STATE OF NEW MEXICO

ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION

IN THE MATTER OF THE HEARING CALLED BY THE OIL CONSERVATION DIVISION FOR THE PURPOSE OF CONSIDERING:	
APPLICATION OF CHESAPEAKE EXPLORATION, LLC, FOR STATUTORY UNITIZATION OF THE QUAIL-QUEEN UNIT AREA, LEA COUNTY, NEW MEXICO	CASE NOS. 14,001
APPLICATION OF CHESAPEAKE EXPLORATION, LLC, FOR APPROVAL OF A WATERFLOOD PROJECT AND QUALIFICATION OF THE PROJECT AREA OF THE QUAIL-QUEEN UNIT FOR THE RECOVERED OIL TAX RATE PURSUANT TO THE ENHANCED OIL RECOVERY ACT, LEA COUNTY, NEW MEXICO	and 14,002
	(Consolidated)

REPORTER'S TRANSCRIPT OF PROCEEDINGS
EXAMINER HEARING

BEFORE: WILLIAM V. JONES, Jr., Technical Examiner
CAROL LEACH, Legal Examiner

ORIGINAL

November 1st, 2007
Santa Fe, New Mexico

These matters came on for hearing before the New Mexico Oil Conservation Division, WILLIAM V. JONES, Jr., Technical Examiner, Carol Leach, Legal Examiner, on Thursday, November 1st, 2007, at the New Mexico Energy, Minerals and Natural Resources Department, 1220 South Saint Francis Drive, Room 102, Santa Fe, New Mexico, Steven T. Brenner, Certified Court Reporter No. 7 for the State of New Mexico.

* * *

STEVEN T. BRENNER, CCR
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I N D E X

November 1st, 2007
Examiner Hearing
CASE NOS. 14,001 and 14,002 (Consolidated)

(Continued...)

* * *

E X H I B I T S

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Pintail	Identified	Admitted
Exhibit 1	104	-
Exhibit 2	107	-
Exhibit 3	106	-
Exhibit 4	107	-

* * *

A P P E A R A N C E S

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* * *

WHEREUPON, the following proceedings were had at 11:44 a.m.:

EXAMINER JONES: Okay, let's continue on, and we'll call Cases 14,001 and 14,002 and consolidate those cases for purposes of testimony. And if it's all right with you, we'll issue one order covering both of these cases.

MR. CARR: However you propose to handle it is fine with us.

EXAMINER JONES: And call for appearances -- Cases 14,001, 14,002, this is the Application of Chesapeake Exploration, LLC, for statutory unitization of the Quail-Queen Unit Area, Lea County, New Mexico;

And it's the Application of Chesapeake Exploration, LLC, for approval of a waterflood project and qualification of the project area of the Quail-Queen Unit for the recovered oil tax rate pursuant to the Enhanced Oil Recovery Act, Lea County, New Mexico.

Call for appearances.

MR. CARR: May it please the Examiner, my name is William F. Carr with the Santa Fe office of Holland and Hart, L.L.P. We represent Chesapeake in this matter, and I have three witnesses.

EXAMINER JONES: Other appearances?

MR. HALL: Mr. Examiner, Scott Hall of the Miller Stratvert law firm, Santa Fe, appearing on behalf of Pintail Production Company, Incorporated, and I have one witness this morning.

EXAMINER JONES: Okay, other appearances?

MR. BRUCE: Mr. Examiner, Jim Bruce of Santa Fe, representing Pride Energy Company. I have no witnesses.

EXAMINER JONES: Okay, other appearances?

In our records we have -- Gene A. Snow Operating Company has made an appearance through Lisa Gray --

MR. CARR: Yes.

EXAMINER JONES: -- and she's not here today.

Mr. Hall, the -- you say you have one -- you have one witness?

MR. HALL: Yes, sir.

EXAMINER JONES: The prehearing statement was a little bit late. Do we have any objection to Mr. Hall presenting his witness?

MR. CARR: No, we do not.

EXAMINER JONES: Okay. Okay, let's -- Will the witnesses please stand to be sworn?

(Thereupon, the witnesses were sworn.)

MR. CARR: May it please the Examine, at this time we would call our land witness, Mr. Frohnapfel.

TERRY A. FROHNAPFEL,

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

DIRECT EXAMINATION

BY MR. CARR:

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

A. Terry Frohnapfel.

Q. Spell your last name, please?

A. F-r-o-h-n-a-p-f-e-l.

Q. Mr. Frohnapfel, where do you reside?

A. Edmond, Oklahoma.

Q. And by whom are you employed?

A. Chesapeake Energy Corporation.

Q. What is your current position with Chesapeake Energy Corporation?

A. Senior landman.

Q. Have you previously testified before the New Mexico Oil Conservation Division?

A. Yes, I have.

Q. At the time of that testimony were your credentials as an expert in petroleum land matters accepted --

A. Yes.

Q. -- and made a matter of record?

A. Yes, they were.

Q. Are you the person responsible for the land issues related to the formation of the Quail-Queen Unit?

A. Yes.

Q. Are you familiar with the Applications filed in each of the consolidated cases that are now before the Division for hearing?

A. Yes, I am.

Q. Are you familiar with the status of the lands in the proposed Quail-Queen Unit area?

A. Yes.

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

EXAMINER JONES: Any objections?

MR. HALL: No objection.

MR. BRUCE: (Shakes head)

EXAMINER JONES: Mr. Frohnapfel is qualified as an expert in petroleum land matters.

Q. (By Mr. Carr) Would you briefly summarize for the Examiner what it is that Chesapeake seeks in this case?

A. Statutory unitization of the proposed Quail-Queen Unit, 840 acres, approval of a waterflood project in the unit area, and qualification of the project for the incentive tax rate by the -- authorized by the New Mexico Enhanced Oil Recovery Act.

Q. Would you refer to what has been marked for

identification as Chesapeake Exhibit Number 1 and identify that and review it for the Examiner?

A. Okay, that's the same exhibit that's in the unit agreement, and it shows the unit boundary. It's approximately 25 miles southwest of Hobbs.

Q. Do you know when this field was originally discovered?

A. 1967.

Q. And this exhibit shows the current Queen wells in the unit area?

A. Correct.

Q. What is the character of the land in the unit area?

A. It's all 100-percent state land.

Q. Let's go to Exhibit Number 2. Would you please identify that?

A. That is the unit agreement, which is a standard form by the State Land Office.

Q. And this is the form that provides for waterflood operations?

A. Waterflood, and sets out the basis for the participation of each of the owners.

Q. Would you identify Exhibit Number 3, please?

A. Okay, that's the tract participating factors, the same as what's attached to the unit agreement, Exhibit C.

Q. This actually shows the share of the unitized production that would be allocated to each of the tracts in the unit area; is that correct?

A. That's correct.

Q. And the basis for the unit participation is set forth in the unit agreement itself?

A. Yes.

Q. Will Chesapeake call an engineering witness to review that participation formula?

A. Yes.

Q. What is Exhibit 4?

A. That's a list of all the Queen wells which are part of the unit.

Q. And this shows their redesignation once the unit is formed, their unit name?

A. Right, just renaming them.

Q. And what is Exhibit Number 5?

A. It's the unit operating agreement.

Q. And basically is this a -- contain standard provisions?

A. It contains standard provisions, outlines supervision and management of the unit by the operator, defines the rights and duties of partners, working interest owners, and discusses cost, overhead and things like that, similar to a JOA.

Q. Now Mr. Frohnapfel, could you review for the Examiner -- you may want to refer to Exhibit Number 6 as you do this and review for the Examiner the efforts you made to obtain voluntary participation by the working and royalty interest owners in this proposed unit and waterflood project?

A. Okay, I sent out a package to all the interest owners that contained copies of the unit agreement and unit operating agreement.

The working interest owners got a different package, they got one that had a feasibility study and the unit operating agreement, unit agreement, ratification, election ballot and -- with instructions that we were wanting them to review our plan and send back their response on whether or not they wanted to participate or -- it had -- the letter covered various aspects on what our plan was going to -- how much we were going to spend, and if they had any questions they could call, you know, our office and discuss it further, so...

Q. Is a copy of that letter the first document in Chesapeake Exhibit 6?

A. Yes.

Q. And it identifies the attachments that were sent to each working interest owner at that time?

A. Yes, it does.

Q. You said there was a different package that went to the royalty owners. That package did not include an operating agreement; is that correct?

A. Right.

Q. Because they don't sign the operating agreement?

A. Right.

Q. If we look at Exhibit 6, the third page of that exhibit, would you explain what that shows?

A. The first page?

Q. The third page of Exhibit 6.

A. Third page. Okay, I only have two pages of mine. Oh, okay, I didn't...

That's the vote tabulation of -- after we got responses from all the working interest owners and mineral owners and royalty owners, we just keep a tally on how many of them are responding and look -- and we just kept a balance of, you know, the working interest owners that we did receive response from. Almost 96 percent are in favor of the unit, and a little bit more than 4 percent we didn't get a response from. So that was 12 out of 17 that we did, you know, receive a favorable response from.

Q. Did any working interest owner contact you and tell you they were opposed, or did they just not respond to your letter?

A. We did have a couple that called just asking

questions. Nobody gave us any indication that they had any opposition. They were mainly just asking questions, and --

Q. Did Read and Stevens contact you?

A. Read and Stevens did contact us, and they had some questions about our overhead cost, and we did adjust those downward, reduced them down. And they said that they were okay with that after the adjustment, and they went ahead and signed that ratification and turned it in.

Q. If we go to the next page in that exhibit, is that a list of all the working interest owners?

A. It is.

Q. Has Pintail committed to the unit agreement?

A. No, they haven't.

Q. Could you just review for the Examiner your efforts to solicit their input and obtain their participation?

A. Okay, they were sent the package, had all their information about the unit, the unit feasibility study and unit agreement, unit operating agreement, probably sent out first part of September. I think the letter was dated August 29th, so they probably had it for two months now.

And then another notice was sent out by Mr. Carr's office about the hearing that was coming up. The first hearing was going to be October 1st, but we did try to contact everybody that hadn't received any of the

ratifications back yet. They were on the list, so it was just routine to call everybody, and we left word with them.

And we found out later that our hearing was -- they had filed, I guess like a -- for a continuance of the case. So we went ahead and rescheduled it for today. It was based on them not receiving notice from Bill Carr's office about the hearing taking place on October 3rd.

So we essentially tried to talk to them by telephone, and we sent a landman by their office to --

Q. You tried to call them, did you not?

A. Yes, we tried to call them several times and --

Q. Were you able to reach them by telephone?

A. Just voice mail, and I did receive a voice mail back from them, so didn't have a real good communication there as far as getting hooked up before the first hearing, so that's why we went ahead and scheduled for the rehearing, or for the continuance, so...

Q. Did you actually send someone to their office to meet with them?

A. Yes, we did.

Q. And what was -- what happened?

A. He found their office and knocked on the door, and after a while somebody finally answered. And the person he talked to is Harvey Mueller, and he was busy at the time but -- so our landman was unable to talk to him.

A few days later I did receive a phone from Mr. Mueller and discussed some of the language in the unit agreement, unit operating agreement. Most of his questions were engineering-related, so I just recommended that he contact Greg Adams who works -- he does all the reservoir engineering for -- on this project.

And Greg's name has been in the letters all along, so -- I'm not sure if -- Mainly I wanted to know if he had any questions beyond a notification problem, and I wasn't sure if he had any or not, so -- He and Greg never got in touch with each other. I think Greg had tried to call him at his house and called him at the office several times, left messages. I don't believe Greg ever received any contact from him. And that's about the last we heard.

Q. And the next contact was the prehearing statement filed this week?

A. Right.

Q. What about Pride Energy?

A. Okay, we did not receive a response back from them as far as a ratification of the unit plan. Greg -- I myself never was successful in contacting him. I tried to call him, I don't think they had an answering machine. But Greg did talk to him, and so that would -- I think he discussed a few things. I'm not real sure what all the details were, but --

Q. But you have been in discussion with Pride?

A. Our group has.

Q. Gene A. Snow, what is the status of that interest?

A. Okay, they haven't signed off as approving -- you know, they haven't ratified the plan either. Greg and I both have talked to him, and --

Q. How much is their interest?

A. They have a minimal interest, probably about .2 of 1 percent.

Q. Have they been discussing the possibility of selling their interest to you?

A. They did, and they weren't real sure -- they didn't give us a firm yes or no, they just said they were still looking at it.

Q. Is Chesapeake willing to continue discussing this with Gene A. Snow?

A. Yes.

Q. The other two interest owners on this list who have not yet ratified are William Bradshaw and Patricia Pruitt. Do you know who they are and what the status of their participation is?

A. We have good addresses on them, we -- and some of our group has talked to these people, and we're probably going to make offers to buy their interest out. I don't

think they are wanting to participate with their interest at this time.

Q. And those negotiations will continue?

A. Right.

Q. When you -- When Read and Stevens requested that you adjust downward the overhead and administrative costs, you did that, did you not?

A. Right.

Q. And that required changes in the unit agreement as originally sent out?

A. Yes.

Q. And that is the agreement for which these interest owners have ratified?

A. Yes.

Q. Did you also make various typographical corrections in the unit agreement when you sent it out again?

A. Yes, we did.

Q. And following the continuance of the case, did you resubmit the unit agreement to all the working interest owners?

A. Resubmit?

Q. Did you send it out again to all the working interest owners --

A. No.

Q. -- with your notice?

A. No.

Q. With the notice letter, did the unit agreement go?

A. Yes.

Q. There were revisions in the agreement. Did any revision, in terms of any of the corrections of typographical errors, have any impact on any working interest owner or participation or any tract participation?

A. No. No, it didn't change anybody's interest.

Q. You had numbers like you transposed numbers and at depth and things of that nature?

A. Right.

Q. And those were corrected?

A. Uh-huh.

Q. What percentage of the working interest originally -- ratified the original agreement?

A. 95.8.

Q. And you haven't sought a second ratification?

A. Right.

Q. That will happen after this hearing and once an order is --

A. Correct.

Q. Could you identify Chesapeake Exhibit Number 7?

A. Okay, that's the preliminary approval letter back

from the State of New Mexico. They own 100 percent of the minerals. And that would grant us preliminary approval to have a hearing, and --

Q. But at this point, if you receive final approval from the Commissioner of Public Lands, 100 percent of the royalty interest will be committed to the unit?

