STATE OF NEW MEXICO

ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION

IN THE MATTER OF THE HEARING CALLED BY THE OIL CONSERVATION DIVISION FOR THE PURPOSE OF CONSIDERING:	CASE NO. 11,929
APPLICATION OF MOBIL EXPLORATION AND PRODUCING, TX AND NM, INC., FOR APPROVAL OF HORIZONTAL INJECTION WELLS, FOR AN ADMINISTRATIVE PROCEDURE WHEREBY ADDITIONAL HORIZONTAL INJECTION WELLS MAY BE APPROVED WITHIN THE NORTH VACUUM-ABO UNIT PRESSURE MAINTENANCE PROJECT, AND TO QUALIFY A PORTION OF SAID PROJECT FOR THE RECOVERED OIL TAX RATE PURSUANT TO THE "NEW MEXICO ENHANCED OIL RECOVERY ACT", LEA COUNTY, NEW MEXICO	

ORIGINAL

REPORTER'S TRANSCRIPT OF PROCEEDINGS

EXAMINER HEARING

BEFORE: MICHAEL E. STOGNER, Hearing Examiner

February 19, 1998

Santa Fe, New Mexico

This matter came on for hearing before the New Mexico Oil Conservation Division, MICHAEL E. STOGNER, Hearing Examiner, on Thursday, February 19th, 1998, at the New Mexico Energy, Minerals and Natural Resources Department, Porter Hall, 2040 South Pacheco, Santa Fe, New Mexico, Steven T. Brenner, Certified Court Reporter No. 7 for the State of New Mexico.

* * *

I N D E X

February 19th, 1998
Examiner Hearing
CASE NO. 11,929

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* * *

A P P E A R A N C E S

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By: EDMUND H. KENDRICK

* * *

WHEREUPON, the following proceedings were had at 9:12 a.m.:

EXAMINER STOGNER: Well, continuing onwards, how about Mobil? Before I call it, is everybody here from Mobil?

MR. KENDRICK: Yes, we are.

EXAMINER STOGNER: Well, good.

At this time I'll call Case Number 11,929.

MR. CARROLL: Application of Mobil Exploration and Producing, TX and NM, Inc., for approval of horizontal injection wells, for an administrative procedure whereby additional horizontal injection wells may be approved within the North Vacuum-Abo Unit Pressure Maintenance Project, and to qualify a portion of said project for the recovered oil tax rate pursuant to the "New Mexico Enhanced Oil Recovery Act", Lea County, New Mexico.

EXAMINER STOGNER: Call for appearances.

MR. KENDRICK: Ned Kendrick representing Mobil Exploration and Producing, Texas and New Mexico, Inc., with the Santa Fe firm of Montgomery and Andrews. And we have three witnesses.

EXAMINER STOGNER: Any other appearances?

At this time, will the witnesses please stand to be sworn?

(Thereupon, the witnesses were sworn.)

EXAMINER STOGNER: Mr. Kendrick?

MR. KENDRICK: Mr. Hearing Examiner, we're going to have three witnesses.

The first witness, Mr. Meeks, is going to give an overview of the expanded EOR project which covers three horizontal injection wells.

Mr. Cuyler will talk about the specifics of the three injection wells.

And our third witness, Mr. Calvin, will talk about the enhanced oil recovery tax credit.

MARK H. MEEKS,

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

DIRECT EXAMINATION

BY MR. KENDRICK:

Q. Mr. Meeks, state your full name and employer, please.

A. My name is Mark H. Meeks and I work for Mobil Exploration and Producing, United States, Incorporated.

Q. And what are your responsibilities?

A. I am a production engineer assigned to several properties in west Texas and southeastern New Mexico. One of them includes the Vacuum field.

Q. And how long have you been with Mobil?

A. I've been with Mobil a little over seven months.

Q. And what is your prior oilfield experience?

A. Prior to Mobil I worked for Exxon Company, USA, for approximately six and a half years.

Q. And what were your responsibilities?

A. I had several responsibilities during that time. I was a drilling engineer for a while, and I was a subsurface engineer for a while, responsible -- and drilling, obviously, was responsible for drilling wells, and subsurface engineering I was responsible for doing downhole completions, monitoring production equipment, so on and so forth.

Q. Any prior oilfield work experience before that?

A. No, sir.

Q. And what is your educational background?

A. I received my bachelor's degree in engineering from New Mexico State University in 1990.

Q. And do you belong to any professional organizations?

A. Just a member of SPE, Society of Petroleum Engineers.

Q. And are you familiar with Mobil's Application today?

A. Yes.

MR. KENDRICK: Mr. Examiner, I request that Mr. Meeks be qualified in the field of production engineering.

EXAMINER STOGNER: Mr. Meeks is so qualified.

Q. (By Mr. Kendrick) Mr. Meeks, would you briefly state what Mobil seeks today?

A. Yes, we're seeking basically three things today. One is, we'd like authorization to inject fresh water into the three horizontal injection wells which we recently drilled.

Also, we would like to have approval to submit these wells as an expansion of an enhanced oil recovery project, and to certify our production response from the two horizontal producer wells as an enhanced oil recovery project also.

Q. And have you prepared certain exhibits for introduction in this case?

A. Yes, in the book it would be Exhibits 1 through 5.

Q. Okay, let's turn to Exhibit 1. Would you tell us what it is and review its contents?

A. Exhibit 1 consists of three pages. The first two pages are just basically some general information concerning the history of the field and some of the current reservoir characteristics.

The third page is a graph showing production for the field since its inception in 1963.

On the first page you'll see that the -- the

first bullet there, the Abo reservoir in this field was discovered in 1963, and it was under primary recovery from 1963 until 1973, approximately ten years there.

If you'll please go to the second page -- sorry to flip you around -- the Abo formation is a carbonate, primarily a dolomite. The acreage there is 6320 acres, and Mobil estimates the original oil in place at approximately 95 million barrels.

During the ten years of primary recovery, we recovered about 4.5 percent of that 95 million barrels, which is approximately 4.3 million barrels.

And then in the early Seventies, Mobil sought to begin a waterflood there. We received Order Number 4430, creating the Mobil North Vacuum-Abo project. That order is shown in Exhibit 2. And we began injecting water in 1973.

At the time we began injecting water, the original -- or the waterflood GOR was about 700.

Then also in conjunction with that, we began infill drilling the well on 80-acre units in 1974, which developed it into a fivespot waterflood pattern with 160 acres per pattern.

Another infill drilling project occurred in 1983 and lasted through 1986. This put it on 40-acre well spacing or 80-acre fivespot producer patterns.

