

BEFORE THE DEPARTMENT OF WATER RESOURCES
OF THE STATE OF IDAHO

IN THE MATTER OF APPLICATION)

FOR PERMIT NO. 63-32573 IN)

THE NAME OF M3 EAGLE LLC)

_____) VOLUME XV

(Pages 3403 through 3635)

BEFORE

HEARING OFFICER: GARY SPACKMAN

Date: July 22, 2009 - 9:00 a.m.

Location: Idaho Department of Water Resources

322 East Front Street

Boise, Idaho

REPORTED BY:

JEFF LaMAR, C.S.R. No. 640

Notary Public

<div>Page 3404</div> <div> 1 APPEARANCES: 2 3 For M3 Eagle LLC: 4 GIVENS PURSLEY LLP 5 BY MR. JEFFREY C. FEREDAY 6 MR. MICHAEL P. LAWRENCE 7 601 West Bannock Street 8 P.O. Box 2720 9 Boise, Idaho 83701-2720 10 For North Ada County Groundwater Users 11 Association: 12 BY MR. JOHN THORNTON 13 5264 North Sky High Lane 14 Eagle, Idaho 83616 15 For Eagle Pines Water Users Association and 16 Individually: 17 BY MR. ALAN SMITH 18 3135 Osprey Road 19 Eagle, Idaho 83616 20 Appearing Individually: 21 BY MR. NORMAN L. EDWARDS 22 884 West Beacon Light Road 23 Eagle, Idaho 83616 24 /// 25 /// </div> <div>Page 3405</div>	<div>Page 3406</div> <div> 1 INDEX 2 3 WITNESSES 4 REBUTTAL TESTIMONY OF ED SQUIRES PAGE 5 Continued Cross-Examination by Mr. Alan Smith 3408 6 Cross-Examination by Mr. Edwards 3418 7 TESTIMONY OF JACK VANWYK 8 Direct Narrative Testimony 3425 9 Cross-Examination by Mr. Thornton 3431 10 Cross-Examination by Mr. Alan Smith 3440 11 Cross-Examination by Mr. Fereday 3440 12 REBUTTAL TESTIMONY OF JAMES OSIENSKY 13 Direct Examination by Mr. Fereday 3444 14 Cross-Examination by Mr. Thornton 3523 15 Cross-Examination by Mr. Alan Smith 3555 16 REBUTTAL TESTIMONY OF SEAN VINCENT 17 Direct Narrative Testimony 3565 18 Cross-Examination by Mr. Fereday 3576 19 REBUTTAL TESTIMONY OF DENNIS OWSLEY 20 Direct Narrative Testimony 3580 21 Cross-Examination by Mr. Thornton 3594 22 Cross-Examination by Mr. Alan Smith 3595 23 Cross-Examination by Mr. Fereday 3597 24 SURREBUTTAL TESTIMONY OF MIKE McVAY 25 Direct Examination by Mr. Thornton 3611 </div> <div>Page 3407</div>
<div>Page 3405</div> <div> 1 APPEARANCES (Continued): 2 3 Also Present: 4 Jason Smith 5 Bill Lawton 6 Sean Vincent 7 Dennis Owsley 8 Mike McVay 9 Debbie Gibson 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 </div> <div>Page 3407</div>	<div>Page 3407</div> <div> 1 INDEX (Continued) 2 3 WITNESSES 4 SURREBUTTAL TESTIMONY OF MIKE McVAY PAGE 5 Cross-Examination by Mr. Fereday 3615 6 Cross-Examination by Mr. Alan Smith 3616 7 REBUTTAL TESTIMONY OF CARTER FROELICH 8 Direct Examination by Mr. Fereday 3619 9 Examination by the Hearing Officer 3633 10 11 EXHIBITS 12 NO. MARKED ADMITTED 13 A 3443 ***** 14 83 3629 3630 15 430 3415 3417 16 431 3420 3423 17 432 3421 3423 18 909 3581 3585 19 910 3582 3585 20 911 3583 3585 21 22 23 24 25 </div> <div>Page 3407</div>

<p style="text-align: right;">Page 3408</p> <p>1 THE HEARING OFFICER: We're recording 2 again. And this is a continuation of the -- or 3 resumption of the M3 Eagle hearing. The date is 4 July 22nd, and it's approximately 9:05 a.m. 5 And, Mr. Squires, we're in the middle 6 of cross-examination. 7 Mr. Alan Smith, I think you were 8 examining Mr. Squires. 9 MR. ALAN SMITH: Yes. 10 THE HEARING OFFICER: Okay. 11 12 ED SQUIRES, 13 having been previously called as a rebuttal 14 witness by M3 Eagle LLC and previously sworn, 15 testified as follows: 16 17 CONTINUED CROSS-EXAMINATION 18 BY MR. ALAN SMITH: 19 Q. Mr. Squires, I believe you said you 20 didn't inspect the Taylor well. 21 A. That's correct, sir. I've never been 22 to the Taylor well. 23 Q. So you don't really know if the 24 abandoned well log was correct in stating there 25 was still water in the bottom of the well?</p>	<p style="text-align: right;">Page 3410</p> <p>1 A. That could certainly be possible. 2 It's quite a coincidence if they're both 112. 3 Q. Let's go to tab 3. Exhibit 76, 4 tab 3 -- 5 A. Yes. 6 Q. -- on the Alan Smith questionnaire -- 7 do you have that? 8 A. Yes, I do, sir. 9 Q. Item No. 10 asks to "Describe any 10 change in water level or productivity in the last 11 few years," and I answered "None." 12 Item 11 says, "Do you have records of 13 water levels?" And I answered "No." 14 You were present at my deposition, 15 were you not, on November 14th when I stated that 16 no monitoring had been done because there had not 17 been any well problems so I didn't know about any 18 change in productivity or the water levels? Do 19 you recall that? 20 A. I honestly can't recall that 21 deposition that well. But I take you at your 22 word, and that's what it says here, so... 23 Q. And I believe in your rebuttal 24 testimony you pointed out that I did not agree to 25 allow HLI to inspect my well.</p>
<p style="text-align: right;">Page 3409</p> <p>1 A. I don't know that, no, sir. 2 Q. Were you present when Mr. Owsley 3 measured the Taylor well? 4 A. Since I have not been to the Taylor 5 well, I'd say no. 6 Q. If these well drillers don't know clay 7 from sand, is it possible that the Taylor well log 8 is wrong in stating that it was 116 feet deep when 9 Mr. Owsley measured down 125 and found no water? 10 A. Are you saying that the well might be 11 125 feet deep? 12 Q. That's what I'm asking you, if that's 13 possible? 14 A. I suppose anything's possible. We've 15 certainly, in our own experience, seen through our 16 research and our camera surveys that wells are 17 often not constructed as they are shown on 18 driller's reports. 19 Q. Okay. And we were through the Eagle 20 Pines well log yesterday. And both the abandoned 21 well and the new well showed a static level of 22 112 feet. It appears that maybe that well driller 23 used one of those figures for both wells, whether 24 he measured it or not. 25 Is that possible?</p>	<p style="text-align: right;">Page 3411</p> <p>1 Do you recall when Mr. Fereday asked 2 me why, I said that I -- 3 MR. FEREDAY: Objection. This -- 4 THE WITNESS: I don't recall. 5 MR. FEREDAY: Objection. Mr. Smith appears 6 to be testifying in a way that is essentially 7 arguing with the witness. I'm wondering whether 8 there's a question here. 9 THE HEARING OFFICER: Okay. Mr. Smith, 10 I've got an objection. But the objection, I 11 guess, is in the nature of what the question is. 12 I have some concern about the way the questions 13 are being presented. 14 MR. ALAN SMITH: I'll rephrase the 15 question. 16 THE HEARING OFFICER: Okay. 17 Q. (BY MR. ALAN SMITH): Do you recall 18 that I stated that I didn't have my well inspected 19 by HLI because I felt they just wanted to find 20 fault with the well? Do you recall that? 21 A. As I previously said, Mr. Smith, I 22 honestly don't recall your testimony in the 23 deposition without reading it, the transcript. 24 Q. And I believe you stated you didn't 25 inspect the Taylor well.</p>

<p style="text-align: right;">Page 3412</p> <p>1 Did you inspect the Banducci well or I 2 believe the other one Mr. Fereday mentioned was 3 the Cummins well? 4 A. I stated yesterday that I haven't been 5 to any of the wells -- domestic wells in question 6 in this case. 7 Q. Are you aware that the Banducci 8 questionnaire states that his prior well went dry? 9 A. I am aware of that, yes. 10 Q. Speaking of the M3 project area, would 11 you look at page 240. This is Exhibit 12, the 16 12 aquifer tests. 13 A. The page number again? 14 Q. 240. 15 A. Yes. 16 Q. Would you read that last sentence to 17 us, please. 18 A. The last sentence on 240? 19 Q. Correct. 20 A. "These high-capacity wells will cause 21 drawdowns that will affect other wells." 22 Q. All right. Would you go to the next 23 page, 241. 24 A. Yes. 25 Q. Would you read the last sentence in</p>	<p style="text-align: right;">Page 3414</p> <p>1 water -- groundwater production from the aquifer 2 results in water-level drawdowns in the aquifer. 3 That's just the laws of physics. 4 And when there are some wells that 5 perhaps would be flowing at the surface, for 6 example, they might have an artesian head of few 7 feet flowing above ground surface. If the water 8 level and water pressures in the aquifer would 9 cause that to lower by a few feet, well, that well 10 would no longer flow at the surface. 11 Q. Okay. 12 A. And I guess I would elaborate on 13 that -- excuse me for cutting in. But similarly 14 in the ground, it's really the same thing. If you 15 had a well that had only a few feet of water in 16 the bottom of it -- let's say you had a well that 17 was 114 feet deep and you had a water level of 18 105 feet, and you have the water level in that 19 well lowered by 5 feet, well, you would lose in 20 production and you may have to lower your pump. 21 Or it may -- or the water level could be drawn 22 down to where it would not be possible to pump 23 without deepening the well. That's what we're 24 saying here. 25 Q. I believe you stated that the</p>
<p style="text-align: right;">Page 3413</p> <p>1 that first paragraph, "Development of additional 2 municipal groundwater." 3 A. Sure. "Development of additional 4 municipal groundwater supplies and associated 5 water table drawdowns may require some existing 6 wells to be deepened and/or replaced." 7 Q. And would you read the next item, I 8 believe it's No. 20. 9 MR. FEREDAY: Mr. Hearing Officer, again, 10 we must object. Just having this witness read 11 from a document that's already in evidence is not 12 asking a question, and we have the same objections 13 as we had before. 14 THE HEARING OFFICER: Okay. Mr. Smith, I 15 assume there is a question coming out of this 16 recitation. 17 Q. (BY MR. ALAN SMITH): Well, let me ask 18 it this way, Mr. Squires. 19 Does that statement in that 20 paragraph 20 not say that the artesian wells will 21 stop flowing and pumps may have to be installed? 22 A. I don't think it says that the 23 artesian wells will stop flowing. What our -- 24 what we're making -- the points that we're making 25 in these conclusions and statements are that</p>	<p style="text-align: right;">Page 3415</p> <p>1 protestants could deepen their wells yesterday in 2 your rebuttal testimony. 3 Of course, that places an economic 4 burden on those homeowners, does it not? 5 A. It certainly costs money to deepen or 6 replace wells. 7 Q. And you realize most of those 8 homeowners don't have a large investment fund 9 backing them like M3 does? 10 MR. FEREDAY: Objection. Foundation and 11 asks for speculation. 12 MR. ALAN SMITH: I'll withdraw the 13 question. 14 We'd like this marked as I believe our 15 next exhibit, 430. 16 (Exhibit 430 marked.) 17 MR. ALAN SMITH: 430 is the correct number? 18 THE HEARING OFFICER: Okay. We have the 19 document. It's marked, Mr. Smith. 20 Q. (BY MR. ALAN SMITH): Do you have 21 that? 22 A. I do. 23 Q. Would you notice there that that's a 24 memo from Lane Pump dated July 21st, 2009, 25 yesterday.</p>

<p style="text-align: right;">Page 3416</p> <p>1 A. I do.</p> <p>2 Q. And would you look at the static</p> <p>3 levels that were measured June 17th of 2005 and</p> <p>4 July 25th of 2006.</p> <p>5 A. Yes.</p> <p>6 Q. Doesn't that show a 4-foot drop?</p> <p>7 A. Between June and July, between the</p> <p>8 June 17th measurement --</p> <p>9 Q. June of '05 and July of '06.</p> <p>10 A. Yes.</p> <p>11 Q. And of course, that measurement is</p> <p>12 taken during the irrigation season. We realize</p> <p>13 that.</p> <p>14 But it does show a drop of 4 feet in</p> <p>15 that one year?</p> <p>16 A. It shows that the water levels at the</p> <p>17 time of measurement were 4 feet different between</p> <p>18 June 17th and July 25th.</p> <p>19 MR. ALAN SMITH: We would offer</p> <p>20 Exhibit 430.</p> <p>21 THE HEARING OFFICER: Mr. Fereday?</p> <p>22 MR. FEREDAY: Well, we would object to the</p> <p>23 admission of this. We don't have any foundation</p> <p>24 for it other than -- it's not addressed to anyone,</p> <p>25 nor is there anyone here to testify about it. We</p>	<p style="text-align: right;">Page 3418</p> <p>1 THE HEARING OFFICER: Okay. Mr. Edwards?</p> <p>2 MR. EDWARDS: Yes, I have a question for</p> <p>3 Mr. Squires.</p> <p>4</p> <p>5 CROSS-EXAMINATION</p> <p>6 BY MR. EDWARDS:</p> <p>7 Q. Yesterday in your testimony you</p> <p>8 covered -- let's see -- No. 76. And it was tab</p> <p>9 No. 4?</p> <p>10 A. Yes.</p> <p>11 Q. And which happens to be my</p> <p>12 questionnaire that I sent in to you for my well</p> <p>13 information. And a couple items on there that I</p> <p>14 wanted to express to you and see what your</p> <p>15 feelings were on it.</p> <p>16 On No. 5, I show that my well was</p> <p>17 drilled in 1972, April?</p> <p>18 A. Yes.</p> <p>19 Q. And then we go down to No. 6, the well</p> <p>20 was 145 feet deep, and the depth to the water was</p> <p>21 68.25. And I put a date behind that of</p> <p>22 September 11th, '08. And the reason I did that</p> <p>23 was I knew that you had --</p> <p>24 MR. FEREDAY: Mr. Hearing Officer, we're</p> <p>25 going to have to object, at least by -- we don't</p>
<p style="text-align: right;">Page 3417</p> <p>1 also note that these dates are far different --</p> <p>2 they're in the middle of the irrigation season</p> <p>3 when water levels are typically low. So we</p> <p>4 question whether it is probative of the point that</p> <p>5 it evidently is intended to prove.</p> <p>6 MR. ALAN SMITH: It goes to the weight</p> <p>7 rather than the admissibility. We recognize that</p> <p>8 it was taken in the summer during the irrigation</p> <p>9 season. It still shows a drop of 4 feet in the</p> <p>10 static level in one year.</p> <p>11 THE HEARING OFFICER: Okay. Well, I'll</p> <p>12 receive it into evidence, Mr. Smith, but I will</p> <p>13 tell you that the document, at least in its</p> <p>14 present form, has little value to me without some</p> <p>15 additional information about what these</p> <p>16 measurements are and what importance they have.</p> <p>17 I'm not sure 4 feet of fluctuation during the</p> <p>18 irrigation season one way or another makes any</p> <p>19 difference or is really an indicator of what</p> <p>20 direction water levels are headed.</p> <p>21 (Exhibit 430 admitted.)</p> <p>22 MR. ALAN SMITH: Very well. The Hearing</p> <p>23 Examiner can give it whatever weight he thinks</p> <p>24 it's entitled to. That's fine.</p> <p>25 I have no further questions.</p>	<p style="text-align: right;">Page 3419</p> <p>1 mean to cut off this lay party from inquiring.</p> <p>2 However, we do request that the questions be put</p> <p>3 to Mr. Squires, and that the party not simply</p> <p>4 testify as to -- and add facts that are assumed</p> <p>5 facts or asserted facts into the record without</p> <p>6 foundation.</p> <p>7 THE HEARING OFFICER: Okay. And really,</p> <p>8 Mr. Edwards, this goes back to the original</p> <p>9 discussion we had about cross-examination, that</p> <p>10 your responsibility as a party, if you're</p> <p>11 examining someone, is to ask questions and not</p> <p>12 give testimony or statements of your own</p> <p>13 knowledge. And so -- and I said I would be</p> <p>14 assertive in limiting that kind of presentation of</p> <p>15 information.</p> <p>16 So rather than talking or telling</p> <p>17 Mr. Squires the reason that you did something, if</p> <p>18 you'll just ask him questions about what's here,</p> <p>19 and then see what his responses are.</p> <p>20 Then if you want to talk about this</p> <p>21 questionnaire itself, you'll have a chance to do</p> <p>22 that on surrebuttal, because this was brought in</p> <p>23 through the rebuttal testimony of the applicant.</p> <p>24 MR. EDWARDS: Okay. Can I present a couple</p> <p>25 of items here, then?</p>

