

MR. CHRISTY: I may state at the outset, we have sent copies of this application to interest operators Gulf, Hondo, Pan American and Continental. We have the registered return receipts. We also have obtained approval from the supervisor of the U. S. Geological Survey of the application by its letter to Humble of April 26, 1960, a copy of which I have here for the Commission, some of the land being Federal.

LEE PERRY

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

DIRECT EXAMINATION

BY MR. CHRISTY:

Q Will you please state your name, address and occupation?

A Lee Perry, 2618 Northwest Drive, Hobbs, New Mexico. I am a senior engineer, production engineer, in the Hobbs District, Humble Oil & Refining.

Q Mr. Perry, have you previously testified before this Commission as a petroleum engineer?

A No, sir.

Q Would you briefly tell the Examiner the schools of higher learning which you have attended, the degrees, if any, received, and when?

A I attended Texas Technological College; received a B.S. in Petroleum Engineering in 1942; B.S. in Civil Engineering in 1947.



Q Since 1947 what have you been doing in the petroleum engineering field?

A I have worked for Humble Oil and Refining Company since 1947. My present position is Senior Engineer in Hobbs District.

Q Has that work included Township 18 South, Range 27 East, in Eddy County?

A Yes, sir.

Q That is a portion of the area included in your duties?

A Yes, sir.

Q Are you familiar with that area, and particularly the Chalk Bluff Draw Unit area, the wells in the unit adjoining it, and their production history?

A Yes, sir.

Q Does the Commission have any question concerning the qualifications of the witness?

MR. JETZ: No; he is qualified.

Q (By Mr. Christy) Mr. Perry, what is sought by this application?

A We wish to obtain three separate authorities: Blanket approval for exceptions to Rule 309-A; first, to commingle production from all productive wells in that portion of the Abo-Chalk Bluff Unit inside the red perimeter with that in the green perimeter as shown on Exhibit 1 until such time as participating areas are finally approved for this area; second, we wish to gain



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approval to allow us to produce more than sixteen wells into one battery, and third, approval of automatic custody transfer unit for this area.

Q Now, referring you to what has been marked as Exhibit 1, would you tell us briefly what the outlined areas in green reflect?

A Outlined in green are the areas previously approved for commingling in Cases 1916 and 1940; the area outlined in red is the area we are presently asking for commingling on. We want to be able to commingle the entire area outlined in red and green.

Q I notice some hash marks in green. Will you cover that later?

A I believe Mr. Richardson will cover that.

Q And the matter marked in orange we will cover as we go along?

A Yes, sir.

Q The limits of the Chalk Bluff Draw Unit are shown by dark marks on Exhibit 1?

A It is marked with heavy blue lines.

Q Now, why couldn't this request be handled by administrative procedure under Rule 390-b?

A It could be except that ownership of the leases is not common.

Q I see. What would be the advantages gained from the commingling of all wells in this red and green perimeter?



A By commingling into the same common tank battery that will eventually serve the participating areas, considerable tankage can be saved. The LACT unit will enhance the advantages of a central battery as a permanent completion to produce more than 16 wells. The expense of a temporary pipeline connection or drayage from each separate lease until it is included in the participating area will be saved. To prevent burdening the Commission with a succession of Hearings we are now asking for authority to commingle all present and future Abo wells in the area outlined in red and green.

Q Is that area all within the designated limits of the Empire-Abo field?

A No, sir. Some of this area is unproven. As additional wells are completed in the Abo, Form C-123's are being submitted to request extension.

Q Along these lines, has a similar commingling request ever been approved by this Commission?

A Yes, sir. In Case 1552, R-1292, dated 11/26/58, Pan American was granted permission to commingle producers in the Empire-Abo field.

Q How will this commingling for the separate leases be accomplished? At this point I would like to refer you to Exhibit 2. Will you please identify it?

A Exhibit 2 is a schematic diagram of the proposed method



of commingling at the top and the LACT unit at the bottom. This is all for this Battery No. 1, Abo-Chalk Bluff Draw Unit.

Q Now, will you please tell us how this commingling of the separate leases will be accomplished?