If you again refer to the second page, by the end

of 1997 the total production for the field was approximately 28 percent of the original oil in place, or 27 million barrels, and the lease GOR is currently about 650, based on the current production of 1738 barrels a day of oil, 1131 MCF of gas per day and 4700 barrels of water per day.

Then beginning in the fall of 1997, we started drilling several horizontal laterals off of existing vertical wells. We drilled two producers off of -- two horizontal laterals off the producing wells, 278 and 244, in August, and we drilled three horizontal laterals off of injection wells 136, 156 and 213 beginning in November of 1997.

Q. What can you say about the efficiency of this project prior to drilling the horizontal wells?

A. As I mentioned before, if you'll look on the second page, this field has been in place since 1963 and it's been under waterflood since 1973, and we've only recovered an estimated 28 percent of the original oil in place. So the efficiency of this flood has not been stellar.

Q. All right. And what can you say about the ratio of injected water to produced oil?

A. It's currently about 1.1, injection-to-withdrawal ratio, 1.09, something like that. So we're putting in a

little bit more water, maybe, than we're taking out. The injection-to-withdrawal ratio is pretty decent.

A key point I think you can see is, if you'll refer to page 3 of Exhibit 1 to kind of explain this, the top blue line, kind of a lighter blue, is representing injection water in barrels of water per day. The green line is oil production in barrels of oil per day. The red line is gas production in MCF of gas per day. And then the bottom blue line, which is a little darker shade of blue, is water production in barrels per day.

Interesting thing to note here is, water injection began in 1973. It also occurred in conjunction with an infill drilling program. You notice that oil fell off there. That was basically due to converting some producing wells into injection wells.

Then you see the increase in injection water, but you do not see the increase in produced oil for approximately two years after the advent of the waterflood. So the point there is, it took a long time to see response to the injection of water in 1973. Therefore, it indicates that this reservoir is not very efficient in terms of responding to waterflood.

Q. Then turning back to the first page, the second to the last bullet, is it significant that the average production per well is 20 barrels of oil per day and the

average injection is 98?

A. I think there's two things that are significant at that. One, the production is currently approximately 20 barrels of oil per day and 60 barrels of water per day, which gives you a water ratio of about 25 percent -- I mean an oil ratio of about 25 percent, which is pretty low for a waterflood that's been existing for 25 years.

The other thing that I note there is, just the total amount of liquid that is produced and injected is also pretty low for 80-acre patterns.

Q. Okay, thank you. Anything further on Exhibit 1?

A. Not that I know of. A couple of things is, the infill drilling program that occurred in the 1980s, the results of that are shown in Exhibit 3, which is a map of the field basically showing injection in producing wells in the Abo unit.

The wells with circles and lines drawn through them or, in some cases, squares with lines drawn through them, are injection wells, and just the circles are producing wells. This doesn't exactly match the legend on the bottom. A circle with a line drawn through it is indicated as a P-and-A well, but that's actually an injection well. That's a misprint.

Q. Okay, that's on Exhibit 3?

A. Yes, sir.

Q. And what is the basic pattern here of your injection and producing wells?

A. It is a -- Basically, it's an 80-acre fivespot with -- Basically, it's in a diamond shape with the top of the diamond being at the north, the bottom of the diamond being at the south.

Q. Okay. Anything further on Exhibit Number 3?

A. No, sir.

Q. Let's turn to Exhibit 4. Can you identify and review that for us?

A. Exhibit 4 shows the five horizontal wells. The two producer wells are indicated in kind of a dark red, and then the three injection wells are the blue well, then the kind of pink one and then the green one. Nothing particularly significant about the colors; it just helps us distinguish which well is which.

The other thing there is, it's listed as Phase 1 and Phase 2. Hopefully our goal is to develop this project in that order, Phase 1 first, Phase 2 second. And that's primarily because we feel that the southern half of the field, which is labeled as Phase 1, probably has a little higher quality reservoir and a little lower quality towards the northern portion of the field.

Q. Do you have any estimate as to how long it might take before you evaluate the current wells and propose new

wells?

A. I think we're probably going to observe the results of these wells for most of this year to see if there's anything we can do to improve the way we drilled them, the way we completed them, the way we produced them. We'd like to learn from that and get a better feel for how we should pursue this in the future. So I think it would be at least the end of this year before we drill any more, possibly next year.

Q. Okay. And why did you decide to have some wells with different directions? Some are running northwest-southeast, some are running northeast-southwest.

A. That's basically so that we could gain a better understanding of the geology. I think Mr. Cuyler can cover that a little better later than I can. But for our purposes it was more of an educational process, is why we chose to drill some in one direction and some in the other direction. We just wanted to see if there was an advantage to drilling it this way versus drilling it that way.

Q. Okay. Then looking at Exhibit 4, I notice some squares, two squares. One is in the southwest quarter of Section 23, and the other in the southeast quarter quarter of Section 22. Do those have any significance?

A. Not particularly in terms of the Abo formation. I think -- The larger square, if you look at it, you'll see

some wells labeled as VA. Those wells are San Andres wells, and that little square tends to indicate some associated rights associated with the San Andres, but it has no bearing on the Abo.

Q. Anything further on Exhibit 4?

A. No, sir.

Q. Okay, let's turn to Exhibit 5. Can you identify it and review it for us?

A. Yes, Exhibit 5 is -- basically shows two things of importance.

One, it shows Mobil's North Vacuum-Abo Unit. It also shows the location of several other units within the Vacuum field area.

Then the second thing it shows is, you'll notice it has circles or ovals, one being green, one being pink and the other one being blue. Those ovals represent a half a mile radius, so to speak, around each of the corresponding horizontal laterals.

So in other words, the green oval would be half a mile radius around the green horizontal lateral, which is the 136 well. So on and so forth.

The page behind that is in tabular form which indicates which well is actually within that half-mile radius.

So for instance, if you were to look at North

Vacuum-Abo 96, the top well, it says that that is within a half mile of Well Number 213.

Also, the wells -- On that page 2 of Exhibit 5, the wells in the left-hand column are wells that penetrate the Abo formation. The wells in the right-hand column are wells that are within the half-mile radius but do not penetrate the Abo formation.

I think we submitted information for all of the wells in the left-hand column earlier in the Form C-108, and most of the information in that will pertain to what the wellbores look like, how they were completed, when they were drilled, where they're perforated and such things as that.

Q. Okay, so all that was provided with the C-108?

A. Yes, sir.

Q. Okay, any further information on Exhibit 5?

A. Not that I know of.

Q. Okay. Did you participate in the preparation of Exhibits 1, 3, 4 and 5?

A. Yes, sir.

Q. And to the best of your knowledge is Exhibit 2 a correct copy of Oil Conservation Commission Order 4430?

A. Yes, sir.

MR. KENDRICK: And at this time, Mr. Examiner, we would like to offer Exhibits 1 through 5 into evidence.

