STATE OF NEW MEXICO

ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION

CASES 10059, 10060, 10061

EXAMINER HEARING

IN THE MATTER OF:

Application of CHEVRON U.S.A., INC., for the Expansion of the Eunice Monument South Unit Area and for the Amendment of Division Order N. R-7765, as Amended, Lea County, New Mexico

Application of CHEVRON, U.S.A., INC., for the Expansion of the Eunice Monument South Unit Waterflood Project Area and to Amend Division Order No. R-7766, Lea County, New Mexico

Application of CHEVRON U.S.A., INC., for Pool Extension and Contraction, Lea County, New Mexico

TRANSCRIPT OF PROCEEDINGS

BEFORE: DAVID R. CATANACH, EXAMINER

STATE LAND OFFICE BUILDING

SANTA FE, NEW MEXICO

August 22, 1990

A P P E A R A N C E S

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I N D E X

E X H I B I T S

EXAMINER CATANACH: At this time we'll call Case 10059.

MR. STOVALL: Application of Chevron, U.S.A., Inc., for the expansion of the Eunice Monument South Unit Area, and for the amendment of Division Order No. R-7765, as amended, Lea County, New Mexico.

EXAMINER CATANACH: Are there appearances in this case?

MR. KELLAHIN: Mr. Examiner, I'm Tom Kellahin of the Santa Fe Law Firm of Kellahin, Kellahin & Aubrey, appearing on behalf of the Applicant, Chevron U.S.A.

We would request at this time that you call the next two cases on the docket, and that for purposes of hearing they be consolidated.

EXAMINER CATANACH: Any objection?

At this time we'll call Case 10060.

MR. STOVALL: Application of Chevron, U.S.A., Inc., for the expansion of the Eunice Monument South waterflood project area, and to amend Division Order No. R-7766, Lea County, New Mexico.

EXAMINER CATANACH: And call Case 10061.

MR. STOVALL: Application of Chevron, U.S.A., Inc., for pool extension and contraction, Lea County, New Mexico.

EXAMINER CATANACH: Any there any other appearances in any of these cases?

MR. CURRENS: May it please the Examiner, Daniel R. Currens, attorney from Houston, Texas, appear for Amoco Production Company. I believe you have an appearance letter from the Campbell & Black firm in your records for me.

MR. CARR: May it please the Examiner, my name is William F. Carr with the law firm Campbell & Black, P.A., of Santa Fe. We represent Amerada Hess Corporation. I do not intend to call a witness.

MR. CURRENS: I'll have one witness, Mr. Examiner.

EXAMINER CATANACH: Are there any other appearances?

How many witnesses do you have, Mr. Kellahin?

MR. KELLAHIN: Three, Mr. Examiner.

EXAMINER CATANACH: Will the four witnesses please stand to be sworn in.

(Thereupon, the witnesses were sworn.)

MR. CURRENS: May it please the Examiner, Dan Currens for Amoco Production Company. We're not the Applicant in this case or in these cases, but the subject matter of the hearing regarding these matters

started several years ago with a prospective unit area that Amoco was then the expediter of.

It's my intention today, just as a very simple matter of background, to give a very short presentation via one witness, our unitization man, as to how we got to the point we are today, wherein Mr. Kellahin and his witnesses will take over. That's what I would like to do here.

EXAMINER CATANACH: You may proceed.

DANIEL A. JANIK, JR.

The witness herein, after having been first duly sworn upon his oath, was examined and testified as follows:

EXAMINATION

BY MR. CURRENS:

Q. Would you state your name, please.

A. My name is Daniel A. Janik, Jr.

Q. By whom are you employed, Mr. Janik?

A. Amoco Production Company.

Q. In what capacity?

A. I'm an engineer in the regulatory affairs and unitization group in the Houston region.

Q. All right, sir. With respect to your duties in the regulatory affairs and unitization group in Houston, are you familiar with the application or these three cases being heard here today?

A. Yes, I am.
Q. Have you ever testified before this Commission before?
A. No, I have not.
Q. Very briefly, would you tell us your educational background?
A. I received a Bachelor of Science degree in petroleum engineering from Texas A & M University in May of 1977.
Q. And what did you do after receipt of that degree?
A. I became employed by Amoco Production Company.
Q. What sort of duties have you had with Amoco Production Company?
A. I've had a number of operation engineering assignments in two district offices, have had a division reservoir engineering assignment and have worked on the unitization projects for the Houston region for the last six years.
Q. And with respect to your work on the unitization projects, is the area that will be proposed today for inclusion in the Eunice Monument South Unit, one that you have worked on?
A. Yes, it is.

MR. CURRENS: I would submit Mr. Janik, who I want to testify as an expert in the field of unitization.

EXAMINER CATANACH: He is so qualified.

Q. Just very briefly, what is the proposal here today--the unit proposal, at least?

A. On the unit aspect, it's a proposal for an expansion of the existing Eunice Monument South Unit to include what we've called the Eunice Monument West unit area.

Q. All right, sir. I believe on the board there's a map that's already been put up. Using that map as a reference, tell us where that acreage is.

A. The large area designated as Unit Area A is the existing Eunice Monument South Unit area or EMSU, and to the north of that, a smaller area is designated and that's about 3,000 areas, that's the expansion area or Unit Area B as indicated on the map on the wall, and that's the Eunice Monument West area, which is to be included as an expansion to the EMSU.

Q. That's not your exhibit, is it?

A. No, it's not.

Q. You're just using it because it just so happens that it's very handy to be there and to be used?

A. Yes, sir.
Q. When were the unitization efforts? The expansion area was called the Eunice Monument West Unit?
A. That's correct.
Q. All right. When were the unitization efforts for the Eunice Monument West Unit commenced?
A. Amoco conducted the first working interest owners' meeting for the Eunice Monument West Unit on May 13, 1986.
Q. Had the Eunice Monument South Unit already come into being at that time?
A. Yes, it had.
Q. What working interest owners participated in the discussions and unitization activity with respect to the new unit you were talking about, the west unit?
A. There were six working interest owners that participated, Amoco, ARCO, Chevron, Conoco, Amerada Hess and Shell Western E & P.
Q. All right, sir. Now, what did those working interest owners do?
A. At the initial working interest owners' meeting, they set up a technical committee to perform a study of the area.

Q. Were those studies made?
A. Yes, they were.
Q. What did they conclude?
A. They concluded that the area, as shown in the--I think it has a second line that's dotted on that same map on the wall, of that 3,000 acres, that this was a--of the recommended boundary for an area that had waterflood potential.
Q. And so, essentially, said it had waterflood potential, I assume that they found it would be feasible to commence waterflooding in this new roughly 3,000-acre area?
A. That's correct.
Q. They determined the feasibility and the appropriate boundary for this?
A. That is correct.
Q. All right. What options did they consider as to how to best proceed?
A. There were three basic options, as options for unitizing this area, this 3,000 acres plus or minus. First, there was an option of having that area included in a larger Monument Unit that Amerada Hess was proposing, the second option was to have this EMWU unit stand alone and be its own separate unit, or the third option was to have this EMWU area unitized as

part of the expansion of the existing Eunice Monument South Unit.

Q. What course did the working interest owners think would be the best one to follow?

A. After going through the technical work, with their technical committee, the working interest owners then went through and came up with what they proposed as the best feasible option, that being the expansion in the EMSU; the reasons being first, the first option of putting the area into a larger Amerada's proposed Monument Unit, the complexity of the Monument Unit seemed to indicate that this was going to take a long time. The Monument field had an area with a gas cap, it had an area that had waterflood potential, had other areas that did not have waterflood potential. For that reason, timing looked like a key reason, that it was going to take a long time if it would be ever possible to put together a large Monument Unit.

The second option, then--

Q. Okay. Now, if I could summarize that one briefly, it was very large, it had a big diversity of pay characteristics and it would probably take a long time to put it together?

A. That's correct.

Q. That left two options?

A. Yes.

Q. What about those two options? How did they decide what was the better of those?

A. The two options remaining were then that the Eunice Monument West Unit stand alone or part of an expansion in the EMSU. And primarily two key factors dictated why it was the recommendation of the working interest owners to go for the expansion.

The first primary--well, they're both really interrelated, too. The first had to do with economics. Since the existing EMSU was already in existence with the water facilities established, it would be much simpler and less expense to tie into an existing waterflood facility as opposed to starting from scratch and putting in their own waterflood facility for Eunice Monument West.

There's also economics of scale if you had it in a combined expansion type format scenario where there could be savings and possible benefits down the road in the waterflood.

The second that is tied to the economics, also, is the timing. It was felt by the working interest owners that timing of the expansion could occur quicker and allow for injection in the expansion

area quicker in an expansion as opposed to a stand-alone unit, and therefore get the secondary recovery oil production beginning sooner.

Q. So that led them to determine, among themselves, that they wanted to join the Eunice Monument South Unit?

A. That is correct.

Q. I take it they, then, approached Chevron with respect to that?

A. Yes. A ballot was distributed to the working interest owners of the EMWU area, and this ballot passed and Amoco sent a formal application letter to Chevron for expansion into their EMSU on October 31, 1989.

Q. All right, sir. So, summarizing briefly, they made a decision based on economics and timing to move forward by joining another unit, and they advised Chevron.

Is it your opinion that by starting this thing in that manner and utilizing the infrastructure that already exists, utilizing the economies of scale and starting the project faster, that the probability is that you'll recover more oil than you would with a lower, slower, longer down the line unit that lasts for many more years?

A. That can be of benefit, that's correct.
Q. All right, sir. So, in 89 you advised Chevron?
A. That is correct, October of 89.
Q. So, since that time they've been acting to accomplish these ends?
A. That is correct.
Q. Do you have anything further to add?
A. No.
MR. CURRENS: That's all I have of this witness. Just a brief background of how we got to this point.
EXAMINER CATANACH: Any questions of this witness? If not, he may be excused.
MR. KELLAHIN: Mr. Examiner, at this time I would like to call Mr. Jimmy Dolan. Mr. Dolan is a reservoir engineer for Chevron.

