BEFORE THE
OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO
MARCH 22, 1961

EXAMINER HEARING

IN THE MATTER OF

CASE 2220: Application of Shell Oil Company for an exception to Rule 303 (a) and Rule 309 (a). Applicant, in the above-styled cause, seeks permission to commingle the production from the Drinkard, Wantz-Abo and Blinebry Oil Pools from all wells presently completed or hereafter drilled on the Carl H. Livingston Lease comprising 320 acres in Sections 3 and 4, Township 21 South, Range 37 East, Lea County, New Mexico, allocating the production from the various pools on the basis of continuous metering of the Blinebry production and periodic well tests of the Wantz-Abo and Drinkard production. Applicant also seeks permission to install an automatic custody transfer system to handle said commingled production.

BEFORE:

Elvis A. Utz, Examiner.

T R A N S C R I P T O F P R O C E E D I N G S

MR. UTZ: The hearing will come to order. Case 2220.

MR. PAYNE: Application of Shell Oil Company for an exception to Rule 303 (a) and Rule 309 (a).

MR. SETH: Same appearances and same witness as 2218.

MR. PAYNE: Let the witness be sworn.

R. L. SOMERWELL,

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

DIRECT EXAMINATION

BY MR. SETH:

Q State your name.

A R. L. Somerwell, mechanical engineer, Shell Oil Company.

Q Are you familiar with the application in Case 2220?

A Yes, sir, I am.

Q Will you describe briefly what the application proposes?

A Briefly we would like permission to commingle production from the Drinkard, Blinebry and Wantz-Abo oil pools presently completed and hereafter drilled on the Carl H. Livingston Lease, allocating the production from the various pools on the basis of continuous metering of the Blinebry production and periodic well tests of the Wantz-Abo and Drinkard production. Also permission to install an ACT unit to handle this commingled production.

Q Do you have a plat of the Livingston lease?

A Yes.

(Whereupon, Shell's Exhibit No. 2 was marked for identification)

Q That has been marked Exhibit 2?

A Referring to this Exhibit, it shows the extension of the Livingston lease. On this, the Livingston lease is outlined in red.

Q Is it a fee lease?

A Yes, sir, fee lease, approximately 320 acres.

Q Royalty interests monthly?

A Our records indicate they are monthly.

Q Referring to this Exhibit 2, describe it generally.

A Right now we have completed the Blinebry oil wells, one Wantz-Abo well and five Drinkard, one Tubb gas and one Blinebry gas well.

Q Does the legend on the Exhibit show the well location?

A Yes, sir, depicted with the legend showing which wells are producing in which zone.

Q The little "A" and "D" is to show the Drinkard and Abo and so forth?

A Yes, sir.

Q The dotted circles are proposed Blinebry locations?

A Yes, sir. I might say, as I stated a while ago, that as the current status of this lease we anticipated a maximum of eight Blinebry wells, should the development be successful, five Drinkard and abandonment of Wantz-Abo, maybe within three or four months, a very short time; within that time we would wind up with five Drinkard wells and eight Blinebry wells and one Wantz-Abo.

Q Two gas wells are already commingled? Do you have a diagram of the facilities there?

A Yes, sir.

(Whereupon, Shell's Exhibit No. 3 was marked for identification)

Q This has been marked Exhibit No. 3. Referring to this Exhibit, would you show the flow through these proposed facilities?

A Yes, sir. Starting at the top we show four Blinebry wells. We thought we would have four by the hearing. We only have two right now. Visualize, we may have eight wells coming into that header. They will produce into the Blinebry separator and be continuously metered, and then be produced into the treating system. At the lower separator it is the Drinkard and the Wantz-Abo, proposed for an interim period will be three or four months, and produce the five Drinkard wells and Wantz-Abo into one separator and determine the production by monthly well tests. They are all under an allowable. Both the Drinkard and the Wantz-Abo actually are too small to pressure up the amount of gas as of this minute. All three zones will be treated in common test separators. After a new well has been tested, they will be rerouted back to the correct production separator and by neumatically interlocked reroute valves which are fail-safe, normally closed, and are actuated. And this valve in the left portion of the diagram is a three-position control manual valve. Gas is rediverted to the top dotted line of the valve which opens the blocked zone on the valve and allows the fluid there from the test header to enter the test vessel and the Blinebry well will be discharged back. All zones will then be produced into the treating system and the storage tank, and then to the ACT unit to the Pipeline. The Drinkard and Wantz-Abo will be calculated by subtracting the Blinebry from the ACT, from the

net pipeline production and then allocated to each well.