<p style="text-align: right;">Page 3420</p> <p>1 THE HEARING OFFICER: Sure. Yeah.</p> <p>2 MR. EDWARDS: And this would be No. 432.</p> <p>3 THE HEARING OFFICER: Do you want this</p> <p>4 marked, Mr. Edwards?</p> <p>5 MR. ALAN SMITH: Marked as an exhibit, yes.</p> <p>6 There's two, 431 and 432.</p> <p>7 Or are you doing them together?</p> <p>8 MR. EDWARDS: Okay. See if I can ask you a</p> <p>9 question, then.</p> <p>10 Q. What was the depth to the water on the</p> <p>11 well on sentence No. 6?</p> <p>12 A. 68.25 feet below some data.</p> <p>13 Q. Okay. And when was that shown it was</p> <p>14 taken?</p> <p>15 A. It's noted as September 11th, 2008.</p> <p>16 Q. Okay. Would you look on Exhibit 431</p> <p>17 that I handed you.</p> <p>18 THE HEARING OFFICER: We have not yet</p> <p>19 marked this, Mr. Edwards.</p> <p>20 Do you want this marked as</p> <p>21 Exhibit 431?</p> <p>22 MR. EDWARDS: Yes.</p> <p>23 MR. ALAN SMITH: Yes, the letter of</p> <p>24 September 17th.</p> <p>25 (Exhibit 431 marked.)</p>	<p style="text-align: right;">Page 3422</p> <p>1 stated that it's probably lower because it's</p> <p>2 during the irrigation time?</p> <p>3 A. I said it could be.</p> <p>4 Q. Right. Okay. This shows that it was</p> <p>5 not in the irrigation time in December, the same</p> <p>6 that it was in September, within 5/100ths of an</p> <p>7 inch?</p> <p>8 A. From those two measurements you could</p> <p>9 infer that. But I don't see -- I wasn't there</p> <p>10 when I measured the well. I don't know if the</p> <p>11 water level in your well might have been</p> <p>12 recovering during the early measurement, perhaps</p> <p>13 it had been used that day. There's no time of</p> <p>14 day. I would agree that the water levels are</p> <p>15 fairly close together.</p> <p>16 Q. And I was there when it was measured</p> <p>17 both times, and there was no pumping --</p> <p>18 MR. FEREDAY: Objection.</p> <p>19 THE HEARING OFFICER: Okay. Again,</p> <p>20 Mr. Edwards, you're now testifying and giving your</p> <p>21 opinion of the facts. You need to ask Mr. Squires</p> <p>22 questions of what he knows, and you'll have a</p> <p>23 chance to testify about your own knowledge of it.</p> <p>24 Q. (BY MR. EDWARDS): Are you aware that</p> <p>25 I was there when those measurements were taken?</p>
<p style="text-align: right;">Page 3421</p> <p>1 Q. (BY MR. EDWARDS): That is the letter</p> <p>2 from Dennis Owsley?</p> <p>3 A. Yes.</p> <p>4 Q. Does that verify that the 68.25 was</p> <p>5 the depth to my water?</p> <p>6 A. Yes.</p> <p>7 MR. ALAN SMITH: Mr. Hearing officer, we'd</p> <p>8 mark this as Eagle Pines Exhibit 431, rather than</p> <p>9 a Norman Edwards exhibit, if that's okay. If not,</p> <p>10 we can remark it.</p> <p>11 THE HEARING OFFICER: Yeah, that's fine.</p> <p>12 So this document will be marked as 432.</p> <p>13 (Exhibit 432 marked.)</p> <p>14 Q. (BY MR. EDWARDS): Okay. Mr. Squires,</p> <p>15 look at Exhibit 432, which is dated December 31st,</p> <p>16 2008.</p> <p>17 A. Yes.</p> <p>18 Q. And it also is a measurement and</p> <p>19 letter from Dennis Owsley that measured the same</p> <p>20 well.</p> <p>21 And what was -- it shows the depth on</p> <p>22 that one?</p> <p>23 A. 68.02.</p> <p>24 Q. Okay. Would we say, then, that 68.25</p> <p>25 that was taken in September, as yesterday you</p>	<p style="text-align: right;">Page 3423</p> <p>1 A. I wasn't aware of that.</p> <p>2 Q. All right. And as a statement, I was</p> <p>3 there.</p> <p>4 THE HEARING OFFICER: Okay. Again, see, if</p> <p>5 you want to put facts into the record,</p> <p>6 Mr. Edwards, you can do that on direct testimony.</p> <p>7 But you don't need to tell Mr. Squires that. You</p> <p>8 just ask him questions about his knowledge of the</p> <p>9 facts.</p> <p>10 MR. ALAN SMITH: Norm.</p> <p>11 MR. EDWARDS: Okay.</p> <p>12 THE HEARING OFFICER: Thanks.</p> <p>13 MR. EDWARDS: Well, I have no further</p> <p>14 questions.</p> <p>15 THE HEARING OFFICER: Okay. The two</p> <p>16 documents that you asked to be marked, do you wish</p> <p>17 to offer those as evidence, Mr. Edwards?</p> <p>18 MR. EDWARDS: Yes.</p> <p>19 THE HEARING OFFICER: Okay. Mr. Fereday?</p> <p>20 MR. FEREDAY: No objection.</p> <p>21 THE HEARING OFFICER: Okay. They're</p> <p>22 received into evidence.</p> <p>23 (Exhibits 431 and 432 admitted.)</p> <p>24 THE HEARING OFFICER: Mr. Fereday,</p> <p>25 redirect?</p>

<p style="text-align: right;">Page 3424</p> <p>1 MR. FEREDAY: No questions.</p> <p>2 THE HEARING OFFICER: Okay. Thank you,</p> <p>3 Mr. Squires.</p> <p>4 THE WITNESS: You're welcome.</p> <p>5 THE HEARING OFFICER: Finished early.</p> <p>6 MR. FEREDAY: We call Dr. James Osiensky.</p> <p>7 THE HEARING OFFICER: Yes, Mr. Thornton.</p> <p>8 MR. ALAN SMITH: Were we going to have a</p> <p>9 chance for the public witness in between?</p> <p>10 THE HEARING OFFICER: I'm sorry. I did</p> <p>11 mention that, and I'm sorry I overlooked it.</p> <p>12 So if you'll come forward, sir. And I</p> <p>13 don't know your name.</p> <p>14 MS. GIBSON: Gary, can we break the record?</p> <p>15 THE HEARING OFFICER: Just a minute. Let's</p> <p>16 go off the record.</p> <p>17 (Discussion.)</p> <p>18 THE HEARING OFFICER: Okay. We're</p> <p>19 recording again.</p> <p>20 Come forward, if you would. Raise</p> <p>21 your right hand.</p> <p>22</p> <p>23 JACK VANWYK,</p> <p>24 appearing as a public witness,</p> <p>25 was duly sworn and testified as follows:</p>	<p style="text-align: right;">Page 3426</p> <p>1 West Ballantyne Water Users Association. And</p> <p>2 behind that is a map showing the location of the</p> <p>3 well, township 5 north, range 1 east, section 31</p> <p>4 that was prepared by the Department of Water</p> <p>5 Resources when we put our -- validated our claim</p> <p>6 for our water right for this well.</p> <p>7 So whom else do I need to give these</p> <p>8 to?</p> <p>9 THE HEARING OFFICER: You need to give a</p> <p>10 copy to the applicant, so Mr. Fereday should</p> <p>11 receive a copy. And then the three protestants:</p> <p>12 Mr. Thornton, Mr. Smith, and Mr. Edwards.</p> <p>13 MR. THORNTON: Thank you.</p> <p>14 THE WITNESS: Briefly, this well -- we</p> <p>15 established a 1963 water right on this well based</p> <p>16 on a serial number of the turbine that had been</p> <p>17 put in. We had been unable to locate an original</p> <p>18 well log. We had used the well consistently over</p> <p>19 the years.</p> <p>20 And at the time we put our application</p> <p>21 in to establish our water right, Dan Nelson from</p> <p>22 the Department came out and estimated the flow out</p> <p>23 of the well at approximately 450 to 500 gallons</p> <p>24 per minute. That established our water right flow</p> <p>25 rate of .94 feet per second, which is in the water</p>
<p style="text-align: right;">Page 3425</p> <p>1 THE HEARING OFFICER: Thanks.</p> <p>2 Please be seated. And if you would,</p> <p>3 state your name for the record, spell it, and then</p> <p>4 also give us your address.</p> <p>5 THE WITNESS: My name is Jack VanWyk,</p> <p>6 capital V-, as in victory, a-n-, capital W-y-k.</p> <p>7 My address is 2184 West Valli Hi Road, Eagle,</p> <p>8 Idaho. Valli Hi is spelled V-a-l-l-i, capital</p> <p>9 H-i. 83616 is the ZIP.</p> <p>10 THE HEARING OFFICER: Okay. And you may</p> <p>11 narrate your testimony. Tell us why you're here.</p> <p>12</p> <p>13 DIRECT NARRATIVE TESTIMONY</p> <p>14 THE WITNESS: I am a member of the West</p> <p>15 Ballantyne Water Users Association, and we have an</p> <p>16 irrigation well that is located on the west side</p> <p>17 of Ballantyne Road approximately, give or take, a</p> <p>18 quarter mile south of Homer. So that would be</p> <p>19 township 5 -- well, I have maps here that might be</p> <p>20 of a little bit of assistance they made copies of</p> <p>21 if -- I assume they'd want to put them into</p> <p>22 evidence. I don't know who to give what, so...</p> <p>23 The papers consist of a predrilling</p> <p>24 well log that's just being completed as we speak.</p> <p>25 There is a map showing the property owners in the</p>	<p style="text-align: right;">Page 3427</p> <p>1 right.</p> <p>2 Earlier this year when it was turned</p> <p>3 on, the well was turned on for the first time for</p> <p>4 use, apparently -- I was not there so I cannot say</p> <p>5 specifically, but apparently it vibrated</p> <p>6 substantially enough to drop the oil drain plug</p> <p>7 out of the aboveground motor, which, of course,</p> <p>8 once the bearings went dry, froze and destroyed</p> <p>9 everything.</p> <p>10 We had the pump and motor pulled. And</p> <p>11 when they pulled it, they had to literally pull it</p> <p>12 out of sand out of the bottom of the well. The</p> <p>13 pump was set, I believe, at approximately 120 to</p> <p>14 130 feet.</p> <p>15 After removing the well -- the pump</p> <p>16 and motor, the company test-pumped the well, first</p> <p>17 checked the depth. At that point it was 143 feet.</p> <p>18 Test-pumped the well, and could only get</p> <p>19 118 gallons at 102 feet of drop.</p> <p>20 Obviously, because of that we needed</p> <p>21 to redrill the well. And this is the well</p> <p>22 driller's report, which this is being completed</p> <p>23 literally as we speak. They were test-pumping</p> <p>24 yesterday and will have the hard numbers on some</p> <p>25 of the stuff probably sometime today.</p>

<p style="text-align: right;">Page 3428</p> <p>1 The new well driller -- basically, 2 what we did, we had a 10-inch and just drilled 3 down an extra 110 feet to approximately 255 feet 4 with 8-inch casing, so we just went through the 5 existing well. 6 He estimates the static water level to 7 be 110 feet, which, I believe, is probably 8 substantially lower than what it was in the past, 9 but I have nothing to substantiate or document 10 that. 11 The cost to do this to us is in the -- 12 we do not have a final bill, but the estimate is 13 approximately \$11,500, and that's strictly for 14 deepening the well. We still have now an 15 additional expense of replacing both the pump and 16 motor. We have various costs on that. It kind of 17 depends on what we'll be doing with that. 18 One of the other members of the 19 Ballantyne Water Users Association is Lonnie 20 Morris. He happens to be my next-door neighbor. 21 His address is on Ballantyne, but he's directly 22 north of me off Valli Hi. And I have a letter 23 that he asked me to present. 24 MR. FEREDAY: Objection. If this -- I 25 think this witness can testify what he knows. But</p>	<p style="text-align: right;">Page 3430</p> <p>1 THE HEARING OFFICER: No, I think we won't 2 do that. I think we'll just accept it as a 3 comment letter, and I'll look at it along with 4 others that we've received. 5 THE WITNESS: Okay. I drilled my own well 6 on my property in 2006. And the static water 7 level -- I wish I had gotten a report, but I did 8 not do so. But the static water level in that 9 well I believe was 80 feet, to the best of my 10 memory. 11 I have not recently checked it again, 12 but I suspect that that probably has gone down. 13 I don't know if there is anything else 14 that I can testify to at this point in time. So I 15 appreciate you taking the time to listen to me. 16 THE HEARING OFFICER: Okay. Now, because 17 you have come to testify, the parties have an 18 opportunity to examine you -- 19 THE WITNESS: Okay. 20 THE HEARING OFFICER: -- and to elicit a 21 response based on what you've said. 22 THE WITNESS: Okay. 23 THE HEARING OFFICER: And the convention, 24 Mr. -- is it VanWyk? 25 THE WITNESS: VanWyk.</p>
<p style="text-align: right;">Page 3429</p> <p>1 if Mr. Morris wishes to place evidence in the 2 record, I think he needs to be here. I think 3 that's only fair until under your ruling with 4 regard to public witnesses. 5 THE HEARING OFFICER: Well, we have been 6 accepting letters, Mr. Fereday, from people that 7 come in. 8 THE WITNESS: My understanding is he would 9 like to be here and present this himself, but due 10 to his concerns -- one of his main employees is in 11 New York for an extended period of time -- he is 12 unable to leave his business at this point in 13 time. He asked me to present it. 14 THE HEARING OFFICER: Do you have copies? 15 THE WITNESS: I do have copies, yes. 16 THE HEARING OFFICER: Why don't you 17 distribute those as well. 18 THE WITNESS: Okay. 19 MR. FEREDAY: Thank you. 20 THE HEARING OFFICER: Mr. Fereday, I'll 21 just bring this in as a letter of comment, as 22 we've received other letters. 23 MR. FEREDAY: Okay. 24 THE WITNESS: May I read the letter into 25 the record?</p>	<p style="text-align: right;">Page 3431</p> <p>1 THE HEARING OFFICER: Mr. VanWyk, the 2 convention that we've followed in that questioning 3 is those parties who -- at least I perceive to be 4 aligned with your point of view will ask you 5 questions first, and then -- and that would be the 6 protestants, and then the applicant will have an 7 opportunity to examine you regarding all of your 8 responses. 9 So, Mr. Thornton, do you have 10 questions for Mr. VanWyk? 11 MR. THORNTON: Yeah, I do. 12 13 CROSS-EXAMINATION 14 BY MR. THORNTON: 15 Q. Mr. VanWyk, thanks for your time and 16 your schedule to come and provide some testimony. 17 How long have you been associated with 18 the Western Ballantyne Water Users? 19 A. West Ballantyne Water Users 20 Association. We formed that -- I have owned the 21 parcel of land that I'm on since approximately 22 2003 is when I purchased it. The association was 23 formed in late 2003, early 2004, a little bit on 24 my behest, because they had not ever applied for 25 the water right on this well, yet they had been</p>