JIMMY DOLAN

the witness herein, after having been first duly sworn upon his oath, was examined and testified as follows:

EXAMINATION

BY MR. KELLAHIN:
Q. Mr. Dolan, would you please state your name and occupation?
A. My name is Jimmy Dolan. I'm a reservoir

engineer.

Q. Have you, on prior occasions, Mr. Dolan, testified before the Division as a reservoir engineer?

A. Yes, sir, I have.

Q. Would you describe for the Examiner what it is that you perform for your company with regards to any of the three applications pending before this Division?

A. Yes, sir. I'm the reservoir engineer that took over the expediter role as far as reservoir engineering was concerned after Amoco passed the operations on to Chevron.

I have prepared the C-108 exhibit. I have prepared several exhibits for expansion of the EMSU. I have been instrumental in the working interest owners' meeting that we had in February 1990, this year.

I have prepared the basis of admission with the concurrence of my management. I have been involved in significant activities of the proposed expansion.

Q. At this point, Mr. Dolan, have you assimulated sufficient engineering and geologic information with you and the other technical experts involved in this project to reach certain conclusions

with regards to the applications before the Examiner today?

A. Yes, sir, we have.

MR. KELLAHIN: We tender Mr. Dolan as an expert reservoir engineer.

EXAMINER CATANACH: He is so qualified.

Q. Let me have you, for the record, identify what's on the wall as display number one. What is that, sir?

A. This is a map constructed by our legal department, which shows the Eunice Monument South Unit as it currently exists and the proposed expansion.

The proposed expansion area, as Dan Janik testified, is Unit Area B. That consists of 3,000 acres. Of this acreage there's approximately 76 percent federal lands, 13 percent state lands and a little under 11 percent fee lands.

The area shown as Unit Area A is the existing Eunice Monument South Unit that consists of 14,190 acres. Of this, the existing unit, federal lands are 27.17 percent, state lands approximately 50 percent, and fee lands, a little over 20 percent.

Q. Based upon your studies, have you reached conclusions that are consistent with the opinions expressed by Mr. Janik when he testified before the

Examiner?

A. Yes, sir, we have.

Q. In your opinion, is expansion of the existing unit to exclude the west unit, this expansion Area B, an appropriate and suitable solution for the additional recovery of oil hydrocarbons from the two pools?

A. Yes, sir, that's correct.

Q. Let me direct your attention, Mr. Dolan, to Exhibit No. 2. I won't ask you to read all these entries on this chronology, but identify it for us.

A. This is the chronology of the development of the existing Eunice Monument South Unit.

Q. At what point in this exercise did you personally become involved in the project?

A. For the Eunice Monument South Unit, I became involved in March of 1988.

Q. Summarize for us what is the current status of the existing main unit in terms of its operations. If you would, give the Examiner a short overview of where we are with that project.

A. Okay. The existing unit was unitized on February 1, 1985. We started workover operations to convert injection wells from 1985, early 85, until November of 1986, when we converted the first 38 wells

to injection.

Between the November 86 date and June of 1988, we had converted a total of 133 wells, and that's when we effectively went full-scale injection on the unit.

We have currently injected a little over 100 million barrels of water to date and we, as a matter of interest, we bottomed out in the unit producing approximately 1100 barrels of oil a day in May 1987. We're currently making just under 1400 barrels a day. That's about a 300 barrel a day increase.

We have most all of the wells converted that we plan to convert. We have effectively all of the producer drilling completed. What we've seen to date has been some positive response that the waterflood is responding either as good as or a little better than we had expected, based on the technical committee's prediction.

Q. Let me have you turn to Exhibit No. 3. Would you identify that for us?

A. Yes, sir. That's a unit total production and injection curve for the existing Eunice Monument South Unit.

Q. What does this tell you?

A. Primarily, the main thing that we see is what I previously mentioned, that the oil production is increasing. Secondly, our gas is dropping which, if we had a GOR curve you could see that the GOR was dropping, which is an indication that the waterflood is performing, as expected, positively.

Q. When you examined the engineering and geologic parameters that are at work or functioning in the existing unit, and examined the engineering or geologic components of the expansion area, are they similar or dissimilar?

A. They're very similar.

Q. Do you see any reason not to apply the solutions utilized by the working interest owners in the main area to the expansion area?

A. No, I do not.

Q. Describe for the Examiner what the mechanics are, in a general way, for the participation formula in the existing area?

A. The participation formula for the existing Eunice Monument South Unit consists of 50 percent weighted on cumulative oil production, 40 percent weighting on remaining primary, and 10 percent weighting on current production. And the dates associated with the cum are cumulative through

9/30/82, the remaining primary from 10/1/82 to the economic limit, and current production from 1/1/82 through 9/30/82.

Q. At the time the working interest owners requested that Chevron be the operator of the expansion area and that that expansion area be an extension as opposed to a stand-alone project, were you advised of the proposed boundary for that unit expansion area?

A. Yes.

Q. Do you see any disagreement or any problem with utilizing that boundary for the expansion area?

A. No, I do not.

Q. What is the proposal for the participation formula for the expansion area?

A. Same as the existing unit.

Q. Do you see any problems with doing that?

A. No, I do not, and the working interest owners did not.

Q. Let me have you turn to Exhibit No. 4. Identify that for us?

A. That's the chronology of events for the proposed Eunice Monument South expansion area.

Q. Let's go to that technical report generated by the study group that gave you the information,

then, that you utilized in making your studies. And I want to direct your attention to what's marked as Exhibit No. 5. Identify that for me, please.

A. Yes. This is the addendum to the technical committee report dated February 19, 1988, prepared by the technical committee for the proposed Eunice Monument West Unit area.

Q. I don't propose to take you through that document. Summarize it for me. What did you utilize it for and what does it tell us?

A. The primary thing in this technical committee report is what Dan Janik testified before; we could have a stand-alone unit or an expansion area. The information for these two cases is presented in this technical committee report. You utilize this data for individual working interest owner's evaluations of the stand-alone versus expansion case.

Secondly, the technical committee decided that based on Rule 70-7-10 of the Statutory Unitization Act, that the expansion area and existing unit area should be treated as two separate entities as opposed to combining the two and having one 100-percent working interest. They said that it should be two separate tracts with 100 percent working

interest in each tract, having a common operating objective.

Q. They would be like a unit that had two different participating areas?

A. Right. However, we would share common injection systems and a common operation.

Q. The equities established for the interest owners that participate in the original unit remain the same?

A. Correct. That's right.

Q. The participation and equities established for the interest owners in the expansion area remain fixed within that boundary?

A. That's right.

Q. And the two work together with the common objective of increasing ultimate recovery from secondary operations?

A. That's right.

Q. Based upon that background, then, what, then did you do?

A. We produced to prepare information for a working interest owners meeting, and that working interest owners meeting was scheduled February 27, 1990. The primary objective of the meeting was to share the proposal of the expansion with the existing

Eunice Monument South Unit and the proposed Eunice Monument South expansion or the Eunice Monument West working interest owners.

Secondly, we developed a basis of admission of the proposed expansion area into the existing unit and proceeded to have the working interest owners' meeting.

Q. Let's go through that exhibit. It's Exhibit No. 12. So we get these in the record, Mr. Dolan, let's go ahead and identify the exhibits from Exhibit 6.

MR. KELLAHIN: And then we'll focus on Exhibit No. 12, Mr. Examiner?

A. Exhibit No. 6 is a letter from Amoco, as expediter of the unit, on revising the remaining primary reserves for the proposed participation formula for the Eunice Monument West Unit area.

What this letter states is that those leases that have a greater life than 39 years or tracts that have a greater life than 39 years, an economic life would be placed on that lease of 39 years and six of the total 10 Grayburg-San Andres tracts, that 39 year life was applied.

What this did was satisfy some of the working interest owners' concerns regarding the

remaining primary reserves.

Q. Let's go to Exhibit No. 7. Identify it and describe that.

A. Number 7 is a letter from Amoco stating that the technical committee report had been approved, and attached to this is a ballot to the working interest owners for approval of the technical committee report, participation formula, and Amoco's application to Chevron for expansion of the Eunice Monument South Unit to include the Eunice Monument West Unit area.

Q. Exhibit No. 8?

A. Exhibit 8 is the working interest owner ballot results based on the previous letter or exhibit that I just discussed. And the results from the working interest owners show 81 percent--just a little over 81 percent for, four percent against, and about 14 percent no reply.

So this approved the technical committee report, the participation formula, and it allowed Amoco to apply to Chevron for expansion of the EMSU.

Q. Exhibit No. 9?

A. Number No. 9 is the formal application by Amoco applying to Chevron for expansion of the EMSU as well as to act as expediter on the proposed Eunice

Monument South Unit expansion.

Q. Exhibits No. 10?

A. Exhibit 10 is the formal acceptance of Amoco's request of Chevron to act as expediter and for Chevron to apply to the EMSU working interest owners for expansion of the EMSU to include the EMWU area.

Q. All right. Exhibit 11?

A. Exhibit 11 is the call to working interest owners meeting. It's dated February 8, 1990. For the working interest owners of the Eunice Monument South Unit as well as the working interest owners of the Eunice Monument West Unit area.

Included in this call to working interest owners' meeting, is the proposal for the expansion as well as the basis of admission. Included in the proposal is the location of the expansion area with a legal description and a map. The investment adjustment which would be required to buy into the existing unit to purchase a portion of the existing injection system, capital costs on the common injection system, how it would be split, operating expenses on the common system and how they would be shared between the two areas, the existing and the expansion area.

Development costs for the expansion area

will all be maintained separately with the West Unit area paying its share for developing the expansion area. Production and proceeds would be held separate and accounted for separately, and lastly, participation would be held separate in the two areas and each area would be treated as a separate tract.

