IN THE MATTER OF THE HEARING CALLED BY THE OIL CONSERVATION DIVISION FOR THE PURPOSE OF CONSIDERING:

APPLICATION OF CONOCOPHILLIPS COMPANY FOR REAUTHORIZATION OF THE VACUUM GLORIETA EAST UNIT WATERFLOOD PROJECT AND TO QUALIFY SAID PROJECT FOR THE RECOVERED OIL TAX RATE PURSUANT TO THE NEW MEXICO ENHANCED OIL RECOVERY ACT, LEA COUNTY, NEW MEXICO.

CASE NO. 14964

ORIGINAL

REPORTER'S TRANSCRIPT OF PROCEEDINGS

EXAMINER HEARING

BEFORE: DAVID K. BROOKS, CHIEF EXAMINER
RICHARD EZEANYIM, TECHNICAL EXAMINER
PHILLIP GOETZE, TECHNICAL EXAMINER

March 7, 2013

Santa Fe, New Mexico

This matter came on for hearing before the New Mexico Oil Conservation Division, David K. Brooks, Chief Examiner, Richard Ezeanyim, Technical Examiner and Phillip Goetze, Technical Examiner, on Thursday, March 7, 2013, at the New Mexico Energy, Minerals and Natural Resources Department, 1220 South St. Francis Drive, Porter Hall, Room 102, Santa Fe, New Mexico.

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APPEARANCES

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EXHIBITS OFFERED AND ADMITTED

REPORTER'S NOTE: Exhibit Number 1 was not provided to the court reporter and is not attached to this record.

(1:32 p.m.)

EXAMINER BROOKS: Call Case Number 14964, application of ConocoPhillips Company for reauthorization of the Vacuum Glorieta East Unit Waterflood Project and to qualify said project for the recovered oil tax rate pursuant to New Mexico Enhanced Oil Recovery Act, Lea County, New Mexico.

Appearances?

MR. RANKIN: Good morning, Mr. Examiner. Adam Rankin on behalf of ConocoPhillips. With me today is Jeff Kendell, of Holland & Hart.

MS. MUNDS-DRY: Good afternoon. Ocean Munds-Dry with COG Operating, LLC.

I have no witnesses.

MR. RANKIN: Mr. Examiner, we have three witnesses today.

EXAMINER BROOKS: Witnesses please stand and identify yourselves.

MR. RANKIN: Mr. Simon Choi of ConocoPhillips Company; Mr. Tom Scarbrough of ConocoPhillips; and Mr. Doug Pecore.

EXAMINER BROOKS: Will you swear the witnesses?

(Mr. Choi, Mr. Scarbrough and Mr. Pecore sworn.)

MR. KENDALL: Mr. Examiner, we'd like to call Mr. Tom Scarbrough as our first witness.

EXAMINER EZEANYIM: What is your name?

MR. KENDALL: Jeffrey Kendall, sir.

(Discussion off the record.)

TOM SCARBROUGH,

after having been previously sworn under oath, was questioned and testified as follows:

DIRECT EXAMINATION

BY MR. KENDALL:

Q. Will you please state your full name for the record?

A. My name is Tom Scarbrough.

Q. By whom are you employed?

A. ConocoPhillips Company.

Q. And where do you reside?

A. In Houston, Texas.

Q. And what is your current position with Conoco?

A. I'm a staff landman with ConocoPhillips.

Q. How long have you been employed there?

A. With ConocoPhillips, 22 years, sir.

Q. Now, have you previously testified before the Oil Conservation Division?

A. Yes, I have.

Q. And have your credentials as an expert

petroleum landman been accepted as a matter of record by this Division?

A. Yes, they have.

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

A. Yes, I am.

Q. How long has your work related to this Vacuum Glorieta East Unit?

A. For six years now.

Q. And have you prepared exhibits for presentation at today's hearing?

A. Yes, I have.

MR. KENDALL: Mr. Examiner, I'd like to tender Mr. Scarbrough as an expert petroleum landman.

MS. MUNDS-DRY: No objection.

EXAMINER BROOKS: So qualified.

Q. (BY MR. KENDALL) Mr. Scarbrough, will you please briefly state what ConocoPhillips seeks in this application?

A. ConocoPhillips is seeking five things with this application: First, a reauthorization of the Vacuum Glorieta East Waterflood Project, which would supersede all previous orders relating to the injection and waterflood operations in this unit.

Secondly, we are seeking injection

authorization retroactive to the first injection for 11 injection wells within the Unitized Formation of the Vacuum Glorieta East Unit. Seven of the injection wells are currently in service, and there are four wells that have recently been drilled that we will be seeking authorization to inject into.

The third thing that ConocoPhillips is seeking is the provision that the injection packers and all future injection wells in the waterflood be set as close as practical to the current injection wells -- I'm sorry -- as close as practical to the uppermost injection perforations, or the casing shoe within the Unitized Formation.

The fourth thing is exception from the hearing requirements for the drilling or conversion of the additional wells for injection into the unit.

And the fifth item that we are seeking is qualification for the recovery oil tax rate for enhanced oil recovery pursuant to New Mexico Enhanced Oil Recovery Act.

Q. Mr. Scarbrough, in this case, what is the Unitized Formation you just referred to?

A. The Unitized Formation is the Glorieta Formation. You can see on the exhibit that I prepared, the area outlined in blue is the geographic extent of

the Vacuum Glorieta East Unit for the Glorieta Formation. The definition of the Unitized Formation for the Vacuum Glorieta Unit actually comes from Order R-10017, which was approved in November of 1993, and it's defined as "the stratigraphic equivalent between the top of the Glorieta Formation and the base of the Paddock Formation," with the Vacuum Glorieta Pool within the unit boundaries.

Q. And, Mr. Scarbrough, is this unit under a voluntary unit agreement?

A. It is a voluntary unit agreement under Order 10017.

Q. And what is the status of the land on which the proposed injection would occur?

A. All of the acreage in the Vacuum Glorieta East Unit is state land.

Q. Now, is this an expansion of an existing project?

A. Well, it's actually a reauthorization of the waterflood -- I'm sorry -- waterflood project that expires under its own terms according to the Division rules. We are seeking authorization for the seven existing injection wells, and for the four new wells, we are seeking approval for injection.

Even though we're seeking reauthorization

of the waterflood portion of this, it's actually new. It's not the same waterflood project we had approved back in 1993. The difference is, we're seeking different conditions relative to the packer settings and hearing requirements.

Q. Mr. Scarbrough, why is reauthorization needed here?

A. Well, the original waterflood order has expired. It was approved by Order 10020, dated November 23, 1993. Of course that authorization has expired. ConocoPhillips has, in fact, been injecting in the seven wells since September of 2005 and has operated the VGEU as a waterflood since that time.

Q. Will somebody be explaining the history of the unit to that?

A. Yes. ConocoPhillips' Senior Reservoir Engineer, Doug Pecore, will go into that in further detail.

Q. What are the three main things this reauthorization will accomplish?

A. Well, number one, we want to supersede all previous orders related to the injection waterflood operations in the unit; number two, allow for the establishment of uniform requirements throughout the field; and number three, to provide a uniform baseline

for future waterflood expansion, which would result in recovery of unrecoverable oil and thereby preventing waste and protecting correlative rights.

Q. Now, Mr. Scarbrough, will you turn back to the unit map, which is marked as Exhibit 1, and review it for the Hearing Examiners, please?

A. This map, again it shows the boundaries of the Vacuum Glorieta East Unit. That is designated by the blue shading. The unit is a little over 4,300 acres. There are 68 producing wells in the unit. There are 11 injectors. As I mentioned before, seven are currently in service and the four newly drilled wells are going to be proposed as injection wells.

Q. In this case, Mr. Scarbrough, to whom has notice of this application been provided?

A. We've provided notice to all of the working interest owners within the Vacuum Glorieta East Unit; also to the offset operators of any Glorieta producing wells within a one-half mile radius of the unit boundary; also to offset leasehold owners within a one-half mile radius of the unit boundary; and also to the State Land Office as the surface owner.

Q. Now, Mr. Scarbrough, will you turn to what is marked as ConocoPhillips Exhibit 2, please? It will be the first packet there. Are you with me? So does

Exhibit 2 contain an affidavit prepared by my law firm that notice of this hearing was provided to affected parties you identified in accordance with Division rules?

A. Yes, it does.

Q. And does Exhibit 2 contain sample letters that were sent to the affected parties?

A. Yes.

Q. Does Exhibit 2 also contain a list of the notified parties?

A. Yes, it does.

Q. Does Exhibit 2 contain signed certified mail receipts received?

A. Yes.

Q. Mr. Scarbrough, were there any returns?

A. There were several returned letters, including one from Chevron, who is the offset operator in the Vacuum Glorieta West Unit. That was a surprise to us. We've had multiple conversations with them, and we work with them regularly. And so we did receive -- their notice letter was returned to us.

Q. Mr. Scarbrough, for the Examiners, will you explain the process for obtaining the mailing addresses that were used?

A. Yes. We hired a third-party consulting land

company to research and verify the offset operators and offset leasehold owners through the records of the State Land Office, again all the acreage in the Vacuum Glorieta Unit and surrounding State of New Mexico lands. The notices were provided in accordance with the addresses which were of record in the State Land Office.

Q. Mr. Scarbrough, will you explain in greater detail the communication with Chevron, particularly the communication with Mr. Lee Ivanhoe, the reservoir engineer with Chevron in the Vacuum?

A. Yes. Upon notice that their letter had been returned, our ConocoPhillips reservoir engineer spoke with Mr. Lee Ivanhoe, who is a reservoir engineer for Chevron. He works the Vacuum field. Mr. Ivanhoe stated, in response to an e-mail, that Chevron has no objection to this application; in fact, it supports ConocoPhillips' efforts for reauthorization of the Vacuum Glorieta East unit.

Q. Were Exhibits 1 and 2 prepared by you or compiled under your supervision?

A. Yes, they were.

MR. KENDALL: I move for admission into evidence ConocoPhillips Exhibits 1 and 2.

MS. MUNDS-DRY: I have no objection, Mr. Brooks.

