BEFORE THE
OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO
APRIL 19, 1961

EXAMINER HEARING

IN THE MATTER OF:

CASE 2250 Application of Texaco, Inc. for an exception to Rule 309 (a) and for an automatic custody transfer system. Applicant, in the above-styled cause, seeks permission to commingle the Paduca-Delaware Pool production from all wells presently completed or hereafter drilled on the Cotton Draw Unit, comprising portions of Townships 24 and 25 South, Ranges 31 and 32 East, Eddy and Lea Counties, New Mexico. Applicant further proposes to install an automatic custody transfer system to handle said commingled production.

BEFORE:

A. L. Porter, Examiner

TRANSCRIPT OF PROCEEDINGS

MR. PORTER: The hearing will come to order, please. The next case on the docket is Case 2250.

MR. NUTTER: Case 2250. Application of Texaco, Inc. for an exception to Rule 309 (a) and for an automatic custody transfer system.

MR. WHITE: Charles White of Gilbert, White & Gilbert, appearing on behalf of the applicant. We have one witness to be

sworn at this time.

(Witness sworn)

J. E. ROBINSON,

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

DIRECT EXAMINATION

BY MR. WHITE:

Q Mr. Robinson, by whom are you employed?

A Texaco, Inc.

Q Have you previously testified before the Commission as an expert engineer?

A Yes, sir, I have.

Q Have your qualifications been accepted?

A Yes, they have.

Q Are you familiar with Case 2250?

A Yes, sir, I am.

Q Will you briefly state what the applicant seeks by this application?

A Texaco requests by this application to produce more than sixteen units into a common tank battery on the Cotton Draw Unit located in the Paduca-Delaware Field, Lea County, New Mexico, and to install LACT facilities to accommodate the transfer of hydrocarbon from the Unit.

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

Q Will you refer to what has been marked Exhibit No. 1, and explain that, please?

A Exhibit No. 1 is a plat showing the Cotton Draw Unit. We introduced this Exhibit just to show the Commission the size of the Cotton Draw Unit and the location of the present production from this Unit.

Q Has the Commission approved this Unit?

A Yes, sir. The Commission approved by their Order No. R-1136, dated June 4, 1958, the Cotton Draw Unit, consisting of 3,144 acres, with the Unit covering acreage in Townships 24 and 25 South, and Ranges 31 and 32 East, Eddy and Lea Counties, New Mexico. This plat shows that the production is being obtained from the Paduca-Delaware Field, which is presently confined to Sections 9, 10, 15, 16, 21 and 22, all located in Township 25 South, Range 32 East, Lea County, New Mexico.

At the present time all the production from the Paduca-Delaware Field is confined to the southeast part of the Cotton Draw Unit, and it consists of thirty-four producing wells, six wells being completed, twelve staked locations,and possibly eight more locations. Texaco anticipates that when completely developed, we will have approximately sixty producing wells in the Paduca-Delaware Field.

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

Q Now, Mr. Robinson, will you refer to Exhibit 2,and explain

that to the Examiner, please?

A Exhibit No. 2 is a schematic diagram showing the present producing wells in the Paduca-Delaware Field. The well circled in green was the discovery well of the Field. We show the wells with black marks or black circles, the presently completed wells in this Field, with the old well number and the new well number. The Texaco took over as unit operator on April 1, and at that time we renumbered all of the wells in consecutive order bearing the name Cotton Draw Unit Well No. 1, and so forth.

There are three wells that are colored in purple. These three wells are not in the Cotton Draw Unit. They will not participate in the Cotton Draw Unit since, at the present time, these wells are defined as not being commercial in paying quantities. All the other wells are included in the Unit.

Then, down to the south, shown by the red circles, are future development wells, and with the other wells that are shown just with a circle with a wide center, these are wells that are presently being drilled or being completed.

Now, Texaco proposes to take all of the production from the entire Paduca-Delaware Field. We will take the production into three test stations. We have located these test stations. Test station No. 1 is located up in Section 10, and will accommodate the wells in that Section. We will have our central test station located in Section 15. At the central test station we will also have our central battery. And then down in Section 21 we will have our

test station No. 2. The purpose of these test stations is that each individual well will have an individual flow line, with all flow lines converging to the test station, where it will pass into a production header.