Q How much is the Drinkard and Abo production at the present time, daily?

A The Blinebry production is currently at 47 barrels of oil per day and no water.

Q Is that on four wells?

A Two Blinebry wells. That header is misleading. We only have two wells completed right now in the Blinebry zone, but we anticipate a maximum of eight.

Q What are the two wells that are completed?

A Livingston 6 and No. 3433 are the two Blinebry wells.

Q 96 barrels from both wells?

A Yes, sir. Top allowable. Drinkard 47, oil, 500 barrels of oil, 5 barrels of water, all under allowable. Wantz-Abo, 11 barrels per day and 8 barrels of water.

Q You are metering the top allowable side of the facility?

A Yes, sir.

Q You are computing the marginal wells?

A All the wells that do have the total top allowable. The shrinkage will be then minimized with the ACT units and produced through the test metering system and immediately goes to the pipeline. I might also add the maximum production respecting the Blinebry at the present time is 100 barrels of Drinkard and 375 barrels of Blinebry, for a 475 barrels per day total of peak. Approximately 525 barrels of storage, which gives us 21 hours of

surge capacity. Our lease operator will be in attendance all of sixteen hours a day.

Q Your note on Exhibit No.3. Will you explain that?

A Well, that is an explanation of the three-position control valves. The valve in one position will open the two-motor valves to the Blinebry, and in the other position will open the motor valves to the Drinkard and Wantz-Abo.

Q What is the purpose of this?

A To prevent accidental commingling. In any type of failure, the valves will close, should there an any accidental commingling.

MR. UTZ: Did you cover any calibration method you plan to use?

A Yes, sir. We plan to test all the Blinebry meters by producing it to the 500-barrel storage tank, producing all the Blinebry wells into the storage tank. I am sorry, just a minute. We plan to derive at the five Blinebry wells through the test separator and on into the storage tank will develop a meter factor, and knowing this, we can produce all the wells, all the Blinebry wells through the test separator and back through the Blinebry volume meter and determine a factor for the Blinebry meter for correct allocation.

Q Are the gravities from the oil from the various zones all below forty degrees?

A Yes, sir. No change in pressure valve set.

Q Do you propose to add at the end of this sytem an ACT unit?

A Yes, sir, to more accurately handle production from all zones.

Q Do you have an Exhibit showing that?

A Yes, sir.

(Whereupon, Shell's Exhibit No. 4 was marked for identification)

Q Is this proposed ACT unit the same as you testified to in Case 2218?

A Identical to Case 2218 and 19, yes, sir.

MR. SETH: We would like to adopt the testimony from 2218 on the ACT unit in this case, if we might.

MR. UTZ: The Exhibit shown in Case 2220 is exactly the same as shown in Case 2218 and the operation thereof is identical?

A Yes, sir, only the names have been changed.

MR. UTZ: Let the record show the testimony pertaining to ACT system, only, in Case 2218 will be incorporated into this case.

Q Will this produce a closed system similar to your Pearl-Queen and the two cases, 2218 and 2219, and will that result in conservation and prevention of waste?

A Yes, sir. It will eliminate two tank batteries that have to be manually gauged and accounted for, and this will eliminate hand gauging. Everything will be metered.

Q Do you expect comparable savings in waste and --

A Yes, sir.

Q You do expect you will effect comparable savings?

A Yes, sir.

Q Will the pipeline take the oil through these facilities?

A Yes, sir.