Ask if I may get, from Mr. Kendall or Mr. Rankin, a copy of Exhibit 1.

EXAMINER BROOKS: Exhibits 1 and 2 will be admitted.

MR. KENDALL: Pass the witness.

MS. MUNDS-DRY: I have no questions for Mr. Scarbrough.

(ConocoPhillips Exhibit Numbers 1 and 2 were offered and admitted into evidence.)

CROSS-EXAMINATION

BY EXAMINER BROOKS:

Q. You have another witness that's going to tell us about the history of this, right?

A. Yes, sir.

Q. It concerns me that -- it sounds like you're operating these wells without permits at present. Is that a correct characterization?

A. As to the seven, I would say yes.

Q. That's kind of what I thought.

EXAMINER BROOKS: I don't have any further questions.

Mr. Ezeanyim?

CROSS-EXAMINATION

BY EXAMINER EZEANYIM:

Q. I think that's important as well, because this

application was approved by Order, as you said -- let me get the order number -- 10020 in 1993 or something. Okay? In 1993, this order was issued. Did you ever operate that unit since you got this order? Did you?

A. ConocoPhillips did operate the unit, yes.

Q. From what time to what time?

A. From the initial inception of the unit until current day.

Q. Okay. Now, when did the operation or injection stop here, or are you still injecting?

MR. RANKIN: Mr. Ezeanyim, the next witness will go into great detail on the history of the authorization of these injection wells, so I think your questions may be better addressed by him.

EXAMINER EZEANYIM: Yeah, that might be better. Okay.

You are land, right?

THE WITNESS: Yes, sir.

EXAMINER EZEANYIM: Let's defer that to someone who can answer that question. We can ask that question because they are very important.

CONTINUED CROSS-EXAMINATION

BY EXAMINER EZEANYIM:

Q. On land issues, now what -- what are you doing with the vertical extent [sic] of this unit? The

vertical unit, is that from the top of the -- the Paddock?

A. Yes, sir.

Q. Well, you are not going to request packer? You talked about setting packers, and you to want set packers. Where do you want them to be set?

And I want you to talk about why you want this reauthorization after it appears that you violated that order and continued injection. Why do you want to reauthorize this permit now? Is it because it is expired? I don't see any expiration on this order. Why are you trying to reauthorize it?

A. Well, it was realized recently that the order had expired even though we had subsequently been -- been injecting into the seven wells. As I said, we now have four additional wells that we would like to inject into. And so certainly one of the purposes of this discussion is to basically get an order reauthorized and bring all of these wells back into full compliance.

Q. I didn't know it expired. I don't see any expiration date here. There is no expiration date on this order.

MR. RANKIN: Mr. Ezeanyim, I think we will explain the history and how it came to be that it was understood that the injection authorization for the

waterflood had expired.

EXAMINER EZEANYIM: Okay. Because I looked, and I don't see anything on the injection, when it expired. It's not the issue, but I want to know why you want to reauthorize it.

Q. (BY EXAMINER EZEANYIM) You mentioned three things why you want to reauthorize this injection.

A. Right. Right. Well, again, we want to get into full compliance. We're seeking an order that would supersede any previous orders relating to injection and waterflood operations in this unit. The second point is the establishment of uniform requirements throughout the fields of injection, and the third would be to provide uniform baseline for future waterflood expansion in the unit.

Q. Well, I see a lot more questions, but we can explore them as we go. Okay. I think that's all I have for you. Maybe you'll be recalled if something comes up about land. Thank you.

EXAMINER BROOKS: I have no questions.

No further questions?

MR. RANKIN: No further questions.

EXAMINER BROOKS: The witness may stand down.

Call your next witness.

MR. RANKIN: Mr. Examiner, I'd call our next witness, Mr. Doug Pecore, reservoir engineer of ConocoPhillips. Mr. Pecore has prepared a presentation which he will be referring to during his testimony.

EXAMINER BROOKS: What was that name?

MR. RANKIN: Pecore, P-E-C-O-R-E.

EXAMINER BROOKS: Okay. Thank you.

DOUGLAS W. PECORE,

after having been previously sworn under oath, was questioned and testified as follows:

DIRECT EXAMINATION

BY MR. RANKIN:

Q. Mr. Pecore, can you please state your name and spell it for the record?

A. Douglas Wilkin Pecore, P-E-C-O-R-E.

Q. By whom are you employed?

A. ConocoPhillips.

Q. And where do you reside?

A. In Houston, Texas.

Q. What is your current position with Conoco?

A. I am a staff reservoir engineer for the Vacuum fields, Conoco-operated Vacuum fields.

Q. Have you previously testified before the Division?

A. I have not.

Q. Can you please briefly summarize your education and work experience as a reservoir engineer?

A. Absolutely. I have -- well, I'll start with the education. I have a Bachelor of Science in Petroleum Engineering from New Mexico Tech in Socorro. I have a Master's in Petroleum Engineering from Texas A&M, and I have an MBA from Texas A&M as well.

Work experience is 17 years, overall, in the energy industry, 12 of those as a petroleum engineer, all for ConocoPhillips, and two years' experience with the Vacuum assets, specifically.

Q. And what are your responsibilities, generally, with the Vacuum area?

A. Primarily managing the reserves, budgets, constructing and executing the development plans and exploitation of the reserves.

Q. And you are familiar with the application that was filed in this case and the C-108 that was prepared?

A. Yes, I am.

Q. And did you oversee the preparation of the C-108?

A. Yes, I did.

Q. And have you also prepared exhibits as well, in addition, for presentation at today's hearing?

A. I have.

MR. RANKIN: Mr. Examiner, I would like to tender Mr. Pecore as an expert reservoir engineer.

MS. MUNDS-DRY: No objection.

EXAMINER BROOKS: So qualified.

Q. (BY MR. RANKIN) Mr. Pecore, can you please turn to what's been marked as Exhibit Number 3? And on the slide, for purposes of the Examiners, tell us a little bit about the Vacuum Glorieta East Unit.

A. So these exhibits in your paper copy are going to follow the presentation.

On the upper, left-hand corner, we have a geologic setting map of the overall Permian Basin highlighting some of the structural features. The Vacuum field is located, as you can see, on the shelf margin of the Northwest Shelf, where the star is here (indicating). And to the left of that is a strat column indicating the Glorieta and the Paddock Formation. Here shaded in blue and outlined in red, this is the Unitized Formation that we are discussing today for the Vacuum Glorieta East Unit. These are all Permian-age rocks, and we've been operating the unit, as Mr. Scarbrough said, since the unit was conceived.

On the right-hand side is a plot of the rate time history of the production for the unit dating all the way back to field discovery. The green line is

oil production in barrels per day. The red line curve is the gas production MCF per day, and the blue line is water production and barrels of water per day.

And you can see that as the field was discovered and developed, oil production ramped up, and then went on the decline, which is very common for depletion drive reservoirs of Permian age. We did institute an infill drilling program in 2005, 2006, which added quite a bit of daily production. We also began -- in 2011, put on an additional six wells on injection and reactivated some old wellbores, TA and PA wellbores, that added this little kick in the end here, this little bump in the last two years.

Current production in VGEU today is 980 barrels of oil per day, 250 MCFs of gas a day and 26,000 barrels of water a day, typical Permian high-water-cut reservoir under depletion drive. The current VGEU injection rate is just under 10,000 barrels a day.

Q. The next slide, Mr. Pecore, is more detail on some of the properties relating to the VGEU; is that correct?

A. That's correct.

Q. Can you give us a little more detail briefly?

A. So we have 68 active oil and gas producers. We have 11 injectors. Seven of those 11 are active. Four

were drilled in December of 2012. They're waiting on permit. Unit ownership is just below 35 percent for ConocoPhillips. XTO has about 65 percent, and a very, very small interest is made up of two other partners.

"Reservoir Properties." I'm not going to read the entire list, but the take-away from the reservoir properties' section is that original reservoir pressure is 2,200 pounds; bubble point is 1,300. We are currently operating below bubble point. So the current reservoir pressure is below 1,331.

EXAMINER EZEANYIM: Do you know what it is?

THE WITNESS: Depletion.

EXAMINER EZEANYIM: I mean, do you know what that reservoir pressure is.

THE WITNESS: Yes. I have a graphic to show you what the reservoir pressure is.

Q. (BY MR. RANKIN) Mr. Pecore, just to interject, you mentioned that you're waiting on a permit. The permit that they're waiting on is this authorization to inject; is that correct?

A. That's correct.

Q. And we'll get to an explanation of how that came to be shortly; is that correct?

A. Correct.

Cumulative oil production today is just

over 50 million barrels of oil, 50 BCF of gas, 92.4 million barrels of water. And so far, we have injected 13 million barrels of water.

Q. On the next slide, Mr. Pecore, is a more detailed history of the authorization and permit history for the unit; is that correct?

A. That's correct.

Q. Can you briefly review for the Examiners the history we're talking about?

A. Yes. So the field was discovered in 1963, and it was so named the Vacuum Glorieta Pool. Even though it included both the Glorieta and Paddock, it was named the Vacuum Glorieta Pool. The field was unitized in 1990 under voluntary order of the working interest partners and the NMOCD. The unit agreement forming the unit was approved by Order R-10017, November 1993.

The original waterflood project was approved by Order R-10020, November 23rd, 1993, and at that time, it permitted nine existing injection wells, plus 39 wells to be drilled at some point in the future. Some of those wells have been drilled, but they were drilled as producers, not as injectors. So the original waterflood plan that was conceived back in that original order never came to fruition.

Infill drilling for producers began in

2005. We had some good success and found quite a bit of depletion.

The first injection began in the 39-03 in September 2005. The next six injectors were put online after a lengthy conversion program and reactivation program in May of 2011.

And in December 2012, as I said before, we drilled an additional four injectors. I'll show you why, but those essentially filled out the interior waterflood patterns that -- the reactivation of those wells failed conversion.

Q. And on your slide there, Mr. Pecore, you also have a background of the orders that were -- the administrative orders that were approved relating to this unit. Can you explain how the first injection in September 2005 came to be, and how it relates to the orders that were approved?