<p style="text-align: right;">Page 3432</p> <p>1 using it for years and years and years. 2 And being somewhat familiar with water 3 rights and their implications and what have you, I 4 said this is something that we need to get 5 accomplished now. 6 Q. And how did you get that accomplished? 7 A. Well, first of all, we attempted to 8 locate any potential well logs for when the well 9 was actually drilled. We were unable to find 10 anything. 11 Secondly, I contacted Idaho Power 12 to see if they might have a record of when the 13 original meter box and panel might have been set. 14 But they had purged all their records prior to I 15 believe it's 1992. 16 We then talked to several neighbors 17 that had been in the area for an extended period 18 of time. One gentleman across the street from me 19 has lived in the area for well over 40 or 50 20 years, most of his life. And he recalled 21 irrigating the ground with this well water at some 22 point in time in the early -- late '50s or early 23 '60s. That's not a real good validation, but it 24 was a starting point. 25 Then, due to my familiarity with pumps</p>	<p style="text-align: right;">Page 3434</p> <p>1 right, Dan Nelson from the Department came out and 2 inspected the well. We turned it on and estimated 3 the flow, based on criteria that's pretty 4 accurate, actually. 5 And he estimated the flow, as I said, 6 somewhere around 450 to 500 gallons per minute, 7 which then that was utilized to establish our -- 8 the amount -- the quantity of water we would be 9 allowed under the right. 10 Q. And what date was that? 11 A. That was approximately May of 2004. 12 Q. And how was it functioning, in your 13 judgment, through the irrigation season last year? 14 A. Last year? I'm not aware of any 15 problems with the well at all. 16 Q. Okay. And as a user of the well, you 17 kind of have daily, weekly observation of how the 18 irrigation is going? 19 A. Yeah. There's a number of landowners 20 in the group, and we don't have any set schedules 21 as to who's using it when. We do keep a log of 22 that for billing purposes, which has been rather 23 loosely done lately. 24 But as I say, to my knowledge, no 25 one's brought any issues forth or indicated any</p>
<p style="text-align: right;">Page 3433</p> <p>1 and turbines and what have you, I took an 2 opportunity to pull the serial numbers off both of 3 motor and the turbine. The turbine was 4 manufactured by Lane. And I contacted the company 5 to see if they might have any old records 6 indicating when that turbine was manufactured, 7 potentially giving us a date when it might have 8 been installed in the well. 9 And they came up with an invoice in 10 August of 1963 of shipping the turbine to be 11 placed in that well. 12 Q. So did you have to pull the pump to get 13 that? 14 A. Pardon? 15 Q. Did you have to pull the pump to get 16 that? 17 A. No. There's numbers on a plate, plate 18 right at the surface. 19 Q. Okay. And then could you describe 20 what and how that pump was -- and the water flow 21 was functioning for the years that you have been 22 there. 23 A. For the years that I've been there up 24 until this year, it's functioned fine. It's -- as 25 I noted, when we were establishing this water</p>	<p style="text-align: right;">Page 3435</p> <p>1 problems with flow or quantities of water. 2 Q. Okay. And if I understood you 3 correctly, when your group turned the pump on at 4 the beginning of this year is when you noticed the 5 problem; is that correct? 6 A. My understanding is one of the water 7 users -- one of the users turned it on and I guess 8 went to set his pipes. 9 Q. Okay. 10 A. And when he came back, the -- things 11 were pretty well fried, I guess might be the best 12 term. 13 Q. Okay. 14 A. And they got the pump company out, who 15 pulled the motor and turbines. And as I said, I 16 was told that the turbines were buried in sand. 17 And they had to yank them up out of the sand to 18 get them out of the well. And of course, the 19 motor with dry bearings don't run very well. 20 Q. And which pump company was that? 21 A. That was Burgess Pump Company, to my 22 knowledge. 23 Q. Okay. And did Burgess Pump Company 24 identify what they thought the problem with the 25 well might be?</p>

<p style="text-align: right;">Page 3436</p> <p>1 A. They indicated that given that there 2 was a lot of sand in the well and they buried the 3 turbine, that because of the lowering water tables 4 in the area that that was causing the well to pull 5 sand in from the outside strata, you know, is -- 6 my understanding is if you pump something at a 7 given rate and water does not readily flow, it's 8 going to kind of pull things from outside the well 9 casing into the well.</p> <p>10 Q. And did you know what depth your well 11 was?</p> <p>12 A. The current driller when they -- 13 Burgess pulled the pump, they measured it to be 14 143 feet. The well driller, in my conversation 15 with him yesterday, indicated that when he started 16 drilling at the 143-foot level, he thought 17 possibly that the well had filled in 18 substantially.</p> <p>19 MR. FEREDAY: Objection. We're going to 20 have to object to this hearsay. We've allowed 21 some of this hearsay evidence to come in, but I 22 don't think there's any reason to allow him to 23 testify what the well driller told him.</p> <p>24 MR. ALAN SMITH: Hearsay's been allowed.</p> <p>25 MR. THORNTON: If I could say something,</p>	<p style="text-align: right;">Page 3438</p> <p>1 failure I think is beyond probably the expertise 2 of the person who's giving that information, and 3 as a result, I think that's very suspicious, and 4 its credibility is suspect. So I'll limit 5 testimony on that subject.</p> <p>6 So go ahead and let's see where it 7 goes.</p> <p>8 THE WITNESS: The well driller indicated 9 that he felt that potentially the original well 10 may have been drilled down to 175 feet, because he 11 hit a clay layer at that point and that's when 12 he -- when he got through that clay layer is when 13 he started picking up some water stratas.</p> <p>14 Obviously, I have no -- we were unable 15 to find any well logs. I have no documentation as 16 to how deep that well might originally have been. 17 At any rate, we did deepen the well, as I noted, 18 to 256 feet.</p> <p>19 Q. (BY MR. THORNTON): Okay. And do you 20 have firsthand knowledge of any neighbors or folks 21 around you in that area that have replaced their 22 wells over the last few years?</p> <p>23 A. About 200 feet to the north and on the 24 east side of Ballantyne, I believe the property 25 owner's name is Wilson, just recently had to do</p>
<p style="text-align: right;">Page 3437</p> <p>1 Mr. Hearing Officer?</p> <p>2 THE HEARING OFFICER: Yes, Mr. Thornton.</p> <p>3 MR. THORNTON: Again, I'm not a legal 4 expert, obviously. But it appears for a public 5 witness he has firsthand discussions with the pump 6 as well as with the well driller. To me it seems 7 some more information to be taken into account. 8 But it seems part of the story to be told. I have 9 no reason to believe he'd be saying differently 10 than what he heard.</p> <p>11 THE HEARING OFFICER: Okay. I'll allow 12 some limited hearsay to come in. Again, the rules 13 of evidence regarding hearsay are relaxed. But 14 the threshold, I guess, that I don't want to cross 15 in this hearsay is when Mr. VanWyk or hearsay 16 related to the cause of why this well failed, I 17 think I don't -- I don't want to go into that or 18 allow that kind of testimony.</p> <p>19 But some testimony about what the well 20 driller encountered when he was drilling, I think 21 that's okay with me, Mr. Fereday.</p> <p>22 So I'll overrule the objection right 23 now. But I want to caution you, Mr. Thornton, 24 Mr. VanWyk, that hearsay where I have a pump 25 installer speculating about the cause of the well</p>	<p style="text-align: right;">Page 3439</p> <p>1 primarily the same thing: deepen his well and 2 replace it. I have no knowledge of exactly what 3 the circumstances were, other than I know who 4 drilled the well. And I was -- I was -- it was 5 indicated to me they went to a similar depth that 6 we went to.</p> <p>7 Q. Okay. And then your neighbor, what is 8 the situation that you know from talking to him?</p> <p>9 A. In talking to Lonnie, my understanding 10 is his well went dry, and he had to deepen the 11 well. Beyond that, I really couldn't --</p> <p>12 MR. FEREDAY: We're going to have to 13 object. I don't think -- there's been plenty of 14 testimony here about the unreliability of the 15 "went dry" phrase. And I think that him 16 testifying as to what his neighbor believed on 17 that score is out of bounds under your ruling just 18 now.</p> <p>19 THE HEARING OFFICER: Sustained.</p> <p>20 MR. THORNTON: No further questions. I 21 appreciate your time here and your efforts.</p> <p>22 THE HEARING OFFICER: Okay. Mr. Smith? 23 /// 24 /// 25 ///</p>

<p style="text-align: right;">Page 3440</p> <p>1 CROSS-EXAMINATION</p> <p>2 BY MR. ALAN SMITH:</p> <p>3 Q. Mr. VanWyk, how many acres are</p> <p>4 irrigated with that well?</p> <p>5 A. We have a water right for 47 acres.</p> <p>6 Q. And that motor is a surface motor,</p> <p>7 it's not a submersible?</p> <p>8 A. The original one, it was. I think we</p> <p>9 will be replacing it with a submersible.</p> <p>10 MR. ALAN SMITH: That's all I have.</p> <p>11 THE HEARING OFFICER: Okay. Mr. Edwards?</p> <p>12 MR. EDWARDS: Thank you for your testimony.</p> <p>13 THE WITNESS: Thank you.</p> <p>14 THE HEARING OFFICER: Okay.</p> <p>15 MR. ALAN SMITH: Yes, thank you.</p> <p>16 THE HEARING OFFICER: Okay. Mr. Fereday,</p> <p>17 questions?</p> <p>18</p> <p>19 CROSS-EXAMINATION</p> <p>20 BY MR. FEREDAY:</p> <p>21 Q. Mr. VanWyk, does the Water Users</p> <p>22 Association meter the amount of water received by</p> <p>23 each of its members from this well?</p> <p>24 A. No.</p> <p>25 MR. FEREDAY: No further questions.</p>	<p style="text-align: right;">Page 3442</p> <p>1 MR. THORNTON: Could I offer -- and I think</p> <p>2 Mr. VanWyk is still here.</p> <p>3 MR. JASON SMITH: Yes.</p> <p>4 MR. THORNTON: If he was able to prepare a</p> <p>5 short cover letter to describe that and then</p> <p>6 submit it through you to the mail. I believe</p> <p>7 NACGUA's fine if that was entered in as a public</p> <p>8 witness. That's fine.</p> <p>9 THE HEARING OFFICER: Well, that's a whole</p> <p>10 lot of extra effort for people. Let's just mark</p> <p>11 it as an exhibit.</p> <p>12 Let's figure out a number, and I don't</p> <p>13 know what that numbering scheme would be for it.</p> <p>14 I don't want to waste a lot of time.</p> <p>15 MR. FEREDAY: Could we go off the record</p> <p>16 for just a moment --</p> <p>17 THE HEARING OFFICER: Sure.</p> <p>18 MR. FEREDAY: -- and take just a two-minute</p> <p>19 break and come back. And we could get started</p> <p>20 with Dr. Osiensky, and maybe deal with this in the</p> <p>21 interim.</p> <p>22 THE HEARING OFFICER: Sure.</p> <p>23 (Recess.)</p> <p>24 THE HEARING OFFICER: We're recording</p> <p>25 again.</p>
<p style="text-align: right;">Page 3441</p> <p>1 THE HEARING OFFICER: Okay. Thank you,</p> <p>2 Mr. VanWyk.</p> <p>3 THE WITNESS: Thank you very much.</p> <p>4 MR. THORNTON: And do we have the -- was</p> <p>5 this information entered in that Mr. VanWyk</p> <p>6 presented as an exhibit?</p> <p>7 THE HEARING OFFICER: That's a good</p> <p>8 question. It isn't presently. It was presented</p> <p>9 to us, but it has not been marked.</p> <p>10 MR. THORNTON: I would like to offer that</p> <p>11 up as an exhibit. Thank you.</p> <p>12 MR. FEREDAY: Mr. Hearing Officer, if we</p> <p>13 could, we note that you have received the Morris</p> <p>14 letter into evidence as part of the public</p> <p>15 testimony. We would suggest that this could come</p> <p>16 in the same way.</p> <p>17 THE HEARING OFFICER: Well, I agree,</p> <p>18 Mr. Fereday. The only concern that I have about</p> <p>19 this particular document is that it's not in the</p> <p>20 form that I would expect to review. And so it</p> <p>21 would be -- these letters that come in, I look at</p> <p>22 them and they're addressed to the Department or to</p> <p>23 the Hearing Officer.</p> <p>24 This has no cover letter associated</p> <p>25 with it. It could be mixed in the files.</p>	<p style="text-align: right;">Page 3443</p> <p>1 Mr. Fereday, next witness?</p> <p>2 MR. FEREDAY: Dr. James Osiensky.</p> <p>3 MR. ALAN SMITH: At the break, sir, we had</p> <p>4 not had this exhibit number marked at the time the</p> <p>5 break was taken. We'd like to have that marked</p> <p>6 now, Mr. VanWyk's --</p> <p>7 THE HEARING OFFICER: I think what I</p> <p>8 decided in my discussion with Deborah Gibson is we</p> <p>9 have not used alpha characters yet. It seems to</p> <p>10 me it would be easier rather than reassign a whole</p> <p>11 bank of numbers, that if we have a few of these</p> <p>12 public witness documents that we need to mark,</p> <p>13 we'll just assign alpha characters to them.</p> <p>14 So we'll mark this as Exhibit A, then</p> <p>15 at least it's identifiable in the record. Okay?</p> <p>16 (Exhibit A marked.)</p> <p>17 THE HEARING OFFICER: All right.</p> <p>18 Dr. Osiensky, if you'll raise your right hand,</p> <p>19 please.</p> <p>20</p> <p>21 JAMES OSIENSKY,</p> <p>22 having been called as a rebuttal witness by M3</p> <p>23 Eagle LLC, was duly sworn and testified as</p> <p>24 follows:</p> <p>25 ///</p>

<p style="text-align: right;">Page 3444</p> <p>1 THE HEARING OFFICER: Thank you. You may 2 be seated. 3 4 DIRECT EXAMINATION 5 BY MR. FEREDAY: 6 Q. Dr. Osiensky, could you state and 7 spell your name, please, and give us your address. 8 A. My name is James Osiensky. Last name 9 is spelled O-s-i-e-n-s-k-y. And I live at 10 1795 Victoria Drive in Moscow, Idaho. 11 Q. And where are you employed? 12 A. At the University of Idaho. 13 Q. And what is your profession? 14 A. Professor of hydrogeology. 15 Q. Could you give us an outline of your 16 education and background in hydrogeology. 17 A. I have a B.A. degree in geology 18 chemistry, 1975; an M.S. in -- that was at 19 Bridgewater State College in Massachusetts. I 20 have an M.S. in hydrology from University of Idaho 21 in 1979; and a Ph.D. in geology from University of 22 Idaho in 1979 -- 1983. 23 Q. Have you been involved in working in 24 or teaching the -- in the fields of hydrogeology 25 and geology since that time?</p>	<p style="text-align: right;">Page 3446</p> <p>1 A. The longest constant-discharge aquifer 2 test that I've run is 14 days. 3 Q. What is the average test length in 4 your experience for an aquifer test? 5 A. I would say that the average is 6 probably around 24 hours. 7 Q. Are you able to make viable scientific 8 conclusions based on a 24-hour constant-discharge 9 aquifer test? 10 A. Oh, I would say definitely. I would 11 say most tests in the country probably are 24-hour 12 aquifer tests. 13 Q. Have you worked with Ed Squires on any 14 aquifer tests? 15 A. I have. I've worked with several 16 aquifer tests with Ed Squires. 17 Q. Have you measured observation wells? 18 A. Yes. Actually, during Ed's master's 19 thesis work, I was one of the investigators, and I 20 was at observation wells physically measuring 21 water levels during the aquifer tests. 22 Q. So you say you worked with Mr. Squires 23 during his master's thesis. 24 Could you describe that experience, 25 just in brief. What did you do?</p>
<p style="text-align: right;">Page 3445</p> <p>1 A. Yes. My first professional job as a 2 hydrogeologist was with the State of Montana. I 3 started in April of 1978. And since that time 4 I've worked as a hydrogeologist. I taught at the 5 University of Idaho and at Washington State 6 University prior to my current position with the 7 University of Idaho. 8 Q. Exhibit 32D has been admitted into 9 evidence in this case. That is your resumé. 10 Is that still an accurate resumé, to 11 your knowledge? 12 A. It's still fairly current, other than 13 maybe one or two recent publications that I have 14 not added to it. 15 Q. Okay. What is your experience, 16 Dr. Osiensky, with aquifer testing, that is, 17 constant-discharge aquifer tests such as those 18 that have been discussed in this case? 19 A. Oh, I have considerable experience. I 20 believe I've run upwards -- if I include tests 21 that I've run with my students, I've probably run 22 upwards of a hundred aquifer tests, 23 constant-discharge aquifer tests. 24 Q. What's the longest aquifer test that 25 you've run?</p>	<p style="text-align: right;">Page 3447</p> <p>1 A. Well, we -- we investigated the 2 hydrogeology of the Boise area, the Boise city 3 area. And during that time several aquifer tests 4 were run as part of that investigation. And I was 5 involved with much of that. 6 Q. So I take it you've reviewed aquifer 7 test reports from Mr. Squires? 8 A. Yes, I've been reviewing aquifer test 9 reports with Mr. Squires since his master's 10 thesis. 11 Q. How many of his aquifer test reports 12 do you estimate you've reviewed? 13 MR. ALAN SMITH: Judge, we would object. 14 This is way beyond the scope of our evidence. 15 It's improper rebuttal. We're going way out in 16 left field again. 17 MR. FEREDAY: Mr. Hearing Officer, if I 18 could respond? 19 THE HEARING OFFICER: Sure. 20 MR. FEREDAY: I am attempting to qualify 21 Dr. Osiensky as an expert to testify on issues of 22 rebuttal. And for him to do that, we need to 23 qualify him in terms of his knowledge of the 24 subject matter of this hearing, including 25 Mr. Squires' work.</p>