A. Yes.

Q. And assuming that since you made no change in anybody's interest, you right now stand with 95.8 percent of the working interest having committed to the unit?

A. Yes.

Q. Do you believe you've done all you reasonably can do to obtain voluntary participation in this unit agreement from all affected interest owners?

A. Yes.

Q. Would you identify Chesapeake Exhibits 8 and 9, please?

A. Affidavits confirming that the notice of the Application has been provided in accordance with the Rules of the Oil Conservation Division, statutory unitization notice sent out to all the working interest owners.

Q. Did you also notify the non-cost-bearing interest owners in the unit area?

A. Yes.

Q. Did you notify the offset operator?

A. Yes.

Q. What about with the waterflood project? To whom was notice provided?

A. All leasehold operators within a half mile of the seven injection wells, owners of surface, and all the interest owners.

Q. Were Exhibits 1 through 9 either prepared by you or compiled at your direction?

A. My direction.

Q. Can you testify as to their accuracy?

A. Yes.

MR. CARR: At this time, Mr. Examiner, we'd move the admission into evidence of Chesapeake Exhibits 1 through 9.

EXAMINER JONES: Any objection?

MR. HALL: No objection.

MR. BRUCE: (Shakes head)

EXAMINER JONES: Is what we're looking at here the latest, the unit agreement and --

THE WITNESS: Yeah, you know, like I said, we didn't -- we had some typo errors that we adjusted, and we had a little bit better title from some of the working interest owners that had, you know, bought or sold in the interim, and we updated all that, so it should be right the way it is on record, so -- Nothing that we did changed any

of the interest that anybody owned. You know, the tract participating factors weren't changed or anything, and we've got just as many tracts as we had before, so everything is in accordance, pretty much like the first plan was.

The main reason we rescheduled the hearing was for the -- so we wouldn't have any chance to have a continuance because of a notification problem.

EXAMINER JONES: Okay, Exhibits -- 1 through 9, is it? --

MR. CARR: Yes, sir.

EXAMINER JONES: -- will be admitted to evidence.

MR. CARR: And that concludes my direct examination of Mr. Frohnapfel.

EXAMINER JONES: Okay, who wants to go first? Okay.

CROSS-EXAMINATION

BY MR. HALL:

Q. Mr. Frohnapfel, if you could refer to your Chesapeake Exhibit 3, it's your schedule of tract participation.

A. Uh-huh.

Q. Can you tell us how Chesapeake arrived at a 40-percent weight for the usable wellbores factor in the participation formula?

MR. CARR: May it please the Examiner, we have an engineering witness who will address that.

Q. (By Mr. Hall) That's fine. Can you shed any light on that? Did you participate in that or --

A. I didn't, that's all reservoir engineer -- he's the expert in that area, so -- I know there's -- he's got some good support for it.

Q. Let's turn to your Exhibit Number 5, your unit operating agreement. If I understand your testimony, there was more than one version of an operating agreement circulated to the working interest owners?

A. The first mailout, we had made a couple of typos since --

MR. CARR: Scott, are you talking about --

THE WITNESS: -- when we refiled it.

MR. CARR: Just a minute. Are you talking about the unit agreement or the unit operating agreement?

MR. HALL: Your Exhibit 5.

THE WITNESS: Okay, that's the unit operating agreement.

MR. CARR: Okay.

THE WITNESS: The main correction we made was in the COPAS. We adjusted the overhead, page 4 of the very last attachment, and the drilling well rate to $8500 per month and producing rate to $850.

Q. (By Mr. Hall) What rates were originally proposed, do you recall?

A. They were -- I think the drilling well rate was about $12,000, and the producing well rate was 10 percent of that. It was about $1200.

Q. How did you determine that the reduction was necessary?

A. We just tried to justify it by the fact that these wells would probably -- wouldn't take as much maintenance as a regular oil well, because about half of them would be injection wells. And so instead of using our standard rates we just -- we lowered it, to make it be, you know, more in line with the -- probably the average of the industry.

Q. All right. What is Chesapeake's standard rate, just out of curiosity?

A. It's different for, you know, each state and however deep the wells are. But this one would have been -- we've got some in place now that were at those figures that I told, at $1200 and $12,000.

Q. All right. Let's turn to, in the main body of the operating agreement, your Exhibit 5, to page 8. You see Article 3.2.4. What is the ceiling on the AFE expenditure authority there?

A. We've got $100,000.

Q. And how did you arrive at that figure for an AFE authority?

A. Well, it's just an amount that, you know, since the prices have gone up over the years, that it provides us to do work without -- we would get the work done quicker without having a 30-day wait, you know, for the responses from all the partners.

And I know it looks like a lot but, you know, prices have gone up, and we've even adjusted some of the ones that we have in place that are 10, 15 years old, you know, to a higher figure, so...

Q. Do you know if other operators in this area are using that AFE, authority limitation?

A. I don't know. I think like on a single well it would probably be lower, maybe half of that. But with a unit, you know, so many wells involved, it just works a lot more smoothly if you have a higher amount.

Q. Okay. To your knowledge, isn't it the custom and practice in the process of formation of a unit to convene a working interest owners' meeting?

A. It's not required by the -- you know, any of the rules. We've had them before, we've done it both ways. If there's working interest owners out there that notify you, like the letter that we sent out, they could be, you know, talking with us in between the hearing, say, Hey, let's get

together and have a meeting. That would be fine.

But we didn't ever have any response in that direction, none of the working interest owners -- Most of them, if they'd call, we'd just go through whatever question they had, and most of the time it was feasibility-related, and answer their question. We'd invite them to the -- you know, our offices if they wanted to, but -- We could have one or we could not have one, we didn't have any problem with it. We just didn't have any responses that anybody wanted to.

Normally, you know, we don't go out there and say we're going to have one unless we think that there's a real need for one.

Q. And so the record is clear in this case, you did not intend to have a meeting for this unit?

A. We didn't schedule one, but we were hoping to have one, if anybody was -- any working interest owner request one, we would have one.

MR. HALL: Pass the witness, Mr. Examiner.

CROSS-EXAMINATION

BY MR. BRUCE:

Q. Exhibit 6, was that your first proposal letter regarding the unit?

A. Yes.

Q. Dated August 29th. Wasn't the Application filed

before that letter went out?

A. No, it wasn't. The Application was filed -- oh, I think it was probably -- this is a proposed Quail-Queen unit, so the Application -- we didn't know when the first hearing date was going to be. Ended up that it was going to be October the 3rd, and we didn't know that at the time, but we were sending this Application out -- or this notice out to all the interest owners --

Q. Okay --

A. -- prior to --

Q. -- so the original hearing was going to be October 3rd, so that the Application had to have been filed at least 30 days before that; is that correct?

A. I believe so.

Q. So if this letter went out before the Application was filed, it was only a day or two before that Application was filed, correct?

A. I'm not real sure when the Application was filed. I think Bill's trying to find it right now, but --

MR. CARR: The Application was filed September the 4th.

THE WITNESS: September 4th, and the hearing would have been the 3rd, so that would have been 30 days, or pretty close.

Q. (By Mr. Bruce) Okay.

A. I don't know about it, it would be a problem now since we did reschedule the hearing for today to give ample time. It did --

Q. With respect to Chesapeake's leases, are there any lease expirations affecting Chesapeake's leases?

A. Now all the leases that we have are held by production.

Q. What are the approximate depths of these wells? I know you're not a geologist or an engineer, but --

A. 5000 to 5400.

Q. Do you happen to know what the Ernst and Young overhead rates would be for wells of that depth in this area of New Mexico?

A. I don't know off the top of my head, but we've got several in place that are right in line with what we propose to charge in our operating agreement.

Q. And Mr. Hall asked you about the overhead rates. Now I've seen other data where Chesapeake separately, in addition to the overhead rates, builds up time for its own in-house geologists and engineers. Are you planning on doing that with respect to this waterflood unit?

A. That will not be part of the overhead, so that would be in addition, that's correct.

Q. One final thing. On your Exhibits 8 and 9, the notice exhibits, Mr. Frohnapfel --

A. Okay.

Q. -- were there letters accompanying the documents sent to the working and overriding royalty interest owners?

MR. CARR: Yes, there were. Yes, there were. And I can provide copies, they were just inadvertently omitted --

MR. BRUCE: Okay.

MR. CARR: -- from the affidavit.

THE WITNESS: Those were sent out of his office.

MR. BRUCE: That's all I have.

EXAMINATION

BY EXAMINER JONES:

Q. Mr. Frohnapfel, were you involved with the allocation percentages for the tract? Did you work with the --

A. -- engineer?

Q. -- engineer and the geologist?

A. No, leave that up to them.

Q. But have you been involved in other statutory units?

A. Yes.

Q. Okay, so you probably know what kind of objection -- or which factors would -- I guess my question is, do you know -- did you advise your engineer about whether you would get some resistance from a certain way of --

A. -- allocation?

Q. -- allocation --

A. I've never seen two that were the same --

Q. Okay.

A. -- and he had good support. We did discuss it, like we always do, no matter what formula he comes up with, and he had good support to arrive at the figures that he did, to use the allocations that he did, and I'm sure he'll discuss it later.

But yeah, he can give you better detail, an in-depth discussion on it than I could. But I didn't foresee any problem or we wouldn't have sent it out, so...

Q. Okay. Could you guys after the hearing give me a -- some kind of a COPAS average that -- whatever the common form is you have for COPAS -- or can you -- in addition to that, can you also give an example of other projects where you do charge at least $8500 for the drilling rate and $850 for the --

A. We had one that was approved about two years ago, similar, deeper, 9000 Wolfcamp, Abo, and we've bumped it up $50 since then. It was approved at $800.

Q. You review that every year for changes up or down?

A. Yes.

Q. Okay. And in order to effect a change, you have

to have a certain percentage of the working interest that -- vote for that, right?

A. That's correct.

Q. And this unit, you would always have the dominant working interest, wouldn't you?

A. We need 75 percent plus one vote.

Q. Okay. But you always have -- you have over 75 percent, don't you?

A. Right, but we're requesting one other vote --

Q. Yeah.

A. -- so if we didn't get that, then the change -- the amend- -- we wouldn't be able to amend the plan.

Q. Okay. Okay, the working interest owners meeting -- what would you normally discuss at a working interest owners meeting?

A. Most of it -- well, we'd go through the land, geology and engineering. But it's -- probably just present it the way it was mailed out, and -- you know, the feasibility study -- most of it's going to be engineering, he'll go through the cost and the plan, two phases, plan for this project, and then it will have like an open forum, just for discussion.

We're not trying to collect ballots or get people to ratify, we're just out there to inform them and, you know, they could -- we've had them at our office, we've had

them off-campus, we've had them, you know, in other towns, it just -- sometimes we didn't have them. It just depended what the -- how much interest there was.

So this one in particular, we did own close to 90 percent, and a lot of the other working interest owners were -- you know, not a real high amount, and this -- we felt, you know, we could have a working interest meeting, no problem. There's only 17 working interest owners, and it would be real easy to assemble it. But we never had anybody responding.

And we kept in contact, we didn't have bad addresses on any of them, so we felt like -- and we got 12 out of 17 pretty quick, and the other five that were representing, you know, less than 5 percent, none of them ever requested having a working interest meeting. And we were always -- you know, our phone lines were always open if anybody wanted to call or e-mail us with any questions about, you know, anything in the plan, unit agreement, unit operating agreement, the cost, so...

It's kind of like the -- Read and Stevens, they called us and we made the changes.

Q. Okay, what about the -- I guess before I forget, could you guys give me some support -- additional support on the COPAS a little bit, maybe some common rates --

MR. CARR: We'll provide after the hearing other

unit rates, and also the -- We'll provide both COPAS and Ernst and Young for wells in the area.

Q. (By Examiner Jones) Okay. And as far as having no working interest owners meeting and -- what about debate on the tract participation parameters? Did you get letters that you have that -- from other working interest owners proposing a different formula?

A. None that I know of, unless -- None came to me, and I don't think that Greg got any, and I don't think he had any telephone calls about it.

Q. Nobody proposed anything different then?

A. None -- not -- none to my knowledge.

Q. Okay. Okay now, what about the boundaries of the proposed -- from a land standpoint -- you had to set up -- you had some boundaries. From your viewpoint, was there any debate about including or not including certain areas on the perimeter?

A. There is one area of 120 acres that's federal property. It's down in the southeast portion of Section 14, and it's under review for -- it's open acreage. We wanted to nominate it and obtain the lease, but it's under review for a sand dune lizard study, so the report hasn't been done yet and -- don't know when it will be.

And so there -- one day it might be open for us to lease, and we can include it in with probably some

restrictions, hopefully, so...

Q. Okay. But no other boundaries that were debated?

A. That would be an engineering question, and from what my knowledge -- the entire reservoir out there in this area has been included, outside the 120 acres.

EXAMINER JONES: Okay, that's -- Carol, do you have any questions?

MS. LEACH: (Shakes head)

EXAMINER JONES: Any other questions for this witness?

FURTHER EXAMINATION

BY MR. HALL:

Q. Mr. Frohnapfel, if -- since there have been changes made to the unit operating agreement terms, isn't the unit operator required to re-ballot the unit to the participants?

A. We will do that after the hearing, according -- on the -- Bill Carr has recommended that because they said it's pretty normal to do that after hearing, because they can make other amendments that we don't know about. And so instead of going back and forth -- you normally do it one last time. Is that correct?

MR. CARR: I had advised them that it wasn't necessary to seek another set of ratifications inasmuch as the statute doesn't require it prior to coming to you. It

does require, however, a re-ratification once an order is obtained. If you should change overhead rates, that would require a third ratification.

And so instead of doing it over and over again, I advised them that since they hadn't changed any interest, we would stand on that and when we obtain an order we would seek ratification of that as a precondition, as it always is, to the effectiveness of the order.

Q. (By Mr. Hall) Mr. Frohnapfel, won't you be requesting the Division to incorporate the plans of the unit agreement and unit operating agreement by reference?

A. By reference?

MR. CARR: Do you know?

THE WITNESS: I don't understand the question.

Q. (By Mr. Hall) Do you plan on requesting the Division Examiner to incorporate the terms of the unit agreement and unit operating agreement in his order by reference?

A. By reference?

MR. CARR: May it please the Examiner, I can answer that. Of course we will, that's the point of the hearing.

MR. HALL: Nothing further.