The south half of Section 16 is not in the Unit, and those wells there will not be included with the wells that we show on this plat.

Q In other words, the wells that are not in the Unit will be individually tanked?

A That is correct. They will have individual tankage, and we will only tank into a common tank battery those wells in the Cotton Draw Unit. My next Exhibit.

Q Exhibit 3.

A We'll refer to that in just a minute. It will explain a little more in detail in that I show a flow diagram beginning at the producing well, and we will trace the flow of the affluent from the producing well into the tank battery and through the LACT. I might say that we are installing a completely automatic lease facility here. After it is installed, it will be completely automatic. You could free wheel on it if you desired. We will have a central control panel at the central test station and the central battery where each individual well in this entire Unit can be controlled. The headers and the test stations at each of these test stations will be independently controlled from a central point.

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

Q Will you now refer to Exhibit 3, and trace the flow of the oil through that?

A Exhibit No. 3, we start off with the affluent coming from a well, and we will follow through completely into the central tank battery, and then on through the LACT. Starting at the right-hand side of the Exhibit, we show two types of wells. We show a pumping well, and we show a flowing well. At the present time, approximately 75 percent of the wells in the Paduca-Delaware Field are flowing wells, but the production from the pumping and the flowing well will go through independent flow lines to a master header. And starting at this point at the master header, we will start a test station. We will have three test stations, but when we get to the production header, this will be the location of the test station. The oil will come into the header; the header will be equipped with two-way three-position valves. These valves will be controlled from the central test station. If the well is not being tested, it will pass on through the valve. There I pick it up, showing the production following the red line. It will go on downstream, and go into a production separator. Then, after it goes through the production separator, the gas will be separated and sold at this point. The affluent then will pass on out of the production separator and at this point here is the end of our test station. It will traverse down from test station No. 2 through a four-inch flow line,

and it will pass down from test station No. 1 in a three-inch flow line. So, we have followed the production from a well going into a test station, and through the production separator, provided the well is not being tested.

If the well is being tested, the position valve will change positions, and the test line will then open. We have now traced the test fluids as shown by the green line. The affluent will pass through the test line into a three-phase metering separator. At this point, this three-phase metering separator, the gas will be blown out of solution, and we will have a gas meter there that will measure in ten cubic feet of gas. In this metering separator, we will also have fire tubes that will break up any emulsion that we might have in that, that we will be getting accurate readings by breaking out any water content that we might have in the fluid.

After the affluent goes into the three-phase metering separator, I then show the oil coming out on the right-hand side, as shown by the red dashed line. The oil will come out of the separator, it will go through a meter valve in the bottom of this metering separator. We will have two volumes down there, one that will permit the measurement of oil, the other one of water. While this metering section is filling, the two-way three-position valve will be opened to allow the oil to fill into the metering section, and after it reaches the measuring line, a float will trip the diaphragm allowing pressure to be put under the valve, and allow, then, the oil to come back out of the measuring portion of the separator.

We will have a counter on this meter that every time that the valve is actuated, it will make a count. When this valve is tripped or it is actuated, it will send an impulse to the central station. There we will have a control panel, showing each individual well. We will have odometers showing the oil, water and the gas, so every time this valve is actuated, it will send an impulse to the central test station, and the measurement will be recorded there. The water will come out on the left-hand side of the metering separator, and it will also pass through the valve in the same way that the oil did. It will go into the measuring compartment of the separator after this measuring compartment fills. Then the outlet valve will open up, and it will blank off the other side of the valve, allowing the water, then, to go on downstream, and it will be tied into our main flow line on the other end of the production separator.