A. Okay. By Order SWD 937, it authorized injection of the VGEU 38-03 as a saltwater disposal well. This was initially deemed a pilot project. And then five years after that, we permitted -- or we asked for approval of WFX-856, entered in December 7th, 2009, for authorization to inject into nine wells. Three of those failed conversion, and, therefore, only six wells actually made it to injection. And those six wells are

currently on injection today.

We decided to add -- with WFX-865, we decided to add two more wells to that project. Unfortunately, those did not pass the mechanical integrity test upon conversion attempt, and that was the VGEU 32-2 and the VGEU 32-3, and those wells have been P&A'd.

Q. Now, Mr. Pecore, all these administrative applications were filed as an expansion of the initial waterflood; is that correct?

A. That's correct.

Q. So can you explain how it came to be that you were made aware that the waterflood had actually expired and that these subsequent administrative orders were suspect?

A. So as we applied for authorization to inject with the -- with the four recent new drills, it was determined at that time that the length of time that passed when we got waterflood authorization initially to the time that first water was actually injected in the ground was more than 12 years. And so with the EPA's UIC regulation stating that it has to be done within a 12-year period, we missed that window. And we were unaware of that expiration of that original order throughout the years. So it was not until October that

we figured out, under y'all's advisement, that we no longer had a valid waterflood project, and it was best that we re-apply.

EXAMINER BROOKS: Go ahead.

CROSS-EXAMINATION

BY EXAMINER EZEANYIM:

Q. That's what I was wondering, and I wanted to ask. It's becoming clearer, but there are some things that -- let me ask this, since we are on this line.

You obtained this permit in 1993. Your fourth injection was in 2005, right? So what happened between 1993 and 2005? Nothing?

A. Right. So a number of factors led to the inactivity that is so obvious. Low oil prices during that time contributed to that; a relatively low working interest of ConocoPhillips in the Vacuum Glorieta East Unit; discussions and disagreement with partners over cost and development plans. And then finally, the activity in the unit directly above the Vacuum Glorieta East Unit, the EVGSAU, which is a CO2 tertiary project, took all the capital and all the time, to be perfectly honest. So our attention was in the unit above during that time frame.

Turnover in management, employees, the 12-year requirement was lost on the team, and we were

not aware that the authorization was expiring.

Q. Okay. Very good.

Go to the order. Forget about SWD. What date -- I don't see dates when you got the WFX-856.

A. 856 was authorized in December 7th, 2009. 865 was entered May 25th, 2010, and WFX-884 was April 28th, 2011.

The need for 884, which was a reauthorization of those original -- or the 11 subject wells was, the reactivation and conversion activity took so long, because the wellbores were not cooperating, that the two-year permit allowance ran out during our conversion activities. So to be on the safe side, we re-applied for authorization. And hence, the 884 was the same wells that you see in the above orders, simply reauthorized, because our permit had run out.

Q. Okay. The WFX-856 nine wells, did you drill them, or what happened with those?

A. Those were current existing wellbores.

Q. That are going on --

A. And we converted those, yes, six -- six pass conversion, and those are active injectors today.

Q. The other three failed?

A. The other three failed.

Q. What did you do with them?

A. They are pending P&A. So we have applications to the district office.

Q. Very good.

Go to 865. What happened there?

A. Those wells we wanted to add to the patterns, and they did not pass mechanical integrity.

Q. So those two wells are not being used?

A. That's correct. One's been plugged, and one's pending.

Q. And the eleven wells you got in 2011, what's happening with them?

A. Right. So the six that actually passed in Order 856, plus the 38-03, which was the 937, the very first order, so that takes us up to seven, plus the four, is the 11. You see there?

Q. Oh, okay.

CONTINUED DIRECT EXAMINATION

BY MR. RANKIN:

Q. Mr. Pecore, just to be clear, would you also please explain for the Examiners how it came to pass that you were made aware of the expiration of the waterflood and the communication you've had with the Division since that time, and how that's progressed to this point?

A. So as we found those four wellbores that were

failing the conversion activity, we made a decision at that time for the integrity of the waterflood project to halt conversion activities on four wells that were in the heart of our waterflood pattern. We decided to redrill those as brand-new injectors because of containment. And so we applied for APDs and received those, and we applied for authorization to inject in those new drills.

At that time, we were notified that the waterflood order had expired. We came to meet with the Commission in November of last year, and it was decided at that time that we would simply go through the C-108 process from the beginning and, essentially, start over with the reauthorization. So that's what we've been doing for the last three months.

Q. And, Mr. Pecore, as precedent for this sort of reauthorization of the waterflood, in your discussions with the Division, has this been undertaken before with the Texaco waterflood, as you understand?

A. With the Vacuum Glorieta West?

Q. I believe it was -- I'm actually not sure which unit it is, but I believe there's precedent in the Division for reauthorization when there's been an incident where it has expired.

A. I'm not familiar with that.

Q. Mr. Pecore, on your next slide, one of the issues that came up in the original order and attached to that order was an exhibit labeled "Exhibit B," and this exhibit identifies some wells that were identified in the original order as having some potential issues as offsetting wells?

A. Correct.

Q. Could you just please review for the Examiners these wells and any issues determined through your evaluation that might be impacted by the current application?

A. Yes, I will.

So what you see on the table at the top of the slide are the six wells that were identified in 1993 as needing additional investigation to make sure there was adequate cement coverage.

So the top three were identified in a letter, December 9th, 1993, subsequent to the granting of the waterflood order that I got off the NMOCD Web site. It states that State E Number 2, Santa Fe 125 and the Vac Abo 14-02, in fact, did comply, under further investigation, with the provision of the order, and therefore they were released from Exhibit B status, if you will.

Now I'm going to talk about the next three

wells, the NM "AB" State Number 4, the Vac Abo 14-3 and the Vac Abo 9-5. So the NM "AB" State Number 4 is now operated by Chevron in the Central Vacuum Unit as a San Andres producer. It was plugged back in the Abo in 2011. The Paddock and Glorieta Formations were never perforated or produced.

I have a wellbore schematic on the next page. This was also taken off the NMOCD Web site. The initial cement calculation gave pause to the Commission at top of cement at 6300 feet, right here (indicating). That was the original calculated top of cement. I did some more investigations with all the data that was provided on the Web site with the job that was actually pumped, and what we have here is a four-and-a-half inch liner hung off the intermediate casing, down to TD of 9080. The liner was cemented in place in two separate stages. We had a lead stage of 350 sxs, and plus a top squeeze, 200 sxs of cement at the liner lap here (indicating), to make sure that they had sufficient coverage.

I recalculated the top of cement with 550 sxs of cement in the calculation, and here's the calculation (indicating) using a Class H neat yield and a wellbore schematic realities here of four-and-a-half inch liner and a six-and-three-quarter inch hole. I

calculated a top of cement 5909, which brings it up here (indicating). And the top of our injection interval stratographically equivalent would be 6100 feet, so down here (indicating).

So if you recalculate what was actually pumped, you do have cement coverage across the interval of injection.

EXAMINER EZEANYIM: What is this well doing now?

A. This well is currently -- there is a cast-iron bridge plug here (indicating), and it currently is a San Andres producer way up-hole. So the lower zone has been permanently abandoned.

EXAMINER EZEANYIM: So you converted it into a producer?

A. Chevron has converted it into a San Andres producer, and it was in the unit, central back in the unit.

EXAMINER BROOKS: Where is the injection zone in this diagram?

A. It would be in here (indicating).

EXAMINER BROOKS: What are the footages in the injection zone?

A. So the injection interval would be approximately 6,100 feet to 6,300 feet.

CROSS-EXAMINATION

BY EXAMINER EZEANYIM:

Q. Did you use any accepted [sic] factor in calculating top of cement, because, you know, as you know, those calculations --

A. I used a 75-percent --

Q. What did you use -- what did you say?

A. I used a 75-percent factor.

Q. 75 percent. Okay.

We don't know that -- what are the 5909? Is it the same as 6100 because of the calculation? If you have a cement pump log, you test that. That might be more accurate. But anyway, let's not argue that.

I want you to address these six problem wells.

A. I will. Let me --

Q. This one has gone to producer, right?

A. Let me show you on the next slide the proximity of these six wells in relation to our 11 current injectors -- current and proposed injectors.

So what you have here (indicating) is a one-mile radius around this injector and a one-mile radius around this injector (indicating). And here, this well, this well, this well, this well and this well and this well (indicating), are the six Exhibit B wells.

Three of those have been released because further investigation indicates that there was some coverage crossing.

Q. Who released them?

A. It was a letter from the NMOCD to our reservoir engineer at Phillips Petroleum.

Q. Did you ask for the release, or we just released it?

A. We -- after the testimony at that hearing, additional information was provided to the Commission, and they did their own assessment of adequate coverage. And it was deemed by the Commission that there was enough to release these wells from suspicion.

Q. Who are you calling "the Commission"? Are you talking about --

A. The NMOCD.

Q. The Division? You're talking about --

A. The Division.

Q. Okay. Now, is that in the district offices or here in Santa Fe?

A. I have the letter. I can --

Q. I would like to see the letter, because I need to know.

So now we can cross the three wells out if we have approved them. Then there are maybe three,

including the one that is not being produced by --

A. Chevron.

Q. -- Chevron. Then we still have two.

A. Right. So here is the Chevron well (indicating), and here is 14-03, which is right here (indicating). This is outside the one-mile radius, around the closest injector. This well (indicating) has actually been P&A'd many years ago. I do not have a bond log or a temperature survey to prove whether or not that actually had cement coverage. But it is outside the unit boundary -- arguably almost a half mile outside the unit boundary and more than a mile from the closest water injector and VGEU.

Q. Okay. And you addressed all this information on your Form C-108?

A. Yes.

Q. You prepared Form C-108?

A. (No response.)

Q. That well that you said is plugged and abandoned, are we going to see it on the Form C-108?

A. Yes. It will be in the --

Q. Is Exxon the producer? Who did you say that was?

A. Chevron.

Q. Okay. Chevron. Okay.

Now, on the -- we still have one well, too?

A. Yeah, we still have one well. The Vac Abo 9-5 is right here (indicating), more than a mile away from the closest injector as well. It produces from a deeper horizon. I do have a bond log and a temperature survey that indicates there is cement coverage above the injection interval. I have that with me, and I can present that as evidence as well.

