NEW MEXICO OIL CONSERVATION DIVISION

STATE LAND OFFICE BUILDING

STATE OF NEW MEXICO

CASE NOS. 10552, 10553, 10554

Consolidated Cases

IN THE MATTER OF:

The Application of ARCO Oil and Gas Company for Pool Creation and Contraction and, if Applicable, Pool Extensions and/or Redesignations, Lea County, New Mexico.

The Application of ARCO Oil and Gas Company for Statutory Unitization, Lea County, New Mexico.

The Application of ARCO Oil and Gas Company for Approval of a Waterflood Project, Lea County, New Mexico.

BEFORE:

DAVID R. CATANACH

Hearing Examiner

State Land Office Building

September 17, 1992

REPORTED BY:
CARLA DIANE RODRIGUEZ
Certified Shorthand Reporter
for the State of New Mexico

A P P E A R A N C E S

FOR THE NEW MEXICO OIL CONSERVATION DIVISION:

ROBERT G. STOVALL, ESQ.
General Counsel
State Land Office Building
Santa Fe, New Mexico 87504

FOR THE APPLICANT:

CAMPBELL, CARR, BERGE & SHERIDAN, P.C.
Post Office Box 2208
Santa Fe, New Mexico 87504-2208
BY: **WILLIAM F. CARR, ESQ.**

I N D E X

E X H I B I T S

EXAMINER CATANACH: Call the hearing back to order and at this time we'll call Case 10552.

MR. STOVALL: Application of ARCO Oil and Gas Company for pool creation and contraction and, if applicable, pool extensions and/or redesignations, Lea County, New Mexico.

EXAMINER CATANACH: Are there appearances in this case?

MR. CARR: May it please the Examiner, my name is William F. Carr with the Santa Fe law firm Campbell, Carr, Berge & Sheridan. We represent ARCO Oil and Gas Company in this case, and I have three witnesses.

I would like the record to reflect that the style of the case was generated by the Division and not by ARCO, particularly the provision that Mr. Stovall had a hard time reading. I would further request that this case be consolidated, for purposes of hearing, with Cases 10553 and 10554. They all relate to the creation of the South Justis Unit and we think it would be appropriate to consolidate them for purposes of hearing, but would request that separate orders enter.

MR. STOVALL: I would like the record to reflect that the Division tried to interpret Mr. Carr's application.

EXAMINER CATANACH: So recorded. At this time we'll call Case 10553 and Case 10554.

MR. STOVALL: 10553 is the application of ARCO Oil and Gas Company for statutory unitization, Lea County, New Mexico.

Case 10554 is the application of ARCO Oil and Gas Company for approval of a waterflood project, Lea County, New Mexico.

EXAMINER CATANACH: Are there additional appearances in any of these three cases?

Will your witnesses please stand to be sworn in, Mr. Carr.

[The witnesses were duly sworn.]

RAY PYLE

Having been first duly sworn upon his oath, was examined and testified as follows:

EXAMINATION

BY MR. CARR:

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

A. My name is Ray Pyle.

Q. Where do you reside?
A. I reside in Midland, Texas.
Q. By whom are you employed and in what capacity?
A. I'm employed by ARCO Oil and Gas. I work as a petroleum landman for ARCO.
Q. Have you previously testified before the New Mexico Oil Conservation Division?
A. No, I have not.
Q. Would you summarize for Mr. Catanach your educational background and then review your work experience?
A. My undergraduate degree is in communication. I'm a certified petroleum landman. I worked as a landman for the last 14 years; the last four years of which I worked for ARCO Oil and Gas, and prior to that time as an independent landman.
Q. Are you familiar with the applications filed in each of these cases?
A. Yes. I started working on this project in April 1991.
Q. In fact, you're the land person responsible for contacting working interest owners and royalty interest owners, both before

and after an order is entered in this case, assuming one will be entered?

A. Yes.

Q. Are you familiar with the status of the lands in the proposed South Justis Unit area?

A. Yes, I am.

MR. CARR: We tender Mr. Pyle as an expert witness in petroleum land matters.

EXAMINER CATANACH: Mr. Pyle is so qualified.

Q. Would you briefly summarize what ARCO Oil and Gas Company seeks in these consolidated cases?

A. We're seeking, first of all, statutory unitization of the South Justis Unit comprised of 5,360 acres made up of federal, state and fee lands; also, the creation of a new Blinebry-Tubb-Drinkard pool, along with a contraction of the boundaries of the Justis-Blinebry oil pool and the Justis-Tubb-Drinkard oil pool; also seeking approval of a waterflood project in the new pool.

Q. Mr. Pyle, would you please identify what's marked as Exhibit No. 1. I think a copy of that is on the easel?

A. Exhibit No. 1 is an orientation map just to show you where the unit is located in relationship to Lea County, to the southeastern corner of Lea County. It's about two miles east of Jal, New Mexico.

Q. Let's move now to Exhibit No. 2 which is also on the easel. Would you identify that and review that for Mr. Catanach?

A. Exhibit No. 2 outlines in red the proposed unit outline. The outline in pink is the existing Justis-Blinebry pool and the outline in green is the existing Justis-Tubb-Drinkard pool. It shows the correlation between the unit area with the existing pools. It will be used later on in further testimony.

Q. All right. Let's move on to Exhibit No. 3. Could you identify that?

A. Exhibit No. 3 is an enlargement of our Exhibit A to the unit agreement. It shows you the outline of the proposed unit. It shows you the character of the land. The green slashed land is the federal acreage totaling 2,800 acres, representing 52.24 percent of the unit area.

The slashed acreage in red is state land. 920 acres, representing 17.16 percent of

the unit area, and the white tracts are the fee lands. It's 1,640 representing 30.60 percent of the unit area.

You'll also note that the federal and lease numbers are illustrated on those tracts that are federal and state lands, as well as the name for the record title, according to the state and federal records.

Q. Let's now move to your Exhibit No. 4. First would you identify that and then explain to Mr. Catanach what they show. Is it in the folder?

A. It's in the manila folder, yes. Exhibit No. 4 is Exhibit B and C of the unit agreement. It shows the current ownership on a tract-by-tract basis, showing the record title owners, royalty interest owners, overriding royalty owners and working interest owners.

Exhibit C, which is on the back following Exhibit B there, is a separate exhibit that shows the tract participation for each individual tract. One thing you might note in Exhibit B is those tracts that have uncommon ownership between the Blinebry and the Tubb-Drinkard. We have characterized those with

the letter A for the Tubb-Drinkard.

An example of that on page 12, if you look at that, you have tract 42 that is showing the Blinebry ownership in there, and then on page 14, on Exhibit B, you'll see the Tubb-Drinkard ownership.

We discussed that with the BLM in terms of how to best illustrate those in that exhibit, and so that's what we did. We didn't use a separate tract number, we just added the A in there for those few tracts that had uncommon ownership between the Blinebry and the Tubb-Drinkard.

Q. Let's move now to ARCO Exhibit No. 5. Would you identify that?

A. Exhibit No. 5 is the unit agreement. It has the basic, standard provisions as in most unit agreements. We patterned this after the unit agreement that was the Eunice Monument South unit agreement.

When discussing this with the land office, that is the unit agreement that is recommended in terms of form for secondary recovery for federal, state and fee lands.

It reflects, basically, the characters

of the land, provides for waterflooding and sets out the basis for the participation for each of the owners.

Q. Does this agreement provide for the periodic filing of plans of development with governmental agencies?

A. Yes, it does. Section 11 allows for periodic filing of plans of operation.

Q. Will these plans be filed with the Oil Conservation Division at the same time they're filed with other agencies?

A. Yes, they will.

Q. Do you anticipate any further changes being made to the text of this agreement?

A. No, we do not. The terms and provisions should remain the same. Any changes might be along the line of spelling, wording, that type of thing; nothing that would impact the terms of the provisions in the agreement.

Q. Let's identify what has been marked as ARCO Exhibit No. 6?

A. Exhibit No. 6 is the unit operating agreement. It's patterned after, also, the Eunice Monument South operating agreement. It contains the basic standard provisions of a unit

operating agreement. It outlines the supervision and the management of the unit, defines the rights and duties of all of the parties; shows how the investments and costs are to be shared; establishes the voting procedure for the decisions to be made by the working interest owners; and it sets out standard COPAS provisions for accounting purposes.

Q. Has ARCO reviewed this proposal with the Bureau of Land Management?

A. Yes, we have. When I first started working this project, I contacted the BLM, visited regarding what our objectives were, asked them regarding the time frames of the filing dates and that type of thing.

We had our first meeting with the BLM on the 22nd of May, 1991. We met with Armando Lopez and the other staff members there in Roswell. We were represented by our geology department, as well as engineering and land. We discussed the unit outline at that time. We discussed and showed them our initial drafts of the unit agreement. Also we discussed the basic objectives that we had, asked for their suggestions and guidance as we went along on it.

We made application with the BLM on February 4, 1992, for preliminary approval. If you'll look at Exhibit No. 7, that's a letter dated March 9, 1992, where the BLM gave us the preliminary approval designating the proposal as an area logically suited for development as an area under a unit plan.

Q. Have you reviewed this proposal with the New Mexico State Land Office?

A. Yes, we have. We followed basically the same outline, same timing. In discussing this with the BLM, we discussed it also with the New Mexico State Land Office. Our first meeting with them was May 23, 1991. The same parties as I mentioned that met with the BLM also met with the State Land Office.

Basically, reviewing the same types of information with them that we did with the BLM, asking for their input or suggestions. We made our written application for preliminary approval, also on February 4, 1992 with the State Land Office, and if you'll notice in Exhibit No. 8, it shows the preliminary approval by the Commissioners of Public Lands, and that was dated March 11, 1992.

