STATE OF NEW MEXICO

ENERGY, MINERALS, AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION

ORIGINAL

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

STAR OIL AND GAS COMPANY FOR AUTHORIZATION TO INJECT, LEA COUNTY, NEW MEXICO

Case No. 14874

TRANSCRIPT OF PROCEEDINGS

EXAMINER HEARING

BEFORE: RICHARD EZEANYIM, Technical Examiner
DAVID K. BROOKS, Legal Examiner

June 25, 2012

Santa Fe, New Mexico

This matter came on for hearing before the New Mexico Oil Conservation Division, RICHARD EZEANYIM, Technical Examiner, and DAVID K. BROOKS, Legal Examiner, on Monday, June 25, 2012, at the New Mexico Energy, Minerals, and Natural Resources Department, 1220 South St. Francis Drive, Room 102, Santa Fe, New Mexico.

REPORTED BY: PAUL BACA, CCR #112
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A P P E A R A N C E S

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CHAIRMAN BROOKS: Back on the record.

At this time we'll call Case Number 14874, application of Star Oil and Gas Company for authorization to inject, Lea County, New Mexico.

I call for appearances, please.

MR. HALL: Mr. Examiner, Scott Hall, Montgomery & Andrews Law Firm, Santa Fe, appearing on behalf of the applicant Star Oil and Gas, with one witness today.

(Witness sworn.)

MOHAMMED YAMIN MERCHANT,

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

EXAMINATION

BY MR. HALL:

Q. For the record, state your name.

A. Mohammed Yamin Merchant.

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

A. Hobbs, New Mexico. I'm employed by Penroc Oil Corporation, in Hobbs.

Q. In what capacity for Penroc?

A. I'm president of Penroc.

Q. What is your relationship to Star Oil and Gas?

A. First, we are family friends. Second, I'm working on his behalf to get this disposal application through the process.

Q. You're authorized to testify on behalf of Star?

A. I'm authorized to testify for Star and have a letter to that effect with me.

Q. Okay. You've previously testified before the division, but I think it's been some time. If you would, review your educational background and work experience for the Examiner.

A. Yes. I testified when I had hair, so that was many moons ago.

I got a degree in chemical engineering from the School of Mines in South Dakota. I worked with Getty Oil for five years.

Since 1980, I've been independent, have built and sold several companies, operated as many as 450 wells in Lea and Eddy County and Andrews and Ector County, Texas.

MR. HALL: All right. At this point, Mr. Examiner, we would offer Mr. Merchant as qualified to express opinion testimony as an expert engineer/oilfield engineer.

CHAIRMAN BROOKS: So qualified.

Q. (By Mr. Hall) Mr. Merchant, you're familiar with the application that's been filed in this case?

A. Yes, sir, I am.

Q. And the lands that are the subject of the application?

A. Yes, sir, I am.

Q. Would you explain to the Examiner what Star is seeking by this application?

A. What Star is trying to do is take this well, New Mexico State A Number 1, located in Section 25, 16/33, Lea County, New Mexico, and convert that well to saltwater disposal.

The well currently is submarginal, barely makes 3 MCF a day. And if -- if we don't convert to disposal, we're going to end up -- they're going to end up plugging it. And that's -- that's what we're seeking, is a saltwater disposal approval.

Q. All right. Did Star first make application for administrative approval of the well?

A. Yes, we did.

Q. And are we appearing here today at the request of the division to put this case on the record?

A. As far as I know, that is correct.

Q. Let's look at what we've marked as Exhibit 1.

Is this a copy of the C-108 application that is filed on behalf of Star?

CHIEF ENGINEER EZEANYIM: Yes. Mr. Hall, let me -- I'm sorry about that.

Why are we here today?

MR. HALL: We were directed to come to hearing by Mr. Jones. There was no objection from any other operator or interest owner, but simply at the direction of Mr. Jones.

CHIEF ENGINEER EZEANYIM: Okay. And maybe the testimony will reveal why he did that, right?

MR. HALL: It may. There is -- the application is for injection to the Wolfcamp formation.

CHIEF ENGINEER EZEANYIM: Okay.

MR. HALL: And there is -- Wolfcamp production is largely depleted, but Mr. Merchant will explain.

CHIEF ENGINEER EZEANYIM: Okay. I see the reason why now. Okay. Go ahead.

Q. (By Mr. Hall) Let's look at Exhibit 1.

Did you assist in the preparation of the C-108 application?

A. Yes, sir, I did.

Q. Okay. Why don't you explain how this interval of the Wolfcamp formation was selected for injection.

A. Two reasons -- maybe three.

The first one is the well is depleted. It's going to be plugged. It's going to be a loss to the operator, to the state, to the taxpayers of New Mexico.

Second, there's already a disposal well that exists. We are located in unit letter K of Section 25. There's a disposal well in unit letter O in the same formation.

And third, sometime in the life of injecting fluid in the subject well -- I mean, we've pulled out almost 7 to 8 million barrels of BOE, all water plus -- plus gas. And some day it might help the offsetting wells. I don't know how long it will take to -- it might take ten years at the current projected rate of disposal. It might help the offsetting production, but I can't sit here and tell you when.

So there are three -- three reasons.

Q. Is there an increasing demand for disposal well facilities in this area?

A. The well located in Section 25, in unit letter O, is a disposal well operated by another water hauling company based out of Maljamar, New Mexico, outside of Lovington, and that is strictly for their own trucks.

There are other disposals in Loco Hills, north of Lovington. At the current rate of activity in the oilfield, the trucks -- there's not enough places to go with the water.

As late as Saturday I was talking to one of the companies in Lovington that said their trucks have to wait three, four, five, six hours in line to dispose of water which, in turn, costs money to the operators. Of course as a service contractor they bill it out, so there's a big need for it at the moment.

Q. Let's talk about the specific well. If we turn to Exhibit 1 and look under Tab A, two pages under Tab A, are these well bore schematics for the well you want to convert?

