

BEFORE THE WATER QUALITY APPEALS BOARD  
DEPARTMENT OF ADMINISTRATION  
IN AND FOR THE STATE OF ARIZONA

THE TOWN OF FLORENCE, a political )  
subdivision of the State of )  
Arizona; SWVP-GTIS MR, LLC, a )  
Delaware limited liability company; )  
and PULTE HOME CORPORATION, a )  
Michigan corporation, )

Appellants, )

vs. )

NO. 16-002 WQAB )

ARIZONA DEPARTMENT OF ENVIRONMENTAL )  
QUALITY, )

Respondents, )

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FLORENCE COPPER INC., a Delaware )  
corporation, )

Intervenor, )

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REPORTER'S TRANSCRIPT OF PROCEEDINGS

Phoenix, Arizona  
March 6, 2017  
10:30 a.m.

Prepared for:

THE COURT  
Prepared by:  
JANE M. DOYLE, RMR-CRR  
Certified Reporter  
Arizona Certificate #50112  
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Registered Reporting Firm R1012

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PROCEEDINGS

commenced at 10:30 a.m. on March 6, 2017, at the Arizona Department of Administration, 100 North 15th Avenue, Phoenix, Arizona, before JANE M. DOYLE, a Certified Reporter, CR No. 50112, in and for the County of Maricopa, State of Arizona.

APPEARANCES

WATER QUALITY APPEALS BOARD

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Gail M. Clement  
Fred E. Brinker

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1 Phoenix, Arizona  
2 March 6, 2017  
3 10:30 a.m.

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5 PROCEEDINGS

6 MR. WAKEFIELD: Okay. We'll come back to  
7 order, and we are on Item No. 5 on our agenda, which  
8 is Matter No. 16-002, Town of Florence, SV --

9 MR. BRINKER: Excuse me, Scott. Is your  
10 recorder on?

11 MR. WAKEFIELD: Yes.

12 -- SWVP-GTIS MR, LLC, and Pulte Homes versus  
13 ADEQ and Town of Florence -- or Florence Copper Inc.,  
14 regarding Aquifer Protection Permit No. P-106360. And  
15 we will take a few procedural matters at first.

16 First, I'll take appearances from the parties.  
17 On behalf of the Town of Florence.

18 MS. PASHKOWSKI: Barbara Pashkowski.

19 MR. WAKEFIELD: And on behalf of SWVP-GTIS MR,  
20 LLC.

21 MR. YURK: Russell Yurk.

22 MR. WAKEFIELD: And on behalf of Pulte Homes.

23 MR. WARD: Christopher Ward.

24 MR. WAKEFIELD: On behalf of the Department of  
25 Environmental Quality.

MR. CANTRELL: Jeff Cantrell with the Attorney

1 General's Office representing ADEQ.

2 MR. ZEISE: Rick Zeise from the Attorney  
3 General's Office representing ADEQ.

4 MR. POLLOCK: And Brad Pollock also from the  
5 Attorney General representing ADEQ.

6 MR. WAKEFIELD: Thank you.

7 And on behalf of Florence Copper.

8 MR. GLASS: Brad Glass with Gallagher &  
9 Kennedy.

10 MR. DECKER: Lee Decker with Gallagher &  
11 Kennedy.

12 MS. MAGUIRE: Rita Maguire, general counsel  
13 for Florence Copper.

14 MR. WAKEFIELD: Okay. Thank you.

15 The first procedural order I'd like to address  
16 is the clarification on the notice of the hearing, and  
17 we received a letter from DEQ on Thursday or Friday  
18 of last week regarding that. I -- I did just want to  
19 clarify for the record that the clerk of the Board  
20 issued that order under my direction and within the  
21 authority that I have as the chairman of the Board.  
22 So I don't know that there's anything further that we  
23 need to address about that clarification on the  
24 hearing.

25 Second procedural matter is the Appellants'

1 motion for partial withdrawal of issues on appeal, and  
2 the responses that we have.

3 Is there any discussion among the Board on  
4 that motion?

5 MS. CLEMENT: If we agree to partial  
6 withdrawal of certain issues, does that, in essence,  
7 put those issues to rest relative to the permit? They  
8 do not have an additional ability to bring them up in  
9 this purview; correct?

10 MR. WAKEFIELD: My -- my take on this is if --  
11 if we were to grant this motion, it would be as if  
12 they had not appealed on those bases, and their time  
13 to appeal on those bases would have -- would have  
14 expired and they would be precluded from any further  
15 appeal of the issue on the bases of that, you know,  
16 they are withdrawing -- or that they are asking to be  
17 withdrawn.

18 MS. CLEMENT: If they take the appeal process  
19 further beyond the Board, could they bring those  
20 issues back in?

21 MR. WAKEFIELD: I don't believe so, but I --  
22 if the parties themselves have -- had a different view  
23 on that, I would be interested in hearing from them.

24 Do any of the parties have a view --

25 MR. YURK: Your Honor, Russell Yurk on behalf



1 of -- of Appellants.

2           Within the appeal of this temporary APP, this  
3 significant amendment, our intent was to withdraw them  
4 for -- for purposes of this appeal, so I would  
5 consider it binding on us. If there would be further  
6 appeal up to the Superior Court, for example, of  
7 whatever order this Board issues on this particular  
8 significant amendment, we -- our position is we would  
9 not have the right to bring that back up.

10           Our position, though, is, you know, in future  
11 permits that might be issued. If there's another  
12 permit that's issued down the road, the withdrawal of  
13 the issue on this permit wouldn't affect our ability  
14 to appeal it on future permits. But as far as this,  
15 it would be closed.

16           MS. CLEMENT: Is -- may I?

17           MR. WAKEFIELD: Go ahead.

18           MS. CLEMENT: Is there any disagreement with  
19 that?

20           MR. GLASS: Yeah. And here's our fundamental  
21 problem with this motion is that on one hand they're  
22 saying, We're withdrawing the issues. On the other,  
23 they're advocating to this Board, to the public, and  
24 other venues that the permit's monitoring scheme is  
25 defective. And all you have to do is look at the

1 second paragraph of their notice of partial withdraw,  
2 and it says, I quote: To be clear, Appellants still  
3 maintain the temporary APP P-106360, a significant  
4 amendment, lacks meaningful monitoring.

5           So to us this is the time and the place to  
6 hear all the issues that they filed in their notice  
7 of -- of appeal. You directed us to submit testimony,  
8 we did, and we would like a finding that the  
9 monitoring of the permit complies with Arizona law so  
10 that this argument stops and that we can move forward  
11 with our permit and don't have to deal with this again  
12 in other forums, in the Superior Court, if it goes  
13 there, in the UIC proceeding, as that proceeds, or to  
14 the public.

15           So we ask a specific finding -- we want to  
16 move forward, and we want a specific finding that the  
17 monitoring provisions and the permit comply with  
18 Arizona law.

19           MR. WAKEFIELD: But Mr. Glass, aren't they  
20 still maintaining their objection on the fluid  
21 electrical conductivity alert level and that aspect of  
22 monitoring?

23           MR. GLASS: They have an issue with one alert  
24 level. And that's another point of ours is that this  
25 permit has a comprehensive detailed monitoring scheme,

1 and you can't look at one part of it without looking  
2 at the whole scheme to understand what's going on.  
3 And so they've removed everything but one narrow  
4 issue. We submitted testimony on everything because  
5 that's what the Board ordered, directed us to do, and  
6 we think we're entitled to a finding that the permit  
7 fully complies with Arizona -- all parts of --

8 MR. BRINKER: Well, who cares -- who cares  
9 what they say about you? I could say that your mother  
10 dresses you funny. What does that mean? Okay? They  
11 can say whatever they want, but even if we find for  
12 you, they could still say whatever they want. Nothing  
13 changes.

14 Do you see my point?

15 MR. GLASS: Yeah. But I think a specific  
16 finding --

17 MR. BRINKER: I mean, do you believe that if  
18 you were to get an affirmative finding from the Water  
19 Quality Appeals Board that somehow that's going to  
20 help you if they decide, and they probably will, to go  
21 to court?

22 MR. GLASS: Yeah. I do, actually. I do think  
23 it will help in the Superior Court.

24 MR. BRINKER: I'm not sure how it helps you  
25 with EPA, but -- okay.

1 MS. CLEMENT: And what is ADEQ's position?

2 MR. CANTRELL: We laid out our position pretty  
3 well in our response to that. We believe that, first  
4 of all, if the goal of the withdrawal was to alleviate  
5 some of the burden on the responding parties, that  
6 we'd already undergone that burden. By the time we  
7 responded, we had already -- our experts had developed  
8 their written testimony and so forth.

9 And we believe that, again, we're entitled to  
10 a finding on the merits. If the Appellants elect not  
11 to provide any substantive testimony or factual  
12 testimony on those merits as a way of withdrawing the  
13 issue, that's fine. But, again, the issue we think is  
14 still squarely before the Board, and I think we're  
15 squarely entitled to some finding on the merits that  
16 if they provided no -- no facts, that we're entitled  
17 to a finding that they have not carried their burden  
18 of showing that the permit on those terms is  
19 arbitrary, unreasonable, and unlawful, and based on a  
20 technical decision that's clearly invalid.

21 With respect to the issue of whether those  
22 issues that have been withdrawn could be raised later  
23 in some judicial review action or further down the  
24 line, we don't believe that those issues would be  
25 permitted at a judicial review action because the

1 judicial review action, amongst other things, only  
2 reviews the decisions of this Board. So we think that  
3 that would be -- they would be foreclosed on that.

4 MS. CLEMENT: Thank you.

5 MR. BRINKER: Okay. Let me just repeat  
6 back what I think you said. Okay?

7 So if we were to grant the motion to withdraw  
8 and we remove these issues from the hearing today in  
9 our -- our finding, whatever that might be, right,  
10 then you're telling me that they're essentially  
11 closed, and so -- because they can only appeal what we  
12 have done; right?

13 MR. CANTRELL: That's my understanding. Of  
14 course, I reserve the right to be overruled by any  
15 subsequent court.

16 MR. BRINKER: Well, of course.

17 MR. CANTRELL: But that's my understanding.

18 MR. BRINKER: Well, I'm just trying to get it  
19 straight in my mind.

20 MR. WAKEFIELD: The Appellants have already  
21 indicated that they would not pursue appeal on the  
22 issue --

23 MR. BRINKER: Well, but that's --

24 MR. WAKEFIELD: -- if we grant withdrawal.

25 MR. BRINKER: That's like me telling you I'm

1 not going to hit you. I don't think that means a  
2 whole lot. No offense, Counselor, but --

3 MR. HRNICEK: Well, it does estop them --

4 MR. BRINKER: Okay. So if they state --

5 MR. HRNICEK: -- on the merits of a judicial  
6 estoppel.

7 MR. BRINKER: -- something in a hearing  
8 basically saying, Our intentions are whatever, that --

9 MR. HRNICEK: If it's on the record and they  
10 are allowing themselves to be judicially estopped from  
11 taking a contrary position in subsequent proceedings,  
12 then they are estopped.

13 MR. BRINKER: No, they can't. All right.

14 MR. WAKEFIELD: Can I ask DEQ: What -- what  
15 is the harm in us granting the motion to withdraw?

16 MR. CANTRELL: I think the -- the harm is  
17 simply that they've made the allegations. I think --  
18 like I said, I think they're squarely before the  
19 Board, and I think we're entitled to a finding that  
20 they've not carried their burden. If it turns out  
21 that they withdraw the issues, the Board grants the  
22 issues, I'm not certain there's anything down the line  
23 that will come back and bite us. So I'm not certain  
24 that there's an actual harm, other than the fact that  
25 the issues were raised, the issue -- it's not -- it's

1 not controlling other cases, but the claim is that  
2 ADEQ was not acting in a lawful manner, and I  
3 think that -- that that's one thing that the  
4 Department strives to do at every turn is to be ultra  
5 compulsive in making sure that everything it does  
6 is -- is both lawful and is reasonable.

7 MR. BRINKER: But isn't withdrawal of the  
8 claim the equivalent of a finding that there is no  
9 claim?

10 MR. CANTRELL: No. I think they -- a  
11 withdrawal is different from a finding.

12 A finding on the merits actually then  
13 forecloses those merits based on the finding as  
14 opposed to withdrawal, which means that the Board  
15 never actually adjudicated it. That's sort of the  
16 distinction -- I'm sorry.

17 MR. BRINKER: Okay. But if they withdraw it,  
18 then it's no longer an issue; right?

19 MR. CANTRELL: The distinction --

20 MR. BRINKER: Well, all right. Just bear with  
21 me here.

22 Okay. There's all kinds of stuff in the  
23 permit that they didn't make a claim against; right?

24 MR. CANTRELL: Yeah.

25 MR. BRINKER: So if by taking something out of

1 the claim, that it then moves into that category of  
2 things they didn't make a claim against. So how --  
3 I -- you know, I have a little trouble sorting it out  
4 in my head.

5 The difference between withdrawing it --  
6 because they're basically conceding it's not an issue.  
7 They're withdrawing it, right, versus us saying it's  
8 not an issue.

9 MR. CANTRELL: Right. I think, with all due  
10 respect, this is the sort of argument that only  
11 lawyers could love, and --

12 MR. BRINKER: Maybe that's why I'm struggling  
13 with it.

14 MR. CANTRELL: That will make two of us.

15 Ultimately, in the end, you know, the Board  
16 certainly is free to do what it chooses to do. We'll  
17 abide by the Board's decision on that. If it turns  
18 out there's some issues, we'll address those down the  
19 line. But if -- if the Board elects to withdraw the  
20 issue -- or to grant the motion to withdraw, you know,  
21 then we proceed with those issues off the table. And,  
22 you know --

23 MR. BRINKER: Oh, you mean not consider them?

24 MR. CANTRELL: I'm sorry?

25 MR. BRINKER: You mean not consider them



1 because they're off the table?

2 MR. CANTRELL: I still didn't hear.

3 MR. BRINKER: I'm sorry, I'm guess I'm  
4 mumbling. My wife says I do that a lot.

5 MR. CANTRELL: But I can't turn my hearing  
6 aids up any more, so we may be in trouble.

7 MR. BRINKER: Well, when you say "off the  
8 table," you mean that we're not going to consider  
9 them?

10 MR. CANTRELL: Correct. Yes.

11 MR. BRINKER: Okay.

12 MR. CANTRELL: Yeah. If you grant the motion,  
13 those -- those issues are no longer before the Board,  
14 and therefore any further action just won't be dealing  
15 with them.

16 MR. HRNICEK: Well, if I can correct one  
17 thing.

18 This is not a motion. This is a notice of  
19 withdrawal. This is not a motion to dismiss. This is  
20 not a dispositive motion.

21 If there is no issue before the Board, the  
22 Board cannot be in the position of issuing advisory  
23 opinions.

24 MR. CANTRELL: Right.

25 MR. BRINKER: Can you explain that a little

1 bit more.

2 MR. HRNICEK: It's what you just said about  
3 five minutes ago, Mr. Brinker. You just said: If  
4 they withdrew the issue, then how are we to decide on  
5 it?

6 MR. BRINKER: So they can unilaterally  
7 withdraw an issue, whether we want them to or not? Is  
8 that what you're telling me?

9 MR. HRNICEK: That's my understanding.

10 MR. BRINKER: So by the very fact they sent us  
11 a notice saying, We don't want to fight about this  
12 anymore, we're taking it off the table, it's off the  
13 table?

14 MR. HRNICEK: Well, think about the contrary  
15 result. If the Board decided to say, Okay. We are no  
16 longer dealing with this issue, but we're nonetheless  
17 going to pat ADEQ on the back and say that everything  
18 that they've done is kosher, that would be equally  
19 repugnant to everyone.

20 MR. BRINKER: So, in other words, if we  
21 ignored their request to with -- their request to --  
22 well, it's not a request --

23 MR. HRNICEK: It's a notice.

24 MR. BRINKER: -- it's -- okay. Let me back  
25 up.

1           Again, I'm just -- bear with me here while I'm  
2 trying to get this straight in my head.

3           Because they can file any kind of appeal or  
4 claim they want, they just have to be able to  
5 substantiate it, then what you're telling me is that  
6 at any time in the process they can withdraw all or  
7 part of those claims as part of the process and we  
8 have no control over that.

9           Is that what you're saying?

10          MR. HRNICEK: I've seen nothing to the  
11 contrary, but I'm open to being contradicted.

12          MR. WAKEFIELD: Mr. Glass?

13          MR. GLASS: Thank you. Just a point.

14                I don't know which of the issues they're  
15 withdrawing in the notice of appeal. They never  
16 designated which of the issues by number that they're  
17 withdrawing, so I don't know which of them they're  
18 withdrawing.

19                Also, are they retracting the statements in  
20 the notice of appeal such as the following: ADEQ and  
21 Florence Copper have knowingly and intentionally  
22 ignored the border of applicable law. There is still  
23 no meaningful vertical monitoring for escapes into the  
24 drinking water aquifer. It is becoming increasingly  
25 apparent that ADEQ does not understand the legal and

1 technical requirement of its own permitting program,  
2 has no respect for the public's right to be heard on  
3 the permit, is willing -- willfully ignoring the clear  
4 direction of the ALJ and WQAB and is deferring  
5 completely to the wishes of Florence Copper in the  
6 permit process?

7           Which issues, which statements in their notice  
8 are being withdrawn? That's why our concern is  
9 simply: We want a finding. We want to put this to  
10 bed. We want it to be concluded. We want to go to  
11 Superior Court, if they take it there, and be able to  
12 say simply that all these issues that we took the  
13 time, effort, and energy to submit energy -- to submit  
14 testimony on at your direction have been decided fully  
15 and completely. That -- that's our request.

16           MR. WAKEFIELD: Mr. Hrnicek, do we have --  
17 given what you indicated a moment ago, that if -- if  
18 the Appellants are free to withdraw whatever issues  
19 they want, how could we act in a way consistent  
20 with -- with -- with what Mr. Glass is asking us to  
21 do?

22           MR. CANTRELL: I have one comment, if I  
23 could.

24           MR. WAKEFIELD: Do we have the authority to  
25 speak to the withdrawn issues in any -- in any way

1 whatsoever?

2 MR. HRNICEK: That's -- that's what I was  
3 spending my Friday doing.

4 I haven't -- I haven't found a complete --  
5 concrete answer, but I'm open to being --

6 MR. CANTRELL: I have a comment, and that's  
7 simply that even if a person files a lawsuit in the  
8 Superior Court and later decides to withdraw, they  
9 still need some sort of an action on the part of the  
10 judge in Superior Court to dismiss the case, and  
11 that's kind of an analogy of where we're at. We have  
12 issues that were raised before the Board, and I think  
13 they can't just say they're no longer there and nobody  
14 addresses them. I think we need some sort of a ruling  
15 by the Board saying, Yes, we -- we grant the motion,  
16 we deny the motion, or what have you. But I think  
17 they're still -- they're there. Once they're raised,  
18 jurisdiction attaches.

19 MR. BRINKER: Well, in answer to your comment,  
20 if you read the language here, it's very, very  
21 narrowly drawn. It specifically says: Partial  
22 withdraw of monitoring issues identified in  
23 Section 3.7.3.2.1 and 3.7.3.3. That's all it says.

24 That's very narrow; right? And it speaks to  
25 our direction to you guys. These are the issues we

1 want to be briefed on and we want to hear.

2 So I -- in that sense, they haven't withdrawn  
3 those nasty things they said about you guys. Okay?  
4 They're still on -- still on the record.

5 MR. YURK: Russell Yurk again.

6 I'm not entirely sure why this is a -- why  
7 we're arguing about this. In any appeal, you can  
8 withdraw issues. And it's like Chairman Wakefield  
9 said and, Mr. Brinker, you said. It -- it's almost  
10 like they were never brought in the first place.  
11 There are a lot of things in the permit that we might  
12 not have liked. There are things in the permit that  
13 we have criticized in our public comments, and -- and  
14 those comments are out there. They're public.  
15 They're in the public record, and we may not have  
16 appealed all of them, for whatever reason.

17 As we explained in this notice of partial  
18 withdrawal, the reason we withdrew the monitoring  
19 issues, with one minor exception, and that had to do  
20 with the EC alert level in Table 4.1-8 was because the  
21 EPA permit to which FCI has agreed, you know, they  
22 were not appealing, and they didn't appeal, requires  
23 monitoring that alleviated a lot of Appellants'  
24 concerns. And because it's required in another permit  
25 doesn't mean we believe this permit has proper

1 monitoring characteristics to it, but we do believe  
2 that monitoring will be required on this project that  
3 alleviates our concerns. So we're no longer in a  
4 position where we or our expert are going to testify  
5 before you today and say the monitoring taken as a  
6 whole that's required for this project is  
7 insufficient.

8           So I think it makes sense at that point for us  
9 to withdraw that issue, which means we are not  
10 challenging the monitoring aspects of this permit,  
11 other than the one alert level that we maintained.  
12 And that's no different than if we'd never brought  
13 that issue up on appeal in the first place and had  
14 just made a public comment about it, but not included  
15 it in the notice of appeal.

16           And I see no reason why in today's hearing we  
17 should spend substantial time on monitoring issues  
18 that nobody is challenging and why the resources of  
19 this Board should be taken up deciding issues that  
20 nobody is challenging. It just makes no sense.

21           And I realize that FCI and ADEQ in a perfect  
22 world would love an endorsement from this Board that  
23 their monitoring was adequate, but I just don't see  
24 how it's an issue anymore once we've decided we're not  
25 going to challenge it any longer, regardless of the

1 reason we had for not challenging it any longer.

2 MR. WAKEFIELD: Mr. Glass.

3 MR. GLASS: So -- so three points in response  
4 to that: One, if the parties are willing to -- if the  
5 Appellants are willing to stipulate that the permit's  
6 monitoring regime complies with Arizona law, the APP  
7 statutory regulation, we're glad to do that and  
8 resolve this issue. Absent that, we would like a  
9 finding.

10 Number two --

11 MR. WAKEFIELD: Can I just interrupt you for  
12 just a second.

13 Are the appellants willing to agree?

14 MR. YURK: No, we won't stipulate to that, but  
15 we'll stipulate to withdraw the issue and not  
16 challenge it.

17 MR. GLASS: Number two, if we were in Superior  
18 Court -- and we're not, it's more informal here -- the  
19 way it works is you file a complaint, and after the --  
20 and you can withdraw anything in that complaint until  
21 the other party has filed an answer. Once they've  
22 filed an answer, you have to have consent of the  
23 parties or leave of the court to do that. I think  
24 we're in an analogous situation.

25 We got the notice two, three weeks before we



1 were submitting our direct testimony. We've done most  
2 of the work to get our testimony ready and we  
3 submitted it. We submitted -- spent a lot of time and  
4 energy putting that together. And, again, we detailed  
5 all of the comprehensive monitoring that was put in,  
6 and we think that was important.