EXAMINER STOGNER: Exhibits 1 through 5 will be admitted into evidence.

EXAMINATION

BY EXAMINER STOGNER:

Q. Mr. Meeks, on the Exhibit Number 4, your map --

A. Yes, sir.

Q. -- that showed the horizontal, the ones that were drilled out of the injection wells, are they presently producing?

A. No, sir.

Q. Did you test them or --

A. No, we did not test them. We put them on injection and we received a 90-day permit -- We received permission earlier from the OCD to inject for 90 days, I think. I do not know if I have a copy of that -- we have a copy of that letter anywhere here, but --

EXAMINER STOGNER: Could you provide that for me, Mr. Kendrick --

MR. KENDRICK: Yes.

EXAMINER STOGNER: -- a copy of that 90-day extension letter?

MR. KENDRICK: Yes, I will.

Q. (By Examiner Stogner) Was that extension letter for the 90-day temporary permit, was that for all three wells --

A. Yes, sir.

Q. -- or -- Okay.

A. Actually, it was for four wells, but we chose -- We were unable to drill the fourth well at this time due to basically budget constraints.

Q. Okay.

A. So we just chose to do three of those wells, and we are currently injecting in those three wells.

I think a little later on Mr. Calvin will show at what rates and pressures that they're injecting, what day they began injecting at, et cetera.

Q. And on page 2 of Exhibit Number 5, the wells within a half-mile radius that penetrate the Abo, if I look over on the far right-hand column and you have two numbers for a TD. Was that a deepening?

A. Those are the horizontal wells, the ones that have two numbers.

Q. Okay.

A. The number on the left, which has a number 1 superscript beside it, that was the depth of the original vertical well, measured depth.

And then the number in the right-hand side, with the number 2 behind it -- or beside it, that indicates the measured depth of the horizontal lateral.

The information concerning the horizontal

laterals in terms of the direction, true vertical depths, measured depths, et cetera, will be presented by Mr. Cuyler a little bit later, I think, in Exhibit 7.

EXAMINER STOGNER: Okay.

MR. KENDRICK: Mr. Examiner, we have a copy of that 90-day letter. Would you like it -- to have it now and receive it into evidence?

EXAMINER STOGNER: Yeah, I'd like to also make it an exhibit.

MR. KENDRICK: Okay, then call it Exhibit 5A?

EXAMINER STOGNER: 5A would be good. And there's a stamp right next to you there, if you'd like to stamp it and mark it appropriately.

I'm not getting your only copy, am I?

MR. KENDRICK: I think we have another.

EXAMINER STOGNER: Okay. Well, if you need another one give me a call.

MR. KENDRICK: Okay, I'm handing you what has been marked as Exhibit 5A, the letter from the OCD dated December 12th, 1997, giving Mobil a 90-day permission to inject in the three subject wells.

EXAMINER STOGNER: Exhibit Number 5A will be a part of the record. And that was dated March 12th, so the 90 days starts that date, I assume.

MR. KENDRICK: I believe it starts with the first

day of injection, rather than the date of the letter.

Q. (By Examiner Stogner) Oh, okay. Have they started -- When did they start injecting, do you know?

A. I think Mr. Calvin will go over that a little later, but that is in Exhibit --

Q. Well, if that will be covered later we'll get to it at that time.

MR. KENDRICK: Exhibit 10.

THE WITNESS: Exhibit 10.

EXAMINER STOGNER: I have no other questions of Mr. Meeks at this time.

MR. KENDRICK: Okay.

EXAMINER STOGNER: You're excused.

THE WITNESS: Thank you.

MR. KENDRICK: I'd like to call Mr. Chris Cuyler.

CHRISTOPHER R. CUYLER,

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

DIRECT EXAMINATION

BY MR. KENDRICK:

Q. Mr. Cuyler, could you state your full name and your employer for the record?

A. Yes, my name is Christopher Robert Cuyler, and I work for Mobil Exploration and Producing U.S. Incorporated.

Q. And what is your position and what are your

responsibilities with Mobil?

A. I'm a production geologist. I'm in charge of maintaining, amplifying production for all of the fields in the south plains area, one of which includes the North Vacuum-Abo and associated Vacuum horizons.

Q. And how long have you been with Mobil?

A. I've been with Mobil for ten months.

Q. And prior to Mobil, where did you work in the oil industry?

A. I worked for Frost Oil Company in San Antonio, Texas.

Q. For how many years?

A. For four years prior to that.

Q. And what were your responsibilities?

A. There also, I maintained production, general workovers, recompletions, even did some other lease work and associated tasks involved with the oil industry.

Q. And prior to your job with Frost Oil, did you have any other oilfield experience?

A. I mudlogged in south Texas for eight months prior to that.

Q. And what is your educational background relevant to your job?

A. I received my bachelor's degree in geology, bachelor of science in geology, from Baylor University in

1992 and a master's in applied geology from the University of Texas in San Antonio in 1996.

Q. And are you familiar with Mobil's Application today?

A. Yes, I am.

MR. KENDRICK: Mr. Examiner, I would request that Mr. Cuyler be qualified as an expert in the field of production geology.

EXAMINER STOGNER: Mr. Cuyler is so qualified.

Q. (By Mr. Kendrick) Okay, Mr. Cuyler, let's turn to the exhibits. Could you tell us -- Could you identify what's in Exhibit 6 and review it for us?

A. Yes, Exhibit 6 consists of for each of the three, our three injection wells, the 136, 156 and 213, it consists of drilling-permit application data and completion-report package information.

Page numbers for the drilling-permit application data are pages 1 through 13, and the -- for the 136. And then the completion-report package information is found on pages 14 through 23. And it's the same order repeated for the North Vacuum-Abo 156 and North Vacuum-Abo Number 213 injection well.

Q. Is there anything special in this exhibit you'd like to draw the Examiner's attention to?

A. No, it's pretty much just general well

information. There's a wellbore sketch -- or sketches, pardon me -- on pages 5 and 6. Just show the comparison between the previous vertical injection well and the planned horizontal lateral off of that injection well.

Q. So you're saying that Exhibit 6 is primarily reference material?

A. Yes, sir.

Q. And Exhibit 7 will -- The next exhibit will probably go into more detail as to how these wells were completed?

A. Yes.

Q. Okay, so let's turn now to Exhibit 7, and can you review that for us?

A. Sure. This also is similar to Exhibit 6 in that it's the same packet of information provided for each of the three injection wells. We'll turn to page 1. It's the general information sheet for the Number 136.