Q. Let's go now to Exhibit 12.

A. Okay.

Q. Describe for us how this package of information that was utilized by the working interest owners for their meeting, describe how it's organized. What's in it?

A. Okay. For the Eunice Monument South Unit and joint West Unit working interest owners' meeting, we broke this into two main sections; first being the status of the Eunice Monument South Unit and second being the proposed expansion of the Eunice Monument South Unit.

Near the front is some geologic information regarding where the EMSU is located. We have a structure map on the Grayburg, the number of logs originally that we had on the unit, the number of logs that we currently have on the unit, RFT pressure points, cored wells. It just covered several things regarding geology.

The next section which is of interest is on page 15.

Q. Let's turn to page 15.

A. That's the predicted secondary waterflood or secondary recovery response from the existing Eunice Monument South Unit. What you see is, along the bottom you see the technical committee assumed a start-up date of January of 1985. They assumed it would start up in January of 1985. It didn't actually start up until November of 86 when we had 38 wells put on line, and full scale was June of 88.

What we've done with the prediction, you see the technical committee prediction and the current prediction. We've shifted that to reflect a later than anticipated start-up. Also you see the original oil in place for the existing area, about 671 million, and predicted secondary reserves of about 65.8 million barrels, and that's a secondary and primary of about .49.

Q. Does it jeopardize the predictions to include the expansion area?

A. No. It has no, effect.

If you would just turn to page 17, there's another page of interest.

As of January of 1990, those wells that

have shown waterflood response are shown as the stars. At that time we had 53 wells. The waterflood response that we've seen throughout the field has not been uniform. We don't see wells going from one to 100 barrels a day, but we see some wells going from one barrel a day to three barrels a day with a GOR dropping, and we've seen some go from two or three barrels up to 70 barrels a day. So we're seeing a positive response from the existing unit.

Q. What if anything has occurred with the gas/oil ratio?

A. It's dropped.

Q. So the next document of interest in this exhibit?

A. That would probably be, I briefly want to touch on the activities we had.

Q. Is that summarized in here?

A. Not really.

Q. All right. Just tell us.

A. We've drilled 54 wells in the unit, we've worked over over 400 wells to date, we've spent $50 million of the appropriated $60.6 million and we're underexpended, we're about to close the project out. We've taken several cores in the unit, we've got significant log information, RFT information, special

core analysis.

Basically, I'm trying to say that we have a pretty good grasp on the reservoir, we have good reservoir information and we're well on our way to hopefully seeing a significant waterflood response in the next two to five years.

Q. Let's look at that portion of Exhibit No. 12 that deals with the topic of the expansion area.

A. Uh-huh.

Q. One of the things Mr. Janik described for us is the decision made by the working interest owners to proceed with an expansion as opposed to a stand-alone concept?

A. Right.

Q. Do you have any economics in this exhibit to demonstrate what the parties were dealing with when they made the decision to pursue an expansion?

A. Yes. Page 55 is a comparison of an expansion versus a stand-alone unit. As you can see under the expansion column, we'll spend about $10 million. This is not total cost for the project, but it does represent costs that are equivalent on expansion versus stand-alone.

What you see on the stand-alone side is approximately $11.2 million. Therefore, the

stand-alone case is about $1 million more than the expansion case.

Q. Okay. One of the topics discussed and one of the considerations the Examiner must make in entering the Order is the method by which parties would participate, the capital distribution, and the investment made for participation.

Describe for us your recommendation, and what is the consensus on that topics? Is there a wellbore contribution in the expansion area? Describe for us some of the details of that contribution, if you will.

A. The unit agreement will be the same as the existing unit. The wellbore penalty, which will be applied on a 40-acre tract where there's an existing well that has produced or is currently in the Eunice Monument, if a working interest owner does not contribute that well, the $100,000 penalty will be paid as a penalty and then the working interest owners will share in the cost of drilling another well in that location. And I think we have two wells where that will apply at this time; the Amoco-Gilluly #7, which is a Eumont gas well, and the Chevron Bell "G" #1, I believe it is.

Q. In making the study for the working

interest owner's meeting, were there any projections made for the potential success of the secondary recovery efforts?

A. Yes, and that's shown on page 59.

Q. Describe for us what this means to you.

A. The straight decline curve, shown as primary decline at about 5.19 percent per year, is the base production. That's the production that we would realize, the unit total production, if no waterflood operation took place. The small dashed line is the predicted waterflood response.

As you can see, in early 1991 you see a drop in production, and that's due to the conversions we make. We're going to convert up to as many as 38 wells in the unit from--excuse me. We will convert wells in the unit to have a total of 38, and that's ultimate, assuming lease line agreements, but we'll get a drop in production due to the conversions.

We'll see this drop and then a shallow decline until we reach first response in the first quarter of 1996 and a peak response in the first quarter of 2001 at about 4,150 barrels a day.

We'll hold that production constant for approximately two years and then decline at 14.4 percent to the economic limit. We've also shown the

estimated secondary reserves associated with this project, and these are incremental reserves over and above the primary production of 13.5 million barrels.

Q. Let's summarize for the Examiner the basis for admission into the unit. I think you have some of that summarized beginning on page 60?

A. Yes.

Q. With the working interests having made the decision to pursue the expansion of the EMSU to include this western area, what were the issues, then, in order to accomplish that objective?

A. There were three things that we looked at that developed the basis of admission. The first being to determine an equitable investment adjustment. The investment adjustment is the cost to buy into the existing unit's injection system.

If you just quickly turn over to page 61, that's what I'm talking about, the injection station, water supply wells, water disposal well, and a portion of a north running trunk line. What we ultimately determined in and the working interests agreed upon was an investment adjustment of $1,060,000 plus or minus a thousand dollars.

The second issue was to determine an equitable method of sharing capital expenditures on

this common injection system, and the agreed method to do this was to share the capital expenditures based on a 17.24 percent west unit area and an 82.76 percent existing unit area split. And the working interest owners agreed upon this.

Q. That's 17 versus 82 percent?

A. Yes.

Q. That's based on what?

A. It's based on--

Q. How do you get that number?

A. If you turn over a few pages to page 63, we looked at 11 different components that could be used for sharing capital expenditures or how we would split between the west unit and the south unit. We couldn't determine which would be the most equitable or the most fair to use. Therefore since they all looked fairly similar, we averaged them all and came up with 17.24 percent for the west unit and 82.76 for the south unit, and again the working interest owners approved these.

Q. Is that one in which you as an engineer have agreement and recommendations to the Examiner that he adopt?

A. Yes.

Q. Were there any other issues?

A. Yes. The last issue was determining an equitable expense sharing arrangement on the common injection facility that would be shared between the two areas.

Q. I've lost you. You mean the day-to-day or month-to-month operating expenses?

A. Yes, the expenses on the injection station that we will pay the investment adjustment for, or how will we share expenses on the injection facility, water supply wells, water disposal wells, that injection line.

What we determined was the best way to share it was by direct measurement approach. We'll measure the injected fluids that go to the west area, injected fluids that go to the south unit, the water supply that's required in the west unit and the water supply required in the south unit, and proportion expenses based on these direct measurement of water volumes on a monthly basis.

Q. In your opinion, is that fair and reasonable?

A. Yes, sir, I believe it is very fair.

Q. Anything else on this topic, then, about the issues involved in achieving--obtaining the goal of admission into the existing unit?

A. No. This pretty much took care of the basis of admission.

Q. Okay. Summarize then for us what the major points were as a result of this working interest meeting in February of 1990.

A. The first point would be an update of the EMSU fore the working interest owners of the existing unit. Secondly was proposing the Eunice Monument South Unit expansion to both working interest owners, well knowing that the west unit working interest owners knew about the proposal, and third was the basis of admission for the proposed expansion area, how could we admit it into the existing waterflood unit.

Q. Having gotten to that point, what then was the next thing that occurred?

A. We prepared the minutes of the meeting, which is Exhibit 13, and the minutes of the meeting basically cover in brief what was covered at the working interest owners' meeting.

The point I want to make here was the representation at the meeting. The Eunice Monument South Unit, the existing unit, had 97.9 percent company representation or working interest representation at the meeting, and the West Unit

working interest owners were represented by 100 percent.

Q. After that, was there an official formal ballot sent to the working interest owners?

A. Yes, there was. That's Exhibit 14.

Q. Identify and describe that for us.

A. Exhibit 14 was a ballot prepared on February 28th, the day after the working interest owners' meeting. Basically what it covered was the proposed expansion of the Eunice Monument South Unit to include the 3,000-acre Eunice Monument West Unit study area.

Also included with this ballot was the basis of admission for the expansion area. I have the proof of mail out with the return receipts on the back, as well as the ballot tally on that ballot to the working interest owners of both the Eunice Monument South Unit, the existing unit, and the Eunice Monument West Unit working interest owners.

The results of that tally, the existing unit working interest owners, 90.9 percent approved it, zero were an against it, and 9.1 percent, no reply. The West Unit working interest owners, 97.6 percent approved it, zero against and 2.4, no reply.

So, based on this ballot, we proceeded with

unitization efforts on the proposed expansion.

Q. Let me have you focus now on the expansion area, and let's provide the Examiner with your production curve for the production from that area.

In that regard, let me direct your attention to Exhibit No. 15.

A. Okay.

Q. In the production curve, what's included?

A. On this curve we show barrels of oil produced per day, barrels of water, and gas production, as well as a cumeoil for the proposed unit area. Currently we're making about 534 barrels of oil per day, a little under 2,000 barrels of water and 1,263 Mcf with a cumeoil of 25.2 million barrels.

Q. And this is based upon how many producing wells, approximately?

A. 78 total producers in that proposed unit area over the life of that area.

Q. Have you developed a pattern for the injection wells within the expansion area?

A. Yes, we have.

Q. Do you have a display that demonstrates that?

A. Yes. That's Exhibit 16.

Q. Describe for us the concept of the pattern

of injection.