Q. And you are doing this in relation to the 11 wells you are going to be injecting into. Is that the only 11 wells you are going to use? Are you going to drill new injectors?

A. At this time, that is the -- the 11 is all we're going to -- we're going to propose, but that doesn't mean in the future, as the waterflood matures or evolves, that we wouldn't add more.

Q. I just wanted to make sure.

A. But right now, that's all we have on the radar screen.

Q. You are just trying to address those six wells, the problematic [sic] well, in addition to the 11 wells you have?

A. Right.

Q. Okay.

A. Right.

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And the only one I do not have evidence of or calculations to support the coverage is the 14-3 down here (indicating), more than half a mile outside the unit.

Q. Is this because it's outside the one-mile --

A. No. It's because it's already been P&A'd, and the data is very old.

Q. Okay. So I can see the P&A diagram?

A. Yeah.

Q. Okay. That's all you need, if you've already plugged and abandoned.

A. Right.

Q. That's all.

CONTINUED DIRECT EXAMINATION

BY MR. RANKIN:

Q. Mr. Pecore, just to be clear, the radius you've drawn on this map is a one-mile radius; is that correct?

A. Yes.

Q. And under the rules of the Division and the area of review, each injection well is a half a mile area; is that correct?

A. That is correct.

Q. Now, just before we proceed to the rest of the application, I just wanted to make clear some of the bases for Conoco's application today. Can you please

explain to the Examiners, as a result of your communications with the Division, why it is that we're here today with this application, what it is you're actually seeking, in summary, today? I mean, some of the reasons are, for example, as I understand, that, first of all, you need authority to operate the waterflood?

A. Yes. We need clear authority to inject pursuant to the waterflood order. We need to have uniform rules governing this waterflood, and we also need flexibility to locate the packers within the Unitized Formation, even if that's above 100 feet.

Q. And you've overseen and supervised the preparation of the C-108 application; is that correct?

A. That's correct.

Q. And that's been marked as Exhibit Number 9; is that right?

A. Yes.

Q. Mr. Pecore, can you please turn to C-108, Exhibit Number 9? Does this C-108 application contain everything that the Division requires?

A. Yes, it does.

Q. And can you please just breifly walk us -- it's a rather large C-108. Can you briefly walk us through in relation to the tabs, what is contained in

the C-108?

A. Yes, I will.

So tab one in the C-108 is simply an overview of the application.

Attachment number one at tab two in the C-108 is a list of the 11 injectors, followed by the C-102, which is the injection well data sheet, the well schematics for each of the proposed 11 wells, injectors; so such examples of the items contained in well schematics providing all required information on well design, casings, cement, tubing, packers and perforations.

Behind each well schematic is a map for each injection well showing all the offsetting wells within a one-half mile area of review. That's tab two, the section on tab two.

Attachment number four to the C-108, behind tab number four --

EXAMINER BROOKS: It's very small print.

A. Yeah.

-- is the tabulation of all the well data for the wells within a half-mile area of review that penetrate the Glorieta and Paddock.

Attachment number five, behind tab five, contains information on all the P&A'd wells within the

area of review. Each of the P&A'd wells has a wellbore schematic included.

Attachment number six to the C-108, behind tab six, contains the required geologic information such as formation tops from the Rustler, down through the Paddock, into TD.

Attachment number seven, behind tab seven, contains the required water analysis. It identifies the sample location to date and the standard constituents in the analysis.

Tab number eight contains copies of the affidavits of publication and a copy of the legal advertisements providing notice of ConocoPhillips' C-108 application.

Q. (BY MR. RANKIN) Mr. Pecore, now getting into the details of the application, you've prepared a review and evaluation of the geology and the characteristics of the reservoir; is that correct?

A. Yes, I have.

Q. And that's on your subsequent slides?

A. Yes.

So this is a "Top of Paddock Structure Map" indicating the two units with their proximity. The Chevron operated Vacuum Glorieta West Unit is here (indicating). And in the red-dashed outline is the

Vacuum Glorieta East Unit, which is the subject of today's hearing.

The top Paddock structure, which is a producing horizon, indicates that there is an east-west-trending plunging anticline, plunging to the east. So as you go this way, you drop off in elevation.

You have closure from the south, from the east and from the west, producing the Glorieta structure -- Paddock-Glorieta structure across here, which is a sink line in nature.

Q. That's Exhibit Number 10, is that correct, Mr. Pecore?

A. That's correct.

Q. And the next slide is Exhibit Number 11?

A. That's correct.

So this is a type log from the VGEU 2-11. It shows the Glorieta, which is a dolomite in this part of the county; overlies a limestone horizon in the top of the Paddock, which then overlies a dolomite, which is the lower part of the Paddock. That dolomite goes all the way down to the top of the Yeso package, the Blinebry -- the top of the Blinebry.

So on average, you have about a 100-foot thickness in the Glorieta dolomite that is nonproductive that overlies approximately 75 feet of thickness in the

limestone. As you can see here, this package is the subject of all of our VGEU production and injection. So it is the limestone portion of this Paddock Formation that is productive.

Now, looking at this A to A prime cross section, through here, you go across the top of the anticline and into a bit of the VGEU West Unit. So this is, essentially, what it looks like on the north-south cross section. The blue-shaded region is the limestone, which is the productive interval, both production and injection. That's the limestone package, and it pinches out, as you can see, to the north.

Q. And I'm sorry, Mr. Pecore. This is Exhibit Number 12; is that correct?

A. That's correct.

So the waterfloodable area, as we call it, is only 1,000 acres -- just over 1,000 acres, and we're going to be injecting and producing approximately 6,000 feet; average porosity, ten percent; and average perm, four millidarcies.

EXAMINER EZEANYIM: How much?

A. Four millidarcies.

EXAMINER EZEANYIM: Ten percent?

A. Correct.

The Chevron VGEU West -- VG -- Vacuum

Glorieta West Unit has been waterflooding, as I'll show you with the decline curve map project, for years, since the mid-'90s; successfully executed their secondary recovery program. They have attempted to inject and produce flood with dolomite that you see here (indicating), and their indications are that they had early breakthrough due to a fracture system that is predominantly dolomite, at the top of the dolomite; therefore, it is widely known throughout Vacuum that the dolomite is not necessarily a target at this time.

Q. Mr. Pecore, based on your analysis and your review and the history of production in the area, is it your opinion that the area targeted for waterflood is reasonably defined by development?

A. Yes, I do.

Q. And you have a presentation for us on the reservoir next; is that correct?

A. That is correct.

Q. Can you please review for the Examiners your diagram of the reservoir?

A. I will. So the reason why we're here, the reason why this is a waterflood candidate is primarily what we discovered at our conversion attempts in 2010. So what you see here is -- these are pressure contours overlying a unit map of VGEU. These are pressure

contours and psi, these yellow lines (indicating), and these were our initial target wells of conversion. And these consisted of both TA'd wells and P&A'd wellbores. So we are truly re-entering these wellbores and assessing the pressure at that time. That's why we hadn't read them to this time, because they were sealed off with bridge plugs.

EXAMINER EZEANYIM: Are you going to -- what flow pattern are you going to use here?

A. What kind of --

EXAMINER EZEANYIM: Pattern, or --

A. Oh. I'll show you. It's an inverted five -- four, five and six. It's really a pieced-together pattern. I'll show you in the next slide.

So we recorded extremely low bottom-hole pressures, sub-100 psi pressures, all the way up to 300 -- below 300 psi. So we mapped these pressures and found out that we were woefully under-pressured in this area. So this, in a nutshell, is the need for the waterflood. We need to repressurize the reservoir to get the fluids to flow to the producing wells. And I'll show you some rate-time curves, some decline curves that show that production -- certain parts of the patterns had gone down to about a one-barrel-a-day rate, so very low production, very low pressure. Hence the need for

the pressure -- repressurization of the reservoir.

Q. (BY MR. RANKIN) That was Exhibit Number 13; is that correct, Mr. Pecore?

A. Correct.

Q. And the next exhibit is Exhibit Number 14, which is a discussion of the GOR, gas-to-oil ratio, and water-to-oil ratio?

A. That's correct.

So this supports what we'd already known geologically about the structure in VGEU, that we had water influx from the south and from the east side of the unit down here (indicating) where it drops off into the basin, and we had no aquifer support or water influx in this portion here (indicating) that we're calling the waterflood area.

And you can see that in the darker-shaded red bubbles in this area; those indicate higher GORs. Where you don't have pressure support, you're going to have higher GORs. And this results in all the production wells within the VGEU.

And similarly supporting the natural waterflood from the east and from the south, you had much higher oil ratios resulting from the production within VGEU. So you can piece together the story that we already discovered with the low pressures, and this

is why.

So to summarize, you have the very low pressure portion here, which is not pressure supported by water influx, on the western half of the unit. And on the eastern half, you have water influx from the basin adding to your pressure support.

Q. So in addition to doing sort of an analysis and overview of the suitability of the reservoir and the susceptibility of it to the waterflood, you've also looked at what effects might result in a waterflood simulation; is that correct?

A. That's correct.

Q. And that's your next series of slides; is that correct?

A. That's correct.

So to help us justify and be able to measure the success of the waterflood application in this part of the northwest shelf, we only had to look next door at the VG -- Vacuum Glorieta West Unit operated by Chevron. They were able to install their waterflood right after authorization, back in the early '90s. They began development and drilling activities for the waterflood in 1994, and you can see what positive response has been generated from the waterflood.

And this blue-shaded region here is the waterflood reserves that we're estimating to be about 7.85 million barrels of oil, recoverable.

Q. This is Exhibit Number 15; is that right?

A. This is Exhibit Number 15. And this plot in the lower left of this map shows the structure of the Paddock overlain by where the Vacuum Glorieta West Unit is in proximity to the East Unit. So their waterflood was here (indicating). Our waterflood is here (indicating). And so the analogy approach indicates that we would have success as well.

Q. Now, your next slide, Mr. Pecore, is a -- this is a demonstration of what the Paddock [sic] existing pattern is in the East Unit and what you've done to convert wells to the waterflood?