EXAMINER JONES: Okay. Okay, thank you very much, Mr. Frohnapfel.

MR. CARR: May it please the Examiner, at this time I'd call Robert Martin, our geologic witness.

ROBERT MARTIN,

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

DIRECT EXAMINATION

BY MR. CARR:

Q. Would you state your name for the record?

A. Robert Martin.

Q. Mr. Martin, where do you reside?

A. In Edmond, Oklahoma.

Q. By whom are you employed?

A. Chesapeake Energy.

Q. What is your position with Chesapeake Energy?

A. I'm a senior geologist for the Permian north group.

Q. Have you previously testified before the New Mexico Oil Conservation Division?

A. Yes, I have.

Q. At the time of that testimony, were your credentials as an expert in petroleum geology accepted and made a matter of record?

A. Yes, they were.

Q. Are you familiar with the Applications filed in these cases?

A. Yes.

Q. Have you made a geological study of the area that is involved in these cases?

A. Yes.

Q. Are you prepared to share the results of your work with Mr. Jones?

A. Yes, I am.

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

EXAMINER JONES: Objection?

MR. HALL: No objection.

MR. BRUCE: No objection.

EXAMINER JONES: Okay, Mr. Martin is qualified as an expert.

Q. (By Mr. Carr) Mr. Martin, have you prepared exhibits for presentation here today?

A. Yes, I have.

Q. Would you refer to what has been marked as Chesapeake Exhibit Number 10, identify that and review it for Mr. Jones?

A. Yeah, this is the type log for the Quail-Queen Unit. This comes from our Read and Stevens Quail State Number 1, which is now the Chesapeake Quail State SWD Number 1.

What I wanted to show on here was the Queen --

the top of the Queen formation, which is a map that I'll refer to later as a structure map, and then show the two Queen sand zones that we're going to be particularly looking into for waterflood, which is our Queen B and our Queen C.

Q. Is this the log that is referenced in the unit agreement to identify the unitized formation?

A. Yes, it is.

Q. Has the portion of the reservoir which is the subject of this Application been reasonably defined by development?

A. Yes, it has.

Q. Generally describe the Queen formation in the area.

A. Okay, the Queen pay within this area is made up of two distinct B and C zone. They're sandstones that are on the northwest shelf, shallow water, marginal marine type of sandstones.

The C zone is our most prolific zone, it's the biggest zone, with a permeability range of 20 to 40 millidarcies and a maximum range of 20 to 23 percent in porosity.

Q. Let's go to Exhibit Number 11. Would you identify and review that, please?

A. Okay, Exhibit Number 11 is just a simple

structure map on the top of the Queen that I refereed to in the type log. Once again, just showing that this is a shelf environment, there's no real structure involved as far as closure.

Q. And it shows the type log --

A. And it shows where the type log is, that's correct.

Q. -- the unit.

A. The proposed unit.

Q. Let's go to Exhibit Number 12, the north-south cross-section. What does this show?

A. Okay, this is a stratigraphic cross-section that's hung on the datum on the top of the Queen. It shows our target zones in the Queen B and the Queen C and also has our type log within there, and it just shows the continuity of our sands across the field.

Q. Let's go now to the Queen B net porosity map, Exhibit 13.

A. Okay, this is a net isopach porosity on the density, with 14-percent cutoff, showing a north-south trending sandstone within the unit.

Q. And this is one of the two primary objectives?

A. This is the lesser of the two, but it is one of two, that's correct.

Q. Let's look, then, at the isopach map for the

Queen C sand, Exhibit Number 14.

A. The Queen C is probably our main objective in this unit, and once again it shows the north-to-south-trending stratigraphic nature of the sand where your porosity tends to pinch out to the east, west, north and south.

Q. What geological conclusions can you reach from your study of the area?

A. That we do have a continuous reservoir within the boundary that we've defined and that it does have good flood potential for us.

Q. In your opinion, does all acreage included within the unit area have the potential of contributing reserves to the unit?

A. Yes, it does.

Q. Has the reservoir been adequately defined to reach reliable geological conclusions on the nature and extent of it?

A. Yes.

Q. Can the portion of the pool that's included in the proposed unit area, in your opinion, be efficiently and effectively operated under a unit plan of development?

A. Yes, it can.

Q. Were Exhibits 10 through 14 prepared by you?

A. Yes.

MR. CARR: I move the admission of Chesapeake's geological exhibits, 10 through 14.

EXAMINER JONES: Objection?

MR. HALL: No objection.

MR. BRUCE: No objection.

EXAMINER JONES: Exhibits 10 through 14 will be admitted to evidence.

MR. HALL: I have no questions.

MR. BRUCE: I just have one.

CROSS-EXAMINATION

BY MR. BRUCE:

Q. On your Exhibit 13 --

A. Okay.

Q. -- again, I was writing something down and I probably wasn't -- I guess your Exhibits 13 and 14, exhibits. I wasn't listening as much as I should have. What are the contour lines here?

A. These are net isopach, the porosity DPHI, the density porosity, 14-percent cutoff --

Q. Okay.

A. -- and above, correct.

Q. Okay. And again, what do the colors signify? I got the zero line, obviously, but beyond that?

A. Oh, the colors just show an increase in the thickness of that porosity, or --

Q. What is the thickest? The purple, obviously --
A. I did not put that --
Q. -- on Exhibit 13?
A. -- information on here, but these are five-foot contour intervals.
Q. Okay. On both exhibits?
A. That's correct.
MR. BRUCE: Okay, thanks.
That's all I have, Mr. Examiner.

EXAMINATION

BY EXAMINER JONES:

Q. The -- What about the top of the Queen there? What's wrong with that? Am I going blind or something? Nobody wants to perforate it? At 4800 feet?
A. Okay, I'm not sure, actually. I'm not sure if that was ever tested in this unit or not.
Q. Okay. What about the vertical definition of this unit? What -- On this type log where does it go from and to, the top and the bottom?
A. Are you asking specifically about the unit itself or --
Q. Yeah, defined vertical limits. I guess I can pull it out here.
A. I know it's in that book.
Q. Unit operating agreement? No, it would be unit

-- unit agreement.

MR. CARR: What are we looking for here?

EXAMINER JONES: The top and bottom of the --

THE WITNESS: I believe it was 5034 to 5294 or something like that. I'd like to be correct on that number.

EXAMINER JONES: Yeah, unitized --

MR. CARR: The unitized formation definition, is that what you're looking for?

EXAMINER JONES: Yes, I'm sorry.

MR. CARR: That's in the unit agreement on page 4.

Q. (By Examiner Jones) Page 4, okay, there we go. So it's at 5033 to 5- -- Okay, so -- to -54.

So basically, you're not unitizing this upper section at all?

A. No.

Q. So it's --

A. Above the Queen B, no.

Q. What pool is producing here, as far as the state goes? What do they call this pool?

A. It's the Quail-Queen.

Q. Quail-Queen Pool?

A. Yes, sir.

Q. And the boundaries of that, does it coincide

pretty much with this unit?

A. That I do not know. Mr. Frohnapfel may be able to answer that for us.

Q. I guess -- Yeah, I guess I should have asked him about that.

But I guess the question is, is the vertical limits of the pool the same as the vertical limits of the unitized -- it probably won't be.

A. I don't know.

Q. It's a subset of the pool itself. I can find that out, I can look it up.

Because sometimes these pools that include the Queen include the Yates-Seven Rivers-Queen-Grayburg, you know --

A. Right.

Q. -- but this is west of Hobbs just a little ways; is that right?

A. That's correct.

Q. Kind of deep for a Queen, isn't it?

A. Yes, it is. From what I've worked on in the Central Basin platform, it is deeper than what I'm used to.

Q. Okay, and the -- it's -- How does it relate to any other Queen floods, as far as geologically speaking?

A. I looked at the West Pearl-Queen Unit, which I believe the engineer will be talking about a little bit as

an example --

Q. Okay.

A. -- and they're on the same stratigraphic level.

Q. So is that -- is that unitized in this Queen B and Queen C also?

A. Yes, it is. I don't know if they call it the Queen B, Queen C, but it is the same interval.

Q. If the movie is not out already, it will be.

A. Right.

Q. I think it is out.

Let's see. So basically you put a 14-percent cutoff. Does that correspond to any of your core data, showing adequate permeability?

A. Well, the -- most of the work initially was done by the geologist and associate geologist, Lee Wescott, and my understanding in talking to him was, the cutoff was based on experimenting with 16 percent versus 14 versus 12, and --

Q. Okay.

A. -- 14 is what seemed to fit the model the best. I don't know if he did a permeability study or not.

Q. Okay. And so you're shooting these Queen sands, which is -- but they're -- they've got some radioactivity. Is that -- What kind is that? Is that potassium, in the -- In other words, do you have any spectral gamma-rays?

A. I do not, but I know for a fact in working a lot of the Queen in this area that there's a lot of K feldspars that tend to bring up the potassium in it --

Q. Okay.

A. -- which is why they're so hot-looking.

Q. Okay, and -- It must not be a case of uranium and thorium, otherwise you'd be running the spectral gamma-ray, I guess?

A. Right.

Q. So why do you differentiate these two, between a Queen B and a Queen C? Is it just two different porosity stringers that --

A. Yeah, and I believe part of that, like -- as you can see from the map, there is a difference in the width of these and the length of these, and as he was going in and mapping he felt that that would be the best for breaking these out initially, which I agree with.

Q. Okay, you agree with that?

A. I do.

Q. What about boundary rocks above and below where you're going to be putting this high pressure water into? How are you going to contain it, and what's going to contain the water?

A. Well, a lot of what you have above and below are some really tight dolomites that are anhydritic, and

anhydrites --

Q. Okay.

A. -- ought to self-contain that pretty well.

Q. So basically you've got high-stress rocks above and below, and it's going to contain your injection?

A. Should be. And we've seen that in the West Pearl-Queen, that there has not been a problem with that, so...

Q. Okay. What about completions out here? Are you concerned about any completion fluids that anybody uses as a geologist? Probably have to frac these wells; is that correct?

A. I believe that's correct.

Q. And so you're not much --

A. Right at this point I don't have any concern, from what I've seen from other field studies.

Q. Okay. The Queen floods sometimes have ~~higher~~ IRON carryover. Is that coming out of the formation, or is that --

A. I'd have to refer that to the engineer.

Q. That could be a corrosion-type issue, maybe, or a -- I didn't know whether it was coming out of the formation or the tubulars, or something like that.

MR. ADAMS: I think it's from the tubular-related...

Q. (By Examiner Jones) Okay. And have you looked -- I guess the engineer will know about the makeup water. Are you going to have to have freshwater makeup water?

A. There will be, and he will address that with --

Q. Okay.

A. -- one of the wells that we have to the north.

Q. So you're not -- you don't make much water out of this Queen; is that right?

A. No, we do not --

Q. And is that evident on your --

A. -- right now.

Q. -- saturations?

A. I'm not sure I understand what you're asking.

Q. I mean, if you look at your saturation -- at your resistivity log, I'm sorry --

A. Oh, okay.

Q. -- does that pretty much tell you what's coming out? I mean, can you tell from looking at the resistivity log whether you're going to make water?

A. Unfortunately not, these are low-resistivity pays, and that makes it a little more difficult.

But since this is not a water drive, we can't really supply our own water from within this field, if that's what you're asking.

Q. And you can't find it from other -- Have you done

a geologic study to find other fresh water -- or other water supplies to use here?

A. Just a well that we are -- we're working on right now to the north, that we might be able to get a supply, and that will be addressed by the engineer.

Q. A freshwater well?

A. I don't believe it's fresh.

MR. ADAMS: No, it's Bone Springs.

THE WITNESS: No.

EXAMINER JONES: Bone Springs is bad water, isn't it?

MR. ADAMS: Well, we had -- we just recently recompleted it, and so we haven't done a compatibility test.

EXAMINER JONES: Okay, but you --

MR. ADAMS: There's also a secondary water source at the West Pearl-Queen Unit, which will be Queen saltwater.

EXAMINER JONES: Okay. I guess I'd better target the -- any more geology questions here.

Q. (By Examiner Jones) That little area down in the south part of Section -- southeast of Section 14, was it your desire to add that to this unit?

A. Yes, it is, definitely.

Q. Okay. And as a geologist, why didn't you want to

do that? Why didn't you do that?

A. I'm not sure what the process was in getting this initial --

MR. FROHNAPFEL: The sand dune --

THE WITNESS: -- boundary. Was it the study that we had to wait on, yeah, the sand dune --

MR. CARR: We'll be calling -- There's a witness here in a minute, we can review those --

EXAMINER JONES: Okay.

MR. CARR: -- at that time.

Q. (By Examiner Jones) Okay. But as a geologist, you can see a continuity across this --

A. Yes.

Q. -- reservoir, so you can -- it's a decent waterflood candidate?

A. Absolutely.

Q. On this spacing, or would you recommend infill drilling?

A. I think the 40-acre spacing is plenty enough for this kind of sand.

Q. Okay. So there's plenty of continuity on 40 acres, and if you drill to 20 you wouldn't get that much benefit?

A. I don't think there's be enough to make it economic --

Q. Okay.
A. -- at this point.
Q. But you would get some more?
A. You might. I haven't --
Q. Okay.
A. -- done a study to say whether we could go down to 20s or not, but just in my --
Q. Okay.
A. Yeah.
Q. But someday in the future you might?
A. It's a possibility.
Q. Possibility, it's --
A. Always a possibility?
EXAMINER JONES: -- always a possibility. With $200 oil or whatever, you might be out here drilling. Okay.
Okay, I don't have any more geology questions.
Any more questions for this witness?
MR. HALL: No, sir.
MR. BRUCE: No, sir.
MR. CARR: May it please the Examiner, at this time we'd call Greg Adams.
EXAMINER JONES: Is everybody okay with continuing on?
COURT REPORTER: Yes, sir.

GREG ADAMS,

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

DIRECT EXAMINATION

BY MR. CARR:

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

A. Greg Adams.

Q. Mr. Adams, where do you reside?

A. Edmond, Oklahoma.

Q. By whom are you employed?

A. Chesapeake Energy.

Q. And what is your position with Chesapeake Energy?

A. I'm a senior reservoir engineer working the Permian Basin.

Q. Have you previously testified before the New Mexico Oil Conservation Division?

A. No, I haven't.

Q. Would you review for Mr. Jones your educational background and work experience?

A. Yes. I received a BS degree in mechanical engineering from Texas A&M University in 1980. Subsequently went to work for Amoco Production in their Brownfield office and then moved on to their Houston office. I worked for them for about six and a half years. Since then have worked in a capacity as a reservoir

engineer and infrequently as a production engineer for about six different other companies, mostly in Houston.