7           And finally on this UIC point, I -- I can't  
8 help myself. The draft UIC permit came out in  
9 December of 2014. It's been out in the public for a  
10 long time. And the monitoring under that UIC permit  
11 and this APP permit are nearly identical. And I'd  
12 like -- if there's differences that they want to point  
13 out, that's fine. They are nearly identical. It's  
14 the same monitoring. They're different programs and  
15 different names and terminology, but -- but that UIC  
16 permit didn't cure this one. This one stands on its  
17 own, it fully complies with Arizona law, and we would  
18 like a finding to that effect.

19           MR. CANTRELL: And I just have one additional  
20 comment is that if the rationale for withdrawing these  
21 issues is because the issues they want to withdraw are  
22 addressed by the UIC permit, then what happens if the  
23 UIC permit which is currently being appealed is, in  
24 fact, rejected and all of a sudden that protection or  
25 that comfort or that justification to withdraw the

1 issues disappears?

2           Again, I think -- I think the issues were  
3 fairly raised before the Board, and I think that the  
4 Board has the authority to decide them. And, you  
5 know, I think we're entitled to a ruling on the merits  
6 if they've not met their burden of showing that those  
7 permit terms were arbitrary, unreasonable, unlawful,  
8 or based on a technical decision that's clearly  
9 invalid.

10           MR. WAKEFIELD: Mr. Yurk.

11           MR. YURK: Just two quick points: One, we  
12 didn't appeal the monitoring aspects of the UIC permit  
13 upon which we're relying on withdrawing the issues  
14 before the Board. So those aren't on appeal.

15           Two is if -- as the AG's office is concerned,  
16 if for some reason the UIC permit would -- would be  
17 rescinded or -- or somehow be rejected on appeal, that  
18 would be our problem. I mean, we still haven't  
19 appealed the monitoring issues on this permit. I -- I  
20 just don't understand why we're arguing over something  
21 that we're no longer appealing.

22           MR. WAKEFIELD: All right. Board members, any  
23 discussion?

24           MR. BRINKER: Well, I want to go back to our  
25 counsel here for a second.

1 All right. One more time. So this is not a  
2 motion, it's a notice. Okay. So can we ignore the  
3 notice? Can we say, Okay, that's nice you want to  
4 withdraw, but it's too far down the road? We're too  
5 far deep into this. We're going to -- we want to talk  
6 about this.

7 I've got a page and a half of questions myself  
8 I'd like to ask about it, but --

9 MR. HRNICEK: Yeah. I think the important  
10 point is we are not in Superior Court, and there are  
11 very specific protocols in place in traditional rules  
12 of civil procedures scenarios, but this is not one of  
13 them. This is a Board that has to adjudicate appeals  
14 before it, and if you want to -- if the Appellant is  
15 withdrawing issues on appeal, then, in my opinion, the  
16 Board is being asked to render an advisory opinion,  
17 meaning there is no justiciable claim between any of  
18 the parties here. They are not adverse interests on  
19 that issue because everyone agrees that the issue is  
20 withdrawn.

21 Now, the --

22 MR. BRINKER: Well, but the --

23 MR. HRNICEK: -- the appellees would like a  
24 rendered opinion on the merits, and the problem is not  
25 the merits. The problem is the jurisdiction of the

1 Board.

2 MR. BRINKER: Well, let's back up a second,  
3 because what you just said was if all the parties  
4 agree, the issues are withdrawn. Is that what you  
5 said?

6 MR. HRNICEK: That's loosely me paraphrasing  
7 what I've heard the parties represent today.

8 MR. BRINKER: Well, no, not what they say.  
9 What -- you're -- you said you spent some time looking  
10 into this. I'm just trying to get it straight in my  
11 head, because up until now I was under the impression  
12 that the claimants, the appellants, could unilaterally  
13 withdraw any issue they no longer want to pursue on  
14 notice. Okay? And then I thought I heard you say  
15 just now that the parties, which in my mind means all  
16 the parties involved in the issue, the action, have to  
17 agree.

18 So which is it?

19 MR. HRNICEK: I'm not saying that they have to  
20 agree, but the representations they've heard today are  
21 effectively the same thing. The nuance is that the  
22 appellants are simply saying, We aren't going to  
23 stipulate that ADEQ's monitoring process is  
24 appropriate and good and kosher, and yet ADEQ and  
25 Gallagher & Kennedy, those folks would like --

1 MR. BRINKER: Of course, they want what they  
2 want.

3 MR. HRNICEK: So the question is --

4 MR. BRINKER: Back to the question: Can --  
5 can the appellant unilaterally withdraw the claim?

6 MR. HRNICEK: Yes.

7 MR. BRINKER: Okay. Then that's the end of  
8 it, whether we like it or not.

9 MR. WAKEFIELD: Any further discussion or a  
10 motion?

11 MR. BRINKER: Well, there is no motion.  
12 There's nothing for us to do.

13 MR. WAKEFIELD: Okay.

14 MR. BRINKER: So just as a point of  
15 clarification, that means, based on the -- let's see,  
16 you sent out a document about the -- I hope I can find  
17 it -- that basically said, Here's what we're going to  
18 talk about. Here it is. This one (indicating).  
19 Clarification of Hearing.

20 So based on this Clarification of Hearing  
21 document, the only issues we're going to talk about in  
22 the hearing today is basically 3.8, the PMA and the  
23 POC.

24 MS. CLEMENT: And electrical conductivity.

25 MR. BRINKER: And that one electrical

1 conductivity issue, which would be in -- I think it's  
2 3.7.3.2.1; right?

3 I'm afraid, gentlemen, we're going to have to  
4 talk a little more about electrical conductivity  
5 monitoring to get to the bottom of that one issue they  
6 want to raise, just so I can understand it better.

7 MR. ZEISE: If the Board may entertain my  
8 suggestion for a minute. Going back to the permit and  
9 preparing for today, I note that Section 3.7.3.2.1  
10 actually relates to bulk EC testing, which is  
11 different than 3.7.3.3, which is fluid, electrical  
12 conductivity testing. Those are two different testing  
13 methodologies called for by the permit.

14 Now, Dr. Wilson in his direct and in his --  
15 and in his rebuttal talks about the measurement  
16 levels, which is comparing -- it maybe incorrect, but  
17 it's impairing the -- comparing the data from an  
18 injection well and from an observation well.

19 MR. BRINKER: Well, he's talking about this  
20 Table 4-1.8, or whatever it is.

21 MR. ZEISE: That relate to fluid conductivity,  
22 and if my analysis is correct, then the issue of  
23 3.7.3.2.1 relating to bulk conductivity would now be  
24 withdrawn.

25 MR. BRINKER: Well -- okay.

1           MR. ZEISE: I'll leave it to the Board for --  
2 for clarification.

3           MR. BRINKER: The point they made is about the  
4 table, about the alert level in the table. What I'm  
5 just going to tell you, okay, I have to run you guys  
6 through the whole issue, because I don't understand  
7 it. So part of the hearing is going to be -- we're  
8 going to talk about electrical conductivity monitoring  
9 in general and then get into more detail about what it  
10 is you're doing and how you're using it before we can  
11 get to the conclusion of is this point he raised --  
12 does it make any sense. Okay?

13           MR. ZEISE: With that, I will sit back and  
14 listen.

15           MR. BRINKER: Because, you know, you're --  
16 you're not dealing with a lawyer, you're dealing with  
17 an engineer. Engineers like to know how things work.  
18 So you're going to have to suffer as attorneys while  
19 we dig into the minutia of how this works.

20           MR. WAKEFIELD: All right. The -- the last of  
21 my procedural issues to deal with is the demonstrative  
22 slides. I shuffled all my papers, and I can't find  
23 them.

24           MS. CLEMENT: I've got them here.

25           MR. WAKEFIELD: I found them.

1           We don't strictly have a motion in front of  
2 us, but I would entertain discussion from the Board  
3 members, and if a Board member wants to make a motion  
4 on the use of the demonstrative slides in our hearing.

5           MS. CLEMENT: Well, the first slide looks like  
6 the same attachment that was attached to the -- the  
7 Doctor's materials.

8           MR. BRINKER: He's annotated it with some  
9 additional comments, essentially.

10          MS. CLEMENT: Right.

11          And the second slide is a blow-up.

12          MR. BRINKER: Yeah. I don't see anything  
13 different there.

14          MS. CLEMENT: And the third slide is -- is new  
15 material to me.

16          MR. BRINKER: Yeah. I don't consider those  
17 necessary as far as what I'm going to be asking  
18 questions about, so I have no -- it wouldn't --  
19 doesn't matter to me whether they're added to the  
20 record or not.

21          MR. WAKEFIELD: Well, and that's just -- they  
22 wouldn't actually be -- they're not offering them as  
23 evidence that would be marked as an exhibit in the  
24 record. It's merely being suggested that they be used  
25 as demonstrative slides.



1 MS. CLEMENT: And to me, you know, again, not  
2 being a legal authority, it doesn't seem to make a  
3 whole lot of difference that he's allowed to use these  
4 three slides in terms of his presentation today, but  
5 I'd like to hear from the other parties on why you  
6 feel this would be inappropriate.

7 MR. ZEISE: For the State, Madam Board Member,  
8 our concern is that -- there's a couple different  
9 issues, but the first is the parties and the Board sat  
10 down at a hearing and said, Here is the way we're  
11 going to treat the hearing. All direct is by --  
12 submitted by writing and the Board will be allowed to  
13 cross-examine, and you can cross-examine or  
14 rehabilitate -- rehabilitate your own witness.

15 We, the State, and Florence Copper, abided by  
16 that, and we submitted our -- our direct. Less than  
17 five days before the hearing, we end up with a group  
18 of new -- what I believe new documents, and I'll  
19 explain why in a minute -- a group of new documents  
20 appear. One of the issues that has occurred, at least  
21 within Southwest Valley Partners Direct, is that  
22 Dr. Wilson relied very little in his analysis on the  
23 significant amendment and argued the previous  
24 ALJ hearing and a record from the ALJ hearing. And  
25 the concern from the State's point of view is that

1 Dr. Wilson is going to try to expand his testimony  
2 beyond his direct through either in the manner he  
3 answers your questions on cross-examination or in the  
4 manner of a redirect. That's issue one.

5 Issue two, the fact that he relies on any of  
6 those documents in this hearing makes it part of the  
7 record. Part of the record means it goes before a  
8 judicial relief action if we go to that point. One of  
9 the issues is we, as parties, Florence Copper and the  
10 State, have not had the opportunity to comment on the  
11 documents within our -- our rebuttal to his direct.

12 Specifically, the two diagrams, the maps  
13 you're looking at, the monitoring the well -- the POC  
14 wells are, I believe, in proper position, as indicated  
15 by the permit. However, they moved in -- they  
16 shortened up the -- one of the wells. So it is not a  
17 complete -- or it's not a diagram that previously was  
18 submitted to the Board. That's one and two.

19 The third document is brand new. Now, one of  
20 the issues that I have with that new document is it  
21 says "Curis" at the bottom. Curis was the previous  
22 company for Florence Copper. In testimony it would be  
23 very simple for Dr. Wilson to say, Well, see, it's  
24 their diagram, but, in fact, he's added additional  
25 direct testimony not previously seen by parties by his

1 addition of the question marks and by his incorrect  
2 use of the diagram itself. That is not the diagram  
3 that was previously provided in any of the briefing.

4 So, in effect, he's getting another bite at  
5 the apple by using that document. He's presented to  
6 you, pretty smart questions. It is, in fact, a  
7 communication to you.

8 We, the State, do not want to see in either  
9 the cross-examination or his rehabilitation, if  
10 necessary, by his counsel, Dr. Wilson begin coming  
11 with new theories against previously not indicated in  
12 a pleading, and rely on or begin pointing out  
13 information in a document the parties have had -- "the  
14 parties" meaning the State and Florence Copper -- have  
15 had no ability to challenge in a meaningful manner.  
16 We ended up with these documents, I believe, on a  
17 Wednesday afternoon at about 4:15, 4:30. We drafted  
18 our -- our objection to it by Thursday in an attempt  
19 to get it timely before the Board for consideration.

20 But that is our concern is that the party --  
21 the party again takes another bite out of the apple  
22 and somewhat tries to work in more evidence, either  
23 direct or rehabilitation, beyond the direct as agreed  
24 by the parties. And that is further supplanted by an  
25 email that was contained within our objection in which

1 one of the counsel said, as part of the agreement in  
2 trying to clarify the issues of -- of the order versus  
3 notice of the Board, there shall be no new evidence  
4 introduced at this hearing other than that previously  
5 provided.

6 So our concern is that we have counsel  
7 attempting another bite at the apple.

8 MR. WAKEFIELD: Mr. Glass.

9 MR. GLASS: Just two quick points.

10 One is we have Board procedural order. This  
11 should have been submitted with their direct or their  
12 rebuttal, and they didn't do that. And so I think  
13 it's late and improper.

14 Second, the first one is a blown-up with some  
15 additions. The second one is a closeup. Those wells  
16 are located in the improper place there.

17 And then the third one, you know, is kind of a  
18 cartoon. It's missing key information. If you want  
19 to actually see the cross section, it's Attachment E  
20 to the Affidavit of Mark Nicholls. That's what I  
21 would have submitted -- this -- if I had comments on  
22 it so the other parties could have addressed it in  
23 rebuttal. And so it's just -- it doesn't comply with  
24 the Board order, and it's pattern and practice. You  
25 know, we dealt with a moving target of withdrawing

1 issues before, during, and after the hearing. We  
2 dealt with Dr. Wilson showing up with an over 100-page  
3 PowerPoint at the last hearing, and it's simply -- we  
4 shouldn't have to deal with this. It's not consistent  
5 with the Board order, and we just ask that it not be  
6 considered and added to the record.

7 MR. WAKEFIELD: Thank you.

8 MS. CLEMENT: Thank you.

9 MR. BRINKER: Okay. I move we exclude it,  
10 based on the fact they didn't follow the rules.

11 MR. WAKEFIELD: Mr. Yurk.

12 MR. YURK: I just wanted to say something real  
13 quick.

14 MR. WAKEFIELD: Go ahead.

15 MR. YURK: We didn't submit it as evidence. I  
16 think our notice actually said point blank that we  
17 were intending it purely so that if -- if there were  
18 questions upon which something like this would be  
19 useful as just a visual representation for Dr. Wilson  
20 to point to, it was there and available. It would be  
21 no different from our standpoint as if Dr. Wilson  
22 said, Do you mind if I go up to the Board and draw you  
23 a picture of what I'm talking about. It's not  
24 evidence. It wouldn't be part of the record, in our  
25 opinion. We're not introducing it in that way, and

1 they're not important to us, to be frank. It  
2 literally was for purposes of assisting the Board if  
3 the -- if the Board had any questions on those topics  
4 and they found it helpful. It was not for any other  
5 purpose. And so it's not an issue we actually feel  
6 strongly about even fighting over.

7 MR. WAKEFIELD: Okay. With that --

8 MS. CLEMENT: Was there a motion?

9 MR. BRINKER: Yeah. I move to exclude it  
10 because it falls outside the agreed-upon timelines.

11 MS. CLEMENT: I second that motion.

12 MR. WAKEFIELD: Okay. All in favor say aye.

13 MR. BRINKER: Aye.

14 MS. CLEMENT: Aye.

15 MR. WAKEFIELD: All right. We will now  
16 proceed to the meat of what we're here for.

17 Let me just explain sort of what I envision in  
18 terms of how this will proceed. We'll -- we'll take  
19 each of the witnesses in order. We'll start with  
20 Mr. Wilson. Come up here. He'll be sworn by the  
21 court reporter. We will mark his affidavit and --

22 MR. BRINKER: Can I --

23 MR. WAKEFIELD: -- both of his affidavits as  
24 exhibits, and then we will -- I'll let one of the  
25 Board members ask all their questions, then the other

1 Board member can ask all their questions, then I'll  
2 conclude if I have any questions on top of that.

3 MR. BRINKER: You need to bring them up in  
4 order to get their affidavits into the record.

5 MR. WAKEFIELD: Right. Right.

6 MR. BRINKER: Okay.

7 MR. WAKEFIELD: So we'll have them -- I  
8 would -- I'll just ask a few questions to get them --

9 MR. BRINKER: Okay.

10 MR. WAKEFIELD: -- testifying that their  
11 affidavit is, in fact, their testimony today.

12 MR. HRNICEK: I wanted to just suggest that  
13 you might want to read aloud into the record the way  
14 that the rules require the hearing to be conducted and  
15 what you're intending to do.

16 MR. WAKEFIELD: Are you referring to 7-113?

17 MR. HRNICEK: Right. Just A, and then also  
18 this.

19 MR. ZEISE: Mr. Chairman of the Board, would  
20 you accept a suggestion for maybe a five- or  
21 ten-minute break before we begin taking testimony. My  
22 thought is every -- each party would have an  
23 opportunity to get a bottle of water and take a  
24 bathroom break.

25 MR. WAKEFIELD: I will entertain that. Thank

1 you.

2 Let's take a five-minute break.

3 MR. ZEISE: Thank you very much.

4 (WHEREUPON, a brief recess was taken from  
5 11:08 to 11:36 a.m.)

6 (Exhibit No. 1 was marked for identification.)

7 MR. WAKEFIELD: Sorry for that delay.

8 All right. So we are back, and let me just go  
9 over what I envision as how we'll proceed today.

10 So we will call up Dr. Wilson. We have his  
11 exhibits marked. He'll testify that they are, in  
12 fact, his testimony today, and then opportunities for  
13 cross-examination from the Board. We'll start with  
14 Ms. Clement, then questions from Mr. Brinker and  
15 myself, and then the attorney for the party that  
16 sponsors the witness will have an opportunity to ask  
17 further clarifying questions and rehabilitate their  
18 witness.

19 And then after Dr. Wilson's testimony has been  
20 received, if -- if Board members feel like the  
21 appellants have not satisfied their burden and we --  
22 we don't need to ask any further questions of the  
23 other witnesses, I would still like to have their  
24 affidavits admitted into the record for purposes of  
25 the appeal, but at that point we could -- we have no



1 obligation to ask any further cross-examination  
2 questions of the DEQ witnesses or the Florence Copper  
3 witnesses if we don't feel like the Appellants have  
4 met their burden at that time.

5           Of course, if we feel like they have met their  
6 burden, we are, of course, free to proceed and take  
7 the affidavits and hear from the other witnesses  
8 asking them our -- our cross-examination questions, as  
9 necessary, and let's see how far we get by the end of  
10 the day.

11           I'd like to go until maybe about 12:30, and  
12 then take a lunch break, if that works for everybody,  
13 just so we can kind of get underway and see how we're  
14 going.

15           So with that, let's start with appellants and  
16 your witness.

17           MS. CLEMENT: Just a clarifying question.

18           MR. WAKEFIELD: Yes.

19           MS. CLEMENT: Are we going to hold each issue  
20 separately or all the issues should be discussed  
21 simultaneously with each witness?

22           MR. WAKEFIELD: I think go through everything  
23 you have with that witness --

24           MS. CLEMENT: Okay.

25           MR. WAKEFIELD: -- and then we'll move on to

1 the next.

2 MS. CLEMENT: Okay.

3 MR. WAKEFIELD: Just to keep it orderly and  
4 for purposes of the court reporter, one person asking  
5 questions, one person answering questions, no  
6 interruptions. Obviously, if there's -- if there were  
7 a need for a legal objection to the question, I would  
8 entertain that. I know attorneys are reluctant to  
9 raise such objections to questions from the Board  
10 members, but remember we're not all lawyers up here,  
11 so...

12 MR. GLASS: Just a procedural issue.

13 We do have a court reporter in the room, and  
14 her microphone is on her computer, so when folks talk,  
15 if they could direct their voices and speak loudly, I  
16 know that she will appreciate it and the transcript  
17 will be more complete. So I just wanted to note that  
18 for the record.

19 MR. WAKEFIELD: Thank you.

20 Okay. Mr. Yurk, let's proceed with  
21 Dr. Wilson.

22 MR. YURK: Okay. Dr. Wilson.

23 THE WITNESS: The question is: Do you have  
24 the table oriented so I'm facing them?

25 MR. WAKEFIELD: I think it would be more

1 helpful to orient it toward the Board.

2 THE WITNESS: That was my thought also.

3 MR. WAKEFIELD: If you want to pull it back,  
4 though, so your own witness -- your own attorney isn't  
5 sitting behind you, I --

6 THE WITNESS: Oh, I like him behind me.

7 MR. WAKEFIELD: Or we could put it over here.

8 THE WITNESS: This is fine for me.

9 MR. WAKEFIELD: Okay. Mr. Yurk, would you  
10 prefer --

11 MR. YURK: No, that's okay. Thank you.

12 MR. WAKEFIELD: The court reporter --

13 THE COURT REPORTER: Give me one second. We  
14 haven't marked Exhibit 2 yet, so let me just --

15 (Exhibit No. 2 was marked for identification.)

16 MR. WAKEFIELD: Dr. Wilson, let me just ask  
17 you a few preliminary questions.

18 Do you have in front of you what have been  
19 marked as Exhibits 1 and 2, your affidavit and your  
20 rebuttal affidavit?

21 THE WITNESS: Yes.

22 MR. WAKEFIELD: And do you adopt your  
23 statements in there as your testimony today?

24 THE WITNESS: I have a couple of typos that  
25 probably need --

1 MR. WAKEFIELD: Proceed and let's clear those  
2 up. Feel free to mark them on the original exhibit.

3 THE WITNESS: Thank you.

4 On Exhibit 1, the one significant typo is in  
5 paragraph -- I'm sorry, let me make sure I get the  
6 right page here -- on Page 8 of Exhibit 1. Line 5  
7 should say injection wells instead of recovery wells.

8 There may be other typos, but that's the only  
9 one that's significant to the meaning of the document.

10 MR. WAKEFIELD: Okay. Thank you.

11 THE WITNESS: And in -- actually, let me make  
12 sure that -- the copy I have of Exhibit 2 is every  
13 other page, so...

14 MR. WAKEFIELD: We will get that corrected.  
15 I'm sorry. I'd offer you mine, except I've  
16 highlighted it.

17 MS. CLEMENT: I've highlighted mine also.

18 THE WITNESS: I certainly have a copy of my  
19 original here, so I can tell you what the correction  
20 is. I just don't have it in front of me.

21 MR. WAKEFIELD: Let's let the clerk go get a  
22 corrected copy, and perhaps if you have not finished  
23 your testimony when she comes back, then we can  
24 address that when she gets back.

25 THE WITNESS: Okay. That's fine.

1 (WHEREUPON, a discussion was held off the  
2 record.)

3 MR. WAKEFIELD: Dr. Wilson, so we'll come back  
4 to Exhibit 2 and get your corrections there. And you  
5 have your own reference copy in front of you --

6 THE WITNESS: Yes, I do.

7 MR. WAKEFIELD: -- for purposes of answering  
8 questions?

9 Okay. And I will hold off on admitting the  
10 two exhibits into the record until we get those  
11 corrections noted, but let's proceed.

