to my knowledge.

MR. LYON: I am not sure that we have.

MR. MANKIN: This has been previously communitized for all pays, whether it be Wolfcamp or Devonian and therefore has already been done and its substance is a unit and therefore since this is not a consolidation of state leases at this time for purposes of exception to this rule I do not believe that we would need -----

MR. MARSHALL: I would like to retract a statement I made awhile back when the question was asked does the unit comprise all state acreage and I said it does. I am not familiar with the ownership of the map of the acreage. As indicated on our map here it does show state acreage opposite the boundary line of the unit and from that I presumed it was all state acreage but I am not sure of that.

MR. LYON: I don't believe that all of the acreage of the state and fee communitization ordered which I refer to here does set out in detail what the unit is comprised of.

MR. MANKIN: Since it is a question of that it may not all be state acreage even though it is communitized substance I think it might be well if you would, from the State Land Office standpoint, get a letter from them indicating that they have no objection to these nine wells which have been going in there and they would furnish us a copy of it indicating that you have had a hearing on that particular item and would like to have their approval of such if you would.

MR. LYON: We would be glad to.

MR. MANKIN: Is there any further question of the witness in this case? If not, the witness may be excused. Proceed with your other witnesses in the other cases.

PAUL THORNTON

called as witness, having first been duly sworn, testified as follows:

By Mr. Lyon:

Q. Would you state your name for the record, please.

A. Paul Thornton.

Q. By whom are you employed?

A. Continental Oil Company.

Q. In what capacity?

A. Production Engineer.

Q. Where are you located?

A. Hobbs District Office.

Q. What is your educational background and experience that qualifies you for your position?

A. I graduated from Oklahoma A & M College in 1950, with a B. S. Degree in Petroleum Engineering. At that time I went to work for Continental Oil Company as a gas tester and for the past three years I have been working in the capacity of production engineer.

Q. And as production engineer in the Hobbs District Office are you familiar with the Meyer B-h lease which is the subject of this hearing?

A. Yes.

MR. LYON: Are the witness' qualifications acceptable?

MR. MANKIN: They are.

Q. Mr. Thornton, have you prepared an exhibit showing this lease and the wells located on it?

A. I have.

Q. Mr. Thornton, referring to what has been marked as Exhibit No. 1, would you please describe the information shown on that unit.

A. On Exhibit No. 1 we have outlined in red NMFU Meyer B-4 lease, which is comprised of the E/2, and E/2 W/2 of Section 4, Township 21 South, Range 36 East, Lea County, New Mexico. This lease consists of 640 acres. Also on this Exhibit No. 1 is shown the location of the eighteen wells on this lease. Seventeen of these wells are producing into a common battery, and it is noted that the No. 14 well has been plugged back and completed as a gas well. The No. 7 well has been dual completed in the Queen for gas, which is the Eucout and still producing from the Grayburg which is in the Eunice Pool. It also shows the offset ownership and the approximate locations of their wells.

Q. Does this show by a red square the approximate location of the battery for these wells?

A. It does.

Q. Mr. Thornton you said that this lease contains 640 acres. This is the correction section is it not and has excess acreage in it?

A. That's right.

Q. And actually the lease is approximately a mile and a half long and the standard mile wide?

A. That's right.

Q. And as a matter of fact aren't there actually 720 acres in this lease?

A. That would be correct. That's right, you are right.

Q. Now, have you prepared an exhibit showing the wells and the flow lines from the wells into the battery?

A. I have.

Q. Mr. Thornton, referring to what has been marked as Exhibit No. 2, would you please describe the information shown on that exhibit?

A. On Exhibit No. 2 is shown the eight wells on the N/2 of the lease. The entire exhibit shows the flow lines of the seventeen wells on the lease. In the N/2 there is a 8 well manifold that serves the eight wells in the N/2 of the section that are so connected through a test separator and a production separator in that portion of the lease and before going to the battery. And in the S/2 of the lease there is a nine well manifold which is so connected to pass through a test separator and a production separator before going to the tank battery, which is located in the N/2 of the lease.

C. Now, Mr. Thornton, have you prepared an exhibit showing the tank battery and the connections in the immediate area?

A. I have.

Q. Referring to what has been marked as Exhibit No. 3, would you please describe the information shown on that exhibit?

A. Exhibit No. 3 shows a detailed drawing of the testing facilities and the battery set up on the NMFU Meyer B-L lease. As shown on Exhibit No. 3 there are two test separators and two production separators. We have one settling tank, one heater treater, and we have twelve 250 barrel tanks and these tanks are so connected by our manifolds that any individual well can be tested into any tank.

C. In other words, you can test any well on this lease individually while maintaining normal lease operations?

A. Yes, with this set up we can test two.

MR. LYON; You can test actually two.