<p style="text-align: right;">Page 3448</p> <p>1 MR. ALAN SMITH: We'll stipulate that he's 2 an expert. 3 MR. THORNTON: Same. 4 THE HEARING OFFICER: Are protestants 5 willing to stipulate? 6 MR. THORNTON: Yeah. 7 MR. ALAN SMITH: Yes. 8 THE HEARING OFFICER: Mr. Fereday, does 9 that shorten your examination? 10 MR. FEREDAY: It does shorten it to some 11 degree, yes. 12 THE HEARING OFFICER: Okay. If I were to 13 rule that he's an expert witness, which I'm 14 willing to do, and then we can move on to the 15 technical questions that you may have of him. 16 MR. FEREDAY: Okay. That would be fine. 17 THE HEARING OFFICER: So we will so 18 recognize him. 19 Q. (BY MR. FEREDAY): Did you provide 20 peer review of the SVR-7 aquifer test as an 21 expert? 22 A. Yes, I did. I reviewed a draft of 23 that report. 24 Q. And did you suggest changes or edits 25 to that SVR-7 aquifer test report?</p>	<p style="text-align: right;">Page 3450</p> <p>1 that were collected by other investigators. And 2 so the main usefulness of that report is that it 3 compiles everything into one useful document that 4 is very easy for investigators to review and see 5 everything all at one location. It's a very, very 6 comprehensive report. 7 Q. What is your experience with aquifer 8 modeling? 9 A. I have considerable experience with 10 aquifer modeling, primarily with Modflow, but also 11 with aquifer testing software and other models 12 also. 13 Q. And have you produced peer-reviewed 14 refereed journal publications concerning aquifer 15 modeling? 16 A. Yes, I have. I have somewhere between 17 six and ten referee journal publications in 18 journals, such as -- such as Journal of 19 Groundwater, Journal of Hydrology, Hydrogeology 20 Journal, Journal of Contaminant Hydrology, and so 21 forth. 22 Q. Did you work with Stacy Douglas with 23 regard to her model, which is Exhibit -- an 24 exhibit in this case? 25 A. Yes. I was Stacy Douglas' advisor for</p>
<p style="text-align: right;">Page 3449</p> <p>1 A. I did. I suggested changes, some to 2 the way that the data were being analyzed, some 3 with respect to figures and illustrations within 4 the report and so forth. And all of those 5 comments and suggestions were incorporated into 6 the final report. 7 Q. What was the accuracy of the 8 interpretation of the data in the SVR-7 report, in 9 your opinion? 10 A. I think it was very accurate. 11 Q. Did you provide peer review of the 16 12 aquifer test report that's been admitted into 13 evidence in this case as Exhibit 12? 14 A. Yes, I did. I think I reviewed two 15 drafts of that prior to the final. 16 Q. Were your suggestions on peer review 17 taken by HLI and incorporated into the SVR-7 and 18 16 aquifer test reports? 19 A. Yes, they were. 20 Q. What is your opinion, Dr. Osiensky, of 21 the quality and usefulness and accuracy of the 16 22 aquifer test report? 23 A. In my opinion, that's an amazing 24 report. You hardly ever see that type of 25 compilation of reports in a report of information</p>	<p style="text-align: right;">Page 3451</p> <p>1 her master's thesis, and we completed a 2 three-dimensional model of the M3 area, as far as 3 that investigation. 4 MR. FEREDAY: All right. Mr. Hearing 5 officer, we would ask that Dr. Osiensky be 6 recognized as an expert in aquifer modeling. 7 THE HEARING OFFICER: Okay. Protestants? 8 Mr. Thornton? 9 MR. THORNTON: No objection. 10 THE HEARING OFFICER: Mr. Smith? 11 MR. ALAN SMITH: None. 12 THE HEARING OFFICER: Mr. Edwards? 13 MR. EDWARDS: No. 14 THE HEARING OFFICER: So recognized. 15 Q. (BY MR. FEREDAY): What is your 16 experience in working in hydrogeology and aquifer 17 modeling in the Treasure Valley specifically, 18 Dr. Osiensky? 19 A. I have -- 20 MR. ALAN SMITH: We would object to this, 21 your Honor. It's beyond the scope of our 22 evidence. I don't recall Dr. Ralston testifying 23 about any of this. 24 And Mr. Brownlee was the other witness 25 called by North Ada County. He certainly didn't.</p>

<p style="text-align: right;">Page 3452</p> <p>1 And Jason Smith certainly didn't. We're going way 2 beyond the scope of our evidence. It's not 3 rebuttal evidence. It should have been presented 4 in their case-in-chief. 5 THE HEARING OFFICER: Okay. Overruled. 6 There's -- I think these questions are yet 7 preliminary. And we'll see where they go. 8 Q. (BY MR. FEREDAY): Your experience, 9 Dr. Osiensky, in working in hydrogeology and 10 aquifer modeling in the Treasure Valley 11 specifically? 12 A. In the Treasure Valley specifically, I 13 dealt -- I was a -- a committee member on Ed 14 Squires' master's thesis, and that dealt with 15 hydrogeology of the Boise city area. 16 Originally, I was the principal 17 investigator in the Treasure Valley Hydrologic 18 Project. And if you want me to explain why -- 19 Q. Yes. 20 A. I'll explain a little bit more about 21 that. I was the original principal investigator 22 in that project. I had to step out of that 23 project for a number of reasons. One being the 24 Idaho Department of Water Resources really wanted 25 somebody on site at the IDWR building.</p>	<p style="text-align: right;">Page 3454</p> <p>1 Q. Are you familiar with north Ada County 2 geology, particularly in the Eagle area? 3 A. Yes, I'm very familiar. 4 Q. What's that based on? 5 A. Based primarily on Stacy Douglas' 6 work. We conducted an independent investigation 7 that was funded by M3 to complete that 8 three-dimensional groundwater flow model. 9 And so it was an independent model. 10 And so Stacy Douglas and I conducted an 11 independent investigation of the geologic and 12 hydrogeologic conditions out there at the M3 site 13 at the beginning. And then we started working 14 more closely with Hydro Logic as more and more 15 data were being collected. We were incorporating 16 those data into our model. 17 Q. Did you measure water levels in north 18 Ada? 19 A. Yes. Stacy and I measured water 20 levels, primarily in the vicinity of the M3 area, 21 approximately 25 wells that Stacy and I visited 22 personally. We went out there and met with the 23 well owners and had conversations with the well 24 owners and measured the water levels. 25 Q. Were other water levels measured by</p>
<p style="text-align: right;">Page 3453</p> <p>1 And as an untenured professor of 2 hydrogeology, that would have been a death wish on 3 my part to take on a teaching position with the 4 university located at IDWR, just because I had to 5 deal with students and so forth. 6 So it was unmanageable for me to be 7 located at the IDWR facilities and try to teach my 8 courses and deal with my graduate students and so 9 forth. 10 And so we -- at that point in time we 11 enlisted Dr. Christian Petrich to take over as 12 investigator. And originally he was investigator 13 under me, until basically there were retirements 14 within the Department, geological sciences and 15 stuff with the University of Idaho, and my 16 position was recalled from Boise to Moscow because 17 I was with -- the most senior person in 18 hydrogeology at the University of Idaho. 19 Q. Do you remember when you were recalled 20 to Moscow, what year? 21 A. In 1997. 22 Q. And did you have involvement -- I take 23 it you had no direct involvement with the Treasure 24 Valley Hydrologic Project after that? 25 A. Not after that, no.</p>	<p style="text-align: right;">Page 3455</p> <p>1 any students with whom you worked, or was it just 2 you and Stacy? 3 A. Stacy and I originally went out there 4 and measured the 25, which was the start of our 5 model. And we contacted Hydro Logic at that point 6 in time, basically indicated that we need many, 7 many more water levels in order to complete the 8 model. 9 And so Hydro Logic hired one of my 10 graduating graduate students, Katie Rhode, and 11 another student that was in hydrogeology at the 12 University of Idaho -- wasn't one of my students 13 directly, but hired her also. She was an employee 14 of Hydro Logic. And the two of them went out and 15 measured approximately 200 additional water 16 levels. 17 Q. Did you use those water levels to 18 evaluate groundwater flow patterns in the north 19 Ada area? 20 A. Yes, we did. We incorporated that 21 information into our model. We contoured the 22 water levels in order to understand the direction 23 of groundwater flow, and then we tried to simulate 24 those conditions with our model. 25 And one other thing is that those</p>

<p style="text-align: right;">Page 3456</p> <p>1 water levels incorporated water levels primarily 2 in the local domestic wells. So many of those 3 water levels that we were looking at originally 4 were shallow domestic wells. Some were in the 5 deeper system, but most were shallow domestic 6 wells that we were simulating. 7 Q. I want to ask you some further 8 questions about what you found with regard to that 9 groundwater measurement in a moment. 10 But at this point let me ask you 11 further, have you any familiarity with the M3 12 Eagle property? 13 A. Oh, yes. I've been -- like I said, 14 both Stacy and I visited the site during our part 15 of the investigation. I also was involved with a 16 field trip to the site with Ed Squires and 17 Dr. Wood and yourself and several other 18 investigators on the project. 19 Q. Are you familiar with Dr. Wood's work 20 on north Ada geology? 21 MR. ALAN SMITH: Again, we would make the 22 same objection. It's beyond the scope of our 23 evidence, not proper rebuttal. 24 MR. FEREDAY: Again, Mr. Hearing Officer, 25 we are qualifying this witness with regard to his</p>	<p style="text-align: right;">Page 3458</p> <p>1 University, but I was a University of Idaho 2 professor. And early during my career -- this is 3 one of the first investigations. And so this was 4 a very eye-opening investigation for me because it 5 gave me a direct exposure to the hydrogeology of 6 the Boise Valley, which I assumed was going to be 7 where I was going to be located for the rest of my 8 career. It didn't work out that way, but I spent 9 a lot of time with Ed Squires learning about the 10 hydrogeology of the Boise area. 11 Q. The protestants in this case have 12 referred to that thesis, which I believe is 13 Exhibit 67 in this case, the 1992 report. 14 Are you familiar with that report? 15 A. Yes, I am. 16 Q. You're a coauthor, aren't you? 17 A. I am. 18 Q. Did Mr. Squires' 1992 report evaluate 19 the Pierce Gulch Sand Aquifer? 20 A. No, it did not. 21 Q. What did it evaluate? 22 A. It dealt primarily with the Terteling 23 Springs Sand Aquifer and it existed -- covered the 24 area primarily within the Boise city area east of 25 Cloverdale.</p>
<p style="text-align: right;">Page 3457</p> <p>1 expertise in these matters, and we are entitled to 2 do that. 3 THE HEARING OFFICER: Overruled. 4 MR. ALAN SMITH: I think you're way beyond 5 qualifying the witness as an expert. 6 THE HEARING OFFICER: Okay. Overruled. 7 THE WITNESS: I've known Dr. Spencer Wood 8 since 1988 when I started working down in Boise 9 Valley with the University of Idaho. And Spencer 10 at that point in time was studying that area back 11 in those days. He was studying the geology of the 12 Boise Valley, the foothills, the area out in the 13 M3 area and so forth. And so yes, I'm very aware 14 of what Spencer Wood has done over his career. 15 Q. (BY MR. FEREDAY): And what's your 16 opinion of the quality of his work there? 17 A. Oh, he's done excellent work. I 18 consider Spencer Wood to be the ultimate expert in 19 the geology of that area. 20 Q. With regard to Mr. Squires' master's 21 thesis, what resulted from that -- from that work? 22 What was your role in it? 23 A. Actually, I had a fairly large role in 24 the investigation part. During -- early during my 25 career -- and I was located at Boise State</p>	<p style="text-align: right;">Page 3459</p> <p>1 Q. Dr. Osiensky, I would like to ask you 2 a few questions with regard to the staff's 3 statements here. And to begin with, I'd like to 4 ask your response to Mr. Vincent's statement that 5 HLI performed, quote, "a rather complicated 6 regional water-level trend analysis rather than 7 having a single regional water-level trend." It 8 looks like it was necessary to have a regional 9 water-level trend for each and every well 10 according to Mr. Vincent, quote, "that's not 11 normal, that's extraordinary based on my 12 experience and based on reference to standard 13 aquifer test analysis textbooks," close quote. 14 Could you respond, please, to this. 15 And just so I'm summarizing it correctly, my 16 understanding is that this question has to do with 17 applying a single -- a well-by-well trend analysis 18 rather than a single regional trend analysis. 19 Could you comment on this, please? 20 A. If I understand exactly what he was 21 getting at there, I have to disagree. In my 22 experience, each well has to be treated on a 23 well-by-well basis. In my experience, each well 24 does experience a different trend. 25 And that's why we have to collect</p>