A. Correct.

So beginning in 2010, we undertook the conversion and reactivation program to produce an inverted -- in some cases, an inverted five, six, seven spot, pieced together with wellbores that already existed. Whether they were TA'd or PA'd, the wellbores were already there. Simply trying to save capital by not drilling brand-new wells. And so a number --

EXAMINER EZEANYIM: This is according to 2010?

A. The activity began in 2010, and it took two years -- almost two years to complete, because it was just -- it was such an involved activity. We had quite a bit of success. We also, unfortunately, had several failures. And these red and orange stars (indicating) indicate the failures of conversion.

So the green stars are the producers. The green stars and the green circles are the producers. The black outline is the shape of the pattern, and the red and orange stars are the wells that failed the CTI, the conversation-to-injection activity.

These four here that I'm highlighting (indicating), the 19-03, 19-02, 25-03 and the 37-04, are the locations, or the patterns, that we redrilled in December of 2012, just a couple of months ago, and those are the wells that are waiting on permit approval for authorization to inject. Those are the four APDs that signaled there was a problem with the initial waterflood order.

So these are the locations that we have redrilled (indicating). The 37-02 has been plugged. The 25-03, 19-02, 19-03 are pending NMOCD approval for P&A activity.

EXAMINER EZEANYIM: To plug them?

A. That's correct.

But we have drilled offset for those -- sister offsets for those wells, the replacement injectors, if you will. Those are the four we've been talking about that are waiting on permit approval.

EXAMINER EZEANYIM: When you say you can't convert, what were the problems that you had? Why can't you convert them? Why do you have to redrill them?

A. Collapsed casing and the actual integrity, the corrosion in the wall thickness of the casing that was already there. So we encountered both. We encountered collapsed casing down deep, and we have severe corrosion issues. These wells have been plugged and abandoned or TA'd for many, many years, and so we didn't want to take a chance on contamination. So we tested them. They failed, or we couldn't get into them, and we decided at that time it would be prudent to redrill these.

Q. (BY MR. RANKIN) Mr. Pecore, this is Exhibit 16; is that correct?

A. That's correct.

Q. Just to be clear for the record, it wasn't until the Division contacted you in the process of authorizing these four wells that you mentioned that ConocoPhillips became aware that there was an issue with the authorization for the waterflood and the authorization for the previous administrative order

authorizing the injection that you're currently operating with?

A. That's correct.

Q. Now, Mr. Pecore, your next series of slides addresses, specifically, your analysis and review of the positive expected waterflood and what you've already seen from the current injection; is that right?

A. That's correct.

So we know by analog Chevron's success next door. We expected the same. And I wanted to show you a variety of different response types that we've seen both in producers and injectors. So right now we want to look at one of the patterns, and this happens to be the 38-03 pattern, surrounded by five producers, center injection. This is the well that was -- the SWD order that was secured in 2005. Injection began in September of 2011 -- 2005. Sorry. And so this well has been on injection the longest.

And so what you're looking for -- so this is -- in the upper, left-hand corner, this is the pattern, with the producers rating [sic] the injector. What you have in the lower, left-hand corner is a rate plot of the injector indicating magnitude of anywhere from 2,000 barrels a day to 2,200 barrels a day. So it's been a consistent high-rate injection well. So we

really haven't seen any back pressure, any problems with this well.

In looking at the rate-time analysis, the decline curve, if you will, for the oil production on the y-axis and the time on the x-axis, you can see that once all the wells -- there were some surrounding wells that needed to be reactivated, too, but once you have a flat well count, then you look at the oil production response. And I calculated conservatively here that over a number of years we've seen a 40-barrel-a-day increase in oil production directly due to this water injection that you see here in the blue line. So that's one type. That's a microscopic look at a single pattern.

So what if we -- what if we look at several other different types of producers and look at what sort of day-to-day response we can see and we can actually measure? So the plot on the left is an example of our intraday output of motor temperature and pump intake pressure for the electrical submersible pump. And you can see that the intake pressure -- from the point where we put the 2-01 on water injection -- or the offset to this producer, you see, over time, the pump intake pressure indicating a fluid level increase in this well. Pump intake pressure goes up. It went up to such a high

point that we decided to upsize the ESP, which we did at this point here (indicating).

And with that upsizing, once everything finally got lined out, you can see that the fluid level in the annulus is starting to come down. You also see that the motor temp -- due to a higher fluid movement around the pump itself, the motor temp has come down as well.

Q. Mr. Pecore, this is Exhibit Number 18; is that correct?

A. That's correct.

Q. And the previous one was Exhibit Number 17?

A. Correct.

So on the plot on the right-hand side, this is just a typical Bean pump, and we measure waterflood response normally with run time. And so before water injection commenced in the injector offsetting the 2-20, you see that it ran between two and three hours a day, very poor, very low-producing well.

As the waterflood began to take hold and we began to pressure the pattern up, you saw that the run time had increased up to 24 hours a day and has held constant since then. So it's running 24 hours a day full-time. We need to upsize this equipment as well. So this is an example of some of the waterflood

response. We've seen these in a fair number of our offset producers.

Q. This next exhibit, Mr. Pecore, Number 19, is an evaluation of once you get all seven injectors injected, correct?

A. That's correct.

So let's pull our view back to all seven of our current patterns that are online now and just look at what the cumulative effect of -- hopefully, the oil production will go up on a cumulative basis, too. So these seven injection wells that have been -- one of them has been online since 2005, but the subsequent six were put on in May 2011. You can see the water production. This is a plot of oil production and barrels per day versus time. Injection started here (indicating), mid-2011. Water production has increased. And once all the wells were put online -- you can see that by the leveling off of the well count here (indicating) -- that oil production, in fact, has increased, and I calculated, based on this plot, 120 barrels a day for all the patterns.

We're just getting started, and the next slide will show that, but this is an example of the overall unit production in the waterflood area indicating the response. Now, this does not include the

four patterns of the wells we've just recently drilled, and I'll show you, on a summary map, that these four wells are in the lowest reservoir-pressure area of the unit, and, therefore, we need those wells even more to enhance this response.

Q. Mr. Pecore, your next slide, Exhibit Number 20, depicts current injection; is that correct?

A. That's correct.

And so what I'm showing here is the injection profile of each of the wells on an intraday basis. This goes back a couple of years. But what you're seeing is the injection rate, the flow rate and barrels of water per day on the Y-axis and time on the X.

And I know that the print is too small to actually see the numbers, but the wells -- the four injection wells on the top -- these are seven of all our injection wells. The four injection wells on the top are indicating fill-up in that our ability -- at the permit pressure, our ability to inject fluid goes down over time due to fill-up of the pore space. So these wells here (indicating) are filling up and repressuring the reservoir.

These wells down here (indicating) are more on the interior of the flood patterns, and they haven't

seen fill-up yet, because the rates are extremely high and it hasn't dropped off over time, per se. So these patterns, these three patterns, are still filling up.

Now, does this make sense or not? Are we seeing skin? Are we seeing corrosion or fill-up in the wellbore itself, or does this actually make sense from a reservoir standpoint? And it does when you consider the east half being a water-influx area and the west half being -- the central part of the waterflood area being pressure depleted and a structural high on the west. So I'm going to pull it all together in this map and show -- which is Exhibit Number --

Q. 21; is that correct?

A. -- 21. Thank you.

And you'll see that these yellow stars -- this is a plot of the VGEU here in the yellow, and in the brown, we see the Vacuum Glorieta West Unit (indicating). There is a structural high over here, and there is water influx over here (indicating). Our low-pressure, or the pressure-deleted, portion of the reservoir is here, initially, when we measured the pressures. And you would expect that the wells -- the injection wells on this side and the injection wells on this side would see fill-up first, and that is, in fact, what we saw. So these four stars are the fill-up wells

that we see on the top row here (indicating). So it does make sense that these are the ones filling up first.

And these wells up here have yet -- these three injector wells have yet to see fill-up (indicating).

Our redrill candidates that we redrilled as injectors in December are right here, right here, right here and right here (indicating), in the heart of the lowest-pressure region of the reservoir. Hence, that's where we need the water the most, and there's where we would like to inject.

Q. Thank you, Mr. Pecore.

Now, looking at your overall analysis of the unit, are there any offsetting Glorieta producers that might be negatively impacted by your waterflood proposal?

A. In my opinion, there will not be. There are no Glorieta-Paddock producers outside the unit boundary, as can be seen by this map, no well symbols in this red-shaded area outside the units over here (indicating). Plus, there are no leaseline injection wells with VGEU. They have their own waterflood over here (indicating). We are injector-centered patterns. Therefore, we have pressure sinks on the outside of our

unit boundary, and we do not anticipate or predict any fluids moving outside of the unit boundary.

Q. Mr. Pecore, you indicated that the four wells that have not yet received authorization from the Division are in the heart of the waterflood?

A. Correct.

Q. Do you expect to see a significant response from them based on your analysis injection that's already occurring?

A. I do.

Q. So in your opinion, those four wells are very critical to the viability of this project; is that right?

A. I believe that to be so.

Q. And that's because those four wells and the injection lines, you've injected them with significant accelerate where you pull up on your response of the --

A. Repressure -- correct. The repressurization of the reservoir and, hence, the production response on the oil side.

Q. Thank you, Mr. Pecore.

Now, let's move on to some more issues in the C-108 for now, and we'll come back to your presentation.

A. Okay.

Q. Looking at the water issues that are required by the C-108, have you identified any freshwater zones within the area?

A. Yes. We have identified a shallow freshwater zone of the Ogallala Aquifer, but we do not see any water wells penetrating more than 300 feet below the surface.

Q. And in order to take an approximate vertical distance between the injection zone -- the injection interval and the top of the -- bottom of the freshwater zone --

A. I am calculating 5,700 feet between fresh water and the injection interval.

Q. And between the injection interval and the bottom of the freshwater zone, there are a number of geologic barriers that prevent any migration of the movement of the water of the injected the water?