Q. Would you identify ARCO Exhibit No. 9?

A. Exhibit No. 9, that exhibit is the same as the Exhibit D to the unit operating agreement. That lists all of the working interest owners alphabetically. It shows their interest that they have in each individual tract in which they own an interest, and it also totals up their interest on that to reflect their entire interest within the unit.

Q. Could you review your efforts to obtain the support of these working interest owners in this unit plan?

A. We gave a brief history of our contact in working with the working interest owners. ARCO first became involved with the working interest owners in pursuing a secondary recovery project in 1984. At that time we participated in a technical committee in which the effort was to evaluate the prospect of waterflooding the Blinebry and the Tubb-Drinkard.

In 1986, the firm of Hickman & Associates in Midland conducted a technical study, feasibility study, and the results of their study were released in 1987. The Hickman report basically recommended the waterflooding of

the field in two units. S. J. Missoulo published a geological study as part of that Hickman feasibility report.

As a result of that study and report, ARCO proceeded to pursue the forming of a secondary recovery unit in the South Justis field and took on the role as expediter at that time. June of 1991, the technical committee report was approved. January of 1992 the equity formula, participation formula, was approved.

At this point in time we have approximately 50 working interest owners within the proposed unit. We have not--ARCO has not pursued prehearing ratifications. We have ballotted each one of the working interest owners seeking their ballot of support. At this point we are in excess of 91 percent support from the ballots that we sent out, and we have received no negative vote.

Q. What has ARCO done to obtain support from the royalty interest owners in the unit area?

A. Following the approval of the unit agreement by the working interest owners, we have prepared and distributed a royalty owner brochure

as Exhibit 10. The purpose of the brochure is to explain the project to the working interest owners. We sent that to them along with the unit agreement and a letter seeking their support as well for the unit. We did not, again, proceed with getting prehearing ratifications from them.

At this point in time we have in excess of 80 percent ballotted support from the royalty owners. We still have those ballots coming in, and we have not received any negative vote from royalty owners.

Q. Is ARCO Exhibit No. 11 a copy of an affidavit from the law firm, Campbell, Carr, Berge & Sheridan, confirming that notice of today's hearing has been provided in accordance with OCD rules?

A. Yes.

Q. To whom was notice mailed?

A. We mailed notice to all interest owners within the unit area, all surface owners for all proposed injection wells, and all leasehold operators within a one-mile radius of the unit boundary.

Q. Are those owners identified by name and address on Exhibit A to this affidavit?

A. Yes.

Q. Behind that affidavit we first have royalty owners, then we have working interest owners, later than that we have surface owners, and then we have other operators within the areas of review, is that correct?

A. That's correct.

Q. How was this list of owners actually prepared?

A. The unit area has been held by production for several years, numerous years. I don't know how far back the production goes. As a result of that, we have relied on the operators to provide us with their pay sheets for the updated information regarding the ownership.

We've also done, initially, early on in the process, courthouse and record checks to begin to establish our ownership.

Q. Since notice of this hearing was provided, approximately how many people did you give notice to, do you know?

A. There were in excess of 395 royalty owners, 50 working interest owners. I don't know in terms of the other numbers for the surface. I would estimate the total number in excess of 450

people.

Q. After providing notice to these individuals, did you discover new addresses or changed addresses for any of the interest owners?

A. There were some that came back where we were able to find out a more up-to-date address and we immediately tried to get notice out to them as well.

Q. About how many people are we talking about?

A. We had seven that we sent additional--we had updated addresses where we sent notice out.

Q. Will ARCO call geologic and engineering witnesses to review the technical portions of this case?

A. Yes.

Q. Were Exhibits 1 through 11 prepared by you or compiled under your direction and supervision?

A. Yes.

MR. CARR: Mr. Catanach, at this time I would move the admission of ARCO Exhibits 1 through 11.

EXAMINER CATANACH: Exhibits 1 through

11 will be admitted as evidence.

MR. CARR: That concludes the land portion of our presentation.

EXAMINATION

BY EXAMINER CATANACH:

Q. Mr. Pyle, the unitized interval will be addressed by a geologic witness?

A. Yes.

Q. Do you anticipate nonjoinder or nonratification by any working interest owners?

A. Not at this point in time. What we have done over a period of probably the last three years is we have, in those situations, we've had working interest owners that have expressed an interest to be bought out in the area as much as we have been able to do capitally.

We have acquired that interest, and at this point in time I do not know of any working interest owner that would oppose formation of the unit.

Q. So the remaining nine percent that haven't ballotted to join at this point, you expect those to come in?

A. Hopefully.

Q. Has there been any concern expressed to you by any royalty owners over the formation of the unit?

A. No. All of our response from the royalty owners has been very positive. They've seen their royalty over a period of years in a decline, and the prospect of that royalty now continuing has been a very positive response from the royalty owners.

Q. Are you satisfied that you've been able to find all the interest owners in the proposed unit?

A. Yes, we have. From the pay sheets of several of the operators' addresses that are shown on the Division orders that show "address unknown," in which they've been in that status for some extended period of time, and it's doubtful as to whether or not we'll be able to locate those if the operators, themselves, over a period of time have been unable to locate them.

We will continue to make every effort we can, if we obtain leads on them, to pursue getting those addresses.

Q. Do you know what percentage that might be of owners that you can't locate?

A. I would, and it would just be estimating right now, but those that actually showed up on any of the operators as "address unknown," would not be more than 15 total.

One of the problems that we have encountered with this is the fact that there was a major shift in ownership into this six to eight months ago, when Union Texas' interest went to Meridian, so there has been a lapse in time period to get those records changed over.

Meridian, at this juncture, is really quite unfamiliar with their pay sheets and their records at this point in time, so there may be some we'll be able to catch up with once they get set up and become familiar with the ownership to those that they acquired.

Q. Will ARCO make an attempt to locate those persons that they can't locate at this point?

A. We feel, at this juncture, that in terms of those owners that in the individual tracts where the operators have not been able to locate them, we have to have some type of cutoff that we feel would be economically prohibitive to continue and try to pursue those.

EXAMINATION

BY MR. STOVALL:

Q. What provision does the unit agreement or operating agreement have for nonconsent to any operations, or nonpayment? As I read through, I notice there's a lien provision for the collection. Is there any provision for nonconsent or forfeiture of interest?

A. I'm not sure I'm following what your question is.

Q. In other words, if an owner were to choose to go nonconsent or not want to participate in the particular operation, is there a provision for that or is it strictly, once it's voted on and agreed upon, everybody is bound by it?

A. That is correct. In other words, any operation that you would receive the majority of your vote on, they would be obligated to participate in that operation.

Q. If somebody failed to pay for it, you would assert a lien because there would be no forfeiture of interest or penalty attached? It would just be a lien in interest?

A. Right, until that amount is recooped.

Q. Now, with respect to the secondary recovery operations, I assume ARCO is, at some point, going to want the project to receive the tax credit under the EOR bill, is that correct?

A. Yes. That's something that I wouldn't speak to.

MR. STOVALL: Who do we have a discussion with about that?

MR. CARR: Our engineering witness will be able to discuss that with you. It's our intention to seek approval of the project, but we have some initial injectivity tests that we're going to mention later, that we're going to conduct are just tests, and we'll be back asking for approval of the project before we actually commence injecting water into the formation.

The reason for that is there's some time frames after you commence injection and get the project approved, during which time you must achieve a positive production response. And, while we're doing this initial testing, we need to have a clock running on that.

MR. STOVALL: For your information, subsequent to some discussions we had on this with the Division before this application, the

approach we've actually taken on the one case we've seen at this point is to include a provision in the Order, assuming that it does qualify, that it qualifies for the credit, and then requesting the operator to come back and request certification to the secretary, because that starts that clock running on the time we need for positive production response.

So, it would not necessitate an additional hearing to come back and get that approval.

MR. CARR: It was our intention and we think we will do it today, to provide all information required by the rules that you've recently promulgated for qualifying projects for the tax incentive rate. And our intention was to simply present it and advise you that we would be seeking the formal approval at a later date. Your new procedure, as you've outlined it, would be agreeable to us.

MR. STOVALL: I don't think it asks you to do anything different, but it may change, slightly, what you ask for when you leave today.

I'll tell you, the other thing that we've discovered, and this is largely as a result

of the discussions we had with ARCO, prior to this hearing, and on the one other case that we've got--and the engineer may want to discuss the plan for implementation--because what we can do is approve the project area, the initial phase, if it's phased or whatever, and get a preliminary approval. And then, at such time as you ask for certification to the Taxation & Revenue Department, we would certify and we could amend that at that time, if you didn't intend to implement the whole thing. It saves you coming back for another hearing, is what we would anticipate, and we've reviewed it with Tax & Rev and they're agreeable to that procedure.

MR. CARR: Mr. Stovall, we're prepared, as part of our presentation, to identify Phase I and Phase II development areas.

MR. STOVALL: Good. And the rest of my questions I will save for the engineer on that issue.

EXAMINER CATANACH: Mr. Pyle, does the unit agreement or the unit operating agreement contain the allocation formula for allocation of production?

MR. CARR: The answer to the question

is yes, and that will also be reviewed by the engineering witness who participated in the meetings where that was developed.

EXAMINER CATANACH: Okay.

MR. STOVALL: Mr. Examiner, I did look at the agreement, and there is a formula in Section 13 on page 8 of the unit agreement.

EXAMINER CATANACH: Okay. That's fine. I'll save my questions until then.

I have nothing further of the witness. He may be excused.

MR. CARR: At this time we call Mr. Tim Altum, A-L-T-U-M.

TIM ALTUM

Having been first duly sworn upon his oath, was examined and testified as follows:

EXAMINATION

BY MR. CARR:

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

A. Tim Altum.

Q. By whom are you employed?

A. ARCO Oil and Gas, in Midland, Texas.

Q. In what capacity?

A. A development geologist.

Q. Have you previously testified before this Division?

A. No, I have not.

Q. Would you briefly summarize your educational background and review your work experience.

A. Yes. I have a B.S. degree in geology from Hardin-Simmons University and an M.S. degree in geology from Baylor University. I worked three years with an independent oil company in Abilene, Texas, as an exploration geologist, and six years with ARCO Oil and Gas, the last two years as development geologist.