Some interesting items of note are the current injection interval, which is primarily just the open-hole interval with a horizontal lateral from 8402 to 9376, compared with, under B, number 4, the vertical perfs in the previous vertical well were 8525 to 8680.

And that was one of our main goals in this project, was to isolate these horizontal laterals in our pay zones, as opposed to over the broad Abo pay horizons.

I would like to refer people to page 10, which shows -- of this same exhibit. Page 10 shows the proposed versus actual drill path for our well. And as you can see, they're very close if not identical in most places.

So we were able to place the lateral where we needed to in the reservoir and our main pay.

Page 11 is -- Well, actually shows exactly how our horizontal lateral was placed in our porosity zones. I'll explain this diagram a little bit in that the red lines are the top of our individual horizons. All of this is within the Abo formation, but we have broken it down into Abos A, B, C, D, E and F, to isolate the different pay zones.

Our main pay is the Abo D, which is the zone between the two lines where the colored polygons come off, and it shows how our lateral was placed directly in the main pay of the Abo D, which is the main pay in the field, and we were able to place the horizontal lateral in the dead center of our main pay.

Q. What color is Abo D?

A. Abo D is the pink, the yellow and the blue. Those are individual porosity stringers within the Abo D. Abo D is termed our main pay, but out of that main pay the red on top is the -- I guess the main of the main pay.

These were broken apart primarily on anhydrite

beds. There's a very persistent anhydrite bed in the top of the Abo B, and another persistent anhydrite bed in the top of the Abo D, both used as markers and both used as impermeable flow barriers to injection.

I wanted to get into a little bit on the drilling of the wells, in that it wasn't very far out vertical section away from the well, and that's the place where the drill bit is compared to the well on the map view; it's the vertical section.

Very close in to the vertical well we were experiencing conditions that would suggest unswept reservoirs, such as a high amount of free gas, we were experiencing oil in the pits, a very good cut, and fluorescence in the cuttings that came back, which would indicate to me as well as the -- I think it was page 2 of Figure 1, the 28 percent recovered cumulative to date, that we are not sweeping the reservoir efficiently with our previously existing vertical wells.

Even after 20 years, only recovering 28 percent, we were drilling some of these wells -- and I have the footages here -- before we experienced what I call virgin reservoir conditions.

On our three injections we were -- On 136 we were 179 feet vertical. The 156 we were 278 feet, and the 213, we were 285 feet. And all three of those radiuses are

much, much shorter than you would expect for a waterflood that's 25 years old, which would indicate that our laterals not only help us in concentrating our injection into the zones that were producing, but it also helps us to increase recoverable reserves that we wouldn't have received from the vertical wells prior.

And it's the same information presented for all three of the injection wells in this Exhibit 7.

Q. I notice on page 1, that this an open hole throughout the injection interval. Is that a problem in terms of isolating the injection into the pay zone?

A. No, it's not a problem in that we've run some tests and found that a majority of the injected water goes out what they call the heel and the toe of the lateral, the heel being the -- at the bottom of the curve -- Let me show an example.

Let me refer you to page 10, where it has a wellbore diagram.

We've found that most of our injected fluid goes out the heel, which is at the base of the curve where it stops becoming curving and is almost at 90 degrees, and then the rest goes out the toe, which at the very end of the lateral.

So most of our injection will be going out the heel and the toe, which is in our Abo main pay, and also

the laterals replaced within our unitized Abo in such a way that there's no danger of injecting out of zone.

Q. And would you speak a little bit about the confining zones of the Abo formation?

A. Yes, I'll refer you to B.5. on page 1 of Exhibit 7, shows that the Drinkard formation is 1000 feet above the Abo.

And I need to also clarify that in that our Abo pay is found approximately 500 feet down into the Abo formation So the next formation above us is 1000 feet, plus the plus or minus 500 feet found between our pay and the top of the Abo formation proper.

And below we have approximately 800 feet before the next productive horizon, as well as, as I stated before, on page 11, we have two very persistent anhydrite beds that serve as flow barriers.

Q. Okay. Are there any other points you'd like to make about Exhibit 7?

A. I believe that's it.

Q. Okay, in your opinion, will this project, these three injection wells, increase sweep efficiency and ultimate recovery of oil?

A. Definitely.

Q. Did you participate in the preparation of Exhibits 6 and 7?

A. Yes.

MR. KENDRICK: At this time, Mr. Examiner, I'd like to move admission of Exhibits 6 and 7.

EXAMINER STOGNER: Exhibits 6 and 7 will be admitted into evidence at this time.

MR. KENDRICK: And that concludes my direct examination.

EXAMINATION

BY EXAMINER STOGNER:

Q. Mr. Cuyler --

A. Yes, sir.

Q. -- you had mentioned that you had determined -- that it was determined that the majority of the injected fluid would go out either the heel or -- and the toe. How was that determined? Did you do a spinner survey?

A. There are some -- They've done of those in other fields that we've had, as well as studies done by other oil companies in Midland and a bunch of the seminars and stuff, that almost 95 percent of the time it goes out the heel and the toe, being a little weighted more toward the heel. If you consider 100 percent of the injected fluid goes out the heel and the toe, 60 percent of that will go out the heel and 40 percent out the toe. It's just a general rule of thumb.

Q. Once these injection -- and the producing

horizontals, for that matter, were they stimulated in any way?

A. Yes, sir, the 156 and the 213, our second and third injection well, as well as both of the producers, were frac'd with a 15-percent -- and I need to refer you back to Exhibit 6, page 23 on the completion. It has an elaborate list of the completion techniques they used. Fifteen percent hydrochloric acid, 15,000 gallons, as I recall.

Q. I'm sorry, what page on Exhibit 6?

A. Exhibit 6, page 23.

Q. I've got a diagram.

A. Or pardon me, Exhibit 5. I told you wrong.

Q. Exhibit 5.

A. Exhibit 5, page 23.

Q. Okay, I don't have a page --

MR. CARROLL: No, Exhibit 6.

EXAMINER STOGNER: Exhibit 6, page 23. I have a diagram.

THE WITNESS: Okay.

MR. KENDRICK: Mr. Examiner, go forward three pages from the diagram that you're looking at.

EXAMINER STOGNER: Three pages forward.

MR. KENDRICK: At the top it says Attachment C-103. Does that match what you have?

EXAMINER STOGNER: Okay -- well -- Yes, I do have an Attachment C-103 --

MR. KENDRICK: Okay, second --

EXAMINER STOGNER: -- and there's two --

MR. KENDRICK: It's the second of those two pages on the --

EXAMINER STOGNER: Okay.