A. The proposed waterflood pattern is consistent with the existing Eunice Monument South Unit, Greenhill Petroleum Eunice Monument Unit, Amerada Hess's proposed North Monument Grayburg Unit, and it's also consistent with the Reed Sanderson Unit.

We are on an 80 acre five-spot pattern, and just to give you a quick brief over the proposed unit area, the wells that have the circles around them, those that have the circles with either the dot or the triangle, are proposed new wells to be drilled. Those with the triangles are proposed new injectors. Those with the dots are proposed new producers.

Again, I would like to reiterates that this is as compatible a pattern as you see in the EMSU Monument Grayburg and the Greenhill Unit. We've carried that five-spot down and forward to the proposed North Monument Grayburg.

Q. If there's full development within the expansion area of all injectors, how many injectors will you have?

A. Full development, 38.

Q. What is the plan for the injector arrangement on the outer edges of the expansion area

boundary where you approach other properties?

A. With management and working interest owner approval, we plan to pursue lease line agreements on these wells.

Q. When we look at the display, there are certain injectors. If you look in Section 13, for example, there's an injector with a circle around it. What does that mean?

A. A proposed new drill injector.

Q. The legend on the bottom of the display will give you the code for the various symbols used on the display?

A. That's correct.

Q. Have you developed an initial plan of development as operator?

A. Yes, I have.

Q. Has that been summarized in an exhibit form?

A. Yes, Exhibit 17.

Q. Without giving us all the details, summarize it for us.

A. Briefly, I would like to tell you that this was the Initial Plan of Development and Operation presented to the State and BLM back in April of this year.

Primarily it consists of the information regarding the drilling of the five new wells, two new producers and three new injectors. We plan to work over all existing producing wells, whether it be to clean out, acidize, adverse, deepen, if necessary. It also discusses the injection system that we have in the existing unit, and the information presented indicates we have approximately 130,000 barrels of injection capacity, where we're currently using about 95,000 barrels a day. And the EMU will require roughly 20,000 barrels a day.

The water supply wells that we use for the makeup water for both units, there's currently six San Andres water supply wells in the existing EMSU and their capacity is 105,000 barrels of water a day, and that's with the existing subpump equipment and there's no problem producing sufficient quantities of water to supply both of these areas with water.

We also plan to dismantle all of the existing batteries in the proposed expansion area and install one central tank battery and one satellite battery which will service the whole proposed unit area.

Q. One of the two fundamental things the Examiner must decided is the prevention of waste. Do

you, as a reservoir engineer, having completed your study, have any reservations that the waterflooding of the expansion area under consolidated unit operations will recover more secondary oil than the individual tracts could recover by themselves?

A. Yes, that's correct.

Q. No doubt in your mind this will work that way?

A. No doubt.

Q. Let's talk about the second component, and that is the protection of correlative rights for those interest owners within this expansion area.

Have you, on a tract-by-tract basis, compared the value of those tracts without operation under waterflood to determine whether or not they will benefit on a tract-by-tract basis from expansion operations and secondary recovery?

A. Yes, I did.

Q. Have you done that and prepared a display to show that?

A. Yes. That's Exhibit 18.

Q. Let me direct your attention to that, and before we talk about the details of did, help us understand how to read it.

A. Okay. On the left-hand side we're showing

the different tracts in the proposed unit area.

Q. If we go to Exhibit No. 1 and look at the expansion area and find the tracts on that display, they will correspondence to the tracts shown on this tabulation?

A. Yes, that's right.

Q. What's the next column?

A. The cumeoil associated with that tract through 9/30/82.

Q. How do you get that number?

A. It's based on the participation formula that was approved by the working interest owners and the technical committee.

Q. You broke it out into tracts, so you look at a tract and its producing well?

A. That's right.

Q. Did you have any tracts that didn't have producing primary production?

A. We had a 40-acre area that had no producer on it. However, we did not have any tracts that did not have production or a cumulative production.

Q. When we look at the next entry, then, the third column--the first column is the tract number, the second column is cumeoil and the third column is what?

A. The third column is the individual tract's cumulative production divided by the total units' cumulative production multiplied by the 50-percent weighting factor.

Q. The next column?

A. Column C is the remaining primary as of 10/1/82 to the extrapolated economic limit or the 39-year life, depending on what was developed in the letter following the addendum of the technical committee report.

Q. How did you get the remaining primary production per tract?

A. We looked at individual tract decline curves and extrapolated the decline to the economic limit.

The next column is remaining primary reserves per tract divided by the total remaining primary reserves for that proposed unit area, times the weighting factor of 40 percent.

Column E is the current production from 1/1/82 through 9/30/82 for the individual tracts.

The next column is the individual tract's current production at that time period divided by the total unit current production at that same time period, times the 10-percent weighting factor.

The last column is the individual tract participation--the next to the last column. The very last column is the estimated secondary reserves by tract based on the participation for each tract as developed from the participation formula.

Q. When we look at the tabulation, there is also in parentheses, over certain columns, a letter?

A. Correct.

Q. What does that tell us?

A. That letter just helps develop the formula for the participation. "A" represents--down below you see an "A," which is tract cumeoil through 9/30/82. For example, "C" would be the remaining primary reserves for that individual tract. There's a legend which represents each of the letters A through F.

Q. When we look at the components for the participation formula, one of them is current production?

A. That is correct.

Q. You've pegged that based upon September 30th of 82?

A. Current production, 1/1/82 through 9/30/82.

Q. Oh, I'm sorry. There's almost a 10-month period, then, that you've looked at the individual well production?

A. That's correct.

Q. In your opinion, is using that increment of time in 1982 a fair and reasonable time by which to allocate an actual production component in the participation formula?

A. Yes, sir, I believe it is.

Q. Have you made any study to determine what happens to the end result calculation if you change that number?

A. There was something in the technical committee information that Amoco prepared that looked at 1986 information, and the net effect was very little change to the participation, because each tract's decline is fairly constant and you don't see many disruptions in the production.

If you use the 1982 data versus the 1986 versus the currents data, barring no drilling activity or secondary recovery operations or significant workover activities, you shouldn't have a significant change in your decline. It wouldn't have significant effect.

Q. When we look on a tract-by-tract basis, then, each tract is getting a credit for cumulative oil?

A. Yes.

Q. Each tract is getting a benefit or a credit for a remaining primary production?

A. Yes. If it had any, that is correct.

Q. Those tracts that still have a good producing oil rate during this period of time get credit for that component?

A. That's correct.

Q. Can you think of any other way to come up with a formula to do this that, in your opinion, is more equitable and reasonable than this one?

A. No, there's not a more fair and equitable method.

Q. When we're making the judgment to support your conclusion about an individual tract benefiting under unit operations as opposed to a tract-by-tract development, how to we look at this and reach that conclusion?

A. The very last column, which is your estimated secondary reserves by tract, to give you a secondary reserve estimate for individual tracts; and, as you can see, each tract has significant secondary reserves, something over 80,000 barrels for each tract.

Q. All right, sir. In your opinion, Mr. Dolan, if the Examiner adopts and approves the various

recommendations of Chevron for inclusion in the various orders, will he be doing so in a manner that prevents waste and protects correlative rights?

A. Yes, sir.

MR. KELLAHIN: This concludes this portion of our presentation. I need to take Mr. Dolan through the C-108 waterflood process. We're prepared to do that now.

EXAMINER CATANACH: Let's wait on that.

EXAMINATION

BY EXAMINER CATANACH:

Q. Mr. Dolan, as I understand it, the two units are going to be actually separate units. The only thing in common would be the sharing of the cost of the injection facilities, is that correct?

A. What will be in common will be the injection facility, which primarily runs to the north, the injection station, the water supply wells, as well as the personnel. We'll use the same pumpers and primarily the same operating plan for both areas, but that will be all that is.

Q. So the expansion area has its own operating agreement and unit agreement?

A. No. The operating agreement and unit agreement will be the same as the existing unit

because this is an expansion of the existing unit.

MR. STOVALL: A clarification on that. Do I understand correctly that in effect as an operation it's going to be a single unit but they will have separate accounting centers, is what you're really saying?

THE WITNESS: That's right.

Q. (BY EXAMINER CATANACH) The production for both areas is going to be kept separate?

A. That's correct.

Q. And the participation formula that you're using for the expansion area is the same one that's used in the original area?

A. Yes, that's correct.

Q. Does that include the same dates, as far as cumulative oil and remaining primary and all that?

A. Yes, it does.

Q. What's the commitment in the expansion area so far by the working interest?

A. By the working interest owners? Just the EMW working interest owners?

Q. Well, both.

A. Based on the ballot on the proposed expansion which we did after the working interest owners' meeting, it's about 90.9 percent south unit

for the unit expansion and 97.6 percent of the west unit working interest owners for, and none against. We did have some no replies.

Q. Will there be some sort of agreement for lease line injectors between the two units?

A. Between the existing and the expansion area?

Q. Yes.

A. No, I don't think there will be a lease line agreement required. We'll preserve equities by having the pattern arranged such that we'll support one unit with this injector and the other unit with the other.

Q. So they'll offset each other?

A. They'll be alternating injections. That's right.

Q. Is there any additional projected recovery due to secondary operations in the West Unit?

A. It's about 13-1/2 million. That's just secondary. There have been estimates of tertiary, also. Just rough estimates, though.

Q. That's at a .49 ratio?

A. Approximately .49.

Q. You've had no objection from any of the working interest owners over your participation

formula?

A. Based on the information that I have--I was not on the technical committee. I came on board afterwards--but the information from the different technical committee members was there was no problem with the participation formula at all. No objection.

EXAMINER CATANACH: I believe that's all I have at this time. You may proceed with the rest of your examination.

MR. KELLAHIN: Mr. Examiner, we've attempted to consolidate the requirements for the C-108 filing into what is marked in this black book as Exhibit 19. This also represents Mr. Dolan's work and those of other technical people on behalf of Chevron to comply with requirements of the C-108 filing.

