

BEFORE THE
OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO
May 4, 1961

IN THE MATTER OF:

Application of El Paso Natural Gas Company for an exception to Rule 309(a). Applicant, in the above-styled cause, seeks an exception to Rule 309(a) to permit the transportation of oil produced on Federal Lease LC-064198-A, comprising the SE/4 of Section 18 prior to measurement, to tank batteries located on Federal Lease No. 025566, comprising the E/2 of Section 19, all in Township 19, South, Range 32 East, Lea County, New Mexico.

CASE 2273

Application of El Paso Natural Gas Company for an oil-gas dual completion. Applicant, in the above-styled cause, seeks an order authorizing the dual completion of its Lusk Deep Unit Well No. 2, located in Unit 0, Section 18, Township 19 South, Range 32 East, Lea County, New Mexico, in such a manner as to permit the production of oil from the Strawn formation adjacent to the Lusk-Strawn pool and the production of gas from the Morrow formation in an undesignated pool through parallel strings of 2 3/8-inch tubing.

CASE 2274

CONSOLIDATED

BEFORE: Dan Nutter, Examiner

TRANSCRIPT OF PROCEEDINGS

MR. NUTTER: The hearing will come to order, please.

We will call the next case, Case 2273.

MR. MORRIS: Application of El Paso Natural Gas Company for an exception to Rule 309(a).

MR. WHITWORTH: The firm of Seth and Montgomery of Santa

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Fe, and by letter, Garrett Whitworth. I have one witness in the case.

(Witness sworn.)

MR. WHITWORTH: For the purpose of brevity in this matter, we request that Case No. 2273 and Case No. 2274 be consolidated for the purpose of this hearing.

MR. NUTTER: Call case 2274.

MR. MORRIS: Application of El Paso Natural Gas Company for an oil-gas dual completion.

MR. NUTTER: Are there any objections? The cases are consolidated for hearing purposes.

G E R A L D H I C K S O N, called as a witness, having been first duly sworn, was examined and testified as follows:

DIRECT EXAMINATION

BY MR. WHITWORTH:

Q Mr. Hickson, would you state your full name for the record, by whom you are employed and in what capacity you are employed?

A Gerald Hickson, proration engineer for El Paso Natural Gas Company.

Q Have you previously testified as an expert witness before this Commission?

A Yes, sir, I have.

MR. WHITWORTH: Are the qualifications of the wit-

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ness acceptable?

MR. NUTTER: Yes, sir, please proceed.

Q (By Mr. Whitworth) You are familiar with the applications that are to be heard here of El Paso Natural Gas, are you not?

A Yes, sir, I am.

Q And what does El Paso seek by these applications?

A Well, we are seeking approval of an oil-gas dual completion of our Lusk Deep Unit Well No. 2 located in Unit O of Section 18, Township 19 South, Range 32 East, Lea County, New Mexico; and also an exception to Rule 309(a) which reads: "--oil shall not be transported from the lease unless previously measured in tanks located on the lease--". We are seeking to transport the oil by means of pipe lines across lease lines and measure it in tanks, common tank batteries with the Lusk Deep Unit Well No. 1.

Q As to the application for the dual completion, do you have an exhibit depicting the location of that well?

A Yes, sir; I do.

Q El Paso' Exhibit No. 1. Would you please explain this exhibit for the Examiner?

A Exhibit 1 shows the boundary line of the Lusk Deep Units marked in yellow. The acreage uncommitted lies in the boundary line, marked an green and the acreage dedicated to the two oil wells in blue, and the acreage to be dedicated to the gas zone, which is more or less marked in red.

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Q Now, who is the operator of the Lusk Deep Units?

A El Paso Natural Gas Company.

Q What zone did you say this Lusk Deep Unit No. 2 was completed in?

A It is completed in the Strawn formation as an oil completion, and in the Morrow formation as a gas completion.

Q They're oil over gas dual completions, is that right?

A Yes, sir.

Q How have you determined that the Strawn is an oil well and the Morrow is a gas well?

A Well, the Strawn produced 228 barrels, 48.06 gravity oil and 641 MCF of gas for a gas-oil ratio of 2,482. On the drill stem test, based on the information of that drill stem test, it has a potential of 18 MCF of gas a day, dry gas.

Q Do you have an exhibit depicting the physical equipment that has been installed in this well?

A Yes, sir.

Q That's a schematic diagram, El Paso Natural Gas Company's Exhibit No. 2?

A Yes.

Q Explain this exhibit.

A This exhibit shows the casing string size and the depth at which they were set and cemented, both tubing strings, as to the size and depth at which they were set and the packer installation which we have used on this and also both zones that the well

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was completed in.