A Until a participating area is formed or approved, production from each base lease will be produced into the existing tank battery and measured separately. The production from Wells 1 through 5 will continue to be measured as described in the previous Hearing, 1940.

Q Those Wells 1 through 5 are outlined in green on Exhibit 1?

A Yes, sir; the wells in that area. Hondo's wells, Nos. 1 and 3, will pass through the permanent metering test separator for the battery. Well 5 from the Humble lease will be produced through a temporary metering separator. Humble's wells in Section 9, Nos. 2 and 4, will pass through the permanent production separator which is non-metering, with the production being determined by subtraction. Additional leases added before the participating area is finally approved will require additional metering separators. When a participating area is approved, production from it will utilize the permanent header (D) and the production and test separators (A and B) in the upper left portion of Exhibit 2.

Right up there in the upper left we have the header and two separators. Production from leases not in the participating area

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will be metered through the temporary metering separate (C) at the upper right. Production from the participating area will be measured through the metering separator (B). A temporary 500 barrel tank has been set (D-3) and can be used to prove these meters.

Q Have you notified the offset operators and interested parties and, if so, have you had any objections to the application?

A We have notified them, and have had no objections.

Q You mention that metering vessel. Has that type of metering vessel been approved by this Commission?

A Yes, sir; it was approved in 1916 and 1940.

Q Now, in your opinion, would the granting of this application with respect to comingling be in the interests of conservation and the protection of the correlative rights of the independent parties?

A Yes, sir.

Q Do you see where it might violate any correlative rights?

A No, sir.

Q Now, sir, how many wells can be located in the area involved in this and the two previous comingling hearings; that is, the areas outlined in red and green?

A Twenty-four wells in all. Nineteen additional wells for this application; six of these are already completed, and two are drilling.



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Q With respect to that portion of your application relating to the production of more than sixteen wells into a common tank battery, would you explain that?

A If all of the locations in the areas involved in the red and green outline are producers we would wish to produce all of those, or as many as are economically feasible, into a common tank battery, utilizing the LACT unit for which we are asking for approval. This will efficiently handle the present allowable from this area, and will be an economic benefit in that considerable tankage and several pipeline connections would be saved. Labor and travel time for production and pipeline personnel would be reduced.

Q Where is this common tank battery, and will it stay there?

A Battery 1 is in the Southeast Quarter of the Northwest Quarter, Section 9, shown in orange on Exhibit 1. However, in the interest of flexibility it is requested that the order be written without specifying the location.

Q Now, let's turn to the LACT portion of your application, and I will refer you to the bottom half of Exhibit 2. I believe this is the schematic presentation of the LACT unit; is that correct, sir?

A Yes, sir.

Q Now, in your opinion, would this installation be in the interests of conservation?



A Yes, sir. It very definitely will be. The LACT unit will replace an additional 3,000 barrels of tankage, a saving of something like 45 per cent in monetary value. A considerable portion of the light hydrocarbons which normally weather off in conventional lease operation would be conserved. Labor and travel time for the operator as well as the pipeline company would be reduced and with the reduced investment and labor costs the operator hopes to be able to produce this lease or unit to a lower economic limit.

Q So that there would be both an economic saving and a saving of the oil itself?

A Very definitely.

Q What type of LACT system do you propose, Mr. Perry?

A The LACT unit is similar to others installed in Empire-Abo Field. The meter proposed will be a corrosion resistant positive displacement type meter. However, we would rather the type were not designated in the Order, if the Commission pleases. The skid mounted LACT unit will contain more or less standard equipment: charging pump, BS & W monitor, diverting valve, strainer, meter, sampler, combination back pressure and shut-in valve, and prover loop.

Q Would you please briefly tell the Examiner how this LACT system works?