Q. Are you familiar with the application filed in this case?

A. Yes, I am.

Q. Mr. Altum, how long have you actually worked on this project?

A. I've worked Southeast New Mexico since February of 91, and South Justis an equal amount of time. Since October of 91, I've spent over 80 percent of my time working the South Justis Unit.

Q. Could you summarize for Mr. Catanach the work you have done on this particular unit?

A. The work at South Justis began by

digitizing the entire well log database. A detailed study from our ARCO reservoir analysis group in Plano was completed and turned over to us in October of 1991. The results of that study included a detailed core description, a detailed core log integration, a state-of-the-art petrophysical geochemical log suite to define minerology, and a sonic porosity logarithm to analyze the available sonic porosities to core porosities.

Based on that work, we integrated the entire 180 well log database at South Justis. We're working on a state-of-the-art silicon graphics computer workstation, and we're using industry standard computer software.

In working on these, the marker beds which were defined by the geochemical log suite were carried and correlated across the field. Structure and stratigraphic cross-sections were generated to adequately define the extent of these marker beds, as well as structure and isopach maps on each of these markers.

An in-house program was developed to auto interpolate the petrophysical properties, for instance porosity, across the field on

two-foot intervals on X, Y and Z dimensions, and a three-dimensional volume based on pore footage was calculated, and original oil in place numbers were confirmed by this process.

Very detailed perforation histories for each of these wells were entered into this computer workstation, and a detailed report of each of these histories were obtained for each well.

Q. How would you characterize the sufficiency of the data available to you to conduct your study of this particular portion of the formation?

A. I believe we have ample data and a high degree of confidence in our understanding of this formation.

MR. CARR: We tender Mr. Altum as an expert witness in petroleum geology.

EXAMINER CATANACH: He is so qualified.

Q. You've prepared certain exhibits for presentation here today, have you not?

A. Yes, I've prepared a structural contour map, a north/south strike structural cross-section, an east/west dip structural cross-section, a generalized isopach contour map

and a type log for the Blinebry-Tubb-Drinkard.

Q. Let's start with the type log. Which one is that?

A. It's right here, on the right.

Q. Would you refer to the type log and identify the formations we're talking about, for Mr. Catanach?

A. Sure. ARCO's Exhibit No. 12 is a type log. The type log is the ARCO Oil and Gas, formerly the Amerada Hess-Ida Wimberley No. 4. This log is the same log as identified in the unitized formation portion of the unit agreement.

The Blinebry is defined at 4980 measured depth, or minus 1899 subsea, and the Abo is defined as 6180 measured depth, or minus 3099 subsea.

Four markers were identified in analyzing this formation, the Blinebry, Main Blinebry-Tubb and Drinkard. The Tubb is defined at 5670 measured depth and the Drinkard at 5870 measured depth.

Q. Let's move to Exhibit 13, the structure map on the easel next to Mr. Catanach, and would you explain what this shows?

A. Sure. ARCO's Exhibit No. 13 is a structure map of the top of the Main Blinebry. By referring to the top log, the Main Blinebry is at 4980--excuse me. 5122 measured depth. The contour interval is 20 feet, and I selected this interval, although each marker bed which has been mapped mirrors this same particular structure, and I've brought several along in case you would like to look at some of the others.

We have approximately 2 to 220 foot of closure, again reflected in each mapable horizon, and the structure closure is necessary, although the actual trapping mechanism is the inner fingering of porous and nonporous reservoir rock.

Q. Anything else on your structure map?

A. No, I believe that's all.

Q. Let's go to the isopach which is behind the structure map. Would you review this exhibit for the Examiner?

A. ARCO's Exhibit No. 14 is a generalized gross isopach of the Main Blinebry, this same interval that I referred to on the type log for the structure map.

The contour interval is 25 feet and a thick exists in the northeast of approximately

400 feet, with the formation averaging 350 feet thick along the crest with some indications of thinning to the west. A lack of well penetrations really preincludes a thorough investigation of the flanks of the structure.

All of the intervals within the unitized formation of interest are similar, and the entire unitized area can contribute economic reserves.

Q. Let's now to go to the cross-sections, Exhibits 15 and 16, that are on the wall.

A. Okay. Exhibit 15 is a cross-section A - A' and this is a north/south structural cross-section along strike. Exhibit 16 is cross-section C - C', which is an east/west dip structural cross-section.

The datum for both of the cross-sections is minus 1800 feet subsea. The horizontal scale is one inch equals 500 feet, with the vertical scale equal to one inch equals 100 feet.

Both cross-sections exhibit a fairly uniform thickness in each of the zones of interest, the Upper Blinebry, the Main Blinebry, the Tubb and the Drinkard. The reservoir limits

are basically defined by oil-water contacts within the Tubb and the Drinkard, and defined by an increase in water saturations, therefore, higher water cuts at the edge of the pool.

We have three shallowing upward sequences capped by quartz-rich supra title dolomites and these capping rocks exhibit sufficient properties to act as seals for these shallowing upward sequences. Again, like depositional environments are exhibited in each zone. The differences only occur in the thicknesses of each of these units relating to geologic time and length of time deposition occurred.

Each package exhibits lateral pinchouts of pay and nonpay facies; therefore, we do not have perfect seals between zones. And throughout geologic time, this lateral discontinuity could have permitted communication between zones, thereby accounting for a common source of supply.

Q. What conclusions have you reached about the formation based on your geologic study of this portion of this reservoir?

A. The conclusions reached are that the proposed unit boundary closely reflects the

limits of economic production in this reservoir, and that the unitized zones are continuous across the proposed unit area. The primary zones of interest are made up of the same rock and of like depositional environments. Any segregation of these zones into separate pools would be the result of the historical way they were developed and not based upon geology.

Q. In your opinion, can the portion of the pool which is included in the proposed unit area be efficiently and effectively developed under a unit plan?

A. Yes. From a geological perspective, the proposed unit area includes the economically productive portion of this reservoir and can efficiently be developed as a unit.

Q. Were Exhibits 12 through 16 prepared by you?

A. Yes, they were.

MR. CARR: At this time, Mr. Catanach, I move the admission of ARCO Exhibits 12 through 16.

EXAMINER CATANACH: Exhibits 12 through 16 will be admitted as evidence.

MR. CARR: That concludes our

geological presentation in this case.

EXAMINATION

BY EXAMINER CATANACH:

Q. Mr. Altum, let's talk about the unit boundary outline a little bit. You said that closely resembled the what?

A. The economic limits of production. The boundaries to the east, west and south are defined by, again, economic limits. The boundary to the north will be defined by our engineering participant, and the Tubb and the Drinkard are defined by basically oil water contacts or tests of water, whereas the Blinebry is defined by an increased water cut; therefore, less economic reserves to the east, west and south.

Q. Will waterflooding not benefit wells outside the unit to the north, to the east, west and south?

A. No, I don't believe so.

MR. CARR: Mr. Catanach, the wells outside the unit boundary but which are also producing from this reservoir, and there are, I believe, three of them, they're going to be reviewed by our engineering witness.

Q. Is the main producing interval in the

unit the Main Blinebry?

A. Yes, that's correct.

Q. The Tubb and the Drinkard are productive?

A. Yes.

Q. It's your intention to waterflood all three intervals?

A. That is correct.

Q. How about the Upper and Lower Blinebry? Will those also be flooded?

A. The Upper Blinebry, as you can see, has very thin fingers of supra title or quartz-rich rocks so there will be dolomite stringers within that 150 or so feet that will be flooded.

The Lower Blinebry, we have perforations in that interval and yet it has been comingled with other production; therefore, I don't know its contribution. When we define the pay zones within the Lower Blinebry, they will be flooded.

Q. Has the field, essentially, been depleted in all three zones, as far as primary production?

A. I don't believe so. I believe that there is primary production remaining.

Q. As to the contraction of the Justis-Blinebry and Justis-Tubb-Drinkard, have you consulted with our people down in Hobbs about this situation?

A. I have not been to Hobbs, no.

MR. CARR: The engineering witness, again, following a meeting here in Santa Fe, did meet with Mr. Kautz and Mr. Sexton, and he'll review that, too, as part of the presentation. That's the unfortunate thing about being the last witness, it gets passed back to you.

Q. Are all of the potential or all of the zones generally productive with just oil, or are there gas in these formations?

A. There is gas in the formations, yes.

Q. Are there gas caps, or--

A. It's my opinion that a secondary gas cap was formed, but I don't have any indications of a primary gas cap, when it was developed or discovered.

EXAMINATION

BY MR. STOVALL:

Q. You indicated, in response to the Examiner, that you think there's still some primary left. Do you have an opinion as to

whether initiating this secondary enhanced recovery operation is premature?

A. No, I don't believe it's premature. Historically, whenever you decrease the well spacing in a Clearfork reservoir, you recover ultimate or primary reserves, and we hope to do the same.

Q. You're saying, by decreasing spacing alone, you could recover primary, right?

A. Sure.

Q. What about the initiation of secondary recovery operations themselves? Is it appropriate, in your opinion--and again, we may be tossing this on to the engineering witness here--you've expressed an opinion there's primary left. From a geologic standpoint, would it be premature to start waterflooding at this point, based upon whatever geological expertise you've got?

A. No, I don't believe so.

Q. I would have to go into details with that with the engineer, is that right?

A. That's the best one, yes.

Q. In the course of qualifying you, you were asked some questions about your knowledge of

the area and you talked about digitizing and doing all sorts of weird things to the rocks?

A. Right.

Q. I'm assuming your opinions are based upon the results of that electronic analysis of this reservoir, at least in part, is that correct?