A. That is correct. The most prominent barrier is the Salado salt section, which is 15-, 1,600 feet thick; that provides the last barrier, if you will. We also set our surface casing into the top of the salt, so we have isolated the fresh water with casing. There are also lithologic units, numerous, because they're individual-producing reservoirs and, therefore, seals --

reservoir seals and traps. In the Glorieta, there is a trap. The Grayburg has a trap. There are -- or a seal. There are numerous seals in the Tansill, Yates and Seven Rivers, and, of course, I already mentioned the Salado.

Q. And, Mr. Pecore, are there any known drinking-water or freshwater sources below the injection zone?

A. No, there are not.

Q. Now, have you done an analysis of any freshwater wells within a mile of the injection?

A. Yes, we have.

Q. And you've identified some wells within the sections?

A. That is correct.

Q. And of those wells, can you give a little bit of background on the depth to water and the depth of those wells?

A. Okay. So there are a number of wells within the one-mile radius of the proposed injection interval. No wells have been identified within 300 feet of the injection wells. What we see average is a depth of water ranging approximately 7 to 150 feet. The well depths average in this immediate area of 150 to 200 feet deep.

Q. Now, Mr. Pecore, behind tab number seven on the

C-108 is the water sample; is that correct?

A. That's correct.

Q. And that's a water sample from the East Vacuum Glorieta-San Andres Unit Central Tank Battery?

A. Central Tank Battery, correct.

Q. And what does that water consist of?

A. That is produced commingled water from the Vacuum Glorieta East Unit and the East Vacuum Grayburg-San Andres Unit.

Q. Now, the C-108 indicates that there is another freshwater analysis previously submitted to the Division through the application and Order WFX 865; is that correct?

A. Correct.

Q. And is that the same water sample analysis report that's identified in Exhibit Number 22 in your packet?

A. Yes, it is.

Q. And can you please explain to the Examiners what the source of this water sample is?

A. We have five freshwater-producing wells that we use for plant processing and also for makeup water for the unit, not just for VGEU, but also for the East Vac, EVGSAU, and those wells indicate fresh water -- not necessarily drinking water but certainly fresh water

based on the chlorides count, and it is markedly different, fresher than the Central Tank Battery produced water, which has high chloride.

Q. Do you foresee any compatibility issues with the injection?

A. We do not. We have injected for seven years-plus, and it's a common practice to commingle the waters. And we have not seen any compatibility issues, and we have run tests to prove that.

Q. Now, the injection system for the waterflood would be an open or closed system?

A. It's a closed system.

Q. And in your opinion, will the proposed injection pose any threat to any source of underground freshwater supplies in the area?

A. No, it will not.

Q. Have you examined all the available geologic engineering data on the reservoir, and have you found any evidence of faulting or hydrogeologic -- injection in the zone and any other sources of fresh water or drinking water?

A. Yes. We have done extensive geologic modeling in this area, and we do not see any faults or fractures that would result in a hydrologic connection between the fresh water and the injected zone.

Q. In your opinion, based on your review of the production in the area and production from offsetting wells and the depletion of this formation, will injection, as you propose, result in any waste or impair any correlative rights, in your opinion?

A. No, it will not.

Q. Mr. Pecore, one of the other requests you made in your application is for a slight modification to the standard packer setting depth --

A. That's correct.

Q. -- an order -- generally provided in orders by the Division. Can you please explain for the Examiners, through Exhibit Number 23, why it is that you're making this request --

A. Yes. So what you see on the screen is an isopach map of the unitized interval, the Glorieta Formation itself, above where we would be setting the packers. And so you can see that depths range from 100 -- thicknesses range from 100 to 140 feet. So being restricted to only 100 feet of possible setting depths allowances may hinder our flexibility in the future.

Q. So in this case, you're seeking an order from the Division that would allow you to set your packers at a depth as close as practically possible to the injection interval, so long as you're within the

unitized interval; is that correct?

A. Correct.

Q. And that would give you the flexibility you need over time, depending on where you are in the unit, to set your packers at an appropriate location?

A. That's correct.

Q. And, Mr. Pecore, you're aware of previous orders that the Division has issued that has approved such a request?

A. Yes. We presented to the Commission in 2012 for the East Vacuum Grayburg-San Andres Unit and was granted that relief.

Q. In your opinion, Mr. Pecore, would that packer-depth allowance that you're seeking, if granted, impact or harm the correlative rights or the groundwater as a result?

A. No, there will not be.

Q. And, Mr. Pecore, has ConocoPhillips casing in its injection wells, especially in the formation immediately above the injection --

A. Yes. We performed MIT tests per the NMOCD regulations. We pressured the tubing casing annulus to 500 pounds and pulled that for 30 minutes.

Q. So in summary, based on your analysis, in your opinion, moving the packer setting depth or having

this -- granting this request would not create any risk of vertical movement of injection fluids?

A. That is correct. We know that there -- we set our surface casing from surface to 1600 feet to protect the groundwater, and so far, to date, we have not seen any evidence of contaminated freshwater sources in the Vacuum area or in the -- overlying our operated units.

Q. Now, there are two other items that you've requested in your application, and we'll take each in turn. First, you've requested an exemption from the future hearing requirements for the conversion or the drilling of any other additional injection wells; is that correct?

A. That's correct.

Q. Would you please briefly explain why it is that you're seeking an exemption?

A. Correct.

So should ConocoPhillips determine that a new injection well is necessary to develop and maintain thorough and efficient waterflood injection for the project, ConocoPhillips asked that the Division allow -- that it could be exempt from hearing requirements and allow it to add additional injection wells in accordance with the Division rules for the administrative approval.

Q. Thank you, Mr. Pecore.

And finally, you've also sought certification under the recovered oil tax rate pursuant to the Enhanced Oil Recovery Act; is that right?

A. That's correct.

Q. And was this originally certified for the EOR tax credit?

A. Yes. The 1993 order originally certified by the Division for this state tax credit for EOR.

Q. In your opinion, does this application and the conditions of this waterflood meet all the requirements of the Division rules for an EOR tax credit certification?

A. Yes, it does.

Q. And, Mr. Pecore, have you done an analysis of what the estimated capital costs would be to ConocoPhillips for the reauthorization of these 11 wells?

A. Yes, I have.

Q. And what's that?

A. So what we have spent so far, just as a look-back on the reactivations and conversations, as well as the four new drills, is $10.8 million.

Looking forward, we anticipate about a million dollars a year in base capital maintenance

requirements. This does not include, necessarily, any drilling of new wells, but simply maintaining the integrity of the ones we already have. I'm estimating that for a 20-year project line, so $20 million of additional capital.

Q. Excluding any drilling of new wells?

A. Excluding any drilling of any new injection wells or production wells.

Q. And do you anticipate the -- converted or drilled?

A. I do.

Q. Mr. Pecore, how much additional production does ConocoPhillips anticipate generating as a result of the -- that are not otherwise recoverable?

A. In my estimation, secondary recovery activities will add 6.7 million barrels of reserves and, therefore, in production; those are recoverable barrels.

Q. And have you done an estimation of what the total value of that production will be based on today's production value?

A. I have. At an $80 oil assumption per barrel, that's $576 million in value.

Q. So in your opinion, will the authorization -- reauthorization of this waterflood prevent waste with reasonable probability and result in increased recovery

of more oil than otherwise would be recoverable?

A. In my opinion, yes.

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

A. Yes, I do.

Q. Thank you, Mr. Pecore.

I believe that we were going fast there for a little bit. I may not have identified all the early exhibits, but were Exhibits 3 through 23 either prepared by you or under your supervision?

A. Yes, they were.

MR. RANKIN: Mr. Examiner, I would move to tender Exhibits 3 through 23 into the record.

MS. MUNDS-DRY: No objection.

EXAMINER BROOKS: Exhibits 3 through 23 are admitted.

(ConocoPhillips Exhibit Numbers 3 through 23 were offered and admitted into evidence.)

MR. RANKIN: Mr. Examiner, I pass the witness.

EXAMINER BROOKS: Okay. I anticipate you

may have considerable --

MS. MUNDS-DRY: No, I don't have any questions.

EXAMINER BROOKS: I anticipate that you want to take some time with this witness, right?

EXAMINER EZEANYIM: No.

EXAMINER BROOKS: I was going to say that I think we're going to have to take a break at some time.

EXAMINER EZEANYIM: Maybe now.

EXAMINER BROOKS: I'm thinking now would be a good time. Let's take a ten-minute recess.

(Break taken, 2:56 p.m. to 3:09 p.m.)

EXAMINER BROOKS: We're back on the record.

CROSS-EXAMINATION

BY EXAMINER BROOKS:

Q. And I only have one question for you, since you know about the history of this unit. Why is it called Vacuum field?

A. From the association of an earlier developer of Vacuum-Socony.

Q. So it doesn't have anything to do with the fluid dynamics of this field?

A. No, it doesn't. Predecessor to Mobile.

EXAMINER BROOKS: I'm done. You may continue.

CROSS-EXAMINATION

BY EXAMINER EZEANYIM:

Q. Mr. Pecore, I really enjoyed and appreciate your presentation, especially the -- but I still have a couple of questions of you.

In this Vacuum Unit, there are 4,000 acres, right?

A. Correct.

Q. But, essentially, you want 1,000 acres.

A. That's correct.

Q. But they are for the waterflood, because of the way they are pinched out.

A. It's a combination of pinch out and the aquifer support on the east. There's only limited portion of the limestone that is ultra-low pressure.

Q. Right now, how many injection wells do you have, right now?

A. Injection wells?

Q. Yeah. One?

A. Seven.

Q. Seven.

A. Seven active.

Q. They are injecting now, right?

A. Seven active injectors injecting now.

Q. So is it fair to say that they are injecting

with other pumps?

A. That's correct.

Q. Don't get me wrong. It's good to be honest.

A. Yeah. The minute we understood that there was a problem, we all flew in last November to meet with the Commission.

You were there (indicating).

And we brought our regulatory and our land person and myself.

Q. I don't want to grill you a lot because -- grill you a lot because of what I have seen, but I have two simple questions.

One, is this packer set in there? Of course, we have done it before. Will we allow the operator to set it higher than the 100 feet that is required by the rules, the way you present your evidence? Anyway, on your Exhibit Number 23 on contours --

A. Yes.

Q. Now, you are asking the Division to give you a packer setting -- how did you put it, the phrase you used? What phrase did you use?