<p style="text-align: right;">Page 3460</p> <p>1 pretest data in every well. In my experience, you</p> <p>2 always use the pretest data collected in a</p> <p>3 specific well in order to determine the trend</p> <p>4 that's occurring in that well.</p> <p>5 Q. So do you then think it's</p> <p>6 extraordinary to apply a well-by-well analysis?</p> <p>7 A. No. I think that's exactly what you</p> <p>8 should do. I think it would be extraordinary if</p> <p>9 you didn't do that, because I've never heard of a</p> <p>10 single trend being applied to multiple wells in a</p> <p>11 heterogeneous environment.</p> <p>12 Q. So what are some of the reasons for</p> <p>13 that? Is heterogeneity one of them?</p> <p>14 A. Well, heterogeneity is one of them.</p> <p>15 But the way I visualize the hydrogeologic</p> <p>16 conditions in this area is that these trends are</p> <p>17 caused by a recovery from previous year's pumping.</p> <p>18 So it's irrigation pumping in the summertime that</p> <p>19 causes the drawdown.</p> <p>20 And when that's shut off, it causes</p> <p>21 water levels to rise everywhere within the entire</p> <p>22 basin. And that's what's causing these trends.</p> <p>23 And so these trends are a reflection</p> <p>24 of the location of the various pumping centers</p> <p>25 such as Meridian and such as Nampa, such as in</p>	<p style="text-align: right;">Page 3462</p> <p>1 close quote?</p> <p>2 A. This is pertaining to the SVR-7</p> <p>3 aquifer test; is that correct?</p> <p>4 Q. Yes.</p> <p>5 A. Okay. My response to that is I</p> <p>6 wouldn't agree with that statement either. If I</p> <p>7 consider the SVR-7 aquifer test to be a nine-day</p> <p>8 aquifer test, and so -- if I could, I'd like to</p> <p>9 kind of illustrate a couple things with the easel,</p> <p>10 if possible.</p> <p>11 Q. Please.</p> <p>12 A. And what I'd like to do is first off</p> <p>13 present a very basic equation. Okay? And so this</p> <p>14 very basic equation is just going to be capital V</p> <p>15 is equal to capital S times A delta H. I'll</p> <p>16 explain what these terms are.</p> <p>17 "V" is the amount of water being</p> <p>18 pumped. So over nine days, the pump was pumping</p> <p>19 917 gallons per minute, and it's 1440 minutes for</p> <p>20 the day.</p> <p>21 Q. So you're multiplying 917 times 1440?</p> <p>22 A. 917 gallons per minute times 1440</p> <p>23 minutes per day -- okay? -- times nine days. And</p> <p>24 so "V" would be equal to the volume of water</p> <p>25 that's pumped out of the aquifer over that nine</p>
<p style="text-align: right;">Page 3461</p> <p>1 Boise, and so forth.</p> <p>2 And so the distance between those</p> <p>3 pumping centers and individual wells, and whatever</p> <p>4 exists between those pumping centers and the</p> <p>5 wells, in terms of the geology and hydrogeology,</p> <p>6 is going to control the trend. And so each well</p> <p>7 should have a very specific trend. There's no way</p> <p>8 that you would have a single trend that you could</p> <p>9 apply to all wells. That just can't happen, in my</p> <p>10 opinion.</p> <p>11 Q. What do you think about Mr. Vincent's</p> <p>12 comment at this next passage, that this separate</p> <p>13 trend analysis, quote, "is an indication of</p> <p>14 complexity and causes uncertainty," close quote?</p> <p>15 A. Well, again, I don't agree with that</p> <p>16 either, because unless you complete an independent</p> <p>17 well trend analysis, that wouldn't create</p> <p>18 uncertainty. I mean by completing an independent</p> <p>19 individual well trend analysis, that definitely</p> <p>20 decreases uncertainty. It does not increase</p> <p>21 uncertainty.</p> <p>22 Q. What is your response to Mr. Vincent's</p> <p>23 statement in relation to the SVR-7 aquifer test</p> <p>24 that, quote, "the stress was insufficient to be</p> <p>25 definitive about what's happening in the aquifer,"</p>	<p style="text-align: right;">Page 3463</p> <p>1 days, in a rough calculation, if I remember. And</p> <p>2 I went through the calculation. It's</p> <p>3 approximately about 1.6 times 10 to the 9 billion.</p> <p>4 So talking about 1.6 times 10 to the 9 gallons</p> <p>5 were pumped out of the aquifer. So 1.6 billion</p> <p>6 gallons of water were pumped.</p> <p>7 If we divide that 1.6 times 10 to the</p> <p>8 9 gallons by 7.48, it converts it to cubic feet.</p> <p>9 And I didn't do that calculation, but there's a</p> <p>10 very, very significant volume of water was</p> <p>11 pumped -- okay? -- over that nine-day period.</p> <p>12 The average storitivity from all of</p> <p>13 the aquifer tests from the 16 aquifer tests before</p> <p>14 it, from the SVR test, from the Kling test, and so</p> <p>15 forth, the average storitivity that we keep</p> <p>16 estimating for the conditions out there is about 1</p> <p>17 times 10 to the minus 3. A relatively small</p> <p>18 number for a confined aquifer.</p> <p>19 Q. Dr. Osiensky, so the "S" in your</p> <p>20 equation is storitivity?</p> <p>21 A. Storitivity. So we're talking</p> <p>22 basically the amount of water that's stored in the</p> <p>23 aquifer. That's not quite exactly right. But I</p> <p>24 mean let me explain a little more.</p> <p>25 So if we take "V" and divide it by</p>

1 "S," that gives us "A" delta "H." Okay? A delta
2 H is the volume of the cone of depression that was
3 created by that aquifer test.

4 If you go through that calculation,
5 the volume of that cone of depression is huge.
6 It's a very, very large cone of depression. This
7 cone of depression extended over tens of square
8 miles. It incorporated everything -- every
9 boundary condition that exists out there within
10 tens of square miles away from the pumping well.

11 So in answer to that question, I think
12 this is a very, very substantial aquifer test, and
13 I don't agree with the statement that you asked
14 about.

15 Q. You mentioned boundary effects. The
16 so-called green line is presumably a boundary
17 based on previous testimony.

18 What did you see with regard to
19 boundary effects from the SVR-7 test,
20 Dr. Osiensky?

21 A. This is one of very interesting things
22 about this test. Again, it was a very large-scale
23 test, over nine days pumping a large volume of
24 water. And we didn't detect any boundaries, any
25 physical boundaries in the system, other than the

1 green line and the East Boise/Eagle fault -- West
2 Boise/Eagle fault. Okay? Those were incorporated
3 into the analysis conducted by Hydro Logic.

4 Q. What was the result of the test in
5 terms of transmissivity values shown?

6 A. Very -- in my opinion, very definitive
7 transmissivity and storativity values were
8 derived. And what I mean by that is that there
9 was no question with respect to how well the data
10 points fit on our theoretical lines. Very, very
11 good fits.

12 And so I would say that the
13 transmissivity and storativity values that were
14 derived from the aquifer tests are very accurate.

15 Q. So just to sum up, in response to
16 Mr. Vincent's statement that he questioned whether
17 the aquifer was stressed enough to provide
18 definitive information, what is your -- what is
19 your opinion as to whether the SVR-7 aquifer test
20 did provide definitive information?

21 A. Again, I'd like to sketch something,
22 if I could, to help answer that question.

23 Q. Yes.

24 A. But if you consider -- is there
25 something I can erase this with?

1 If you consider -- and I'm going to
2 sketch the green line and the fault zone, and I'll
3 use green since I kind of -- so we have a green
4 line boundary, which is the outcrop of the Pierce
5 Gulch Sand Aquifer. So it crops out at the land
6 surface, so that definitely is an impermeable
7 boundary, at least the way that we're defining it.
8 And so any pumping on this side of the boundary
9 cannot physically grow there because there's no
10 aquifer there for it to grow into.

11 And then we have the fault zone, which
12 meets at an angle of something like this. And
13 I'll dash it. I'll put the fault zone in red, and
14 this extends down here this like (indicating).

15 So the outcrop of the aquifer
16 intersects the fault zone. And so if we pump an
17 aquifer -- the aquifer on this side, and we have a
18 pumping well here --

19 Q. That's the south side of the green
20 line?

21 A. South side of the green line.

22 Q. Okay.

23 A. And if this is the SVR-7 well, as an
24 example, the cone of depression is going to grow
25 around this well pretty much radially until the

1 boundary is hit. And then it can't grow in this
2 direction, so it has to grow -- it has to grow
3 much faster in this direction (indicating).

4 The same is true with the fault. If
5 we assume the fault is another impermeable
6 boundary, the cone of depression can't grow into
7 that boundary.

8 Q. So that it would grow in "this
9 direction," you mean further to the south and to
10 the west?

11 A. So it grows to the south, to the
12 southwest, and to northwest. So it would have to
13 grow in this direction (indicating).

14 And getting back to the calculation
15 that I just presented, we stressed a huge volume
16 of aquifer during that aquifer test. And that
17 volume aquifer is all on the south side of that
18 green line.

19 So the effects of that pumping
20 probably extend all the way to Meridian. So any
21 boundaries that may exist on this side were -- are
22 incorporated into the aquifer test data, and don't
23 see any in the data. There's no indication in the
24 aquifer test data, the drawdown data, to indicate
25 that there are any boundaries out here.

<p style="text-align: right;">Page 3468</p> <p>1 Like I say, the green line and the 2 fault boundary, those were incorporated into the 3 analysis. So it's not -- that's why I'm not 4 mentioning those. If we were looking -- if we 5 were conducting an analysis as if this was an 6 infinite aquifer, then we would see these in the 7 data. Okay?</p> <p>8 But the reason we don't see these in 9 the data, in my opinion, is the fact that the well 10 is so close to the boundary, by the time we 11 measure any drawdown in the observation wells, all 12 the boundary effects are already incorporated in 13 the data. So they become invisible.</p> <p>14 And so what was the original question?</p> <p>15 Q. I think the question was what was 16 the -- your conclusion about the SVR-7 test, given 17 the fact that there was relatively small drawdown 18 with respect to the boundary question.</p> <p>19 A. Oh, right. Okay. So what the small 20 drawdown means to me -- so in other words, 21 physically, the laws of physics indicate we had to 22 stress a very large volume of the aquifer. That 23 has to be. We measured very small drawdowns. 24 Okay?</p> <p>25 What that's a reflection of is the</p>	<p style="text-align: right;">Page 3470</p> <p>1 State Park where I ran the eight-day aquifer test. 2 But the SVR-7 aquifer test is an 3 excellent test. No question that that was a very 4 well run test. All the data that were collected 5 were wonderful. The data were collected on 6 one-minute intervals, and there were no problems 7 with the data. There were no problems with any of 8 the data loggers. The analysis was very thorough, 9 and the report is excellent.</p> <p>10 If you read through the report, the 11 report is very, very comprehensive. It has all of 12 the data. It has all of the uncorrected data and 13 corrected data in the report. Very thorough.</p> <p>14 Q. And in your opinion, what does -- 15 what, in your opinion, does this tell you about 16 aquifer productivity in the Pierce Gulch Sand 17 Aquifer?</p> <p>18 A. Very, very productive aquifer. Very 19 productive. The aquifer -- and this is one of the 20 things that surprised me when I first reviewed the 21 aquifer test report, because the aquifer appears 22 to respond as a semi-infinite aquifer. When I say 23 semi-infinite it's because that green line, the 24 cone of depression is only growing to the 25 southwest, to the northwest, and to the southeast.</p>
<p style="text-align: right;">Page 3469</p> <p>1 fact that it is a very, very transmissive aquifer. 2 We measure very small drawdowns, but yet the cone 3 of depression has to be huge.</p> <p>4 What that means is the cone of 5 depression is not deep, it is very shallow, but 6 very extensive in an areal extent. That's why it 7 extends probably all way to Meridian and so forth.</p> <p>8 So when you consider Meridian to be 9 way out here (indicating), any boundaries that may 10 exist out there are already incorporated into the 11 data, and they do not show up. If they were 12 there, they would show up in the data. And 13 they're just not there.</p> <p>14 Q. What is your opinion of the overall 15 quality of the SVR-7 test and its report?</p> <p>16 A. I'm very impressed with the SVR-7 17 report and with the test. In my opinion, it's an 18 outstanding test, especially when you consider the 19 difficulty of trying to run an aquifer test like 20 this with generators.</p> <p>21 I've run an eight-day aquifer test 22 with generators. And believe me, it's very, very 23 difficult. I had -- I physically had to camp out 24 there and keep the generator running and live out 25 there for a week. This was at the Eagle Island</p>	<p style="text-align: right;">Page 3471</p> <p>1 Okay? It can't grow to the north-northeast 2 because of that boundary.</p> <p>3 But based on the data -- okay? Based 4 on the data, the aquifer appears to -- as a 5 semi-infinite aquifer.</p> <p>6 Q. What does the SVR-7 aquifer test tell 7 you about potential compartmentalization of the 8 aquifer?</p> <p>9 A. There's -- in my opinion, there's 10 absolutely no evidence of any 11 compartmentalization, based on the aquifer test 12 data.</p> <p>13 Q. In your opinion, would a longer or 14 larger aquifer test have resulted in any different 15 conclusions?</p> <p>16 A. I'd like to sketch something again to 17 help answer that one.</p> <p>18 Q. Do you have an answer to that or an 19 opinion to begin with, and then --</p> <p>20 A. Yeah. My answer is no, I don't think 21 a longer test would help, and I'd like to explain 22 why I think that.</p> <p>23 Q. Okay. Please do. You're going back 24 to the whiteboard.</p> <p>25 A. Going back to the easel, and I'm going</p>

<p style="text-align: right;">Page 3472</p> <p>1 just to sketch the way that we have to interpret 2 the data. And the reason for my answer is the way 3 that we need to interpret aquifer test data. So 4 I'm going to sketch just a log-log scale. We 5 generally analyze data either in a log-log or a 6 semi-log. But the main thing is the fact that we 7 analyze data based on a function of log of time. 8 And so we have log cycles. And so if 9 we plot -- and I'll just have time on this axis, 10 and we have drawdown on this axis (indicating). 11 Q. That's time on the horizontal and 12 drawdown on the vertical? 13 A. Right. 14 And so if we're looking at log-log, 15 we're going to have boxes that -- each box 16 represents log scale of drawdown, log scale of 17 time if this is a log-log analysis. 18 And so if we're measuring our time in 19 minutes -- okay? And so 1 minute would be here, 20 10 minutes would be here, 100 minutes would be 21 here, 1,000 minutes would be here (indicating), 22 and I'm going to have to add a couple log cycles 23 here because of the length of the nine-day aquifer 24 test. Okay? We have 10,000 minutes, and then we 25 have 100,000 minutes. Okay?</p>	<p style="text-align: right;">Page 3474</p> <p>1 the data points all crammed into this little area 2 for analysis. 3 So the early time data are going to be 4 the most critical for determining transmissivity 5 and storativity. Okay? And we have all of these 6 data points that we're analyzing during the 7 nine-day aquifer test. If we were to extend the 8 aquifer test, the additional amount of data that 9 we would have would be all the points crammed in 10 here. 11 And we may have another 13,000 points, 12 but those 13,000 points are all going to be 13 crammed into this little area on this curve, and 14 so it's not going to really help us much in terms 15 of anything that would happen at that point in 16 time. Okay? 17 Q. And just so that the record is a 18 little clearer on what you've drawn there, you've 19 drawn a curve that goes up fairly sharply from the 20 bottom left up to the upper right, and then starts 21 to flatten out toward I guess what would be 22 something like an asymptote over on the upper 23 right? 24 A. Yeah. Now, what our methods of 25 analysis imply is that we have an infinite</p>
<p style="text-align: right;">Page 3473</p> <p>1 So what happens during an aquifer 2 test? We turn on the aquifer test at time "T" 3 equals zero. Okay? Take our first measurement at 4 1 minute. 5 Now, keep in mind during the nine-day 6 aquifer test 13,000 measurements were taken. 7 Every minute. Okay? So we have 13,000 8 measurements that we are going to fit in here. 9 The theoretical curve that we'd match, 10 you know, goes something like this. And so we're 11 matching that theoretical curve to our data 12 points. Our data points are out here and we have 13 data points -- and we have 13,000 that are doing 14 something like this (indicating). The curve tends 15 to flatten out with time. Okay? 16 Now, what I'm trying to impress upon 17 to you, the significance of a nine-day versus a 18 longer test. Nine days is out there 13,000 19 minutes. Okay? The next -- the next log scale is 20 100,000 minutes. Okay? There are 1440 minutes 21 per day. 22 So we're going to collect data points, 23 and they're all going to be crammed into a little 24 zone right here (indicating) -- okay? -- if you 25 ran it for another 50 days. We're going to have</p>	<p style="text-align: right;">Page 3475</p> <p>1 aquifer. Okay? So this goes to infinity. So 2 what we can do -- and this is one of the things 3 that we commonly do, is we project to any point in 4 time that we're interested. 50 years, 100 years 5 what's going to happen. Because we can do it 6 because our curve technique goes to infinity, so 7 it allows us to extrapolate to any point in time. 8 So really what we'd do during an 9 analysis to determine what's going to happen, we 10 need to look at the entire curve. And that's why 11 when we're looking at the entire curve and 12 extrapolating to 50 years down the road -- 13 okay? -- that little portion in here (indicating) 14 of a longer aquifer test becomes very 15 insignificant. 16 Q. What about increasing the volume of 17 pumping or the rate of pumping by, say, doubling 18 it? What would that do, in your opinion? 19 A. If we double the drawdown -- this is 20 one of the interesting things about the way cones 21 of depression grow. Okay? The rate of growth of 22 the cone of depression -- okay? -- the rate of 23 growth -- and I'll explain. This is basic 24 hydrogeology, but I'll explain it a little bit, 25 and cut me off if you think it's too much.</p>

1 But these cones of depression grow
2 very, very rapidly. It's like a sonic boom going
3 off. You don't hear sonic booms much anymore
4 nowadays. When I was a kid you used to hear sonic
5 booms all the time.