FURTHER EXAMINATION

BY MR. KELLAHIN:

Q. Let me have you describe for the Examiner how you've organized your exhibit book for the C-108 requirements, Mr. Dolan.

A. Basically, the book is organized as the C-108 form is laid out, with the first section being the formal form C-108 for all proposed injection wells in the expansion area. This was completed by me and others in Chevron's organization and signed 7/9/90.

Q. If we turn behind the first tab, it says typical injector schematic?

A. Right. We have three different--six different typical injection schematics. The six different schematics represent different casing or open hole or perforation arrangements in the proposed injection wells in the area.

Basically, the first one represents the proposed new injection well in the expansion area. We'll have two strings, a surface string and a production string, and it will be cased to TD, have perforations as well as an injection packer, IPC tubing, and circulated packer fluid behind the tubing.

The next few schematics represent the different arrangements, casing arrangements, like, for example, the second is two strings of casing very similar to a new well. We have three of these wells in the proposed expansion area.

The third is two strings with open hole and casing perforations. We have one of these. The next is three strings with open hole and there are 16 wells with this arrangement. The next is three strings with open hole and perforations, seven wells that fit this criteria, and the last being three strings with a

liner, and we have eight wells that fit that criteria.

The next section is the area of review map. This is the map that encircles the half-mile radius around each proposed injection well. We have looked at and prepared schematics on all wells which are within one-half mile of each proposed injection well. Instead of drawing individual circles around each well, I've just consolidated the circles. And, as a matter of information, we've gone a little bit further out than the half-mile radius just to satisfy ourselves that we didn't have any problem wells.

The map also indicates the status of the wells in the areas with, for example, gas well, oil well, shut in, TA'd, PA'd. Also shown on the map is the proposed Eunice Monument Expansion Area B well-numbering scheme, starting from 850 running through well number 924.

Q. Within the area of review, did you find any problem wells?

A. No, sir, we didn't. No problem wells.

Q. Within this area when we look at producing wells that are producing below the flood formations, are you satisfied that each and every of those producing wells has a cement integrity that separates

the flood formation from the casing of that producing well?

A. To the best that I can remember, we had very few, possibly three or four wells, maybe as many as six, that went below the proposed unitized interval. And those that did, they did have adequate cement. All wells that I've reviewed have adequate cement covering the proposed unitized interval. This is based on either a top of cement information that we've received from the well file at the OCD, or it's based on the formula you gave us with a 30-percent loss and a 1.32 cubic foot per sec yield on the cement.

Q. When we look at plugged and abandoned wells, have you provided schematics or information with regards to plugged and abandoned wells so the Examiner will be able to see--

A. Yes, sir, I have. There's three Section 6's, well schematics inside the unit area, well schematics outside the unit area, and the third portion of Section 6 is plugged and abandoned wells. There are 10 plugged and abandoned wells in the area of review. Two of these are wells that will be wells--one of these is a well that will be reentered and put in the unit as a unit well.

Q. In your opinion, were any of the plugged and abandoned wells so poorly plugged and abandoned that they would constitute problem wells?

A. No, sir, they were all plugged effectively, based on my opinion. As well, we talked to Jerry Sexton of the local OCD, and he has a copy of this book. Based on what--he hasn't called us and told us about any problem wells yet. We presented this information to him, also.

Q. Did you see any wells that would serve as a source of conduit by which flood fluids would move out of the flood formation into possible freshwater sands? No problems like that?

A. No. No. None.

Q. Let's turn, then, to the information behind the red tab? What's in the next portion of this book?

A. I've prepared three tables--

Q. I'm sorry. All the tabs are not the same color?

A. No, they're not.

Q. I'm looking at a tab that says data tables, area of review, Roman numeral VI?

A. Yes.

Q. All right.

A. I prepared three different tables, with the

first table being all wells in the half-mile radius of review with the left-hand column being the proposed well number for the proposed expansion well, whether or not it will be a water injection conversion, the lease name, well number, unit, section, township and range, tract number, and the proposed unit area, operator, field pool, New Mexico OCD class, whether it's a Eumont oil well, Eumont gas, Eunice Monument oil well, and additional information such as TA'd, PA'd, et cetera.

The next table, which is approximately four pages over, just represents those wells that will be included in the unit as we know them now, and with the associated API number. And this was basically to satisfy the State and BLM. They require that you put the API numbers on the proposed wells.

The last table is each proposed injection well in the proposed unit area and its actual footage location as it's located in the proposed expansion area. And on the bottom we have tentative locations for the proposed new injection wells. Those are the three tables that we prepared.

Q. If the Examiner in entering orders in this case utilizes the last tabulation, he will then have a complete list of all proposed injection wells for the

expansion area?

A. As we know them now, that's correct.

Q. You propose that he include an administrative procedure for the additional injectors that you may need?

A. That's correct.

Q. Behind the next tab, which says well schematics inside unit area?

A. That's correct.

Q. What does that mean?

A. We prepared well sketches on each and every well, in this section, anyway, that falls within the proposed boundaries of the proposed unit area.

To the best of our ability we completed these sketches with the information that we had and that we found at the OCD. Primarily all of these sketches were prepared from the local Hobbs Division OCD office well files.

Q. Rather than try to present in a tabular form all the information required for the C-108, you've gone to the extra effort of preparing that information on individual well schematics?

A. That's correct.

Q. When we leave that section--

A. When you leave that section you move into

the well schematics for wells outside of the proposed unit area but within the half-mile radius of review, with the inclusion of a few extra wells.

Q. And when we talk about problem wells, I'm talking about any wellbore within, then, the half-mile area of review, and you find none?

A. I found none.

Q. When we leave that section we then get into the plugged and abandoned wells?

A. That's correct, and we have 10 plugged and abandoned wells within the half-mile radius of review. As I mentioned earlier, we have one well that will be reentered and used as an injection well.

Q. Let's turn now to the next information and talk about your summary of your proposed operations?

A. Okay. Our proposed average and maximum injection rate will be approximately 666 barrels a day, and that was the rate that we were maintaining at the existing unit, and that was based on a couple of month's ago information, and a maximum daily rate of approximately 800.

We might vary from this a little bit; however, we plan to maintain our injection pressure as our controlling point and that will be maintained at a .2 psi per foot gradiant, which represents

approximately 740 pounds, and that's at a 3700 foot top perforation using our fluids. Quickly, the source of the injection fluid, like I mentioned earlier, was from the six San Andres water supply wells in the existing unit.

Q. Are you experiencing any type of production problems, operational problems, or any water incapability issues with the existing unit?

A. No, we're not. As well, we prepared--we caught samples from the producing wells in the proposed expansion area as well as samples from the water supply wells, and that's the next water sample section, as well as the injection station water, and ran some compatibility tests, and based on Martin Water Lab information, there's no compatibility problems.

Q. What about your surface pressure limitation for your injectors? Are you going to stay below the Division guidelines of .2 psi per foot of depth?

A. Yes, sir, up until the time we can run step-rate tests and prove that we need to go to a little higher injection pressure.

Q. Let's go to the next tab. This is the geologic summary?

A. This is correct. This was prepared by our

geologist who will testify today. It just gives a bit of information about the three different formations in the proposed unit area, with the first being the Queen. The Queen will consist of the Eumont, which is a small portion is that will fall in the unitized interval; the Grayburg, which is the primary flood interval for the proposed expansion area, and then the San Andres, and that's primarily our water supply source.

Q. Based upon the information supplied to you, and your own personal knowledge, are there any faults faulting or hydrologic connections between the flood formation and shallow freshwater sands?

A. No, sir, none. The next page, just quickly, discusses the freshwater aquifers in the area.

Q. What's our deepest freshwater acquifer in the area?

A. Santa Rosa. It's about 640 to 650 feet deep.

Q. Has the practice been in the unit area and the expansion area to have casing to protect the freshwater sands?

A. Yes, sir, that has been the practice. As a matter of information, there's a Rustler anhydrite

that falls below the Santa Rosa, which is a good impermeable barrier to isolate the producing formations from the freshwater zones.

Q. That's widely believed to be the separation of the fresh water from lower zones and relied upon by Chevron and the others in the industry?

A. As best that I understand it, that's correct.

Q. You haven't had any water flows on the surface of the existing unit, have you?

A. We might have had a couple, yes, sir.

Q. You've had difficulty with an injector or something like that?

A. Occasionally we've had a casing leak and it comes out the braiden head. What we'll do is go in there and squeeze it, braiden head squeeze, and isolate the problem.

Q. That is the system that you propose for each of these injectors in the expansion area, that there's a method by which you will monitor the annular space in the casing?

A. Yes, sir, that's correct. Generally we'll leave the back side open, the braiden head open, to monitor for back side water.

Q. Any stimulation program?

A. Yes, sir, we have a proposed stimulation program. This is kind of a general, broad stimulation program on the wells that have cased hole, where we have perforations, we'll possibly add perforations and propose to acidize the wells with plus or minus 3000 gallons of 15 percent NEFEA. We won't frac the wells. In general we do not frac the wells in the waterflood. Open hole completions will be very similar. We'll clean them out to TD, possibly deepen the wells, acidize the wells with, again, three to five thousand gallons of 15 percent five NEFE acid. And in general that's about all we have to do to the wells.

Q. Your exhibit book includes the water analysis and then finally you have your list of noticed parties?

A. That is correct. The last section is proof of notice. These are the parties we sent notice to; first, being the regulatory bodies, secondly the working interest owners, third, offset operators and surface landowers.

Q. For the injector?

A. That's correct.

MR. KELLAHIN: I'm not sure your exhibit book, Mr. Examiner, has actual copies of the green

return receipts cards. If they're not there, we'll supply them to you after the hearing.

A. In Exhibit 20 is the proof of notice and the notice that we sent out, as well as the return receipts on the back.

MR. KELLAHIN: All right. That should be in your package, then, as Exhibit 20.