A. That is correct. It's New Mexico A Number 1. That is the well.

Q. All right. Why don't you discuss for the Examiner the casing and submitting program that you see and where you have located perforations.

A. The well was drilled by Phillips Petroleum. As we can see from the sketch, the surface casing is cemented to surface, the intermediate is cemented to surface in 9 and 5/8 casing. The 5 and a half is -- cement is brought up inside the 9 and 5/8, 5 and a half annulus.

The perforations, of course, are almost two miles away, two miles down, from 10720 to 10808 in the Wolfcamp, which is the same zone where the offset operator is disposing water at the moment.

Q. All right. Are you planning to add new perforations?

A. We're not planning to add anything to it.

Q. So the second page under Tab A, what does that show us?

A. It shows that if the approval is granted for a saltwater disposal well, of course the well configuration would stay the same except we'll have 7/8 internally plastic-coated tubing, which is ready to go, by the way, at the moment. We'll be disposing under a nickel-coated packer set at least 100 feet above the perfs and disposing Wolfcamp perfs from 720 to 10808.

Q. Will you be injecting under pressure?

A. Based on the depleted nature of the

reservoir we don't expect any pressure initially. Based on the well located in unit letter O belonging to the offset operator, it's on a vacuum for the last five years, so we do not expect any pressure initially. But over the course of time it's possible, yes.

Q. All right. Do you expect that the well will be equipped with a back-pressure valve?

A. Yeah. We do that as a practice to all of our injection-disposal wells, to have Murphy switches where they won't get anywhere close to the maximum pressure allowed.

Q. Tell us about the average maximum injection rates you expect to see.

A. It all depends on the market. The well probably will take 1,300 barrels -- that's 10 loads a day, 10 truckloads. So it's -- 10 times 130 is 1,300 barrels a day.

If you put 20 loads in it, that will be 2,600 barrels a day. It all depends what's available from the various operators from Maljamar to Buckeye to Lovington.

Q. And what injection pressures are you asking for?

A. We are asking for the maximum allowed of

2200 PSIG. Once again, based on the offset well we didn't expect any pressure initially.

Q. Okay. And this will be an open commercial system?

A. It will -- it will be open to the public, yes.

Q. Can you discuss for the Hearing Examiner the chemical analysis for the injection fluids?

A. The injection fluids will be from the San Andres, from the Grayburg, from the Wolfcamp, from the Abo. There's a Yeso play going on around Maljamar and Loco Hills. There's a lot of water coming from there.

A lot of the water will be flowback water from the frack fluids, so -- and it's all compatible with what goes in this formation.

Q. Is the water analysis found under Tab D of Exhibit 1?

A. The water analysis, that is the -- that's D, right?

Q. D as in delta.

A. Right. That's the water analysis from the Wolfcamp zone showing the chlorides, sulfates, whatnot.

Q. Let's talk about the Wolfcamp formation.

Did you obtain a report from a geologist for this presentation today?

A. Yeah. Our geologist is a consulting geologist based out of Midland, Texas, 84 years young. He's worked in Southeast New Mexico practically all his life. And there is a little writeup from him, if I may jump to that.

Q. Yes. That's Exhibit Number 2.

What's the geologist's name?

A. Glen Love.

Q. Okay. Would you explain his conclusions?

A. Glen's conclusion is that this is a carbonated reservoir. It's depleted. And based on the offset production and the production from this well -- the well is noncommercial. Of course it is noncommercial based on dollars and cents. We've tried to produce it and make 3 MCF a day, which is not going to make anybody anything.

And if the water is disposed in this reservoir, based on the well configuration, based on the offset disposal well, it will not affect any of the offset producers.

Long term it may, for the better -- it may take 7 to 8 million barrels of water to fill up the reservoir before you see any -- any effect to the

oil production.

Q. What were Mr. Love's observations with respect to the permeability and porosity throughout the area?

A. It's -- it's not consistent. It varies from one well to the other. It's not continuous. Some wells, if you -- there's a cross-section he prepared. If you look at it, some wells only perforate 5 feet, some wells they perforate 35 feet. So it's not a continuous zone all the way across.

Q. All right. We haven't provided the cross-section yet. Why don't we distribute that to the Hearing Examiner and explain that, please.

MR. HALL: Mr. Examiner, we haven't marked that, but we'll refer to it as Exhibit Number 3.

Q. (By Mr. Hall) Tell us what we're observing on the cross-section here, in the context of Mr. Love's report.

A. It's shown -- showing the top of the Wolfcamp to the base of the Wolfcamp. It also shows the cumes of oil, gas, and water. It also shows the data, which year the wells were drilled, where the casings were set.

And it also -- on the bottom of the paper it shows the cumes on oil, gas, and water on all the

wells within the half-mile radius.

Q. Okay. Did Mr. Love also prepare a structure map in conjunction with this?

A. He did not prepare it himself. The structure map came off of the Roswell Geological Society Handbook from -- that's where it came from.

Q. Okay. Does this demonstrate the horizontal extent of the injection?

A. As the structure map shows -- I can't find it in mine.

Q. It's attached to Exhibit 2, his report, the last page of that.

A. The structure map shows that we are -- we're basically on the extreme west/southwest end of the field. So it's like -- once again, it's at the lower part of the structure. That's where it would be disposing in, offsetting the current disposal well, which is in unit letter O.

Q. You pointed out the cume production data shown on the cross-section. What does this tell us about the future productivity for the Wolfcamp area right here?

A. Well, future -- as it stands today, if you talk about the future, if you keep producing the way these wells are being produced, the offsetting wells

are averaging 3, 4, 5 MCF a day, just casinghead gas.

If you say future, if some day 20 years down the road, if these wells -- the water we inject makes an effect to the offsetting wells, fill up the reservoir 7 to 10 million barrels of fluid, it might help some of the offsetting wells. But it depends on how we define the future.