So, by this, now, we have gone through the complete testing procedure that will be carried out in each of the three test stations. The oil will go down through the individual master flow lines to the central battery, where there it will go through a heater treater, where the oil will be removed, the water will be removed, and the oil will go on downstream to a weathering tank. It's a 500-barrel weathering tank. When this tank is full, the flow of oil will go through the equalizer line into a 500-barrel run tank. There at the run tank we will have three switches. The low switch will be located approximately six feet above ground. At

this point, when oil is in the level at six foot, the LACT will be shut down, and the LACT unit will remain shut in until it reaches the top float switch, which will be located about eleven feet above ground, and at that time the LACT unit will start up again, and it will continue in operation until it lowers the fluid down to the low level switch again. So, while the LACT unit is in operation, the oil will come out of the run tank. It will pass through the pump where it will go through a BS&W monitor. If the oil is suitable for pipeline purchase, the oil will continue downstream. If the monitor detects the oil not to be suitable, the line will be shut off, and the oil will be recirculated back through the heater treater. This valve will remain shut, allowing the recirculation until such time as the monitor detects suitable oil, and at that time, then, oil will continue downstream through the LACT unit. It will pass through a deaerator, a sampler, a meter, and a back pressure valve, and then on into the pipeline.

We have installed all of the fail-proof facilities for this LACT unit. The meter will have a time relay in it. We will set this relay, for example, if it will take fifteen seconds to run a barrel of oil through the meter, we will set this relay to a point that if the oil does not go through the meter in the required time, then the LACT unit will be shut-in until such time as the correction is made to correct the malfunction of the meter. The meter will also have a non-reset totalizer on it. It will have an allowable stop where the LACT unit will be shut-in when the allowable for the

unit is made for the month. We also have this, we are going to install it where it will be completely automatic. For example, if we have failure with the LACT unit, the run tank will start filling up above the eleven foot top float switch, and the level will rise until it hits the emergency lease shut-down float switch, which will be located about fourteen feet above ground. At this time, when the level reaches this float, it will send an impulse to the lease shut-in valves, which are solenoid operated valves. At this time these valves are located at each of the test stations. We will have a valve both for the production line and for the test line so when the level reaches the high level switch the impulse will be sent to the test stations, and the valves will be shut-in. This will stop all flow of oil from the test station into the central battery. The minute that these valves are shut-in, pressure will build up immediately on the flow line between the individual wells and these lease shut-in valves. In the case of a flowing well, we will have a valve set at the choke. When this pressure hits this other valve at the wellhead, it will be tripped and will remain shut-in until such time as the LACT unit goes into the operation again, allowing the emergency lease shut-down float to drop, to allow the lease shut-in valves to open up again.

On our pumping well, we will have valves at the pumping well. When the pressure builds up, a mercoid switch will break the electric circuit to the electric motor and shut down the pumping well. These valves at the wellheads will be high and low level switches.

We will determine our operating pressure in these flow lines, and in case of a flow line break, the pressure switches will detect the flow line break, and they will shut these valves in, and they will remain shut-in until such time as the correction is made.

At our central test station, or central battery, we will have a programming board that will list each individual well on the unit. We will have three odometers for each well, where we will measure all water and gas. This test board, we can either program our wells to test the wells at each individual test station in any manner that we would like, or we can independently control the testing to test any individual well at any time that we would like to have it.

Q How often do you intend to test each well?

A We will test each well at least once a month. Of course, it will all depend on the number of wells that we have that are already served through each individual test station. But, regardless, if the pool does grow to quite a larger extent than we think exists, we will install additional test stations to serve the additional wells, where it will permit testing of each individual well at least once per month.

Q Has Texaco had experience with similar installations?

A Yes. We have an identical LACT unit that we propose here, that has been approved by the Commission.

Q Is that the C. E. Penny lease?

A Yes, that is correct. We also have experience in instal-

ling complete automatic operations.

Q Does that conclude your direct testimony?

A Yes, it does.

Q Were these Exhibits prepared by you or under your direction?

A They were prepared under my direction.

MR. WHITE: At this time we offer the Exhibits, and that concludes our direct.

MR. PORTER: Texaco's Exhibits 1, 2 and 3 will be admitted to the record.

(Whereupon, Texaco's Exhibits 1 through 3 were received in evidence)

MR. PORTER: Anyone have a question of Mr. Robinson? Mr. Nutter.

CROSS-EXAMINATION

BY MR. NUTTER:

Q What's the per well allowable in here?

A These wells are about 4200, so their allowable next month will be 34 barrels.

Q You stated that you had thirty-four producing wells completed.

A That is correct.

Q You have six drilling --

A That is correct.

Q -- or being completed. You have twelve staked locations?