A. Test two wells under normal operations.

C. What is the total storage in this tank battery?

A. 3,000 barrels.

C. What --- and how many wells are there producing into it?

A. Seventeen.

Q. What is the total allowable on this lease?

A. The total allowable and production is 411 barrels.

Q. How many days production does that provide storage for?

A. This is using as a base the present allowable and production we have approximately 7 days.

Q. And is that adequate storage to provide sufficient flexibility for normal operations and for testing?

A. Yes.

Q. These wells are now producing into this common battery, is that correct?

A. That's true.

Q. In your opinion is there any waste or impairment of correlative rights as a result of producing seventeen wells into a common battery?

A. No, I don't believe so.

Q. As a matter of fact, these wells have been so produced for a number of years, is that right?

A. That's right.

Q. Could you state approximately how long that has occurred?

A. January, 1940.

MR. GURLEY: Is that for the entire seventeen wells, since January of 1940?

A. Yes.

MR. MANKIN: But when there are over eight wells, the ninth well was sometime prior to January 1940, wasn't it?

MR. THORNTON: Well, let me make this statement. At one time during the development of this lease we had, where our separators are setting now, two separators on the N/2 and two separators on the S/2, there were two batteries at that time and these wells were all drilled in 1936 and 1937 and in the later part of 1939 permission was requested from the U. S. G. S. to combine these two batteries into one and permission was granted. However, in our files we have no correspondence with the Commission on this order, but some of our files have been

destroyed in a fire in 1948, when our District office burned and if permission was requested from the U. S. G. S. we feel that it is reasonable to assume that permission was requested of the U. S. G. S. --- I mean of the Commission, however, we have no correspondence on it.

MR. GURLEY: Am I to understand that there is a possibility that you requested permission to use this as a central tank battery?

A. Possibly, since we asked --- we do have correspondence with the U. S. G. S.

Q. Mr. Thornton, has there in your opinion, ever been any waste or impairment of correlative rights by producing these seventeen wells into a common battery?

A. No.

Q. Has the efficiency of lease operations been impaired as a result of that?

A. I believe they have.

MR. LYON: You believe they have?

A. What was that question again?

MR. LYON: I said do you believe that lease operations --- the efficiency of lease operations have been impaired in any way?

A. No, I don't.

Q. Would the installation of an additional battery on this lease be an economic burden on Continental Oil Company?

A. I believe that it would.

Q. Would operations be more efficient if another battery were installed?

A. I don't think so.

Q. Have you prepared another exhibit in the form of a statement setting out most of the information which was testified to this morning?

A. I have.

MR. MANKIN: This is one common --- this lease in question, the one with seventeen wells in question, is one common royalty interest, being the U. S. Government?

A. Yes.

MR. MANKIN: Could you furnish us with an indication that the U. S. G. S. had approved this consolidation? Would you do that?

A. Sure would.

MR. CURLEY: And as for the equipment that you have installed here, sir, is sufficient is it not, for proper testing as required by the Commission.

A. Yes, it is.

MR. MANKIN: I noticed one well, Well No. 6 is classified as a Eunice Oil Well, is that well also --- is it a bradenhead well producing gas in the Eunont Gas Pool?

A. Is is not at the present, it's shut in, and we have just dually completed our No. 7.

MR. MANKIN: I see. Then it does carry a non-standard unit ----

MR. LYON: I believe, Mr. Examiner, that two or three months ago we had a hearing on a non-standard unit of the S/2 of this lease and at that time requested the cancellation of unit on No. 4. I maybe mistaken about that.

MR. MANKIN: So it now involves No. 4 instead of No. 6?

MR. CURLEY: On your Exhibit No. 1, you have this red outlined area, is that your unit?

A. That is this basic lease.

MR. CURLEY: That is the lease that you referred to as having 720 acres in it, is that correct? And that is your entire lease?

MR. LYON: That is the lease as we have designated it and as we carry it for accounting purposes ----

MR. CURLEY: What I mean is, is that one U. S. Lease?

A. That's one lease.

MR. LYON: I would like to enter into evidence Exhibits 1 thru 4.

MR. MANKIN: Is there objection to entering Exhibits 1 thru 4 in this case? If not, they will be so entered. Is there any other question of the witness in this Case? If not, the witness may be excused.

MR. LYON: This is the portion of consolidated Case concerning Case No. 1045.

CHARLES R. SMITH

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

By Mr. Lyons:

Q. State your name please.

A. Charles R. Smith

Q. By whom are you employed?

A. Continental Oil Company

Q. In what capacity?

A. Production Engineer.

Q. Where are you located?

A. Eunice, New Mexico.

Q. What is your education and experience that qualify you for this position?

A. I graduated from the University of Oklahoma in 1949 with a B. S. in mechanical engineering. I worked a year and a half for Jones and Laughlin Construction and for the past three years have been employed by Continental as production engineer.