Q What kind of packer was used as a separation packer?

A A hydraulic 16-1 packer and this packer was approved on the Lusk No. 1, this same installation, and the brochure with these specifications were entered as an exhibit.

Q Has there been a packer leakage test?

A No, sir. We have a letter of approval from J. Ramey who is the district supervisor in Hobbs, stating that we could put off the packer leakage test until such a time as we got a pipe line test to the Morrow gas well.

Q You have reason to believe that this packer will effectively and efficiently separate from the two zones?

A Yes, I do. Bottom hole pressure tests were taken on April 16, 1961, and the Strawn zone was 5799 and the Morrow zone was 2201 with a difference in ranges of 598 pounds. Now, the pressure on the Morrow drill stem test, taken in March, the first part of March, was 5191, which couldn't be an error of more than 10 pounds, so I think there is proper evidence to show that we have no leakage across that packer. Surface pressure since that time has indicated the same.

Q Do you have any pressure data with respect to these two zones?

A Not as an exhibit.

Q Would you relate to the Examiner what data you have concerning pressure?

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A Well, the BHP which I have just related -- well, let's see, the BHP on the Strawn is 5799 and the BHP for the Morrow is 2201 and those are the only two pressures taken on this well after completion.

Q Why did El Paso complete this well as a dual completion?

A It has an economic saving in excess of well over two single completions of over a quarter of a million dollars.

Q And for that reason would you say that the granting of El Paso's applications in this case would prevent waste?

A Yes, sir; I would.

Q Would it protect correlative rights --

A Yes, sir.

Q --on the transfer of production?

A Yes.

Q Why is it necessary for El Paso Natural Gas to have a hearing on this matter? Why couldn't it be done administratively?

A According to Rule 309(a), the oil must be measured on the lease before it is transported from the lease and what we are asking for is that we're transporting this oil to another Federal lease.

Q Now, is the tank battery depicted on El Paso's Exhibit No. 1, which is a plat of the Lusk Deep Unit No. 2 and Lusk Deep Unit No. 1?

A Yes, sir, it is. It's in Unit O, Section 18.

Q Now, how will the oil that is to be transported from the



number 2 well to the tank battery be measured?

A It will be measured in the tanks. The number 1 was completed in the Bone Springs and the Strawn. At the present time, the Bone Springs formation is dead. It will not naturally flow, so we are planning on using the two tanks on this battery that we used for the Bone Springs. We are going to use them for the Strawn formation in the number 2 at this time. If we have future drilling in this unit, we'll come back and ask for commingling and pull all the Strawn formation together.

Q Now, the oil will be transported by pipe line?

A Yes.

Q Where will it be installed?

A From the number 2 tank battery.

Q Will this oil be commingled with any other oil?

A No, sir, it will have its own separate tanks.

Q Do you have an exhibit showing the ownership within the two leases, both overriding royalty and working interest?

A Yes.

Q And that is El Paso's Exhibit No. 3, is it not?

A Yes, sir.

Q Do you have common overriding royalty ownership within the two leases?

A No, sir, that's the problem involved on crossing the lease lines. The ownership of the overriding royalty is not common. We have 19 overriding royalty owners on NM-025566 lease

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and none on LC-064198-A.

MR. NUTTER: All apply to 025566?

THE WITNESS: Yes.

Q (By Mr. Whitworth) To your knowledge, does anyone have an interest in either of these leases opposed to El Paso's application in this case?

A Not to my knowledge. We have letters which we'll enter as exhibits, if the Examiner so desires, from 17 of the 19 overriding royalty owners.

Q Generally, what is the effect of these letters?

A Well, they just explain what we have asked for her and ask for their signatures and they have all been signed.

Q What are the sizes of these two tanks?

A They're both 500-gallon tanks. As a matter of fact, there are six on this tank battery and all six of them are 500-gallon tanks.

Q What is the allowable on Lusk Deep Unit No. 2?

A Based on a 35-barrel unit allowable, 199 barrels.

Q Does the well make the allowable?

A Yes, sir; it's a top allowable well.

Q In your opinion, is this a practical and economical way and a reasonable method of solving El Paso's problem in this case?

A Yes, I believe it is.

Q And would the granting of this application prevent waste and protect correlative rights, in your opinion?

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A Yes, sir, it would.

Q Do you have anything you'd like to add to your testimony?

A No, sir, I don't believe so.

Q Were Exhibits 1, 2 and 3 prepared by you or under your direct supervision?

A Yes, sir, they were.

MR. WHITWORTH: We ask they be entered.

MR. NUTTER: El Paso's Exhibits 1, 2 and 3 in Cases 2273 and 2274 will be entered in evidence.

