STATE OF NEW MEXICO

ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION

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

APPLICATION OF MELROSE OPERATING COMPANY TO REINSTATE AND AMEND DIVISION ORDER R-11,720 FOR ITS ARTESIA UNIT WATERFLOOD PROJECT, EDDY COUNTY, NEW MEXICO

CASE NO. 13,199

ORIGINAL

REPORTER'S TRANSCRIPT OF PROCEEDINGS

EXAMINER HEARING

RECEIVED
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Oil Conservation Division
1220 S. St. Francis Drive
Santa Fe, NM 87505

BEFORE: MICHAEL E. STOGNER, Hearing Examiner

January 22nd, 2004

Santa Fe, New Mexico

This matter came on for hearing before the New Mexico Oil Conservation Division, MICHAEL E. STOGNER, Hearing Examiner, on Thursday, January 22nd, 2004, at the New Mexico Energy, Minerals and Natural Resources Department, 1220 South Saint Francis Drive, Room 102, Santa Fe, New Mexico, Steven T. Brenner, Certified Court Reporter No. 7 for the State of New Mexico.

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I N D E X

January 22nd, 2004
Examiner Hearing
CASE NO. 13,199

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A P P E A R A N C E S

FOR THE APPLICANT:

KELLAHIN & KELLAHIN
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By: W. THOMAS KELLAHIN

* * *

WHEREUPON, the following proceedings were had at 8:25 a.m.:

EXAMINER STOGNER: I will now call Case 13,199. This is the Application of Melrose Operating Company to reinstate and amend Division Order Number R-11,720 for its Artesia Unit Waterflood Project in Eddy County, New Mexico.

Call for appearances.

MR. KELLAHIN: Good morning, Mr. Stogner, I'm Tom Kellahin of the Santa Fe law firm of Kellahin and Kellahin, appearing on behalf of the Applicant this morning, and I have one witness to be sworn.

EXAMINER STOGNER: Are there any other appearances?

Will the witness please stand to be sworn at this time?

(Thereupon, the witness was sworn.)

EXAMINER STOGNER: Mr. Kellahin?

ROBERT LEE,

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

DIRECT EXAMINATION

BY MR. KELLAHIN:

Q. Mr. Lee, for the record, sir, would you please state your name and occupation?

A. Robert Lee, and I'm a petroleum engineer,

consulting.

Q. Where do you live, sir?

A. Midland, Texas.

Q. On prior occasions have you testified before the New Mexico Oil Conservation Division?

A. Yes, I have.

Q. Were you the engineering expert retained by Melrose Operating Company to present this case originally back to Mr. Catanach and Mr. Stogner, back in September of 2001?

A. Yes, sir, I was.

Q. And have you continued to work as Melrose's petroleum engineer on this particular waterflood project?

A. Yes, I have.

Q. Pursuant to your employment, have you made yourself fully aware of the waterflood project and the components involved in that project?

A. Yes, I have.

Q. And have you been responsible for ensuring that the information supplied on Division Form C-108 is current and correct?

A. Yes, I have.

Q. Are you prepared this morning to describe to Examiner Stogner the proposed amendments that you're seeking to make to the original order that is expired, that

you want reinstated?

A. Yes, I am.

MR. KELLAHIN: Mr. Stogner, we tender Mr. Lee as an expert petroleum engineer.

EXAMINER STOGNER: Mr. Lee is so qualified.

Q. (By Mr. Kellahin) Mr. Lee, let's take a moment and set the stage for Mr. Stogner concerning the status of the waterflood project back in September -- I'm sorry, back on February 5th of 2002. And I refer you to Examiner Order R-11,720, Exhibit Number 1 to this case.

A. Yes, sir.

Q. Is this the order that was issued by the Division then?

A. Yes, it is.

Q. And this is the order that you're seeking to have reinstated?

A. That is correct, with some amendments and changes, yes.

Q. Previously to issuing this order, the Division on prior occasions had issued decisions approving and authorizing injection into the Yates waterflood project that we're talking about?