(Whereupon, Shell's Exhibit No. 1 was marked for identification)

Q Does this telegram refer to the ACT facilities that you have described in Exhibit 4 of this case?

A Yes, sir, with these specifications.

MR. SETH: We would like to ask that the Exhibits 1 through 4 be admitted, Mr. Utz.

MR. UTZ: Without objection, Exhibits 1 through 4 will be admitted into the record.

(Whereupon, Shell's Exhibits 1 through 4 were received in evidence)

MR. SETH: That's all the direct testimony.

MR. UTZ: Any questions?

CROSS-EXAMINATION

BY MR. PAYNE:

Q If there is any shrinkage involved here, under your proposal, it would be charged against the Blinebry zone, would it not?

A No, sir. I believe it was charged to the Drinkard zone.

Q Your Blinebry production is reflected by the meter?

A Yes, sir.

Q Now, how do you propose to determine the -- let's say the Drinkard and leave the Wantz-Abo -- how do you propose to determine the production from the Drinkard?

A By subtracting the Blinebry meter reading from the ACT meter reading, and any shrinkage you would make up from the Drinkard and Wantz-Abo rather than the Blinebry.

Q You would run your allowable through the Blinebry?

A No, sir, we couldn't do that.

Q Then, you are going to be charging the shrinkage against the Blinebry if you are going to run your allowable through the Blinebry meter?

A I don't think we can say all the shrinkage would be charged to it.

Q Ordinarily, don't you go by what is actually sold to the pipeline rather than the meter reading? Say your meter head read 35, but show on your shrinkage you actually sold 40, wouldn't you go ahead and produce another five to make up what had shrunk? Would you go ahead and produce that, going by what was sold as being the important factor?

A No, sir, we couldn't. We would take our meter reading on our Blinebry meter and once it had reached volume production we would shut-in the lease.

Q For the time being, at least, as soon as you produced 96 barrels, well, putting it on a daily basis, as soon as you produced

96 barrels, then your Blinebry would be shut-in?

A 94, yes, sir.

Q 94. Would you be willing to use a nonreset meter?

A Would we be willing to use a nonreset meter?

Q Yes, sir.

A Yes, sir, we would.

MR. PAYNE: Thank you.

BY MR. NUTTER:

Q Mr. Somerwell, I think I followed you, I am not sure, in determing the factor for the Blinebry metering pot. First of all, you run your four Blinebry wells through the three-phase test metering separator directly to the 500-barrel storage tank?

A Yes, sir.

Q Then you would determine how much oil was in the tank and compare that with the reading on the meter run?

A Yes, sir.

Q Then you will establish a factor?

A Yes.

Q Then, to determine the factor on the Blinebry metering pot you would run the oil through the three-phase test metering separator through the meter run downstream from the separator, back up through the Blinebry oil and gas separator and then through the Blinebry volume metering pot and compare the meter reading on the meter down at the test metering three-phase separator?

A Yes, sir.

Q This oil having gone through another separator, might not a second separator remove a little more gas, go through double separation then?

A Yes, sir. There's a slight drop there, probably 500 --

Q Wouldn't that affect the meter factor that you would derive on your second meter?

A It would affect it slightly, but we are not trying to factor the accuracies on commingling zones that we try to maintain. On commingling leases, we are trying to accurately determine it, but not within two-tenths of one percent. So this will be smaller in developing the meter factor for the Blinebry production.

Q So these motor valves operated by the three-position gas control valves are normally closed?

A Yes, sir.

Q And then you decide you want to test a Blinebry well, you put this three-position control valve in a position that causes the two motor valves on the Blinebry well to open?

A Yes.

Q Then the valves of Drinkard and Wantz-Abo remain closed?

A Yes, sir.

Q I have heard in some cases corrosive gas might affect these three-way control valves, on these that you have got installed here, and may cause a leak of the gas as a result of corrosion, on the left the gas pressure goes to all four of the gas

vessels. Have you ever heard that?