A. That's correct.

Q. Upon what basis do you have confidence that both the process that was used and the input of data was substantially reliable and would allow you to rely on the information you derived therefrom to form an opinion?

A. First of all, I entered all the data myself, personally. I quality--QC'd each and every wellbore, each and every digitized well log to the paper copies, and worked from paper to the machine.

So, it's a very, very good, reliable program, and I have a very high degree of confidence in the data.

Q. This is not an experimental program?

A. No, it's an industry standard program.

Q. Do you have an independent opinion, based upon observation of the logs themselves and

the data which was digitized, by which you could confirm the analysis? Could you look at it, take two different approaches, and come to the same result?

A. We actually did, because I worked off paper copies at the same time that I'm trying to enter the rest of the data. The entering of the data or the results these guys needed couldn't wait on me to enter the data, so I was doing a lot of work-off-the-paper-copies and reaching the same conclusions. Once it was all entered, reaching the conclusions was much faster and much quicker.

FURTHER EXAMINATION

BY EXAMINER CATANACH:

Q. You mentioned something that the zones may not be fully separated and there may be some communication occurring. Could you elaborate on that a little bit?

A. Yes. Throughout geologic time, we have inner fingering of pay and nonpay facies, as well as inner fingering of the rock properties that seal, or the rocks that have the necessary properties to seal these zones. All of these zones finger and inner finger and pinch out

laterally; so, over geologic time, we've had communications which have allowed for this accumulation to occur.

Today, based on production time, these properties or these cap rocks have the sufficient properties to seal this reservoir. So, over geologic time we've had communications today over production time, necessary to seal the reservoir.

Q. So there is no communication at this point between any of the zones?

A. Not geologic communication.

EXAMINER CATANACH: I think that's all I can think of at the moment.

MR. CARR: Mr. Altum will remain available if Mr. Prentice decides that the questions are geologic.

MR. CARR: All right. At this time we would call Richard Prentice.

RICHARD S. PRENTICE

Having been first duly sworn upon his oath, was examined and testified as follows:

EXAMINATION

BY MR. CARR:

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

A. Richard S. Prentice.
Q. By whom are you employed?
A. ARCO Oil and Gas.
Q. In what capacity?
A. I'm a senior operations analytical engineer.
Q. Are you the individual to whom all the prior questions have been referred?
A. Yes.
Q. Could you summarize your educational background and then briefly review your work experience?
A. I have a BA in chemistry from Austin College. I have a master of science in chemical engineering from Texas Tech. I've worked 18 years in the Permian Basin as an OA or production engineer.
Q. How long have you been with ARCO?
A. 18 years.
Q. Does your geographic area of responsibility with ARCO include the portion of Southeast New Mexico which is involved in this case?
A. Yes, it does.
Q. Are you a registered petroleum

engineer?

A. In the state of Texas.

Q. And are you familiar with the application filed in this case?

A. Yes, I am.

Q. Have you made an engineering study of the area involved in this application?

A. Yes, I have.

Q. Are you the person who was primarily responsible for the preparation of the Form C-108 which was filed seeking approval of a waterflood project in this unit?

A. Yes, I was.

MR. CARR: We tender Mr. Prentice as an expert witness in petroleum engineering.

EXAMINER CATANACH: Mr. Prentice is so qualified.

Q. Initially I think it would be helpful if you could just briefly start us off by reviewing the efforts of ARCO to work with other interest owners and develop these unit plans.

A. In Exhibit 17, which is a list of the historical events leading up to where we are today, Mr. Pyle has already gone over that exhibit.

As you may recall his comments, beginning in 1984 with our first technical committee work, the T. Scott Hickman report, the associated S. J. Missoulo report, the recommendation to split waterflooding the field into two units, our agreement to expedite the southern unit in 1988, the technical report released in 1990, in 1991, the adoption of the technical report and the adoption of the equity formula in 1992, the approval of the equity formula and contacts with the State Land Office and the NMOCD and BLM.

Q. Mr. Prentice, you've prepared exhibits for presentation here today, have you not?

A. Yes, I have.

Q. Let's go to ARCO Exhibit 18, which is the well status map. Is that the exhibit that is on the easel to Mr. Catanach's right?

A. Yes, it is.

Q. Would you identify that and then review the information on that exhibit for the Examiner?

A. Exhibit 18 is a 1-to-1000 plat showing the proposed unit boundary. The red line is the one-half mile area of review line around the unit. The heavy dotted line is the unit

outline. There are several colors and shapes that need to be identified.

Small black dots on the map are shallow wells completed in the Langlie-Mattox with the Seven Rivers-Queen formations, 2500 and a few thousand feet. There are several gas wells located on the map, Glorieta wells.

A circle with a dot in the middle is a sign of a well that has penetrated the proposed unitized interval, the Blinebry and the Tubb-Drinkard. I wish to note here that not all of the circled wells will become unit wells, but all of those wells have penetrated the unit formation.

The triangles designate injection wells in ARCO's scheme of numbering wells. The blue wells indicate a staging or a phasing operation. These are the wells that we propose to drill first. The yellow triangles and yellow producers are a few of those, are the second stage or second phase of those we prepare to drill after Phase I.

As you can tell, the field is currently developed on 40-acre spacing. Our plan of development is to drill mainly injector wells and

to infill, to develop the field on 20-acre spacing.

Q. If we look at Exhibit No. 18, Phase I development program is indicated by the blue or purple triangles?

A. That is correct.

Q. How was the Phase I portion of the unit determined?

A. Phase I was determined by looking at the geological data and the production history and choosing the very best part of the reservoir that we could, and implementing our program in that area first.

Q. The yellow triangles indicate Phase II development?

A. That's correct.

Q. Is Phase II in any way contingent upon the results you achieve in Phase I?

A. ARCO's senior management has given formal approval for the entire project, Phase I and Phase II. It is our intent to do both Phase I and Phase II.

Q. So, there is no contingency as to Phase II? It's completely an approved project?

A. That is correct.

Q. What is the current status of your drilling program in the area?

A. We are preparing requests for permit at this moment for four wells located in the Phase I area, to be drilled in concurrence or at the same time as the unitization process is going on.

Our intent is to drill on ARCO acreage, take cores from these four wells, and help develop our core-to-log model response.

Q. When do you anticipate drilling the bulk of the new injection wells, particularly in Phase I?

A. Our plan right now is to implement Phase I beginning about the middle of 1993, the second quarter or the middle of 1993, and implement the entire program within 12 to 18 months.

Q. The other facilities will be constructed to serve the Phase I portion of this unit at that time as well?

A. The construction of the facilities would begin, most likely, after the first of the year.

Q. How were the unit boundaries actually selected?

A. As Mr. Altum has indicated, the east and the west and the south boundaries coincide with economical contribution to the unit. The north boundary is based upon the recommendation from the Scott Hickman report. That report opinion was based on economical and mechanical aspects of the northern one-third of the field.

Q. What are those aspects?

A. The major impact in the northern part of the field relates to the existence of slim hole wellbores that most likely are not suitable for secondary recovery operations and most likely would have to be somehow replaced.

Q. Now, ARCO became the expediter for the unit that is indicated on this exhibit?

A. That's correct.

Q. Has there been an expediter designated to proceed possibly with unitization efforts for the northern portion of the field?

A. Texaco is the likely expediter, is the expediter of the northern third field.

Q. Have you reviewed these boundaries with the Oil Conservation Division?

A. Yes, we have.

Q. Could you summarize the efforts to work

with the OCD on this particular point?

A. We met with the Hobbs OCD representatives on August the 31st, and reviewed our implementation program, our unit boundaries, showed them most of what we have here today with the exception of the geological data, and got their concurrence on what we were doing.

Q. Was that as a follow-up to a meeting held in Santa Fe with the OCD Division?

A. Yes, it was. We did meet with Santa Fe OCD personnel earlier than that.

Q. Mr. Prentice, you're familiar with Exhibit No. 2, are you not?

A. Yes, I am.

Q. When you reviewed this, the unit boundary, with the Oil Conservation Division personnel, did you discuss the acreage which is outside the unit but indicated as is shown on Exhibit No. 2, to currently be within a defined pool boundary?

A. Yes, we did.

Q. What will be the status of that acreage? It's either in the Justis-Blinebry or the Justis-Tubb-Drinkard pool, if this application is approved?

A. The status of the existing wells outside the unit boundary would be that they would be included in the new South Justis Blinebry-Tubb-Drinkard pool because they're within a mile of the unit boundary, and it would be under those rules.

Q. What you're proposing, however, is that everything south of the north line of Section 11, which is the northern boundary of the red unit area--

A. Yes.

Q. --that everything in an existing pool be deleted from that pool and a new pool created that encompasses the acreage outlined in red?

A. That's correct.

Q. And the new pool boundaries would be identical to the proposed unit boundary?

A. That is correct.

Q. And those pool rules would tend to have effect a mile outside the pool boundary, like regular pool rules do?

A. That is correct, yes.

Q. The only acreage that is currently within a pool that is not within a mile of the proposed pool boundary, is the extreme southern

portion of the Justis-Blinebry pool as indicated in green, is that correct?

A. The green outline is the Justis-Tubb-Drinkard pool.

Q. Is there any production in the extreme southern portion of that pool?

A. There was a well located near the bottom of that green line. It has been plugged since 1988. There is no existing current production down toward that south line at the moment.

Q. At this time there would be no technical reason to justify including that acreage in the pool?

A. No, there would not be.

Q. How many wells are there that are currently producing in that sort of border area, between the unit boundary and the boundary of the current pool?

A. There are three.

Q. Could you review the status of those wells for the Examiner?

A. Yes. On the west side in Section 23, toward the middle, Mr. Leeser operates the El Paso Federal No. 1. The well produces

approximately two barrels a day of oil and 15 Mcf a day of gas. The only other two wells currently active in the Blinebry pool, but outside the unit area, are in the very extreme southeast portion of the area, located in Section 6.