CHIEF ENGINEER EZEANYIM: All right. How much oil do you produce now?

THE WITNESS: I'm sorry?

CHIEF ENGINEER EZEANYIM: How much oil has been produced? You said 3 to 5 MCF. How much oil has been produced?

THE WITNESS: How much oil has been produced from all the wells?

CHIEF ENGINEER EZEANYIM: Yes.

THE WITNESS: Roughly about 5 million barrels.

CHIEF ENGINEER EZEANYIM: I mean not -- not -- I'm not talking about the cume. Currently, the production that's going on now, how much?

THE WITNESS: Currently from the subject well?

CHIEF ENGINEER EZEANYIM: No, not on the

subject well, from the wells in the area.

THE WITNESS: From the wells in the area it's about 55 barrels a day.

CHIEF ENGINEER EZEANYIM: 55 barrels a day?

THE WITNESS: MGM Operating is the operator of all the wells to the west -- to the east, to the north, to the northeast, and they average about 55 barrels a day.

CHIEF ENGINEER EZEANYIM: That's within about a half mile in your review, right?

THE WITNESS: No, that's even going further.

CHIEF ENGINEER EZEANYIM: What is the cutoff going back?

THE WITNESS: Going back better than two miles -- two miles or so. Within a half-mile radius the current production -- the oil production is, like, 3 to 4 barrels a day.

CHIEF ENGINEER EZEANYIM: Okay. Let's take two miles. How much do you think it is?

THE WITNESS: MGM -- I can only tell you MGM is producing 55 barrels a day.

CHIEF ENGINEER EZEANYIM: And that's within the two-mile area, right?

THE WITNESS: Yes.

CHIEF ENGINEER EZEANYIM: Okay. Good. How many wells are we talking about in that?

THE WITNESS: About 23 -- 22, 23 wells.

CHIEF ENGINEER EZEANYIM: But this is going to the half-mile area and produces about 5 barrels day, all the wells?

THE WITNESS: I don't believe they're even making 5 barrels a day, because none of them are producing oil. They're all strictly producing a little gas off the casing.

CHIEF ENGINEER EZEANYIM: I just wanted to under- -- while you're here, your cume is gas in MCF?

THE WITNESS: It's got -- barrels of oil on the top.

CHIEF ENGINEER EZEANYIM: Yeah, I know that.

THE WITNESS: Right.

CHIEF ENGINEER EZEANYIM: Gas, is that in MCF?

THE WITNESS: Gas is in MCF, yes.

CHIEF ENGINEER EZEANYIM: Okay. I like units. I like to make units so I know what I'm

talking about.

THE WITNESS: It is MCF.

CHIEF ENGINEER EZEANYIM: All right. Thank you.

Q. (By Mr. Hall) If you'll look at your cross-section you will see that --

I'm sorry. Were you finished?

A. Since he asked me about question on the average production, I was going to pull that production curve on the New Mexico A.

CHIEF ENGINEER EZEANYIM: Yes, please do.

THE WITNESS: The one in green is the oil production. As you can see, it's here. It's 100 barrels of oil per month. So for the last 13 years this is averaging -- it was averaging 3 barrels a day, and then it went to nothing.

And then it -- brought it back on, he was doing 2 to 3 barrels a day, and now it's back to nothing. So all it's doing is right here, like 3 or 4 MCF a day.

CHIEF ENGINEER EZEANYIM: And this is within the two-mile, three-mile area?

THE WITNESS: This is the subject well.

CHIEF ENGINEER EZEANYIM: Oh, Okay.

THE WITNESS: The wells within a half a

mile radius are -- basically, you will see the same trait.

CHAIRMAN BROOKS: How many wells are within that that are producing?

THE WITNESS: You're probably talking about five.

CHIEF ENGINEER EZEANYIM: We'll go to that area of review, anyway. Is that part of the exhibits?

THE WITNESS: I can get you a copy of that. It's not a problem.

MR. HALL: Mr. Examiner, if you'll look at the second page of Exhibit 2 it has the half-mile and two-mile areas of review on there with the wells located in there.

THE WITNESS: That's Exhibit B.

MR. HALL: It's Exhibit 2.

CHIEF ENGINEER EZEANYIM: Is that B or B2, with your letter behind it?

THE WITNESS: Yeah. That is the exhibit you're looking at, Examiner.

And if you'll notice, the well number -- the well immediately east of the subject well, it's plugged. It's plugged and abandoned. The well further east of it is plugged and abandoned. That's

in --

CHIEF ENGINEER EZEANYIM: Do you have those in a form -- of the area within a half a mile the wells and the studies? Do you have that?

MR. HALL: They are -- if you'll look under Tab C.

CHIEF ENGINEER EZEANYIM: Okay. Are these review wells?

THE WITNESS: Yes.

CHIEF ENGINEER EZEANYIM: Okay.

THE WITNESS: There are five wells in the half-mile area for review.

CHIEF ENGINEER EZEANYIM: Those five that you highlighted, right?

THE WITNESS: Yes.

CHIEF ENGINEER EZEANYIM: The rest are outside the area of this?

THE WITNESS: I'm sorry?

CHIEF ENGINEER EZEANYIM: The rest are within two miles. The rest are -- for Number 6 to Number 17 are within the two-mile area of review?

THE WITNESS: Yeah. 17 wells in the two-mile --

CHAIRMAN BROOKS: It's within a one-mile area of review.

CHIEF ENGINEER EZEANYIM: It's one mile. Okay.

THE WITNESS: Three of the five wells in the area of review in the half-mile radius are plugged.

CHAIRMAN BROOKS: So that leaves two that are producing?

THE WITNESS: That leaves two that are producing, but marginally.

CHIEF ENGINEER EZEANYIM: But I see active three -- about two, three, four, active. Are there any that have been plugged out of those three?

If you'll look at one, two, three, four, five, Number 1 is plugged and Number 5 is plugged. The rest is active.