MR. KENDRICK: -- completion.

EXAMINER STOGNER: Okay. So that's page 16 that I have.

THE WITNESS: Okay.

Q. (By Examiner Stogner) And then that talks about your completion technique?

A. Yes, sir, an elaborate breakdown on daily completion report.

Q. Well, does it hold true when you're doing this kind of completion or frac, would most of the frac go in the heel and the toe?

A. It's not know exactly where most of the frac goes. Of course, the optimal frac would be a longitudinal frac straight down the lateral, but I don't know that there's any way to test exactly where the frac goes or the extent of the frac, the height of the frac, et cetera.

We are fortunate in the fact that we have -- two bounding anhydrites above the Abo D, our main pay, which

would serve to confine them, as well as vast footages of dolomite in general, above and below our pay zones.

Q. I'm aware that this is the first horizontal injection test here in New Mexico, at least by Mobil. Has Mobil attempted this anywhere else with their holdings?

A. Yes, sir, we, in our south plains asset management group, which is the group we're all responsible to, there's -- maybe half of our fields have active horizontal injection wells, the vintage of maybe which are ten years old. So it's a relatively proven technique. And that's -- A lot of the -- about the heel and the toe with the injection, a lot of that was found in our Texas fields.

Q. Okay, so that didn't come as any surprise?

A. No, it didn't.

Q. And any of your horizontal injections within the Abo formation over in Texas?

A. No, sir.

Q. This is the first?

A. The actual geologic nomenclature breaks it up slightly, in that when you get into Texas they don't call it the Abo. But even its correlative horizon in Texas, there's none that Mobil operates.

Q. Okay. Are there any other projects that you're aware of by other companies at the Abo formation as it extends in Texas, whatever notation that Texas gives it? I

have no idea.

A. No, sir, from all I know, these are the only three horizontal injection wells in the Abo in the area.

Q. Okay. Actually, ARCO did, but those were production wells way back in the early Seventies in the Empire Abo --

A. Production --

Q. -- they were never injection --

A. -- producers.

Q. In fact, I think they were some of the first horizontal --

A. I think you're right.

EXAMINER STOGNER: -- of modern times.

Well, I have no other questions of this witness, Mr. Kendrick.

You may be excused.

THE WITNESS: Thank you.

MR. KENDRICK: Okay, the next witness is Mr. Marc Calvin.

W. MARC CALVIN,

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

DIRECT EXAMINATION

BY MR. KENDRICK:

Q. Please state your full name and employer.

A. I'm W. Marc Calvin, and employer is Mobil Exploration and Producing U.S.

Q. What is your position and responsibilities with Mobil?

A. I'm a senior staff reservoir engineer. My job description, I look after capital development programs, field surveillance, pattern analysis and some reservoir characterization.

Q. And prior to your employment with Mobil, were you employed in the oil and gas industry?

A. Yes. I have 18 years with Mobil, and prior to that I had about ten months, almost a year, with Welex as open-hole logging engineer.

Q. And what is your educational background relevant to your profession?

A. I received a BS degree in petroleum engineering in 1980 from Texas A&M, and also a BS degree in engineering technology in electronics in 1976.

Q. Are you familiar with the Application before us today?

A. Yes, I am.

MR. KENDRICK: Mr. Examiner, I request that Mr. Calvin be qualified as an expert in the field of reservoir engineering.

EXAMINER STOGNER: Mr. Calvin is so qualified.

Q. (By Mr. Kendrick) Okay, Mr. Calvin, could you turn to Exhibit 8 and review it for us?

A. Okay, Exhibit 8 is our three -- a graph showing our three horizontal injection wells. It shows our rates and the pressures over a time period starting in the last part of December, 1997.

The rates are shown by the solid red, blue and orange curves on the lower half of that graph, and then the dotted curves above are wellhead pressures related to those three wells.

Q. How do the injection rates compare to the injection rates for vertical wells in the field?

A. You can see, I have in the legend, the average 1996 water injection rates for the three wells.

The 213 has gone -- It's the blue line on the lower section of curves. It -- 1996 average is 133 barrels a day, and currently it's about 300 barrels of water per day.

The other two wells have been about 250 barrels of water a day in 1996, and they are -- Well, one well is running about that 250 barrels a day, and the other well has climbed up to about 300 barrels a day.

Q. Is this about the rate you expected?

A. No, we expected to get -- On the one well -- the Number 213, that is -- we've doubled our injection rate out

there. We expected to get two to three times what our injection was for a typical vertical injection well.

Q. Okay. And focusing now on injection pressures, could you review again what you are injecting at right now?

A. Well, that -- All three of the wells are coming in around 4000 pounds there.

I guess on page 2 would be a better breakdown, in that same exhibit, of individual wells and associated pressures with those. You can see that the pressures are running from 4000 up to 4150 p.s.i.g.

Q. What historically have you had permission to inject at for these three wells?

A. Okay, in page 3 of that exhibit, as vertical wells -- actually page 4, we have the Number 136 at a permitted vertical pressure of 4050 and the Number 156 at a vertical permit pressure of 4200 pounds.

Q. And what about the Well 213?

A. The 213 was -- That one did not have a stated injection pressure. That was a prior well. That was a 1976 conversion. So it did not have a state maximum pressure.

Q. Okay, and what injection pressure are you seeking today for each of these three wells?

A. We would like to get an injection pressure of 4200 pounds for all three wells.

Q. And what is the basis for that request?

A. That's just the typical operating that we had prior as vertical injection wells.

Q. And I understand you did some step rate tests on these wells?

A. Yes, we had Halliburton out in October of 1997. They ran step rate tests. Those are shown on pages 5a, b and c. And these were prior to the horizontal laterals being drilled.

For each well, on the Y axis is wellhead pressure, on the X axis is the injection rate in barrels per day.

And as you can see, looking at the three, there was not much breakover, up to some 4400 pounds on the 136 and the 156, and the 213 was approaching 4800 pounds with no breakover.

Q. So you would say that 4200 pounds is a pretty conservative injection pressure?

A. Yes.

Q. And could you state again when this test was done and what the condition of the wells was when the test was performed?

A. Again, that was October, 1997, that they were injection as vertical injectors, that we conducted these tests.

Q. Okay, let's turn to page 6 of Exhibit 8. What does that show?

A. Exhibit 6 is just the water analysis taken from our central water station at the injection pump discharge. And this is Ogallala water that we're using for our injection water, and this is the results of that test.

Q. I believe you said Exhibit 6. I think you meant Exhibit 8, page 6?

A. Yes.

Q. Okay, anything further to say on Exhibit 8?

A. No.

Q. Okay, let's turn to Exhibit 9. What does that show?

A. Exhibit 9 is showing our project area for our expansion of this project. It's roughly 200 acres. The wells are on 40-acre spacing with the 80-acre injection patterns.