Most recently, in the last four years, we've moved to -- I moved to Venice Petroleum and worked for about a year and a half with them in Tulsa, and then since December of '04 I've been with Chesapeake and have worked in the Permian north area.

Q. Are you familiar with the Applications filed in these cases?

A. Yes.

Q. Have you made an engineering study of the area that's the subject of this hearing?

A. Yes, I have.

Q. Are you prepared to share the results of that work with the Examiner?

A. Yes.

MR. CARR: Are Mr. Adams' qualifications acceptable?

EXAMINER JONES: Objections?

MR. HALL: No objection.

MR. BRUCE: No, sir.

EXAMINER JONES: Did you have to move to Edmond?

THE WITNESS: Yes, from Tulsa.

EXAMINER JONES: Okay.

THE WITNESS: Sure did. Yeah, it's a little bit

of a commute.

EXAMINER JONES: Okay, he's qualified as an expert.

MR. CARR: No matter where he lives?

EXAMINER JONES: No matter where he lives.

Q. (By Mr. Carr) Mr. Adams, have you prepared exhibits for presentation here today?

A. Yes, I have.

Q. Let's go to what's been marked as Chesapeake Exhibit Number 15. Would you identify that and review this for the Examiner?

A. This is what's taken out of the feasibility study, and it's just an executive summary that goes over some of the reservoir parameters that were used in the study.

There's currently 12 active wells that are producing, eight are inactive. The daily production in this particular unit, our proposed unit, is 23 barrels of oil, zero MCF, and 56 barrels of water, indicating a pretty dead oil at this time.

Our pressures initially were about 2300 pounds per square inch. Currently we estimate it based on some bottomhole pressure testing in '06 to be about 400, 500 p.s.i., which means that basically we're at -- 91 percent of the primary recovery has been recovered, very little

left, very little pressure, and therefore it's a prime candidate to be waterflooded and get that pressure back up and try to recover some additional oil.

The original oil in place is 3.8 million barrels. Cumulative primary/secondary recovery -- the reason I say secondary is because there has been some secondary recovery produced out here for a short time due to a saltwater disposal well that was injecting into the same formation, and we did see some response, and that's about 10,000 barrels of this 800,000 barrels that's been produced to date.

And then there's an estimated -- another 78,000 barrels of primary oil that's left to be produced, based on decline curve analysis, giving us an ultimate primary recovery of 854,000 barrels, which is about 22 percent of the oil in place.

Q. Current production from this area out of 12 active wells is only 23 barrels of oil a day; is that --

A. That's correct.

Q. As we go through the next exhibits, it might be helpful to keep the Exhibit 1 unit map out. It may be helpful to refer to that.

I think perhaps, Mr. Adams, in response to a question from the Examiner, before we get into this, how does the unit boundary compare to the pool boundary?

A. Basically, we took into account all of the penetrations, and -- the ones that are productive in the Queen, and included them in the unit, with the exception of that 120-acre federal lease that's in Section 14. And we would like to have included it, however we could not nominate it because of the study that was going on and wasn't scheduled to be completed until '09.

Q. Let's go to Chesapeake Exhibit 16. Would you identify that for Mr. Jones and review it, please?

A. This is a four-well montage of the 80-acre fivespot pattern that you would visualize around the SWD well that I mentioned we did inject some fluid. Actually, it was a previous operator that started the injection process as a disposal well, into the Quail SWD Number 1, which is in the southwest of the southeast quarter of Section 11.

Q. And this is the well we had the type log on?

A. Yes.

Q. Okay.

A. We saw very clear response on four -- or actually five of the six offsets. I only included the four nearest offsets here. You can see from the four-well montage that we -- I have included a primary decline based on what the well would have produced without that additional energy from the SWD well.

You can see at the time that that injection period started, the GOR started decreasing, and eventually the gas just went away. So that's a good indication that you're getting good pressure increase, and the GOR collapsed basically.

And it's very clear from these four wells, the production decline here, that each one of them saw some response. And that was even due to a very low volume of injection in that disposal well. It was about -- the maximum that it got to was about 100 barrels per day. So that was one of the reasons why we thought this would be an excellent candidate for waterflooding.

Q. Let's go to Chesapeake Exhibit 16. Would you identify that? I'm sorry, 17.

A. This is just a Midland map, a section of it that's been captured here. It shows the Quail-Queen area up to the northwest there that's spotlighted, and the distance to the West Pearl-Queen Unit to the southeast there that's spotlighted. It's about two to three miles away from our Quail Unit.

Not only is it used for our analogy in the feasibility study, but it's also, like I mentioned, a secondary objective for our water source. We've been in contact with Xeric, who is the operator of that unit. It's been waterflooded since the '60s, and they have excess

water now that they are willing to pipeline to us.

Q. Let's go to Exhibit 18.

A. Exhibit 18, I mentioned the analogy that I used for waterflooding. Basically, the West Pearl-Queen Unit is quite a bit bigger, about three times bigger than our unit. Thicknesses are similar, the depths are similar, pressures are similar. Basically this is a laydown for what we propose to waterflood in the Quail-Queen.

Their initial oil in place, of course, was quite a bit bigger than ours, and they recovered about 12 percent of it under primary recovery, and we're going to recover about 19 percent.

Under secondary recovery, they've recovered about 2.3, 2.4 million barrels. We anticipate around 725,000 barrels, which is again -- ours is about 16 percent of the oil in place, and theirs would be about 10. And I have an idea that their oil-in-place number may be a little high, otherwise those percentages would be closer.

Secondary-to-primary ratio are very similar also.

Q. All right, Mr. Adams, let's talk about the participation formula, and I ask you to refer to Chesapeake Exhibit 19. Could you start by just identifying the four basic factors in the participation formula?

A. This is a spreadsheet that was used to arrive at the TPFs. There's any number of factors that are used in

waterflood units. These are four of the more common ones, I would say. The four parameters that we're using are:

Usable wellbores. And they are color-coded here with different colors, so we've got the usable wellbores in yellow there.

The average rate, current rate, in red.

The estimated ultimate primary oil in green.

And then the reservoir pore volume, that's the blue area there.

The first two, usable wells and average rate, are pretty much indisputable. You know, there's not going to be much discussion as to whether a well is producible and whether it's usable or not. Therefore I thought that would be an excellent parameter to put some extra weight on because of that indisputable evidence, that you've actually got a usable wellbore available to you.

The second parameter is average rate. Again, this is an area where there's not much dispute as to what a well is producing.

The ultimate primary oil and the reservoir pore volume are two other areas that are usually the matter, subject matter, of a lot of discussion by the working interest owners in a discussion of TPF. And therefore, with that possibility for a lot of discussion there and those being not as indisputable as the other two, I felt

like they deserved a lesser weight, and therefore gave them a lesser weight.

Q. In selecting these, you put a 40-percent value on two factors. Was it your testimony that these were the most reliable factors in terms of predicting what the tracts would contribute?

A. Yes.

Q. And then if we take this and we look at the tract in which Pintail has its interest, what tract is that?

A. That is tract 3, down at the southeast corner.

Q. And Pintail does have a wellbore on that tract; is that right?

A. Yes, the Atlantic Richfield well is a producing well. It's making about 3 barrels of oil per day, which is one of the high producers out here, and it's also a usable wellbore. So from the two 40-percent weighting factors, that tract received a quite high tract participation factor because of that.

Q. If we go back to Exhibit 3 -- Do you have Exhibit 3, the unit agreement there?

What percentage of total unit production is attributed under this formula to the tract in which Pintail owns an interest?

A. Tract Number 3 has 10.3 percent TPF.

Q. And that is a 40-acre tract?

A. Yes, it is.

Q. If we compare what is allocated to this tract with other tracts in the unit, are you -- of any other tract that is assigned a higher value per acre than this tract?

A. I don't believe so. I haven't looked at that specifically, but that's just a 40-acre tract. The other four higher tracts I'm sure are more than 40 acres.

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

A. Yes.

Q. In your opinion, will unitization and adoption of the proposed unitized methods of operation benefit all working interest owners and all royalty interest owners in the area affected by the Application?

A. Yes.

Q. Let's now talk for a minute about the waterflood Application. I'd ask you to identify -- I think to start with, I think we should take a look at Chesapeake Exhibit Number 20. What is this?

A. Exhibit Number 20 is a map that shows the unit boundaries, first of all, and it also shows the first six wells that we'll be converting to injection. Those are signified by the blue triangle that's surrounding them.

And as a result of those six conversions, we will have one complete 80-acre fivespot there in the middle of Section 11 and then some partial fivespots to the northeast and to the south.

Q. Okay. And then let's go to your next exhibit, Exhibit 21. What is this?

A. This is the second capital expenditure project that is envisioned two to three years out in the future, depending on the kind of response that we get from the first capital expenditure phase. We plan on drilling two additional wells in that particular phase, those being shown by the red circles down in Section 14. And then we would also convert one of those wells to injection.

And then the Mobil well in Section 13 that's currently a plugged and abandoned well, that would also be a candidate for conversion to injection. And the cost to do that was included in the capital expenditures.

Q. Let's go now to Chesapeake Exhibit Number 22. Would you identify and review that for Mr. Jones?

A. This is simply a production plot that shows our anticipated secondary production profile as a result of converting these wells and starting a waterflood. The peak rate, you can see, is going to be reached sometime in '09 of about 150 barrels of oil per day, which is about -- you know, a 7- or 8-percent -- or a seven- or eight-time

increase of what the unit is currently producing.

Q. Let's go now to the application for authorization to inject, Form C-108, which has been marked Chesapeake Exhibit 23. Does this exhibit contain all the information required by Form C-108?

A. Yes.

Q. Is this an expansion of an existing project?

A. No, it's not.

Q. And how many wells are included in the application, injection wells?

A. There are six wells.

Q. Does Chesapeake seek authority to commit additional wells to injection at a later date through the Division's administrative procedures?

A. Yes, we will.

Q. Let's go to page 9 in this exhibit, and what is this?

A. This is the area of review and the area of interest. It's a Midland map, you know, one-inch-equals-4000-foot map, that shows the area that we propose to unitize and all of the wells that have been drilled and/or plugged and abandoned and/or are shut in, and therefore we had to take into account all of these wells that are within a half mile of the proposed injection wells and to see that they were properly plugged and abandoned so that we

wouldn't have any migration of fluids up the hole or down the hole.

Q. Does this exhibit contain all of the information required by the Oil Conservation Division --

A. Yes.

Q. -- for each of the wells in the area of review which penetrate the injection interval?

A. Yes, it does.

Q. And is that information set out in this exhibit on pages 12, 18, 22, 27, 32 and 37?

A. Yes.

Q. And this information is presented in this exhibit by individual injection well; is that correct?

A. Yes.

Q. Are there plugged and abandoned wells within the area of review?

A. Yes, and they've been included.

Q. And are diagrammatic sketches of each of those included on pages 41 through 52 of this exhibit?

A. That's correct.

Q. Have you reviewed the data available on the wells within the areas of review for this waterflood project and satisfied yourself that there is no remedial work required on any of these wells to enable Chesapeake to safely operate this project?

A. Yes, that's correct.

Q. What injection volumes does Chesapeake propose?

A. Based on the offset unit, the West Pearl-Queen Unit, they were able to put about 200 to 300 barrels of water per day into their injection wells initially, and that's what we're expecting here.

Q. And what would that total be for all the wells in the project?

A. At 300 we anticipate, you know, probably closer to 300 barrels per day initially into these six wells, and that would be about 1800 barrels.

Q. Now you talked briefly about the source of the injection water being from the offset unit. Are there other sources of water that you're considering using?

A. Well, the first choice is the Hornet State well to the northwest that we mentioned is a Bone Springs producer, not a very good producer, that we found out the last couple of weeks.

We perforated the top 10 foot of about a 50-foot clean sand and produced some amounts of oil and gas, but it has since pretty much dried up. And therefore our plans are to go in and perforate some additional water sand that we've identified below it, and try to get the volume of water that we'll need.

It would be our first choice, because it's

closest to the Quail-Queen unit. We wouldn't have any major road crossings. It's about a mile away, so it would be about a mile and therefore much less expensive.

The secondary objective, and if we're not able to get the amount of water that we need from the Hornet State, then we would go to the West Pearl-Queen Unit, which is about two to three miles to the southeast. And we have contacted Xeric Oil and Gas, who's the operator of that unit, and they have expressed an interest in selling to us any water that we might need, and that would be Queen water that we would use.

Q. Will you use any fresh water?

A. Absolutely not.

Q. And is there a water analysis of this Queen water in --

A. Yes --

Q. -- in this exhibit --

A. -- in --

Q. -- on page 58 of the exhibit?

A. Yes, it is.

Q. Will this be an open or a closed system?

A. It'll be closed.

Q. And what injection pressures is Chesapeake proposing?

A. Initially we're hoping for pressures in the 1000-

to 1500-pound range, but as we approach fill-up we fully anticipate this pressure to go up to around 3000 pounds. But at that time we'll go ahead and follow the statutes and do step rate testing and get permission from the State to increase our pressures as deemed necessary in the future.

Q. Prior to the time you conduct the step rate test, will the pressure limitation of .2 pound per foot of depth to the top of the injection interval be satisfactory for Chesapeake's purposes?

A. That will be for some of the better injection wells, but I think -- that's about 1000 pounds, a little over 1000 pounds, and I think it's going to take a little bit more than that in most cases.

Q. When you go above that, will you seek approval from the Division, following step rate tests that are witnessed by the Division?

A. Yes, we will.

Q. What is the current status of the wells that Chesapeake is proposing to utilize for injection?

A. There's six wells that are slated for conversion. I'll just go over them one by one. There's -- five of them are current producers, make about 7 1/2 barrels of oil per day combined, and then the sixth well that is temporarily abandoned is that Quail saltwater disposal well that's been mentioned so much, so far in the hearing. It's currently

temporarily abandoned because of some casing, mechanical-integrity issues that we plan on going in and remediating and converting that well to injection.