THE WITNESS: I'm not sure --

CHIEF ENGINEER EZEANYIM: I mean, if you look at that table for me there, if you'll look at Wells Number 1 through 5.

THE WITNESS: Right.

CHIEF ENGINEER EZEANYIM: All right. Number 1 is plugged, right. Peemie (phonetic) is plugged, right?

THE WITNESS: Peemie is producing, yes.

CHIEF ENGINEER EZEANYIM: Oh, Peemie is

producing.

THE WITNESS: Number 1 is the well which we are here for.

CHAIRMAN BROOKS: Okay. And 2 is abandoned?

THE WITNESS: Yeah. Number 2 is abandoned, Number 3 is abandoned, Number 4 is abandoned.

CHIEF ENGINEER EZEANYIM: Okay.

CHAIRMAN BROOKS: Okay.

Q. (By Mr. Hall) How long have these wells been producing?

A. Since the late '50s.

Q. And with the cume volumes that have been produced, what effect does that have on oil/water contact?

A. Well, normally, in most -- in all cases, most cases, the oil/water contact should go up. But the kind production we've had over the last 50, 60 years, an increase. Water contact has gone up.

Q. All right. And is it your opinion that further injection will have a beneficial effect on the remaining Wolfcamp production in the area?

A. As I said earlier, there's been -- 6 to 7 million barrels of oil have been recovered from

these wells. And based on the injection volumes we are talking about it might take ten years to put that much volume back in the reservoir, and some day it might affect it for the better.

CHIEF ENGINEER EZEANYIM: Why don't we throw out that information, because that's really the crux of this matter.

Have we tried any secondary recovery processes in this area?

THE WITNESS: I'm sorry?

CHIEF ENGINEER EZEANYIM: Secondary recovery, have we tried them? Have we designed secondary recovery? Have we tried it in this area?

THE WITNESS: Nobody has tried it, to my knowledge. The current operator has -- doesn't have any plans. I talked to him on the phone, and I went down personally and talked to him in Midland, and he said, "We don't have any plans whatsoever to do anything."

CHIEF ENGINEER EZEANYIM: Well, they think they don't have any plans to produce anything, right? Is that what they said?

THE WITNESS: Yeah. He didn't say why. It's just -- you know, it's 11,000 feet deep. And to activate mopping and to activate a secondary

recovery and find that kind of water to go back in the ground, I think it's going to be a monumental task if it ever happens.

This could be a good pilot. I may be dead by that time, but it may be a good pilot for protecting 1,300 barrels of water a day in the ground or 3,000 barrels a day, and ten years down the road we might see some results.

CHIEF ENGINEER EZEANYIM: You are making a good point there. Okay. Go ahead.

THE WITNESS: They all are state -- they all are state leases, so it does benefit somebody.

Q. (By Mr. Hall) Mr. Merchant, is there any non-Wolfcamp production within the area of review above the Wolfcamp formation?

A. Within the half a mile or...

Q. Yes.

A. Within half a mile there's no shallow production. Within the half a mile the deeper is a Morrow. At 12,000 feet it shows up on this exhibit that -- this map we had a little while ago.

It's in unit letter H, in Section 25. Where you see those two dots, one is a Wolfcamp well -- or was. It's plugged.

And the other one is a Morrow well. It's

made a little over a BCF of gas. It's produced at about 100 MCF a day now on a low-pressure pipeline.

Q. All right. And we have identified the wells within the area of review under Tab C.

Under that first page, is that a compilation of all of the well bore schematics for all of those wells within the AOR?

A. Yes, sir, it is.

Q. And by referring back to the first page, can we see which wells actually penetrate the Wolfcamp?

A. They all have.

Q. And is there any deeper production in the Wolfcamp, the AOR?

A. As I mentioned just a few minutes ago, right on the edge of the half a mile area of review in unit letter H is the Morrow well of Cimarex today. Once again I'm repeating, but it made a little over a BCF of gas, makes it an MCF a day.

Q. All right. When you reviewed the well bore schematics and the information that you had available to you on the wells within the AOR, were they -- were the data sufficient to allow you to determine the condition of the casing and the -- accurately calculate the Smith tops?

A. That data came from the OCD files by website. And if that wasn't the case, I wouldn't be sitting here today.

Q. All right. Did you see any evidence of any casing lengths at all?

A. I have been operating that area since 1980, and we've never had any casing issues. I talked to Greg Mousey (phonetic), who operates the unit, and he has never had any casing problems.

Q. Okay. And is this the Kemnitz Wolfcamp unit?

A. It is the Kemnitz Wolfcamp unit, yes.

Q. All right. Are you satisfied that the conditions of the wells within the AOR are such that none of them will act as a conduit for fluids from the injection interval to fresh water aquifers?

A. I'm absolutely sure, because the rest is up to God. But I'm sure there won't be any issues if we're allowed to dispose in there.

Q. Would you identify all the freshwater aquifers within the AOR?

A. There are -- there were several wells drilled back in the '50s by the various operators that would drill these wells as supply wells.

To my knowledge, they all have been

plugged. There may be one -- one well which is used for supply of stock water. And the fresh water over there is between 150 to 200 feet deep.

Q. All right. Let's look at Tab D.

We have covered that. Did you opine that -- whether there are any compatibility issues with the disposal fluids and Wolfcamp formation water?

A. You know, I was involved in the offsetting disposal well in unit letter O operated by Ken Moore from Maljamar. And his wells do not have any issue with all the truck water coming in from different formations.

So based on that we will be doing the same thing. So if he don't have an issue, we should not have an issue.

Q. All right. Let's look at Tab F.

What are the materials under Tab F?

A. Legal notice, is that what you have, Tab F, legal notice?

Q. Yes.

A. That was the ad we put in the paper in the Hobbs News-Sun, as a general practice of the regulation, to -- that we're going to do this disposal well.