A. Yes, they have.

Q. We're going to use this as a reference document, but let's set this aside for a moment --

A. Okay.

Q. -- and I'm going to refer you to Exhibit Number 2 and have you identify that for the record.

A. Yes, this is a notebook that contains the previous C-108 that was presented. It also has a tab in the back that contains the past orders, and it has a tab in the front that contains any data generated since the hearing was -- since we had the hearing last September -- September, 2001.

Q. And this exhibit book also contains the area map that you were using at the past hearing?

A. Yes, it does.

Q. Describe for me, Mr. Lee, what events transpired that caused the order to expire.

A. Okay, in the order, R-11,720, there were a number of wells that were identified that had issues associated with them that needed to be resolved.

Q. Do you recall how many was the total number of wells that required some remedial action?

A. There were 38.

Q. Okay.

A. And these wells, either there was not enough cement to give a sufficient top of cement or the calculations didn't demonstrate that. Some wells did not have any construction data. Most of the wells were on

acreage that was controlled by Melrose, but there were several wells that were on acreage that were controlled by other people, actually operated by other people.

And so Melrose was looking at this -- It's quite an extensive list, and the cost and the time involved, things just drug out to where they didn't get the work accomplished within the year that they had to do the work.

Q. What was the time component to accomplish all this work?

A. It was one year.

Q. During that period of time, some of these wells were corrected and are now in compliance with the terms and conditions of the expired order?

A. That's correct.

Q. Let's set the stage for Mr. Stogner by taking your current area-of-review map, which is marked as -- Before we do that, let's go to Exhibit 3 and identify the wells that are still in question. If you'll turn to Exhibit 3, there's a tabulation of wells. Does this tabulation represent all the original characterized problem wells that Mr. Catanach identified in the expired order?

A. Yes, it does.

Q. And what have you presented here?

A. What I'm showing here is a list of the wells, what type of requirement Mr. Catanach required for each

well. The second column there where it says OCD Paragraph Number, that refers back to page 7 in the order, the portion that comes right after "It is ordered that", where he lines out what issues arise with each set of wells. And so that paragraph number ties back to the order.

Then I'm also showing where the top of cement is, if we have a top of cement. Some wells, we don't have any completion data at all. When they were -- Some of these wells were drilled back in the 1920s, and there's just no information out there. I show where the top of cement is measured or calculated, and now I'm showing the top of -- It says LH. That's the Loco Hills. That's going to be the highest interval that we're going to be seeking injection for today, at the current time.

Then I'm showing whether or not it's still a problem well.

Q. When you say problem, and it says no, that means you've taken corrective action since the order to satisfy Mr. Catanach's requirements?

A. That's correct.

Q. And if it says yes, it's still pending correction?

A. That's correct, still a problem well.

Q. The next column, then, is --

A. -- Current Plans, what Melrose intends to do with

the well in question.

And then I've got a column over on the far right-hand side that explains the reason why a well is not a problem right now.

Q. Okay. Now, Mr. Lee, let's turn to Exhibit 4 and take a moment an unfold the area-of-review map, and before you talk about the details let's take a moment and talk about how it's organized.

A. Okay.

Q. When we look at Exhibit 4, Mr. Lee, identify for us what you intend to represent by the area shaded in the yellow.

A. The area shaded in the yellow is the Artesia Unit that's operated by Melrose Operating Company.

Q. To the best of your knowledge, has this display or this map been updated to -- I think the date on the map says December 23rd of last year?

A. Yes, it does, and it was updated from the original hearing to information that we had just last month, yes.

Q. To the best of your knowledge, does this represent a compilation of all the wells located in this area, regardless of depth?

A. Yes, it does.

Q. When we look at the map, there's some color

coding. But exclusive of the color coding for a moment, if you look at certain portions of the display -- for example, let's look in Section 35.

A. Uh-huh.

Q. If you look in the southeast quarter of 35, there's a red triangle representing an injection well symbol that's colored in red, and then overlying with a blue.

A. Yes.

Q. If you look to the east of that you'll see the Melrose 20 as an injection well?

A. That's correct.

Q. When we look throughout this and see an injection symbol for a well that's not coded, can we assume that that is a well for which you're not seeking further approval by the reinstatement of this order?