12 Ms. Clement?

13 MS. CLEMENT: Okay. Great. Thank you.

14 \* \* \*

15 LEE WILSON, Ph.D.,  
16 called as a witness herein, having been first duly  
17 sworn, was examined and testified as follows:

18 \* \* \*

19 CROSS-EXAMINATION

20 BY MS. CLEMENT:

21 Q. Dr. Wilson, thank you for being here today,  
22 and I wanted to ask you a few questions. They're  
23 pretty fundamental questions regarding your testimony  
24 on what's in the permit.

25 And the first one is regarding the pollution

1 management area and its definition. One of the  
2 distinctions that you put forth was that what -- the  
3 definition of a PMA, and I'm going to give this fairly  
4 directly: Horizontal plane and space taken up by any  
5 liner, dike, or other barrier designed to contain  
6 pollutants in the facility.

7           And the question in my mind is: "...or other  
8 barrier designed to contain pollutants in the  
9 facility."

10           And it's my understanding from your testimony  
11 that your definition of "other barrier" was the actual  
12 recovery wells, not the capture zone or the cone of  
13 depression established by the recovery wells.

14           A. A slight clarification. It is the capture  
15 zone of the recovery wells.

16           Q. Okay. So if that's the case, what is your --  
17 the capture zone of the recovery wells, tell me what  
18 you mean by that relative to the 1-foot cone of  
19 depression.

20           A. The -- the capture zone of the recovery wells,  
21 if you draw what they call -- what we call particle  
22 tracks of -- of where the individual particles of  
23 water -- in this case acid- and copper-containing  
24 water -- they -- they go outward from the injection  
25 wells, they go towards the recovery wells, which are

1 pumping. Some of them go straight to the recovery  
2 wells, kind of like the drain in a bathtub, and some  
3 of them circle and come back. All of that is inside  
4 the PTF.

5 So the recovery wells essentially are designed  
6 and intended to capture 100 percent -- actually, more  
7 than 100 percent of the injected water, depending on  
8 what term you use, 110, 120 percent. So there's no  
9 particle containing a pollutant that can get beyond  
10 the recovery wells and their capture zone.

11 The 1-foot drawdown cone is a way of  
12 monitoring whether there's enough pumping going on  
13 relative to the injection to ensure that that capture  
14 zone exists.

15 Q. How do those two features relate to the  
16 def- -- the regulatory definition of the pollution --  
17 in your mind, what should be the pollution -- the  
18 PMA?

19 A. The PMA, if you think of the classic example  
20 in the regulations where they show an impoundment  
21 with -- with dikes around it and there's water inside,  
22 you have a physical barrier to the pollution getting  
23 any farther away from the site than beyond the dike.  
24 To me, the recovery wells and the capture zone of the  
25 recovery wells have the exact same function. They are

1 a barrier against the contaminants escaping,  
2 essentially, where they were injected.

3 Q. And how would -- by using that definition, how  
4 would the current PMA, as identified in the amended  
5 permit, differ?

6 A. Well, it's -- it's much larger, for sure.  
7 It's 500 feet. It goes way beyond the -- where the  
8 PTF, where the acid is injected and where the copper  
9 solution is recovered. So there really is no  
10 relationship.

11 I don't -- one of my problems with the current  
12 permit is there's no basis for the 500. It was 1,600  
13 at one point, it was a thousand at one point, now it's  
14 500. It really has -- none of those numbers have  
15 anything to do with where the pollutants are managed.  
16 The pollutants are managed inside the PTF.

17 Q. Given the type of pilot test this is planned  
18 to be and the fact that it is designed to maintain all  
19 of the fluids for extraction within that management --  
20 not the PMA, but the other -- the PTF, in that area,  
21 what is the likelihood of escape?

22 And aren't -- isn't the idea of the  
23 observation wells to determine as a first line, you  
24 know, an alert level that something is happening that  
25 they don't want to happen?



1           A. Yes. I agree.

2           Q. Okay. So the POC and the PMA are related to  
3 the regulatory problem relative to an actual  
4 violation; is that correct?

5           A. I think you're correct. I think I agree,  
6 but -- certainly the pollution management area is --  
7 is intended to be, as I understand the regulations,  
8 where the pollutants are to be contained -- where they  
9 may be placed. The actual regulation says where the  
10 pollutants may be placed or authorized to be placed.

11           It's very important in a project like this,  
12 that is deliberately polluting the groundwater but we  
13 agree the permit says you can do this, to have a very  
14 specific definition of where that pollution is allowed  
15 to occur. So to me, that's -- the PMA is -- is the  
16 core issue of where that pollution is allowed to  
17 occur.

18           Then the compliance points need to be located  
19 where they will detect an excursion. And you're  
20 absolutely correct. The observation wells are the  
21 first line of defense, and I've never suggested that  
22 they would be points of compliance. They are --  
23 they're there for the operational purposes, to keep --  
24 to let the company know if there's a problem inside  
25 the PTF.

1 Q. One of the -- and I may be paraphrasing this,  
2 but one of your statements was: There's no reasonable  
3 likelihood or probability that contaminants or escaped  
4 fluids would ever reach the POC wells as currently  
5 identified.

6 Could you elaborate on that.

7 A. The travel time -- if we assume the project  
8 has a failure of some kind, which is why you have  
9 points of compliance, at that point the rate of  
10 travel -- you no longer have the cone of depression  
11 controlling the pollutants. The rate of travel -- and  
12 this is documented by the -- by FCI's own models, is  
13 tens of feet, maybe a few hundred feet a year, but  
14 most likely 10, 20, 30 feet a year, 50 feet a year.  
15 The POCs are 500 feet away, so it takes 10, 12,  
16 15 years for the contaminants to get there, assuming  
17 that they go in the right direction.

18 Q. So the time period in which the pilot test  
19 would be operating, there would not be any reasonable  
20 likelihood, based on conductivity and gradients, that  
21 contaminants would --

22 A. Yes. In my mind, it's impossible.

23 Q. And that's precluding any idea about short  
24 circuiting relative to faulting that may not have been  
25 identified or preferential flow; is that correct?

1           A. The -- the short circuiting issue is -- is one  
2 that I think could affect that. The problem, of  
3 course, is you'd only have a few POCs, so if you have  
4 a large short circuiting problem, there's no assurance  
5 that your POCs will be on those circuits. Whereas,  
6 with the observation wells being close in, I think you  
7 would know that.

8           Q. One of the statements you've made is that  
9 you're comfortable with the monitoring because the UIC  
10 permit now has compliance wells that are -- and if I'm  
11 stating this incorrectly, please correct me -- has  
12 compliance wells that are located in a more  
13 preferential and i.e. closer position.

14                    Could you elaborate on that.

15           A. The -- the wells in question are what are  
16 called in the UIC permit the supplemental wells, and  
17 EPA required that those wells be installed and they  
18 adopted them as points of compliance for the UIC  
19 permit, and they also adopted FCI's proposed wells for  
20 compliance purposes.

21                    Those wells -- those UIC wells are fairly  
22 close to the project. Some of them are right on  
23 the -- very near the PTF boundary. Others are located  
24 along fault lines where EPA felt very concerned that  
25 they could be preferential escape paths.

1           There is a provision in the regulations that  
2 provides a cost incentive to a company like FCI to use  
3 existing wells as opposed to being required to drill  
4 new wells, so although I thought of locations I'd  
5 rather have some of those wells, the fact is they're  
6 going to have to be drilled. They -- they're no cost  
7 to Florence Copper, so they would serve a very good  
8 purpose as compliance points, POCs, in both permits.

9           Q. In your very well-documented history and  
10 expertise, have you worked much with the Arizona  
11 Aquifer Protection Permit?

12           A. I have not.

13           Q. Okay. My next -- let's talk about the  
14 electrical conductivity. That was your other key  
15 issue.

16           A. Not a key issue, but it's there.

17           Q. Another issue?

18           A. It's there.

19           Q. And the way that I read -- so let's just step  
20 back and ask some basic questions.

21           Electrical -- fluid electrical conductivity,  
22 would you expect appreciable differences before  
23 operations at the location of the injection wells  
24 versus the other wells? The observation and the  
25 compliance wells?

1 A. Prior to operations, no.

2 Q. So basically, you're within a certain range.

3 I mean, conductivity can have a relative  
4 range, but you'd be within that relative range; right?

5 A. Yes.

6 Q. So once operation begins, the conductivity of  
7 the injection wells versus the conductivity at the  
8 recovery wells -- I'll just make -- I know you made  
9 that correction, but I want to be clear in my  
10 language --

11 A. Sure.

12 Q. -- would be different; right?

13 A. To a limited extent.

14 Q. What type of extent would that be?

15 A. There's two things that happen to the acid  
16 that you inject: One is, as it goes out, it interacts  
17 with whatever water is in the aquifer, so there's some  
18 dilution. Although once the project is fully  
19 operational, there's not any dilution anymore.

20 And then the recovery well itself is gathering  
21 in excess water. The design of the project is that  
22 the recovery well has to recover more water than was  
23 injected. That's one of the safety features. So  
24 you're going to get some dilution from that. You're  
25 also going to lose acid in the process of dissolving

1 out the copper.

2           So you have several reasons why there should  
3 be less acid reaching the recovery wells, even in a  
4 perfectly operated project. So it will be less,  
5 although it will still be quite high.

6           Q. So what would the relative range and  
7 difference in conductivity be in a situation where  
8 it's operational? Not at the startup, but  
9 operational?

10          A. You know, I don't know the answer to that  
11 question precisely. It would be -- it really would  
12 depend on how well the project operates. The key is  
13 how much acid gets consumed, so if the project is  
14 really recovering a lot of copper, it would be a very  
15 substantial difference.

16          Q. In order of magnitude or less?

17          A. I wouldn't think it would be that large, but  
18 it's still going to be very -- it's going to be acidic  
19 for sure. I mean, you'll definitely know it's been an  
20 acid injection. But, yeah, an order of magnitude may  
21 not be a bad first cut.

22          Q. So then taking the comparison between the  
23 injection wells and the points of compliance --  
24 actually, I think it was -- hold on one second -- the  
25 observation wells.

1           A. Observation wells, yes.

2           Q. That would be even -- would it be even more  
3 likely, if -- again, operating -- not initial, but  
4 actual operations, would it be even more likely that  
5 there would be a differential observed in terms of  
6 electrical conductivity?

7           A. Absolutely. If the project is operating as  
8 it's intended, the observation wells should be giving  
9 the same water quality they had before the project  
10 ever operated, so it would be background quality,  
11 which is actually pretty good. And -- and the  
12 injection wells, of course, would be full-scale  
13 acid.

14          Q. One of the key points that you made was this  
15 concern about what would be an alert level or what  
16 would cause -- could you explain your concern, then,  
17 relative to what we just discussed.

18          A. The alert level, I thought it was originally a  
19 typo because it made no sense to me, and it still  
20 doesn't, but apparently it's intentional.

21                 The acid has to -- the acid that's injected  
22 has to reach an observation well at the same strength  
23 that it was injected -- the way it's written -- at the  
24 same strength that it was injected at. There can't be  
25 any loss of acid due to dilution. There can't be any

1 loss of acid due to the recovery wells taking acid out  
2 of the ground. There can't be any loss of acid due to  
3 dissolving of copper. It has to be -- every drop of  
4 acid that you injected has to get to an observation  
5 well before there's an alert.

6 As I said, I thought it was a typo. I  
7 thought, Well, we -- all we -- what we want, what  
8 would make sense to me is, Okay, when the observation  
9 well gets a real uptick in acid content, then you have  
10 an alert. That's an indication that you have a  
11 problem. But that it is not how it's written.

12 Q. It is puzzling. Unless you had a direct  
13 pipeline, it would be almost impossible to occur.

14 Is that what you're --

15 A. Yeah, that's what I'm saying. I mean, I'm not  
16 even sure whether with a direct pipeline it would be  
17 possible. But that would be what it takes, yes.

18 Q. I just have one more.

19 You also noted that, essentially, the  
20 monitoring requirements in the original permit and the  
21 monitoring requirements in the amended permit are  
22 nearly identical. There's not much difference in  
23 this. And there were a couple things changed.

24 Obviously, the two PMAs, the separation of the  
25 PMAs, the fact that the two new POC wells were going



1 to be located closer to the PTF field -- well field.  
2 I mean, so there were some differences.

3 Can you share any new ideas you may not or --  
4 not new ideas -- your concepts on this.

5 A. Well, certainly the fact that there's this  
6 electrical -- electromagnetic monitoring above the  
7 permit in the LBFU is, to my mind, a major improvement  
8 that really justified redoing the permit all by  
9 itself.

10 The POC wells, as I understand it, have just  
11 moved across the road to be essentially on the  
12 500-foot PMA boundary. So they're not -- they don't  
13 erase the problem of taking many, many years before  
14 they would ever capture an event. It's -- it's a  
15 distinction without much difference.

16 Q. And -- and one further question: In the  
17 affidavit from the Arizona Department of Environmental  
18 Quality, there was some -- and, again, I'm  
19 paraphrasing -- some statements regarding the need for  
20 operational flexibility for Florence Copper, and  
21 therefore these POC wells should be further out to  
22 allow that operational flexibility.

23 Given the fact that conductivity, gradients,  
24 the things we've previously discussed, in your  
25 opinion, what operational flexibility would that allow

1 Florence Copper that would be part of a pilot test?

2 A. I could not identify any. The -- by  
3 allowing -- the PTF is the pilot test facility.  
4 That's where all of the operations are planned for. I  
5 think there's operational flexibility in the sense  
6 that if they lose control of the acid and the  
7 observation wells pick it up, that's still inside the  
8 PTF. There's no violation of the permit if that  
9 occurs. There's all sorts of provisions in the permit  
10 for beginning -- changing operational patterns, as  
11 necessary, to recover the system.

12 So until -- until this issue came up, all of  
13 the operational flexibility we had ever talked about  
14 was inside the PTF, and there I agree they need as  
15 much flexibility as they -- as they can get.

16 MS. CLEMENT: Thank you very much. I have no  
17 further questions.

18 MR. WAKEFIELD: Okay. Mr. Brinker.

19 MR. BRINKER: Thank you. Nice meeting you.

20 THE WITNESS: Same here.

21 MR. BRINKER: I have a few follow-up  
22 questions.

23 Thank you, Gail, for being comprehensive.

24 \* \* \*

25 CROSS-EXAMINATION

1 BY MR. BRINKER:

2 Q. Did you or someone in your firm perform any  
3 groundwater modeling, transport modeling, particle  
4 tracking studies --

5 A. Yes.

6 Q. -- to inform your opinion?

7 A. Not in this proceeding. In the prior  
8 proceeding.

9 Q. Prior proceeding.

10 Well, let me just make a general comment.

11 I'm disappointed in these so-called technical  
12 affidavits because they read like they're written by  
13 lawyers -- and they probably were, actually -- but  
14 you -- you didn't really provide me any really  
15 technical information. You could have given me some  
16 modeling studies, some particle tracking studies to  
17 demonstrate what it is that you were arguing, that the  
18 500 foot thing was arbitrary or poorly drawn, but you  
19 didn't give me any anything. Okay?

20 So what do you base your opinion -- you know,  
21 what data, what modeling studies, whatever you've got  
22 in your, you know, file back home in your office to  
23 support your contention that the 500-foot radius is --  
24 is inappropriate?

25 A. Well, let me -- can I stand back a second and

1 say --

2 Q. Sure.

3 A. -- the instructions that the Board gave us --  
4 gave me was very explicitly to address Section 3.8 of  
5 the ALJ's findings.

6 So that was the scope I understood I was being  
7 directed.

8 Q. No, that's not what I said in the meeting.

9 A. Okay.

10 Q. What I said in the meeting is: I want a  
11 submittal -- a technical submittal that explains in  
12 technical terms what -- your position of the issue;  
13 right?

14 Okay. What I have is basically you saying, I  
15 don't agree with this. I think it's inappropriate. I  
16 think it's, you know, unprotective, whatever --  
17 whatever you want.

18 What I don't have is something that shows me  
19 why.

20 A. I can try to answer it right now.

21 Q. Well, that's why I'm asking the question.

22 A. I'm just explaining that I -- what I  
23 understood --

24 Q. Okay. I'm good.

25 A. You --

1 Q. I mean, I'm not happy, but I am not blaming  
2 you.

3 A. You had a very narrow scope that you  
4 prescribed.

5 The -- you don't need to model -- you don't  
6 need a model to know whether the 500 foot is correct,  
7 or whatever drawdown cone might be correct. And, in  
8 fact, a model would, in my mind, not answer the  
9 question.

10 The way the project would be properly modeled  
11 would be to inject acid at the four injection wells  
12 and to recover it at the nine recovery wells and to  
13 observe it on the -- on the surrounding observation  
14 wells. That model would show 100 percent recovery.  
15 And, in fact, we have models that -- that were done by  
16 FCI that I didn't particularly think were very good,  
17 but they did show that basic relationship.

18 So the model -- the particle tracking model  
19 would show containment. And containment is the issue.  
20 The question then becomes if you lose containment,  
21 you've -- you've lost the function of the project.  
22 And to me it's not very relevant whether you lose it  
23 to 500 feet or 1,600 feet --

24 Q. Well, but it is relevant because, you know,  
25 this is not a permanent, this is a temporary, so it

1 has a finite life span; right?

2 A. Right.

3 Q. So if I understand the argument you guys are  
4 making, the point of compliance wells are too far  
5 away?

6 A. Right.

7 Q. They don't -- and so the question is: How far  
8 away should they be? And how do you determine that?

9 Do you use particle tracking? Is that -- you  
10 assume that there's a total failure of the thing.  
11 They can't pump anything out, they can't pump anything  
12 in, it's full of acid, so it just sits there, and then  
13 regional groundwater flow just transports it off in  
14 some direction, and after some period of time it hits  
15 the point of compliance well?

16 Is that the scenario we're talking about?

17 A. I think in -- in the context of a project  
18 failure, what I looked at -- and -- and -- and it's --  
19 it was quite important in my consideration the  
20 provision in the regulations that allow a company to  
21 not place points of compliance in the perfect  
22 locations if there was an economic reason to do so, if  
23 there's a waiver in the -- in the regs. So I  
24 originally and in the original hearing had an exhibit  
25 that said, This is where the points of compliance

1 should be for this project. And they were essentially  
2 just outside of the PMA.

3 Q. How far is "just outside"?

4 A. At the border. At the boundary, essentially.  
5 Because the PTF was designed -- the PTF was designed  
6 to have all of the pollutants within it.

7 Q. So it was outside the boundary of the PTF?

8 A. I'm sorry, did I misspeak? I'm sorry.

9 Yes, just outside the boundary of the PTF.

10 Then, upon consideration and hearing the  
11 testimony at the hearing, I appreciated this provision  
12 in the regulations that says you can't -- you can get  
13 a cost waiver on -- cost can be an issue for locating  
14 a POC differently than where you might ideally want  
15 it, and so that's when I turned to the EPA locations  
16 as not ideal, but free -- essentially, free in cost,  
17 and they were good enough --

18 Q. I don't know if they're free.

19 A. -- for a pilot project.

20 Q. They've still got to pay to drill the wells.

21 A. Well, they have to pay them, but they have to  
22 pay it for EPA anyway. So I guess what I'm saying  
23 is --

24 Q. It's not exactly free.

25 A. -- they don't -- the ADEQ requiring those

1 doesn't add any cost.

2 Q. Okay. I get your point there.

3 But, see, I'm still struggling with -- well,  
4 let's back up. Let's talk philosophy for a second.

5 The whole point of the -- of the point of  
6 compliance, if you go look at the statute -- let me  
7 find it. Just bear -- hang on with me. Okay.

8 Because there's this thing about, you know,  
9 how do you cite these things? And -- okay. So this  
10 is 49-244; right?

11 It says that the point of compliance for  
12 hazardous substance -- and I'm assuming this is  
13 considered a hazardous substance; right?

14 A. Yes.

15 Q. Okay.

16 -- has to be right at the project management  
17 boundary or there's some -- you have some other  
18 choices, all right, if I can find it.

19 Okay. So this -- the point you brought up,  
20 which is in Subsection B about alternate points of  
21 compliance, and it talks about cost issues.

22 Costs can be considered; right?

23 A. Yes.

24 Q. Not everything, but it also has some  
25 stipulations. It says there's three things. One, the



1 property boundary; right?

2 A. Yes.

3 Q. So no matter what you do, you can't go beyond  
4 the property boundary?

5 A. Yes.

6 Q. Which, in my mind, implies that the intent of  
7 the regulation is that under no circumstance should  
8 groundwater contamination leave the property.

9 Would you agree that's the intent?

10 A. To me it's more of a management issue.

11 Q. Well, I'm just --

12 A. No, I don't agree, I guess.

13 Q. All right. Then why do you think that's in  
14 there?

15 A. It's in there because it's very important for  
16 the operator of the monitoring program to have control  
17 over the locations.

18 Q. Well, but, I mean, you can't -- and you can't  
19 put them outside his property; right?

20 You're saying if he -- if he was forced to put  
21 his wells outside his property, it makes it more  
22 difficult to get access and do all that stuff --

23 A. There's all sorts of issues that come into  
24 play. I don't consider it an okay to pollute the  
25 whole property, I guess.

1 Q. Well, but, I mean, it depends on the size of  
2 the site.

3 A. Yeah.

4 Q. Let's look on the other one.

5 The other one is: Any point of an existing  
6 reasonably for future -- foreseeable future drinking  
7 water source.

8 So, obviously, the intent was to protect any  
9 drinking water sources that might be down created on  
10 the site, right --

11 A. Yes.

12 Q. -- where they might be?

13 Because if you're in an urban area, for  
14 example, there might -- a guy might have a well down  
15 the the block or something, so you want to protect  
16 that; right?

17 A. Yes.

18 Q. Okay. Then finally, 750 feet, which just  
19 comes out of nowhere, somebody just picked a nice, big  
20 number; right?

21 A. I don't know the origin of that.

22 Q. Yeah, neither do I, but it's an interesting  
23 question.

24 So, in my mind, the point of the point of  
25 compliance thing is you're trying to protect

1 groundwater quality from leaving the property from  
2 impacting drinking water wells; right?

3 I mean, just philosophically. Would you  
4 agree?

5 A. Not entirely.

6 Q. All right. So the question -- in my mind, the  
7 question is, you know, like you said, the travel time  
8 to the -- to the existing point of compliance wells,  
9 you cited some earlier -- you said it could be  
10 anywhere from 10 to 30 feet, or 10 to 50 feet a year  
11 regional groundwater flow.

12 So we're talking 10 years, whatever; right?

13 A. At least, yeah.

14 Q. Yeah. So if it's a two-year project, you  
15 know, five years of post-treatment monitoring, at the  
16 end of that time period you still wouldn't know  
17 whether the stuff got to the point of compliance well,  
18 would you?