That concludes my examination of Mr. Dolan and move the introduction of his Exhibits 1 through 20.

EXAMINER CATANACH: Exhibits 1 through 20 will be admitted into evidence.

FURTHER EXAMINATION

BY EXAMINER CATANACH:

Q. Mr. Dolan, in your proposed injection wells you don't have the exact perforated interval in each well determined yet, is that correct?

A. Yes, that's correct. We have well logs on most of the wells in the area but we don't have well logs on 10 wells in the proposed unit area. As well, we plan to core a few of the new wells and run new logs on all of the wells, so we'll be better able to pick perforation intervals.

Q. Okay.

A. In general, it will run between that minus

100, minus 150, down to minus 350, plus or minus, not a complete row of perforations but selectively perforate the porosity streams.

Q. Will the injection wells have approximately the same top perforation, or will that vary quite a bit?

A. It will vary probably plus or minus 100 feet, maybe, maybe 150 foot from one end to the other of the field, so that .2 psi gradiant, it will have a small effect, I think. 100 foot, that will represent what, 40 pounds? 43 pounds pounds, plus or minus?

Q. Would Chevron object to us deciding one straight pressure instead of varying the pressure in each one, using some average depth?

A. I really don't think they would, to be honest with you. Now, that's not how we're operating the existing unit. How we operate the existing unit, we had a set point on pressure, and we also supply the field with what rate we want to keep. That pressure set point is, for the most part, based on that .2 psi per foot. Some of the wells are currently on vacuum; some of the wells are at the 740 psi.

I guess what I'm saying, if you gave us the 740 pounds or that .2 psi per foot based on the top perf, I don't think they would have an objection. I

do think in the future we'll want to run some step-rate tests and apply for a higher pressure.

Q. That's fine. Is that what the south unit originally had was 740 pounds?

A. I think that's the same, .2 psi per foot; approximately 740.

MR. STOVALL: Each well actually had a different pressure in them?

THE WITNESS: Yes, sir, that's correct, plus or minus a few pounds here, depending on the top perforation.

EXAMINER CATANACH: No further questions of the witness.

STEVE LUTHY

the witness herein, after having been first duly sworn upon his oath, was examined and testified as follows:

EXAMINATION

BY MR. KELLAHIN:

Q. Would you please state your name and occupation?

A. My name is Steven Luthy. I'm a geologist with Chevron, U.S.A.

Q. You spell your last name L U T H Y?

A. Correct.

Q. Mr. Luthy, on prior occasions have you

testified before the Division as a petroleum geologist?

A. No, I haven't.

Q. Summarize for us your educational background, please?

A. I received a BA degree in geology from the University of California in 1977. Subsequent to that I was employed by the U.S. Geological Survey for two years as a geologist. I then went back and obtained a master's degree in geology from the University of Montana in 1981, and for the last nine years I have been employed with Chevron as a geologist, dealing primarily with prospect development, field studies and unit geology analysis.

Q. Give us an overview of the geology that you've prepared for the expansion area that we're discussing this afternoon?

A. I've primarily been involved in all the geological aspects and study of the reservoir, excluding reservoir characteristics, the definition of the fluid contacts, the structure of the unit area as well as the stratigraphy.

MR. KELLAHIN: Mr. Examiner, we tender Mr. Luthy as an expert petroleum geologist.

EXAMINER CATANACH: He is so qualified.

Q. Would you identify for the record what you have submitted to the Examiner as your Exhibit 21? What is that?

A. Exhibit 21 is the type log utilized in the formational stages of the Eunice Monument South Unit, the original unit area. It's the Continental Oil Company Meyer B-4 #23. On that log it shows the relevant formations in question within the unit expansion area, including the Queen formation at 3375 feet, the Penrose at 3503 feet, top of the Grayburg at 3666 feet, and the top of the San Andres at 4153 feet, and the base of the San Andres at 5283 feet. The Eumont formation would include that portion--

Q. Excuse me, Mr. Luthy. Let's go back and give me the numbers again. The Penrose is at 3503?

A. Correct.

Q. The top of the Grayburg is--

A. 3666 feet.

Q. San Andres top is 4153 and the base of the San Andres is 5283?

A. Correct.

Q. Okay. When we're dealing with this producing interval in these various formations, what is the interval defined as the Eunice Monument Pool?

A. The Eunice Monument would be defined as

that portion of the section defined from the top of the Grayburg at 3666 feet on the type log, to the base of the San Andres formation on the type log at 5283 feet.

Q. When we deal with the pool immediately on top of the Eunice Monument, we're dealing with the Eumont oil and gas pool?

A. That's correct.

Q. What's that interval?

A. That interval extends upward from the top of the Grayburg and includes the Penrose, the top of which is found at 3503 feet and the Queen which is found at 3375 feet.

Q. In the existing unit, one of the solutions to implement the waterflood project was the contraction of one pool and the expansion of another in the main unit area. What was done?

A. Essentially there was a contraction of the Eumont pool to include only that portion of the Eumont down to minus 100 feet subsea datum or the top of the Eunice Monument pool, whatever was higher.

The Eunice Monument oil pool was extended upward to include that portion of the section in the Eumont up to minus 100 feet subsea datum or to the top of the Eunice Monument Pool, which is the top of the

Grayburg, whichever was higher.

Q. Where does that leave the Penrose in the main pool when you make that adjustment?

A. The Penrose, in some areas of the unit, is included within the unitized interval.

Q. Have you examined the geology of the expansion area?

A. Yes, I have.

Q. Can we apply the solution to the change in the pool, the contraction and expansion of the two pools in the main unit to the expansion area?

A. Yes, we can.

Q. Let me have you turn to Exhibit No. 22. What is this exhibit?

A. This is a base map showing the Eunice Monument South Expansion Area B area. It's a current well status map of wells within the area and half-mile outside of the proposed unit area.

I'll briefly review some of the relevant statistics of wells within the expansion area. There's 43 active oil wells within the unit proposed area, 22 TA'd oil wells, four PA'd wells, seven gas wells, primarily Eumont gas wells, and six dually completed Eumont gas Eunice Monument oil wells.

The conclusions to be reached from this map

is that there's a large number of TA'd and PA'd wells, and that shows that many are at or have exceeded their economic limit within this proposed unit area. Others have been dualed or recompleted to the Eumont gas for similar reasons, primarily along the eastern boundary or updit margin of the proposed unit area.

What this is all indicating is that we're fairly close to the end of the primary productive life of wells in this area within the Eunice Monument reservoir.

Q. When you look at the geology for the expansion area, can you come to geologic conclusions about the suitability of that area for waterflood operations?

A. The geology is very similar to the geology we find in the Eunice Monument South Unit area. We feel we have a successful or a high possibility of a successful waterflood in the Eunice Monument South Unit area.

The stratigraphy and structural setting in the proposed expansion area is very similar to what we find in Eunice Monument South, so therefore we feel we have a high probability of a successful flood in the proposed expansion area.

Q. Have you prepared structure maps?

A. Yes, I have.
Q. Let's turn to Exhibit 23. Would you identify that for us, please?
A. Exhibit 23 is a structure map on the top of the Grayburg formation.
Q. What does this tell you?
A. Essentially we've used this quite a bit in the designation of the unit boundaries. Let me first point out the significance of the blue line. The blue line is what we feel is the oil/water contact within the unit area of the Eunice Monument field. It occurs at a position of roughly minus 350 feet subsea datum.
Q. At what point in time do we have this contact displayed on this exhibit?
A. That would be the original oil/water contact within the field.
Q. Go around the boundaries of the expansion area and tell us the justification for the boundaries.
A. We begin on the north end of the expansion area. The expansion area is bounded in Section 10 and 11 on the northern boundary by a proposed unit by Amerada Hess which is currently being called the North Monument Grayburg Unit. I do not show this on the structure map, but it's shown on Exhibit 16 previously

introduced by Jimmy Dolan.

As we work counterclockwise around the proposed unit area, in Section 10 the northern three-quarters of that section, we're bounded by Conoco's operated Reed Sanderson Unit which is a waterflood area of the Eumont formation.

The rest of Section 10, 15 and 22, the boundary is primarily brought about by considerations of the oil/water contact. What we have tried to do is include all of those tracts where there is at least one location where the top of the Eunice Monument is above the oil/water contact. We've attempted not to split tracts where there are some locations that do have locations above it and locations below it. We've tried to retain the integrity of those tracts.

Q. What benefit do you receive if you retain the integrity of those tracts?

A. One of the things we're trying to do is maintain a conformable injection pattern within the unit area, and by retaining the integrity of those tracts we're able to do so.

Moving over to Section 25, we're bounded to the south by the existing Eunice Monument South Unit area. Moving into Section 24 and 19, we're bounded by the Greenhill Petroleum Eunice Monument Unit, and

moving further to the northeast in Sections 11, 12, 13 and 18, we are bounded by the zero subsea or zero sea level structural datum in the Grayburg. We feel this is a relevant contour on which to design our boundary. Updip of this, structurally updit to the northeast, we feel excessive amounts of the Eunice Monument oil reservoir is in the gas cap.

Q. As a geologist, can you reach a conclusion geologically that you have a unit area in the expansion area of sufficient size and shape to provide an area of the reservoir that might be suitable for effective waterflood operations?

A. Yes, I did.

Q. Have you prepared any other structure maps?

A. Yes, I prepared an additional structure map on the top of the Penrose. That is to show we essentially have the same structural configuration within the Penrose, that we aren't dealing with significant structural deviation between the Penrose or the lower part of the Eumont and the Eunice Monument or Grayburg formations, and that indicates that we have relatively constant thickness of the Penrose formation throughout the unit area.

Q. Identify for us Exhibit 25.

A. Exhibit 25 is again the structure map

constructed on top of the Grayburg formation. On it we've also shown the location of several cross-sections that we prepared for analysis of the unit area.