Merrill Oil operates two wells, the Self 5 and the Self 6. Both of them produce approximately three barrels a day of oil and one well makes 15 Mcf and the other makes 50 Mcf a day.

Q. Are all of these wells marginal wells from the Blinebry?

A. Yes, they are.

Q. Is there any production in that border area from the Tubb-Drinkard?

A. No, sir.

Q. Were these three wells originally considered as potential unit wells when the unit was originally under discussion?

A. Yes, they were.

Q. What happened? Why are they out?

A. The technical committee looked at offsetting production, and it became important to include only wells that would contribute 110,000 barrels of oil or more to the unit in secondary

recovery. These wells could not meet that line, that cutoff, therefore were excluded from the unit.

Q. When these wells were excluded from the unit, was this exclusion reviewed with the individual operators of those wells?

A. Yes, we called both operators and informed them of our decision.

Q. Are they aware of the hearing today?

A. Yes, they were. They were notified of the hearing.

Q. In your opinion, could these wells that are producing from the Blinebry, but outside the unit area, could they benefit in any way from the proposed waterflood?

A. It is possible, as in any carbonate. It is not always easy to predict where the water and oil will go. It is possible that we may benefit, then, from our secondary recovery operations.

Q. And they would be responsible for none of the costs of the operation?

A. No cost at all.

Q. They were excluded because they simply couldn't meet the criteria for inclusion within

the unit?

A. They could not economically make a sufficient economic contribution to the unit to warrant inclusion in the unit.

Q. Let's go to what has been marked as ARCO Exhibit No. 19. Could you identify that for the Examiner, please?

A. Exhibit No. 19 is a performance forecast of the unit. There are two lines drawn on the unit. The bottom line, the thin line is the remaining primary reserves forecast. There are approximately 1,000,000 barrels of primary reserves left in the field on existing spacing and with existing completions. The heavy line toward the top of the page is the waterflood forecast, waterflood reserves forecast.

The waterflood should recover approximately 35 million barrels of oil. That includes the remaining primary. The incremental benefit of the project is an expected recovery of 34 million barrels.

Q. What are the projected costs for this project? And I want you to include both Phase I and Phase II.

A. Phase I and Phase II are expected to

cost $56.4 million at this point.

Q. Basically, what increase in daily production rate do you hope to achieve by implementation of this waterflood project?

A. Presently, the wells within the unitized area produce approximately 500 barrels a day. We expect to increase production to approximately 88,000 barrels a day in about 10 years, eight to ten years.

Q. Have you been able to estimate the additional value of these reserves?

A. The incremental value of these reserves is $86 million.

Q. What prices did you use in making this estimation?

A. That benefit is based on the $20 oil before federal income tax and with a 10 percent discount factor.

Q. Without unitization and the implementation of a waterflood project in this unit area, would this additional oil be recovered?

A. Most certainly not. The only oil that would be recovered is the remaining 1,000,000 barrels.

Q. In your opinion, is implementation of enhanced recovery in this portion of this reservoir premature?

A. No, it is not at all. We're at the very tail end of a depleted reservoir. We are not premature at all in making secondary recovery operations in this field.

Q. Do you have an opinion concerning whether or not the proposed project is, in fact, going to be feasible?

A. The project, by all the studies that I've conducted, is a feasible project.

Q. Would you identify what has been marked ARCO Exhibit No. 20?

A. Exhibit No. 20 is the technical report we published in 1990. The technical report does three things: It describes the analysis to calculate the secondary reserves, it sets out a plan of development, and it provides parameters for equity determination.

Q. Does this report, then, summarize the analysis used to initially determine whether or not waterflooding would be appropriate in this reservoir?

A. Yes, it does. It does make a

comparison with several other Blinebry-type reservoirs in the area.

Q. Could ARCO physically waterflood just the Blinebry?

A. There are approximately 30 wells in the area that has been comingled in the Blinebry and the Tubb-Drinkard. It is unlikely that we could waterflood simply the Blinebry in this operating scenario. Most likely we would be flooding the Tubb-Drinkard also.

Q. Because of these completion practices, is it fair to say we have virtually created a common source of supply?

A. Yes.

Q. From an economic point of view, would it be possible to go to the other portion of the reservoir, the Tubb-Drinkard, would it be economically possible to just waterflood that portion of the reservoir?

A. We estimate that the Tubb-Drinkard contributes about 30 percent of the secondary potential in this area. We also estimate that waterflooding the Blinebry accounts for 90 percent of the cost, so it would be economically unfeasible for us to waterflood simply the

Tubb-Drinkard.

Q. And if you don't, physically it would probably be impossible as well; isn't that right?

A. The same argument holds true for the Blinebry.

Q. If you were not able to flood these, then the enhanced or the additional recovery you've indicated, being 34 million barrels, could not be achieved?

A. That's correct.

Q. And that production, therefore, would be wasted?

A. Wasted and lost.

Q. Let's go now to Exhibit No. 21. Would you identify that for Mr. Catanach?

A. Exhibit No. 21 sets forth the participation formula that was agreed upon by the working interest owners earlier this year.

Q. Were you involved in the decision to develop the process whereby this formula was developed and adopted?

A. Yes, I was.

Q. Would you review it for the Examiner?

A. The participation is based on the following parameters: One percent acreage plus

four percent BOE rate, plus 21 percent cumulative BOE production, plus 34 percent remaining primary oil production, plus 40 percent ultimate BOE primary recovery.

As the exhibit sets out, the BOE rate is based on 1989 oil and gas production. The gas equivalency rate was 10 Mcf per barrel of oil. The cumulative production is through December 31, 1989. The remaining primary is from January 1, 1990. Ultimate, of course, is simply the sum of cumulative plus remaining primary.

Q. In developing this formula, did the working interest owners consider not only the multiple zones involved but the differing ownerships in those properties?

A. Yes, they did.

Q. At the bottom of this exhibit it shows some approval numbers. Could you review those for Mr. Catanach?

A. The formula was formally adopted by 89 percent of the working interest in the unit. We had a very small, negative vote, and we had approximately 11 percent abstention rate between the four votes and the abstaining votes. We have approximately 99 and a half percent approval of

the formula.

Q. That 11 percent that abstained, part of that have not been involved in the development of this project?

A. Part of those folks who abstained, in fact most of them who did abstain, did not participate in any facet of the technical committee work or unitizing the project.

Q. The negative vote was what?

A. .045 percent.

Q. So you have 99.95 percent that has either approved or abstained?

A. That's correct.

Q. In your opinion, does the formula allocate production to the separately owned tracts in the proposed unit on a fair, reasonable and equitable basis?

A. Yes, it does.

Q. In your opinion, will unitized management, operation and further development of a portion of this pool which is the subject of this application, is this unitization reasonably necessary to effectively carry out secondary recovery operations?

A. Yes.

Q. I would like to move at this time to a discussion of the application for approval of the waterflood project. Could you identify what has been marked ARCO Exhibit 22?

A. Exhibit 22 is the C-108 that we filed with the Commission.

Q. Could you refer to the plat in the back of this exhibit and review it for Mr. Catanach?

A. The plat in the very back of the C-108 is a 1-to-2,000 plat similar to the plat we have up on the wall. It shows the unit outline and the red outline indicates the one-half mile area of review.

Q. Now, instead of drawing an area of review around each of the injection wells, what you've done here is simply draw a line around the unit boundary a half-mile out which would include at least all acreage that's required as being shown within the area of review, is that correct?

A. That is correct. We've gone a little bit beyond the OCD requirements and have included more acreage than what was necessary. Most of the unit injectors are one location--two locations within the unit boundary.

Q. This does show all lease ownership

within two miles of any of the injection wells?

A. Yes, it does.

Q. And it shows the proposed development for the unit area?

A. Yes, it does.

Q. Let's identify the map located behind tab Roman number V in the C-108.

A. The map located behind Roman numeral Tab V is a similar map on a smaller scale that outlines the area of review.

Q. Exhibit 22, the C-108, does it contain the data required by OCD rules for each well within the area of review, which, in fact, penetrates the injection zone?

A. Yes, it does. Behind Exhibit Tab Roman numeral VI are the wells listed in the area of review, and behind that table is a series of schematics and well histories for each well that has penetrated the formation within the unit and within the area of review.

Q. Does this portion of the C-108 include all data required by that firm, including location, casing records and things of that nature?

A. Casing records are included, completion

dates, spud dates, intervals of completion. The information the OCD has required are included in those exhibits.

Q. Does this exhibit also include schematics, showing all plugging data for each plugged and abandoned well within the unit area of review?

A. Yes, it does.

Q. Is that information also located with the other schematics behind Tab VI?

A. The schematics are listed by section, by alphabetical location and, yes, the plugged wells are listed with the schematics.

Q. Have you reviewed the information on each of the plugged and abandoned wells?

A. Yes, I have.

Q. In your opinion, are they satisfactorily plugged to be sure they don't become vehicles for the migration of injection fluids into other zones?

A. Yes.

Q. Would you go to what has been tabbed Roman numeral III and identify that and its sub parts for the Examiner.

A. Roman numeral III, starting with III-A,

is a list of the new wells that we propose to drill or convert in our unit, with proposed footage locations, what kind of wells they are.

Exhibit III-B is a schematic of a typical new injector in the unit, showing casing and tubing design and perforated interval.

Exhibit III-C are the schematics for the converted wells that we have planned in the unit.

Q. If we look at the well locations shown behind tab III-A--

A. Yes, sir.

Q. --these wells have not been drilled?

A. That is correct.

Q. And you have not had on-site inspection for the various indicated well locations?

A. We have not.

Q. Is it possible that when you go out to stake these locations, they might have to be moved?

A. It is possible and most likely.

Q. Do you seek a procedure whereby, if those locations have to be moved, that can be approved administratively by the Hobbs District Office without the necessity of coming back to

the Oil Conservation Division for further hearing?