A Yes, sir; first, let me state, on Exhibit 2 the existing



battery facilities at the Chalk Bluff Draw Unit, Battery 1. At the left of the permanent header (Q), the production and metering separators (A and B) and the two permanent 500 barrel tanks (D-1 and D-2). At the upper right are the temporary metering separators (c) and the tank (D-3) which was temporarily set and will be used in the future to prove the temporary metering separators as long as it is required. Production, shown in green, will pass through the surge tank (D-2) filling it to the high level float switch which will open the shut-in valve (M), just upstream from the prover loop, down at the lower left of the prover, and start the charging pump (F) at the lower right. Production will flow to the skid mounted LACT unit, passing the charging pump and the BS & W monitor (G). Good oil will flow on through the strainer, (J), the sampler (L), the combination back pressure and shut-in valve (M), and to the pipeline. Here the flow can be diverted into the prover tank (N) to prove the meter.

In case the monitor detects unacceptable oil it will automatically open the diverting valve (H) and close the combination valve (M) turning the flow along the brown line, back to the volume tank (D-1). Bad oil will be manually treated and switched back. At present we are producing pipeline oil so no treating is necessary. When the level in the surge tank (D-2) is reduced to the low level controller it will close the shut-in valve (M) and stop the charging pump. In case the high level controller fails

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to function, oil will fill the surge tank and overflow into the volume tank (D-1) through the equalizer line. In the event the oil in the volume tank reaches the emergency high level controller either from bad oil or from overflow from the surge tank, the emergency high level controller will close both lease automatic shut-in valves (E) at the header. In turn, this will place the tubing pressure on the flow lines. We have provided for this by installing high pressure flowlines, plasticoated to resist corrosion and tested to 1-1/2 times the tubing pressure. Our plan is to have a pumper on 8-hour duty on this and other nearby leases.

A Do you feel this LACT system is reliable?

A Systems similar are in operation throughout New Mexico and in the Empire-Abo field. We feel we have accounted for all of the contingencies that might arise. The meter is equipped with a Fail-safe device, charging pump has high pressure shutdown, and the combination valve (M) is normally closed so that in the event of a power failure the LACT unit would be shut-in. The positive displacement meter itself as a measuring device has certainly proven its reliability in New Mexico.

Q Do you feel you would have any corrosion problems on the P.D. meter?

A The meter is the corrosion-resistant type. It has what A. O. Smith calls an electro-film process, patented process, but the meter has served fourteen months in this same oil.



Q Same type of corrosive oil?

A Yes.

Q Who is purchasing the oil from this installation?

A Service Pipeline.

Q Have you submitted the LACT system to them, and have they approved it?

A They have.

Q With respect to the metering separators (C) up at the top right-hand portion of Exhibit 2, Do I understand that that is a temporary set-up?

A It is very definitely a temporary set-up. Probably after the first participating area is set up no well will come through a temporary metering separator for more than sixty days. I think Mr. Richardson will cover that more thoroughly.

MR. CHRISTY: I think that is all. One other question: Was Exhibit 2 prepared by you or under your direct supervision?

A Yes, sir.

CROSS EXAMINATION

BY MR. PAYNE:

Q How many separate leases are contained in the acreage outlined in green?

A Three.

Q At the present time are you separately metering the production from each of those leases?



A We are separately measuring them, sir. One of them is obtained by subtraction.

Q And that was granted on the basis that once the participating area was formed it would relate back?

A Yes, sir.

Q To the time of initial production?

A Yes, sir.

Q Now, how many separate leases are contained in the red area?

A Sir, I have not actually counted them. I would say about fifteen.

Q Do you propose to separately measure the production from each of those leases until such time as a participating area is formed?

A Yes, sir.

Q Is all this acreage within the Chalk Bluff Draw Unit?

A Yes, sir.

Q Has all the acreage been committed to the Unit?

MR. CHRISTY: We have another witness who can answer that question. I don't know if this engineer knows that. The answer is, practically all of it has.

Q (By Mr. Payne) These are all flowing wells, are they not?

A Yes, sir.

Q And additional wells probably will be?

A Yes, sir, as far as we anticipate.



Q In the event of malfunction or flow-line break the wells would have to be shut in?

A We don't anticipate flow line breaks. As I said, we are putting in high pressure flow lines, tested to 1-1/2 times the tubing pressure. They are going to be corrosion-resistant. They will be plastic-coated, and flow line breaks on high pressure lines are just not something that happens.