I'll call your attention to cross-sections A - A', B - B' and C - C', which are shown as the heavier dashed cross-sections and listed on the bottom under the legend as structural cross-sections. We'll be referring to them later in the testimony.

Q. Is your next Exhibit 26?

A. Correct.

Q. What is that, Mr. Luthy?

A. Exhibit No. 26 is a map of the completions of wells within the proposed expansion area in which the completion interval overlaps the Eumont and the Eunice Monument Oil Pools as currently defined by the Commission.

Q. Have you provided tabulations of those wells overlapping one pool or the other?

A. Yes, I have. Those tabulations are shown in Exhibits 27 and 28.

Q. What's Exhibit 27?

A. Exhibit 27 is a tabulation showing those wells designated as Eunice Monument Oil Pool wells where the completion, either original or current, the

completion interval overlaps into the Eumont oil pool.

Q. And Exhibit 28?

A. Exhibit 28 is a tabulation showing wells within the expansion area designated as Eumont Oil Pool completions, where the completion interval overlaps into the Eunice Monument Oil Pool.

Q. In looking at the geology, have you satisfied yourself there's sufficient continuity of the potentially floodable formations that you can have an effective flood in this area?

A. Yes, I have.

Q. Let's turn now to Exhibit No. 29. I believe that's starts off with your C - C' prime cross-section?

A. That's correct.

Q. If we use the locator map, Exhibit 25 was it?

A. Exhibit 25, correct.

Q. Exhibit 25 is the locator map where you've indexed. You also have another locator index actually on that display?

A. Correct.

Q. Okay. When we look at the southeastern portion of the expansion area going from east to west, and having prepared this cross-section, what do you

conclude?

A. Looking at the southern end of the cross-section, bring your attention to the Chevron #123 EMSU well. It's the most downdip location on the cross-section. Of importance there is the existing completion interval.

Q. Which well are you looking at?

A. The Chevron #123 EMSU well.

Q. That starts in the existing unit, then, in the south?

A. Correct.

Q. I misspoke. We're going from south to north with this cross-section?

A. Correct.

Q. Go ahead.

A. Of relevance is the complex interval within the Eunice Monument formation. The Examiner will note that we've only completed in Zones 1 through 5 and purposely omitted completing below Zone 5. Although there was additional porosity there, we feel that all of the Eunice Monument Oil Pool below Zone 5 is under active water drive, so we're really constrained in our waterflood to those zones above what we call Zone 6 or above the base of Zone 5.

You'll also notice that in several wells

not shown on this cross-section but I believe if we turn to Exhibit No. 31--

Q. That's cross-section A - A'?

A. Yes, there are several wells along the east end of that cross-section, specifically the Shell Western #1 State "E" well and the Chevron #1 H. T. Orcutt well, where the original completion interval was below the base of Zone 5 or what we feel was within the active water drive. The Examiner will note that in both of those wells there have been several plug backs as a result of extensive water encroachment during the productive life of those wells.

The conclusion that we reach from this is the same conclusion that we've reached at the original area. That is, that we're constrained to flood only those portions of the Eunice Monument reservoir within Zones 1 through 5 in the Grayburg, as well as the lower portions of the Penrose-Queen.

Q. Will the adjustment that you propose and the vertical limits for the two pools involved solve the crossover problem for those wells that are currently completed in multiple pools?

A. Yes, it will. If we open up cross-section B - B' which is Exhibit No. 30 and inspect all three cross-sections, what I've attempted to show here are

completion intervals which have been gas completion intervals as well as oil completion intervals.

Looking at all three cross-sections, one gets the definite sense that completion intervals above the minus 100 subsea foot datum are primarily gas completions, wells below that are primarily oil completions regardless of what formation they're completed in, whether it's within the Eumont or within the Grayburg.

So we feel we've been able to identify an oil/water contact at minus 100 subsea datum. That's the same oil/water contact found within the larger Eunice Monument South Unit original area.

Our proposed extension of the Eunice Monument field essentially involves that portion of the Eumont which extends up to the minus 100 subsea datum along the western portions or downdip portions of the expansion area.

Q. Are we dealing with a gas cap in any of the unit area of the expansion?

A. Not within the unitized interval.

MR. STOVALL: Mr. Kellahin, may I just ask a point of clarification? You referred to the minus 100 subsea as oil/water. Is that oil/gas or--

THE WITNESS: I'm sorry. Gas/oil. I'm

sorry.

Q. (BY MR. KELLAHIN) Summarize for us, then, your ultimate geologic conclusions about this project and the applications?

A. What we're applying for here, one of the important factors is the extension of the Eunice Monument Oil Pool to include the lower portion of the Eumont up to the minus 100 subsea datum so that we can effectively flood the entire oil column.

We also feel that we have essentially the same sort of stratigraphy in this area that we've found within the Eunice Monument South Unit area. We're in essentially the same structural configuration here as we are within the Eunice Monument South Unit area, and as a result of these studies we feel geologically we have a reasonable analog and predict a fairly high level of success with this flood.

MR. KELLAHIN: That concludes my examination of Mr. Luthy. We would move the introduction of his Exhibits 21 through 31.

EXAMINER CATANACH: Exhibits 21 through 31 will be admitted as evidence. I have no questions. The witness may be excused.

MR. KELLAHIN: I would like to call Ray Vaden, the petroleum landman for Chevron, U.S.A., Inc.

RAY VADEN

the witness herein, after having been first duly sworn upon his oath, was examined and testified as follows:

EXAMINATION

BY MR. KELLAHIN:

Q. For the record, would you please state your name and occupation?

A. Ray Vaden, land representative, Chevron, U.S.A.

Q. Mr. Vaden, on prior occasions have you testified before the Division?

A. Yes, I have.

Q. Summarize for us what has been your responsibility with regards to the applications before Examiner Catanach this afternoon.

A. The land and legal portion for expansion of the Eunice Monument South Unit.

Q. In making that study and discharging those responsibilities, have you and others, under your direction, tabulated an accurate list of the working interest owners not only in the original area but the expansion area?

A. Yes, we have.

Q. Have you tabulated a current and accurate list of the working interest and royalty owners for

the expansion area?

A. Yes, sir, we have.

Q. Is one of your duties to keep track of and maintain contact with the working interest owners and royalty owners in the existing unit?

A. Yes, they are.

MR. KELLAHIN: We tender Mr. Vaden as an expert petroleum landman.

EXAMINER CATANACH: He is so qualified.

Q. For purposes of our discussion, let me direct your attention to Exhibit 32. What is this, sir?

A. A map depicting land status and tract numbers for the expansion, which is Unit Area B.

Q. When Mr. Dolan provided his tabulation of the relationship by tract to benefit in unit participation, he had tract numbers used on his display. Do those correspond to the same tract numbers you have here on your Exhibit 32?

A. Yes, sir, they do.

Q. Were you responsible for making the efforts to obtain the voluntary commitment of the royalty owners and the working interest owners in the expansion area?

A. Yes, sir.

Q. When we look at the documents to be used in the expansion area, directing your attention to a unit agreement, what unit agreement do you propose to use for the expansion area?

A. It's the same unit agreement as we used in the original unit, dated June 24th, I believe, 1984.

Q. When I look at the document identified as Exhibit No. 33, what am I looking at?

A. That's the unit agreement for the Eunice Monument South Unit.

Q. What is the requirement under this unit agreement for confirmation by the interest owners that they will approve an expansion? What is the mechanism?

A. First we attempt to perform a voluntary unit. We have to have at least 75-percent approval.

Q. Have you satisfied all the conditions and requirements under the unit agreement in order to implement efforts for expansion?

A. Yes, sir. Section 4 goes into that in the unit agreement as notice requirements and certain things in addition to the statute. We've satisfied all of those.

Q. When we look at Exhibit No. 34, what is that exhibit?

A. Unit operating agreement.
Q. This is the one that's utilized for the current, existing unit area?
A. Yes, sir.
Q. Will this be the same operating agreement that will apply to the expansion area?
A. Yes, sir.
Q. Exhibit 35 is what, sir?
A. Royalty owners brochure that we had printed when we did the original unit in 1984. I didn't throw them away, so we also have used them for the people in the expansion area and let them see it. I printed too many the first time.
Q. It provides a convenient summary, though, for those interest owners so they can understand the basic mechanics of secondary recovery under unit operations in the original unit?
A. Yes, sir.
Q. When we go to Exhibit No. 36, what is that?
A. It's a certified letter dated June 1 to all working interest owners. We sent Exhibit A of the unit agreement, which is on the wall, Exhibit B, our list of owners. In the existing unit done in 1984, asked them to help us utilizing their division pay orders to update any changes in names, addresses and

interests in that unit since 1984 to make sure we properly notified the correct people.

Q. What's Exhibit No. 37, Mr. Vaden?

A. It's a letter to the working interest owners again, sending them ratification and joinders and copies of Exhibits A, B and C, Exhibit A being the unit map, B being the interest of parties and C the interest of the working interest owners.

Q. This represents just part of your efforts and those other employees of Chevron under your control to keep the working interest owners informed about the efforts for the expansion?

A. Yes, sir.

Q. This represented a mailing on June 8th, under certified mail, where you first informed them of the hearing today?

A. That's right.

Q. And you have--

A. I believe they said they were planning the hearing on August 22nd.

Q. And it showed a form of ratification or joinder that you had proposed for execution for the expansion area?

A. Yes, sir.

Q. After having done that, what's the next

Exhibit No. 38?

A. That's the July 18th letter to the working interest owners.

Q. What's the purpose of this letter, Mr. Vaden?

A. Telling them we would be mailing things out to royalty owners and asking them to double check the information that we had gotten from them to put into our Exhibit B, and make sure they agreed with the ownership that we had taken from their division pay orders, and telling them that we will be contacting royalty owners based on that information.

Q. Were you receiving responses from the working interest owners' personnel to help you update and make more accurate your records as to royalty owners?