A I haven't on this particular valve here, this type of a valve. Actually, at the heading, there is a shaft that lines that and unless there is a seal that is broken, I don't believe corrosion would cause it.

Q This is a metal valve in there?

A Yes, sir.

Q What opens the proper routes?

A Both are bleeding off the gas on both sides of the valves, are to bleed position.

Q Then you don't know if corrosion would present a problem that might cause a gas leak?

A No, sir, I don't know.

Q Is there a wax or any kind of chemical inside that valve?

A There are O-Ring seals that separate the portion between the valve.

Q Now, in order to determine your Blinebry valve metering pots factor without having to shut-in these other wells, you would have to have another tank on here, wouldn't you?

A Yes, sir, we would.

Q How many tanks are on this lease at the present time?

A I believe two 500's. Two whole batteries would be actually four 500-barrel tanks.

Q Would there be another tank available for determining meter factors?

A Yes, sir, it's available in your collection of used salvage.

Q Didn't you state you hope to have eight Blinebry wells here?

A Yes, sir.

Q Then your present wells are making a hundred barrels a day?

A And Wantz-Abo is making a total of one barrel from two marginal wells.

Q What is the allowable on the Blinebry wells?

A 375. Total of 475.

Q You would have a total of 475 barrels of allowable?

A Yes, sir.

Q You also have a total of 420 barrels of available storage?

A Yes, sir. You might need another tank. We have 21 hours surge capacity right now. And the attended hours would be sixteen hours, again, nearly a day's storage at maximum development.

MR. NUTTER: I believe that is all. Thank you.

BY MR. MORRIS:

Q Mr. Somerwell, you might have covered this, but could you explain again to me the purpose of the line running directly off to the right of your metering separator? In the center, right in the center?

A That is for testing the metering separator into the storage

tank, the surge tank. In other words, the metering can be produced indirectly from the surge tank and bypass the treating system and accurately gauge the amount of oil.

Q Are any safeguards proposed to keep the production from running directly into your storage tank rather than into your Blinebry metering system?

A This valve will be closed; the valve, that will be closed.

Q Is it a manual valve?

A Yes, sir.

MR. MUTTER: When is that valve open, only when you are determining the factor for the three-phase separator?

A Yes, sir, that is the only time it will be open. And as I understand, the Blinebry is clean, that would not have to be metered, the valve will be added to the Blinebry meter reading.

MR. MUTTER: If the Blinebry doesn't make quality oil, you wouldn't be able to use that?

A Yes, sir, you can use the system.

MR. MUTTER: But you will be putting water into it?

A Yes, sir.

Q (By Mr. Morris) Did you have a meter in that line?

A Yes, sir, if the metering separator is metering it.

Q Not in that line itself you wouldn't have any record of the production it would pass through, that line or which zone it might be coming, would you?

A No printed record or such as that, no, sir. Of being recorded on the metering separator. To reset each set, it would have to be manually recorded.

MR. HUTTER: The reset counter gauge is a recapitulated gauge and does not have to be reset?

A No, I'm not too sure whether it does or not. I'm sure we could acquire it by --

MR. HUTTER: If the counter that can be reset, all dials go back to zero?

A I think only one reading.

MR. MORRIS: That's all I have.

BY MR. PAYNE:

Q What would be the disadvantage of eliminating that line and running it back through your Blinebry separator?

A The line from the metering separator to the surge tank?

Q Yes.

A Well, we could conceivably show that that creates a problem in that we need to bypass around the treating system because of intermittent loss, in trying to gauge your tanks accurately. The water and oil level fluctuate somewhat, and I don't think we could control it.

Q What would be another alternative?

A To install a meter proving loop, and use a master meter would be another alternative, probably.

Q The three-position control valve we are referring to is

manually operated valve?

A Yes, sir.

Q Where is the gas source for it?

A We will take it off the separators, one of the separators.

Q Do you have a record of the Drinkard wells, what their individual average production is?