Q. Does Tab F also include a list of all the parties you notified of this application?

A. Yes, it does. It includes the State of New Mexico, the offset operators, which in this case is Ken Moore and Magnum Hunter, which is Cimarex, now. So they were all notified.

Q. Did you receive any objections to the application?

A. There are no objections.

Q. Let's look at the last exhibit, Exhibit 4. Tell us what that is, the very last.

A. The letter from the MGM?

Q. Yes.

A. Yeah. We talked to Greg, Mr. Mousey, on the phone more than once, and then went to see him in Midland. And he sent this letter out by e-mail. And as he told me personally, he said, "If I had a problem I would have objected to it the first time when you asked for administrative approval. There are no objections."

And he realizes the fact that some day it might help the offset wells.

Q. All right. Mr. Merchant, in your opinion, can this project be operated so that the injected fluids remain within the injection interval?

A. Well, based on the construction of the subject well, based on all the offset wells, proper casing, proper cementing, I firmly believe that there will not be a -- to the negative effect.

Q. All right. And can the project be operated so that there will be no threat posed to correlative rights or the waste of hydrocarbon resources?

A. To the contrary. I think it will help, since we are -- we have such a shortage of water disposal facilities, that it will help everybody in the area: Less trucking time, more places to go with the water. And it would not affect any of the shallow zones or deeper zones. It won't affect the surface owner, so it's all good.

Q. Would it have a beneficial effect in terms of revenues realized by the State of New Mexico?

A. Yes, substantially. At least to the tune of $100,000 a year. If this project is granted by the State we have a $10,000 fee paid every year to the State of New Mexico, and a 10-cent-a- disposal fee. And based on a minimum of, say, 13- to 1,500 barrels a day disposed, 10 cents a barrel times -- plus the 10,000, we're looking at between 75- to $100,000 a year income to the State of

New Mexico which we don't have today. If the well is plugged, then, that 100,000 is gone.

Q. So do you have an opinion whether or not the project can be operated so that public health and safety can be protected?

A. I have been in operation since 1977, starting with Getty. And from that day until today and going forward, we operate everything -- class A operation. It's all Cadillac. We've got two other systems similar to this one in Eddy County, and they're class A operations. So it should not and will not affect nobody else to the harmful way.

Q. All right. Mr. Merchant, were Exhibits 1 through 4 prepared by you or at your direction?

A. They were prepared mostly under my directions, yes.

Q. All right.

MR. HALL: And at this point, Mr. Examiner, we'd move the admission of Exhibits 1 through 4.

If you'd like, we'll supplement the record with that production curve, and we'll refer to that as Exhibit 5. We'll get you another copy of that.

That concludes our direct of this witness.

CHAIRMAN BROOKS: Okay.

In regard to the exhibits, you offered also this cross-section. What's that?

MR. HALL: That's not marked. It should be Exhibit 3.

CHAIRMAN BROOKS: Okay. So this is Exhibit Number 3. Okay.

Exhibits 1 through 4 are admitted.

THE WITNESS: Can I say something?

I would also -- if you-all would like the production curve on the subject well plus the production curves within the half-mile radius, I can furnish you that. That's public knowledge.

CHAIRMAN BROOKS: I think that would be very helpful. Of course the data itself is readily available to us from our own records.

THE WITNESS: Sure. That's where I get it from.

CHAIRMAN BROOKS: But a picture is worth a thousand words.

THE WITNESS: Yeah. I'll send it to you in color.

CHAIRMAN BROOKS: Okay. We appreciate you doing the work for us.

I think there's some -- was some confusion between you and the Examiner -- or you and the

Technical Examiner here about the table that had the area of review wells. I believe that's Exhibit 1C.

And the explanation was given about the Ps and As.

Number 1, it's not consistent with OCD usage.

And Number 2 is, it involved some anomalies with these -- some of the other data in the table.

So I would ask you to look again at the column that's headed S at the top. That's the third column to the right of the well name.

If P stands for producing and A stands for abandoned, which was the Examiner's -- the Technical Examiner's interpretation of your testimony, then we would have producing wells listed with operators such as Tenneco, Sinclair, and Fina. And those would not be current operators, I'm sure, if those were producing wells. They might be the last operator, if they were plugged and abandoned wells.

And also, I know that we normally use -- in OCD we normally use P to mean plugged and A to mean active. So I'm wondering, if you review that data -- furthermore, your top line there above the box is the New Mexico A State Number 1, which is the

subject well, right?

THE WITNESS: That is correct.

CHAIRMAN BROOKS: And it's shown as A, which would be correct. Because even though it's not producing anymore it's not plugged, right?

THE WITNESS: It is producing, but 3 MCF a day.

CHAIRMAN BROOKS: Okay. So it is active.

THE WITNESS: Yes.

CHAIRMAN BROOKS: Now, if you would -- with those considerations in mind, would you review this and tell us whether there are two or three other active wells in the area of review, in the half-mile area of review?

THE WITNESS: I will double-check it and get back with you. But I can tell you right now that 1 through 4 apparently exist as active wells.

CHAIRMAN BROOKS: Okay. So the -- well, now, is the -- the New Mexico A Number 3, is that active or is that plugged?

THE WITNESS: No. New Mexico A Number 3 is --

CHAIRMAN BROOKS: That's your well, right?

THE WITNESS: A Number 3 is plugged.

CHAIRMAN BROOKS: Okay.

THE WITNESS: I plugged it myself.

CHAIRMAN BROOKS: Okay. So then the New Mexico A Number 1 is active?

THE WITNESS: Yes.

CHAIRMAN BROOKS: So presumably, if this is taken from OCD records, which I assume it is, the New Mexico Number 2, the Kemnitz Wolfcamp Unit Number 22 and the Kemnitz Wolfcamp Unit Number 21 are all active. Would that be --

THE WITNESS: That's correct. This came from the OCD's data. And those two MGM wells, 22 and 23 -- 21 and 22 are active.