6 You hear a sonic boom go off, you feel
7 it when that pressure wave hits you -- it's
8 actually a compression wave, hits you in the
9 chest. Same thing with fireworks. People enjoy
10 the fireworks, they see the flash, and then they
11 feel that boom. Okay? That's a compression wave.

12 Cone of depression growth in a
13 confined aquifer is much like that, though it's a
14 pressure wave. But it grows very, very rapidly.
15 Okay? And in this aquifer -- well, let me back
16 up.

17 In a confined aquifer such as we have
18 up in Moscow where we have very, very low
19 storitivity values, on the order of 10 to the
20 minus 5. Here the storitivity is two orders of
21 magnitude greater.

22 But the cone of depression up in those
23 areas are growing at approximately the speed of
24 sound. Okay? And so two orders of magnitude
25 higher storitivity here (indicating) means it's

1 growing two orders of magnitude slower. But
2 750 miles an hour, if you go two orders of
3 magnitude less than that, it suggests that the
4 cone of depression at the M3 site, when pumping
5 the wells there, are growing at about 7.5 miles
6 per hour.

7 So think about nine days, how many
8 hours is that? How far would that cone of
9 depression extend? Now, this is the pressure, the
10 pressure wave. And so that pressure wave is much
11 like the sound, that sonic boom. It's like --
12 well, an example, and this is an analogy.

13 In a house when a door slams, when you
14 have windows open, as an example, or -- and the
15 door slams in the house, all the doors in the
16 house rattle. Okay? That's a pressure -- a
17 pressure transference. It's not air moving all
18 through the house. It's that pressure wave moving
19 through the house very, very rapidly. The air
20 molecules from the bedroom that's slamming aren't
21 making it out the doorway, but that pressure is
22 being transmitted very fast.

23 And that's exactly how a cone of
24 depression goes in confined aquifers. Very, very
25 rapid transmission of the pressure and it contacts

1 everything in its path.

2 Q. Would the cone of depression have
3 reached the protestants' wells in the SVR-7 test?

4 A. Very likely -- very likely, yes. In
5 my opinion, very likely.

6 Q. Now, but what about increasing the
7 volume of the test or the rate of the test, which
8 was my question, how would that -- how would that
9 give us more -- any more definitive information
10 from the SVR-7 test, Dr. Osiensky?

11 A. If -- what -- okay. I was trying to
12 answer that. Sorry. What my point being that the
13 rate of growth of the cone of depression is not a
14 function of the pumping rate. Okay? This is what
15 I was trying to get at, but I got off on a
16 tangent. Okay?

17 Whether we pump the well at 9 gallons
18 a minute or 900 gallons a minute, the cone of
19 depression grows at the same speed. That seems
20 illogical, but that's the way it is. It's like a
21 pressure wave.

22 So if you pumped it at 1800 gallons a
23 minute, that doubles the rate of drawdown. It
24 does not increase the rate of growth of the cone
25 of depression. It's still going to be at the same

1 point in time at the same location.

2 So any of the wells that were
3 contacted with 900 gallons a minute would be
4 contacted by the cone of compression at 9 gallons
5 a minute or 9,000 gallons a minute. That same
6 time.

7 Q. Would the data plots from an
8 1800-gallon-per-minute aquifer test have plotted
9 on any different line than they did on the
10 900-gallon-a-minute test, in your opinion?

11 A. In my opinion, we would have had twice
12 as much drawdown, but all the data would plotted
13 on an identical plot, but it would have been
14 offset by a factor of two.

15 Q. Okay. Thank you for that explanation.

16 Do you agree with Mr. Vincent's
17 statement, quote, "that it is an indication of
18 complexity and causes uncertainty when you
19 consider the fact that we only have one
20 observation well with more than 1 foot of drawdown
21 in the SVR-7 test"? And perhaps you've already
22 answered this, but I just wanted to make sure that
23 we covered that point.

24 A. Well, let me --

25 MR. ALAN SMITH: I would object as being

<p style="text-align: right;">Page 3480</p> <p>1 repetitious and redundant. He's already answered 2 it once.</p> <p>3 THE HEARING OFFICER: Overruled. I don't 4 think this question has been asked and answered.</p> <p>5 MR. ALAN SMITH: Yeah.</p> <p>6 THE WITNESS: The -- I'll answer that by -- 7 no, I don't agree with the statement the way that 8 it's worded. The fact that we have very small 9 amounts of drawdown is a function of the fact that 10 we have a very, very transmissive aquifer. Okay? 11 And that's something we live with. We 12 have a very transmissive aquifer. That's a good 13 thing. That is not a bad thing. If we had lots 14 of drawdown, that's where I would be worried. 15 And so what this means is that the 16 cone of depression grows very rapidly and you have 17 very -- and it's very, very flat and relatively 18 small drawdowns, and we're able to capture the 19 water from a huge area. 20 The difference would be if we had lots 21 of drawdown -- okay? -- that means we're capturing 22 water from a much smaller area, and that we're 23 going to have drawdowns, much more significant 24 drawdowns. 25 And so the fact that we have small</p>	<p style="text-align: right;">Page 3482</p> <p>1 A. Yes, I believe so. I believe that 2 basically as long as you have enough data 3 points -- and I mean more than five or six. So 4 when we have a very few data points, that's where 5 the issue is. If you have enough data points, 6 like in this case we have 13,000 data points to 7 define that curve, and even though drawdown may 8 not have started for five days into the test, we 9 still have several hundred data points. 10 And that allows us to get a very good 11 fit to the theoretical curves and it allows us to 12 get a very accurate estimate of the conditions in 13 the aquifer. 14 Q. Do you agree with Mr. Vincent's 15 statement that, quote, "It is difficult to predict 16 long-term hydrologic impacts based on the data 17 that were collected in this aquifer test," close 18 quote? "It is difficult to predict long-term 19 hydrologic impacts." Do you agree with that, 20 based on this test? 21 A. No. I think we can predict long-term 22 impacts. And especially if you combine the 23 results of the aquifer test with the M3 model. 24 The M3 model is designed to -- specifically to 25 extrapolate the effects of this type of aquifer</p>
<p style="text-align: right;">Page 3481</p> <p>1 amounts of drawdown is actually a very good thing 2 and, in my opinion, it doesn't add to complexity. 3 It indicates that we have a very productive 4 aquifer. 5 Q. (BY MR. FEREDAY): In another passage 6 in the transcript, Mr. Vincent agreed with my 7 suggestion that, quote, "small drawdowns in a 8 distant well, such as the well you mentioned, 9 indicates that the interference in other distant 10 wells might likewise be small," close quote. 11 Would you agree with Mr. Vincent here? 12 A. Yes. And I'd like to explain. You 13 know, basically the way that we look at data, we 14 usually -- a lot of times we normalize it. So 15 we're looking at drawdown divided by time 16 squared -- excuse me, radius squared or distance 17 squared. And so we expect wells similar distances 18 from the pumping well to have similar drawdowns. 19 That's theoretically exactly what we'd expect to 20 happen. 21 Q. Can reliable conclusions about aquifer 22 properties be made with small drawdowns, such as 23 in the neighborhood of less than a foot or a foot 24 and a half or 2 feet, something like that, in an 25 observation well?</p>	<p style="text-align: right;">Page 3483</p> <p>1 test. And it allows us to incorporate various 2 wells out there in the valley and the fact that 3 they would have well interference effects and so 4 forth combined with the effects of the aquifer 5 test data to evaluate any number of scenarios. 6 Q. I just want to clarify to make sure I 7 have got this right. 8 You said that you have done only one 9 aquifer test that is longer than nine days of this 10 type? 11 A. That's correct. 12 Q. And that's one out of how many? 13 A. I would say upwards of a hundred or 14 so. 15 Q. What is your response to Mr. Vincent's 16 statement that he was concerned about the fact 17 that after the SVR-7 aquifer test and the recovery 18 plot, the Big Gulch stock well was 5/100ths of a 19 foot below the water level before the test began? 20 What's your response to that concern of 21 Mr. Vincent? 22 A. Yeah, that concern was confusing to me 23 because basically I hardly ever have seen full 24 recovery in wells in any municipal -- especially 25 in a municipal environment. Just if you were in</p>

<p style="text-align: right;">Page 3484</p> <p>1 an isolated basin with one pumping well, yes, you 2 might expect to see full recovery. 3 But whenever you have a moving water 4 table -- and I'm using "water table" loosely -- 5 that's moving due to numerous municipal wells in 6 the area pumping, in my opinion, you'd never have 7 full recovery. You'd never expect to have full 8 recovery. 9 Q. How good, if you will, was that 10 recovery? Was it useful, in your opinion, in 11 making conclusions about the nature of this 12 aquifer? 13 A. In this environment, that was a very, 14 very good recovery. And for all practical 15 purposes, I would consider that full recovery 16 because of this environment with other wells 17 pumping. 18 And so what it did is we have very 19 good recovery data, which reproduced the drawdown 20 data very closely, which was a very good 21 indication, and significantly reduces uncertainty 22 when that happens. When you have good recovery 23 data, and it mimics the drawdown data, that's very 24 definitive. 25 And so I think the drawdown and</p>	<p style="text-align: right;">Page 3486</p> <p>1 that I can't imagine how you could not see a 2 boundary in the data. 3 Q. Based on the data produced in the 4 Kling test, what could you say about the 5 hypothesis that the PGSA could be 6 compartmentalized? 7 A. The idea that it's compartmentalized, 8 I think it doesn't -- it doesn't have any validity 9 because I -- none of the data -- based on all of 10 the data that I've looked at -- and I've looked at 11 all of the data that are in the reports that Hydro 12 Logic has produced and other data that are in 13 their files and so forth, and I have never seen 14 any indication of compartmentalization out in that 15 area, hydraulic compartmentalization. 16 There may be indications of faults and 17 so forth, but there's no indication that any of 18 those faults cause any hydraulic 19 compartmentalization or any impedance to 20 groundwater flow. 21 Q. Can you comment on the quality of the 22 drawdown and recovery plot data that was presented 23 in the Kling test, the quality of that data that 24 you saw? 25 A. In the Kling test?</p>
<p style="text-align: right;">Page 3485</p> <p>1 recovery data in this test were excellent, and 2 there are very, very few questions remaining. 3 Q. Do you recall Dr. Ralston's testimony 4 in this case with regard to the number of longer 5 than nine-day aquifer tests that he had conducted? 6 A. I believe -- I believe Dr. Ralston 7 indicated that he's run a few longer. I think he 8 mentioned one 90-day test that he ran, which is 9 very, very rare to run anything like that. But I 10 think he did indicate a couple tests longer than 11 nine days. 12 Q. What is your response to Mr. Vincent's 13 and Mr. Ralston's testimony that they don't see 14 any boundaries resulting from the Kling aquifer 15 test? 16 A. I agree. I don't see any boundaries 17 either. 18 Q. Based on the data presented by HLI, 19 was the Kling test, Kling aquifer test, adequate 20 to show whether there is a boundary in that 21 panhandle area, as we've discussed in this case? 22 A. I sure think so. I don't see any 23 indication of boundaries in that -- in those 24 aquifer test data. And if there's a boundary 25 there, I sure would expect it. It's close enough</p>	<p style="text-align: right;">Page 3487</p> <p>1 Q. Yes. 2 A. The quality of the data is excellent. 3 One of the things about Hydro Logic is they run 4 very, very thorough, comprehensive tests. All the 5 tests that I've reviewed are very, very 6 comprehensive, much better than I can do 7 academically. 8 Q. A related point on the drawdown in the 9 SVR-7 test arises with Mr. Vincent's comment that 10 he sees a problem with the test data is that 11 four-tenths of a foot drawdown in test well 4, not 12 in Big Gulch stock, but in test well 4, is, quote, 13 "not enough drawdown in relation to the other 14 factors that are going on to really make 15 meaningful determinations based on the test data." 16 Do you agree with that statement from 17 Mr. Vincent? 18 A. No, not -- no, I don't. And let me 19 explain. I think -- you know, I'm not exactly 20 sure what he means with "the other factors going 21 on." However, again, the small amount of drawdown 22 is a function of the fact that we have a very 23 transmissive aquifer. And I deal with small 24 amounts of drawdown all the time. 25 Most of the aquifers that I deal with</p>

<p style="text-align: right;">Page 3488</p> <p>1 are very, very transmissive and we have very small 2 amounts of drawdown. And it's not a function of 3 the amount of drawdown so much. It's a function 4 of how much data you collect and how well you're 5 able to collect those data. 6 And so if you have a very thorough 7 data collection program and you don't have any 8 breaks in the data, you have a very thorough 9 analysis. And you can make very accurate 10 predictions based on small amounts of drawdown. 11 Q. Does HLI's -- or did the M3 aquifer 12 test, the SVR-7 test and Kling test meet that 13 standard, in your opinion? 14 A. Yes, it did. 15 Q. With regard to the SVR-7 recovery plot 16 and Mr. Vincent's question about the, quote, 17 "missing data" between that 29 feet and 18 2.3 feet -- and I think Mr. Squires addressed part 19 of this point yesterday -- do you agree that once 20 the plot falls on essentially the straight trend 21 line that no other data is needed after that 22 initial recovery bounce? 23 A. Well, I can answer that this way. In 24 terms of the way that we typically analyze the 25 data, we analyze the data that fall on the</p>	<p style="text-align: right;">Page 3490</p> <p>1 penetration effects. 2 So what that means is that if the well 3 is poorly constructed, that will affect the amount 4 of water we can pump out of it, yes, it will 5 affect how much water we can pump from that well. 6 But it will not affect the drawdown and the 7 quality of the analyses based on observation well 8 data. 9 Q. In all of the aquifer tests that 10 you've done, Dr. Osiensky, what percentage had 11 pumping wells that fully penetrated the aquifer? 12 A. Very small percentage that I can 13 remember. Very small. Probably less than 14 5 percent of all the aquifer tests that I've run. 15 Q. Why would that be? 16 A. Well, in most cases it's very 17 difficult to identify the actual aquifer prior to 18 drilling. So generally, when wells are drilled, 19 the driller is looking for a target, and they're 20 looking to produce a certain amount of water. 21 And so they drill the well as deep as 22 it needs to be in order to supply a certain amount 23 of water. So as an example, if you contact a 24 driller and you say "I need a well that's going to 25 produce 1500 gallons per minute," that's what</p>
<p style="text-align: right;">Page 3489</p> <p>1 straight line. And generally speaking, the data 2 that do not fall on the straight line, the early 3 data that don't fall on the straight line, we 4 generally ignore those in the analysis, because 5 usually those don't fall on the straight line to a 6 number of reasons: spurious measurements or 7 effects that occur within the well itself. 8 Q. What is your response to Mr. Vincent's 9 statement that the Kling and SVR-7 tests are 10 somehow degraded in quality because neither well 11 is a perfectly constructed well or that the wells 12 are partially penetrating -- the pumping wells are 13 partially penetrating? 14 A. I don't agree with that. Basically, 15 in my opinion, the pumping well itself is a point 16 of withdrawal that we pump water from. And if 17 you're using observation well data to analyze 18 aquifer test data, it doesn't really matter 19 whether the well is partially penetrating or not 20 if the observation wells are far enough away. 21 So the basic rule of thumb that we use 22 in hydrogeology is that if the observation wells 23 are one and a half to two times the aquifer 24 thickness away, distance away from the pumping 25 well, then we can safely ignore all partial</p>	<p style="text-align: right;">Page 3491</p> <p>1 you're going to get. You're going to get a well 2 that produces 1500 gallons a minute. 3 Drillers have enough experience to 4 know, Okay, I can drill this well 300 feet deep 5 and it's going to get me 1500 gallons a minute. 6 They're not going to give you a 7 well -- go any deeper than that and give you a 8 well that produces 2,000 gallons a minute because 9 they're going to lose business down the road. 10 So you get what you ask for. And 11 those wells typically are partially penetrating, 12 in most cases. 13 One of the rare instances that I've 14 run with a fully-penetrating well was at Eagle 15 Island State Park. And that was a test -- an 16 eight-day test that I ran that I fully penetrated 17 the Boise River Gravel Aquifer, which in that case 18 was only 30 feet thick. There was a 5 foot thick 19 clay layer. And so I did fully penetrate that 20 with well screen, but it's very rare. 21 Q. Dr. Osiensky, in your opinion, is the 22 SVR-7 aquifer test sufficient to demonstrate water 23 availability in the PGSA for the M3 Eagle project? 24 A. I believe it is. 25 Q. And you believe that there is</p>

1 sufficient water available for that project?