Q. How will Chesapeake monitor these wells to assure the integrity of the wellbores?

A. We'll have pressure gauges on the casing side and the tubing side, just like most conventional injection wells have.

Q. And the annular space will be filled with a fluid?

A. In there a fluid, yeah.

Q. And you'll comply with the Federal Underground Injection Control Regulations?

A. Yes.

Q. In your opinion, will the proposed injection in these wells pose any threat to any underground source of drinking water?

A. No.

Q. Are there freshwater wells in the area?

A. Yes.

Q. What is the freshwater formation?

A. It's the Ogallala, if I'm not mistaken.

Q. And at about what depth does this produce --

A. 200 to 300 feet.

Q. And no injection will be in any of these

formations, obviously?

A. That's correct.

Q. Are there freshwater wells within a mile of any of these proposed --

A. Yes.

Q. -- injection wells?

And are these identified in the exhibit?

A. They are.

Q. And is there a water analysis provided for each of these wells --

A. There is --

Q. -- in Exhibit 23?

A. Yes.

Q. Those are on pages 57 and 58?

A. Yes.

Q. Are the wells in the project area properly completed and cased so as to prevent any problems with these water wells?

A. Yes.

Q. In your opinion, will the injection of waters proposed by Chesapeake pose a threat to any water supply?

A. No.

Q. Have you examined the available engineering and geologic data on the reservoir, and as a result of that examination have you found any evidence of open faults or

other hydrologic connections between the proposed injection interval and any underground source of drinking water?

A. No, I have not.

Q. Let's ow take a look at your Application for qualification under the Enhanced Oil Recovery Act, your Exhibit 24. Is this letter your Application?

A. Yes, it is.

Q. Is it signed by you?

A. Yes.

Q. Does the Application meet all the requirements of Division Rules?

A. Yes, it does.

Q. Is it complete?

A. Yes, it is.

Q. What are the estimated additional capital costs to be incurred in this project expansion?

A. On page 3 of the letter there's a description of the capital costs that are anticipated, and this is for both capital phase 1 and capital phase 2, and the total would be right at $5 million.

Q. And those would be your total project costs?

A. Yes.

Q. How much additional production does Chesapeake hope to obtain from this project?

A. The estimated secondary reserves on the order of

anywhere from 680,000 barrels to 780,000 barrels, and I've used a median number of about 725,000 barrels for our recovery that will generate approximately -- at $70 per barrel of oil, which is quite a bit less than it's selling for now -- about $40 million in future revenues. That's 100 percent. And then to the working interest owners it's about $27 million.

Q. Now behind this letter Application, attached to it you have as Exhibit A a plat of the unit area, the redesignation of the wells, the type log, and then what are the Exhibits D 1 and D 2?

A. D 1 is the historical production for the unit since 1970, whenever public records were made available, and it also gives the anticipated future primary decline rate of about 5 percent.

Then we move to the D 2 exhibit, which is just the secondary recovery production profile that is anticipated with another 725,000 barrels.

Q. Without unitized management, operation and the further development of this area as you propose, is it your opinion that these additional reserves will be left in the ground and wasted?

A. Yes.

Q. Is unitized management operation and further development of the pool necessary to effectively carry on

secondary recovery operations?

A. Yes.

Q. Will the methods that you propose to utilize prevent waste of oil and gas and to a reasonable probability substantially increase the amount of hydrocarbons produced from the reservoir?

A. Yes, it will.

Q. Would you identify what has been marked Chesapeake Exhibit Number 25?

A. That's the waterflood feasibility study that was done by myself in order to convince our management to go forward with this project, and also to use as a mailout to all the working interest owners for their review and comments that they may have.

Q. Does it include a fairly detailed executive summary that goes beyond just what you've shown in your presentation today?

A. Yes, there's also the capital expenditure.

Q. And does this exhibit -- this study, contain exhibits on the tract participation and all the factors that you considered --

A. Yes, it's a pretty comprehensive feasibility study that includes both engineering, geology and land matters.

Q. In late October there was a letter from

Chesapeake that sent this feasibility study, the unit agreement, unit operating agreement and other documents to working interest owners. And in that letter your telephone number was given and operators were invited to call you with questions and concerns?

A. That's correct.

Q. Did you receive any contacts from Pride?

A. As Terry had mentioned, yes, I did receive a phone call from John Pride, and we had a fairly lengthy discussion and basically just wanting to know about the tract that he has an interest in and what our future plans were for it, and just general discussion.

Q. Did he request a working interest owner meeting?

A. No, he did not.

Q. Did he propose any change in the participation?

A. No, he did not.

Q. Did you talk to Gene Snow?

A. I did.

Q. And what was the nature of that conversation?

A. That conversation, they have a very small interest, and mostly he was interested -- and since it was a small interest, that we perhaps take a look at that and try to make him an offer for that small interest and try to buy him out.

At the present time we haven't made an offer to

him. Once we receive the anticipated unitization order, at that time we'll probably attack quite a few of the smaller working interest owners and try to buy them out, just to reduce the amount of paperwork that we have to put out.

Q. Did you receive a call -- or did Mr. Snow propose an alternative participation formula?

A. No.

Q. Did he ask for a working interest owner meeting?

A. No.

Q. Did you receive a call from Pintail concerning this proposed unit?

A. I did not myself.

Q. Did you attempt to contact Pintail?

A. I called on the day that the original hearing was scheduled, and we heard about the call for a recess, for continuation. We tried to contact Mr. Mueller, both at his office -- we received his answering service, and we gave him, or her, our number to call us -- we also made an attempt to call him at his house and again received an answering machine and left our numbers there. And I have not heard from him since.

Q. In your opinion, will approval of this Application and the implementation of this proposed waterflood project be in the best interest of conservation, the prevention of waste and the protection of correlative

rights?

A. Yes.

Q. How soon does Chesapeake anticipate commencing the enhanced recovery operations --

A. Well, we're anticipating a unit order before year-end. I'm not trying to put any pressure on the Examiner --

(Laughter)

A. -- but we'd like to have that by year-end. And we have plenty of money scheduled or budgeted for first quarter of '08 to go ahead and commence that work.

Q. Mr. Adams, were Exhibits 15 through 25 prepared by you or compiled at your direction?

A. Yes.

MR. CARR: May it please the Examiner, at this time we'd move the admission into evidence of Chesapeake Exhibits Numbers 15 through 25.

EXAMINER JONES: Any objections?

MR. HALL: No objection.

MR. BRUCE: No objection.

EXAMINER JONES: Exhibits 15 through 25 will be admitted.

MR. CARR: And that concludes my direct examination of Mr. Adams.

EXAMINER JONES: Mr. Hall?

CROSS-EXAMINATION

BY MR. HALL:

Q. Mr. Adams, are we in agreement that the unit encompasses less than the entirety of the productive limits of the pool?

A. Yes, because of the federal acreage I mentioned before.

Q. Do you have an opinion -- Well, let's refer to your Exhibit 20. Do you have that in front of you there?

A. Give me one second here. That's capital expenditure project phase 1?

Q. No, it's a plat -- attachment 19, I think, to your feasibility study.

A. Right, that's it.

Q. The pattern map?

A. Yes, I have that.

Q. Okay. The federal acreage is in the south half of 14; is that correct?

A. That's correct.

Q. And can you tell us, does Chesapeake have that on nomination with the BLM --

A. We tried to, but they were not nominated because of the referenced lizard study that's ongoing.

Q. And did the BLM give you any idea how long that might delay --

A. Well, it's scheduled to be completed by '09, if I'm not mistaken.

Q. That's an estimate?

A. Yes.

Q. Did you communicate with BLM at all about your proposed waterflood?

A. I did not.

Q. Do you know if anyone at Chesapeake did?

A. I'd have to refer that to Terry, the landman.

Q. If you look at your Exhibit 20, it looks like you have an injector there in what I guess would be unit G in Section 14; is that right?

A. That's right, that's the State BG Number 2.

Q. And you have a producing well over in the southwest quarter of 13?

A. Yes, the Atlantic Richfield Number 1.

Q. Do you have an opinion, Mr. Adams, whether unit operations and the waterflood will have any adverse effect on the federal acreage in the south half of 14?

A. Not any adverse effect. If anything, it would be pushing oil down to that particular tract.

Q. Will the federal acreage be drained by the well in the southwest quarter of 13?

A. A portion of it possibly could be. It's pretty far -- you know, it's two locations away, and this is

pretty tight rock. But we have seen -- like I mentioned the four-well montage exhibit, we have seen some response from some wells that far away from the limited amount of disposal that we had in that Quail State SWD Number 1. So I'd say that it would recover some of those reserves.

Q. All right. Do you have any opinion whether there's any risk that the Queen B and C intervals in the south half of Section 14 might be watered out by injection operations so as to reduce recoveries there?

A. You know, it's hard to say. One of the reasons why we're implementing this program in two different phases is to see what sort of direction we have for our injection and what kind of banks we're going to be building up and in what preferential direction these banks are going to be built up.

If there is good permeability to the south, in a north-south direction, and in -- the same in an east-west direction, then a small portion of that federal acreage -- I would say the northeastern part of it, possibly could be watered, could, you know, have some watering. I don't think watered out, but there definitely would be some watering effect there in that northeastern part of it.

Q. All right. Let's discuss your tract participation formula and your allocation factors. I think it would be helpful if you had Exhibit Number 3 to look at

in conjunction with your Exhibit 19. Do you have Exhibit 3 also?

A. Yes.

Q. Can you tell us how you arrived at a 40-percent weight for the usable wellbore factor and the producing rate factor?

A. It's pretty arbitrary, and it usually is whenever people are coming up with these sorts of matters. 40 percent would be about the highest that I would use in a four-parameter TPF, and 10 would probably be the least that I would use. If you're going to use them as parameters, I think they should at least deserve 40 percent on the high side and 10 percent on the low side. And that's basically -- it's just an arbitrary number that was arrived at.

Q. I believe I heard you say in response to some of Mr. Carr's questions that there might be some precedent for this allocation formula for other units in the area. Do you recall saying something like that?

A. No, I don't.

Q. Do you know what the formula is for the West Pearl-Queen Unit?

A. I do not.

Q. Can you point the Examiner to any example in the area where an allocation formula like this is being used?

A. No, but in my experience with all the waterflood

units that have been put together, there are quite a variety of parameters that are used. Like I mentioned, these four are pretty generic and pretty conventional as four of the ones that are used. Sometimes there's more, there's very seldom less than four parameters that are used.

But I wouldn't say that there's a generic one that's used, that I've been able to determine over my 30 years of experience.

Q. Let's look at your Exhibit 19, let's talk about the weighting you ascribe to the average production rate, and that's shown in your red column there; is that right?

A. Yes.

Q. And what is the average rate you show there? Is it 23?

A. Well, the total rate is 23.

Q. All right. And tell us how you came up with 40 percent for a production average rate for that factor.

A. Weight factor?

Q. Yes, sir.

A. I've already explained that, it's pretty much arbitrary.

Q. Pretty much arbitrary.

A. And also like I said, you know, the average rates and the usable wellbores, there's not going to be any

question from any of the working interest owners on those two factors. Therefore I felt they deserved a higher weight.

The other factors are the ones that are usually debated, you know, sometimes for years, delaying input, you know, of a waterflood unit, and those are the ones I thought were the most debatable and therefore I put the least amount of weight on.

Q. Okay. Is it correct to say that the greater weight you accord a factor, the more sensitive it will be to the data?

A. Yes.

Q. And that -- as I understood, you said there was no dispute as to the producing rates, the production rates?

A. Yes.

MR. HALL: I believe that's all I have, Mr. Examiner.

EXAMINER JONES: Okay.

MR. BRUCE: Give me a minute, Mr. Examiner, and maybe I can eliminate some of these questions I had.

CROSS-EXAMINATION

BY MR. BRUCE:

Q. Mr. Adams, look at your Exhibit 20. And I counted -- is it 18 or 19 wellbores on that plat within the unit area?

A. That are currently usable?

Q. Just total wellbores.

A. There's been -- in the executive summary it mentioned the total number of wells that have been drilled out here, and there's about 20 wells, if I'm not mistaken.

Q. Okay. When you are talking usable wellbores, which wells are you talking about?

A. I'm talking about the ones that have not been plugged and abandoned.

Q. And how many of those are there?

A. There's five, I believe.

Q. Five plugged and abandoned?

A. Yes.

Q. Okay, I was asking the flip side, but we got to the same number.

So you are not giving -- If you look at the acreage Pride Energy owns as the west half, northwest quarter of Section 13, you're not giving any credit to those wellbores?

A. That's correct, they've been plugged and abandoned.

Q. But then again you said that you have in your capital cost the potential to turn that Mobil well into a producer; is that correct?

A. I do have some money in the second capital

development phase to try to re-enter that well and convert it to an injection well.

Q. So just because a well -- isn't it common, just because a well is plugged and abandoned doesn't mean it's unusable?

A. Well, I think if you look at most people, the way they identify a usable wellbore, if it's been plugged and abandoned it's not usable, because there's quite a bit of risk involved in re-entering a plugged-and-abandoned well, especially one that's had casing pulled, and you're going to have to go in and stab into that pulled casing. And in both of these wells there is pulled casing whenever they abandoned the wells --

Q. Okay --

A. -- therefore there's quite a bit of risk involved.

Q. Okay. So you can't tell me that you're going to have any producing or injection wells on the west half, northwest quarter of Section 13?

A. I can't tell you with certainty, no.

Q. Then why have that acreage in the unit?

A. It's clearly a part of the geologic pool that we're unitizing.

If you look at the maps that have been provided and developed by our geologist, that's -- clearly contains

some productive Queen interval. Those two wells did produce early on in their life, they made about 10,000 barrels of oil between the both of them, for an average of about 5000 barrels. I'll admit it is on the edge, but therefore I don't think it should be included, because it is part of the same pool.

Q. But -- so if you look at your exhibit -- Mr. Hall referred you to your Exhibit 19. If I'm reading this right, it's -- if you look at tract 4, which is the Pride acreage, its reservoir pore volume is about what, 12 to 14 percent of the unit area, correct?

A. Yes, it says 13 percent.

Q. Okay. But yet you're giving virtually -- very, very little credit to any acreage that has a good reservoir pore volume?

A. That's correct.

Q. One final thing. On -- Looking at your Exhibit 21 --

A. Okay.

Q. -- looking at the proposed new drills in the east half, northeast quarter of Section 14, obviously the northernmost well is a new drill?