CHAIRMAN BROOKS: Okay. What do you know about the Ken Moore well?

THE WITNESS: The Ken Moore well is the one in the unit letter O. And that's the one which is currently disposing in the Wolfcamp as the commercial.

CHAIRMAN BROOKS: That one is an injection well now?

THE WITNESS: It's a disposal well, yes.

CHAIRMAN BROOKS: Okay. It's listed as status active. Now, that would have been OCD records, correct?

THE WITNESS: Yes.

CHIEF ENGINEER EZEANYIM: But here that means abandoned.

CHAIRMAN BROOKS: No, that's what I'm trying to get you and the witness together on.

THE WITNESS: I am going to find out where this came from. I'm pretty sure it came from OCD.

CHAIRMAN BROOKS: That interpretation is not consistent with much of the data on this table, and I think it's wrong.

And I don't know what any well's particular status is, but I think that if it came from OCD records, P would mean plugged and A would mean active, because that's what -- that's what we do. And if it's a disposal well, it's S. And if it has an I, that means it's an injection for pressure maintenance or -- and that's covered.

Well, that's all I have.

Mr. Ezeanyim?

CHIEF ENGINEER EZEANYIM: Yes, but I think -- you know, it was so confusing to me. But anyway, I think we can get it right.

CHAIRMAN BROOKS: Well, that's what I want to have done to get it right.

THE WITNESS: I think I should be able to get an answer for you as early as tomorrow. Because

what happened, this came from some other commercial outfit in Texas.

CHAIRMAN BROOKS: Yes.

THE WITNESS: And I believe this thing here -- I'm like you. I don't believe this came from OCD.

CHAIRMAN BROOKS: Well, I don't know where it came from. But I think also that, you know, you've told us that the two MGM wells, the 21 and the 22, are active.

THE WITNESS: Yes, sir, they are.

CHAIRMAN BROOKS: They are producing.

And the Penroc New Mexico A State Number 3 is abandoned --

THE WITNESS: It's plugged.

CHAIRMAN BROOKS: -- plugged and abandoned, which you would know about because it's your well.

THE WITNESS: I plugged it, physically, there.

CHAIRMAN BROOKS: I rest my case.

Mr. Ezeanyim, you may.

CHIEF ENGINEER EZEANYIM: I think we have to rely on this table to see what...

Okay. Now, you plugged Number 3, which is

your well. But you put producing, according to you, sir.

THE WITNESS: Say that again? I'm sorry.

CHIEF ENGINEER EZEANYIM: Okay. Look at that New Mexico A Well Number 1.

THE WITNESS: Yes.

CHIEF ENGINEER EZEANYIM: P -- you have P, means producing, and I was thinking it's plugged. But you do mean plugged. You plugged it, right?

THE WITNESS: Number 3 I plugged.

CHIEF ENGINEER EZEANYIM: Okay. So it's not producing.

THE WITNESS: Number 3 is plugged and abandoned.

CHIEF ENGINEER EZEANYIM: Okay.

THE WITNESS: I've got a dry hole marker sitting on it.

CHIEF ENGINEER EZEANYIM: Okay. Very good. So does that mean that -- this A means active or abandoned? What does that mean? You see, it's confusing.

THE WITNESS: I understand where you're coming from and I'll correct that. Number 1, A Number 1, is active. The New Mexico A Number 1 is active. The two MGM wells are active. So I know

those are active.

CHIEF ENGINEER EZEANYIM: I think we need those, you know, revised, so that we can take a look at it.

THE WITNESS: I will revise that.

CHIEF ENGINEER EZEANYIM: Okay. Apart from that, now, let's go back.

You gave me a -- there's a lot of money, but the question becomes, where do you get more money?

THE WITNESS: That's the name of the game.

CHIEF ENGINEER EZEANYIM: Yeah, exactly. So assuming you're going to get 100,000, suppose my -- I produce -- I'm going to produce 55 barrels of oil multiplied by 100.

THE WITNESS: I'm sorry?

CHIEF ENGINEER EZEANYIM: If I -- if this is producing 55 barrels a day --

THE WITNESS: But you're not.

CHIEF ENGINEER EZEANYIM: Well, that's what you told me.

THE WITNESS: No.

CHIEF ENGINEER EZEANYIM: You said from the other --

THE WITNESS: In a half-mile radius the

two wells to the northeast, the MGM 21 and 22 are only producing 3 to 5 MCF a day off the casing. They don't even have a pump jack on it.

CHIEF ENGINEER EZEANYIM: Okay.

THE WITNESS: So they can't produce any oil.

CHIEF ENGINEER EZEANYIM: They don't produce any oil, then?

THE WITNESS: No.

CHIEF ENGINEER EZEANYIM: So I'm going to cancel what you told me. I'm trying to go back to your economic analysis to see which way we go now --

THE WITNESS: Right.

CHIEF ENGINEER EZEANYIM: -- assuming that everything is correct, and all the variables are left constant.

Now, I don't know how you come up, you know, with how many barrels of water you inject or how you pay the State or they collect it. And that's good. If you do it, that's good.

But are we doing it at the expense of -- see, this is the point I have been making since you started the presentation. And you can understand, we don't want to drown production if there's actually any production coming from there. And

that's why Mr. Jones asked you to bring this here, so we can discuss this openly. If not, he could have approved this in his office.

THE WITNESS: No, I understand.

CHIEF ENGINEER EZEANYIM: He said -- well, I need to know how much production is coming there. Are we going to drown production without designing a water flood?

You told me that nobody else is interested in doing the water flood in the area. That's okay. I mean, if they find out that, really, a water flood would be a loss, there's no point in doing it.

However, if the wells seem to be producing something that is marketable or profitable, we don't want to drown them. We are not going to drown them, even if you're going to do secondary recovery or anything.