A. That's correct, it's a current injection well if it doesn't have the blue dot on it.

Q. In fact, Number 20 has got a slash through it, so is it still used as injection?

A. No, it's a P-and-A'd well that was an injector.

Q. When we look at the color code, then, if we look at the blue circles with the red triangles --

A. Uh-huh.

Q. -- what do those represent?

A. Those are the wells that we are seeking permission to inject into. These are the injection wells that we're applying to use.

Q. If they have those combinations of two colors, were they the subject of the hearing that Mr. Catanach heard?

A. Most of them were. There have been a few changes from the original hearing in what we were asking for at that time and what we are requesting now.

Q. We can see those changes down in Section 3, can we not?

A. Yes, you can.

Q. And if they're former injection wells that Mr. Catanach had approved, and you're desiring to continue to utilize those wells, they're shown with a combination of the red, blue, and then this orange overlay?

A. Yes. Actually, two of those wells were in the prior order, Well Number 46 and Well Number 54.

Q. For purposes of this hearing, then, you're seeking to modify that injection pattern down in Section 3?

A. Yes.

Q. What well will be added to the pattern?

A. Well Number 53, located in Unit Letter J of Section 3.

Q. What well was deleted, now, from the pattern

approved and the injector approved by Mr. Catanach?

A. Okay, it was Well Number 44 -- it's in Unit Letter E; it has the purple six-sided figure around it -- and Well Number 57, which is in Unit Letter L, and it also has that purple six-sided figure around it.

Q. Let's go back up into Section 35.

A. Okay.

Q. There is a new proposed injection well to be added to the project that was not subject to Mr. Catanach's review?

A. That's correct.

Q. Where is that well?

A. That is in 35-J. It's the Melrose Number 21.

Q. Have you adjusted the half-mile-radius outline? Do you see the dashed red line that's around the project, the unit?

A. Yes, we have.

Q. Has that been adjusted to the current half-mile-radius boundary around the current proposed injection wells that you're asking Mr. Stogner to approve?

A. Yes, it has been.

Q. When you shift the boundary from the original boundary examined by Mr. Catanach, have you now deleted wells that were formerly problem wells in this project?

A. That's correct.

Q. And how would we recognize where these wells are?

A. They are shown, once again, with this purple six-sided figure around them. That would be the vintage drilling well in Unit Letter M of 34, it would be the Maloney Chambers Number 1 plugged well in Unit Letter H of Section 4, and it would be the Levers 1, 2 and 3 wells located in Unit Letter P of Section 4.

Q. By moving the injection pattern down in Section 3, a row to the east, you're avoiding remedial action on what otherwise would be required action for wellbores outside of Melrose's control?

A. Two of them were. The Vintage Drilling and the Maloney Chambers were outside their control.

Q. When we look within the half-mile radius of review, the dashed red line, within that area there are some wells of the same color code, the same purple?

A. That's correct.

Q. And what do those represent?

A. These are wells that were originally identified, in Mr. Catanach's list or order, that needed some work done or maybe there wasn't sufficient top of cement, or a top of cement was calculated, but it didn't calculate to have a great enough height to adequately seal off the injection zone.

Since that last hearing, Melrose has made a

decision to eliminate the Penrose formation and just inject into the Loco Hills, Metex and Premier, which lowers -- the Penrose is about 200 feet above the Loco Hills. So by lowering their injection interval, a lot of those tops of cement were now sufficient.

Q. Let's talk a moment about that before we confuse Mr. Stogner.

A. Okay, yeah.

Q. Your intent is to continue to have approval for injection throughout that entire interval, including the Penrose, but your plan is to postpone injection into the Penrose until the curative action is accomplished for the list of wells we'll give Mr. Stogner later in the hearing --

A. Yes, that's correct.

Q. -- that will be corrected?

A. That's correct. We'd still like to utilize the Penrose at some future date. But right now, to get the project moving, they're willing to set that aside so we can proceed with the infill drilling and the conversions.