We have six vertical offset producers in this pattern area, two horizontal producers and the three horizontal injectors.

Production from this area is roughly 319 barrels of oil a day, 830 barrels of water per day and 254 MCF per day.

Q. Okay, any further comments on Exhibit 9?

A. No.

Q. Okay, let's turn to Exhibit 10, which I understand is -- summarizes Mobil's Application for qualification as an enhanced oil recovery project.

A. Yes, again, this is just project description that was necessary for the Application. The producing wells are there, the eight wells, the 244 and the 278 are the horizontal producers, and then there are three horizontal injection wells.

Item 3, it was -- The total cost for sidetracking the three injection wells and two producers was a little over $2 million.

And under 4, the incremental production that we expect to get was approximately 326,000 barrels of oil and 209 million cubic feet. At flat pricing for the oil and gas, that revenue, total revenue for that, would come to about $6.4 million.

And then item 5 is showing the injection wells and the dates of their active injection as horizontals.

Q. And I understand that the letter from the OCD dated December 12, 1997, gives Mobil 90 days to run injectivity tests?

A. That's right.

Q. And that 90 days would start on the date specified in item 5?

A. Right.

Q. Okay, please continue with Exhibit 10.

A. Item 6 there, we are going to use fresh water from our own system, and we anticipate those injection volumes to be about 350 barrels a day per well.

Q. Okay, anything further on Exhibit 10?

A. No.

Q. Okay, let's turn to Exhibit 11, and could you identify and review it for us?

A. Again, this was -- Exhibit 11, this first page is showing the produced, the historical and the forecasted rates for oil, water and gas, as requested by the Application.

You can see the oil curve is the curve in black, and it had a decline of about 12 percent per year, and you can see that is carried out on the base waterflood, which is the red dotted line extending from that black point in 1997.

And then the anticipated uplift from the project area is the curve, the black curve, from 1998 forward.

Q. So the black line represents historic and forecasted total oil production?

A. Right.

Q. And the dotted line represents what the project would have produced, the barrels of oil produced, in the absence of the injection wells --

A. Right.

Q. -- the horizontal injection wells?

A. That's correct.

Q. Okay. Let's turn to the second page of Exhibit 11.

A. The second page here is showing the breakout between what production we expect from our vertical offset producers, and the -- and that as shown in the black. Again, that's the black line extending from 1998 forward. And the difference there is that the red dotted line is again the base waterflood.

So that's the incremental difference we expect from our vertical offset producers in that project area that was highlighted. The difference between the black line and the forecast total would be our production expected from our two horizontal producers.

In 1998, from our vertical offset wells, we expect about 48 barrels a day. And our horizontal production for 1998, we expect about 119 barrels a day.

EXAMINER STOGNER: Is that apiece, or total?

THE WITNESS: Total.

EXAMINER STOGNER: Total.

THE WITNESS: Right. Again, this curve represents the total for those project areas, for the project area.

EXAMINER STOGNER: So that would be about 60 barrels a day for a horizontal well, producer?

THE WITNESS: Right.

EXAMINER STOGNER: Okay.

THE WITNESS: Let's see. And again, I guess from the vertical offsets we expect about 28 percent of that production, incremental production, and the 71 percent from the horizontal producers.

And that's all I had on that page.

Q. (By Mr. Kendrick) Okay, let's turn to page 3 of Exhibit 11.

A. Page 3 is a forecasted production for the Number 278, which is a horizontal producer, and it's forecast from 1998 forward. The red line extending from about 1997, roughly, is the base waterflood decline. And then the incremental production is outlined in blue above.

Q. And so those data points showing the increase in production, what were the dates of that, unless -- You may have that information later, but --

A. Yes, I have some production data later, showing the well tests for 1997, that I'll cover.

Q. Approximately when did this well go on line as a horizontal producer?

A. It started producing on August the 16th of 1997. The vertical well production prior to doing the lateral was

45 barrels of oil a day and 16 barrels of water a day, 39 MCF of gas. It was a 73-percent oil cut well.

And the current production well test from February has been 95 barrels of oil per day, 113 barrels of water and 65 MCF a day.

Q. Okay, let's go to page 4 of Exhibit 11.

A. Okay, page 4 is showing the Number 244 horizontal producer. Again, we have the prior history, and the blue line is showing the base waterflood decline expected. And then the 1998-forward forecast for production from this well.

Prior production as a vertical well was 41 barrels of oil a day, 114 barrels of water a day and 36 MCF a day. It started production as a horizontal producer on September 11th, 1997, and the current production has been running 58 barrels of oil a day, 224 barrels of water a day, and 60 MCF a day.

Q. Okay, let's go to the last page, which is -- I guess it's not numbered, but it's the fifth page of Exhibit 11. What does that show?

A. Right. Again, this is both horizontal producers out there, and these are the well tests as horizontal producers from August forward.

The Number 278 is shown in red and the Number 244 in blue.

Some of the interruptions for the Number 278, oh, kind of between October and December, was well work. That's why we don't show any tests.

Q. In your opinion, has there been any positive production response in these horizontal producers Number 244 and 278?

A. Yes, we feel like there has been.

Q. And the dates of that initial positive production response were -- Could you repeat that?

A. Let's see, again, that was -- For the Number 278 it was August 16th of 1997, and for the Number 244 it was September 11th, 1997.

Q. Is there anything further in Exhibit 11 you'd like to discuss?

A. No, that's it.

Q. Okay, let's turn to Exhibit 12. Could you review that for us?

A. Exhibit 12 is a letter, it's a copy of our Application that was sent to the surface owners and the offset producers in the area, and that covered the Application for the three horizontal injection wells and getting an administrative procedure for approval of future horizontal wells, and then the qualification for the EOR tax.

Q. So you're saying that the offset operators and

surface owners were given proper notice of this Application?

A. Yes.

Q. Any other points you'd like to make on these exhibits?

A. No, I believe that's it.

Q. In your opinion, would the granting of this Application be in the best interests of prevention of waste and protection of correlative rights?

A. Yes, it would.

MR. KENDRICK: Mr. Examiner, that concludes -- Well, let me get these into evidence.

Q. (By Mr. Kendrick) Mr. Calvin, did you participate in preparing Exhibits 9 through 12?

A. Yes.

MR. KENDRICK: At this time, Mr. Examiner, we'd like to offer Exhibits 9 through 12 into evidence.

EXAMINER STOGNER: Exhibits 9 through 12 will be admitted into evidence at this time.