A. When we didn't, we called them.

Q. As a result of this effort, then, you eventually compiled what you believe to be a complete, current and accurate list of these royalty owners?

A. Yes, sir.

Q. Exhibit 38 also, once again, tells them of the anticipated hearing on August 22nd?

A. Yes, sir.

Q. When we get to Exhibit 39, what's the

purpose of this letter?

A. The addendum that went out to the ratification and joinder of the working interest owners states in essence that the unit operating agreement of the EMSU will be used, that the addendum incorporates the basis of admission, the things that Jimmy Dolan told you about that we had agreed to. In a couple of instances, it does changes certain portions of the unit agreement, such as the time for the demand well and this type of thing.

Q. There is a change in the percentage or the number of working interest owners to vote for approval of items within an expansion area?

A. Right.

Q. This letter also notifies those working interest owners of the change so that there is three, rather than four of the six working interest owners deciding important votes for the expansion area?

A. Yes, sir.

Q. Exhibit 40 is what, sir?

A. A letter of July 9th, certified mailing to royalty owners and interest owners in Expansion Area B. We certified mailed 88 royalty owners, we had a few changes still coming in, and we wound up with 96 royalty owners. In this package was a letter, it also

included the royalty owners' brochure that we looked at as an earlier exhibit, and it was mailed certified from people in England, to people in, Germany, Texas, New Mexico, all over.

Q. The purpose of this letter, then, by certified mail, is to give the royalty owners and the overriding royalty owners the opportunity to sign the appropriate documents by which their interest is formally committed to unit operations for the expansion area?

A. Yes, sir, it included the ratification of joinders through the unit.

Q. Exhibit 41, what does that represent?

A. This was a notice that went out to all owners in the existing unit and expansion area. There were 459 of these mailed out and certified. It advised them of the date of the hearing. It was mailed at least 30 days before the hearing, which comes from Section 4 of the unit agreement.

It tried to explain some of the history or it did explain briefly the history of the unit, the response to the flood so far in the existing unit area, and it explained that the two units will be operating, in essence, under one common unit operating agreement but the production will be held separate,

and invited them to attend this hearing if they had any objections to anything.

Q. What was attached as enclosures to this notice letter of July 15th?

A. A reduction of Exhibit A, which is on the wall, our Exhibit No. 1; also Exhibit B, which is a tabulation of ownership by tract within the unit, working interest and royalty interests and the participation allocated to each tract. This was based upon all the updated current information from the various working interest owners.

Q. Your July 15th letter was sent out certified mail?

A. Yes, sir.

Q. The purpose of your letter was to provide, once again, additional notification of the hearing today?

A. Right.

Q. And was to provide in a clear, nontechnical way, a summary so that particularly an overriding royalty owner that didn't deal in these matters on a regular basis could read this and hopefully understand what it is that you sought to do?

A. That was our intent.

Q. Have you had anyone complain to you that

you did not understand what it is that Chevron was trying to accomplish?

A. We have had no complaints or objection. The letter stated if there was an objection to let us know and we would respond to them. Again, this is in Section 4 of the unit agreement. We did have four or five calls complaining about interest, and we explained how it was calculated. In some cases we went back to the working interest owner and made corrections.

Q. These owners then, if they desired to do so, could take the tabulation and understand how you believed their interest to be calculated, and they could contact you for corrections and some have taken advantage of that opportunity?

A. In the notice letter we asked them to contact the people paying them, so it was easier to contact us. We worked both sides.

Q. When we get down to Exhibit 42, what is this?

A. Notice to all the owners. This was the same notice we were just talking about. That was our certified copies. Whether it was included in that, we took the certified mailings to the mail room.

Q. I'm looking at Exhibit 42. When you take

your notice letter, Exhibit 41 of July 15th to your mail room, they record what you're doing with your certified mailings?

A. Right. They took them to the post office stamp and initialed it. It was actually mailed on this date. We have a computerized listing of all owners with owner numbers, so this is the 457 that were mailed, and in double-checking it last night I realized we had only given you half of them, so this goes with that exhibit.

Q. Does he need one of these or two of these attached to it?

A. Just one. So we actually did a mailing of No. 239 through No. 698.

Q. If Mr. Stovall this evening desires to check the list of parties to notify that are shown on Exhibit No. 41, and he does that by looking at your company's documentation to show left Chevron, they all match?

A. Yes, sir.

Q. Everybody got one sent to them?

A. Yes, sir.

Q. What have you done to determine that they received it?

A. Well, the next exhibit, No. 43, is proof of

receipt. Of the 457, we had 391 returned. We don't know where the others are.

Q. This is as good as it gets, doesn't it, Mr. Vaden?

A. That's it.

Q. These are the copies of the green cards for those that of filtered back to you at this point?

A. Right.

Q. When we go to the question of preliminary approvals by the Bureau of Land Management and the Commissioner of Public Lands for the State of New Mexico for the expansion area, am I correct in understanding from Exhibit No. 1 that we have both federal, fee and state lands in this expansion area?

A. Yes, sir, we do.

Q. Have you obtained preliminary approval from the Bureau of Land Management?

A. Yes, sir. Exhibit No. 44 is a copy of the Bureau of Land Management's preliminary approval, as well as the State of New Mexico, Commissioner of Public Land's preliminary approval.

Q. All right, sir. When we look at Exhibit No. 45, what are we looking at?

A. It's our Exhibit C-1, which is the working interest ownership within the expansion area. It

shows, in essence, that there are six working interest owners in the 11 tracts.

The first column is our internal control owner number for the working interest owner, the second column is the tract in which they own, the third column is the unit participation, the fourth is their percentage of that participation, and the CR Tract P is simply the same as the next column, which is the overall participation assigned to that tract.

So, for instance, in Tract 102, Amerada Hess has 1.76 percent unit participation and they have 100 percent of it, so that's all allocated to them.

Q. Working interest owners in the original unit area are shown on Exhibit 45?

A. Yes, sir. The original unit area is Exhibit 46, Exhibit C. The expansion area is Exhibit C-1.

Q. I'm confused. What's Exhibit 45?

A. Our Exhibit 45 is the expansion area working interest owners.

Q. All right. 46 now?

A. Working interest owners in the existing unit. We have 33 working interest owners in the existing unit, and eight of those own 97.14 percent.

Q. Let's turn now to Exhibit 47. What does this show?

A. A tabulation of the ratification of joinders that went out. It shows we're still--apparently we had 19.52 percent ratifications returned from working interest owners, which is Chevron's, but we should be getting the others soon. It shows that we have--

Q. Let's look how to read the display. When we start on the first page and we look at the tract number, we can read it horizontally and find a working interest owner?

A. Right.

Q. We can also see a royalty owner?

A. Right.

Q. We get over to a percentage?

A. Yes, sir.

Q. It says "yes." What does yes mean?

A. Based on preliminary approval of the BLM in this case, that is and will be a committed tract.

Q. Committed as to both working interest and royalty?

A. Yes, sir. But as to royalty on this column, we did not count the interest committed at this point.

Q. I'm looking on Exhibit 47 of the committed royalty owners?

A. Right.

Q. When I read down the column and I find a "Yes," I can look over and see that royalty owner is committed?

A. Right.

Q. When I look on page 2, the yes column represents committed royalty owners. If it's blank, they're not yet committed?

A. Right.

Q. At this point what percentage of the royalty owners do you have committed?

A. 90.59.

Q. And the working interest owners?

A. 19.52.

Q. Within the period prescribed by the Statutory Unitization Act, do you anticipate in your opinion, Mr. Vaden, that you'll have the necessary minimum percentages of working interest and royalty owners, the 75 percent, in order to give you effective and efficient control of unit operations?

A. Yes, sir. We would anticipate much more than that.

MR. KELLAHIN: That concludes my

examination of Mr. Vaden. We would move the introduction of his Exhibits 32 through 47.

EXAMINER CATANACH: Exhibits 32 through 47 will be admitted as evidence.

EXAMINATION

BY EXAMINER CATANACH:

Q. Mr. Vaden, you do anticipate that you will have the required 75 percent working interest signed up?

A. Much more than that.

EXAMINATION

BY MR. STOVALL:

Q. Mr. Vaden, in conversations you and I have had, is there any delay? There was some concern as to when, under the statute, participating owners should be signing, before or after the hearing, is that not correct?

A. There was, yes, sir.

Q. Is that any part of the reason you don't have others besides Chevron signed up, or did you resolve that?

A. That was part of it. Part of it has been after two months of review Amoco wanted changes to the addendum. We've made that. After the initial one ARCO still wanted changes. We made that.

Most of the parties are here. They're all virtually ready to execute the ratifications. What we finally decided to do was ratify it twice. We'll do ratifications of joinders as we've always done. After you get the order we will try to determine the effective date that we would work toward, send your order and the date, the proposed effective date out to all these people again for ratification.

Q. Including all these royalty owners?

A. It's on computer. It's just money and postage.

Q. Have you determined whether that will cause any confusion on their part, receiving that twice? You joined once, would you like to join again?

A. It will be one page and a different styling, and we'll try to make it clear that they're simply reviewing your order to see that they agree, and they're acknowledging the effective date of the agreement.

EXAMINER CATANACH: The witness may be excused.

Anything further in Cases 10059, 10060 or 10061?

MR. KELLAHIN: That concludes our presentation, Mr. Examiner. We appreciate you staying

over to hear us.

MR. STOVALL: Mr. Carr, anything to add?

MR. CARR: Nothing to add.

EXAMINER CATANACH: If I may, I would like to get three rough draft orders from you.

MR. KELLAHIN: I would be happy to.

EXAMINER CATANACH: Therefore, Cases 10059, 10060 and 10061 will be taken under advisement.

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 August 31, 1990.

Carla Diane Rodriguez

CARLA DIANE RODRIGUEZ
CSR No. 91

My commission expires: May 25, 1991

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 10059, 10060, 10061 heard by me on August 22 1990.

David R. Catanach, Examiner
Oil Conservation Division