A. Yes, we do.

Q. Do you also seek an administrative procedure whereby unorthodox locations, at least one standard location within the outer boundary of the unit, could be approved administratively by the district supervisor of the Hobbs District Office?

A. Yes, we do.

Q. Have you reviewed that with Mr. Sexton?

A. Yes, we have.

Q. In fact, he has requested that we suggest that as part of this hearing process?

A. Yes.

Q. What is the source of the water you propose to inject?

A. The sources of the water are two. We intend to use the produced Blinebry and Tubb-Drinkard water from our unit operations. We intend, also, to drill two water supply wells to the San Andres, a shallower zone, use those two wells, plus a conversion for makeup water.

Q. Will any fresh water be used for injection purposes?

A. No.
Q. What volumes do you propose to inject?
A. We initially intend to inject up to 1,000 barrels a day per well, with a limit of 45,000 barrels per day for the entire unit.
Q. This will be a closed system, will it not?
A. Yes, it will.
Q. Will you be injecting by gravity or under pressure?
A. We will be injecting under pressure.
Q. What is the maximum injection pressure you propose to use?
A. We are seeking a maximum injection pressure of 1,100 pounds.
Q. Will a pressure limitation of two-tenths pound per foot of depth to the top of the injection interval be satisfactory for ARCO's purposes?
A. Yes, it would.
Q. Does ARCO request that the orders resulting from this hearing also include an administrative procedure whereby the injection pressure could be increased after step-rate tests are run and the results of those tests reviewed

with the Division?

A. Yes, we do.

Q. Are water analyses of the injection fluid included in Form C-108?

A. Yes, behind Tab Exhibit VII, there are two pages with water analyses. Sample No. 1, produced water taken from Chevron's Stewart, Langlie and Mattox well is a sample taken from a Grayburg water supply well. Samples 2, 3 and 4 are typical Blinebry Tubb-Drinkard water samples.

If you look at the bottom of the second page of samples, it is noted that these waters are not incompatible.

Q. Are there fresh water zones in the area?

A. Behind Tab VIII is a geological review with a fresh water zone in the area.

Q. What are those fresh water formations?

A. Fresh water formations are mainly the Ogallala and the Chinle.

Q. Would you review the information behind Tab XI?

A. The information behind Tab XI locates where the fresh water wells are in and around the

unit area. Behind that plat are two pages of analyses of eight wells that we were able to catch samples on.

Q. Are logs of the wells you propose to convert to injection on file with the Oil Conservation Division?

A. Yes, they are.

Q. Mr. Prentice, there were some questions raised a few minutes ago concerning the enhanced oil recovery tax rate that might be applicable to the production from this waterflood project. Initially you're planning on running injectivity tests, is that correct?

A. That is correct. In one of our cored wells this fall, we would like to conduct and have gotten preliminary Hobbs approval to conduct short-term injectivity tests.

Q. These are only tests?

A. Just simply tests.

Q. This is not going to, in any way, be the commencement of any sort of injection of water for the purpose of waterflooding this unit?

A. That is correct, they will not be.

Q. You're not intending today to seek approval of this project, as a result of today's

hearing, under the Enhanced Oil Recovery Act?

A. We had not planned to do that.

Q. If the Oil Conservation Division was willing to accept the testimony of the proceedings here today as a basis for such an application but would not make the actual approval effective until you were ready to commence waterflood operations, would that be acceptable to ARCO?

A. Yes, it would.

Q. Are you aware of similar applications that have been granted for enhanced recovery by waterflooding of the same general area as this unit?

A. Yes. In the same general area, the Eunice Monument South Unit, the Northeast Drinkard Unit, and Morehead Grayburg Unit have all been recently approved for secondary operations.

Q. Have you examined the available geologic and engineering data on this area?

A. Yes, I have.

Q. As a result of that examination, have you found any evidence of open faults or other hydrologic connections between the injection zone

and any underground source of drinking water?

A. No, I have not.

Q. At this time, has ARCO made a decision on whether or not to ultimately implement a carbon dioxide flood in this unit?

A. Tertiary recovery may be feasible, but the purpose of our presence here today is to seek authorization to conduct a secondary recovery operation.

Q. In your opinion, will approval of this application be in the best interest of conservation, the prevention of waste and the protection of correlative rights?

A. Yes, it will.

Q. How soon would ARCO hope to have this unit ratified and in effect?

A. Our target date for unitized operation is November 1 of this year.

Q. Were Exhibits 17 through 22 prepared by you or under your direction and supervision?

A. Yes, they were.

MR. CARR: Mr. Catanach, at this time we move the admission of ARCO Exhibits 17 through 22.

EXAMINER CATANACH: Exhibits 17 through

22 will be admitted as evidence.

MR. CARR: That concludes our engineering direct presentation in this case, and and I tender the witness for cross-examination.

EXAMINATION

BY EXAMINER CATANACH:

Q. Mr. Prentice, have you examined the area of review wells and satisfied yourself that they're cemented properly so as injected fluid won't migrate upward?

A. Yes.

Q. Each and every one?

A. As many as I could possibly find, yes, sir.

Q. Have you examined the plugged and abandoned wells within the area of review and satisfied yourself that these are plugged adequately?

A. Yes.

MR. STOVALL: That's a lot of reviewing.

THE WITNESS: Yes.

MR. CARR: Has it almost ruined your marriage?

THE WITNESS: Yes. If I missed one,

Mr. Examiner, please let me know.

Q. Concerning the request you all have for an administrative approval to relocate injection wells, you request that that be handled at the district office?

A. That is correct.

Q. And as far as producing wells within the unit, have you requested the same procedure? I must have not followed you there.

A. I'm sorry. We would like to have permission to apply or get approval for unorthodox locations, be they injectors or producers, out of the Hobbs office.

EXAMINATION

BY MR. STOVALL:

Q. Without regard to the amount of unorthodoxness? Is that a word?

A. I'm not sure I follow the--

Q. If, say, a well were--I assume that your concern is that they'll have to be moved for surface reasons?

A. That's correct, yes.

Q. If a well were moved 50 or 100 feet it might not be a problem, but what's the basic setback? 330?

A. As I understand, the unorthodox definition in a secondary recovery unit is 330 off a lease line and 10 feet off a quarter quarter line.

Q. If it were more than, say, half the 330 or more than a hundred feet unorthodox, do you have any limit or would you like to be able to--basically no limit on the district office?

A. We would like to put our wells where they are staked. We would like to have a great deal of flexibility, if at all possible.

MR. CARR: I would point out, Mr. Catanach, that with this unit as well as with earlier units, this request has been made by the Hobbs district office. The applicant has been asked to propose this to you.

Q. Let me ask a follow-up question of law. Within a unit operation of this nature, do you think that having well locations which are dictated by lease or surface survey requirements make sense?

A. No, sir, they really don't. We are placing our injectors that you might have noticed in a position where we think we'll most effectively and efficiently flood the reservoir.

Because they fall nine feet from a quarter quarter line or 300 feet from a section line really doesn't make any sense to me to have to move them to meet some preset limit. We would really like to have the ability to put them where it makes most engineering sense.

Q. Is there anything in the manner in which the participation formula is established whereby interest could be effected by where wells are located in the secondary recovery?

A. No, sir, not at all. The two are entirely separated.

Q. If you were given complete latitude to place the wells where it made the most sense and and where you could get approval for them, there would be absolutely no change in what any party would recover in terms of their share under the formula?

A. The formula is based on historical production. It's not based on anything that we will get from here on out; any kind of historical or any kind of forecasted secondary operation. It's based strictly on historical data. Where we place our--how we conduct our operations does not impact interest at all.

Q. Can you anticipate or, based upon any historical knowledge, see where perhaps if such a provision were established to allow you to have completion selection within the unit boundary, you'll probably suffer subject to some sort of boundary limitation of the external boundaries of the unit, where conceivably that could have some potential impact should the unit ever be dissolved or future operations, or is that just so unlikely as to not be significant?

A. I think that's a good question and one we've thought about before. These two producing horizons are the main producing horizons in the whole field. Once these operations are finished, in my opinion it is unlikely that further operations will be conducted. So, I do not think that once a unit is dissolved, that ownership problems should arise. Most of our wells are injectors. It is unlikely, to me, that if we have an unorthodox location sitting close to our lease line, to our section line, that somebody is going to want to go back in and try to produce that injector that has injected who knows how many barrels of water, for whatever the reason.

Q. What about other formations? What

about the possible reentry for deeper formations, for example?

A. Again, that has to do with this formation relative to all the other formations. This is the major producing horizon. By the time operations are finished, I think with what little is left on the underlying deeper formations, that even the shallower formations would have been plugged out. I think it's unlikely that you will see any further primary operations going on in a post-unit scenario. Does that answer your question?

Q. I think so. I understand what you're saying. Let's see, what are the depths, again?

A. 5,000, 6,000 feet.

Q. If I understand what you said, there's really nothing above or below that somebody might ultimately use a wellbore to go get?

A. That's my perception of where we are and where we're going right now.

Q. Does the unit agreement, without having looked specifically, I did notice there were some provisions for operations outside of the unitized formations, I guess. Without having read those, is there a concern that anybody might--obviously

I'm looking at the correlative rights issue. The waste issue isn't a problem, if the engineer has got his choice. You're probably going to maximize recovery and minimize waste.

Are there any concerns at all in, say, the spacing of wells within relationship to each other, or given the nature of the fact that it is all being conducted under unitized operations, everybody is paying their share, that you could simply say you could put the wells where you want to in presumably good engineering sense, without competitive pressures, would prevent you from putting wells in a location for some unnatural advantage, if you will?

A. Once you're in a unitized operation, there's no competitive advantage anywhere. The correlative rights, in my opinion, are addressed more than adequately in the participation formula. That's where everybody has gotten their fair share of this unit operation.