Q. Let's look at a type log so that we're clear on what you're trying to accomplish. If you'll turn to Exhibit 5, unfold that for me. Tell me where on Exhibit 4 we're going to find the type well from which this log is taken.

A. It's going to be Well Number 69, and it is located in Section 35, 430 feet from the north line and 990 from the west line. It's in Unit Letter D of Section 35.

Q. Have you used this type log in analyzing the logs of the other wells within the Artesia Unit Waterflood?

A. As far as -- No, this was a modern log that was ran when SDX drilled that well in 1997. The bulk of these wells were -- Some don't even have logs, but the bulk of them have gamma-ray/neutron logs, and that -- on our stick diagram we'll see where I have picked potential pay in the Penrose off of the gamma-ray/neutron logs. But this log is for illustration, to show the porosity and the separation between the zones.

Q. Let's go to what you called the stick diagram. I think it's Exhibit Number 6?

A. It is.

Q. I think that would be an exhibit that you can show Mr. Stogner, that will depict this visually, what you're trying to accomplish.

A. And if it doesn't adequately predict -- show this, Mr. Stogner can use it as wallpaper in his office later; it's nice and large. But this is --

Q. When we appeared before Mr. Catanach and we're seeking to add the Penrose into the other formations to be injected into --

A. Uh-huh.

Q. -- you now come back and re-examine the flood and determine that you could postpone injection into the Penrose --

A. Uh-huh.

Q. -- start the project by injecting into the Loco Hills, the Metex and the Premier --

A. Yes.

Q. -- and postpone certain remedial action on wells?

A. Yes, that is correct.

Q. Show us, as a petroleum engineer, how you believe that that would be effective and how the Penrose related to the rest of the wells as we look at the stick diagram.

A. The stick diagram shows that -- I'm picking the tops across, say, from the bottom here, the Premier, the Metex and the Loco Hills, and there I have very good coverage. And I'm showing wells that have been perforated in those intervals colored in green.

There are also some behind-pipe zones or zones that I have suggested to Melrose that they would add, and those zones are colored in red. And once again, this is using the gamma-ray neutron logs and trying to do the best that I could with that, trying pick comparable responses in my neutron curve with the pay zones.

Now, up above that -- and I do not have a line

through that because I don't have good continuity of pay zones or potential pay zones through there -- is the Penrose. And like I said, it pretty much follows the Loco Hills, about 200 feet above the top of the Loco Hills.

The Penrose has produced out of two wells out here, Well Number 56 and Well Number 6. It has not been completed in some of these other wells. It looks like it's a little bit tighter than some of the other main horizons like the Loco Hills and the Premier. And it also produced in Well Number 46 too, I forgot that.

Q. Mr. Lee, for purposes of illustration can you give us an illustration of a problem well that does not now have to -- you can postpone the corrective work on that because you've moving down and injecting only at this point in the Loco Hills?

A. Well, just -- Well, let me find a depth here of one.

Say like for instance Well Number 42, I don't know that it is a problem well, I'm just pointing to it as an illustration of what we found. The Penrose there is at a depth of about 1800 feet.

If I come in and either calculate or measure that top of cement to be maybe 1750, Mr. Catanach was suggesting at least 100 feet of cement coverage above the injection interval. So if my top of cement is at 1750 and my Penrose

is at 1800, I've only got 50 feet of cement covering that zone that would be a potential injection zone, and that wasn't adequate.

So Melrose's option was to go in and squeeze that well.

But if we delay injecting into the Penrose and my Loco Hills is down around, say, 2000 feet, a little lower than 2000 feet in that particular well, now I've got nearly 250 feet of cement above the top of my zone of injection. And that's what we saw in some of these wells where by dropping that -- the Penrose right now, or delaying that, we had sufficient coverage across the Loco Hills. Actually, Well Number 7 would be an example of that.

Q. And later in the hearing you have a full tabulation of the wellbores that would be postponed pending corrective action before you inject into the Penrose?

A. Yes, I do.

Q. In your engineering judgment, Mr. Lee, is it reasonable to postpone injection into the Penrose and continue with the other zones?