A That is correct. They are either staked or proposed development wells. The actual stake may not be there, but we, at the present time, we have twelve wells that we're planning on drilling.

Q Then eight additional possible locations?

A Eight additional possible locations. It will all depend just exactly where we find the water table as we step out.

Q Looking at Exhibit No. 2 here, those three purple wells, you stated, weren't in the unit. The acreage that they're drilled on is in the unit, is it not, committed to the unit?

A That is correct. The acreage that they were drilled on was committed to the unit, but since these wells are not in paying quantities, by that, I mean they will not recover their cost of drilling, plus a reasonable profit, then the acreage that these wells bear will not be allowed to participate in the unit.

Q So, in other words, they're not in the participating area?

A No, sir, they are not in the participating area, and each one of these wells will be tanked separately, and the production from each of these three wells will be accredited or be given to the particular working interest that has that particular lease.

Q Will Texaco operate those three wells?

A That has not been decided at this time, but we think that we will.

Q But you will tank it separately?

A Yes, sir, they will be tanked separately.

Q Now, the well in the south half of 16 was never committed

to the unit, is that correct?

A That is correct. When the original Cotton Draw Unit was drawn up, that was the only lease within the boundary of the Cotton Draw Unit that was not included in the Unit.

Q Those four wells have actually been drilled, that you show there on the lease?

A Yes, sir, they have been drilled and are producing and --

Q Of course, since they are not in the Unit at all, they are tanked separately?

A Yes, by Tenneco.

Q You don't operate those wells, then?

A No. They have their own operator.

Q Mr. Robinson, the three-inch flow line from testing station No. 1, and the four-inch flow line from test station No. 2 would be the equivalent of a line connecting the treater with the production separator but downstream from where the blue dotted line and the red dotted line come in, is that correct?

A That is correct. If you will look to the immediate left of the treater and to the immediate right of the weathering tank, you will see is what will be either your three-inch or four-inch master flow line.

Q In other words, you have a treater at each of these test stations?

A No, I'm sorry. I'm sorry.

Q To the right of the treater?

A To the right of the treater and between your production separator and the treater will be your master flow line, either your three or your four-inch. We will have only one treater to serve the entire unit. Of course, we may put additional treaters on as we need them, but they will all be located at a central location.

Q All treating will be done at the central station, then?

A That is correct.

Q You have got a BS&W monitor on here. I presume, though, it's not shown in your schematic that you have a three-way valve between the monitor and the strainer, is that correct?

A Yes, that is correct, and this valve, any time the monitor detects bad oil, then this valve will be closed, and the oil will be rerouted back through the treater, and the valve will remain closed until such time as we get clean oil through the monitor again.

Q So, we would have a reroute valve and a reroute line which would connect into the production line upstream from the treater?

A That is correct.

Q You don't show a line from the No. 1 discovery well to any station. Did you plan to put it into the central test station, or into the No. 2?

A It will go into the central test station.

MR. NUTTER: I believe that's all. Thank you.

MR. PORTER: Anyone else have a question of Mr. Robinson?

MR. MORRIS: Yes, sir.

MR. PORTER: Mr. Morris.

BY MR. MORRIS:

Q Mr. Robinson, are you familiar with the rule change that was proposed by Mr. Mutter at the recent hearing in Hobbs?

A Yes, sir, I was present.

Q Do you know of any reason why this installation would not conform to the requirements of that Order, if that Order were already in effect?

A No, sir. I'm quite sure that if Mr. Mutter's proposal, if the Order was written at this time, that this LACT unit would meet all of the features that he proposed in his recommendations to the Commission, and the Commission has previously approved an identical application.

MR. MORRIS: That's all I have.

MR. PORTER: Any further questions? The witness may be excused.

(Witness excused)

MR. PORTER: If nothing further to be offered in Case 2250, we will take the case under advisement, and move on to Case 2251.

STATE OF NEW MEXICO )
) ss
COUNTY OF BERNALILLO )

I, ADA DEARNLEY, 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 19th day of April, 1961, in the City of Albuquerque, County of Bernalillo, State of New Mexico.

Ada Dearnley
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. 2247, heard by me on April 13, 1961.

W. A. Gressett, Jr., Examiner
New Mexico Oil Conservation Commission