19 A. You would not know if it got -- well, you'd  
20 know by monitoring them that it didn't get there.

21 Q. Well, I mean, you have the other wells. I  
22 know that.

23 But, I mean, we're talking two different  
24 things. You have the active monitoring wells that  
25 monitor what you're doing, and then you've got this

1 point of compliance, which is a totally separate issue  
2 about groundwater quality. Am I impacting the  
3 regional groundwater in some way. Okay. So, I mean,  
4 I'm just trying to be clear I understand your point  
5 here.

6 So your point is, the point of compliance  
7 wells are just too far away. Within the time frames  
8 that are envisioned in this permit, you'll never be  
9 able to tell?

10 A. That's one of the reasons. That's not the  
11 only reason.

12 Q. Okay. What's the other reason?

13 A. The other reason is that the -- it's very  
14 important for this project to set the table for the  
15 commercial mine, and the PTF is designed as the only  
16 place that will be allowed to inject acid and  
17 contaminate groundwater. So to me it's a very  
18 important conceptual point, principle -- kind of a  
19 core principle that the project be judged based on its  
20 success in containing the contaminants within the area  
21 that's intended to be contaminated. And so to me,  
22 compliance with a permit is measured by you failed to  
23 do that.

24 Q. Well, you have all the operational monitoring,  
25 which is, you know, by your own testimony, more likely

1 than not going to show that it's all contained; right?

2 A. That's the hope.

3 Q. That's the hope.

4 But, I mean, that's part of the point of it;  
5 right?

6 A. Yes.

7 Q. Okay. I want to ask you another question.

8 Have you ever seen this figure? It's Figure  
9 11-1 -- hang on a second. I've got a copy of it here.  
10 This figure (indicating).

11 MR. WAKEFIELD: Mr. Brinker, can you just  
12 clarify for the record where you're getting that from.

13 MR. BRINKER: This came from where? One of  
14 the numerous submittals I received in the last 60  
15 days.

16 MR. WAKEFIELD: Maybe if you show it to the  
17 attorneys, they might be able to help us determine  
18 where it came from.

19 MR. BRINKER: All right. I made a copy of it  
20 so I wouldn't have to dig into the thing to find it.  
21 I think it might be a Florence Copper submittal, but I  
22 could be wrong about that. Off the top of my head, I  
23 don't remember.

24 If you want me to just spend a bunch of time  
25 looking for it, I can.

1 MR. WAKEFIELD: Can we pass -- Mr. Glass is  
2 holding something up. Is that it?

3 MR. BRINKER: No. It's this one.

4 MR. ZEISE: It's this one.

5 MR. BRINKER: No. It's this one.

6 THE WITNESS: I might be able to --

7 MR. BRINKER: Does that look familiar to any  
8 of you guys? It's basically Florence Copper,  
9 Incorporated, prepared by Haley & Aldrich, Figure  
10 11-1. It says -- EPAwells.mxd is the file name.

11 Q. All right. So --

12 MR. WAKEFIELD: Wait. Hold on. Let's make  
13 sure the record is clear as to what we're looking  
14 at.

15 MR. BRINKER: Let me see if I can find it in  
16 this pile of stuff here, because I got it out of one  
17 of these things. No. Hmm.

18 MR. GLASS: We think you got it out of the  
19 application, but we're just trying to find that.

20 MR. BRINKER: Yeah. And I didn't bring all of  
21 that with me.

22 THE WITNESS: With that number, it would it be  
23 the original application.

24 MR. BRINKER: It would have been the  
25 application number. Right.

1 MS. CLEMENT: Is it this one (indicating)?

2 MR. BRINKER: No.

3 See, it shows the EPA wells, so it's more  
4 recent; right? It shows the EPA well. It shows the  
5 new -- the approved new POC well locations.

6 So we're still looking.

7 Sorry, guys. I made a copy so I wouldn't have  
8 to dig it out and carry whatever it was it came in  
9 with me.

10 MR. GLASS: Can I suggest that Mr. Nicholls  
11 come up and look at it, and he maybe can identify --

12 MR. BRINKER: It works for me.

13 MS. CLEMENT: Please.

14 MR. WAKEFIELD: Let's go off the record for a  
15 moment.

16 (WHEREUPON, a discussion was held off the  
17 record.)

18 (Exhibit No. 2 was re-marked for  
19 identification.)

20 MR. WAKEFIELD: Okay. It's approaching  
21 lunchtime, so let's -- let's do this.

22 First, let me clear up the issues on Exhibit 2  
23 and the corrections that Dr. Wilson has to Exhibit 2  
24 since we now have a full copy.

25 So Dr. Wilson, can you give us your

1 corrections on Exhibit 2.

2 THE WITNESS: Yes. There's -- there are  
3 locations -- and I'll give you -- this occurs more  
4 than once in this document, but on Page 2, Line 19, I  
5 cite -- I use the words "exact same POCs," and the --  
6 I can't remember if it was FCI or ADEQ or both of them  
7 pointed out that they are not quite the same, so I  
8 would change that to nearly exactly the same, just to  
9 be consistent.

10 MR. BRINKER: Nearly the same?

11 THE WITNESS: Nearly the same. Yes. That  
12 would be fine.

13 MR. WAKEFIELD: Anything else?

14 THE WITNESS: No, sir.

15 MR. WAKEFIELD: Okay. Thank you.

16 With -- with those corrections, then I will  
17 admit Exhibits 1 and 2 into our record.

18 Okay. Now let's -- we'll go off the record in  
19 a moment and talk about what needs to happen before we  
20 come back on on the lunch break.

21 So we need to get some copies of what  
22 Mr. Brinker would like to show you.

23 MR. GLASS: May I?

24 MR. WAKEFIELD: Mr. Glass.

25 MR. GLASS: I have, actually, a procedural



1 issue with that.

2 I think that that document was never submitted  
3 to the agency. I think it was submitted with the UIC  
4 application, which they did get a copy of, I guess,  
5 but it's not in the administrative record or file for  
6 this permit, is my understanding. So --

7 MR. WAKEFIELD: I think we should talk about  
8 that issue --

9 MR. GLASS: Okay.

10 MR. WAKEFIELD: -- but after we all have it in  
11 front of us.

12 MR. GLASS: Okay.

13 MR. WAKEFIELD: So can we revisit that -- that  
14 comment after we return from lunch so we all have it?

15 So if the clerk can get us some copies of  
16 this, and then when we resume after lunch we can  
17 proceed there.

18 How long would we like to take as a lunch  
19 break? Short? Is 45 minutes adequate?

20 MR. BRINKER: Where do we go to lunch around  
21 here?

22 MR. ZEISE: Why don't we call it an hour.

23 MR. CANTRELL: In all fairness, sir, there  
24 aren't a lot of public eateries within quick walking  
25 distance. That's a problem.

1 MR. WAKEFIELD: Well, to make sure that we all  
2 have time, let's take an hour.

3 MR. CANTRELL: Okay.

4 MR. WAKEFIELD: So we will come back -- at  
5 1:20 we'll come back on the record.

6 Thank you.

7 (WHEREUPON, a lunch recess was taken from  
8 12:20 to 1:22 p.m.)

9 (Exhibit No. 10 was marked for  
10 identification.)

11 MR. WAKEFIELD: So we're back on the record,  
12 and Mr. Brinker has copies of the document that he  
13 wanted to speak to the witness about.

14 So, Mr. Brinker, do you still want to talk to  
15 the witness about your document?

16 MR. BRINKER: Yeah. I'd like to.

17 MR. WAKEFIELD: Okay. Can we pass out copies  
18 of those so that the attorneys in the room and --  
19 although, don't give one to the witness yet.

20 The court reporter has marked it as Exhibit  
21 No. 10, and if we -- if we proceed to have you ask him  
22 questions, then we'll present it to the witness. But  
23 for now, I know Mr. Glass wanted to make a statement,  
24 and there may be others.

25 MS. CLEMENT: If there are extra copies, just

1 pass them up. I didn't count them.

2 MR. WAKEFIELD: Let me just clarify.

3 So, Mr. Brinker, you indicated that -- that  
4 you did not -- this is not a document that exists in  
5 the record that was before DEQ. Is that your  
6 understanding?

7 MR. BRINKER: Right.

8 MR. WAKEFIELD: Okay. Mr. Glass. Go ahead.

9 MR. GLASS: Yeah, we understand that. The  
10 background of this was it was submitted in the UIC  
11 permit application that went to EPA, a copy of which  
12 was provided to ADEQ, but that document was not filed,  
13 to my knowledge, with the Board in this proceeding as  
14 part of the administrative record.

15 I do note, though, that under R2-17-121(E),  
16 you could take judicial notice of these kind of public  
17 documents, which I think you probably got this because  
18 it was available on the EPA website.

19 MR. BRINKER: It's in their administrative  
20 record.

21 MR. GLASS: So it's in their administrative  
22 record on their website. And so we don't have any  
23 objection to the use of this. And I just noted in  
24 your rules, it seems like you're entitled to rely on  
25 this type of information.

1 MR. WAKEFIELD: Okay. Any -- anything from  
2 any of the other parties about the use of this?

3 MR. CANTRELL: Nothing from the State.

4 MR. WAKEFIELD: No? Okay.

5 MR. YURK: We don't object either.

6 MR. WAKEFIELD: All right. Well, Mr. Brinker,  
7 why don't you proceed. And if the court reporter can  
8 hand the witness Exhibit No. 10, and then you can  
9 proceed with your questions.

10 And can I ask if you would start by asking the  
11 witness if he knows what this is just to make sure  
12 he's familiar with it before you get into some  
13 substantive questions.

14 BY MR. BRINKER:

15 Q. So Mr. Wilson, have you seen this before?  
16 This figure?

17 A. Yes.

18 Q. Okay. What I found interesting is that there  
19 is a contour on here, a 2 milligram per liter contour  
20 for the in-situ sulfate migration at the end of five  
21 years after closure. And also, I noted, it's curious  
22 that the EPA monitoring well scheme matches that  
23 contour outline.

24 Just, you know, professionally, how does one  
25 go about obtaining a contour line like this?

1 A. That was a fate and transport model.

2 Q. Right.

3 So somebody did a groundwater model and a fate  
4 transfer model; right?

5 A. Yes.

6 Q. And have you read the report -- I can't  
7 remember the name of the guy. It was in the Florence  
8 stuff. There was a doctor somebody who looked at the  
9 appropriateness of the equivalent -- what's it called,  
10 equivalent pore model?

11 A. Equivalent porous media.

12 Q. EPM for modeling groundwater at this site?

13 A. Yes.

14 Q. Have you seen that report?

15 A. Yes.

16 Q. Okay. So having seen this and realizing -- I  
17 guess it gets to the, you know, your previous comment  
18 about the -- the point of compliance wells and offer  
19 of protection permit seem to be well beyond where you  
20 could expect the contamination to go after the  
21 five-year post-monitoring period?

22 A. Correct.

23 Q. Okay. All right. I just wanted to ask your  
24 opinion about that, thank you.

25 All right. So I have -- I have another

1 question: So in your experience with  
2 electroconductivity modeling just, in general, okay,  
3 if we had -- I was involved at a site where we did an  
4 in-situ oxidation with potassium permanganate; right?  
5 We were monitoring electroconductivity at some  
6 wells -- monitor wells that were beyond the area, you  
7 know, which would have been the area where we injected  
8 the material; right? And what we saw was you start to  
9 get these spikes in electroconductivity. They start  
10 going rapidly before the injected reaches the wells.

11 Would you anticipate something like that in  
12 this situation?

13 A. Well, I'm not sure it's totally analogous, but  
14 I would expect the possibility of some spikes. I  
15 wouldn't expect a -- it would always be a steady  
16 increase.

17 Q. You know, I looked at the background data for  
18 some of the monitor wells for electroconductivity that  
19 were submitted, and some of them have a -- a fair  
20 range on them. Some -- I think it was 14, for  
21 example, runs from about 750 to almost 900 or  
22 something over a period of years.

23 So could -- would you expect, even with, you  
24 know, an operative site where they're injecting it and  
25 withdrawing, that you would still get some

1 fluctuations in the background?

2 A. Yes. And, in fact, that's part of why I think  
3 DEQ requires several months of data to set the alert  
4 levels.

5 Q. Yeah. I saw they wanted them to collect data  
6 for a bit to kind of build a model, or something like  
7 that.

8 A. And that's exactly because of the variability  
9 and the background.

10 Q. Okay.

11 MR. BRINKER: All right. Okay. Thank you.  
12 I'm done.

13 MR. WAKEFIELD: That's all? Okay. I don't  
14 have any further questions.

15 Mr. Yurk, is there any questions that you need  
16 for rehabilitating your witness?

17 MR. YURK: I just have two --

18 MR. WAKEFIELD: Feel free to turn around ,  
19 Dr. Wilson, so that you can look at your attorney.

20 MR. YURK: Yeah. I appreciate that.

21 REDIRECT EXAMINATION

22 BY MR. YURK:

23 Q. Dr. Wilson, you were asked earlier about your  
24 experience in the APP permit. Can you talk generally  
25 about your experience in environmental permitting.

1           A. Certainly. It is, of course, the case that I  
2 was involved in this permit for many, many years. I  
3 have -- was lead consultant to an EPA region for  
4 27 years dealing with permitting issues. I've dealt  
5 with permits for mines, many kinds of mines. I've  
6 dealt with permits in many state jurisdictions.

7           I didn't -- when I came to this project  
8 several years ago and began to work on it, it seemed  
9 to me that the regulatory system that ADEQ had set up  
10 was pretty much the standard way that agencies all  
11 over the country manage permits, so I felt very  
12 comfortable dealing with it.

13          Q. And then one other question, and this regards  
14 the actual statute 49-244.

15           Mr. Brinker asked you a couple of questions  
16 about the -- the furthest downgradient that POC wells  
17 can be under the exception in the statute 49-244.

18           Do you remember that?

19           A. Yes.

20          Q. And all of those are within the substantial  
21 less costly provision of -- of the Subsection 2(B).

22           Could you share your opinion on whether this  
23 section applies. And more specifically, whether you  
24 believe that the POC wells proposed by FCI and  
25 approved by ADEQ would be substantially less costly.



1           A. Yes. I think it is important that the -- that  
2 those provisions are -- are for the wells. They're  
3 kind of constraints if you have to -- if you are going  
4 to try to justify your wells based on the less costly  
5 provision, then -- and it gives all of these  
6 provisions that -- that restrict what you're allowed  
7 to do in terms of a waiver. And it -- specifically,  
8 that provision specifically says no further than  
9 necessary. No further out than necessary.

10           But as we discussed -- and I haven't seen any  
11 discussion from FCI to the contrary -- there's no cost  
12 justification for the POCs. The POCs that I'm  
13 recommending are the ones that EPA is requiring, and  
14 they're -- I don't mean to say they were free, but  
15 they were certainly no additional cost to the company.  
16 So I don't think -- the POCs that are at issue here  
17 are -- cost is not an issue. In fact, there's more  
18 cost to the POCs they proposed because two of the  
19 wells haven't yet been drilled.

20           MR. YURK: I have nothing further.

21           MR. WAKEFIELD: Okay. Thank you.

22           Dr. Wilson, thank you for your testimony.

23           THE WITNESS: Thank you.

24           MR. WAKEFIELD: Our next witness is Maribeth  
25 Greenslade for DEQ.

1 MR. CANTRELL: Maribeth Greenslade.

2 (Exhibit Nos. 3, 4, and 5 were marked for  
3 identification.)

4 MR. WAKEFIELD: Ms. Greenslade, do you have in  
5 front of you that exhibits that have been marked 3, 4,  
6 and 5?

7 THE WITNESS: I do.

8 MR. WAKEFIELD: And are those the affidavits  
9 and notice of errata that you provided for this  
10 proceeding?

11 THE WITNESS: (Witness reviewing.)

12 I thought there was --

13 (Witness reviewing.)

14 I don't think I see Exhibit C on the  
15 affidavit. I only see Exhibits A and B on the  
16 affidavit. I don't see Exhibit C, which is the 3.8  
17 PMA.

18 MR. WAKEFIELD: This (indicating)?

19 THE WITNESS: On my copy, Exhibit 3 is my  
20 affidavit, I believe, but it doesn't look like it's  
21 complete. My copy has --

22 MR. WAKEFIELD: Are you referring to the  
23 original affidavit that was filed January 31?

24 THE WITNESS: I have January 31, Office of the  
25 Controller. It had Exhibits A, B, and C.

1 MR. BRINKER: Exhibit C is your direct  
2 testimony for Section 3.8?

3 THE WITNESS: It is, and it's just not on this  
4 copy that I was handed by the court reporter.

5 MR. WAKEFIELD: I see that it is also not in  
6 my copy, so -- do the other Board members have a copy?

7 MR. BRINKER: Exhibit C.

8 MR. WAKEFIELD: Okay. Let's go off the record  
9 for a minute and get this corrected.

10 (WHEREUPON, a discussion was held off the  
11 record.)

12 (Exhibit No. 3 was re-marked for  
13 identification.)

14 MR. WAKEFIELD: Okay. Let's go back on the  
15 record.

16 So Ms. Greenslade, looking at what is now in  
17 front of you as Exhibit 3, is that a complete copy of  
18 the affidavit?

19 THE WITNESS: I'm checking.

20 (Witness reviewing.)

21 \* \* \*

22 MARIBETH E. GREENSLADE, P.E.,  
23 called as a witness herein, having been first duly  
24 sworn, was examined and testified as follows:

25 \* \* \*

1           MR. WAKEFIELD: Okay. Just so the record is  
2 clear, the other two exhibits, 4 and 5, are those  
3 complete?

4           THE WITNESS: Those are complete.

5           MR. WAKEFIELD: Thank you. And do you adopt  
6 the information in those three exhibits as your  
7 testimony today?

8           THE WITNESS: I do.

9           MR. WAKEFIELD: Okay. Thank you.  
10 Ms. Clement?

11   \* \* \*

12   CROSS-EXAMINATION

13 BY MS. CLEMENT:

14           Q. Thank you, Ms. Greenslade. Thank you for  
15 being here.

16                           I'm going to go through some of the same  
17 questions I did with Dr. Wilson, and there's some  
18 three -- three key issues that we talked about. And  
19 let me just start with the 500-foot cone of  
20 depression.

21                           It -- it does seem -- what was the -- what was  
22 the technical basis for the 500 feet?

23           A. The BADCT, best available demonstrated control  
24 technology, is a requirement of the statute and rule.  
25 The BADCT determines what -- the engineering control

1 that prevents pollutant loss. In this case the cone  
2 of depression that is created through the recovery  
3 wells creates a cone of depression that goes out many  
4 hundreds of feet. The application for the significant  
5 amendment proposed that the pollutant management area  
6 be determined by a 500-foot radius from the outermost  
7 wells within the PTF well field. So Florence Copper  
8 proposed that PMA. They based it on the fact that  
9 they are going to create a cone of depression.

10 ADEQ's role is to look at that demonstration  
11 for BADCT, determine whether it meets the statute and  
12 rule, determine whether there really will be a cone of  
13 depression formed through their operations.

14 The BADCT, in this case the cone of  
15 depression, is that barrier that is cited in the  
16 rule -- in the statute in 49-244. So the barrier was  
17 established as part of the BADCT.

18 The PMA was proposed by the applicant. ADEQ's  
19 role was to determine whether it was a reasonable PMA,  
20 as far as is there an engineering control there. We  
21 determined that there would be an engineering control  
22 at the 500-foot radius from the outermost wells in the  
23 PTF well field. That was done through modeling in the  
24 prior permitting action.

25 Q. Were the results of the modeling demonstrating

1 the 1 foot or was it greater? Or what were the  
2 results relative to the --

3 A. The 1-foot requirement in the -- in the permit  
4 is just a 1-foot differential right at the PTF well  
5 field. The -- the permit requirements are that that  
6 cone of depression is maintained at 500 feet. The  
7 1 foot is not at 500 feet. So it's -- it's kind of  
8 two different permit requirements that are independent  
9 of each other. They have to meet both the 1-foot  
10 differential -- differential, otherwise that will be  
11 an alert level exceedance requiring some contingency  
12 actions. The 500-foot radius at the PMA -- or PMA  
13 radius requires that the potentiometric surface maps  
14 indicate that the potentiometric surface at 500 feet  
15 is higher than within the PTF well field, so that the  
16 cone of depression is created in the preoperational  
17 phase, so they have to -- they have to establish that  
18 BADCT is going to work before they ever get to inject  
19 lixiviant. That's a preoperationsl requirement.

20 And then during operation, they need to  
21 continue to demonstrate that that cone of depression  
22 exists at 500 feet.

23 Q. When I went into the BADCT manual, I got -- I  
24 was trying to find a definition of "or other barrier  
25 designed to contain pollutants in the facility,"

1 because I didn't see that definition, and I wanted to  
2 know, from the agency's perspective: Would that cone  
3 or cones of depression typically be something that you  
4 would apply to other facilities as -- or other  
5 barriers designed to contain pollutants?

6 A. Yes, it would be in other facilities. In  
7 fact, in the statute there is a -- 244, I believe.  
8 Let me look it up.

9 (Witness reviewing.)

10 I'm sorry, it's 241.

11 (Witness reviewing.)

12 It's 49-243(G). It specifically indicates  
13 that a discharging facility at an open pit mining  
14 operation shall be deemed to satisfy the requirements  
15 of Subsection B, Paragraph 1, of this section if the  
16 director determines that both of the following  
17 conditions are satisfied. The mine pit creates a  
18 passive containment that is sufficient to capture the  
19 pollutants discharged and that is hydrologically  
20 isolated to the extent that it does not allow  
21 pollutant migration from the capture zone.

22 For the purposes of this paragraph, "passive  
23 containment" means natural or engineered  
24 topographical, geological, or hydrological control  
25 measures that can operate without continuous

1 maintenance. Monitoring and inspections to confirm  
2 performance of this passive containment do not  
3 constitute maintenance.

4           And then the second part that must be -- must  
5 be met is the discharging facility employs additional  
6 processes, operating methods, or other alternatives to  
7 minimize discharge.

8           So the passive containment capture zone is  
9 formed when an open pit mine is -- is -- the open pit  
10 extends into the groundwater, and a groundwater  
11 passive containment zone forms where the groundwater  
12 flow direction is toward that -- that pit lake.  
13 Evaporation from the pit lake continues to, you know,  
14 remove water from the lake, which then creates a cone  
15 of depression.

16           So the statute has a similar BADCT requirement  
17 for the passive containment capture zone. The BADCT  
18 mining document talks about creating an inward  
19 gradient to form a cone of depression. So it's both  
20 in the statute and in -- in our guidance that have  
21 been around for quite a while.

22           Q. I mean, with all due respect, I don't think  
23 this is an open pit mine, and I don't think what's  
24 being proposed is passive. In fact, there would not  
25 be a cone of depression if recovery wells were not



1 operating. So I'm not sure what the statutory  
2 applicability is here.