MR. KENDRICK: And that concludes my examination.

EXAMINATION

BY EXAMINER STOGNER:

Q. Mr. Calvin, have you seen any response, either from vertical or the horizontal producers, subsequent to the startup of injection in the horizontal injector?

A. For the horizontal producers, no, we have not yet.

Q. How about for the vertical producers?

A. Yes, we feel like the Number 278 with the water production was -- I believe that was over 200 barrels a day. That is, it had some effect on those offset injectors, horizontal injectors.

Q. Okay, I'm looking at Exhibit Number 9. Again, which vertical well do you feel -- or which horizontal well -- I'm sorry, which --

A. The --

Q. -- 278?

A. -- Number 278.

Q. Okay, that's a horizontal producer, right?

A. Right, it's offset to that Number 136.

Q. Okay, what's that W16 well just right above the Number 278? Is that an injector, producer or water supply?

A. Oh, that's -- That's another well in another horizon.

Q. Okay. So that's not an injector --

A. No.

Q. -- in that zone, okay.

And as far as the Number 244, that horizontal producer, you haven't seen any response on it?

A. It's been very, very little. Like I said, as a

vertical well it was about 40-something barrels a day, and right now it's making about 58 barrels of oil.

Q. And that's just due to the horizontal producers?

A. Right.

Q. Okay, on Exhibit Number 10 -- this is your enhanced recovery Application portion of it -- you talk about the $2.02 million. Are there any additional moneys for the injective equipment or anything like that, or is that all the capital outlay out, is just for the drilling of the injection wells?

A. Right, well, that money included the producers also, but yes, we are through -- finished spending money on those injection wells --

Q. Okay.

A. -- as far as equipment.

Q. So when I look at page 2 of Exhibit Number 11, if I'm reading it right, that's going to represent that 326.1 million barrels of oil incremental production above what the base waterflood decline was?

A. 326,000.

Q. Okay, I'm sorry, 326,000 barrels.

A. Yes, sir, above --

Q. Everything under the pink?

A. Right.

Q. Or between the pink and the red dotted line.

A. Well, the red dotted line and the black forecast --

Q. Okay.

A. -- curve.

Q. The other is just a rate?

A. Right, the gas rate.

Q. And Texaco is the only offset operator within that half mile, and that's within the other horizons also?

A. Right.

Q. Okay. That's all state lands.

MR. KENDRICK: Actually, Mr. Calvin, is it true -- Is Texaco within a half mile?

THE WITNESS: Well, actually they're more than a half mile. At the time we were going to do another well, the 220, and that's a well -- that would have put us within a half mile of Texaco. But we elected not to sidetrack that well.

MR. KENDRICK: So in effect, we weren't required by the rules to notify Texaco --

THE WITNESS: Right.

MR. KENDRICK: -- but we did anyway?

THE WITNESS: Right.

Q. (By Examiner Stogner) Oh, okay. So that's -- With these three particular wells, Texaco is outside the half-mile review?

A. That's right.

Q. And that's only Mobil production?

A. Right.

Q. Even above and below?

A. Uh-huh.

Q. Because I do show -- I believe there's a gas well if I refer to the map on Exhibit 5, in the middle of Section 23, there appears to be a gas well in there. Do you have that one?

A. Middle of Section 23?

Q. Yeah. Looks like it's marked Well Number 151? At least there's a gas well emblem. In the middle of the page.

A. Yeah.

Q. Is that a Mobil well?

MR. MEEKS: Can I answer that?

MR. KENDRICK: Mr. Meeks, I believe, has an answer for that question.

EXAMINER STOGNER: Okay, Mr. Meeks? Because I was going to get back around to you anyway.

MR. MEEKS: 151 at one time was an Atoka Morrow-type well. It has been plugged back, and it is now a North Vacuum-Abo well.

EXAMINER STOGNER: Oh, okay. I'm sorry, Mr. Meeks, I was going to get back to Mr. Taylor.

EXAMINER STOGNER: Mr. Taylor, this -- In looking at the half-mile --

MR. KENDRICK: It's Mr. Cuyler.

EXAMINER STOGNER: I'm sorry, Mr. Cuyler. Looking at the half-mile area of review, you've given me a list of the wells. Of that list of -- It appears to be what? About 25 wells, something like that?

MR. CUYLER: Under --

EXAMINER STOGNER: On page 2 of Exhibit --

MR. CUYLER: -- Exhibit 5?

EXAMINER STOGNER: Yes, sir, Exhibit 5. Okay, those wells -- I know these wells have probably been -- You've probably submitted data prior or previously for other waterflood expansions, but has there been any significant work done on any of these wells that would change the casing or the cementing programs since that time?

Part of the UIC program is to review these, and that's one of the reasons why we're here today, is to review within this half-mile radius for these additional injection of waters, or configuration.

So one of the things we need to do periodically -- and that's essentially what we're doing -- is taking a look at these wells within a half-mile area of review. And I notice that you didn't give me a diagram.

Not that it's necessary on each well, but I don't have the casing and cementing program, what the completion of them are, and have they changed significantly, any of them, over the last few years in which you have come in and got other previous exceptions or previous expansions for the project?

MR. CUYLER: I don't believe so.

EXAMINER STOGNER: I'll tell you what, why don't you submit to me a diagram of those -- I'm sorry, not a diagram but a summation of those wells showing me the cement tops? You know the program, we have done it before on other C-108s.

Mr. Meeks, do you have something to say?

MR. MEEKS: I was going to say, when we submitted the C-108, that information is included in the C-108.

EXAMINER STOGNER: Is it? And -- Okay, it's not made a part of this exhibit today?

MR. MEEKS: No, sir.

MR. KENDRICK: Right, it has not been. It's bulky, you know, it's many pages of information. And we could, if you prefer, make that a part of this hearing record.

EXAMINER STOGNER: Well, let me make sure I make a -- let's make it a part of the record -- if I do, we'll need to have it in here.

Okay, now you're referring to the C-108 that was

filed at the time of the Application in this case; is that correct?

MR. KENDRICK: Yes. And the information that you're asking about is all in Section 6 of the C-108 Application, titled Data --

EXAMINER STOGNER: That's where it is, okay.

Then my most general question, to either one who can answer this question, is, any of those 25 or plus wells within the half-mile area of review, is there adequate cement behind the casing in those areas or those wells, they have --

MR. CUYLER: Yes.

EXAMINER STOGNER: -- penetrated the Abo formation?

MR. CUYLER: Yes, sir.

EXAMINER STOGNER: Okay. And -- Actually, who did the work? Mr. Meek, you're shaking your head yes, but he answered the question.

MR. KENDRICK: It's Mr. Meek's exhibit, actually.