So of course, you know, you are -- you have to correct this table, tell us how many wells are producing, give us those productions that you are going to tell us. I mean, that would give us a lot of information.

THE WITNESS: There are two wells producing, the 21 and 22.

CHIEF ENGINEER EZEANYIM: Okay.

THE WITNESS: They are producing from the casing, casinghead gas.

CHIEF ENGINEER EZEANYIM: Yeah.

THE WITNESS: That's all they are making, 3 to 5 MCF a day.

CHIEF ENGINEER EZEANYIM: Together?

THE WITNESS: Separately.

CHIEF ENGINEER EZEANYIM: Okay.

THE WITNESS: Okay. Now, you also have got to keep in mind there's one tank battery. You have got umpteen wells producing in that unit.

CHIEF ENGINEER EZEANYIM: Uh-huh.

THE WITNESS: So they're not going out and testing each well separately. They're taking these -- this 55 barrels a day plus, say, 1,200 MCF of gas, and they are allocating production to X number of wells.

CHIEF ENGINEER EZEANYIM: Okay. Now, I think this Table C, when you reconstruct it to see what the terms mean, which one is producing, which one is active, which one is plugged and abandoned, and others in the area of review for half a mile, and then we want also to see the two-mile area of review.

Because if you look at it from a C-108, we

don't want you to inject in any formation that is about two miles in the area of review if any production is coming from there. That's just how it is.

But we can make exceptions if you prove to us that, really, there's nothing coming out from there. I haven't read the -- somebody studied it. I need to read it. I don't know what it says. I need to read it and do my own investigation to see how correct that is. Then, plus your testimony today.

THE WITNESS: We need -- can I say something?

CHIEF ENGINEER EZEANYIM: Yeah, go ahead.

THE WITNESS: We need to keep two things in mind -- at least two.

First, the well in question I'm here for today -- or we're here for today -- that if the well is sitting there and leave it the way it is, it's going to have to be plugged. So it's not going to serve any purpose to anybody else. It's a total loss. It's going to cost 30- to $40,000 to plug it. It's gone. Is history.

If we inject in it, if we dispose in it like we're wanting to, and we have produced

7 million BOE from the offsetting wells, and some day in the future, if you fill up the reservoir and it helps the offsetting well, it won't happen if you plug this well.

CHIEF ENGINEER EZEANYIM: Where do you get that information?

THE WITNESS: That's adding up all the cumes in the area of review of all of these wells: 700,000 barrels here, 300,000 barrels here, 600,000 barrels here, plus the gas. If you add all of that up, that's about 7 million barrels' oil equivalent.

What I'm saying, if we don't -- if nobody puts water in the ground it will be lost.

CHIEF ENGINEER EZEANYIM: We normally plug an abandoned well. I mean --

THE WITNESS: I'm sorry?

CHIEF ENGINEER EZEANYIM: We normally plug an abandoned well. Once we plug them and abandon them, they're gone, right?

THE WITNESS: Yeah.

CHIEF ENGINEER EZEANYIM: But my argument still stands that we need to look at production from that formation.

THE WITNESS: Sure.

CHIEF ENGINEER EZEANYIM: That's why you

were sent to hearing, nothing else. Nobody objected to this. You were sent to hearing to tell me whether that's really -- further production in this area we are talking about. But if not, then we maybe will grant your request.

But if it is that they're going to drown the production without designing a water flood, well, it might be difficult for us to do that, because that's why we're here.

THE WITNESS: But that's the point, Examiner. That we've got this well sitting here. It could very well be a pilot for the rest of the field, which nobody is attempting to do today.

I mean, if this area alone had made 6, 7 million BOE, if you take the whole unit -- but there are 22-some wells -- it might -- it might prove it to somebody that if you flood it, given the right economic incentives, price of oil and cost of doing it and all of that, that this well can very well be an example of how we're going to help it X years down the road.

Number 2, you've got a disposal well in unit letter O.

CHIEF ENGINEER EZEANYIM: In the Wolfcamp.

THE WITNESS: It's in the Wolfcamp. It

shows this cross-section. It's been disposing for the last five years.

CHIEF ENGINEER EZEANYIM: Who owns that well?

THE WITNESS: Ken Moore.

CHIEF ENGINEER EZEANYIM: Ken Moore? Oh, okay.

THE WITNESS: Ken Moore is the operator.

CHIEF ENGINEER EZEANYIM: Okay. Do you know the order number that they --

THE WITNESS: I can get it, but I don't have it.

CHIEF ENGINEER EZEANYIM: Yeah, I need to get the order number and look at that well.

And do you know when it was issued? A long time ago?

THE WITNESS: Five years ago.

CHIEF ENGINEER EZEANYIM: Okay.

THE WITNESS: Five or six years ago. I'm guessing now.

CHIEF ENGINEER EZEANYIM: Okay. I need to know that. Maybe we approve it administratively. Remember, now, we continue to improve. At the time we issue the order -- I need to look at that. I'm not saying it's going to. If you prove your case,

that's fine.

THE WITNESS: It also shows on this cross-section.

CHIEF ENGINEER EZEANYIM: Okay. Give me that number. Give us the production history that you are going to give, and the other number that establishes that injection well in unit O, right?

THE WITNESS: In unit letter O, yes.

CHIEF ENGINEER EZEANYIM: Yeah. If you can get it back to us that will be good.

Now, let's go back to where I'm going. This is going to be a commercial?

THE WITNESS: Just like the other one.

CHIEF ENGINEER EZEANYIM: Okay. Good. Give me that. As you know, a commercial disposal, water can come from anywhere. Where is the main source of the water?

THE WITNESS: The main source of the water will be from the surrounding -- within the -- 20 to 30 miles each direction.

CHIEF ENGINEER EZEANYIM: Yeah.

THE WITNESS: Right now we've got a lot of flowback water coming from Maljamar, the Loco Hills area. We've got a lot of flowback water and frack water coming back from north of Maljamar in the Abo

play. There's going to be a lot of water coming from the Buckeye area where Chevron is fixing to do infill work. So there's noplace to go with the water.