3 What I'm trying to get at is the technical  
4 applicability, which is -- in BADCT, clearly one of  
5 the control mechanisms is a cone of depression.

6 What I'm try -- but what is allowed to  
7 determine a PMA is, you know, all the other language,  
8 and then "or other barrier designed to contain  
9 pollutants in the facility." And I just want to be  
10 confident that it is the agency's determination that  
11 "or other barrier" is defined in this site and in  
12 other sites as a nonpassive cone, you know.

13 Is that -- does the agency apply that standard  
14 to other types of facilities that would be defined as  
15 other barriers designed to contain pollutants, the  
16 cone of depression?

17 A. We have not permitted, as far as my direct  
18 knowledge, a in-situ recovery project, other than the  
19 first phase of this mining operation. The -- there is  
20 no definition of "or other." You're not -- they're  
21 not going to find that in the rule or statute.

22 By -- by bringing up the other statute, I  
23 merely wanted to say that a cone of depression is an  
24 engineered -- well, in -- in the passive containment  
25 it's not engineered because it's natural, but it is

1 showing that it can be counted as part of a -- of a  
2 BADCT demonstration. It is something that's seen as a  
3 barrier, the passive containment. And in this case  
4 it's not passive, it's active pumping to maintain the  
5 barrier. It would not exist if there wasn't the  
6 active pumping part of it, but it is the same -- it's  
7 the same concept that there's a barrier being formed,  
8 and whatever -- whatever facilities you have within  
9 that barrier use -- use, as part of their BADCT  
10 demonstration, the fact that any pollutants that could  
11 enter the groundwater are going to be captured within  
12 this cone of depression. So it's -- it's the  
13 conceptual analogy that I was trying to make.

14 Q. And I think what I've -- what I'm trying to  
15 understand is: How do we get our arms around the  
16 definition for "other barrier designed to contain  
17 pollutants."

18 Now, it's easy when you've got, you know, a  
19 retention wall or whatever, you know.

20 A. Right.

21 Q. It's very easy to make that distinction, but  
22 what we have here is, where does -- what is the other  
23 barrier?

24 And it is your testimony that the other  
25 barrier is the cone of depression, and that the

1 500-foot distance -- how far does the cone of  
2 depression actually reach out into --

3 A. Well, theoretically, it will go out  
4 indefinitely, but this is the centermost part, the  
5 500-foot radius of that cone of depression. And the  
6 permit can monitor with -- with measurements at the  
7 supplemental wells, the observation wells, and the  
8 POC wells. You can take measurements that you could  
9 create a potentiometric surface map.

10 The further out you go from the recovery  
11 wells, the more difficult you're going to have a time  
12 of getting measurements that aren't impacted by  
13 meteoric --

14 Q. Other --

15 A. -- pressure systems or pumping wells in other  
16 locations.

17 So having it at the 500-foot radius allows  
18 measurements to be making that -- to be made that can  
19 be used to create maps that we're fairly certain are  
20 accurate in showing that that cone of depression is  
21 present.

22 Q. So -- so let me -- so are -- one of the things  
23 I heard you say earlier is that the 500 foot was what  
24 Florence Copper proposed, and you evaluated that  
25 relative to BADCT, which is -- definitely, it's -- it

1 is -- the cone of depression is a component of BADCT  
2 for in-situ mining, and then the analysis is that it  
3 was reasonable.

4 And how do you determine what is reasonable in  
5 the context of the facts and the variables here?

6 A. Well, what is reasonable is -- is it needs to  
7 be supported by the modeling that was done. It needs  
8 to be supported by the -- the monitoring that was  
9 proposed in order to be able to establish that the  
10 cone of depression is established.

11 So the modeling showed that it could be done.  
12 The monitoring that was proposed will give us  
13 confidence that it's -- it's being maintained. So  
14 DEQ's role is -- is to see whether it meets the  
15 standard of the statute, the rule, and our guidance,  
16 and not necessarily to try to suggest what the -- the  
17 BADCT should be. It's -- the design needs to come  
18 from Florence Copper, and ADEQ's role is only as a  
19 reviewer and to write the permit.

20 Q. But typically, at least in my experience, when  
21 you're negotiating a permit, there's communication  
22 between the parties, and you -- you know, you come up  
23 with, Well, what about this?

24 I mean, there is a give and take, technically,  
25 isn't there?

1           A. There was in this situation. The -- the  
2 monitoring that was proposed for the supplemental  
3 wells, initially, when -- the application that was  
4 first received included those wells, it included  
5 monitoring at those wells, but it didn't suggest that  
6 those requirements would be in the permit. So we  
7 negotiated that the -- the actual supplemental wells  
8 would have alert levels. They would be part of the  
9 permit conditions rather than just reported to ADEQ.  
10 So that part was a negotiation that resulted in -- in  
11 a permit that had those wells as -- as alert-level  
12 wells.

13           Q. And one of the statements in your affidavit  
14 was that you wanted to -- and, again, I'm focusing on  
15 the 500 foot -- you wanted to ensure or allow the --  
16 Florence Copper to have operational flexibility. And  
17 at least from what I understand from the various  
18 testimony and what I've read in the record, the  
19 probability that anything would escape and actually  
20 reach one of the points of compliance wells is --  
21 especially during the lifetime of -- of the  
22 operational period here is negligible.

23                       So when you say "operational flexibility,"  
24 what are you -- what are you meaning there?

25           A. The -- the project is a pilot project. We

1 expect that Florence Copper will want to use different  
2 injection and recovery rates to see how the -- the  
3 aquifer and the formation responds to those  
4 differences. So that's what we mean by "operational  
5 flexibility." That the -- that the pilot study should  
6 be a valuable tool in determining the behavior in the  
7 aquifer.

8           So the supplemental wells and MW-1, those are  
9 the BADCT monitoring wells. Those will allow us to  
10 see whether lixiviant is going further than what is  
11 expected.

12           So the PMA, by definition, is where the  
13 pollutant -- where the POC wells have to be placed.  
14 So the POC wells we hope will never see any impact,  
15 because that is what our program is all about,  
16 protecting groundwater and not having an exceedance of  
17 an aquifer water quality standard at the points of  
18 compliance.

19           So the supplemental wells and MW-1 are the  
20 operational, you know, making sure we keep control,  
21 that Florence Copper is not losing lixiviant, but the  
22 POC wells are where points of compliance need to be  
23 met or would be a permit violation, so...

24           Q. And what I'm hearing is typically the point of  
25 compliance wells are wells -- I'm asking the

1 question -- are wells that you would not expect to see  
2 an exceedance in this permit or in other permits?

3 A. That's correct. It's a -- the Aquifer  
4 Protection Permit Program is a preventive program, and  
5 the -- the two key components are BADCT, showing that  
6 you've used the best available demonstrated control  
7 technology, which the hope of never having to see an  
8 exceedance at a point of compliance well. So they're  
9 two separate demonstrations that have to be made  
10 independently.

11 The BADCT, for all facilities that we permit,  
12 we -- we want it to eliminate, to the greatest extent  
13 practicable, which is the statutory requirement, any  
14 pollutants being discharged to the aquifer. The point  
15 of compliance is you can't exceed an aquifer water  
16 quality standard at that location.

17 So BADCT allows some discharge, but you're  
18 trying to minimize that, to the best of the ability of  
19 the technology.

20 Q. Given that this site requires a UIC permit  
21 before it's operational, is there anything that would  
22 preclude the agency from using the UIC monitor wells  
23 as points of compliance?

24 A. The -- the wells that are in the UIC permit  
25 are supplemental wells in the APP, so they're within

1 the pollutant management area that we've established  
2 is -- is a reasonable pollutant management area, so  
3 they cannot be POC wells. So the first step for  
4 locating POC wells is establishing that PMA, and in  
5 this case BADCT determined what -- that PMA was  
6 acceptable. So we won't -- we wouldn't want those  
7 supplemental wells to be POC wells within that PMA.

8 If -- if Florence Copper had come with some  
9 other proposal for discharge -- or for a pollutant  
10 management area, then we would have evaluated where  
11 the wells needed to be.

12 Q. There seems to be some arbitrariness in terms  
13 of that -- that 500 foot, and I'm -- I think I've  
14 exhausted the questions that you may be able to  
15 answer. I think I'll save them for Florence Copper.

16 I'm going to move on to the whole idea of  
17 liquid electrical conductivity measurements, and the  
18 concept -- let me find my notes here.

19 I'm just not understanding the thought process  
20 behind that an alert level will be when an observation  
21 well conductivity is greater than or equal to the  
22 injection well.

23 I mean, is that physically a realistic  
24 probability?

25 A. Well, I would like to tell you what my



1 understanding is of electrical conductivity. It's the  
2 measurement of how well water can conduct electricity,  
3 and the -- it's directly proportionable --  
4 proportional to the amount of dissolved minerals  
5 and -- and other materials within the -- within the  
6 water. So it's a measurement of what's in the water.

7           When the lixiviant is injected at the  
8 injection well, it will begin to dissolve the  
9 materials, the minerals in the -- in the rock which  
10 causes some of the acid to be lost, dissociate. So  
11 those two things, the dissolved minerals and the acid  
12 dissociating, is what would be measured by the EC.  
13 It's -- it's not just pH. It's not just the acid.

14           Q. No, I understand.

15           A. So for that -- for the lixiviant to get into  
16 the -- into the formation, travel to an observation  
17 well, it will have been dissolving some of the  
18 minerals. It will have been dissociating. So if  
19 it -- if it gets there and it exceeds the  
20 concentration in the injection well -- so if the  
21 observation well EC is higher than or equal to the  
22 injection well EC, we know that there's been something  
23 that hasn't gone right. There should be a lower EC at  
24 the observation well, but it's not just a short  
25 circuit.



1 provided, either Florence Copper was responding or a  
2 request for additional information. I also noted that  
3 there was some cone of depression barrier model  
4 figures that were supplied into the agency.

5           When -- and while you were answering Gail's  
6 questions, you commented that you say your function is  
7 to review the proposals of the applicant for the  
8 various -- whether it's monitoring or engineering or  
9 whatever; right?

10           So getting back to this 500-foot radius thing,  
11 I'm still -- because you made some very specific  
12 statements in your -- in your rebuttal. In Exhibit C  
13 on Page 3 you said that: The PMA boundary is  
14 practical and appropriate, and you also said it's  
15 protective to human health and the environment.

16           I'm just wondering, again, what Florence  
17 Copper gave you that allowed you or caused you to make  
18 those conclusions.

19           Okay. Besides them telling you it was good,  
20 what did they show you?

21           Did they show you, you know, potentiometric  
22 surface data for groundwater modeling? Did they give  
23 you particle tracking results? Did they do transport  
24 modeling?

25           Because, obviously, someone did transport

1 modeling, because that Exhibit 10 that I showed  
2 Dr. Wilson shows the outline of a 2 milligram per  
3 liter contour, and the only way that can get there is  
4 that somebody did a transport model. Okay?

5 Did they provide that -- results of that  
6 transport modeling to you as part of their submittals?

7 A. Could I ask you where you said in my rebuttal?

8 Q. I think it's in the rebuttal. Bear with me,  
9 I'm not real good at this stuff, so -- but I think  
10 it's in -- maybe it's in your testimony.

11 Yeah. I'm sorry, it's in your testimony.  
12 It's in Exhibit 3 -- Exhibit 3, Page 3 -- Exhibit C,  
13 sorry, Page 3. In your direct testimony there in  
14 the -- under the heading Cone of Depression. Then in  
15 the first paragraph, it's the third sentence. Your  
16 statement: "...is practical and appropriate  
17 distance..." All right?

18 And then further on down at the bottom of that  
19 section you say ADEQ has determined it is protective.

20 A. Okay.

21 Q. That the 500-foot radius is to protective to  
22 human health and the environment.

23 So, you know, those are very definitive  
24 statements. Again, my question is: You know, what  
25 technical information was provided to you by Florence

1 Copper that allowed you to make that determination?

2 What did they give you? What did you rely on?

3 A. So you're right. We had many back and forth  
4 requests. One of those, as I recall, requested that  
5 they show us the different modeling layers of the --  
6 of the groundwater model that were showing the cone of  
7 depression on different model layers.

8 Q. Right.

9 A. So there were like seven or eight model  
10 layers.

11 Q. Different strata?

12 A. Right. So that the oxide unit is the unit  
13 that's going to be mined. We wanted to see what the  
14 cone of depression was modeled as within that oxide  
15 unit.

16 So I believe when you look through my  
17 testimony and you see all the back and forth requests,  
18 one of those --

19 Q. Yeah. Well, you listed all the things that  
20 went back and forth.

21 A. Right. And I have our memos. I could find  
22 out --

23 Q. No, I don't need -- I'm more just trying to  
24 get a general feel for --

25 A. I -- I have a picture in my mind of modeling

1 layers with -- all the way out to the PMA, what the  
2 potentiometric surface was way out at the PMA and the  
3 POC wells, and then I have a picture of what it looked  
4 like when you got down to the PTF well field. We  
5 wanted to see, what did that cone of depression look  
6 like? That was one of the responses that we received.  
7 That showed us that, at least modeling and -- and the  
8 best information we have so far, showed the cone of  
9 depression could be formed.

10 Q. Did you ask them for any particle tracking or  
11 transport studies to -- like, okay, once we shut this  
12 thing down and we just leave it sit, how long is it  
13 going to take to -- you know, without rinsing it, if  
14 we just let it sit, how long would it take the  
15 particles to get beyond the PMA or to reach the  
16 POCs?

17 A. I don't believe that was part of the remand.

18 Q. No. I'm not -- I'm not asking -- I'm asking  
19 what you did.

20 A. We didn't -- we stayed -- our -- we -- we  
21 limited our questions to what we were remanding the  
22 permit for, and we didn't go beyond to ask for how far  
23 would something go after -- after closure.

24 Q. But it's germane to the question of: Are the  
25 POC wells in the right place?

1 A. Well, we know the direction of groundwater  
2 flow. We have the figures.

3 Q. Well, okay. I won't dispute that. I agree  
4 with you.

5 A. Right.

6 Q. Although no one has provided me with a map  
7 that shows me what the regional groundwater flow is.

8 A. My testimony has that.

9 Q. I would comment that I am somewhat, again,  
10 disappointed in the -- in the very lawyerly technical  
11 document I received from you, which was long on legal  
12 reasons why what you've done is correct and very short  
13 on, Here's the technical data I relied on to make the  
14 decision. Okay?

15 A. I can direct you to my Figure 8.1, which is  
16 Attachment 1.

17 Q. Okay.

18 A. And the PMA is shown --

19 Q. Right.

20 A. -- and just to the right of the PMA, you see  
21 three arrows, a yellow, green --

22 Q. All right. So those are kind of generic  
23 regional groundwater flows based on the unit; right?

24 A. That's correct.

25 So in the bedrock oxide unit, the blue arrow

1 is, you know, the direction of groundwater flow within  
2 the oxide.

3 Q. Right. That's the one of interest; right?

4 A. Yes. So the POC wells, you can see, are --  
5 are located right along that access.

6 Q. Well, we're still getting to the question of:  
7 What -- maybe I need to ask Florence Copper, but, I  
8 mean, I hate -- I'm not trying to badger you, but  
9 I'm -- I'm still struggling.

10 I haven't really heard from you, all right,  
11 This is -- this is the technical stuff that I relied  
12 on to say that 500 -- because when I looked at the  
13 modeling, there was one of the submittals that  
14 contain -- I think it was with Florence -- it had a  
15 table that said, Okay, here's how the cone of  
16 depression is going to develop over time, right, for  
17 various net withdrawals, and -- and some of those go  
18 out thousands of feet. Okay?

19 So, yes, there will be a cone of depression,  
20 huge. But the question is: How much cone of  
21 depression do you need to ensure you can control  
22 the -- the contaminants within the operating area, the  
23 PTF. Okay? Because that's really the point of the  
24 statute, isn't it?

25 I need -- I need to control these



1 contaminants, and then I want to set up some  
2 monitoring at some -- some distance away from that to  
3 make sure that none of it gets away.

4 This is no different than what's done all the  
5 time at hazardous waste sites when you do groundwater  
6 remediation. It's the same exact thing; right? You  
7 have a system that controls the plume, and then you  
8 have some additional monitoring to make sure you are  
9 maintaining control of the plume.

10 But my problem I'm seeing here is I fail --  
11 you haven't reconciled in my mind how a well out here  
12 where the regional groundwater flow is going to take  
13 10 years for that particle to get there, for a project  
14 that has a 2-year operating life span and a 5-year  
15 post-monitoring life span, how that well is  
16 protective. Okay? Because I don't -- I don't see it.

17 You know, maybe I'm missing something here. I  
18 may not have all the information, but I'm not seeing  
19 it.

20 A. The -- the cone of depression is going to be  
21 established in the preoperational phase.

22 Q. Right. That's good. I'm good with that.

23 A. And they're going to use all the wells to --  
24 so the supplemental wells will have to show that they  
25 are within -- that they are impacted by the pumping.

1 So they're going to be located, monitored Well 1 will  
2 be located so when they start recovery operations, you  
3 will see that cone of depression.

4 Then in the -- in the permit -- so that's a  
5 preoperational requirement, to establish that cone of  
6 depression before they even start -- and I can tell  
7 you what section, if you want to see.

8 Q. Well, it's in Table 4.1-8; right?

9 A. That's the operational, but preoperational is  
10 actually in 2.2.3.

11 Q. There's a list of things. I remember reading  
12 that. Right.

13 A. So the preoperational phase, they need to show  
14 that the BADCT is basically demonstrated before they  
15 ever get to --

16 Q. Okay. No, I get that.

17 A. And then -- so when you say that the PMA could  
18 be a thousand feet, it could be 1,600 feet or it could  
19 be 500 feet, those are all true statements, but we  
20 wanted to have a permit that would monitor the PMA at  
21 a specific location. We needed to have permit  
22 conditions, so that's Table 4.8.

23 Q. I get that.

24 A. So the POCs are not to do that. The  
25 supplemental wells are the BADCT operational wells.

1 Q. Okay. Can we agree that the point of the POC  
2 is to protect the regional groundwater?

3 A. It is the point, yes.

4 Q. All right. What I'm submitting to you is: I  
5 have yet to be convinced that a point of -- POC well  
6 that's 10 years away from the source of contamination  
7 for a permit program that's only going to last 7 years  
8 is protective of regional groundwater.

9 Do you see my point? Because what -- all  
10 right. Let me ask a different question.

11 All right. They do their two-year thing, they  
12 do their five-year post-monitoring, everything is  
13 good. They move on. Maybe they either -- let's say  
14 they decide, This isn't worth the trouble. I'm not  
15 surprised after what they've been through if they did  
16 decide it wasn't; right? But let's just say they do.  
17 Okay?

18 So they say, We're done. We're not going to  
19 do this anymore. But let's say two or three years  
20 after that they get a hit at the POC well, then what  
21 happens? Permit is over; right?

22 A. One of the requirements is that it be included  
23 in the area-wide permit.

24 Q. But what if there is no area-wide permit?  
25 What if they decide not to do it? What happens then?

1           I mean, I'm not familiar with all the nuances  
2 of the regulations, so I'm kind of asking you.

3           A. Well, it's a requirement. If they don't  
4 follow the requirements, there would need to be a  
5 follow-up by our compliance, I would imagine, that  
6 you're not following the requirements of the permit.

7           Q. But the permit is extinguished once the  
8 activity is complete; right? It's a pilot test. It  
9 has a finite time, and you've said, and we're going to  
10 tack on 5 years, just to make sure it gets cleaned up  
11 properly. Okay?

12           I'm just -- this is all very hypothetical;  
13 right?

14           So we've gone 7 years, but the point of  
15 compliance well is 10 years away; right?

16           A. Um-hum.

17           Q. So what happens if 12 years later there's --  
18 something happens? What -- I mean, they're no longer  
19 under the permit. The permit has been extinguished.  
20 It's expired.

21           All right. And let me ask a second question.  
22 Okay? So is the presumption that because we have this  
23 cone of depression, which is going to be substantial,  
24 and it operates all -- you know, you're going to  
25 establish it before you allow them to inject anything,

1 it's going to be present during the pilot test, it's  
2 going to be present for the five-year post-monitoring.  
3 Are you going to make them pump for five years or are  
4 they going to be able to shut down?

5 A. They're going to do rinsing and --

6 Q. All right. So they're going to rinse for --

7 A. Rinse for however long it takes --

8 Q. -- until they achieve some --

9 A. -- to meet the requirement.

10 MR. WAKEFIELD: Can I just ask that you let  
11 the witness answer the question before you move on?  
12 It's hard for the court reporter to take down --

13 MR. BRINKER: I'm sorry.

14 MR. WAKEFIELD: -- two people speaking at the  
15 same time.

16 Thanks.

17 THE WITNESS: Once the action and recovery is  
18 completed, there will be a rinsing phase to return  
19 pollutants to a certain concentration within the  
20 aquifer at those wells. So the -- the BADCT and the  
21 rinsing and the monitoring is -- is what will  
22 demonstrate that this is a protective permit. The --  
23 the compliance at the POC wells is another permit  
24 condition, but they are independent. They need to  
25 maintain --

1 BY MR. BRINKER:

2 Q. Yeah.

3 A. -- the BADCT and implement contingency  
4 actions.

5 And the monitoring is very -- very  
6 comprehensive. We've got horizontal monitoring,  
7 vertical monitoring. The supplemental wells and MW-1  
8 are going to be located so that if something happens,  
9 contingency actions will have to be implemented to  
10 bring the pollutants back into the PTF well field. So  
11 the fact that the POC and the PMA is out 500 feet  
12 is -- is independent from the fact that the BADCT for  
13 this is -- is going to be well-established and  
14 well-monitored. And the -- the size of the facility  
15 is on the order of 20 acres. It's not, you know, some  
16 of the other mines that I've worked on that are  
17 thousands of acres. There are seven POC wells, six  
18 just for the PTF well field, and then the seven  
19 supplemental wells, and the -- and the seven  
20 observation wells. This is probably the most  
21 monitored 20 acres I've ever seen in the APP program.

22 So that's what makes this permit safe is -- is  
23 the BADCT that they're going to use, the monitoring  
24 that they're going to do. The PMA, they've got the  
25 modeling that shows that it's going to work. So

1 the -- you know, the POC wells are located between the  
2 PMA and the closest use of groundwater, which is about  
3 two and a half miles away. I hope we don't see  
4 anything at the POC wells. That is -- that is the  
5 goal of the Aquifer Protection Permit Program.

6 Q. Okay. I agree with you. I think, you know,  
7 in terms of just day-to-day operational monitoring,  
8 it's totally covered.

9 All right. Let me ask a different question:  
10 Do you -- did EPA consult with you about this  
11 underground injection permit?