A. To allow us the flexibility to set the packer higher than 100 feet, but still within the unitized interval. We would be less confident about this request

if, in fact, the Glorieta was productive; there was no porosity in the Glorieta. And, therefore, setting the packer across that interval, still within the unitized interval, we don't think would cause any containment issues.

Q. Well, I'm not quite accurate. If I look at this, it's about 140?

A. Correct.

Q. Now, if I give you blanket permission to do it, could you set the packer at 200 feet? As long as you're within the interval, could you set it at 200 feet for the first perforations?

A. Yes. However, we don't have that much Glorieta anywhere within our unit. So it's only -- you only see a maximum of 40 feet above that top 100. So 100 feet above the top perforation is the max you'll ever see.

Q. I'm really concerned about that 40 additional feet, you know, whether we're going to have a problem with that. Because if I -- if I -- if I don't give you a constraint, you can still set it up to 100 feet for perforation, and then you will be within the interval.

A. No, that's not correct.

Q. It's not going to happen?

A. We can't. We only have -- this is the Glorieta, which is above the producing interval. We

only have -- it can only be a maximum of 140 feet. So all we're asking for is an additional --

Q. 40?

A. -- 40 feet in this area (indicating). It's a very small area of the unit that is 40 feet above that 100.

Q. But outside that area, you can be within 100 feet?

A. That's correct.

Q. Okay. So just a small part of the area, right?

A. Right. We're only asking for in this area that is more than 100 feet (indicating). Hardly anywhere in the unit does the Glorieta have thicknesses less than 100 feet.

Q. Yeah. We want to give you that, but we might put this in another order, that you are doing that -- but no more than 140 feet -- or 140 feet from the first perforation. It is not going to be a problem.

A. It will not be a problem if it's worded that way.

Q. Because otherwise you can -- you can set it within 50 [sic] feet, but when you go into that small, narrow area.

A. It's only within the unitized area.

Q. I don't know color. What is the color of that

area?

A. So the legend -- the legend on the upper, right-hand corner, blue is not much thickness; red is maximum thickness. So it goes from low thicknesses, 100 to 110, all the way up to 140 in that portion.

Q. Okay. Which is not going to be a problem. We can try and see what happens up to 140, because I don't want you to go more than that.

A. Right. That's why we put this isopach in here, just to show what the magnitude of our ask [sic] will be.

Q. Okay. Now, I asked you a lot of questions, but I have four more questions about the cost of this injection analysis. You read that from there, but that will be part of the AFE that we are going to look at to make sure that you are going to be profitable.

A. Correct.

EXAMINER EZEANYIM: In fact, you know, Mr. Rankin, that we need that calculation showing how much it's going to be for a reasonable profit. You realize I don't have any information?

A. Yes. This will be a profitable project. I can reiterate those costs.

Q. (BY EXAMINER EZEANYIM) Mr. Pecore, it is not a question of reiterating. It's a question of us having

it. Is it in any of this (indicating)? Do we have it?

A. No. This is my testimony, that I read off. It's not anywhere in the published package or in the exhibits.

Q. We would like to have it.

A. Okay. I can provide.

Q. I don't know how we can do it, but we need to analyze what you did --

A. Okay.

Q. -- and see if the project is going to be profitable, and that would be one of our findings to approve the project.

A. Yeah. We're showing a benefit of over 500 million and a cost of 100.

Q. Yeah. You are telling me, but I don't have it.

A. I will be glad to provide it to you.

Q. Okay. Very good. And so you are going to get that after the hearing?

MR. RANKIN: Mr. Examiner, just to be clear, you would like a supplemental report on the cost-benefit analysis that --

EXAMINER EZEANYIM: Yeah. I need what is used to make the analysis. It is not part of the packet that we get showing what you spent. I don't doubt you are going to make money, and we want you to make money.

You make money; we make money.

Q. (BY EXAMINER EZEANYIM) On the -- on the Form C-108, all the information is -- there are a bunch of areas of review, those 11 wells, right?

A. Correct.

Q. And all information that is contained here, I haven't looked at it, but we can now look at it, right?

A. Tab two, yes.

MR. RANKIN: Mr. Examiner, just to be clear, we have one additional witness who will address the area-of-review analysis.

EXAMINER EZEANYIM: Oh, I thought you are the last witness.

MR. RANKIN: No. We have three witnesses, and Mr. Pecore was number two.

EXAMINER EZEANYIM: Oh, okay. Sorry. Okay.

Thank you. Okay. You may step down.

MR. RANKIN: Thank you, Mr. Pecore.

Mr. Examiner, I have one last witness who will testify today. His name is Mr. Simon Choi.

Mr. Choi, when you're ready, take the stand.

SIMON CHOI,

after having been previously sworn under oath, was

questioned and testified as follows:

DIRECT EXAMINATION

BY MR. RANKIN:

Q. Good afternoon, Mr. Choi.

A. Good afternoon.

Q. Can you please state your full name for the record?

A. Simon Choi.

Q. Could you please spell it for the court reporter?

A. Simon, C-H-O-I, the last name.

Q. Thank you.

And by whom are you employed?

A. ConocoPhillips.

Q. And in what capacity are you employed by ConocoPhillips? What is your job?

A. Oh. I'm a senior production engineer.

Q. And where do you live?

A. Midland, Texas.

Q. And what is your current -- you have just stated that you're a senior --

A. Production engineer.

Q. And have you previously testified before the Division?

A. No.

Q. Can you briefly review for the Examiner your education and work background as a production engineer?

A. Yes. I have a total of eight years of industry experience. Out of that, I have five years of experience with ConocoPhillips. I got my bachelor's degree from Hongik University in Seoul, South Korea, and I got my Master's of Science in Civil Engineering from Texas A&M University.

With ConocoPhillips, I have product management experience and facility engineering experience, and right now I am doing production engineering.

Q. And what is your role in the day-to-day operations of the Vacuum Glorieta East Unit?

A. As a production engineer, I -- databases. I try to optimize my field production. Also, I execute the capital, also operation expense projects.

Q. And are you familiar with the application that was filed today --

A. Yes.

Q. -- and the C-108?

A. Yes.

Q. And did you help prepare portions of the C-108?

A. Yes, I did.

Q. And what portions did you contribute to the

C-108 application?

A. I provide the well risk matters, also the well list, half mile of AOR.

Q. So you did the review of -- the area-of-review analysis; is that correct?

A. That's correct.

Q. And you looked at the wellbore schematics for both the injectors, the plugged and abandoned wells, as well as any of the cement issues within the area of review; is that correct?

A. That's correct.

Q. Mr. Choi, can you please turn to what's been marked as tab number two on the C-108, Exhibit Number 9? And this is a list of the 11 wells that ConocoPhillips is currently seeking authorization for injection?

A. That's correct.

Q. And on the subsequent pages, as Mr. Pecore had identified earlier, this is the information relating to each of the proposed injection wells; is that correct?

A. That's correct.

Q. So we've got the C-108, the well data sheet, the wellbore schematic and the half-mile area of review map for each of the proposed injection wells?

A. That's correct.

Q. And rather than walk through each of those,

Mr. Choi, can you briefly summarize for the Examiners -- anything you can generalize about the injection wells?

A. Basically, the injection wells that we have, all the -- we have included all the schematics of the injection wells, all the legal names and all the detail information. And as you see, the well schematics -- it's basically all complete schematics, with all the details, the tubing, casing and packers.

Q. Mr. Choi, is ConocoPhillips planning to stimulate the wells in any way?

A. That's correct.

Q. And the wells that would be stimulated are just the fours wells that are awaiting authorization, is that correct, not yet been on injection?

A. Yes and no. Okay. So four of those new drills, three wells -- those four wells, we haven't started injecting yet, because we don't have a permit. However, we have stimulated those four wells. So VGEU 19-33, 34, 25-32, we have stimulated with 20,000 gallons of 50-percent ATCS solution. And then the other one, VGEU 37-31, we have stimulated with 20,000 gallons of 15-percent CL solution.

Q. What are the injection volumes that ConocoPhillips is proposing for each of those injection wells?

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A. 3,000 barrels per day.

Q. And what would be the injection pressure that ConocoPhillips would be injecting?

A. 1200 psi.

Q. And does that comport with the Division's default rule of .2 psi per foot for injection wells?

A. That's correct.

Q. Have you conducted a review of all the wells within the half-mile areas of review for each of the 11 wells that ConocoPhillips is seeking authorization for today?

A. Yes, I did, and that shows on tab four.

Q. So turning to tab four, this is a table of all the wells that ConocoPhillips identified within the area of review; is that correct?

A. That's correct.

Q. And this includes wells that both penetrate the interval -- injection interval, as well as those that do not; is that right?

A. Yes.

Q. And these contain -- this table contains all the data of the cement that the C-108 requires?

A. Yes.

EXAMINER EZEANYIM: How many are those wells?

MR. RANKIN: How many?

EXAMINER EZEANYIM: Yeah. How many wells are in the area of review of those 11 wells?

MR. RANKIN: Well, I don't think we've added them all up.

A. No, no. He asking how many wells --

CROSS-EXAMINATION

BY MR. EZEANYIM:

Q. How many wells in the area of review at this time? Do you know how many?

A. We have all of them.

Q. How many?

A. 11.

Q. Of these 11 injection wells, how many of these are area-of-review wells?

A. I have not counted each single -- number of wells, but --

Q. It's quite a lot.

A. Yeah. Because it's not only ConocoPhillips' operating wells, it's all the wells within a half-mile radius.

Q. Yes, of course. I mean, it doesn't have to be your well.

A. Right.

Q. Any well within half a mile. It doesn't have

to be ConocoPhillips.

A. Right.

Q. But I want to know how many wells. Whether they belong to Chevron or ExxonMobil, how many of them are within the area of review, and what is the status of those wells?

A. I can provide that information as soon as I go back to my office.

MR. RANKIN: Just to be clear, Mr. Examiner, you'd like to know how many wells are in total?

EXAMINER EZEANYIM: If I can read this.