Q (By Mr. Whitworth) Do you have anything you'd like to add?

A No, sir.

MR. WHITWORTH: That's all we have.

MR. NUTTER: Does anyone have a question?

QUESTIONS BY MR. MORRIS:

Q Mr. Hickson, you are seeking authorization here to transport oil from one federal lease to another. When you get the oil on the federal lease, where it will be measured, are you going to have separate tank batteries for that oil?

A Yes. As I said, we have six tanks on this battery and at the present time two of them are being used for the Bone Springs which is dead, so there are four for the Strawn formation, and we are planning to use the two we had previously used for the Bone Springs. We are going to use them for the Strawn on the number 2.



Q So you are seeking this authorization so that you can use existing facilities rather than having to move these facilities from one already set up to a new one on the other lease?

A Yes, sir.

Q There is no commingling authorization being sought?

A No, there isn't.

Q I don't think it will be necessary to introduce these letters you mentioned from the overriding royalty owners into evidence. You say 17 of 19 concurred in the application that was being made?

A Yes. One more is on its way.

Q None of them made any qualifications on their letters?

A No.

MR. MORRIS: I have no further questions.

QUESTIONS BY MR. NUTTER:

Q Mr. Hickson, on the drill stem test, you say that the Morrow zone indicated an IP of 18 million cubic feet of dry gas per day. You don't anticipate recovering any liquid from that gas?

A Well, at the present time, no. Of course, it's hard to tell.

Q When the well is put on production, if it does make liquid, those liquids would be tanked separately?

A Yes, sir. We have plenty of facilities on this tank battery at the present time.

Q Now, the Strawn potential is 228 barrels per day?

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A No, sir. I made two barrels on a two-hour test.

Q How much gas?

A 641 MCF with a GOR of 2482.

Q Now, you stated that this hydraulic oil tool that was used in the Lusk Number 1 was the Bone Springs, I believe.

A Yes, sir.

Q Now, what kind of pressure differential did you have in that well?

A In Well No. 1, we had in excess of 2,000 pounds differential.

Q How about here?

A Here we have 198.

Q You feel that if the packer was suitable for that dual completion, it would also be suitable for this one?

A Yes, sir; I do. The packer is designed for 10,000 pounds differential.

Q Is there any participating area established in this Lusk unit?

A Not at the present time . Participating area is based on geological information and then approved by the U. S. Geological Survey, and so far as I know, they have not been sent in as yet. It should be in within the next 60 days.

Q Until such time as the two wells in the Strawn formation are in a participating area, then you would completely segregate the oil until transferred to the pipe line?



A Yes, sir.

Q Do you anticipate the Bone Springs production will be re-established in the number 1 well?

A That depends on the number 3 well at the present time. It was present but not developed in the number 2 Bone Springs. When Well number 3 is developed, if it's present we may try to go back in number 1 and recomplete it.

Q You mentioned that number 1 has ceased flowing from the Bone Springs artificially. Is it possible to artificially deliver the oil?

A It wasn't too good a formation to start with. We're going to wait to see what happens on number three.

Q It may take remedial action on it?

A Yes, we got some water on it.

Q Despite the fact that these two zones are in the Pennsylvanian, how much separation is there between these two productive zones?

A Well, Strawn completed in 11,220 feet to 11,250. The Morrow was 12,380 feet to 12,398, so that's 1,330 feet difference.

Q Separation?

A Yes, sir.

Q Has the Commission established separate rules for each of those zones as yet?

A Not in this area.

Q Are they both not dedicated at the present time?



A Well, the Strawn -- there is an extension to the direction of the off set pool established for the number 1, yes, sir.

Q I see.

MR. NUTTER: Are there any further questions of Mr. Hickson?

You may be excused.

(Witness excused.)

Do you have anything further?

MR. WHITWORTH: Nothing further.

MR. NUTTER: Is there anything anyone wishes to offer in Cases 2273 and 2274? If not, the Commission will take the cases under advisement and adjourn the hearing.

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STATE OF NEW MEXICO)
)
COUNTY OF BERNALILLO) ss

I, Thomas F. Horne, Court Reporter, in and for the County of Bernalillo, State of New Mexico, do hereby certify that the foregoing and attached Transcript of Proceedings before the New Mexico Oil Conservation Commission was reported by me in machine shorthand and reduced to typewritten transcript under my personal supervision, and that the same is a true and correct record to the best of my knowledge, skill and ability.

Thomas F. Horne

Court Reporter

My Commission Expires:

~~27 April 1965~~

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 22734, 2274 heard by me on 5-4, 1961.

[Signature], Examiner
New Mexico Oil Conservation Commission

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