Q. With that, if something like that were to happen, what would be the distance you would suggest it would be from the outside boundary? 330 from the outside boundary of the unit, is that adequate?

A. Yes, that's adequate, surely.

Q. I suspect you studied this and made your initial plan based upon spacing requirements. If you were to go back in without that restriction, can you see some significant changes you would make in drilling patterns to maximize recovery with, perhaps, a few less wells or more effective--

A. No. If you have time to look at the technical report, there's a whole chapter, a whole section, on comparing Justis to other similar reservoirs, mainly in Texas. One of the things that comes across there is to effectively waterflood this kind of reservoir because of the heterogeneities Mr. Altum referred to. 40-acre spacing is too wide a spacing. You must reduce your spacing to 20-acre spacing and that's what almost everybody has done. So, to answer your question, no, we really wouldn't change our spacing plan at this point in time. This is what we feel it takes to efficiently waterflood this type of reservoir.

MR. STOVALL: That's all I've got on that issue.

FURTHER EXAMINATION

BY EXAMINER CATANACH:

Q. Mr. Prentice, with respect to the injectivity tests you talked about, those will be conducted for the newly drilled injection wells?

A. No, not really. We're going to drill four wells. Our intent is to conduct the injectivity tests in one of them. We think that will give us the sufficient information that we're looking for. We really don't anticipate conducting four separate injectivity tests on four different wells.

Q. That will be done on one of the newly drilled injection wells, though?

A. Yes, it will.

Q. Okay. You mentioned something about a 30-percent contribution of production from the Tubb-Drinkard or an estimated 30 percent contribution. Is that based on primary recovery?

A. Yes. The Tubb-Drinkard, of course, is an OCD designated pool. It has recovered approximately nine million barrels, 10 million barrels. When you add in the contribution from the Blinebry, the ultimate recovery from both zones is about 30 million barrels, so the Tubb-Drinkard has contributed about 30 percent of

the ultimate primary.

Q. Ultimate primary from both zones would be 30 million?

A. 30 million barrels, approximately. 30, 31 million.

Q. Do you have any information as to the average production from these wells in the unit at this point in time?

A. The unit makes approximately 500 barrels a day right now. There are oh, 100, 125 wells in the area, so less than five barrels a day, four to five barrels a day might be the average production per well right now.

Q. Most of the wells are stripper?

A. Yes. I would say all of the wells are stripper at this point.

Q. You mentioned something about not all of the Blinebry-Tubb-Drinkard penetrations will be used as unit wells?

A. That is correct.

Q. What will they be used for?

A. For instance, if you referred to any of the plats that we've given you, some examples up in Section 24, there are multiple wells per 40-acre locations on some of the Texaco tracts.

There is some deep production still, that is commercial, Ellenburger, Montoya and Fusselman, and an operator can indeed hang onto that well and will, in some instances wells.

So, when you've got two or three wells in a given 40-acre location, obviously not all those wellbores are needed by the unit and one or more of those wellbores may be retained by the current operator for primary operations. Those are listed in the C-108 as we list the wells within the unit area. The ones that are retained will not have unit designations on them.

Q. That has already been determined?

A. We have some initial indications from our partners as to which wellbores are coming to us, which ones we plan to get and which ones will not. That's not completely set in stone yet but we have an idea of which ones are coming.

Q. Do you anticipate having to drill any producing wells?

A. Yes. As you look at the bottom of that plat, under Phase I we have one producer planned and Phase II we have four producers planned, so approximately five producers at this point.

FURTHER EXAMINATION

BY MR. STOVALL:

Q. How are the plan of producers designated?

A. The producers are shown with circles and with color on them. I think the yellow ones are the Phase II ones, and easiest to identify. Look up there in Section 12 in location N.

Q. Okay. The single circle with either the blue or the yellow color, rather than the double circle?

A. Yes, that's correct.

Q. You might also point out to your geologist that there's been an earthquake in that region, and the eastern portion of the formation is suddenly dipping very steeply, according to the cross-section, anyway.

FURTHER EXAMINATION

BY MR. CATANACH:

Q. The Phase I portion of the project, mid-93 completion of drilling operations?

A. No. The Phase I operation would begin.

Q. Begin?

A. Begin. The Phase I drilling operation. Let me also say that the construction of facilities would begin right after the first

of the year, 1993.

Right now, the second quarter to mid-1993 is our plan to start up for the majority of the Phase I drilling.

Q. How long will Phase I take?

A. 12 to 18 months, we think.

Q. At what time will Phase II be commenced?

A. Our plan right now is to assimulate the data that we find in Phase I. There may be a year delay, there may not be a year delay. If we find as many surprises as we're hoping to find, and we find we have a very prolific project, we may begin Phase II immediately after Phase I ends. That's to be determined.

Q. Now, did you testify that basically, to flood the Blinebry on its own, is really not economical for ARCO to do?

A. It's really more a question of feasibility, I think, due to the current completion practices, which has been the downhole commingling and to frac both zones. In my opinion it's highly unlikely that we would be able to separate the Blinebry entirely from the Drinkard at this point in time.

Q. How many wells are downhole commingled?
A. 30.
Q. 30 wells.
A. By the latest OCD monthly report.
Q. Is it your opinion that it would be uneconomic to flood the Tubb and the Drinkard by themselves?
A. Highly uneconomical and unfeasible.
Q. Are all of the producing zones going to be opened up in all of the producing wells?
A. Our intent is to identify each producing zone, each producing stringer, and to open it up and make it match our offsetting injector wells, yes.
Q. Is the north one-third of this field going to be unitized, Mr. Prentice?
A. I refer that to my good friends at Texaco. In my conversations with them, it is on their list of things to do, but beyond that, I can't predict the future up there, sir.
Q. Is it technically feasible to waterflood the north one-third of this field?
A. Almost everything is technically feasible.
Q. You guys just don't want to do it?

A. It's due to mechanical and economic feasibility. We believe the South Justis portion of this field is the place to be.

Q. With respect to the conversations you've had with Jerry Sexton, it's your recommendation that the Justis-Blinebry and Justis-Tubb-Drinkard pools south of the north boundary of your unit, be, in essence, deleted or contracted?

A. Contracted to north of that line.

Q. Everything south of the north--

MR. STOVALL: Of the north line of Section 7 and 11? Section 11 and 12?

THE WITNESS: 11 and 12, yes.

MR. STOVALL: Actually, it's 11 and 12, isn't it?

THE WITNESS: Yes. Everything south of that line in the Justis-Blinebry and Justis-Tubb-Drinkard pools be contracted to north of that line.

MR. STOVALL: In other words, the southern boundary of those two pools would be the south line of Sections 1 and 2?

THE WITNESS: 1, 2 and 3, yes, sir, that's correct.

Q. (BY MR. CATANACH) So the proposed pool, Justis-Blinebry-Tubb-Drinkard, would comprise everything south of that line?

A. Matching the unit boundary.

MR. STOVALL: A follow-up on that; why not just include, within the pool, those lands which are already within the old pools and are going to be included and brought in by nomenclature, why not start out by putting them in the pool?

A. That's entirely possible, too, given the fact that you've got a well down to the south that's been plugged for five years. We didn't see any real technical reason to include that in the new pool.

MR. CARR: Either one would accomplish the same objective.

MR. STOVALL: You could contract the pool, make the new pool, essentially, the boundaries, and leave that plugged area out? It essentially would not be a pool at that point because there's no production there, right.

MR. CARR: I can probably shed some light on that. From ARCO's perspective either of those alternatives would accomplish our

objective. We did not want to come in here and be making a presentation to you attempting to justify creating a new pool that would include, for example, the west half of Section 12, because we did not believe, with no production down there and the only wells outside the unit area are producing from the Blinebry, that we could come in and justify that with a technical case.

So, we don't care how that is done. What we're concerned about is being able to waterflood these zones as one unit and one formation because, in fact, we think production practices show they're one common source of supply.

FURTHER EXAMINATION

BY MR. STOVALL:

Q. There's no production in Section 12 at this time? Where is that, in 26 South?

A. Yeah, 26 South, 37 East. There's no active Blinebry or Tubb-Drinkard production in that section.

Q. So we wouldn't be isolating some wells?

A. No.

Q. So we don't have a problem with that?

A. We only have three active wells, and

they immediately offset the unit in the Blinebry formation. There are no active wells in the Tubb-Drinkard.

Q. Those wells are in--

A. Section 6.

Q. Section 6.

A. There are two wells there and--

Q. In Section 1, are there any in the south half of Section 1?

A. No. The other main active well is over in Section 23, in J.

Q. 23 of which?

A. I'm sorry, K.

Q. Of 25 South?

A. 25 South, 37 East, yes.

Q. In other words, if we were to make the pool boundaries consistent, what we could do is, the southern portion of the pool could be the north half of Section and the northwest quarter of Section 6 in 38 East, right?

A. That would accomplish the same thing.

Q. It would accomplish the same result and it wouldn't leave any wells isolated or out there by themselves, and it would save us a somewhat complicated nomenclature. We could do it in one

step instead of two.

Are these nods of heads affirmations of my statement? Is that what they mean? Both Mr. Carr and Mr. Prentice?

MR. CARR: I have acknowledged that that is your statement.

MR. STOVALL: Do you acknowledge the accuracy and result of the statement? Is that correct?

MR. CARR: That would not interfere at all with ARCO's objective here. It's whatever would be the--however the Commission or the Division would desire to pursue.

FURTHER EXAMINATION

BY MR. CATANACH:

Q. Did Hobbs have any specific recommendations on how to do it?

A. No.

Q. They did not.

MR. STOVALL: Are there any wells on the east or west side of your unit that are producing from one or the other pool that could be adversely affected by that?

A. No, sir. I don't believe that there are. I don't believe the active wells would be

adversely affected by either plan.