A. Yes.

Q. Will that be produced first? Or will it become an injector immediately?

A. Well, you know, that's part of the second phase of the capital expenditure program, so it's going to be two or three years down the road. In that time, amount of time, there could be some oilbank that's been built up in that area, and we'll just have to wait and see whenever we drill the well. We might produce it for a little bit, but eventually it will be converted to an injection to complete that -- or almost complete that fivespot.

Q. And then the second new drill -- There's already a well there. Are you planning on re-entering it or --

A. That will be a new drill.

Q. A new drill. So you're not using that existing well, the State -- what is it, State BG 1?

A. Yes.

Q. I can't read the numbers very well.

A. That's it.

Q. You know, in looking at the geologic plats, at least with respect to the Queen C, that appears to be the -- along with the adjoining acreage in the southeast and the south half, southeast of Section 11 and the Pride acreage, that appears to be the sweet spot of the acreage. Why would you drill injection wells in the sweet spot, rather than try to force the water from the bad areas, from the poorer areas of the reservoir into the sweeter part of the reservoir?

A. I learned pretty early on in my career, at looking at waterfloods, that the best producers make the best injectors. And therefore there's a lot of oil to be moved in that area, and there's no reason not to initially produce the flush production but then go ahead and convert it to an injection well.

Q. And you don't dispute that your geologist's maps show quite a bit of good acreage on the Pride Energy acreage?

A. No, I don't.

Q. Or quite a bit of reservoir?

A. Yes, I don't dispute that.

MR. BRUCE: That's all I have, Mr. Examiner.

EXAMINER JONES: Okay, I have some more questions for Mr. Adams.

Let's take a 10-minute break.

(Thereupon, a recess was taken at 1:28 p.m.)

(The following proceedings had at 1:42 p.m.)

EXAMINER JONES: Okay, I guess we can go back on the record this afternoon, and I'll start asking questions also.

EXAMINATION

BY EXAMINER JONES:

Q. The -- if you were going to -- if you had all this acreage under your operation right now, what would you

do to -- as far as to recover more remaining primary from all of this acreage? What would you -- what would you do to the wells, what would you do --

A. I think the most bang for your buck would be to do what we're proposing to do today, you know, to get -- maximize reserves. But as far as just recovering the additional primary reserves, I don't think there's a whole lot you can do, because the existing pressure out here is so minimal that just about anything you would attempt to do would just have marginal success in my mind.

Q. Okay, but you wouldn't go in and re-frac any of these wells, or you wouldn't clean them out or anything? I mean, are you going to plan on anything like that as part of the startup of the waterflood, is to go check the TDs and go acid wash them or put some more corrosion in them? I mean, these old Queen things are pretty bad sometimes, you know.

A. I'm not a production engineer by training. I have done some in the past, and I'm not real familiar with Queen production, per se, so I don't know the proclivities and problems that they have on primary production. But I know that all these wells were initially frac'd, and they're relatively newer wells. You know, they're not 50 years old, they're more 30 years old or 20 years old.

And therefore -- you know, we could go out and do

some fracs, but we'd have to consider the advanced depletion that we have in the area and design a frac so that, you know, wee could recover that frac fluid as soon as possible and not leave it out there in the formation.

Q. Energize frac or something?

A. Right.

Q. But would you not re-enter those two -- what -- I guess the question I should ask is, Now that you guys have studied this thoroughly, and you've got your geologist to draw this wonderful map, and you own this acreage over in Section 13, would you not re-enter those wells and try to recover more? I mean, why did they recover only 10,000 barrels, if this map is accurate?

A. I don't know the answer to that.

And as far as why they didn't recover more, as to would we re-enter them, you know, I mentioned that they've been plugged and abandoned and casing has been pulled, and therefore it's a very expensive and very risky prospect to go back in these wells and re-enter them. You would have to set a certain amount of money that you're willing to spend.

And when you get to that point, you know, these things tend to be black holes once you get started in them, and you just start throwing money away. And therefore we would probably have some set amount that we would be

willing to spend to try to get that well back on production. And if we weren't to a point where we had pre-designed that we should be at that expenditure time, then we would go ahead and abandon it and just redrill the well.

Q. Okay. But you would drill two new wells in these red spots, east half of the northeast quarter of 14, I guess?

A. Right. One of them does not have a well at all, it never has had one. That's one of the locations, the northern location, is the one that we would drill a new well.

The other one is a well that we have -- has been plugged and abandoned, and so it's in the same boat that the ones on the -- the two there in Section 13 are, except I believe the casing was not pulled in that particular well. So there might be a chance we could re-enter that one with a little bit more success than we could the other two.

Q. Is the Queen damaged by -- It's not like a Morrow or something like that, it's an oil zone so you can always re-enter an old well and maybe make a well out of it?

A. Yes.

Q. You know, I guess all those years of being sandblasted in Brownfield you've learned quite a bit of reservoir engineering. I really like your waterflood

feasibility studies. It's nice, concise, seems to be real thorough.

And I don't think any -- I don't think any engineer totally would agree with another one as far as participation parameters go. You might have a few, but -- and I realize you guys are in the driver's seat on the acreage here, but it might have been helpful to have a little bit of -- more debate.

You know, I realize you didn't get some debate from your working interest owners, so you can't control that. But it seems like it would have been a little helpful for some other viewpoints for you to consider, especially after you have this geology map sitting here in front of you, and drawing other peoples acreage into it.

A. Can I comment on that?

Q. Go ahead, yeah.

A. Like I mentioned briefly I think earlier, you know, if you go to four different geologists, just like the remaining reserves on the -- for the reservoir engineers, you're going to get four different opinions. They may be pretty much the same, but they're going to be different.

And that's -- it's been my experience that anytime you try to put a unit together, hydrocarbon pore volume, or pore volume for that matter, and remaining reserves or proposed secondary reserves, those are the

three big issues that you're going to be squabbling over with geologists and reservoir engineers, because everybody has their own opinion.

And that is precisely the reason why I weighted those two parameters like I did, because I didn't -- You know, first of all I wasn't trying to hide anything, because in the unit agreement, it's in the feasibility study, the working interest owners had that in plenty of time to look at it and call up and make some suggestions. And I fully anticipated that they would and was surprised that they did not. And it wasn't because of timing, it wasn't because we didn't try to get ahold of them, because we did. And therefore I assumed, and I have to assume, that everything was copasetic.

Q. Okay, this well that's making 9 barrels -- or this tract, I guess, is making 9 barrels a day, and -- versus the others. Is there something in evidence about that, that shows it making that much?

A. Yes, in Appendix A of the waterflood feasibility study, which is Exhibit 25, I think, there's an Appendix A, and it has each individual well's production. And I think the one that makes the most there probably is the State BG Number 2 well. So if you could see that in the title block at the top, that's the well you're looking for.

Q. Okay. Okay, I'm having a little trouble -- Is

there page numbers on these things or --

A. No. I'll help you locate it here.

Q. Okay, I've got the -- Okay, Appendix A. Which -- which page would it be for that?

A. Okay, you probably should start at the back. Start at the back of Appendix A, and it's the first well, I believe, the State BG Number 3, is the first well at the back.

Q. Got you, here it is.

A. It's making about 3 barrels a day.

Q. Okay, that line -- that number was taken off of the curve; is that right? Or was it taken off for lack of point?

A. That number is actually the last three months, and at that time -- this was back in the summertime, and it's an average of the last three months, like May, June, July, I think, were the three months.

Q. Okay, and how many wells is represented here?

A. That's just one well --

Q. Just one well.

A. -- because they're individual plots.

Q. Okay. And this is barrels per day --

A. Yes.

Q. -- which is nice. Because I don't see -- the next line up from 1 is 2, right? So it's -- it's close to

3 to 4 is what it looks like there, instead of 9.

A. Yeah, for that particular well, but it's a two-well lease --

Q. Okay.

A. -- so that's -- If you page back one more plot, you'll see the other well.

Q. Okay, the State BG Number 2? Okay.

A. And as you see, the actual primary decline that I put on there is lower than the last several months of production.

Q. Okay, yeah. But you're basing the parameter on the average of three months, right?

A. Right.

Q. Certain three months.

A. Right.

Q. Are those written -- are those written in here, in the unit agreement?

A. It is in the feasibility study.

Q. Okay. Okay. One thing, before I forget. Could you guys reprint these exhibits with some bigger notations on the wells? We can't hardly see -- and if we scan these in, we're not going to be able to see anything once -- Is there a way you can do that?

A. Sure, we can do that.

Q. And send it to Steve Brenner here, so -- through

your attorney, because all that matters is what gets scanned in, I can see with my...

A. I think the reason we, you know, have it so small is, we're trying to fit it on an 8-1/2-by-11 page --

Q. I understand.

A. -- and we can blow that up and give it to you in a bigger format, if that's what you want.

Q. Well, if there's any way you can blow up the lettering instead of the page size --

A. Okay, okay.

Q. -- that would be better, at least for that critical -- for some stuff that's kind of critical to look at.

Okay, because that one tract's with 9 barrels a day, I guess that's two wells -- it's getting a pretty big parameter, participation parameter.

And I realize also, if you don't get something done here, nobody ever recovers anything, secondary. You know, you have to make a stab at it and go. I understand that.

Your -- did you subtract out the estimated -- as far as your ultimate -- did you subtract out the recovery that you're projecting -- the increased recovery around that saltwater disposal well when you figured your primary, ultimate primary?

A. Yeah, that was subtracted out, and it's --

Q. Okay.

A. -- you know, it's estimated. I believe it was around 10,000 barrels that we estimated was secondary oil.

Q. Okay. And you decided to go with an interior -- kind of interior injection wells here, instead of a peripheral flood. Now was that because you wanted to make sure you didn't affect offset people? But there is no offset people, right? Everything's dry around it. Just so you could get water in the ground, and you got a good mobility ratio; is that the deal? You --

A. Well, that's --

Q. -- you know you can sweep oil?

A. Yeah, the mobility ratio is .57 --

Q. Yeah.

A. -- which is favorable mobility ratio.

Q. Yeah.

A. We also have the West Pearl-Queen Unit, which was developed on 40 acres, and there's 80-acre fivespot patterns, and that's been in existence since the late '60s, when it was unitized, and they recovered -- I don't remember the exact figure but it's around, you know, 15 percent of additional oil in place from that type of flood pattern, and therefore...

And this one pretty much, because of the

injection that we've already experienced in the Quail State Number 1, that one, of course, was going to have to be an injection well. And if you just -- the way the wells are situated, you pretty much have to design it this way.

Q. Yeah, okay. As a reservoir engineer, 80-acre fivespots are still okay? You wouldn't want to drill infill wells in an $80-a-barrel --

A. Well, you know, I think that's something that we will certainly look at in the future. But like I said, the West Pearl-Queen Unit went for 30-plus years on 80-acre fivespots, and not to my knowledge have they tried to drill any infill, 20-acre infill wells. But it's certainly something that I would want to look at in the future.

Not initially, just because of the cost of drilling. You know, we'd have to drill probably 10 or 15 wells to fully develop, you know, a 40-acre fivespot, and therefore it would be cost-prohibitive, unless was saw -- put in some sort of pilot in the future sometime and drilled some 20-acre wells and saw that we picked up some additional pay and got some better continuation or conformance of pay as a result of drilling a denser pattern.

Q. Okay, and that wouldn't involve any kind of change in the parameters? If you did develop this thing on 20-acre well spacing, and given the amount that's been

drawn by your geologist, would you change your participation parameters at all if --

A. I think what we would do, like I mentioned, is try to put in a pilot 40-acre fivespot or two, perhaps. This is a very small unit. It doesn't really lend itself to doing a full-scale 20-acre infill, so I would say probably do a -- one pilot-type fivespot, you know, a 40-acre fivespot, and see what kind of results we got.

Probably would have to do that as a result of meeting with working interest owners and deciding, you know, we'll go ahead and try this pilot with the same TPFs, and depending on the results of that, then we may want to go ahead and do a phase-2-type interest reallocation as a result of where we decide to drill, or infill drill, the rest of the wells.

Q. Okay.

A. But that's -- you know, that's several years down the road --

Q. Okay.

A. -- unless we do get to 200 barrels --

Q. Yeah.

A. -- or $200 a barrel recently.

Q. Yeah, okay. Okay, that -- that's -- I guess the C-108 data should -- you're convinced all the wellbores are fine, as far as cements over every --

A. Yeah --

Q. -- all the zones?

A. -- we included the detailed wellbore sketches on all those wells, and you can, you know, look at those yourself. They're pretty self-explanatory. In my opinion, yes, they're -- they're -- will be protecting any migration of the injection fluid to other zones.

Q. What kind of injection-withdrawal ratio do you anticipate out there in this flood?

A. Well, initially -- you know, you usually get a 2-to-3 initially, and then of course you want to keep it above 1, just so you're putting in more than you're taking out and can maintain that pressure. But I would say 2 or 3 initially, and then trying to maintain it in the 1 1/2 to 2 level through out the life.

Q. Have you looked at other Queen floods and what their injection-withdrawal ratio is?

A. I have not. The West Pearl-Queen Unit, like I mentioned, was unitized in the late '60s, and so there's a lot of early time data in that unit that I don't have access to. And therefore I wouldn't be able to make a good, definitive study of that, in that particular analogous unit that I did look at.

Q. What about the current injection-withdrawal ratio, the instantaneous, like what it is right now in the

West Pearl-Queen?

A. Well, they pretty much -- they're below an injection-withdrawal ratio of 1 right now, it's pretty much just a disposal --

Q. Okay.

A. -- type project.

EXAMINER JONES: Okay, okay. Well, I don't -- I don't have any more questions.

Do you guys have any more?

MR. BRUCE: I don't have any.

MR. HALL: No.

MR. CARR: No.

EXAMINER JONES: All right, thank you very much, Mr. Adams.

MR. ADAMS: Thank you.

EXAMINER JONES: Does that conclude the Applicant's case?

MR. CARR: Yes, it does, Mr. Examiner.

EXAMINER JONES: Can you guys say again what your flight schedule is?

MR. MARTIN: I think we've rescheduled.

EXAMINER JONES: You've rescheduled. Santa Fe is not such a bad place to spend the tonight.

MR. ADAMS: Not at all.

MR. MARTIN: Just have to do that.

MR. HALL: Mr. Examiner, we'll call our one witness, ask Harvey Mueller to take the stand.