12 A. I would not call our communications  
13 consultations. We kept each other informed of where  
14 we were in the -- in the two separate processes so  
15 that they knew that we were asking additional  
16 questions, they knew when we were going to public  
17 notice, those kind of things. But we didn't consult  
18 on how to make our permits complementary. They're two  
19 completely different programs, and I don't know the  
20 UIC program, so I don't know how their supplemental  
21 wells are considered under their program.

22 Q. I just find it amazing how close the two  
23 permits are. Okay?

24 A. I think that -- I think when --

25 Q. It's just like a psychic thing, you know.

1           A. Well, the applicant wants to be able to comply  
2 with the Aquifer Protection Permit, and I want them  
3 to, so if it makes it easier for the two permits to  
4 track each other, I think -- and it increases  
5 compliance with the Aquifer Protection Permit because  
6 it makes the reporting and -- and that kind of thing  
7 easier for the applicant, that is one of our goals as  
8 an agency is to have people stay in compliance,  
9 because that's good for the environment.

10           Q. Oh, no, I think it's -- having been on the  
11 receiving end of this kind of business, I think it's  
12 great that they're able to have two permits that are  
13 essentially the same in terms of what they're asking  
14 them to do. I mean, that's -- I'm not objecting to  
15 it. I'm just curious how much consultation -- because  
16 my experience in a hazardous waste site and a  
17 Superfund site is there's a lot of consultation  
18 between EPA and the state, you know, kind of thing. I  
19 know here you don't have privacy, right, for the  
20 UIC permit.

21           A. That's correct. We don't.

22           Q. So they can kind of do what they want --

23           A. That's true.

24           Q. -- but they normally would at least talk to  
25 you; right?



1           So I'm curious about the 1-foot gradient  
2 provision. It's in Table -- it's in both permits, and  
3 it's in your -- both your prestartup conditions and  
4 your monitoring; right?

5           So where is this 1-foot gradient? You have to  
6 at least get a 1-foot gradient. That's the minimum  
7 requirement; right? If it falls below that, then  
8 that's an issue.

9           Maybe if we just looked at Table 1.4 -- 1.8,  
10 whatever it is.

11          A. Right. So that would indicate a -- in  
12 Section 2.6, which is the contingency actions, it  
13 refers back to Table 4.1-8. It says: The permittee  
14 shall initiate the following actions within 24 hours  
15 of becoming aware of an alert level exceedance listed  
16 in Table 4.1-8 for loss of hydraulic control within  
17 the in-situ leaching area for more than 24 consecutive  
18 hours. A loss of control occurs when the amount of  
19 fluids injected during a 24-hour period exceeds the  
20 amount of fluid recovered for the same 24-hour period.  
21 Loss of hydraulic control is also indicated by a less  
22 than 1-foot differential observed in any pair of  
23 observation and recovery wells over a 24-hour period.

24           So that 1-foot differential between any repair  
25 and observation and recovery wells is -- is an

1 indicator that, again, something has not gone  
2 correctly with the recovery wells because the  
3 observation wells are not seeing the drawdown. There  
4 needs to be that differential.

5 Q. Right.

6 A. So it's just another indicator that the --  
7 that there could be something going wrong.

8 Q. I'm just curious where the 1 foot comes from.

9 A. So this was in the first permit that was  
10 remanded. We didn't change --

11 Q. I know --

12 A. -- so I don't know.

13 The answer is I don't know where that came  
14 from, because it was already in the permit and it  
15 wasn't one of the --

16 Q. Because it implies a certain something. It's  
17 a technical thing; right? It's not -- I mean -- I  
18 mean, there are limits to what you can accurately  
19 measure, for example, you know, with potentiometers  
20 and things like that.

21 Okay. Fair enough. Okay. Let's talk about  
22 something else. Just give me a minute. Gail asked a  
23 lot of my questions, so...

24 All right. Let's talk about  
25 electroconductivity monitoring. I have to admit, I'm

1 a little confused about that subject, having read  
2 through the things and the permits and the -- and the  
3 testimony. I understand the concept of, you know,  
4 measuring the bulk fluid, you put a probe or  
5 something, you mount a sensor in the well. You can  
6 measure the conductivity. I get that part.

7 I'm not so clear on the, I have 28 sensors,  
8 and I turn one on and I measure it at the other 27. I  
9 do that 27 more times and I end up with 756 data  
10 points. What does that tell me? I mean, I see it in  
11 the permit, but I don't understand what it does.

12 Do you?

13 A. Yes. The report that they will provide will  
14 include the results of those readings.

15 Q. But what are the results --

16 A. It will be in the form of a color flood map  
17 that shows changes in electrical conductivity.

18 Q. So like a two-dimensional representation of  
19 the distribution of conductivity and the layer?

20 A. That was well-said. I think that's what we're  
21 looking for, yes.

22 Q. Wow, what a great research project.

23 A. Let me find it in the permit.

24 Q. Somebody is going to be able to write a paper  
25 about this, you know.

1 A. Let's see.

2 Q. That's okay. I just --

3 A. So it's actually in Section 2.7.4.4, No. 4,  
4 and it reads: Provide a report to include the lower  
5 basin fill unit, bulk electrical conductivity contour  
6 maps, and a description of their interpretation.

7 Q. Right. Yeah.

8 A. So we haven't seen what that's going to look  
9 like, but this description tells us it's going to be  
10 contour maps of the bulk EC. They will have taken the  
11 ambient signature of the lower basin fill unit, so  
12 they will have established what ambient looks like.  
13 And since there should not be any -- well, the permit  
14 prohibits any lixiviant entering the lower basin fill  
15 unit, if there are changes in the electrical  
16 conductivity --

17 Q. So you're looking for leaks, basically?

18 A. We're looking for -- yes, vertical migration  
19 of lixiviant.

20 Q. Okay. I've done some of this stuff using  
21 electrical resistance. It's the same kind of thing.  
22 Very sophisticated, very high math. You're looking  
23 for small changes that allow you to map certain  
24 features. Yeah. Very interesting.

25 Just a couple of questions of the

1 conductivity. I noticed in terms of the permit  
2 conditions, it -- it -- you talk about this ambient  
3 monitoring of the lower basin fill unit has some very  
4 nice language in here about statistical analysis.  
5 And, again, I'm assuming this -- this is kind of  
6 prospective in the sense that Florence Copper has told  
7 you they're going to do something and they're going to  
8 offer you something when you've done this, and it's  
9 going to all make sense to you, and then you're going  
10 to use it.

11 Is that kind of how I read this? Because it's  
12 kind of vague.

13 A. Are you talking about the ambient --

14 Q. I'm talking about 2.5.9, and the permit  
15 itself.

16 All right. So it's -- it's pretty  
17 comprehensive. You know, it says you're going to --  
18 they're going to do these tests. They're going to  
19 permit -- provide you with tabulated data and all  
20 kinds of other stuff. They're going to do some  
21 various kinds of statistical analysis, and then  
22 they're going to try to infer correlations based on a  
23 number of things which are not fully listed.

24 Okay. I think it's all great. It sounds like  
25 a great research project. I'm just not sure, you

1 know, what you hope to accomplish with all that.

2 But I really want to talk about Table 4.1-8.  
3 Okay? Because, again, there's some things there I  
4 don't understand, so maybe you can help me with this.

5 A. Okay.

6 Q. So you have an entry for the lower basin fill  
7 unit bulk electrical conductivity. So if I understand  
8 the term "bulk electrical conductivity," that's,  
9 basically, there's a sensor in a well, and they're  
10 going to take a reading; right?

11 A. This is a --

12 Q. That's the 27 by 28 thing?

13 A. Yes.

14 Q. And so that's why that's reserved, because  
15 until you do what's in 2.5.9 --

16 A. That's correct.

17 Q. -- you won't know what the alert levels will  
18 be.

19 A. That will be setting the ambient, yes.

20 Q. And since it's kind of a two-dimensional  
21 thing, it could be kind of tricky.

22 All right. Then you have wellbore electrical  
23 conductivity. Now, I found this interesting, because  
24 it says that if the current value is greater than  
25 the previous value -- and when I go look at the table

1 in the application where it gives you -- you had  
2 conductivity data for some existing wells out there,  
3 it has a fair bit of fluctuation, which is normal,  
4 right, so I'm kind of curious how you expect this to  
5 work.

6 A. All right. So this is the wellbore electrical  
7 conductivity.

8 Q. Because you say the alert level is current  
9 value greater than previous value.

10 A. The wells monitored are the second column of  
11 Table 4.1-8.

12 Q. I understand.

13 A. So it's sensors installed above the middle  
14 fine-grained unit, the MFGU.

15 Q. Um-hum.

16 A. These are above the lower basin fill and the  
17 middle fine-grained unit, so there should not be any  
18 impact up there. We're looking for that.

19 Q. I know, but, see, the data set that's  
20 submitted with the application where they've got like  
21 five years' worth of electrical conductivity data for  
22 some existing wells shows there's a normal range of  
23 electrical conductivity. In a case of -- I think it's  
24 Well 14, it runs from like 750 to 800-something.

25 So my point is: Just if I'm just collecting

1 ambient data, it's going to fluctuate. So to say that  
2 the current value exceeds the previous value, that  
3 means that you're going to be in alert eventually.

4 I just -- I don't under -- I don't get this.  
5 Okay?

6 I think what you're wanting to say is that if  
7 the current value exceeds some statistically  
8 significant, you know, value based on the ambient  
9 data; right? I just -- I just don't get that one.  
10 All right?

11 A. Yeah. I would like to look through the permit  
12 and see if I can find --

13 Q. Let me just move on to the --

14 MR. WAKEFIELD: Can we give her an opportunity  
15 to provide a response?

16 MR. BRINKER: Well -- okay.

17 THE WITNESS: (Witness reviewing.)

18 I don't see in the permit where we use ambient  
19 data to set the wellbore electrical conductivity above  
20 the middle fine-grained unit. I find the contingency  
21 actions, and they reference alert levels, but I -- at  
22 this point I don't see where we --

23 Q. Okay.

24 A. -- indicate how those alert levels would be  
25 set.



1 Q. Let me just -- the last thing I want to ask  
2 you has to do with this one about the observation well  
3 conductivity exceeding the injection well  
4 conductivity.

5 So you suggested -- and I agree there's more  
6 than one thing going on. There's more than one ion  
7 species that can cause changes in conductivity;  
8 right?

9 A. Um-hum.

10 Q. So just to be clear, it's your understanding,  
11 based on what you were told by Florence Copper, that  
12 it is possible, in fact, for the conductivity at the  
13 observation well to exceed the value at the injection  
14 well under certain circumstances.

15 A. That is correct.

16 Q. Did they tell you what those circumstances  
17 were? Is there any data, like bench scale data or  
18 some other kind of data, that demonstrates this  
19 phenomena, or is it just their professional opinion?

20 A. I don't recall any data that was provided. I  
21 think it's their professional opinion.

22 Q. Okay. Well, we can ask them when they get  
23 here.

24 MR. BRINKER: All right. Thank you.

25 MR. WAKEFIELD: Those are all your questions?

1 MR. BRINKER: Yes, ma'am -- yes, sir, it is.

2 MR. WAKEFIELD: Okay. Mr. Cantrell, are you  
3 handling redirect?

4 MR. CANTRELL: I've got a few questions.

5 MR. WAKEFIELD: Sure.

6 \* \* \*

7 REDIRECT EXAMINATION

8 BY MR. CANTRELL:

9 Q. Let me just take a moment to review my notes  
10 here.

11 Ms. Greenslade, when you indicated the DEQ  
12 reviews the permit -- permit application, is it DEQ's  
13 job to develop an optical cone of depression or is it  
14 more along the line that DEQ reviews the application  
15 and comes in for conformance of the law?

16 A. DEQ's role is to review applications that are  
17 provided by the applicant and determine whether the  
18 statute and rules and -- and guidance are followed.

19 Q. And cone of depression, is -- is that a -- is  
20 that a control mechanism or a barrier mechanism that's  
21 used in other facilities?

22 A. The -- the cone of depression has been used in  
23 the context of a pollutant -- passive containment  
24 capture zone at open pit mines, and it was used in the  
25 original permit for this area-wide permit for the

1 previous owner.

2 Q. And I know we have the observation wells and  
3 we have the point of compliance wells. Is it also  
4 fair to say that part of the purpose of the  
5 observation wells is to give the applicant warning  
6 that something may be going out of control prior to an  
7 actual violation of the permit?

8 A. Yes. The -- the observation wells are -- are  
9 there to indicate, you know, a couple different things  
10 in the permit. They're -- they're in the monitoring  
11 table to indicate whether there's been an excursion.  
12 So that the observation wells are -- are inherently  
13 important to this permit.

14 Q. So as a rough analogy for a nontechnical  
15 person, could you compare the observation wells to  
16 like the speedometer in your car, is that when you're  
17 reading 50 miles an hour on the speedometer and you  
18 know the posted limit is 70, you know you're in  
19 control. But if the speedometer is reading 69, may  
20 have a problem?

21 A. It's an indicator of the fact that there may  
22 be an excursion of lexiviant into the -- into the  
23 oxide zone outside the PTF well field, but it would  
24 not be a violation of the permit as long as the  
25 contingency actions are followed.

1 Q. And the contingency actions would be what?

2 A. The -- the permit specifies, I believe, to  
3 confirm that the alert level exceedance, increase  
4 recovery, decrease injection, and continue to monitor,  
5 see if the alert levels -- if the -- if the parameter  
6 comes back below alert levels.

7 MR. CANTRELL: And I think that's all I have.  
8 Thank you.

9 MR. WAKEFIELD: Thank you.

10 Ms. Greenslade, thank you for your testimony.

11 THE WITNESS: Thank you.

12 MR. WAKEFIELD: Let me just indicate for the  
13 record, I'll admit Exhibits 3, 4, and 5.

14 And does any party have any objection to the  
15 admission to Exhibit No. 10?

16 MR. CANTRELL: No objections.

17 MR. WAKEFIELD: I will admit that too.

18 And let's take a ten-minute break.

19 (WHEREUPON, a brief recess was taken from  
20 2:32 to 2:44 p.m.)

21 (Exhibit Nos. 6 and 7 were marked for  
22 identification.)

23 MR. WAKEFIELD: Okay. Let's go back on the  
24 record.

25 And we have Mr. Nicholls sitting in the

1 witness chair. Mr. Nicholls, can you grab what's been  
2 marked there as Exhibits 6 and 7.

3 THE COURT REPORTER: Do you want me to swear  
4 him?

5 MR. WAKEFIELD: Oh, yes. Let's have the court  
6 reporter swear you. Thanks.

7 \* \* \*

8 MARK NICHOLLS, R.G.,  
9 called as a witness herein, having been first duly  
10 sworn, was examined and testified as follows:

11 \* \* \*

12 MR. WAKEFIELD: Mr. Nicholls, are Exhibits 6  
13 and 7 your affidavit and responsive affidavit in this  
14 proceeding?

15 THE WITNESS: (Witness reviewing.)

16 They are.

17 MR. WAKEFIELD: And do you adopt these  
18 statements made in there as your testimony today?

19 THE WITNESS: I do.

20 MR. WAKEFIELD: Do you have any corrections to  
21 either of the exhibits?

22 THE WITNESS: I don't.

23 MR. WAKEFIELD: Okay. With that, I'll admit  
24 Exhibits 6 and 7.

25 And Ms. Clement?

1 MS. CLEMENT: Thank you, Mr. Nicholls.

2 \* \* \*

3 CROSS-EXAMINATION

4 BY MS. CLEMENT:

5 Q. You were the hydrogeologist modeling expert  
6 that performed the monitoring for the property, or  
7 no?

8 A. One of my staff members performed the  
9 modeling, but I'm familiar with it.

10 Q. Okay. And was it a full fate and transport  
11 model? Or could you describe the model.

12 A. The model that we built was a -- was a  
13 subregional scale model because we were interested in  
14 showing not only fate and transport on a -- on a  
15 subregional scale, but also to look at pumping effects  
16 off the property that might have impacts to operations  
17 on the property.

18 Q. What were the model dimensions? What were the  
19 areas -- what's the area of the model?

20 A. It's about 10-mile by 10-mile square. 10  
21 layers, including the upper basin fill, middle  
22 fine-grained, lower basin fill, and then we have, I  
23 believe, four layers in the oxide.

24 Q. And then what was the node spacing?

25 A. Node spacing was variable. At the center of

1 the model, it was 12 and a half feet in the well  
2 field, and then out at the -- out at the edge it was  
3 100 feet.

4 Q. So it sounds pretty finely tuned?

5 A. It was a very fine mesh grid, and we did that  
6 so that we can look at pumping impacts in the well  
7 field and adjacent to the well field, as well as  
8 nearby to the property.

9 Q. Was that model supplied -- or the results of  
10 that model, i.e. a model report, model output files,  
11 provided to the agency?

12 A. They were.

13 Q. And was the model the basis for determining  
14 the location of the PMA or what was the basis for  
15 determining the PMA?

16 A. It -- partly. It -- it served partly as the  
17 basis. There was a number of fate and transport  
18 scenarios that were run, including the discharge  
19 impact area figure, which I believe Mr. --

20 MR. BRINKER: Brinker.

21 THE WITNESS: Brinker, sorry.

22 MR. BRINKER: They took my name away, so...

23 THE WITNESS: -- that he showed us, and so  
24 that does show fate and transport simulations in the  
25 model, as well as we did some pumping scenarios as

1 well.

2 BY MS. CLEMENT:

3 Q. So maybe you can clarify the technical thought  
4 process to determining the extent of the PMA.

5 MR. GLASS: May I interject at this point?

6 We -- we had two witnesses designated.

7 Mr. Lagas did the PMA and POC-related issues.

8 MS. CLEMENT: Oh, I'm sorry.

9 MR. GLASS: And I know some of these questions  
10 relate to that and things Mr. Nicholls did, but he's  
11 here for the monitoring-related issues. And I just --  
12 to note that we're fine with his answering whatever  
13 questions you have, but we -- Mr. Lagas was dedicated  
14 to answer some of these questions.

15 MR. WAKEFIELD: Okay. Let me share how I've  
16 seen this handled in other proceedings. If there's a  
17 question that's asked of you, Mr. Nicholls, that you  
18 think is more appropriate to the next witness or that  
19 you're incapable of answering, by all means, feel free  
20 to indicate that we should ask the next witness.

21 THE WITNESS: Sure.

22 And so without addressing, let's say, some of  
23 the -- well, the appropriateness of the 500-foot  
24 boundary, I can talk to some of the methods that were  
25 used to do analyses inside that boundary that were



1 used to support Mr. Lagas' determination of that -- of  
2 that PMA.

3 BY MS. CLEMENT:

4 Q. Well, who would be the closest to the modeling  
5 effort?

6 A. Myself.

7 Q. That's really why I wanted to get into this.

8 So what technical analysis did you do within  
9 that area that supports the final analysis?

10 A. I think the first thing that I'd like to do  
11 would be to point out there's a coincident  
12 administrative boundary there as well. It's -- it's  
13 known as the area of review under the UIC permit.

14 We did a good amount of modeling for the EPA  
15 to help them determine where that area of review -- or  
16 whether or not that area of review was appropriate,  
17 and it included building into the model discrete  
18 features, geological features that were observed  
19 on-site. The model -- or the faults that were  
20 observed on-site were modeled.

21 Specifically, EPA asked that we assign certain  
22 properties to those faults and run worst case  
23 scenarios to see how far fluid might go under a  
24 catastrophic event and to demonstrate that that fluid  
25 could be recaptured under that -- you know, after that

1 event.

2 Q. And what parameters did -- in terms of the  
3 faulting, were you -- what were the variables that you  
4 used?

5 A. I don't recall the specific values, but they  
6 asked to us increase the K values in the faults and to  
7 designate those as preferential pathways, essentially,  
8 and then inject without recovery for a period of  
9 time --

10 Q. Okay.

11 A. -- which is -- which is a scenario that's --  
12 that's unrealistic from the perspective of the fact  
13 that if Florence Copper were to lose power to their  
14 recovery wells, they're also going to lose power to --  
15 to inject.

16 But EPA asked for that as kind of a worst case  
17 scenario to see how -- how badly things could go, and  
18 then to demonstrate that that fluid could be recovered  
19 within that 500-foot boundary.

20 Q. Okay. And then just to -- you know,  
21 considering what your counsel just stated, to shift a  
22 little bit, you were -- your testimony is regarding  
23 the monitoring program, and we've pretty much  
24 eliminated most of the issues regarding the monitoring  
25 based on earlier discussions, but I am -- and I really

1 want to be informed. I'm confused about the one  
2 provision regarding liquid electrical conductivity  
3 that's in Table 4.1-8.

4 Can you share with me practical or pilot study  
5 or geochemical modeling experiences that would suggest  
6 that that greater-than or equal-to concentration would  
7 be a realistic type of alert level?

8 A. Sure.

9 Understanding, of course, that that alert  
10 level is not intended to maintain background  
11 conditions at that location. We've heard testimony  
12 from the Appellants' expert with regards to flow pass  
13 from the injection well to the recovery wells. It was  
14 noted in -- in their expert's affidavit that that  
15 solution might travel as far as one to two well  
16 spacings beyond the recovery well before it circles  
17 back and it captured. So from that perspective, we --  
18 we would not -- we would not presume that a value of  
19 background conductivity at the alert levels is  
20 appropriate.

21 And then secondly, to your question more  
22 specifically, the -- the process that Florence Copper  
23 will engage in is analogous to a heap leach where  
24 you're going to take an acidified solution and apply  
25 it to mineral with the intent of dissolving that

1 mineral and copper into solution. As that solution  
2 moves from the injection well to the recovery well,  
3 again, some of it circling beyond and coming back to  
4 the recovery well, we expect that -- that TDS value to  
5 go up.

6           When we -- I'm measuring my words here.

7           The Appellants' expert has characterized, in  
8 my mind anyway, that measurement of conductivity as  
9 purely a measurement of pH or acidity, when, in fact,  
10 the objective of this process is to dissolve mineral.  
11 That mineral load will be pumped out of the recovery  
12 wells and recycled essentially through the SX/EW plant  
13 and reinjected, so that mineral load will be  
14 continually increasing throughout the life of this  
15 project.

16           If the project were to go to, let's say, a  
17 long-term operation, that mineral load equilibrates  
18 over time, but as -- as this project is shortened to  
19 the period of two years, what we see is as that  
20 solution is reacidified, it goes back in the ground  
21 with the previous mineral load that it has, it  
22 dissolves more mineral before it gets to the recovery  
23 well where it's pumped out again.

24           So at a minimum, the -- the conductivity  
25 values, which are measuring that mineral load, the

1 dissolved metals and the dissociated components of  
2 acid would be equal at the recovery well and higher  
3 over time as it dissolves additional mineral.