Q. And if we were to do so and then also take into consideration the well location issue, then we would have to rate special pool rules that would say within the unit boundaries in this pool there's no location requirements, but at the edge of the unit boundaries there's a 330 foot setback for all wells within 330 feet or outside the unit? Something to that effect?

A. Yes.

Q. That's assuming we would grant you that complete latitude to place your wells inside the unit.

MR. CARR: I would also state that I'm intending to submit a proposed order which identifies, if you want to for nomenclature purposes, what would need to be done to create just a new pool equal to the unit boundary, and contract the other two pools. It's whatever you desire.

FURTHER EXAMINATION

BY MR. STOVALL:

Q. Okay. Let's move into the EOR question area again. The first question I'm going to ask you, the geologist testified that there's still

some primary recovery possible, would you agree?

A. One of the exhibits I showed already, and I'm not sure you were here when I presented it, had to do with a forecast. The remaining primary under current spacing and under current completion interval is about a million barrels.

I think what Mr. Altum was referring to, and I referred to this already, when we go to closer spacing, we expect to encounter zones that have not been opened due to the heterogeneity of the reservoir. That's the primary that he was referring to when he said there was remaining primary left, but that assumes a secondary infill drilling program.

Under the existing conditions, very little remaining primary is left to recover.

Q. Then, in your engineering expertise, is it your opinion or do I understand correctly that it is not premature at this time to commence enhanced oil recovery operations?

A. It is not premature at this point in time, at so late a stage in the primary life of this reservoir to conduct secondary operations. Indeed, it is late.

Q. And in fact, in some cases, it makes

sense to initiate secondary operations prior--even earlier in the life of primary, is that what you're saying?

A. Recovery tends to go up the sooner that you begin your secondary operations relative to when you discover the field. I think the most outstanding case I can think of right now, that comes to my mind, is an oil slope. They conduct secondary operations almost immediately after finding the field. And that's the proper way to conduct secondary operations.

We're not premature at all, by waiting this long, to conduct secondary operations.

Q. I think that's the requirement of the Enhanced Oil Recovery Act, is that it not be premature? It does not require primary to be depleted; only that secondary not be premature.

Now, the other concern you've got, as I understand, you do not want this project certified to Taxation and Revenue Department before you have the chance--actually have the opportunity to do your injectivity testing, construct your facilities and commence operations, because you want the five years from the time you actually start flooding to get a

positive production response to qualify for the credit?

A. That's correct. We would like to have most of that time available and not wasted in construction time. We would like it close to when we commence true injection.

Q. It's my interpretation that the Act says that that five-year time frame is from the time we certify the project to Tax & Rev, that the actual approval of the project, which is required, is the approval which is normal under our rules, must only occur after, I think it's the March 6th date, whatever date your well passed.

A. Right.

Q. You would not object to having this project approved as being qualified for this Enhanced Oil Recovery tax credit, provided we don't certify that qualification to Taxation or don't start the clock running until you're ready to go?

A. That is correct. You have our plans down precisely.

Q. Now, you're familiar enough with the Act, I assume, to know that it requires us, in

addition to certifying the project, to certify the project area?

A. That's correct, yes.

Q. And it's your intent that there would be a two-phase, and we would probably look at Phase I as being the initial project area to be certified to Tax & Rev and then we can come back and establish the second project area?

A. That's the likely scenario, I think, certify Phase I first.

Q. As far as the development of--and let's talk about Phase I. I'll assume Phase II will not be part of the initial project area that's certified. Is it your intent, once you commence the construction of facilities and drilling of wells, is it going to be moving, say, north to south, east to west, south to north, whatever? What is the intent of ARCO with respect to how the drilling will be commenced and the construction of the facilities in the area?

A. The intent is to utilize a two-rig program. I can't stand before you today and tell you we're going to drill this well first, and we're going to move north/south, east/west.

Q. I'm more concerned about, are you going

to be moving up? For example, if you start at the south, are you going to move south to north, or north and south and move together?

A. I would envision some sort of program like you just pictured; either in the middle, working out, or in the outside working in, with two rigs. It is to our best interest to keep those moving costs down, so we would move one location at a time with two rigs, and that could go either way.

Q. To give you the framework to understand why I'm asking these questions, under the procedure I just described to you, where we can approve the project and identify the project area within an order and say this project area can qualify for the tax credit, the next thing we would provide in the order is that the operator would notify us when the project actually commences, and at that time we would provide the certification.

We would anticipate that if we were to certify the entire Phase I project area at that time, it would require that there be substantial development and construction throughout the Phase I project area or we would have to contract that

area for later expansion. Did you anticipate that development would be such that by the time you're ready for us to certify the project to Tax & Rev as an EOR project, that you would have substantial development throughout Phase I?

A. I think we probably would, given our program and our timing. I think we would have a substantial part of Phase I either under construction or already constructed and ready to go.

Q. I mean, that's the thought. What could happen is, we could certify less than all of Phase I, if, say, you started at the south and only got up to the north before you were ready to start injecting in the south. But, if you start in the center or start at both ends and work together, then it would be reasonable to certify the whole Phase I area to Tax & Rev?

A. I think that would be one more incentive to start either at the center and work out, or start at one end or the other or both sides and work towards the middle, for just the reasons you've outlined.

Q. There's never been a project in this area approved prior to this time, is that

correct? A secondary EOR project?

A. Not that I'm aware of.

Q. Are you able to give us an actual legal description of Phase I such that we could use it to identify the Phase I project area?

A. Yes, we could.

MR. CARR: And at the time we would request that you actually certify, I think that would be the time to identify it by section, township and range, the Phase I portion of the unit area.

MR. STOVALL: I think the way we've envisioned this, Mr. Carr, we would actually in the order say, "This is Phase I," which could be amended, but that would not go to Tax & Rev until you came back and requested the certification.

I think we would like to have an idea of what those boundaries are at the time this order is written, understanding that we would come back, if necessary, and adjust it.

MR. CARR: If there was a need to adjust prior to certification to Tax & Rev, you would anticipate that could be accomplished?

MR. STOVALL: Correct. I don't believe the exhibit I'm looking at, what is that, "4" on

the wall that shows the phase drilling program?

MR. CARR: That's Exhibit 18.

MR. STOVALL: I would not want to try and define that area from that map, but I see the boundaries of what you anticipate to be the phase. Again, since the EOR bill is new, we're fleshing things out a little bit as we go along, but the Division's intent at this time is to minimize the administrative burden on the operator while still complying with the full provisions of the Act.

As far as the concern of the area, we don't want to certify an area larger than that which you've actually conducted operations and are, actually, conducting secondary recovery operations. But, on the other hand, we don't want to make you come back here every time you do something different under the thing.

So that's the intent, and I think, Mr. Carr if, after we finish, we can look at this thing and review just exactly how we're going to--

MR. CARR: And we'll supply you with a description of the Phase I portion of this unit.

MR. STOVALL: Nothing further on that.

EXAMINER CATANACH: I have nothing further of the witness. He may be excused.

MR. CARR: I have two other things I need to do before we conclude. I have briefcases full of return receipts I would be happy to leave with you, if you would like. That's up to you.

MR. STOVALL: You don't happen to have--we have, in the past, had a data base that shows just the return receipt certified number rather than actually having the cards. Do you have that system prepared?

MR. PYLE: I can get that for you. I don't have that with me. We have a log from the post office from our mailing.

MR. CARR: The actual notice mailing was not done by my office. We do not have a log that shows by number. We have individual letters, lists, and attached to the letters the mailing notice and the return receipt for the returned envelope.

MR. STOVALL: I'll leave it up to your discretion whether you want to submit something that shows us evidence of receipt or the return cards themselves.

MR. CARR: We believe everyone is going

to benefit in this. It's not like changing spacing rules. We've given you a list of everyone we've notified by affidavit, and I don't mind keeping the receipts myself.

MR. STOVALL: Keep them for a period of time afterwards.

MR. CARR: The last thing is, we have prepared proposed orders in each of these cases for your consideration, and I'll also provide a floppy disk from which these orders can be printed. We hope to have the unit in effect the first of November, and we will do anything we can to assist you in getting these orders out.

MR. STOVALL: When you say the first of November, is that the time you expect to get the ratifications after the order is issued?

MR. CARR: We're hopeful that we can have a ratified unit by that date.

MR. STOVALL: Ambitious, aren't you. Mr. Pyle has his work cut out for him. With respect to the pool, I assume your proposed pool order does not address the wider pool boundaries?

MR. CARR: No, it doesn't. It address our application.

MR. STOVALL: Second thing is--I assume it addresses the issue of the Hobbs office being able to approve unorthodox locations?

MR. CARR: It does that.

MR. STOVALL: But it does not address the possibility of special pool rules which would not set spacing requirements in the pool?

MR. CARR: It does not, and we assume you would make those changes in the proposed order. We have nothing further in this case and we would request it be taken under advisement.

EXAMINER CATANACH: There being nothing further in these cases, Cases 10552, 53 and 54 will be taken under advisement.

MR. CARR: Thank you.

(And the proceedings concluded.)

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 10552, 10553, 10554 heard by me on September 17 1992.

David R. Catanach, Examiner
Oil Conservation Division

CERTIFICATE OF REPORTER

STATE OF NEW MEXICO)
) ss.
COUNTY OF SANTA FE)

I, Carla Diane Rodriguez, Certified Shorthand Reporter and Notary Public, HEREBY CERTIFY that the foregoing transcript of proceedings before the Oil Conservation Division was reported by me; that I caused my notes to be transcribed under my personal supervision; and that the foregoing is a true and accurate record of the proceedings.

I FURTHER CERTIFY that I am not a relative or employee of any of the parties or attorneys involved in this matter and that I have no personal interest in the final disposition of this matter.

WITNESS MY HAND AND SEAL October 7, 1992.

CARLA DIANE RODRIGUEZ, RPR
CSR No. 4