CHIEF ENGINEER EZEANYIM: Yes, I know. But what formation is that water coming from?

THE WITNESS: The water is going to come from the Yeso, from the Abo-Wolfcamp, those are the two main formations.

CHIEF ENGINEER EZEANYIM: And I think you have given us --

THE WITNESS: Once again, we have a good example of what the offset operator is doing. He don't have any problem. I drove to his well Friday and thinking, well, maybe he put a pump on it. He still don't have a pump.

So I called George and I said, "Are you -- when are you going to put a pump on it?"

He said, "I don't need it."

Of course, you know, he's taking it on vacuum.

CHIEF ENGINEER EZEANYIM: Okay. Talking about vacuum, you're going to start injecting in a vacuum. You don't have to -- if you don't have any injection, you're going to introduce water into the

well by a vacuum. Am I right?

THE WITNESS: Right.

CHIEF ENGINEER EZEANYIM: But you're still required to give your .2 PSI input?

THE WITNESS: Yes. Because we don't want to come back in X number of years down the road. We know it's going to pressure up some day. I just don't know when -- unless you want me to come back to Santa Fe and spend the night in a hotel again.

CHIEF ENGINEER EZEANYIM: Okay. Let's go back to plugged and abandoned wells.

Are the plugged and abandoned wells plugged and abandoned to -- I haven't looked at them, but I'm going to look at it. But I'm going to ask you: When they are plugged, do they act as conduits for the water that's injected there to go up -- upwards, right?

You know there are plugged and abandoned wells.

THE WITNESS: Right.

CHIEF ENGINEER EZEANYIM: Okay. You've looked at the schematic of yours, probably, and the cemented tops. Have you?

THE WITNESS: Based on everything I've seen, the way they were plugged, they're properly

plugged.

CHIEF ENGINEER EZEANYIM: Okay.

THE WITNESS: Like I said, we would not have come to ask for a disposal or injection permit if any one of them were not meeting the criteria.

CHIEF ENGINEER EZEANYIM: On the current need for these marginal producing wells, we -- they can't act as our pilots, where you started looking to see whether there will be more production for those wells that are now producing. We're going to mark "producing" within that area of review, right?

THE WITNESS: You're going to mark -- I'm sorry?

CHIEF ENGINEER EZEANYIM: Like some of them, if you look at your sheet, some of the wells will be producing. Then our problem becomes -- well, they will be producing.

As you start injecting into these wells, if you prove it, right, they'll see the producers. Are you going to use those as the pilot, you said maybe to help with the oil towards the well --

THE WITNESS: I think that would be up to the -- that would be up to the offset operator, MGM. You know, it might help. I'm just making a general statement. It might help to improve production down

the road.

CHIEF ENGINEER EZEANYIM: But if I were to approve this application, they will still be producers, right?

THE WITNESS: Yeah.

CHIEF ENGINEER EZEANYIM: They'll be --

THE WITNESS: Right.

CHIEF ENGINEER EZEANYIM: -- because not only are they plugged and abandoned, in this case Number 1 to the injection --

THE WITNESS: Right.

CHIEF ENGINEER EZEANYIM: -- the well that is producing, we've seen them be producers.

THE WITNESS: They will still be producing, yes.

CHIEF ENGINEER EZEANYIM: Maybe they're going to produce the water that you inject.

THE WITNESS: I'm sorry?

CHIEF ENGINEER EZEANYIM: Maybe they are going to produce the water you inject. I don't know.

You know, see -- see, I'm concerned about injecting in a well that is producing something.

THE WITNESS: Well, right now it's not producing anything but a little gas, those two

wells. And if you produce 700,000 barrels of oil out of this reservoir, obviously, there's some residual oil left which should be pushed towards the producer, like a typical water flood or secondary recovery.

CHIEF ENGINEER EZEANYIM: You said that most of these cements since 1980, there is no issue with their leakage in the cement.

How do you test them, MIT? Do you conduct MIT every year?

THE WITNESS: Every year. Of course we -- we check it every day. We have -- on all of our other disposal wells we have people checking the backside every day monitoring it.

CHIEF ENGINEER EZEANYIM: Usually a test --

THE WITNESS: Usually a test, but we normally check the pressure, doing casing pressure.

CHIEF ENGINEER EZEANYIM: Do you conduct MITs on the individual wells?

THE WITNESS: We conduct it as required by the State, but we do it on our own, too.

CHIEF ENGINEER EZEANYIM: Oh, okay.

THE WITNESS: You need to keep in mind we haul -- we would be hauling water for major oil

companies. And they would not want their water going to a system if it's not an A-1 system, if it's not a high-class system. They do come out and check us from time to time. Most companies do. I can mention some names, but I'm not.

CHIEF ENGINEER EZEANYIM: Why don't you tell me the depth of freshwater here. Do you have any idea?

THE WITNESS: 150 to 200 feet.

CHIEF ENGINEER EZEANYIM: Okay.

I was going to look at casings to see whether they are protected.

You've done a good job.

Mr. Brooks, do you have any other questions?

CHAIRMAN BROOKS: No further questions.

CHIEF ENGINEER EZEANYIM: You may be excused.

THE WITNESS: Thank you.

CHAIRMAN BROOKS: Anything further, Mr. Hall?

MR. HALL: No, sir.

CHAIRMAN BROOKS: Case Number 14874 will be taken under advisement.

(Proceedings concluded.)

I hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 14874, heard by me on 6-25-12.

David K. Brooks, Examiner
Oil Conservation Division

CERTIFICATE

I, Paul Baca, RPR, CCR in and for the State of New Mexico, do hereby certify that the above and foregoing contains a true and correct record, produced to the best of my ability via machine shorthand and computer-aided transcription, of the proceedings had in this matter.

Paul Baca

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