A. Yes, it is.

Q. Are you compromising your ability to recover any potentially recoverable oil out of the Penrose by postponing injection?

A. It would delay the recovery of those barrels, but

Melrose will be able to go and get those barrels at a later date once we prove up the reserves that we're looking at in the Penrose and determine whether or not it's economically viable to go in and do all that squeeze work, to go out and do the flood there in the Penrose.

Q. Let's go back to your area map, Exhibit Number 4.

A. Yes, sir.

Q. Down in Section 3 --

A. Yes.

Q. -- if you move the injection pattern to the east by a row, you avoid remedial action on certain wells.

A. Yes.

Q. And later if you expand farther to the west, then you can pick up curative action on those wells that -- as part of an expansion?

A. Yes, we would.

Q. And by reducing or postponing injection into the Penrose, you're postponing remedial action on other wells?

A. That's correct.

Q. Let's look at other examples of problem wells internal to the current half-mile-radius boundary for which action was required by Mr. Catanach, and for which you believe action is still required.

A. Yes.

Q. Let's look in Section 35, and if you'll look

in -- I guess it's Unit Letter E.

A. Yes, that is the Welch Number 1. It was a well that was drilled -- I'm not sure when. 1930s, 1940s vintage. It was plugged. There was not sufficient information on the plugging that was done, and one of the requirements of Mr. Catanach's order was that well would be re-plugged.

Q. And what's happening with that wellbore?

A. Melrose -- If they didn't rig up yesterday, they're going to be rigging up today or next week to re-enter that well and replug it. So they're underway to remediate that problem.

Q. Let's look up in 35, in Unit Letter B. There's another well color-coded with the orange.

A. Yes.

Q. What's the status of that well?

A. This was a well that really created some problems for Melrose in that it's an Empire Abo Unit well, operated by BP America right now. And based on the calculations of the top of cement, even the Loco Hills is not adequately covered in that well.

And we have contacted BP America to see what actions they would let us take, whether or not they would let us rig up and initially just run a bond log on that well to determine where the top of cement is. And I

believe they'll do that, I just haven't been able to get back with the field foreman over in the Artesia office.

Q. The BP Amoco well continues to be a problem well, even if you postpone injection into the Penrose?

A. That is correct, that is correct.

Q. And when you're making the calculated tops of cement under Mr. Catanach's order, were you using a method of calculation still applicable to this well that would not alter the cement top in that well? You still have a cement problem --

A. Yes, yes.

Q. -- in terms of where that top is calculated?

A. That's correct, with the safety factors that Mr. Catanach wanted to be used, it still appears to be a problem in the Loco Hills. That's why we want to run a bond log in it, to determine exactly where that top of cement is.

Q. Let's look at two more wells. If you'll go now to Section 35, there's a well colored in purple. It's the Hanson -- it looks like the Hanson Energy Number 2?

A. Uh-huh, yes, sir, it's in 36-G.

Q. What's the status of that well and why is it shown as a problem well?

A. Actually being colored in -- well originally, when we were contemplating injection into the Penrose, the

top of cement on that particular well -- let me find it here -- the top of cement in that well was not going to be sufficient to cover the Penrose. The top of cement that we calculate is at 2154, and I believe I was estimating the Penrose to be about 2130, so that well did not have adequate coverage. And that was based on a calculation. But --

Q. If we postpone injection into the Penrose, then, this is a well that would go on the list of wells requiring remedial action before you inject into the Penrose?

A. That's correct.

Q. So let's talk, then, about the Donnelly well down in Unit Letter N of -- I'm sorry, I'm off. That's O, isn't it --

A. Yes.

Q. -- of 36?

A. Yes.

Q. Why was this a problem well?

A. This was a problem well because it didn't appear to be adequately plugged, and the recommendation from Mr. Catanach was to replug that well.

Q. This wellbore and the requirements to replug it are one of the modifications that you're asking Mr. Stogner to approve for you?