Q You never have encountered any in your experience?

A No, I have never; not on a high pressure line. With other types, sometimes, yes; but with the best grades of pipe it is extremely, must be extremely unusual. I have been working in oil fields for fourteen years and haven't encountered it.

Q All your flow lines will be above ground?

A Yes, sir.

Q And a man will be on the lease how often, in the area?

A He will have eight hours on this and our other lease in the Empire-Abo Field, so he should be on this lease probably six hours, I would guess.

Q Now, do you ever intend to go to complete automation in this unit so that a man is seldom if ever on the lease?

A Not until it becomes more economically attractive. We don't feel that we have gotten around to the complete automation point yet; I doubt it.

Q Now, you are going to commingle the production from the leases outlined in green with the production from those outlined



in red?

A Yes, sir.

Q The production from the leases in green are now going into a common tank battery?

A Yes, sir.

Q And you are still going to produce them into that common tank battery?

A Yes, sir, with the addition of any producing wells in the area outlined in green; they will go into the same tank battery.

MR. PAYNE: I see. Thank you.

BY MR. UTZ:

Q What is your shut-in tubing pressure?

A From 700 to 900 pounds, sir.

Q In regard to the plastic-coating of this line; how much experience have you had with corrosion prevention?

A Considerable, sir. We have had extremely good luck. This is going to be a baked-on phenolic, the best we know. As a matter of fact, the flow lines are already in with that; it is an extremely reliable coating.

Q Are these welded lines?

A No, sir; screwed lines.

Q Couplings also plastic-coated?

A Yes, sir; the coating is designed so that it overlaps on the threads just enough to bond together. We have had, within the company, something like nine year's experience with this type



of a coating now, and have found it to be very reliable.

MR. PAYNE: Mr. Perry, how is it that an initial participating area has not yet been formed?

A The participation request for a participating area has, I believe, been submitted to the Commission and I believe it is within your hands now.

MR. PAYNE: Has the U.S.G.A. approved it?

A I think they are waiting on your approval.

MR. CHRISTY: Mr. Examiner, I believe we have a witness that can cover that.

MR. UTZ: Will your next witness be able to clarify questions in connection with lease ownerships?

MR. CHRISTY: He is a person that has lived with this unit for quite a few years.

MR. UTZ: Any other questions of this witness?

MR. CHRISTY: I may ask one more.

REDIRECT EXAMINATION

BY MR. CHRISTY:

Q In response to Mr. Utz' question about shut-in tubing pressure your answer was 7 to 900. Is that maximum tubing pressure?

A That's right.

MR. UTZ: In line with that question, do you anticipate forcing up in this field?

A I'd rather not commit myself.

MR. UTZ: Ordinarily they do, don't they?



A They do.

MR. UTZ: In which case your shut-in tubing pressure will become higher?

A I doubt that.

MR. UTZ: You doubt that your flowing pressure will become higher?

A It could be; yes.

MR. UTZ: Any other questions? Witness may be excused.

MR. CHRISTY: We would like to call Mr. Andy Richardson. He has not been sworn, Mr. Examiner.

(Witness sworn).

R. M. RICHARDSON

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

DIRECT EXAMINATION

BY MR. CHRISTY:

Q Would you please state your name, address and occupation?

A R. M. Richardson. I am a Land Man with Humble Oil & Refining Company in Roswell, in charge of unitization and zone operations.

Q Mr. Richardson, are you familiar with the Chalk Bluff Draw Unit agreement and area?

A Yes, sir.

Q Which I believe is outlined in applicant's Exhibit 1 in this case?



A Yes, sir.

Q Now, I refer you to the green hash marks on Exhibit 1 which have not been explained. Would you briefly explain what that is to the Examiner?

A The green hash marks are the area that has been requested as the initial participating area for the Abo Production in this unit. It includes Wells 1 through 4; the land included is the East Half West Half Section 9, Township 18 South, Range 27 East.

Q Mr. Richardson, within the perimeter of the red area, how many base leases are we speaking of? How many are there?

A Fourteen.