A These are the five Drinkard wells. "L" one is eight barrels of oil and five barrels of water. "L" two is eight barrels of oil, no water. "L" five is twelve barrels of oil and no water. "L" seven is 44 barrels of oil and virtually no water; two-tenths cut, and "L" eight is 26 barrels of oil and no water.

Q What would be the top allowable for the Drinkard wells?

A 62 barrels per day.

Q Do you anticipate the No. 8 improving in its ability to produce in any manner?

A No, sir. No. 7 is 44 barrels.

Q Which is the 44-barrel well?

A "L" 7.

Q No. 9? No. 8 is 26?

A Yes, sir. That is a two-phase metering test separator. We will be cutting present oil on one side and metering clean water on the other side on the allocation of it.

MR. UTZ: Any other questions of the witness?

MR. PAYNE: I would like to clarify one thing.

BY MR. PAYNE:

Q You are going to have a total allowable of 476 a day?

A That is total to the three zones.

Q On your ACT your set stop will be set at that figure?

A Yes, sir. Well, more than likely the set stop counter will be at the allowable, we are under the allowable on the Drinkard wells, it will be somewhat higher than 476.

Q You propose to put the Blinebry set stop counter on the allowable if you go to your Blinebry zone?

A We anticipate or propose to go to the Blinebry set stop counter.

Q What objections do you have to running a Blinebry allowable there at the Blinebry meter?

A Now, the monitors are limiting production from the Blinebry zone, so the allowable is not producing more than the Blinebry allowable through the Blinebry metering pots. Our lease operator will be instructed to shut the lease down once it has been reached on the month.

MR. UTZ: Any other questions?

A I might say this system of separately metering each zone will be approximately $4,700.00 cheaper for us, it will save us that much money.

Q Mr. Somerwell, what is the flume on your line? Will you explain that?

A That is the point at which the oil and water actually

Case 2220

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February 20, 1961

New Mexico Oil Conservation Commission
P. O. Box 871
Santa Fe, New Mexico

Re: Application for Hearing
Shell Oil Company
Exception to Rule 309 and 303
in Sections 3 and 4 in Twp.
21 S., Rge. 37 E., in Lea
County, New Mexico

Gentlemen:

The applicant herein requests an Examiner Hearing to be held upon this application for an exception to Rule 303 of the Commission to permit the commingling of production from its Carl H. Livingston Lease containing approximately 320 acres and located in Sections 3 and 4, Twp. 21 S., Rge. 37 E., as is more particularly shown on attachment "B" to this letter.

Applicant requests the exception to the rule to permit it to commingle production from three separate pools before marketing.

The applicant further requests an exception to Rule 309 of the Commission in order to permit it to transport production from the lease before it has been measured in tankage on the lease as the rule requires. A diagram of the proposed commingling herein requested is enclosed herewith as "Attachment A".

The applicant desires to commingle oil production from five separate wells in the Drinkard Pool with the oil production from one well in the Wantz Abo Pool and one existing oil well, plus any future wells to be completed in the Blinebry Pool.

If this application is granted it is proposed that the Blinebry oil will be continuously metered, while the Drinkard and the Wantz Abo oil will be allocated on the basis of monthly well tests. The applicant further desires to install automatic custody transfer equipment to transfer the commingled oil to the pipe line through positive displacement meters.

Your consideration of this matter will be appreciated.

Very truly yours,

SHELL OIL COMPANY

By _____
Its Attorney

OS:mc

enter the flume and finally spills over the bottom of the treating system.

MR. UTZ: No further questions, the witness may be excused.

(Witness excused)

MR. UTZ: Did you have anything further? Any other statements? The case will be taken under advisement.

STATE OF NEW MEXICO)
) ss
COUNTY OF BERNALILLO)

I, PATRICIA GOMIA, 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.

WITNESS my Hand and Seal this, the 15th day of April, 1961, in the City of Albuquerque, County of Bernalillo, State of New Mexico.

Patricia Gomia
NOTARY PUBLIC

My Commission expires:

June 19, 1963

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 2220 heard by me on March 20, 1961.

....., Examiner
New Mexico Oil Conservation Commission