A. Yes, that's correct.

Q. And it's contingent upon his willingness to allow you to use what I will call a radius of endangerment calculation?

A. Yes.

Q. Let's talk about your evidence you would like Mr. Stogner to consider, that was not considered by Mr. Catanach.

A. Okay.

Q. First of all, have you presented in Exhibit 7 for Mr. Stogner a compilation of the information that was utilized by OXY in obtaining Division approval for the utilization of this radius-of-endangerment calculation?

A. Yes, it's included in the package.

Q. If you go to Exhibit 8, this is your calculation of what you called a pressure front using that methodology?

A. That's correct.

Q. Without reading this, give us a summary for Mr. Stogner about your method and your conclusion.

A. Okay. This is based on a pressure-front calculation that's taken out of the Matthews and Russell Pressure Buildup Monograph 1, and I've used this calculation presenting evidence to the Railroad Commission, Texas Railroad Commission, where somebody is requesting permission to inject into a well, and within the radius of investigation there is another well that appears not to be

adequately plugged, or sketchy plugging information.

And what the equation does is, based upon distance and parameters of permeability and injection volumes, it will estimate what the pressure buildup will be, the increased pressure at some point away from that injection well.

And then generally what they do is to look at the injection over a 20-year period, and at the end of that 20 years look to see what the reservoir pressure calculates to be at that point, and based upon that determine whether or not that pressure is sufficient to raise reservoir fluids up to the freshwater interval.

And I have presented a report where I go over what the various factors were, variables that I used, and I show that the -- out here the estimated freshwater depth is 500 feet, which is what I used, even though the driller's report found the freshwater zone at about 409 to 420 feet, and I'm estimating the current bottomhole pressure to be -- I guess it's like the fourth page, there's a spreadsheet that displays the information of this calculation.

The current bottomhole pressure is 495 pounds. That's based upon a shut-in pressure on Well Number 33, just to the west of that Donnelly well. And on this table there, the fourth page, it shows what our formation pressure is over time, over two years, five, 10 and 20

years, showing that at the end of 20 years the reservoir pressure at the Donnelly well is calculated to be 579 pounds.

Now, the Loco Hills interval in the Donnelly well is at a depth of 2230, and with 579 pounds, that's enough to raise the reservoir fluid 1232 feet. So that means that the greatest height that that reservoir fluid is going to reach is going to be 998 feet.

Since the fresh water is 500 feet and the reservoir fluids will only get to 1000 feet, you can infer that the fresh water would never be affected by the reservoir fluid.

The very last sheet is a graphic depiction of that showing that the reservoir pressure needed to raise formation water to 500 feet is 813 pounds. And the bottom line shows what the calculated increased reservoir pressure is, once again, at the end of 20 years, getting up to 579 pounds.

So based upon that calculation, we feel that the water would not reach the freshwater zone in the Donnelly Number 3.

Q. Based upon your study, then, Mr. Lee, you're asking Mr. Stogner to delete the requirements to replug the Donnelly well?

A. Yes, sir.

Q. That's a wellbore that's outside the control of Melrose, is it?

A. Yes, it is, it's outside their unit. They don't own that acreage.

Q. You would have no right to re-enter and replug that well?

A. That's correct.

Q. If that continues to be a requirement of the reinstated order, then you're going to have to postpone injection into certain of your injector wells associated with that Donnelly well?

A. That's correct.

Q. And which ones would have to be postponed?

A. That would be Well Number 18 in Unit Letter K, Section 36.

Q. Is that the only problem well that is affected or associated with this radius-of-endangerment calculation that you've presented?

A. That's correct.

Q. That's the only application of that calculation in this project?

A. That's correct, only the Donnelly Drilling Number 3.

Q. Let's turn now to the supplemental C-108. It's marked for this hearing as Exhibit 9.

A. Yes, sir.

Q. This was prepared by Ann Ritchie, Melrose's regulatory agent?

A. That's correct.

Q. Have you reviewed the data contained within this supplemental C-108?

A. Yes, I have.

Q. Have you satisfied yourself, to the best of your knowledge, it's accurate?

A. Yes, I have.

Q. Let's summarize for Mr. Stogner what you're presenting in this supplemental package.

A. Okay. Most of the information is exactly the same as what was originally presented in the Exhibit 2 that we showed Mr. Catanach back in 2001. There were two additional wellbore diagrams that were included, because we're asking for permission to inject into two additional wells, Well Number 21 and Well Number 53. So those wellbore diagrams are included in this package.