HARVEY H. MUELLER, II,

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

DIRECT EXAMINATION

BY MR. HALL:

Q. For the record, say your name say your name, please, sir.

A. Harvey Herman Mueller, II.

Q. And would you spell your last name for the reporter, please?

A. M-u-e-l-l-e-r.

Q. Mr. Mueller, where do you live and by whom are you employed?

A. Fort Worth, Texas. I'm employed by Pintail Production Company, Inc.

Q. And what do you do for Pintail?

A. I'm the president and founder of Pintail, and I wear every hat there is.

Q. All right. Are you a petroleum engineer by trade?

A. I'm a petroleum engineer and a registered professional engineer.

Q. Have you previously testified before the Oil

Conservation Division here in New Mexico and had your credentials accepted as a matter of record?

A. I have not.

Q. If you would, please, give the Hearing Examiner a brief summary of your educational background and work experience.

A. I graduated in 1982 from Texas A&M University with a BS in petroleum engineer, went to work for Bass Enterprises Production Company in Midland. I was tasked as a production engineer to a couple of southeast New Mexico large federal units, the Big A Unit, Poker Lake Unit.

After about a year I moved to Fort Worth and spent three years as a consulting reservoir engineer. And starting in 1986 I worked with a private family in Fort Worth and in 1988 actually founded Pintail, but from '86 and '88 forward we have done all kind of production and drilling to the point that we've had an interest in more than 1000 drilled wells.

I've also in the last six or seven years gotten into unconventional resource plays. My group has done 10 of those, aggregating more than 350,000 acres in about six different basins in the United States.

I've drilled offshore -- or have participating interest in offshore wells and just run the whole gamut on the engineering side of life.

Q. Do you have experience in southeast New Mexico?
A. Yes.
Q. Are you familiar with the lands that are the subject of Chesapeake's Application?
A. Yes.
Q. And is Pintail an interest owner in the proposed unit?
A. Yes, they are.
MR. HALL: At this point, Mr. Examiner, we'd offer Mr. Mueller as a qualified expert petroleum engineer.
MR. CARR: No objection.
EXAMINER JONES: Mr. Mueller is qualified as an expert petroleum engineer.
Q. (By Mr. Hall) Mr. Mueller, first off if you could give me a very brief answer: Do you have an opinion on whether Chesapeake's proposed plan of allocation results in the allocation of unitized hydrocarbons on a fair, reasonable and equitable basis?
A. I do have an opinion.
Q. And what is that?
A. It is different than Chesapeake's.
Q. And do you believe that it does allocate on a fair, reasonable and equitable basis?
A. No, I do not.
Q. All right, let's start this way: Would you tell

us what efforts Chesapeake made to communicate with Pintail and obtain their voluntary participation in the unit?

A. They've about described it, with a little bit of nuancing, fairly correctly. A certified piece of mail showed up on my door. The actual notice for the original hearing I received after the date to give qualified the first time, so that's why it was delayed. There were a couple of phone calls from Mr. Frohnapfel and I believe one from Adams, and I did return Mr. Frohnapfel's call. He had multiple calls, I only called one.

But I was very surprised by the fact that there was no call for a working interest owners' meeting. I'm not saying it's on purpose, but from my standpoint, being a single small company going by itself up against Chesapeake, if we were to just converse via the phone, versus having an entire working interest group in a room, even a group of mice can fight back against a large company.

There might be some commonality among the engineers against what Chesapeake's proposing, whereas if you get into one-on-one dialogue with them, I think -- because on just a pure working interest for -- tract-allocation standpoint, if you were just to run straight-up numbers, which I haven't done, I think they're probably in the 85- to 90-percent ratio, so -- I mean, it's a strong-arm-type situation.

So, you know, I did not communicate with them, that is the truth, but I was still hoping that there would be some type of group-type -- of course -- group-type effort made, and that never occurred. So that's why I'm here.

Q. All right. Do you agree with Mr. Adams' testimony that the allocation formula that Chesapeake has proposed is arbitrary?

A. I do.

Q. Let's look at some of the exhibits you've prepared today. If you would turn to Pintail Exhibit Number 1 -- and actually this is also Chesapeake's Exhibit 19, I believe -- what do you propose to demonstrate by this?

A. This is what -- the four factors that Chesapeake proposes to use to calculate tract participation factors. They have them highlighted on here. Blue, reservoir pore volume at 10 percent; green, estimated EUR primary, 10 percent; then they have in red current average daily production rate at 40 percent; and then all the way at the very far left in the orange, that's usable wells, which is also factored -- proposed to be factored at 40 percent.

Q. Do you agree with the weightings that Chesapeake has attributed to the wellbore factor?

A. I do not.

Q. And why not? What's your problem with that?

A. I've never seen it that high. I do agree with Mr. Adams, no one can argue with that, and when you get two engineers in a room they typically don't even see eye to eye, so much less when you get more of them there, that's going to be -- and we can all -- we all learned to count, you know, before kindergarten. So that's an easy parameter to fill out on the table and get people to say -- rally behind it and say, Let's not argue about this one.

But on an average well basis for this flood, I believe using Chesapeake's proposed secondary to primary, you're talking around 40,000 barrels per well at today's prices, whether you're talking 70, 90 or 200, whatever that is, the value of 30-year-old wellbores versus the proposed hydrocarbons to be produced out of those wellbores, I think is inequitable.

You know, I don't do as much waterflooding as some other people do. I've done, you know, more than half a dozen, but I did talk to other engineers, when I call an engineer on the streets, where I basically just pick up the phone, call an engineer friend of mine, or actually consulting engineers, and said, Here's something that I'm looking at, throw me some -- throw me some numbers out on the table.

And to a man, all of them weighted the wellbore

-- they actually, by the way, picked these four, and basically what Mr. Adams said -- I've been in -- I was in one that had as many as nine parameters, and that was a complete struggle to even begin to try to come to a consensus on that. So four is fine, but to have the salvageable value, or just a simple well count versus the future present value, or even a gross value coming out of a well, I just think is inequitable.

Q. All right. Continue to look at Pintail's Exhibit 1, Chesapeake Exhibit's 19. Look at the column they have in red for the average daily production rate. Do you have it? Do you agree with the data they've reflected there?

A. No, I don't.

Q. And why not?

A. Not being the operator of the field, the only thing I had to go by is NMOCD reports, and that's actually -- I went to the NMOCD Internet site and looked up the production as reported to the State. You know, my Exhibit 3, which everybody has, I turned around and used quarter 2 production, which -- in their proposal to the State, that's the three months of production that they chose to use for the average current daily production rate. I put a square or a rectangle, if you will, around those three months and annotated off to the side what that quarter's production was, both as a gross barrel, as well as a net barrel per

day.

I then on Exhibit 2, which I call my Exhibit A, tallied that. And the average is not 23 barrels a day, it is 19.2. That's a fact issue.

So then you turn around and have the daily field production off to the right, which obviously has that up to 100 percent, and if you just turn around and change those correct as reported to the NMOCD daily production -- or quarterly production, it will alter -- without changing the four parameters' weighting, still keeping at 40-10-40-10, the tract participation factors will change across the board.

Q. Does that result in an unfairness in the allocation, then?

A. As proposed, it does.

Q. All right. Let's look at Pintail Exhibit Number 4, and actually this is an excerpt from Chesapeake Exhibit 25, their feasibility study; is that right?

A. It is. Yeah, what I'm showing here in Exhibit 4 -- and again, it's right out of the -- and Mr. Adams did wonderful work. I mean, he did really good work on this -- on -- I'm able to pick at a piece of it, but -- in the third line it talks about the remaining primary predominantly coming from three wells, being the Quail State 2, BG 2 and 3.

Well, right behind it is the calculations of the to-date secondary recovery, versus the primary. And then the third page to this exhibit is the four-well montage that shows the response that was -- on those .224 pore volume -- what I call dump flood, which was a -- you know, a decent response, considering that there was not very much water put in.

But those -- those three wells, the remainder -- if you take out the secondary, there's actually four wells that are going to make the remaining of the -- almost equally, the remaining primary, and that will be the Quail State 2, the BG 2 and 3, as well as the Atlantic Richfield 1. They're all pretty well even, if you take the secondary out from the primary. So just a small bone. Okay?

Q. Mr. Mueller, do you agree with Mr. Adams' statement that there is some possibility that waterflood operations may adversely affect portions of the pool outside of the unit boundaries in the south half of Section 14?

A. It could. Absolutely it could. Again, we don't know what the sweep is going to be, we need directional permeability. There's a lot of things that are going to manifest itself over time that you'll be able to back-calculated into, banked oil -- you know, there's a lot of things. But sitting here today, yes, it's possible.

Absolutely.

Q. Were Exhibits -- Pintail Exhibits 1 through 4 compiled by you from the Chesapeake materials and from OCD materials available on their website?

A. Yes.

MR. HALL: At this point, Mr. Examiner, we would offer Pintail Exhibits 1 through 4.

EXAMINER JONES: Any objection?

MR. CARR: No objection.

MR. HALL: And that concludes our direct of Mr. Mueller.

CROSS-EXAMINATION

BY MR. CARR:

Q. Mr. Mueller, do you disagree with waterflooding this project area?

A. No.

Q. You do agree there will be benefits that can be obtained from a waterflood project?

A. Yes, I do.

Q. And you expressed some concern about potential damage to acreage in 14 outside the boundary. You're not suggesting that they defer waterflood operations because the federal government won't lease the land?

A. No, not at all.

Q. Okay.

A. I mean, the question -- could be read back to me by the stenographer -- but is, Could it slightly in the corner? And the answer is, yes, it could, but --

Q. But you weren't recommending there be --

A. No. No, no, no, no, no, no, no --

Q. You did --

A. -- that's a very fair question.

Q. -- you stated you didn't communicate with Chesapeake?

A. That's correct.

Q. If I understood your testimony, there was no point to it, they owned 89 percent?

A. That's pretty much the way I felt, as well as it's a one-on-one arm-wrestle with me against Hulk Hogan. That's a losing proposition.

Q. You did request a continuance?

A. Yes, I did.

Q. And you did get that --

A. Yes, I did.

Q. -- so you did communicate at that level?

You stated you talked to engineers about --

A. Yes.

Q. -- what the appropriate -- but for some reason, you didn't want to talk to Chesapeake's engineer who called you?

A. No, that's -- I needed to have my -- my ducks in a row, for lack of a better -- I needed to have someone say, This is what I do every day, these are consulting reservoir engineers, both of them do primary-secondary -- actually both of them -- having the presence of consulting reservoir engineer companies, because I could be out in left field.

No, I did not. But again, I felt that this was a better forum to have that discussion than over a phone.

Q. And --

A. And again -- and part of it's because of what's come up today, when you get into the iterations of, Well, we'll agree with you, and then we have to send it back out to everybody else. I mean, we can play this certified-mail game for six months, so...

Q. You did receive the feasibility study, did you not?

A. Yes.

Q. And it had a phone number in there, and you could have called Chesapeake?

A. Yes.

Q. And you decided not to do that?

A. Correct.

Q. You thought you'd get better information from other engineers than the engineer in charge of the project?

A. That's not what I said.

Q. Well, did you call the engineer in charge of the project?

A. No, I did not.

Q. Okay. Now, you stated you were surprised there wasn't a working interest owner meeting?

A. Correct.

Q. Do you think that would have been different than talking to Chesapeake one on one?

A. Absolutely.

Q. They still would have owned 89 percent, would they not?

A. Well, depending on how you ultimately allocate the tract factors, but --

Q. But they have still owned the vast majority of the unit?

A. They would have owned the vast majority of the interest. But what happens when you get -- and again, even two engineers don't see eye to eye. But again, when you get several in a room, presuming that the biggest six all sent engineers to the meeting, you get some pretty strong advocates, and you get commonality against a position. And I think that could have been maybe discussed better than one-on-ones.

Q. Other than Chesapeake's ownership position, do

you have any evidence of anything that -- any time Chesapeake refused to talk to anybody about this unit?

A. I don't -- I have -- the other 16 owners, I have no clue.

Q. That's all, thank you.

A. I do not know.

EXAMINER JONES: Mr. Bruce?

CROSS-EXAMINATION

BY MR. BRUCE:

Q. I'm just curious, Mr. Mueller. I mean, have you ever seen, or the people you've talked with seen any unit allocating 40 percent to usable wellbores?

A. No.

Q. Isn't 5 to 10 percent a much more common figure?

A. The -- the one -- one guy I talked to -- And yes, my answer is yes. But also, again, it's a common engineer. The one guy said, If you want to count that it's typically 5 to 10. The other one flat said 10.

I mean, that's what it is. And I can tell you that the person that made the appearance and then didn't show up today was on the same -- because I talked to them, they were on the same horse.

MR. CARR: Are you talking about Pride?

THE WITNESS: No, no, I was talking about Ms. Curry, was for --

EXAMINER JONES: Snow?

THE WITNESS: -- Snow Operating. So they were on the wellbore horse.

Q. (By Mr. Bruce) On these Queen and San Andres waterflood, isn't ultimate recovery a major factor?

A. Typically it is, EUR. And the one thing I didn't quite -- I'm not completely -- I'm glad you asked, because I purely answered my counsel's question. But the EUR lease, the way I looked at it, with the exception of one of the wells, as presented in this green, actually has that incremental secondary involved. One of them does not, which I think is the BG State 3.

But the BG State 2, Quail -- Quail 2, 4, 6, all have -- as drawn out in the back of your feasibility study, actually shows the higher current production rate, which is obviously a response to that dump flood. So these EUR numbers as presented aren't quite correct either.

But I do agree with Mr. Adams, that's opened up a can of worms, so I kind of left those alone. But those could be jiggered too, I mean, because that's -- that's primary, and this dump flood's secondary.

MR. BRUCE: Okay, thank you.

EXAMINATION

BY EXAMINER JONES:

Q. Mr. Mueller, where is Pintail's acreage?

A. Pintail's in tract 3, the Atlantic Richfield.

Q. It's totally tract 3?

A. Yes, which by the way has the highest EUR out there.

Q. Okay, the -- re-entering a plugged well that has had some casing removed -- is your background production engineering, drilling engineering --

A. I've done it all. I've fiddled with everything. I would say I can wear 20 hats at once, probably don't wear any of the 20 fantastically well, but probably get along okay at everything.