MR. RANKIN: Mr. Examiner, if you would like, we could submit this as an electronic format, so it's easier for you to review. Would that be acceptable?

EXAMINER EZEANYIM: Yeah, that would be fine. I can see there are a lot of them.

THE WITNESS: Right.

MR. RANKIN: Thank you, Mr. Examiner.

EXAMINER EZEANYIM: Go ahead.

CONTINUED DIRECT EXAMINATION

BY MR. RANKIN:

Q. Mr. Choi, based on your review, have you identified any remedial work that needs to be done on

any of the wells you've identified in the areas of review?

A. No, I didn't.

Q. And how will ConocoPhillips monitor the injection wells that you are proposing to ensure that the well casing is -- remains in good integrity?

A. All the annular spaces of the injection wells they all have -- we have inner fluid. Also, we have a skid that goes into the injection well, which monitors tubing pressures and also flow rate, as well as casing pressure. So whenever there is some casing-integrity issue, through the skid system, the operation people will be notified in a minute.

Q. And, Mr. Choi, in addition to your review of the area of review on all of those wells, did you identify any wells that were plugged and abandoned within the area of review?

A. Yes, I did.

Q. And are those identified at tab five of the C-108?

A. That's correct.

Q. And based on your analysis, you also included all the wellbore schematics for those P&A'd wells?

A. Yes, I did.

Q. And based on your review and analysis of the

schematics, have you identified any issues with the P&A'd wells, or did that result in any cross-contamination out of the injection interval?

A. No, I did not.

Q. Is it your opinion, Mr. Choi, that injection into the Unitized Formation through the proposed injection interval will prevent waste and protect correlative rights?

A. Yes.

Q. And just to be clear -- I think Mr. Pecore addressed this issue in his presentation -- but is ConocoPhillips currently proposing to inject along any of the leaselines or unit boundary?

A. No, we don't.

Q. So there is no need for a leaseline agreement with Chevron or any other operators?

A. That's correct.

Q. Mr. Choi, Exhibit Number 9 has already been admitted.

MR. RANKIN: I don't have any other questions. I pass the witness.

EXAMINER BROOKS: I have no questions.

Ms. Munds-Dry?

MS. MUNDS-DRY: I have no questions of Mr. Choi. Thank you.

EXAMINER BROOKS: Mr. Ezeanyim?

CROSS-EXAMINATION

BY EXAMINER EZEANYIM:

Q. You were just talking about leaselines. Why are you not asking for a leaseline and permission to do this? Because in your previous order, you asked for that and you were granted that. Why go to the wells to prove this? So why are you not asking for a leaseline?

MR. RANKIN: One of the issues, Mr. Examiner, was, in the original application in 1993, the injection interval -- the injection pattern was different. The current injection pattern does not -- that is being proposed now is different.

EXAMINER EZEANYIM: So that's been eliminated?

MR. RANKIN: At the time, it was necessary to establish a leaseline agreement. That's no longer the case, because the proposal has changed. And so just to be clear for the record, I think Mr. Choi has indicated that there is no need for a leaseline agreement under the current partnership [sic].

Q. (BY EXAMINER EZEANYIM) So, Mr. Choi, on this -- I don't know. I know you looked at the previous order. You have, right, most of the wells here that were approved, about 48 additional wells. There are 48,

right?

MR. RANKIN: Yeah. I don't have the number off the top of my head.

EXAMINER EZEANYIM: Yeah, it says 48.

What is happening with those wells? Are you going to -- what are you doing with them? These wells that are in the area of review, especially. We took care of B [sic] with somebody here, but I'm concerned about those wells. What is happening with them?

A. Mr. Examiner, I'm not familiar with that time frame, since I was not a production engineer at that time. However, I would like to ask one of our -- our reservoir engineer. He is very familiar with that subject.

MR. RANKIN: Mr. Ezeanyim, Mr. Pecore would be better able --

EXAMINER EZEANYIM: Who?

MR. RANKIN: Mr. Pecore, who previously testified.

Q. (BY EXAMINER EZEANYIM) I'm going to be asking that some of these wells -- is that are they incorporated into the into the Form C-108 in the area of review. There are some of them that you are supposed to have drilled. Maybe I didn't read them at the time.

Some of them that are drilled, that were converted to -- are they part of the area of review? I think you should have looked at this order to see what you want to advise. And that's what I'm looking at. I'm looking at if they are contained within the area of review. Then I can take it and see what goes on. When I look at the area of review, what is there, I have a bunch of them active, right?

A. Yes, that's correct.

Q. Some of them that have been plugged and abandoned.

A. That's correct.

Q. Do you have temporarily abandoned wells?

A. We do have a few of them.

Q. Two of them?

A. A few of them.

Q. Okay. And they're all here?

A. Yes.

Q. I think what I might have to do is to look at that. I will have time to look at the Form C-108. We may ask that you send it to us, you know, because without reviewing it, I may have a lot of questions. I would like to have that to make a determination on this.

MR. RANKIN: Mr. Examiner, just to be clear, you would like some additional information on

which wells?

EXAMINER EZEANYIM: No, I haven't said that. I have to look at it. This is the first time I'm looking at it. If we need more information, we will request more information.

MR. RANKIN: Of course. Yes. Yes.

EXAMINER BROOKS: I think the big thing we will need to deal with is Exhibit Number 4, is an enlarged copy, because I think it's wholly unreadable at this size for people of our age. Perhaps people your age can read it.

MR. RANKIN: We'll submit a electronic format version, so you'll be able to read it.

EXAMINER BROOKS: Okay. That will be helpful.

MR. RANKIN: Add up the wells and provide some total on the wells on a larger scale.

EXAMINER EZEANYIM: Yeah. When you do that, you also -- at the top, you have 20 plugged and abandoned wells, 5 TAs and the rest active, you know, so that I can go back there and look at those, because I'm primarily concerned about the plugged and abandoned wells. We don't want those wells to be conduits, you know, in the fluid up hole. And then the TA'd wells, too; we need to see those, and the diagrams.

I think we went through all the water analysis and everything. I think we are ready to go. And if you can give us that information -- give us information on your economic analysis.

MR. RANKIN: To be clear, the two things you're looking for is the economic and -- supplemental information on the economic analysis, and then the --

EXAMINER EZEANYIM: On the area of review.

MR. RANKIN: -- and Exhibit Number 4, tab number four?

EXAMINER EZEANYIM: Yes. So we can begin to look at it and see. If we need more information, we'll let you know.

MR. RANKIN: That sounds fine, Mr. Examiner.

Also, Mr. Examiner, I had written down that you were hoping to get a look at the letter that was released on several of the B wells from --

EXAMINER EZEANYIM: I got it. Mr. Pecore gave it to me, yes. I did get it. I haven't read it.

EXAMINER BROOKS: Okay. I have nothing further.

Do you have anything further of the witness?

MR. RANKIN: Nothing further from me.

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EXAMINER BROOKS: The witness may stand down.

Anything further otherwise from the witnesses?

MR. RANKIN: Nothing further, Mr. Examiner.

Mr. Examiner, before we close, would you like additional information on the Exhibit A wells from the order? Mr. Pecore, I think, can address the status of some of those wells from the original order, if you'd like to handle that now.

EXAMINER EZEANYIM: Okay. What was the question again?

MR. RANKIN: You had indicated some interest in the current status of the wells from the original order.

EXAMINER EZEANYIM: Yeah.

MR. RANKIN: Mr. Pecore would be able to address that now if you'd like.

EXAMINER EZEANYIM: He's the examiner, so --

EXAMINER BROOKS: Well, if you would like to hear, I will recall him.

EXAMINER EZEANYIM: Yeah, I would like to hear that.

EXAMINER BROOKS: Recall Mr. Pecore for

this purpose.

DOUGLAS W. PECORE,

after having been previously sworn under oath, was recalled and testified as follows:

THE WITNESS: So you are right. There are nine wells that were identified on that order that were current wellbores that were in line to be converted to injection. Only six of those were able to be converted. But that was the nine that you saw in there, and then there are an additional 39 well proposals for new drills, adding up to the 48. You're correct about that. Those 39 proposed wells were never drilled because the proposed -- in that order, the proposed inverted five-spot pattern was never realized. So those wells were never drilled, and, therefore, they won't be in the C-108. But all the wells that were drilled are in the C-108.

EXAMINER EZEANYIM: Thank you very much. Of course, you know I'm going to be curious what's happening with those wells. Were they drilled? Were they converted? I don't know what's happening with those wells. This is an order. So thank you for clarifying that. The wells were never drilled.

THE WITNESS: Okay.

EXAMINER EZEANYIM: Except 11 that you have

drilled now for this particular project.

THE WITNESS: That is correct. And the patterns are -- are not inverted five spot like we had originally planned, but they're a little bit larger.

EXAMINER EZEANYIM: Right. Okay. Very good. Thank you for that.

EXAMINER BROOKS: Anything further from the attorneys?

MS. MUNDS-DRY: No, sir.

EXAMINER BROOKS: Very good. Subject to the matters that we've talked about by way of supplementation, so they're on the record, Case Number 14964 will be taken under advisement.

And this hearing stands adjourned.

(Case Number 14964 concludes, 3:37 p.m.)

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 14964, heard by me on 3-7-13.

David K. Brooks, Examiner
Oil Conservation Division

STATE OF NEW MEXICO

COUNTY OF BERNALILLO

CERTIFICATE OF COURT REPORTER

I, MARY C. HANKINS, New Mexico Certified Court Reporter No. 20, and Registered Professional Reporter, do hereby certify that I reported the foregoing proceedings in stenographic shorthand and that the foregoing pages are a true and correct transcript of those proceedings that were reduced to printed form by me to the best of my ability.

I FURTHER CERTIFY that the Reporter's Record of the proceedings truly and accurately reflects the exhibits, if any, offered by the respective parties.

I FURTHER CERTIFY that I am neither employed by nor related to any of the parties or attorneys in this case and that I have no interest in the final disposition of this case.

Mary C. Hankins

MARY C. HANKINS, CCR, RPR
Paul Baca Court Reporters
New Mexico CCR No. 20
Date of CCR Expiration: 12/31/2013

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