Q. And as production engineer located in the Eunice District Office are you familiar with the State J-2 lease and the wells located thereon?

A. Yes, sir, I am.

Q. Are the witness' qualifications acceptable?

MR. MANKIN: They are.

Q. Mr. Smith, have you prepared an exhibit showing this lease and the wells located thereon?

A. I have.

Q. Mr. Smith, referring to Exhibit No. 1, would you please describe the information shown on that exhibit?

A. Exhibit No. 1 is a location plat on which I have outlined Continental Oil Company's State J-2 lease in red. This lease is located in Section 2, Township 22 South, Range 36 East. This lease is a 480-acre lease. It lies wholly within a governmental section. It is state acreage and the royalty interest is the same for the entire lease. I have also shown the approximate location of the State J-2 battery.

MR. GURLEY: That is the base lease on your State, is that right?

A. Yes.

Q. Mr. Smith, have you prepared an exhibit which shows the tank battery?

A. Yes, sir, I have.

Q. In that area?

A. That's right.

Q. And that is marked Exhibit No. 2?

A. Yes, sir, I have marked it Exhibit No. 2.

Q. Referring to that exhibit would you please describe the information shown on there?

A. Exhibit No. 2, I call the battery detail, and it shows the equipment and facilities which are presently installed on the State J-2 battery. You will note that I have shown the lay of the flow lines as they come in through the header. This header was so designed that we can switch each well either on production or on test, thereby enabling us to test each well individually.

I have also shown for simplicity a red line which indicates the channel flow of a well on production and in green I have shown, as an example, the flow pattern of a well on test. This, of course, could apply to any one of the 12 wells.

Q. Then the equipment is arranged on this lease, in this installation in such a manner that any well can be tested individually during normal lease operations?

A. That's correct. Only one well can be tested at a time.

Q. And the equipment is such that any test required by the Commission can be taken?

A. Yes, sir, it can.

Q. How many wells do you have producing into this battery?

A. Twelve wells, all of which are Arrowhead Pool oil wells.

Q. And what is the daily allowable of those wells?

A. The present daily allowable is 393 barrels per day.

Q. How much storage space do you have in the battery?

A. Actually we have ten tanks but we retain two of these as test tanks which leaves us 8 tanks for storage which is approximately $4\frac{1}{2}$ days of storage.

Q. Does this amount of storage provide adequate flexibility for normal operations?

A. Yes, sir, it does.

Q. These wells are producing into this common battery at the present time, are they not?

A. Yes, sir, they are.

Q. And as a matter of fact have been for some time?

A. Yes, more than eight wells have produced into this battery since completion of the No. 9 well on August 11, 1940.

Q. In your opinion, has there been any waste or impairment of correlative rights as a result of producing more than eight wells into this battery?

A. There has not.

Q. Is there any waste so occurring now?

A. No, sir, there is not.

Q. Would an additional tank battery to receive the production from the excess wells over eight be an economic burden on Continental Oil Company?

A. Yes, sir, it would.

Q. Would it improve the efficiency of operations to add another storage battery?

A. I can see no way in which it would.

MR. LYON: I believe that is all of the questions we have of the witness.

MR. MANKIN: Is this one basic state lease?

A. Yes, sir, it is.

MR. MANKIN: Would you be agreeable to requesting a letter from --- even though it is one basic state lease, to requesting a letter from the State Land Office for this number of wells going into this tank battery. Of course, they will furnish us a copy of that approval, indicating that this was heard by hearing.

MR. LYON: We will be glad to request such a letter.

MR. MANKIN: Is there further question of the witness in this case?

MR. MONTGOMERY: Do you know whether or not any of the wells from this lease are producing from the Queen formation?

A. To my knowledge, there is none. I think they are all Grayburg.

MR. MANKIN: Is there further question of the witness in this case?

MR. LYON: I would like to introduce Exhibits No. 1 and 2 in evidence.

MR. MANKIN: Is there objection to entering Exhibits Nos. 1 and 2 in Case 1045? If not, they will be so entered. The witness may be excused. We will take all three cases, Case 1043, 1044 and 1045, under advisement.

STATE OF NEW MEXICO)
)
COUNTY OF SANTA FE)

ss.

I, Nancy Chowning, do hereby certify that the foregoing and attached transcript of proceedings before the Oil Conservation Commission Examiner at Hobbs, New Mexico, is a true and correct record to the best of my knowledge, skill and ability.

Dated this 10th day of May, 1956.