2 A. Yes, I do.

3 Q. Is M3's monitoring program, including
4 its monitoring over the last two-and-a-half years,
5 and its 23 well monitoring network, sufficient to
6 engage the effects of M3 effects to the aquifer,
7 in your opinion?

8 A. Yes, in my opinion, with that -- with
9 that monitoring program, if that monitoring
10 program is continued monitoring on the same
11 frequency that it is now, any effects of the M3
12 pumping should be readily apparent in those
13 observation well data. And it should give us a
14 very thorough record of what's going to occur, and
15 predictions -- future predictions should be able
16 to be made very accurately from those data.

17 Q. Have you seen any indication in any of
18 the data developed by HLI to suggest that there is
19 not sufficient water in the PGSA to supply M3
20 Eagle's project?

21 A. I have not seen any.

22 Q. Do you have any comment on
23 Mr. Vincent's statement that a downward gradient
24 in that shallowest piezometer completion in test
25 well 1 -- I think it was mentioned briefly

1 yesterday -- is quote, "an anomaly that's not
2 explained," close quote? Do you have a response
3 to that?

4 A. I don't consider that to be an
5 anomaly. In my experience with measuring along
6 any of these canals -- and again, I lived in the
7 Boise Valley for nine-and-a-half years and I had a
8 little ditch going through my yard -- basically,
9 the water levels respond very rapidly to leakage
10 from these canals when they fill them and so
11 forth.

12 So I wouldn't expect anything else in
13 the vicinity of these canals. I would expect the
14 fact that once you add new water to the system
15 every spring in these canals, you're going to
16 create areas of decreasing potential with depth.
17 It has to happen.

18 And so you have many -- basically,
19 you're going to have a shallow -- many shallow,
20 short-flow systems that are going to be developed
21 along in the vicinity of these canals. And I
22 believe that's -- that measurement was taken very
23 close to the Farmers Union ditch, and that's
24 exactly what I would expect. I would expect to
25 see decreasing potential with depth in the shallow

1 system in that case.

2 Q. Is the fact that HLI did not describe
3 the shallow recharge zone in test well 1 a failing
4 of the HLI analysis or reporting in this case, in
5 your opinion?

6 A. Not in my opinion. I think the
7 information was presented, the indication that
8 there was decreasing potential at that location
9 was presented. The fact that it wasn't explained
10 or expounded upon -- you know, you can't explain
11 every detail. But the information was presented.

12 So there wasn't like anything was
13 missing. All that information was in the report.
14 So I don't see that as any deficiency.

15 Q. What amount of drawdown do you expect
16 the M3 Eagle project to cause in the aquifer in
17 the area of the protestants' wells?

18 A. Would you repeat that?

19 Q. What amount of drawdown do you expect
20 the M3 Eagle development at full build-out to
21 cause in the aquifer in the area of the
22 protestants' wells?

23 MR. ALAN SMITH: I would object to that.
24 Is he talking about the peak drawdown or peak
25 pumping or 10 cfs or 9.04? We don't know.

1 Q. (BY MR. FEREDAY): Okay. My question
2 has to do with full build-out that is producing
3 from the aquifer over 6500 acre-feet per year.

4 THE HEARING OFFICER: I'm assuming that
5 you're referring to the PGSA Aquifer?

6 MR. FEREDAY: From the PGSA, correct.

7 THE WITNESS: Okay.

8 THE HEARING OFFICER: Sure. Overruled.

9 THE WITNESS: In the Pierce Gulch Sand, I
10 would expect the drawdowns to be relatively small.
11 Okay? But when I say that -- let me qualify -- I
12 think based on the predictions that were made,
13 those predictions that were made were primarily
14 made with Theis, the Theis equation.

15 And I believe that -- at least what I
16 believe, based on what I'm seeing with all of the
17 data, I believe that it's going to be less
18 drawdown than is predicted by Theis. That's in
19 the Pierce Gulch.

20 Local domestic wells, in my opinion,
21 would experience less drawdown than we're
22 predicting to occur in the Pierce Gulch.

23 Q. (BY MR. FEREDAY): What is your
24 opinion of the conceptual geological model
25 testified to by Dr. Wood, Mr. Squires, and

<p style="text-align: right;">Page 3496</p> <p>1 questioned by the staff? Do you agree with the</p> <p>2 conceptual model that Hydro Logic has put forward?</p> <p>3 A. I believe that the conceptual model is</p> <p>4 excellent. I fully believe the conceptual model.</p> <p>5 In my opinion, the conceptual model is excellent,</p> <p>6 and it really has no deficiencies.</p> <p>7 Based on all of the data that I've</p> <p>8 looked at -- and I've looked at basically all the</p> <p>9 data. I've looked at all of the well logs as far</p> <p>10 as Stacy Douglas' master's thesis, plus looking at</p> <p>11 all the reports that Hydro Logic has produced,</p> <p>12 I've looked at the geophysical logs, I've looked</p> <p>13 at all the well logs, I've looked at all the</p> <p>14 cross-sections, and, in my opinion, the conceptual</p> <p>15 model is very accurate. It very accurately</p> <p>16 depicts and reproduces the data that were</p> <p>17 collected.</p> <p>18 Q. With regard to Hydro Logic's technique</p> <p>19 for mapping aquifers using geophysics, do you</p> <p>20 agree with that technique?</p> <p>21 A. In my opinion, geophysics is the</p> <p>22 definitive way. When a well is drilled -- and</p> <p>23 this is something that people don't realize, but</p> <p>24 when a well is drilled, you can collect samples.</p> <p>25 And most people collect samples every 5 feet or</p>	<p style="text-align: right;">Page 3498</p> <p>1 testified.</p> <p>2 Do you agree with him, first of all,</p> <p>3 that there is inadequate data to support the</p> <p>4 theory of groundwater flow toward the Payette</p> <p>5 Valley?</p> <p>6 A. Do I believe that there's inadequate</p> <p>7 data to support the conceptual model? Is that</p> <p>8 the --</p> <p>9 Q. Correct.</p> <p>10 A. No. No. I believe that there's</p> <p>11 plenty of information to suggest that the water is</p> <p>12 flowing in the direction that the conceptual model</p> <p>13 says it is.</p> <p>14 First off, you have to understand --</p> <p>15 and I think this is one of the things that I'm</p> <p>16 gathering -- hearing much of this -- the testimony</p> <p>17 and so forth, a conceptual model is basically what</p> <p>18 it says. It's a concept. Okay?</p> <p>19 And so what we do with the conceptual</p> <p>20 model is we develop at the early stages, and we</p> <p>21 continue to build on that conceptual model as more</p> <p>22 and more and more data are collected. And so the</p> <p>23 original conceptual model, I'm sure, was much</p> <p>24 different than this final conceptual model.</p> <p>25 And I know that for a fact, because</p>
<p style="text-align: right;">Page 3497</p> <p>1 so, and you collect what's coming up the borehole.</p> <p>2 And you never know exactly where the drill bit is</p> <p>3 when the cuttings are coming up the borehole.</p> <p>4 So correlating where you are depthwise</p> <p>5 with what's coming up the borehole -- and there's</p> <p>6 maybe a sand that you're collecting out at the</p> <p>7 borehole and the drill bit's down there 220 feet.</p> <p>8 Knowing where that sand is coming from is very,</p> <p>9 very difficult. Very difficult. Nobody can do</p> <p>10 that. Okay?</p> <p>11 What the well logs do -- geophysical</p> <p>12 well logs, it gives you a continuous record of</p> <p>13 what's been penetrated by the drill as it's</p> <p>14 drilling, and it's continuous.</p> <p>15 So when you collect samples every</p> <p>16 5 feet, there's a lot of error involved with that.</p> <p>17 But also, what's happening between those 5 feet?</p> <p>18 You have no idea.</p> <p>19 But geophysics, these well logs give</p> <p>20 you a continuous record. There's no gap in the</p> <p>21 record, so you know exactly what's at the --</p> <p>22 basically, every inch of the way. By far the best</p> <p>23 data.</p> <p>24 Q. Dr. Osiensky, I'd like to ask you</p> <p>25 about some points about which Dr. Ralston</p>	<p style="text-align: right;">Page 3499</p> <p>1 Stacy Douglas and I were dealing with the original</p> <p>2 conceptual model as Hydro Logic was putting that</p> <p>3 together. And it builds as more and more data are</p> <p>4 collected.</p> <p>5 And in short, you may not have data</p> <p>6 point everywhere along long the way. But based on</p> <p>7 all the data that have been collected to date, the</p> <p>8 conceptual model makes perfect sense, in my</p> <p>9 opinion, and it does indicate that groundwater is</p> <p>10 flowing to the northwest.</p> <p>11 Q. When you did your groundwater</p> <p>12 measurement with Stacy Douglas and the other</p> <p>13 students measuring I believe you said over 200</p> <p>14 wells, what did you find -- what did you know, to</p> <p>15 begin with, and what did you find with regard to</p> <p>16 that effort?</p> <p>17 A. Okay. When it started -- it started</p> <p>18 like this: Because we were charged with</p> <p>19 developing an independent conceptual model, an</p> <p>20 independent model, which is difficult because</p> <p>21 we're using some of the input from Hydro Logic.</p> <p>22 But our charge was to develop an independent</p> <p>23 model.</p> <p>24 And so what Stacy and I did is we</p> <p>25 started from scratch, and we used Modflow as our</p>

<p style="text-align: right;">Page 3500</p> <p>1 model. We collected our own data. Stacy went to 2 all the IDWR records. She went to all the 3 published records -- Spencer Wood's records, Idaho 4 Geological Survey, USGS records -- compiled what 5 they believed to be the geology in the vicinity of 6 the site.</p> <p>7 We put all that into the model and 8 simulated the condition where we believed 9 conceptually from our standpoint that the Boise 10 River was in contact with the groundwater and the 11 Payette River was in contact with the groundwater. 12 Okay? And --</p> <p>13 Q. Dr. Osiensky, at the time that you 14 started the Douglas -- what I'll call the Douglas 15 numerical model, were you fully aware of the Hydro 16 Logic conceptual model of the geology of the area?</p> <p>17 MR. ALAN SMITH: We would --</p> <p>18 THE WITNESS: At that point in time --</p> <p>19 MR. ALAN SMITH: -- object to this, Judge. 20 It's beyond the scope of our evidence. It's 21 beyond the scope of anything that Owsley or 22 Vincent testified to. It's going way beyond 23 rebuttal evidence, way beyond the scope, and I 24 think you need to cut it off.</p> <p>25 MR. FEREDAY: Mr. Hearing Officer, this is</p>	<p style="text-align: right;">Page 3502</p> <p>1 and you add complexity along the way. 2 So we started simple. We had a 3 homogenous block, which means we had no geology. 4 It was just we had one transmissivity, one 5 storitivity value all the way from the Boise River 6 Valley to the Payette River Valley.</p> <p>7 And based just on elevation, the fact 8 that we assumed that the rivers were in contact 9 with the groundwater, as soon as we did that, the 10 model showed a gradient to the northwest from, 11 say, Eagle to -- to Leatha. Okay?</p> <p>12 And that concerned me because that was 13 something that I didn't expect or did not believe 14 was part of the conceptual model that Hydro Logic 15 was dealing with.</p> <p>16 And so I was concerned, and I 17 contacted Ed about that. And I said, "Ed, you 18 know, I think I got bad news for you because we 19 think water is flowing from the Boise River to the 20 Payette River."</p> <p>21 And that's when Ed started giving us 22 more information about what he believes the 23 conceptual model is with the Pierce Gulch Sand and 24 the outcrop and so forth. And so we started to 25 incorporate that information at that point in time</p>
<p style="text-align: right;">Page 3501</p> <p>1 not beyond the scope. Both Mr. Vincent and 2 Mr. Owsley spoke to the numerical model. 3 Dr. Ralston spoke at some length about it, and I'm 4 attempting to establish his credentials and what 5 happened with his understanding of the modeling 6 effort in the area. And I think it is proper 7 rebuttal.</p> <p>8 THE HEARING OFFICER: Overruled.</p> <p>9 THE WITNESS: Okay. What we assume is that 10 the Boise River was in contact with the aquifer, 11 the groundwater, and the Payette River was in 12 contact with the groundwater. This was an 13 assumption that we made originally in our 14 conceptual model that we incorporated into that 15 three-dimensional groundwater flow model.</p> <p>16 And our original -- our -- basically, 17 Stacy's model is a more general model than the 18 final M3 model. And our model was built to 19 incorporate all of the hydrogeology from land 20 surface down. So we did incorporate all of the 21 shallow zones and so forth into that model.</p> <p>22 But getting back to where I was going 23 is that when we basically started, we had a 24 homogenous block of material. That's where we 25 started. In modeling generally you start simple</p>	<p style="text-align: right;">Page 3503</p> <p>1 into the groundwater model.</p> <p>2 Q. (BY MR. FEREDAY): Do you agree with 3 Dr. Ralston's statement that the M3 model is -- 4 that's the numerical model -- is, quote, "a good 5 model"?</p> <p>6 A. I believe it's a good model.</p> <p>7 Q. What about his raising questions with 8 it because its eastern boundary does not extend to 9 the presumed recharge area above Capitol Bridge?</p> <p>10 A. If you mean that he thinks that's a 11 deficiency of the model? Is that --</p> <p>12 Q. Correct. Correct.</p> <p>13 A. No, in my opinion, that M3 model was 14 designed as a site-specific model. It was not 15 designed to simulate the conditions in the entire 16 Boise Valley.</p> <p>17 And all site-specific models have -- 18 you have to cut off the boundaries at some 19 location, otherwise we -- M3 would have just been 20 reproducing the Treasure Valley model, which was 21 not the intent. The intent was to evaluate the 22 effects of pumping in the vicinity of the M3 area.</p> <p>23 Q. Do you think that the M3 numerical 24 model established its southeastern boundary at an 25 appropriate location?</p>