But, Mr. -- I'm going to presume where you're going. I'd need to let you ask your question, but Mr. Adams is right. Anytime I'm looking at re-entering a well, particularly of this age -- that's even some of the problem I have with the well count here, because obviously we had an injection well that's had mechanical failure. It looks like, just looking at the production one -- the other wells, again, I'm not a working interest owner, and one of those Quail State wells looked like it failed.

So you've got some integrity problems as is out there because of the age of these wells. Much less why do I want to go and tie on -- regardless of the difficulty of tying on in that -- why do I want to tie on to an old well, you know, and its -- you know, concomitant mechanical

problems -- or probability of problems?

So yeah, I -- that's pretty well *verboten*. I'd spend the money for new.

Q. At 5000 feet deep?

A. Yeah, 5000 feet. We may be talking a better -- different pill to swallow at 9000 or 10,000. But 5000, it's -- any more drilling guys and bits and hydraulics, you can get there quick.

Q. But the actual location itself -- did you do any mapping yourself?

A. No, actually I went in, I started this deal and looked at it and I said how -- and I try to take in everything I do a very middle-of-the-road, what's best, one of those things, it is what it is, you know. I don't try to nuance it and spin it, I just look at it straight up.

And I looked at Mr. Adams' work and it's very, very good. It's -- he did good work. I'm going to presume that the geologist absolutely -- I mean, it's kind of hard when the numbers -- and this pretty simple, shallow stuff, there's not any faulting, there's -- you know, the stratigraphy, all these other things that can make things difficult, it's not apparent here.

So as presented, the study is fine.

Q. Okay, I guess the bottom line is, did you propose any participation --

A. I did, that's my Exhibit C, and I a little bit took the easy way out too in that I did not -- and again for argument's sake, I did not mess with the EUR allocations the way I did with the daily production rate allocation, mainly because the daily production rate allocations is something that anybody in this state with a computer can pull down, and that's public record. There's EUR -- there's some nuance.

Well, I -- I blew off that 10,000, 12,000 barrels of secondary that got tacked onto the primary, let it ride, even though it does -- for those -- for those immediate four wells around that dump -- and Mr. Adams is right, there's a couple of wells that are second tier out that you're seeing -- pretty obvious from a reservoir standpoint that you're seeing response to, you know, after -- after very low pore volume injection.

But anyhow, my Exhibit C, essentially all I did was flip-flop the EUR and the --

MR. CARR: Mr. Examiner, we can't find Exhibit C.

EXAMINER JONES: Okay, it's --

THE WITNESS: It's at the back, okay. It's my Exhibit C at the back of Exhibit 2, is where it is. It's the --

Q. (By Examiner Jones) Okay, so basically you're going from 10- -- on your -- on your tract 3, you -- that

would change it from 10.3 to 14.4?

A. Well, but I -- but I think the better thing, Mr. Examiner, is that really my Exhibit B, which I'm to presume a fact issue that will switch the daily production rate, okay. So -- so my -- so my Exhibit B would be with the correct production ~~date~~ Rate as reported to the NMOCD, was really 11-06.

Q. Oh.

A. So it's page 2 to page 3, is the swing.

Q. Okay.

A. And if I were to take out the secondary it would get higher, but -- I'll let that alone, because it -- just for ease of getting this done. I mean, Mr. Adams is right, you know, every month that goes by, it's a little bit -- little bit of your present value is lost. And it's a good, viable flood. I mean, it's down at low pressures. We've obviously had response off a low pore volume injected. I mean, it's -- it's a very viable, economic flood.

EXAMINER JONES: Okay. Okay, I -- Go ahead.

MR. HALL: That's all I have, Mr. Examiner.

THE WITNESS: Oh, I got -- I got something else.

EXAMINER JONES: Okay, go ahead.

THE WITNESS: We were talking earlier about the Ernst and Young and the overhead rates. I don't know where they are. That's going back to one of my -- it is what it

is.

But you know, Chesapeake said that Read and Stevens called up and they lowered it on a voluntary basis because of the ease of keeping up with -- and monitoring the injection wells on a -- versus -- versus production wells, which is a pretty true statement. There's -- as time goes on, that might get a little bit out of whack.

But you know, I don't -- whatever those Ernst and Young numbers are, there may still need to be a discount to that to -- from a normal producing well, because we do have some injection wells as part of the parameters that's being -- being calculated in.

The other thing which I think needs to be touched on is the $100,000-no-AFE number. Prices have gone up, everything is more expensive. But my offshore wells have a $100,000-AFE spending limit, and I think onshore in a unit, that's just -- that's a lot of latitude that I don't think is really justified.

MR. CARR: Just an additional question.

THE WITNESS: Sure.

FURTHER EXAMINATION

BY MR. CARR:

Q. I want to be sure. The formula you're recommending is 40 percent current volume?

A. Yes.

Q. And that's the same number that Chesapeake --
A. I just flip-flopped two, correct.
Q. Okay, you flip-flopped the next two. Volume went from 10 percent to 40 percent in your calculation, the well count went from 40 percent to 10 percent?
A. Okay, current volume is 40.
Q. Current volume is 40, it was 10, and --
A. It was 10, right.
Q. -- and then well count is now in your proposal 10, and it was 40?
A. Well count is 10, that's right. Pore volume was 10, it is 10. EUR was 40, is 40.
MR. CARR: Thank you.
EXAMINER JONES: Okay, anybody else have anything in this case -- in these cases?
MR. HALL: (Shakes head)
MR. BRUCE: (Shakes head)
MR. CARR: I have a closing, like always.
EXAMINER JONES: Okay, thank you, Mr. Mueller.
MR. MUELLER: Thank you.
EXAMINER JONES: Some closing statements --
MR. CARR: I go last.
EXAMINER JONES: Oh, you want to go last?
Who wants to go first on these?
MR. BRUCE: I'll go first.

EXAMINER JONES: Okay.

MR. BRUCE: Go in reverse order.

Mr. Examiner, I'm going to propose alternative relief. First of all, you know, I think this is unique in the lack of time between submitting a unitization proposal and going to hearing. The proposal letter for the unit was dated August 29th, which -- counting my fingers and toes, was a Wednesday. And then the following Tuesday the Application for unitization was filed.

You know, even in the force pooling proceeding when you're just dealing with one well, the Division likes to see 30 to 45 days pass between a proposal letter going out and an application being filed. Generally in unitization, as their engineer, Mr. Adams, said, it is much more complicated, there are more factors to consider. We're not just looking at acreage.

I just don't think there's been enough time. I think you should deny the Application. There have been insufficient efforts made to obtain voluntary unitization in this case. This would -- the dismissal, of course, would be without prejudice, so they could refile. But there's just not been enough time.

Secondly, as you can see from the exhibits, as to the Pride acreage, the west half, northwest quarter of Section 13, there's not going to be any producing wells on

it, there's not going to be any injection wells on it, why do you need it? Pride Energy would rather develop this acreage -- its acreage, independently, and would request that that acreage be deleted from the unit.

Also, Pride does not believe that the participation formula fairly allocates substances among the unit tracts If you look at the exhibits -- you know, there hasn't been much ultimate from Pride's tract. But when you look at the geologic exhibits, those tracts are as good as any. They're given virtually no credit for their hydrocarbon pore volume.

If neither of the first two requests, either deletion of the acreage or denying the Application, is granted, I think the Division should come up with a more fair allocation formula based on ultimate primary as in the recent Beach Exploration unitization case, or on reservoir pore volume as in the West Lovington-Strawn Unit.

This -- the numbers -- using 40 percent for wellbores -- I've been to plenty of unitization cases before the Division, and I've never seen that factor that high. It's just not reasonable.

And finally, I'd point out, if the Division does grant unitization, under the Statutory Unitization Act the Division does have the authority to approve the unit operating agreement, unlike in the force pooling situation,

and it should exercise its authority to reduce the overhead rates to something reasonable, and also -- also, to deny Chesapeake the right to bill out its geologic and engineer's time to the working interest owners. That's just not reasonable.

Thank you.

MR. HALL: Mr. Examiner, on behalf of Pintail Production Company, we think that Chesapeake needs to start over. There is a procedure set forth in the Statutory Unitization Act.

I agree, I think there's a question whether or not Chesapeake made a good faith effort to secure all of the unit participants' voluntary joinder, their voluntary participation. I think they do need to have a working interest owners' meeting. That was not really attempted.

Further, Statutory Unitization Act requires you to make a finding that the allocation formula proposed by the Applicant results in the allocation of unitized substance on a fair, reasonable and equitable basis. There's a question whether you can make that finding in this case.

By Chesapeake's own admission, the allocation formula they are proposing is arbitrary. I think that phrase was used to describe their own formula several times here today. If it's arbitrary, what the Act directs you to

do is take the available data from the hearing and come up with your own formula.

We would submit that you might refer to Pintail's proposed allocation formula, and I think you can come closer to establishing a fair, reasonable and equitable allocation.

Otherwise, I think the direction from the Division to Chesapeake ought to be, Start over, have a working interest owners' meeting and get it right, then come back to the Division for approval.

MR. CARR: May it please the Examiner, Chesapeake is before you seeking authorization under the Statutory Unitization Act to form an 840-acre unit in the Queen.

It is a reservoir where today there are 12 wells that have a combined total daily production of only 23 barrels of oil per day. It's a reservoir that has been pressure-depleted from 2300 pounds down to 350 pounds.

The owners of 95 percent of the working interest, not just Chesapeake, support the proposal. A hundred percent of the working interest will be committed when the State Land Office gives its final approval, as it has given its preliminary approval.

You know, Chesapeake does own most of this. And there's a plus and a minus in that, because what they're interested in is effectively and efficiently producing the

remaining reserves in this acreage, and this waterflood project is the best way to do it.

So what did they do? They developed a feasibility study, which you have before you, and we invite you to read that to see if that isn't a full presentation of every possible engineering and geologic factor we can pull together to support this Application.

Now they sent it by certified mail to everyone, including the clients of Mr. Bruce and Mr. Hall. They put Greg Adams' phone number in it, and if you have a question, call him.

Well, we did have two calls. We had one from Read and Stevens, who proposed lowerhead [*sic*] overhead and administrative costs, and we agreed. We had another call requesting a continuance, we agreed.

We had no request for a working interest owner meeting, and that is not standard and -- or required by statute.

We had no proposals to change any factor, other than what they brought to you today. No change was recommended to us in the participation formula.

But what they've done is come in -- and they like to do it here, because their objective is not changing the formula, it's trying to delay, trying to prevent this from going in. And the result is delay, costs us, and

ultimately them, money.

If you look at the Statutory Unitization Act, I wrote the Statutory Unitization Act. It was designed to enable people to combine tracts for the purpose of enhanced recovery operations. It was not designed to give somebody with an edge tract, like Pride, an opportunity to either veto the project or sit on the edge and get the benefit of somebody else's waterflood project.

This is not something that is done by consensus, it is done because you are a conservation agency and you decide this is a good project and it prevents waste.

And so how do we get there? We make a good faith effort.

Now I think it's one thing that gets carried -- people get carried away with in these hearings, and it's happened in this same situation before. They forget that good faith is a two-way street. If you ask someone to call you if they have concerns and they don't, I don't think that's good faith.

But I think when you do what Chesapeake has done, put together this feasibility study, sent it to people like -- people like Snow, who own less than .2 of 1 percent, have your engineer sit down and talk with them, invite them to comment and question and have a record in this case of having gotten two comments and responded completely to

both, I think you have good faith.

I think when you send this to Pintail, when you call them about it and they don't return your call, when they ask you to continue your case so they can look at it and you do, when you call them and they don't return your call so you send someone to their office and they're busy, so they call you three days later and they don't talk about this report, they talk about trout fishing and say they need an engineer, so you have your engineer call, and he calls them at home and he calls them at work, and they don't call back, because their strategy is to call some of their friends who are engineers instead of the engineers who are responsible for the project, and then come here and say our formula figures are arbitrary, and all they do is switch 40 for 10 and 10 for 40, they are arbitrary for us, they are arbitrary for them.

And the Statutory Unitization Act does say you can rewrite the formula based on the record before you.

Mr. Examiner, this is the record before you, not somebody else's numbers that they just lay out without technical support. You can't change the formula. The record in this case will not support it.

What is just, fair and reasonable is a formula that, if you look at Pintail's tract and you compare it to the best tract, the one with 9 barrels a day, the tract in

which Pintail has an interest -- which incidentally we own 66 percent of, not trying to screw anybody, we'd screw ourselves -- but that 40-acre tract produces 3 barrels a day. The tract that's so good produces 9 on 120 acres. When you divide that out on a per-acreage basis, they are the same.

And then you have a 40-acre factor for usable wellbores. The 120-acre tract has two, the 40-acre tract has one. On that score, the Pintail tract gets a higher value even per acre than the tract that has 9 barrels a day coming from it.

I submit to you that the formula is just, it's fair and it's reasonable.

And to come in say, Oh, well, start over -- That's a typical thing. Go back, look at EnerQuest. That's what happens when you really don't have anything else to say.

But the most amazing thing is that you would come in, then, and start saying, Oh, well, you ought to look at things like the hydrocarbon pore value, which we did in the West Lovington-Strawn.

Go back and look at that case. Do you know what happened with hydrocarbon pore volume in that case? They couldn't get Phillips to ratify until the geologist reworked it and gave them more hydrocarbon pore volume.

That's the kind of gamesmanship you get when you start fooling around with these factors.

We took those that are reliable, that you can depend on, and that work, and we have presented to you an Application that complies with statute, following a good faith effort with a fair, just and reasonable formula, and we ask you to act not like somebody who mediates a compromise but somebody who does their duty under the Oil and Gas Act and approves the Application.

EXAMINER JONES: Thank you, Mr. Carr, Mr. Bruce --

MR. BRUCE: Thanks for working through lunch.

EXAMINER JONES: -- Mr. Hall. That's all right. I've got lots of extra lunches here anyway.

With that we'll take -- we will take Case 14,001 and Case 14,002 under advisement.

And that being the last cases on this docket, this hearing will be adjourned.

(Thereupon, these proceedings were concluded at 2:40 p.m.)

* * *

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. _____ heard by me on _____.

_____, Examiner
Oil Conservation Division

CERTIFICATE OF REPORTER

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

I, Steven T. Brenner, Certified Court Reporter and Notary Public, HEREBY CERTIFY that the foregoing transcript of proceedings before the Oil Conservation Division was reported by me; that I transcribed my notes; 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 November 4th, 2007.

STEVEN T. BRENNER
CCR No. 7

My commission expires: October 16th, 2010