And also on the wells within the area of review, we only included in the supplemental package changes from the previous C-108. We're including new wells within the area of review. Marbob Energy has been drilling quite a few wells out in this area, and so the first page of the area of review is only the new Marbob wells within the

half-mile radiuses.

The second page of the area-of-review data are the wells that drop off of the original C-108 because we have moved the half-mile radius down here in Section 3, and --

Q. For example, when you turn over and you look at the new wells area of review --

A. Yes.

Q. -- and these tabulations --

A. Uh-huh.

Q. -- you're using the same safety factors and methods of calculation used for calculating cement tops as approved by Mr. Catanach?

A. That's correct.

Q. The methodology has not changed for the new wells that you've inventoried?

A. No, sir. And then the page 3 of the wells of the area of review are the five additional wells that we pick up, once again, because we shifted the half-mile radius, because we moved to Well Number 53. So we picked up some additional wells by virtue of that.

The only other thing that is included in this supplemental package that was not in the original C-108 is a plugging diagram for an Empire Abo Unit Well G Number 37, and that well is located in Unit Letter L of Section 35.

BP America had plugged that well in January of 2003, after the hearing. So we included that P-and-A diagram and report.

Q. Let's go to the point where we can summarize this for Mr. Stogner. If you'll turn to Exhibit 10 --

A. Uh-huh.

Q. -- let's talk about your summary.

A. Okay. Exhibit 10 --

Q. When you go through Mr. Catanach's order --

A. Yes.

Q. -- and you pick out all the remedial wells, there was thirty- -- What was it?

A. There were 38.

Q. Thirty-eight. If you take into consideration all the work that you've accomplished up to now, does Exhibit 10 represent the wells yet to be worked on?

A. That is correct.

Q. Would they also include problem wells associated with injection to the Penrose?

A. No, they do not.

Q. They're exclusive of those?

A. That's correct.

Q. So if Mr. Stogner reinstates the order and allows you to inject into the zones other than the Penrose, these are the problem wells that need to be cured?

A. That is correct.

Q. Give us a short summary of how you've organized the spreadsheet for Exhibit 10.

A. Okay. Basically what I did was took Exhibit 3 and just kind of boiled it down here to the wells that still remain as issue wells, problem wells. I took Exhibit 3 and eliminated all the wells where we have ran bond logs and found fissioned cement, wells that dropped out because of moving the radius of the plugged well from BP America, and this is the list of wells that would remain from the original list that Mr. Catanach had.

And it also lists, once again, the -- kind of the same headings and the current plans, what Melrose is proposing to do on these wells to remediate them.

Q. Let's turn, then, to Exhibit 11. What do you represent on Exhibit 11?

A. Exhibit 11 are the wells that are a problem or create an issue if we want to inject into the Penrose. And at a later date, if Melrose elects to flood the Penrose, this is a list of wells that will need to be resolved at that point in time.

Q. Is it Melrose's desire to have the opportunity to inject into the Penrose addressed within the context of this order, as opposed to coming back at a later day with a new application?

A. It is.

Q. When we look at Exhibit 10 and the work required for injection into the other zones, do you have a request of Mr. Stogner for a time frame for giving you an opportunity to finish all this work?

A. Yes, Melrose would wish to ask for two years to have sufficient time to come in and run the cement bond logs and do any remedial action on these 18 wells that may be necessary.

MR. KELLAHIN: Mr. Stogner, one of the items we have not yet addressed is, in the original application Mr. Lee and I had asked you to approve a certain injection surface pressure.

We have determined that we don't have sufficient enough evidence to at this point increase the surface injection pressure and would like to utilize that portion of Mr. Catanach's order, which is the standard procedure of the Division to allow surface injection based upon a 0.2-p.s.i.-per-foot-of-depth calculation, with the opportunity to submit step rate tests on individual injection wells to get that number increased.

So we are withdrawing that portion of our application.