4 Q. The -- let me get this -- but when you  
5 remove -- after the recovery well and you're removing  
6 the spent leachate and you're recovering the minerals  
7 that you want out of that, are you saying the  
8 remnant -- like calcium. I mean, is that what you're  
9 saying --

10 A. Correct.

11 Q. -- the other inorganic ions are present and  
12 that's what's causing that?

13 A. Correct. So preferentially the SX/EW will  
14 remove copper from the solution. All the other  
15 dissolved components of those minerals, all the  
16 calcium, magnesium, sodium, potassium, et cetera, will  
17 continue to go around and increase over time.

18 Q. So if you were looking at the change in  
19 conductivity over time for the injection of lixiviant,  
20 it would increase over time?

21 A. That's increasing over time as well.

22 Q. Okay. So then with that idea, you could have,  
23 then, the conductivity of the recovery wells  
24 increasing over time also?

25 A. Yes.

1 Q. But I think that -- if I'm correct here, that  
2 the -- isn't it a question of the observation wells?

3 A. It is for the alert level.

4 Q. So relative to the concentration of the  
5 injected material, how does that -- how do you see  
6 that equating then, that you could actually have a  
7 situation where conductivity would be --

8 A. I would call your attention to a figure in  
9 my -- I believe it's my initial affidavit on Page 9  
10 that shows the configuration of the well field. And I  
11 would -- I would point out to you that the well  
12 field -- you'll notice there's some diagonal pathways  
13 shown through the well field. Those are essentially  
14 access or pipeline routes that connect the various  
15 wells. You'll see the red dots oriented along those  
16 pathways that represent recovery wells. And then  
17 there's four green dots, two on each of those diagonal  
18 pathways, that represent the injection wells.

19 The distance between each injection well to  
20 the next injection well is 100 feet. The distance  
21 from the injection well to the recovery well is  
22 71 feet, and the distance from the nearest recovery  
23 well to the nearest observation well is, similarly,  
24 71 feet. So we're talking about a very -- very short  
25 distance, and the travel times that we are talking

1 about from injection to recovery well are on the order  
2 of a day, day and a half, or two days. And for us to  
3 see solutions that have gone to one of the observation  
4 wells, we'll see that relatively quickly.

5           The other thing I would call your attention to  
6 is if you would look at the -- at the westernmost edge  
7 of that well field, you'll see the observation well  
8 that has four lightning bolts shown there -- sorry  
9 about the cartoonish nature of that, but -- 71 feet  
10 south of that we have a recovery well, 71 feet south  
11 of that we have another observation well, and so what  
12 you'll notice is that that recovery well is actually  
13 at the outermost edge of the well field.

14           The observation wells are there to monitor  
15 system performance, but it is -- it's just as likely  
16 that we will see some of that solution arrive, at  
17 least in a dilute condition, at the observation  
18 wells.

19           Q. Would it be correct to say that if you had  
20 some problem with a recovery well, the potential --  
21 given these distances, the potential for elevated  
22 concentrations of ions would be able to be seen at the  
23 observation well?

24           Is that basically what you're checking for  
25 here?





1 A. Yes.

2 Q. You're expecting that?

3 A. Yes.

4 Q. Okay. So that's the basis for the stipulation  
5 that if the observation well conductivity exceeds the  
6 injection well conductivity, the implication is that  
7 the recovery well, then, is not doing its job?

8 A. Correct.

9 Q. Okay. Now I understand.

10 Let's -- I want to ask you about modeling.  
11 You said you did, it sounds like, a pretty extensive  
12 modeling effort. I'm still not totally plugged into  
13 the 500-foot thing.

14 You -- I believe what you said in response to  
15 Gail was that you had been doing some work for EPA as  
16 part of the underground thing, and that they made you  
17 do various modeling runs, and -- and out of that  
18 effort came the 500-foot area of interest designation.

19 A. Correct.

20 Q. Right?

21 Okay. And -- and -- and so then, in turn,  
22 Florence proposed that back to ADEQ because it made --  
23 I mean, I understand it makes sense for them to do the  
24 same.

25 A. In essence, yes. So those would be two

1 administrative boundaries that are coincident. And  
2 also, you know, we have all the supporting modeling  
3 that -- that was done for EPA that was provided to DEQ  
4 as well.

5 Q. Okay. So you did provide that too.

6 So then, based upon the supporting modeling,  
7 okay, why is it 500 feet? What's magic about  
8 500 feet?

9 A. So I'll tell you, 500 feet is not magic.  
10 There's -- there's a decision process that was made  
11 there. Some of the scenarios that EPA required us to  
12 simulate where we had solutions traveling without  
13 recovery distances of 300 feet or more, you know, went  
14 into that determination of that 500-foot boundary.  
15 EPA similarly understood that it wouldn't be  
16 appropriate to locate that boundary at our simulated  
17 catastrophic release point, but rather asked us to  
18 establish the supplemental monitoring wells as -- as  
19 intermediate alerts or -- or locations that might  
20 sound alerts before fluid got that far.

21 Q. You saw Exhibit 10, which was taken from your  
22 application --

23 A. Yes. Yes.

24 Q. -- right? And I think it's interesting --  
25 I'll use the word "interesting" -- that the EPA

1 monitoring wells are populated along the boundary of  
2 the 2 microgram per liter contour --

3 A. At the extremes, yes.

4 Q. And I'm assuming that 2 microliter contour  
5 came from your groundwater modeling, didn't it?

6 A. It did.

7 Q. Okay. All right. So just to repeat back what  
8 you said and make sure it's clear in my mind: Based  
9 on the number of scenarios that EPA asked you to  
10 model, various kinds, under the worst case you were  
11 getting contaminants reaching outwards of over  
12 300 feet, which, once you turn everything back on, I  
13 assume will get all sucked back; right?

14 A. Correct.

15 Q. Okay. All right. Do I have anything else?

16 MR. BRINKER: I'm good. Thank you.

17 MR. WAKEFIELD: Thank you. Nothing further?

18 Thank you, Mr. Nicholls.

19 MR. GLASS: Oh, could I have just a minute?

20 MR. WAKEFIELD: Oh, yes. I'm sorry, go ahead.

21 You have an opportunity. I'm sorry.

22 \* \* \*

23 REDIRECT EXAMINATION

24 BY MR. GLASS:

25 Q. All right. Mr. Nicholls, did you hear Mr. --

1 or Dr. Wilson's testimony about his proposal for the  
2 PMA?

3 A. Yes.

4 Q. And what was that?

5 A. That the supplemental monitoring wells would  
6 be used as POCs, and the PMA would be drawn at that  
7 location.

8 Q. But his testimony also said that lixiviant  
9 would go several well spacings beyond the recovery  
10 wells; is that correct?

11 A. Correct. Both in his affidavit --

12 MR. YURK: I would object to the use of the  
13 word "several." I don't think that's accurate.

14 THE WITNESS: It's one to two well spaces in  
15 the affidavit.

16 BY MR. GLASS:

17 Q. So one to two well spacings.

18 And approximately what distance would that be,  
19 one to two well spacings?

20 A. One well spacing is 100 feet. Two well  
21 spacings would be 200 feet.

22 Q. So lixiviant is expected to go 200 feet beyond  
23 the recovery wells?

24 A. Potentially.

25 MR. GLASS: I have nothing further.

1 MR. WAKEFIELD: Okay. Thank you very much,  
2 Mr. Nicholls.

3 And Mr. Lagas?

4 (Exhibit Nos. 8 and 9 were marked for  
5 identification.)

6 \* \* \*

7 PHILIP LAGAS, R.G.,  
8 called as a witness herein, having been first duly  
9 sworn, was examined and testified as follows:

10 \* \* \*

11 MR. WAKEFIELD: Good afternoon, Mr. Lagas.  
12 Do you have in front of you what have been  
13 marked as Exhibit 8 and 9?

14 THE WITNESS: I do.

15 MR. WAKEFIELD: And are those the affidavit  
16 and response of affidavit that you prepared for this  
17 matter?

18 THE WITNESS: They are.

19 MR. WAKEFIELD: And do you have any  
20 corrections to those affidavits?

21 THE WITNESS: I don't.

22 MR. WAKEFIELD: Do you adopt the information  
23 set forth in those affidavits as your testimony  
24 today?

25 THE WITNESS: I do.

1 MR. WAKEFIELD: Thank you very much.  
2 Ms. Clement?

3 \* \* \*

4 CROSS-EXAMINATION

5 BY MS. CLEMENT:

6 Q. Mr. Lagas, thank you for being here.

7 Let's talk about the establishment of the PMA.  
8 So we have a found additional piece regarding the  
9 modeling that was done, and then there was some  
10 judgment or discussion regarding what would be  
11 appropriate.

12 Can you elaborate on that decision-making  
13 process.

14 A. Yeah. Okay. So we did the scientific  
15 analysis with the modeling to try to get a handle on  
16 how large that cone of depression could be. Before we  
17 did that -- and my role was mainly to look at the  
18 regulatory basis and be able to say that whatever we  
19 chose to be the PMA would fit the regulatory  
20 requirements.

21 I looked at the BADCT mining -- the mining  
22 BADCT guidance, and it clearly says that for a barrier  
23 for an in-situ mining operation that the cone of  
24 depression is the barrier that exists. So we had to  
25 do the modeling to get an idea of how far that barrier

1 could go out. And it can go out many thousands of  
2 feet. I think we reported in our attachment that  
3 using a 60 gallon per minute removal rate, recovery  
4 rate, that within two years it would go out as far as  
5 4,800 feet, so it's going to go out pretty far. The  
6 further it goes out, the less drawdown you're going to  
7 see, but you are seeing an inward gradient for as far  
8 out as that -- as that goes.

9           So the next thing we looked at, we said, Okay.  
10 So we know that we have got a cone of depression that  
11 will go out so many thousands of feet, but it's going  
12 to be off the property, and we need to have a PMA  
13 that's inside the property boundary. Okay? So we  
14 could put it right at the property boundary, but when  
15 we looked at the modeling that we did for the UIC  
16 permit where we said, Well, how far out could it go if  
17 there were -- we used these different scenarios as  
18 Mark described for the hydraulic conductivity in  
19 different area. We basically did a sensitivity  
20 analysis to see what would happen to the lixiviant in  
21 those scenarios.

22           We also looked at the DIA analysis that we had  
23 done that was shown on the figure that Mr. Brinker  
24 showed earlier, and we showed that's going outside of  
25 the well field, and we had to then say, All right.

1 Well, we've got to pick a distance. We want it to be  
2 more in the center of the cone of depression, because  
3 then there's a larger amount of drawdown, which is a  
4 larger pressure difference, which is a stronger inward  
5 hydraulic gradient. But it also makes sense to have  
6 it be consistent with what we're doing in the UIC,  
7 because then all the monitoring fits together. And --  
8 and the reason that a lot of the monitoring that's in  
9 the APP permit is similar to the UIC permit is we  
10 proposed to do a lot of the same modeling in both  
11 permits, and they both work the same way, and then we  
12 make tweaks to it based on the negotiations between  
13 both agencies.

14           And we chose the 500 foot because that would  
15 then correspond with the AOR. And we could have  
16 pushed it out further, we could have pushed it in a  
17 little further, but we don't want to have it too close  
18 because there is that zone of mixing that's one or two  
19 well spacings outside of the recovery wells, and we do  
20 have recovery wells that are right on the border of --  
21 of the well block.

22           Q. So the maximum distance would be 200 feet or  
23 did the modeling show anything -- any variability  
24 there?

25           Do you recall that?



1           A. You know, the -- the modeling showed around  
2 200 feet.

3           Q. Okay.

4           A. -- for different types of scenarios; right?

5                   And that's -- where EPA came down on the AOR  
6 is they said, Look, the worst case it's going to be  
7 out 200 feet if we had, you know, higher K in this  
8 area, and therefore we want to have some zone of  
9 safety where -- because everything inside the AOR has  
10 to be a Class 3 injection well, which means they have  
11 more control over what happens in that area.

12                   So, you know, with any model, you're putting  
13 in a whole bunch of assumptions. Until we go out and  
14 we actually do the work, we won't be able to verify  
15 that all of the assumptions we put into the model were  
16 accurate. So you have to have some area of safety in  
17 there as well.

18           Q. And is the intention after the pilot study, to  
19 the best of your knowledge, to use this information to  
20 develop a full-on mining operation at some point?

21           A. Assuming that they are able to recover copper  
22 at the rates that they're projecting, then, yes, they  
23 would then use -- that's the whole purpose of doing  
24 this is to generate the data that we would need to  
25 come up with something for a full-scale permit.

1 Q. And would that -- and maybe this isn't a fair  
2 question -- and, please, if this isn't, let me know --  
3 but with that information, would you revise the model?  
4 Would you go through another technical detailed  
5 analysis?

6 A. Right. We're actually required to update the  
7 model even during this process, because we're going to  
8 go out and do an aquifer test right at the beginning,  
9 and we have to go back and then update the model based  
10 on that and run scenarios. Under both, I think, the  
11 UIC and the APP.

12 So we'll be updating and looking at the model  
13 all the time during the process of the test to make  
14 sure that we were accurately predicting what would  
15 happen.

16 Q. And you were looking at a variety of worst  
17 case scenarios, basically, in terms of the sensitivity  
18 analysis?

19 A. We looked at a bunch -- correct. Right.

20 Q. So that gave you some senses that you may be  
21 conservative? Is that fair to say?

22 A. Until we actually run the test, we just don't  
23 know. And we want to have enough -- that's the whole  
24 concept between BADCT monitoring versus POC  
25 monitoring. The BADCT monitoring is to see if what we

1 predict will happen is happening, and if it's not,  
2 then what do we need to do to adjust it. It then  
3 gives us the ability to adjust extraction rates,  
4 adjust injection rates. Try to understand why the  
5 model is not predicting movement the way we expected  
6 to, and then make adjustments to the model and try to  
7 understand it.

8 Q. Regarding the POC wells, they are some  
9 distance away from the boundary of the PMA. Can you  
10 share what your thought processes were there, besides  
11 the fact there was an existing set of wells.

12 A. Once you establish the PMA, where the POCs get  
13 located is based on that. So I went through the  
14 rationale for why we established the PMA where it was.  
15 I think that in a best case scenario, we don't want  
16 the POCs to ever be impacted.

17 The nice thing about the way this permit is  
18 structured is we have a whole mess of wells in between  
19 the PMA and the well field; right? So there's plenty  
20 of monitoring that -- and those wells have to be  
21 monitored all the way through closure, and DEQ has the  
22 option to require post-closure as well, which, unless  
23 we're going to achieve clean closure, they will  
24 require post-closure, and we're not going to be able  
25 to achieve clean closure because there's always going

1 to be some impact to the aquifer. It may not be over  
2 any standards, but there's going to be some impact  
3 when you're doing in-situ mining. So we anticipate  
4 that there will be post-closure monitoring and that  
5 monitoring -- and that monitoring will continue. But  
6 even if the POC wells are never impacted, which is  
7 what we hope, we'll know if there's something  
8 happening in that five-year time frame because we'll  
9 see it in all the supplemental monitoring wells.  
10 We'll see it in the observation wells which we have to  
11 continue to monitor. We'll see it in the injection  
12 wells. We'll be able to -- we have to monitor all of  
13 those wells, so we'll be able to see it.

14 Q. What would be a post-closure monitoring  
15 period, typically?

16 A. They're -- they set them at 30 years, but for  
17 most mine sites, they operate them forever. I don't  
18 think any mine site has achieved full clean closure.  
19 They may have achieved clean closure on certain  
20 discharging units, but typically at a mine site, under  
21 the APP program, those APP permits go on forever.  
22 They haven't shut any down.

23 Q. Are there financial assurance requirements so  
24 that there would be funding for long-term monitoring?

25 A. Yes. So they -- that's part of the financial

1 assurance cost estimate that you have to prepare  
2 before they -- and actually then demonstrate that you  
3 can meet before they even start operations.

4 MS. CLEMENT: Okay. I'm complete. Thank  
5 you.

6 MR. WAKEFIELD: Okay. Thank you.

7 Mr. Brinker?

8 \* \* \*

9 CROSS-EXAMINATION

10 BY MR. BRINKER:

11 Q. Okay. So what data set did you use to  
12 populate your groundwater model?

13 A. You know, Mark can give you the -- the details  
14 on that.

15 Q. Just generally.

16 A. But he was generally using all of the pumping  
17 data that we could -- from DWR you can get all the  
18 pumping data from all the wells in that area. We also  
19 had a geologic model that was developed based on all  
20 the core holes. They -- several different companies  
21 that owned that property over the years drilled a lot  
22 of core holes.

23 They've done a whole bunch of aquifer tests in  
24 the past. So we took all of that data that existed  
25 and used it to create a groundwater model.

1 Q. And based on the submittals, it's implied that  
2 you used the effective porosity model configuration;  
3 right?

4 A. I'm not sure.

5 Q. Or did I misstate that? The EPM model?

6 A. Yeah. Equivalent porous media. Right.

7 Q. Sorry.

8 A. So we were able to demonstrate through a bunch  
9 of analyses that were done, actually, before this  
10 significant amendment came up, that -- that using that  
11 type of model was appropriate because the rock was so  
12 fractured that it was effectively acting like  
13 equivalent porous media.

14 Now, one of the things that -- that we're  
15 going to be testing with those supplemental monitoring  
16 wells all spread around is were we right. Are we  
17 seeing preferential flow paths in a certain direction.  
18 We use different hydraulic conductivities in different  
19 areas depending upon what kind of feature was there,  
20 so we would have had a higher hydraulic conductivity  
21 in the fault zone than we would have in an area that  
22 had just fractured rock. And we have to test those  
23 assumptions, and that's the purpose is to test those  
24 assumptions.

25 Q. You made another comment about how EPA wants

1 to keep everything inside the area of interest so that  
2 they can control it better. They get a Class 3 well  
3 or whatever; right?

4 A. Right.

5 Q. So their -- for them, making the area of  
6 interest a little bit bigger in order to snag all the  
7 wells you're going to be using would be a preferential  
8 outcome for them, versus making it smaller; then you  
9 might have some wells outside that wouldn't fall under  
10 that Class 3 designation?

11 A. Correct. But what EPA is worried about is  
12 that with the injection pressures that you're  
13 injecting, that it's going to get away from you.

14 Q. Sure.

15 A. And then all of a sudden it's going to hit  
16 wells that are going to cause cross-contamination with  
17 the regional aquifer. So all of the Class 3 wells  
18 we're putting in are sealing off the drinking water  
19 aquifer so they don't get affected. But that's  
20 correct.

21 Q. I guess where I'm going with that is for them,  
22 if you did modeling and said, Well, the worst thing  
23 that can happen, it gets 2, 300 feet out, then we go  
24 out another couple hundred feet just to be sure, and  
25 now everything is inside our boundary and we're

1 good?

2 A. All the wells are sealed. Everything is  
3 inside the boundary. We can continue to -- they have  
4 the regulatory authority to continue to force you to  
5 do things to deal with those -- with those issues.

6 Q. One other thing I noticed is that the point of  
7 compliant wells under the APP permit are actually at  
8 the boundary of the aquifer exemption area under the  
9 UIC permit. Is that significant?

10 A. Explain that again, because the aquifer  
11 exemption is actually much larger than the area of the  
12 AOR.

13 Q. I know, but the point of compliance wells, the  
14 proposed ones, are just inside that boundary.

15 A. The APP.

16 Q. No, not on the -- I mean, the APP ones are  
17 just inside the boundary of the aquifer exemption  
18 area.

19 A. Yeah. The aquifer exception area was actually  
20 established for the BHP permit, and it is much larger  
21 than that, and it still is much larger than the area  
22 that -- that we would deal with under this APP permit.  
23 So the POC wells that we propose for the APP and were  
24 incorporated into the UIC permit are right on the  
25 boundary of the AOR and the -- the PMA, because those



1 two boundaries are the same in -- in the two permits.  
2 Two different -- two different boundaries for two  
3 different permit programs, but we established it as  
4 the same.

5 Q. Well, I wouldn't say they're right on the  
6 edge. They're a couple hundred feet away, aren't  
7 they?

8 A. Well, there's two of them that are right on  
9 the edge. There -- one is -- is in the -- I think  
10 it's in the LBFU, and then the other one is down in  
11 the oxide. And then there's another well set that we  
12 were allowed to establish based on the statutory  
13 requirements. The other ones are a little bit further  
14 away.

15 MR. BRINKER: Okay. Thank you.

16 THE WITNESS: Okay.

17 MR. WAKEFIELD: I have nothing further.

18 Mr. Glass? Go ahead.

19 MR. DECKER: Lee Decker. I'll ask a couple of  
20 follow-ups.

21 (Next page, please.)

22 //

23 REDIRECT EXAMINATION

24 BY MR. DECKER:

25 Q. Mr. Lagas, one of the -- one of the things

1 that you were asked and you heard from the  
2 Appellants -- and I think this may be something  
3 that's -- that has been going on in this matter -- is  
4 there's the concept of where pollutants are and will  
5 be placed, and I think that relates to the -- to the  
6 one or two well spacings, it relates to the work that  
7 was done under the UIC permit, and then you have the  
8 cone of depression.

9           So can you speak to -- under -- under the  
10 statute when you're defining pollutant management  
11 area, how do you account for both those concepts?

12           A. Well, as it was laid out in a lot of detail in  
13 the affidavits, both mine and Maribeth, there's three  
14 parts of that statute: One is the area where  
15 pollutants will be placed. One is it also includes  
16 the barrier, and you can also draw it to surround  
17 multiple discharging facilities.

18           Q. Okay.

19           A. So it's -- all three have to be taken  
20 together.

21           Q. All right. Thank you.

22           And then if you could turn to your affidavit.  
23 So this -- this would have been -- let me look back at  
24 the numbering. So this is Exhibit 8.

25           And if you can look at the -- at the back, you

1 have a map, Exhibit 2, and on here you were asked some  
2 questions about the location of the POCs and how they  
3 relate to the -- to the new PMA around the PTF well  
4 field.

5           Could you point out using that exhibit where  
6 the -- where the wells are located in relation to the  
7 PMA.

8           A. Sure. There are -- there are two wells shown  
9 on this. M54-LBF and M54-O, which are right on the  
10 boundary of the PMA. Those are POC wells.

11           There are four other POC wells that are  
12 located a little bit to the left of that. A little  
13 bit off of the PMA, and those are the ones we  
14 justified based on the cost analysis. Those are  
15 existing POC wells that will be -- that are for the  
16 larger permit that will be used for this permit.

17           Then the last POC well is M52-UBF, which is  
18 over on the downgradient edge of the ponds.

19           MS. PASHKOWSKI: Excuse me: I just ask for  
20 clarification? Where was that map?

21           THE WITNESS: It's Exhibit 2 at the very end  
22 of my initial affidavit.

23           MS. PASHKOWSKI: Your original affidavit?

24           THE WITNESS: Yes. It looks like this  
25 (indicating). It's just -- it's just a well map. It

1 shows the well field, the supplemental monitoring  
2 wells.