EXAMINER STOGNER: Okay.

MR. MEEKS: We feel fairly comfortable that behind the pipe in the Abo formation, that we have pretty good cement integrity. Obviously, we've been injecting water in the wells that are injection wells there, which I hope we haven't been losing water unproductively. I have

not seen any profile tests indicating that we have a major performance problem.

And the same with the producers. We feel pretty comfortable that our cement behind pipe up through the Abo formation is in good standing, good condition.

EXAMINER STOGNER: You haven't noticed any increase of casing pressures behind that pipe, the Bradenheads or anything like that, in that area?

MR. MEEKS: We have very few problems, actually, with annular pressure in the Abo field. We're very fortunate. It's probably one of our better fields in regard to that.

EXAMINER STOGNER: Good. And we're as interested as you are in keeping it that way.

Mr. Kendrick, is there anything further at this time?

MR. KENDRICK: I want to correct a misstatement. I believe when I moved admission of exhibits, I think I said Exhibits 9 through 12, and I meant to say Exhibits 8 through 12.

EXAMINER STOGNER: Okay, Exhibits 8 through 12 will be admitted into evidence. And I'm going to make a part of the record the C-108 that was made as the Application in this matter.

MR. KENDRICK: Would you like to make the entire

C-108 --

EXAMINER STOGNER: I'm just going to make it a part of the record, as opposed to making it an exhibit.

MR. KENDRICK: Okay.

EXAMINER STOGNER: I'll just make it a part of the record.

MR. KENDRICK: Okay. Then I would just conclude by saying that, just to review quickly what we're seeking, Mobil is seeking authorization to inject fresh water into the three horizontal wells, 136, 156 and 213, within the North Vacuum-Abo Unit Pressure Maintenance Project in Lea County.

We're also seeking a determination of an administrative procedure for consideration of future applications by Mobil for horizontal injection wells in the project area.

And we'd like approval of the area described in Exhibits 9 and 10 as an expansion of an existing oil recovery project to qualify for the recovered oil tax rate under the Enhanced Oil Recovery Act.

And we would like certification of a positive production response for the wells in this expanded portion of the project, effective September 1, 1997, and that's based primarily on the increased production of Well 276 -- I'm sorry, Well, 278. Because September 1st is the first

day of the month following the increase in production in August of 1997.

EXAMINER STOGNER: Okay, when did that injection start, Mr. Kendrick?

MR. KENDRICK: The injection started --

EXAMINER STOGNER: In November of 1997 -- December of 1997?

MR. KENDRICK: December of 1997.

EXAMINER STOGNER: And you want it back to September of 1997, prior to the injection?

MR. KENDRICK: Yes. The theory is that this is a pressure-maintenance project already, and by increasing -- by converting two of the vertical producers into horizontal producers, we feel that conversion is part of an enhanced oil recovery project and that we're asking -- and that we have seen a positive production response, particularly in Well 278, beginning in August of 1997.

EXAMINER STOGNER: Will that tax credit allow me to do that?

MR. KENDRICK: I believe so. This is a question of first impression, but we wouldn't be asking this if there were no -- if we were not in a pressure-maintenance project already. If we were just drilling a horizontal producer somewhere else, we wouldn't be asking.

But in view of the fact that those two horizontal

producers are within a pressure-maintenance project, we believe it will help make that project work better, work more efficiently, and would therefore be eligible for a certification of a positive production response.

EXAMINER STOGNER: Okay, Mr. Kendrick, I believe that the rule or law itself that set that up specifically forbid just the additional drilling within an existing project. Correct me if I'm wrong. I don't have that in front of me.

How would the drilling of a horizontal well differ from, say, drilling an additional vertical well within an existing waterflood project that would not be allowed that tax credit?

MR. KENDRICK: Well, I think it's -- this is a more -- It's a new technology, a new investment for a type of well where you're getting a lot more -- you're getting much more efficient -- sweep efficiency in a waterflood, a pressure-maintenance project.

So I think it's worth considering, I think it's something -- I know it's never been asked for before, but we have seen it increasing in production with this horizontal producer.

I realize this is a two-step process, and the first step is to obtain approval of this project as an enhanced oil recovery project. Actually, it's an expansion

of a prior project.

EXAMINER STOGNER: Right, and that's the UIC portion of it.

MR. KENDRICK: Right. And then we're adding the additional request of certifying a positive production response retroactively, based on the performance of the horizontal producer.

EXAMINER STOGNER: To September 1st?

MR. KENDRICK: Yes.

EXAMINER STOGNER: Okay. That is a particular situation I'm going to have to review a little bit closer, as far as making it retroactive, the first injector and first injection of those horizontal producers. No problem with that, but going back further for two months, I'm going to have to look into it a little bit more.

MR. KENDRICK: If you'd like, we could maybe file a supplemental -- a letter giving our arguments --

EXAMINER STOGNER: Yeah, you can always do that.

MR. KENDRICK: Okay.

EXAMINER STOGNER: Now, you had mentioned also the administrative procedure for subsequent horizontal injectors. This is just for the UIC portion of it.

MR. KENDRICK: Yes.

EXAMINER STOGNER: How would that be -- I don't believe I heard any testimony about what your

administrative proposal would --

MR. KENDRICK: Right, we understood that you didn't really want us to set out a procedure but just ask for one and then it would be your call as to what the procedure is. We simply would like to have a procedure that doesn't involve a hearing every time. Basically, we'd like to be allowed to do these requests administratively, in accordance with the rules.

EXAMINER STOGNER: Like essentially doing it like a present expansion would be now, our WFX administrative process?

MR. KENDRICK: Yes.

EXAMINER STOGNER: Okay, so that's --

MR. KENDRICK: Yeah, nothing fancy, just the usual administrative process without a hearing.

EXAMINER STOGNER: Is there anything further?

MR. KENDRICK: No, sir.

EXAMINER STOGNER: Okay, if you'll submit to me your brief or explanation or further research into that, then I'll take this matter under advisement.

And with that, let's take a 15-minute recess.

(Thereupon, these proceedings were concluded at 10:30 a.m.)

* * *

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 11924, heard by me on 19 February 1998.

Examiner

Oil Conservation Division

CERTIFICATE OF REPORTER

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

I, Steven T. Brenner, Certified Court Reporter and Notary Public, HEREBY CERTIFY that the foregoing transcript of proceedings before the Oil Conservation Division was reported by me; that I transcribed my notes; and that the foregoing is a true and accurate record of the proceedings.

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

WITNESS MY HAND AND SEAL February 21st, 1998.

STEVEN T. BRENNER
CCR No. 7

My commission expires: October 14, 1998