And then finally, Mr. Stogner, Exhibit Number 12 is my certificate of notification of this hearing. We've

notified all the parties required in the Division Rules, and I have not received any objection from any of these parties.

And with your permission, Mr. Stogner, we would move the introduction at this point of what we have discussed as Melrose Exhibits 1 through 12.

EXAMINER STOGNER: Exhibits 1 through 12 will be admitted into evidence at this time.

EXAMINATION

BY EXAMINER STOGNER:

Q. A lot of information to look over, but let's return back to this Donnelly Drilling well.

A. Uh-huh.

Q. Give me a little brief history on that well. When was it drilled? What's the problem, what -- Does it not have casing in it? What's the cement? When was it plugged?

A. It was -- I'm losing stuff. Let's see here. Here it is. If you'll give me just a minute, the drilling information is available in the original C-108.

MR. KELLAHIN: It's in Exhibit 2, is it not, Mr. Lee?

THE WITNESS: It is.

EXAMINER STOGNER: Okay.

MR. KELLAHIN: Help us find that.

THE WITNESS: Let's see. Well, in the Exhibit 2, the data, I did not have the date drilled. It's a -- Once again, it's a fairly old well. Like I said, I think it was drilled in maybe the 1940s. It was drilled to a depth of 2857. They ran 8-5/8-inch casing to 560 feet, and all that information is summarized in my report there.

They plugged the well by pulling 319 feet of that 8-5/8-inch casing, which left 241 feet in the hole, and then they went in and plugged it by setting 15 sacks of cement at 743 to 783 to the base of the salt, 10 sacks of cement at 580 to 610, the top of the salt, and then they put another 20 sacks at 293 to 349, which covered where they had cut that 8-5/8-inch casing at. But there was no long string, it looks like it was plugged off the rig.

Q. (By Examiner Stogner) Okay. And you've given me calculations of the protection of fresh water, and not keeping the injected waters confined to that interval. Are there other possible formations up above the injection interval in this area -- that would be the southeast quarter of Section 36 -- that have production or potential production?

A. Well, I would say not. The only interval that it could go into would be the Penrose. But the Penrose production is pretty scattered out here. Pretty much all the production is from the Premier, Metex, Loco Hills

interval.

And so there's -- between the top of the Loco Hills and the salt, I don't believe the Penrose is productive in -- is producing in any of the wells down around here.

Q. All right, and you brought up -- What is the depth of the salt out here in this area? Or is it shown on the log?

A. No, it's not shown on my type log. It's going to be -- The base of the salt is going to be somewhere between 743 and 783, because that's where they set the plug at to protect the base of the salt. Then the top of the salt is somewhere between 580 and 610, but I don't have the exact depth.

Q. And you figured on this the -- I believe your testimony was, the base of the fresh water out here is found roughly about 500 feet?

A. Yes, that's where the request is to set surface pipe, is about 500 feet.

There's a driller's log that I had access to on that Donnelly well, and they found the freshwater zone between 409 and 420. But for my calculations I used 500.

EXAMINER STOGNER: I don't have any other questions at this time, Mr. Kellahin.

You can be excused.

I'm going to request also that you provide me a rough draft order in this instance.

MR. KELLAHIN: Yes, sir, I'd be happy to.

EXAMINER STOGNER: Before I take this case under advisement, I will take administrative notice of all previous orders and cases covering this area.

And with that, Case Number 13,199 will be taken under advisement.

(Thereupon, these proceedings were concluded at 9:18 a.m.)

* * *

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 13199 heard by me on 22 January 2004.

, Examiner
Oil Conservation Division

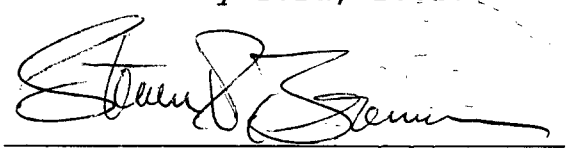
CERTIFICATE OF REPORTER

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 January 23rd, 2004.



STEVEN T. BRENNER
CCR No. 7

My commission expires: October 16th, 2006