Q And within the perimeter of the green area how many base leases?

A There are three within the green area.

Q We have a total of seventeen base leases involved in this commingling portion of the application?

A No; I included the green leases. Actually your participating area includes a portion of base leases also in the red area.

8 Q So we would have less than seventeen?

A About fourteen; total fourteen.

Q Now, the Chalk Bluff Unit agreement, I believe it provides for participating areas?

A Right.

Q Who must approve the participating area under U.S.G.S.?



A Director, Commission and Commissioner.

Q You mentioned that the hashed green area on Exhibit 1 was your proposed initial participating area?

A Right.

Q Has that proposal been submitted to those three bodies you have mentioned?

A It has been submitted to the Commission. It has been approved by the Commission, and is now in the hands of the Commissioner for approval. It will then be submitted, after approval by the Commissioner, to the U.S.G.S. for approval of the Director.

Q When the participating area is finally approved by those three regulatory bodies, would you tell us what the unit agreement provides with respect to the allocation of production from the participating area and when it is effective?

A The total production in the approved participating area is allocated to each tract in the participating area on a surface-acre basis.

Q Effective when?

A Effective at the time of first production; the subsequent enlargements are effective the first of the month in which is obtained knowledge on which expansions are based.

Q For example, if you expanded the participating area to take in drilling Well No. 8, which is in the Southwest Northwest Section of 9, once it is taken in the participating area it would



be effective as of the first day of the month in which the production is obtained on that well?

A Right.

Q And I assume from your statements that the unit agreement does have a provision for expansion of these participating areas?

A Yes, sir.

Q Now, sir, within the red and green perimeter, what per cent of working interest and royalty has been committed to the unit agreement?

A It is 100 per cent committed with the exception of a 1.25 per cent override under the Northeast Southwest of Section 4, and the Southwest Southwest of Section 4, Lots 15 and 17, Section 4.

Q Those are the two tracts in the extreme north end?

A Extreme north end; 1.25 per cent override.

Q Have you had a refusal by those overrides or what?

A That was an estate at the time we were putting the unit together; it was an estate in Artesia that had not been settled and I think they didn't know who had the authority. It was all tied up, probably in litigation, and since that time we have investigated and I think the estate is now closed, but we still haven't determined exactly who can commit and Hondo is now working on that.

Q Do you anticipate you will get them?

A We anticipate they will come in.

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MR. CHRISTY: That is all the questions we have from this witness, Mr. Examiner. I might state at this time that in one or two of the prior cases on commingling questions have come up concerning the terms of the unit agreement, various provisions of it which the witnesses did not know, or were not familiar and versed with. However, I believe Mr. Richardson is well versed and familiar with the terms of the unit agreement. If the Commission has any questions concerning it, we would be happy to try and answer them.

CROSS EXAMINATION

BY MR. PAYNE:

Q You do plan to separately measure the production from each lease prior to commingling; is that right? Each base lease?

A Once it is in a participating area, well then I don't believe --

Q Until such time as it is?

A Until such time as it is it will be separately measured.

MR. UTZ: Any other questions of the witness?

MR. CHRISTY: I might ask one question. Mr. Richardson, do you know of your own knowledge that Exhibit 1 is a true replica of the unit area and boundaries?

A It is.

MR. UTZ: Witness may be excused.

MR. CHRISTY: At this time we would like to offer in evidence applicant's Exhibits 1 and 2.

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MR. UTZ: They will be admitted.

MR. KASTLER: Kastler, appearing on behalf of Gulf Oil Corporation. Gulf is a unit participant in the Chalk Bluff Draw Unit, owner of Well No. 6 which we recently brought in as a producer, Northeast Quarter of the Northwest Quarter of Section 16, 18 South, 27 East. We concur in this application.

MR. UTZ: Any other statements? Case will be taken under advisement.

STATE OF NEW MEXICO)
) ss
COUNTY OF BERNALILLO)

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

June Payne

Court Reporter

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 946, heard by me on April 27, 1960.

Edward W. [Signature]
_____, Examiner
New Mexico Oil Conservation Commission