3 MR. YURK: My copy of the affidavit did not --  
4 that we got by email did not have that attached.

5 MS. PASHKOWSKI: Mine either.

6 MR. GLASS: We sent them a hard copy with a  
7 disk with that because of the size of the files. We  
8 did the same to the Board.

9 MR. YURK: Okay.

10 THE WITNESS: Yeah. It's just a map that  
11 shows the POCs and it shows the PMAs. It's been in  
12 lots of different -- it's nothing new.

13 MR. YURK: Nothing --

14 THE WITNESS: Nothing new in there.

15 BY MR. DECKER:

16 Q. And just a final question. And if you flip  
17 back --

18 MR. DECKER: And Counsel, you may not have  
19 this either then.

20 Q. Exhibit 1 of your original affidavit which is  
21 entitled Maps of the Locations of the Previous,  
22 Site-Wide and Current Pollutant Areas. So this is  
23 exhibit -- Exhibit 1.

24 If you look at the upper map, it's showing the  
25 PMA for what we'll call the existing area-wide, and

1 then it shows the PMAs that are being proposed for  
2 this pilot test.

3 So can you -- can you talk about the fact  
4 that -- well, let me just ask you this: The PMA for  
5 the -- for the PTF well field, is it within an  
6 existing PMA?

7 A. It's within the -- the PMA for the area-wide  
8 permit, and it's significantly different from the PMA  
9 we proposed in the original temporary APP. And that's  
10 what that -- that map is just trying to show the  
11 differences.

12 MR. DECKER: Okay. Thank you.

13 MR. WAKEFIELD: Thank you.

14 Mr. Lagas, thank you for your testimony. And  
15 let me state for the record I'll admit Exhibits 8 and  
16 9.

17 Okay. That concludes the evidentiary portion  
18 of our hearing. We have received the parties' closing  
19 briefs that they have filed in this matter, so I think  
20 that substitutes for any further closing arguments  
21 that we would need.

22 Let me ask the Board: Do you have any  
23 discussion or is there a motion?

24 MR. BRINKER: What do you think, Gail?

25 MS. CLEMENT: I think there's a tremendous

1 amount of monitoring that has been added to the  
2 amended permit that was not in the original permit. I  
3 think that the permit is for a pilot test, which is --  
4 the purpose is for gathering data. You have  
5 uncertainties when you -- which is the nature of  
6 running a pilot test. I understand clearly the  
7 utility of trying to coordinate two very complicated  
8 regulatory programs in a very complicated site.

9 I'm uncomfortable with a couple of things.  
10 One is, you know, the furthest downgradient set of POC  
11 wells over the operational and monitoring period,  
12 post-monitoring period -- not post-closure, but  
13 closure period -- are pretty far away to do any  
14 realistic monitoring, but I think because of the  
15 superposition of all of the detailed monitoring that's  
16 being done in all the variety of ways, there is to me,  
17 it looks like, sufficient monitoring at the site.

18 MR. BRINKER: Yeah, because there's wells  
19 upgradient of the POC wells that are going to give you  
20 the same data --

21 MS. CLEMENT: Right.

22 MR. BRINKER: -- but give it to you sooner.

23 MS. CLEMENT: Right.

24 MR. BRINKER: And I think, based on the  
25 testimony that I now understand where the 500 foot

1 thing came from and how they worked that out with the  
2 EPA, and I agree with you that two complex permits  
3 like this, the more you can make them the same, the  
4 better chances you have of both permits being done  
5 properly, and also makes the stakeholder's life a lot  
6 easier too.

7 I agree, there's a ton of monitoring on this  
8 thing, so I think the issues have been appropriately  
9 discussed, and I move that the permit be approved, or  
10 whatever the proper terminology is.

11 MR. WAKEFIELD: It would be a dismissal of the  
12 notice of appeal.

13 MR. BRINKER: Dismiss the appeal.

14 MS. CLEMENT: I second that motion.

15 MR. WAKEFIELD: Okay. Any further discussion?

16 MR. BRINKER: No.

17 MS. CLEMENT: I just appreciate everybody's  
18 efforts. I think this has been like a very  
19 complicated and very difficult process for all of you,  
20 and, you know, it was a great effort, and I think the  
21 environment and the public health will be protected.

22 MR. WAKEFIELD: All right. All in favor of  
23 the motion to dismiss the notice of appeal say aye.

24 MR. HRNICEK: I'm sorry. I believe the  
25 correct terminology is to deny the appeal?

1           MR. WAKEFIELD: Deny the appeal. Okay. To  
2 deny the appeal.

3           All in favor of the motion to deny the appeal?

4           MS. CLEMENT: Aye.

5           MR. BRINKER: Aye.

6           MR. WAKEFIELD: There are no nays, and the  
7 motion carries.

8           And I will echo Ms. Clement's comments. Thank  
9 you all for a good presentation today. I think this  
10 was helpful and relatively efficient. As efficient as  
11 we could be with the complexity of what we have.

12           MR. GLASS: I need to point out a rule, as I  
13 have done before. I'm sorry. And if I can find it --

14           MR. ZEISE: And it's R2-17-125.

15           MR. GLASS: -- and it's R2-17-125(B), and it  
16 said -- it says: If the Board directly conducts an  
17 administrative hearing, the Board shall meet and  
18 render its final administrative decision on the appeal  
19 in writing within 15 days after the hearing. The  
20 Board's decision shall contain its findings of fact  
21 and conclusions of law separately stated and its  
22 decision.

23           MR. WAKEFIELD: Do you have a proposal as to  
24 how we would satisfy that requirement? Would the  
25 parties like to come forward with a proposed order for



1 us to adopt?

2 MR. GLASS: Well, I think that you're -- we  
3 have thought through it. I think your Board  
4 procedural order outlines the background very well,  
5 and I think it could be turned into the findings of  
6 fact and conclusions of law. That is, you laid out  
7 the history, and then you laid out the issues that you  
8 wanted to have testimony on. We've submitted the  
9 testimony. And for the reasons set forth in that  
10 testimony, I think that dismissing the appeal is  
11 appropriate. And so I think you can turn your Board  
12 order into what's required by the rules without  
13 anything additional from the parties.

14 MR. YURK: I'll defer to your counsel, but I  
15 don't think that would be sufficient record for the  
16 basis of your decision for an appeal to a Superior  
17 Court.

18 MR. GLASS: Well --

19 MR. YURK: Because I think the actual reasons  
20 why you found in -- in a certain way -- in other  
21 words, justifying why there was a 500-foot PMA and  
22 that complied with 49-244, et cetera, is going to be  
23 what's required for us to challenge it on appeal.

24 MR. HRNICEK: And does everyone agree that the  
25 appeal to the Superior Court is de novo?

1 MR. YURK: Yes.

2 MR. HRNICEK: And so although there's  
3 certainly been a record established here today, any  
4 findings of fact or conclusions of law that the Board  
5 would render are ultimately going to be easily  
6 dismissed by the Superior Court.

7 Do you agree with that?

8 MR. YURK: Definitely with the conclusions. I  
9 think findings of fact, there might be less so. But I  
10 think there is still going to be -- I still think the  
11 court is going to want a basis for the decision that  
12 was made.

13 MR. HRNICEK: My proposal is just to simply  
14 dovetail off of what counsel just suggested and  
15 recognize that in the Board procedural order, the  
16 Board has already, in large part, adopted -- this is  
17 under Subsection D: Incorporated by reference  
18 findings, conclusions, or a decision previously made  
19 by an administrative law judge. That's here. A lot  
20 of what you have is an adoption of what the ALJ  
21 already rendered, and it wouldn't be that much work to  
22 go ahead. And counsel is correct, there is a  
23 provision that there shall be a finding of fact and  
24 conclusion of law that is contained in the Board's  
25 decision.

1           So although the motion carried today, I think  
2 it is appropriate for you to move forward with a  
3 proposed -- with a finding of fact and conclusion of  
4 law, even if it is truncated and effectively an  
5 adoption of what is -- in the procedural order and  
6 what was adopted here from the ALJ.

7           MR. GLASS: As far as the findings of fact.

8           MR. WAKEFIELD: Okay. And so do you think  
9 that a draft of such an order with those findings of  
10 fact and conclusions of law needs to come before the  
11 entirety of this Board or is this something that I, as  
12 the chairman, can sign an order that incorporates such  
13 findings of fact?

14          MR. HRNICEK: You know, it doesn't specify  
15 that the parties shall submit anything, and it depends  
16 on how -- how far out on a limb you want to go.

17          MR. WAKEFIELD: Let me ask: If there were an  
18 appeal, DEQ and Florence Copper will be the ones  
19 defending in the Superior Court. What would you  
20 recommend to put you in a position to defend our  
21 action in this regard?

22          MR. GLASS: I need a point of clarification,  
23 first of all.

24          MR. WAKEFIELD: Sure.

25          MR. GLASS: The previous findings and

1 conclusions by the ALJ I don't think are binding here.  
2 I don't think that's what -- I don't know if that's  
3 what the reference was to.

4 MR. HRNICEK: I'm not saying they're  
5 binding.

6 MR. YURK: Oh, I actually would disagree with  
7 that, because this was a remanded permit, and so the  
8 purpose was to determine if the remanded permit  
9 complied with the direction on remand. I would  
10 strongly take the position that the prior Board order  
11 and ALJ decision is highly relevant.

12 MR. HRNICEK: Is -- is what?

13 MR. YURK: Is highly relevant, because it was  
14 a remanded permit. If the permit had been rescinded,  
15 then I agree we would be starting from scratch, but  
16 since this Board rejected the recommendation of the  
17 ALJ previously and remanded rather than rescinded, I  
18 think the remand, by definition, almost makes the  
19 prior ruling relevant.

20 MR. GLASS: Well, I disagree, respectfully. I  
21 think that this was remanded on four or five issues,  
22 depending if you count the vertical/horizontal  
23 monitoring as one, the BHP reports, the closure plan,  
24 and then the monitoring. All of those issues have  
25 been now addressed by the Board, is my understanding.

1           And, again, I think the Board procedural order  
2 outlines that pretty clearly, and that could be turned  
3 into the findings of fact and conclusions of law.

4           If the Board would like, we're glad to work  
5 and coordinate with DEQ and submit proposed findings  
6 and conclusions, which then, I assume that the  
7 Appellants would have to have a chance to object to or  
8 comment on, but we would be glad to do that, if that  
9 would assist the Board in the procedure.

10           The way I envision it is we could submit it  
11 within two weeks -- five days to two weeks, five to  
12 ten days. Appellants could have another five days,  
13 and then at the next hearing of -- your regular  
14 hearing, you could then consider and adopt.

15           MR. WAKEFIELD: Mr. Cantrell?

16           MR. CANTRELL: Just so I -- it's clear in my  
17 mind, because I was a little confused with the back  
18 and forth, my understanding is really the only issues  
19 before the Board were those issues that were specified  
20 that Mr. Glass identified. The four different or five  
21 different areas that we kind of outlined in our issue  
22 matrix originally. Everything else, all the other  
23 issues that were attendant to the previous version of  
24 the original application for temporary permit have  
25 settled. Any time to appeal those issues has long

1 since run, so the scope of the decision before the  
2 Board at this point in time really are just the very  
3 few issues that the Board addressed and those four or  
4 five issues that we identified. So I don't see any  
5 other issues being before the Board.

6 MR. WAKEFIELD: My -- I tend to like  
7 Mr. Glass' proposal, but I'd be willing to hear if  
8 anyone has any disagreement on allowing  
9 Florence Copper and DEQ to file a proposed findings of  
10 fact and conclusions of law and permitting Appellants  
11 to comment on that, and then at our next monthly  
12 meeting we would consider and adopt a final order.

13 MR. HRNICEK: Well, the unfortunate piece of  
14 that proposal is that the rule actually provides for a  
15 meeting attendant to rendering the final  
16 administrative decision within 15 days, so that the  
17 proposed findings would need to be submitted quickly,  
18 if there are going to be submissions, and there would  
19 need to be a decision by the Board within 15 days,  
20 which would require another meeting.

21 MR. BRINKER: Okay. So we have another  
22 meeting.

23 MR. GLASS: We're glad to waive that deadline  
24 if it's an assistance to the Board so that there's not  
25 a need for another meeting in addition to the next

1 meeting.

2 MR. CANTRELL: We would waive as well.

3 MR. ZEISE: Or as an alternative is to leave  
4 this hearing open, pending receipt of the findings of  
5 fact and conclusions of law, to pick up that 15-day  
6 period and, in fact, you'd end up 15 days after that  
7 to make a decision. Certainly, there are many avenues  
8 to look at to resolve the issue.

9 MR. WAKEFIELD: Mr. Yurk, do you have any  
10 objection to us reaching that final entry of an order  
11 at our next monthly meeting?

12 MR. YURK: No.

13 MS. CLEMENT: I have a question.

14 MR. WAKEFIELD: Sure.

15 MS. CLEMENT: I appreciate the offer, and I  
16 think it's going to maybe help us administratively  
17 because, as you know, we're not set up to do this in a  
18 very efficient fashion, but I am a little  
19 uncomfortable having a certain set of parties dictate  
20 to us what the specific language would be.

21 MR. BRINKER: They're proposing.

22 MS. CLEMENT: Proposing, I guess.

23 And so let me understand the process. They  
24 would work together or separately -- together, I hope,  
25 so it's one set of things -- and then the Appellant

1 would have an opportunity to comment on what they  
2 proposed.

3 Is that correct?

4 MR. WAKEFIELD: Or file an alternative  
5 proposal, if that's what they felt was appropriate.

6 MR. YURK: I mean, I think Mr. Glass' proposal  
7 makes some sense in the sense that I do think that,  
8 you know, since you've already reached a decision,  
9 then the successful party does usually draft a  
10 proposed findings of fact, conclusions of law. There  
11 is typically an opportunity for the unsuccessful party  
12 to object. Obviously, not to the point that they  
13 object to everything that's in there because they  
14 disagree with everything that's in there, which will  
15 probably be the case with most of it. But I think  
16 more along the lines of if there's anything in there  
17 that goes against what was said, misstates it or adds  
18 information that wasn't in the hearing. So I think  
19 the objections would be limited in scope, just for  
20 purposes of creating an accurate record, and then I  
21 think the Board, given an opportunity to review that,  
22 can edit it as it deems necessary to accurately  
23 reflect the reason you made your decision.

24 MR. BRINKER: Right. But you -- we're only  
25 surmising why we decided what we decided.



1 MR. GLASS: Yeah. I mean, that's a fair  
2 point. I think it's a very fair point that we are  
3 proposing what your decision-making was.

4 The other alternative would be for you to get  
5 a copy of the transcript and then to do those findings  
6 and conclusions yourself at the next --

7 MR. BRINKER: Don't like that idea.

8 MR. GLASS: -- hearing.

9 That's why I'm trying to offer to help  
10 expedite. But I understand why you're uncomfortable,  
11 because we are trying to anticipate why --

12 MR. BRINKER: Just so the non-lawyer can say  
13 what I think you're proposing.

14 So you guys will draft up findings of fact,  
15 conclusions of law. You guys will look at them and --  
16 to see whether they accurately reflect the record.

17 MR. YURK: Correct.

18 MR. BRINKER: Okay. And I agree, it's not  
19 fair for us to throw stuff in there that wasn't talked  
20 about or wasn't submitted. I understand that part;  
21 right?

22 But then it would be up to us to take those --  
23 that input and basically edit, redraft, whatever, to  
24 finalize.

25 MR. WAKEFIELD: If we felt there was any

1 further modifications necessary.

2 MR. CANTRELL: For what it's worth, I've seen  
3 in previous practice in other hearings where all  
4 parties submit the proposed findings of fact,  
5 conclusions of law to the adjudicatory body, and then  
6 they pick and choose what they think is appropriate.  
7 That's a way around the conundrum that was expressed  
8 earlier. That's up to the Board -- Board's  
9 discretion. That is an alternative as well.

10 MR. YURK: Well, that's something that's  
11 normal practice before a decision is rendered. It  
12 makes no sense for us to suggest to you the proposed  
13 findings of fact, conclusions of law grant the appeal.

14 MR. HRNICEK: Well, that's really my point is  
15 that this is really an academic point. Counsel are  
16 really just being generous and offering to propose the  
17 findings of fact and conclusions of law. You already  
18 know what the decision of the Board is. Here it is.  
19 It was a denial of the permit.

20 And so to spend an extensive amount of time by  
21 anyone manufacturing a recreated version of this  
22 hearing is academic, as I say. We have a court  
23 reporter who is taking down every silly word being  
24 said, including mine right now.

25 MR. WAKEFIELD: Objection to the

1 characterization of "silly."

2 MR. HRNICEK: If anyone has questions about  
3 what the record was in terms of factual testimony,  
4 they can grab a copy of the transcript. So to the  
5 extent you want to invite the parties to submit  
6 proposed findings of fact and conclusions of law,  
7 extend the invitation. That's my suggestion. If they  
8 decline that invitation, don't hold it against  
9 anyone.

10 MR. YURK: I will add one thing, though. I do  
11 think it is really important to have findings of fact  
12 and conclusions of law in this case, because, you  
13 know, I -- I -- I do respect what -- what the Board  
14 stated was their reason for finding that the PMA and  
15 the POC complied with Arizona law, but it focused on,  
16 you know, monitoring and supplemental wells and a lot  
17 of those things. But I think, you know, it will be  
18 helpful to have a reasoned decision as to how the  
19 permit complies with the statute.

20 For example, whether you found that there was  
21 an exception under the substantial cost provision of  
22 49-244. The basis -- the factual basis for that, and  
23 that it complied with the -- with the placement of POC  
24 wells under the statute. I just think those are all  
25 issues that, in an abbreviated discussion that

1 occurred in this room, weren't discussed and I think  
2 would be very helpful for a record on appeal.

3 MR. HRNICEK: And the challenging piece of  
4 this is that these folks can't talk to each other  
5 without having an official meeting, and so to come up  
6 with a joint proposed finding of fact -- or not even  
7 joint proposed -- just coming up with a finding of  
8 fact and conclusion of law is going to negate  
9 everything that was just previously agreed upon, which  
10 would be an extension or continuation of this hearing  
11 until the next regular monthly meeting. We'd have to  
12 have another meeting just to enable the members of the  
13 Board to be able to communicate about, I like this, I  
14 didn't like that, we're going to need to edit this,  
15 we're going to need to change this, because those are  
16 officially decisions of the Board.

17 MR. GLASS: I anticipate at the next hearing  
18 you're going to have to go into executive session as  
19 you're crafting these and putting the decision  
20 together.

21 MR. BRINKER: Can you even do that -- I don't  
22 think you can do that in executive session. Can you?  
23 Or could you?

24 MR. ZEISE: You could take advice --

25 Rick Zeise. You can take advice of counsel in

1 an executive session, however, any decision process  
2 that comes out of that must be made part of the public  
3 record.

4 MR. BRINKER: So it's kind of --

5 MR. WAKEFIELD: Let me indicate this then. I  
6 think this may be an acceptable way.

7 Mr. Glass has offered to work with you to come  
8 up with a joint proposed findings of fact and  
9 conclusions of law, and if you'd like to do that, I  
10 think that would be helpful to the Board.

11 I would -- would also suggest that if there's  
12 any chance you can talk to the Appellants and come up  
13 with something that you all agree is a fair  
14 characterization of the record before us and the basis  
15 for our decision, we'd welcome that, too.

16 But barring -- barring full agreement from all  
17 of you, the -- DEQ and Florence Copper make such a  
18 filing, and then we'll permit a response from the  
19 Appellants, and we will take the matter up at our next  
20 monthly Board meeting for adoption of our final  
21 written order, given that the parties have waived the  
22 15-day requirement that we issue that written order  
23 within 15 days of today.

24 MR. ZEISE: Rick Zeise from the Attorney  
25 General's office.

1           So in regards to your anticipated receipt of  
2 this information from us and the 15-day requirement,  
3 how is that going to play out in having you issue a  
4 decision?

5           MR. WAKEFIELD: What's our timing for a  
6 transcript?

7           THE COURT REPORTER: You will have it on  
8 Wednesday.

9           MR. WAKEFIELD: So if we have a transcript on  
10 Wednesday, a week from Friday for --

11          MR. GLASS: Yeah. The 17th will work.

12          MR. WAKEFIELD: -- the Appellants to -- or for  
13 Florence Copper and DEQ to file their proposals?

14          MR. CANTRELL: St. Patrick's Day, you've got  
15 to be kidding me.

16          MR. GLASS: Yes, that works with --

17          MR. CANTRELL: We can work with that too.

18          MR. WAKEFIELD: And then a further week for  
19 the Appellants to make their filing?

20          MR. YURK: Yes.

21          MR. WAKEFIELD: Okay. Then we will have the  
22 matter on our next monthly meeting.

23          MR. HRNICEK: Again, and it is common practice  
24 to itemize with numbers exact proposed findings of  
25 fact and conclusions of law so that the next meeting

1 might be expedited if we -- simply if there's  
2 discussion, We like No. 1, we don't like No. 2,  
3 we like -- if there's an opportunity for counsel to  
4 coordinate between, We're going to do A through Z,  
5 we're going to do 1 through 50, anything like that  
6 that could streamline the process would make the next  
7 meeting a lot easier.

8 MR. GLASS: And I can represent -- and -- and  
9 after we finalize and submit, counsel could meet and  
10 try to work out any differences and narrow any issues.  
11 Some we may not be able to work out, but I think that  
12 might be a good process, too, for us to try to work  
13 things out informally.

14 MR. WAKEFIELD: Great. One item, then, that  
15 we -- we held off on handling the minutes.

16 I think we probably have everything we need  
17 from the court reporter. We are concluded with Item  
18 No. 5.

19 (WHEREUPON, the proceedings concluded at  
20 3:42 p.m.)

21 \* \* \*

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25

1 BE IT KNOWN that the foregoing proceeding was  
 2 taken before me; that the witnesses before testifying  
 3 were duly sworn by me to testify to the whole truth;  
 4 that the questions propounded to the witnesses and the  
 5 answers of the witnesses thereto were taken down by me  
 6 in shorthand and thereafter reduced to typewriting  
 7 under my direction; that the foregoing is a true and  
 8 correct transcript of all proceedings had upon the  
 9 taking of said proceeding, all done to the best of my  
 10 skill and ability.

11 I CERTIFY that I am in no way related to any  
 12 of the parties hereto nor am I in any way interested  
 13 in the outcome thereof.

14 I CERTIFY that I have complied with the  
 15 ethical obligations in ACJA 7-206(F)(3) and  
 16 7-206(J)(1)(g)(1) and (2).

17 Jane M. Doyle 3/7/2017  
 18 Jane M. Doyle, RMR-CRR Date  
 19 AZ CR No. 50112

20 I CERTIFY that JD Reporting, Inc., has  
 21 complied with the ethical obligations in ACJA  
 22 7-206(J)(1)(g)(1) through (6).

23 Jane M. Doyle 3/7/2017  
 24 JD Reporting, Inc. Date  
 25 Registered Reporting Firm R1012