<p style="text-align: right;">Page 3504</p> <p>1 A. I believe so. That's pretty close to 2 where the Stacy Douglas model had it. And that's 3 how I would have done it too. 4 Q. And what did it recharge -- how did it 5 deal with recharge, then, with regard to water 6 entering into the model and how appropriate was 7 that in your opinion? 8 A. Well, basically the same tact that we 9 used with the Stacy Douglas model, we used 10 primarily information where we were outside of our 11 modeling domain, we used data that were collected 12 by the Treasure Valley Hydrologic Project, because 13 that was the most readily available data at that 14 point in time. And so it's the same thing that 15 was done with the M3 model. 16 And so recharge estimates that are 17 made in the eastern part of the valley were 18 incorporated based on information that was 19 collected during the Treasure Valley Hydrologic 20 Project investigation. But they were -- they were 21 input into the system as a boundary condition, 22 rather than as a location. And so they were 23 treated as underflow across a boundary. 24 So what that assumes is that the 25 recharge is occurring where it's supposed to</p>	<p style="text-align: right;">Page 3506</p> <p>1 model? 2 A. Well, it is based on the best data 3 available, and that's Treasure Valley Hydrologic 4 Project data, and it is a very common way of 5 modeling as underflow. 6 Q. So what is your response to 7 Dr. Ralston's questioning the model because its 8 eastern boundary does not extend all the way up to 9 east Boise? 10 A. Well, I don't agree with it. Again, 11 getting back to the fact that this was a 12 site-specific model, and if the intent of the 13 model was to reproduce the hydrologic -- Treasure 14 Valley Hydrologic model, then yes, then you would 15 extend the boundaries all the way up there. But 16 then you would just be reinventing the wheel. 17 Q. Have you constructed or used models 18 whose boundaries do not extend to hydrogeologic 19 boundaries? 20 A. Oh, yeah, all the time. 21 Q. How common is this? 22 A. It's very common. 23 Q. Do you remember Dr. Ralston's comment 24 that it's, quote, "only on those somewhat extreme 25 circumstances when you couldn't extend your model</p>
<p style="text-align: right;">Page 3505</p> <p>1 occur, and that water is flowing in a certain 2 direction -- in this case to the northwest -- and 3 it just continues to flow under the boundary and 4 enters into the boundary domain. 5 Q. Is it your opinion to a reasonable 6 degree of scientific certainty that recharge does 7 occur into the M3 area across that southeastern 8 boundary? 9 A. Strictly speaking -- and this is maybe 10 just me -- I don't consider that to be recharge. 11 I consider it to be underflow. A lot of people 12 would call that recharge. 13 Q. Uh-huh. 14 A. But my definition, and basically what 15 I teach my students, is that, you know, recharge 16 occurs from land surface down, and however that 17 is, whether that's from leakage from rivers or 18 leakage from precipitation and so forth. And it's 19 already in the groundwater system, that's 20 underflow. 21 But in terms of mass balance, yes, at 22 the boundary you would consider that to be 23 recharge to the model domain. 24 Q. Do you believe that that is 25 scientifically supported for the M3 numerical</p>	<p style="text-align: right;">Page 3507</p> <p>1 to a hydrogeologic boundary, you would simply 2 place a boundary"? 3 A. Well, I have to agree that that's true 4 at the regional scale. If we were completing a 5 new Treasure Valley model, that's exactly what 6 you'd do. And you wouldn't cut the -- wouldn't 7 cut it off in the middle of Boise, as an example, 8 because it's a regional model. 9 But when you're dealing with a 10 site-specific model, you have to. You just can't 11 deal with the entire state of Idaho when you're 12 dealing with a postage stamp area in -- you know, 13 north of Eagle. You just can't do it. It becomes 14 unwieldily to try to deal with such a large area. 15 Q. What is your opinion about the 16 likelihood that drawdown effects will be 17 measurable from the M3 development at the 18 southeastern boundary of the M3 model? 19 A. There may be -- that may be true, but 20 the model is designed to handle that. The model 21 is designed to handle the underflow, changes in 22 underflow from that condition. 23 Q. Are the M3 model's boundaries 24 sufficiently distant from the pumping center 25 proposed here to make that model a useful model,</p>

1 in your opinion?

2 A. In my opinion, yes.

3 Q. Do you think a regional model that
4 you've described here a few minutes ago would be
5 appropriate for trying to evaluate the effects of
6 the M3 development on groundwater levels or the
7 rights of other water right holders?

8 A. I believe it would be if it existed,
9 if we already had one available. I can't imagine
10 having to extend the M3 model to incorporate the
11 entire Boise Valley to investigate the -- the
12 impacts of 4500 gallons per minute.

13 Q. Do you recall my questions to
14 Mr. Vincent about his earlier position in the City
15 of Eagle case that recharge in the Eagle area is
16 coming from the foothills? And if you do recall
17 that, what is your comment about where the
18 recharge comes from?

19 A. I do remember that. And my opinion of
20 where the recharge is coming from is that there
21 definitely is some recharge from the foothills.
22 There is a small amount of recharge. In my
23 opinion, not much. If you consider the amount of
24 precipitation that occurs in the foothills versus
25 the amount of evapotranspiration, there cannot be

1 much recharge.

2 And this is one of the things that the
3 Treasure Valley Hydrologic Project shows, that
4 there's not much recharge in the foothills. And
5 we tried to do that with the Stacy Douglas model,
6 and we cannot make our model reproduce water
7 levels with the small amount of recharge in the
8 foothills. There was just not enough to allow
9 the -- to maintain the water levels in the area of
10 the M3 area.

11 Q. And that's in the PGSA?

12 A. In the PGSA.

13 Q. Have you done any evaluations
14 independently that bear on the recharge question
15 that the staff and Dr. Ralston raised?

16 A. Could you rephrase?

17 Q. Or were you referring to Stacy
18 Douglas' work in this?

19 A. Yes. Independently what we did is,
20 again, we -- well, Stacy did more than just the
21 information from the Treasure Valley Hydrologic
22 Project, because that area wasn't covered in great
23 detail.

24 Actually, one of my former students
25 was hired by Hydro Logic to evaluate the

1 conditions up in that area based on the crops that
2 existed in the area, based on better estimates of
3 the precipitation and so forth, and estimated the
4 recharge in that area, specifically for the Stacy
5 Douglas model.

6 Q. Is there anything in the Stacy Douglas
7 model or its findings that would contradict the
8 assumption that there is underflow in large
9 quantities coming through the southeast corner of
10 the M3 area model?

11 A. No. The Stacy Douglas model required
12 basically exactly the same thing. It required
13 substantial underflow from the southeast corner of
14 the model.

15 Q. You mentioned that during your -- to
16 change gears here a little bit. You mentioned
17 earlier during your work in measuring wells that
18 you spoke to several of the well owners during
19 your measurement work.

20 And I'm just wondering whether you
21 picked up any concern or anxiety about groundwater
22 levels or aquifer levels or wells going dry or
23 anything like that during your work?

24 A. Of the people that we contacted -- and
25 we probably talked to maybe two-thirds of them. I

1 mean we contacted everybody asking for permission
2 to measure wells. Yeah, about two-thirds of them
3 actually talked to us conversationwise, and nobody
4 voiced any -- or expressed any concern about
5 declining water levels, none that I can recollect,
6 either any problems that they're having now or
7 even any problems that M3 might create.

8 So they -- you know, people were not
9 necessarily happy about a development. But in
10 terms of groundwater, they -- nobody voiced any
11 concerns to me at all.

12 Q. Turning now to a comment Mr. Owsley
13 made. I'd like to get your response to his
14 statement that there is, quote, "some uncertainty
15 as to the values reported by Mr. Urban for river
16 losses," and he further said that he -- that
17 Owsley did not, quote, "think it is known at this
18 time," close quote, whether above Capitol is a
19 losing reach.

20 What is your response to that?

21 A. I think there is uncertainty relative
22 to where the Boise River leaks and where it gains.
23 If you think about trying to measure that, that's
24 a huge undertaking, a river that size, trying to
25 understand where it's gaining and losing.

<p style="text-align: right;">Page 3512</p> <p>1 However, that's because you're trying to measure 2 flows in the river and you're trying to measure 3 differences in the flows in the river. That's a 4 very difficult thing to do. 5 The groundwater data, however, 6 suggests that there is decreasing potential in 7 certain areas and increasing potential in certain 8 areas. And by our definition of hydrogeology, 9 wherever there's a downward gradient, that's a 10 recharge area. 11 And so that means that water is moving 12 down. And if the river is close by, then you 13 assume that the river is the ultimate source of 14 the water. But really what happens is that the 15 river may leak water, but that water is 16 distributed through the gravels, and then water 17 leaks down from the gravels into the deeper 18 system. 19 And so wherever you have a downward 20 hydraulic gradient, which we know we do have well 21 data to indicate that it does occur, that's when 22 recharge occurs. There's no question in my mind 23 that that's where recharge is occurring. 24 Q. Do you feel that recharge to the 25 Pierce Gulch Sand Aquifer is restricted to just</p>	<p style="text-align: right;">Page 3514</p> <p>1 you pump a specific well. And it's very, very 2 complicated. 3 You could have a river right next to 4 the well and complete a capture zone analysis and 5 find out that that well is not capturing any of 6 the river water. It's capturing it from somewhere 7 else. So even wells right close to the river 8 could have relatively old water and not show the 9 effects of recharge for easily a hundred years, 10 because the gradients all have to change. And 11 that old residence water that's in there was prior 12 to development. And so it's there. 13 And so it takes a very significant 14 change in the hydraulic gradients and the 15 distribution of those hydraulic gradients to 16 change the age data of the water, plus the fact 17 that that continues to change every year. As a 18 new well goes in, the whole capture zone of all 19 these wells change. 20 And so it's a moving target. It's 21 very difficult to predict that. And basically, 22 it's a very complicated capture zone analysis in 23 order to understand the age dates. 24 Q. Do you have any doubt, Dr. Osienksy, 25 that the aquifer receives substantial recharge,</p>
<p style="text-align: right;">Page 3513</p> <p>1 one reach of the river? 2 A. Not in my opinion. My opinion, the 3 river -- that overall, I don't have statistics to 4 put bounds on estimates, but I would say that the 5 river itself is actually a relatively small 6 contributor. I would say that most of the 7 recharge occurs from the spreaded irrigation water 8 in terms of all the hundreds of miles of canals 9 that crisscross the valley. 10 So all that river water from the 11 reservoir is being distributed. That's recharging 12 the gravels. And then water is infiltrating from 13 the gravels down into the Pierce Gulch and all the 14 other aquifers. 15 Q. What can you say about travel time and 16 time delay that might be involved in having that 17 recharge show up in the M3 area? 18 A. Recharge -- because what we're talking 19 about is -- we may actually have fairly old water 20 in residence in the aquifer. And recharge that's 21 occurring today could easily take a hundred years 22 or so forth to show up in any downgradient wells. 23 It's very, very complicated. 24 Basically, it's a capture zone 25 analysis of where the water is coming from when</p>	<p style="text-align: right;">Page 3515</p> <p>1 the PGSA? 2 A. No question in my mind. 3 MS. GIBSON: Excuse me, Jeff. Could I take 4 a moment and exchange the tape, please? 5 MR. FEREDAY: Yes. 6 MR. ALAN SMITH: Can we take a break at 7 this time? 8 MR. FEREDAY: I'm almost finished. If we 9 could just take a few more minutes, we can get 10 through. 11 THE HEARING OFFICER: Okay. We're 12 recording again. 13 Q. (BY MR. FEREDAY): Dr. Osienksy, what 14 is your response to the staff's concern and 15 suggestion that there's uncertainty due to the 16 magnitude -- the order of magnitude difference in 17 water-level fluctuations between the upgulch wells 18 and those wells further down to the -- southwest 19 in the panhandle? What's your response to that 20 concern? 21 A. Well, I don't agree with it. I think 22 that's a function of a superficial analysis. If 23 you first look at that, I think, yeah, you'd say 24 "Wow, look at that -- you know, we have an order 25 of magnitude difference in the fluctuations."</p>

<p style="text-align: right;">Page 3516</p> <p>1 However, if you look at it in more 2 detail, it makes perfect sense, because these 3 fluctuations are a function of distance. Okay? 4 And again, it's much like what I would mention 5 before, it's a function of distance from the 6 pumping centers. 7 And so if you have a pumping center 8 that's 3 miles away, it takes awhile for the 9 effect of that recovery, as an example, from that 10 pumping center to reach a distance 3 miles away. 11 And another well that's 4 miles away 12 is going to take that much longer, and one that's 13 5 miles away is going to take longer yet. 14 And the response is going to be muted. 15 So you're going to have a larger effect in the 16 closer wells, and less effect in the farther 17 wells. And that's exactly what I think we're 18 seeing, it's a function of distance and it's a 19 function of heterogeneity in there. There's 20 differences in transmissivity, may be some 21 differences in storativity. But when you combine 22 those, that's exactly what I would expect to see. 23 But I think when you look at it 24 superficially, it jumps out at you, and you say 25 "Wow, there's a big difference there." But I</p>	<p style="text-align: right;">Page 3518</p> <p>1 MR. FEREDAY: I'll rephrase the question. 2 Q. What is your opinion of the McVay 3 analysis in terms of its scientific merit? 4 A. Well, I think what Mike McVay did -- 5 well, let me rephrase. 6 I think what Mike McVay did is not 7 what I would do. Generally speaking, you know, I 8 do not like the fact when you pick certain points 9 and analyze certain points when you have a cloud 10 of data points. There's too much subjective -- 11 too much potential for subjective error when you 12 pick specific points for your analysis. 13 And so in my opinion, when you have a 14 mass, a cloud of data points, the best way is to 15 not eliminate any of the points and treat all of 16 them together. It may not show exactly what you 17 want it to show, but I think it's much more valid 18 because it takes subjectivity out of the equation. 19 Q. Dr. Osiensky, based on the data 20 available, do you have an opinion as to the level 21 of scientific certainty that has been provided in 22 this case to support the proposition that there is 23 sufficient groundwater to serve the M3 Eagle 24 development without causing unreasonable effects 25 on other water rights?</p>
<p style="text-align: right;">Page 3517</p> <p>1 think when you look at it in more detail and you 2 actually picture the difference in distances, it 3 makes perfect sense that we have an order of 4 magnitude difference in the fluctuations. 5 Q. Dr. Osiensky, in the course of this 6 hearing, have you heard any testimony from the 7 staff or Dr. Ralston that suggests to you that 8 they conducted any actual scientific analysis to 9 support their testimony? 10 A. I believe there was some. I know that 11 the staff did a Theis analysis to predict the 12 effects of pumping. Mike McVay did an analysis of 13 trends, showing upward and downward trends in 14 certain wells. And I think Dr. Ralston did -- he 15 brought in more of an illustration than analysis. 16 But he put a couple contour lines on a map to 17 illustrate that there is potential for water flow 18 in one direction or another. 19 Q. Dr. Osiensky, based on the data 20 available and the studies that you have reviewed 21 in this case, would you conclude that the McVay 22 analysis was academically rigorous? 23 A. Can you explain what you mean? 24 MR. ALAN SMITH: Object to that question as 25 vague and ambiguous.</p>	<p style="text-align: right;">Page 3519</p> <p>1 A. I believe, based on my evaluation of 2 all the data that have been collected, is that the 3 investigations completed by Hydro Logic were very 4 thorough and they substantially -- very, very 5 substantially reduced uncertainty. 6 The investigations completed by Hydro 7 Logic did not increase uncertainty in my opinion 8 in any way. If you look at what was done and what 9 we knew before the investigation, most of the 10 uncertainty and all of the significant uncertainty 11 was eliminated by the investigations that were 12 completed. 13 Q. Do you believe that those 14 investigations support the proposition that there 15 is sufficient groundwater to serve the M3 Eagle 16 development without causing unreasonable effects 17 on other water rights? 18 A. I don't know exactly what you mean by 19 "unreasonable." But I think there's definitely 20 enough information based on the -- all the 21 information that were collected to make 22 predictions as to what the drawdown effects would 23 be, whether they're unreasonable, I don't have a 24 basis for that. 25 Q. What inconsistencies have you seen in</p>

<p style="text-align: right;">Page 3520</p> <p>1 any of the information presented by M3 in this</p> <p>2 case?</p> <p>3 A. Can you say that again, please?</p> <p>4 Q. What inconsistencies have you seen in</p> <p>5 the data presented by M3 in this case?</p> <p>6 A. I don't remember any inconsistencies.</p> <p>7 There may be a few things in certain reports.</p> <p>8 There were some typos and so forth that were --</p> <p>9 that even I missed when I reviewed the reports</p> <p>10 that, you know, could be viewed as an</p> <p>11 inconsistency. But there was nothing in the data</p> <p>12 or the results or conclusions that I could see</p> <p>13 that were inconsistencies.</p> <p>14 Q. Just one last question, Dr. Osiensky.</p> <p>15 Could you please comment on the</p> <p>16 concept of uncertainty in the data in this case.</p> <p>17 And I know you've already testified a couple times</p> <p>18 about that, but I'd just like to make sure I</p> <p>19 understand you. The staff repeatedly referred to</p> <p>20 uncertainty in the data or the analysis.</p> <p>21 What uncertainty do you -- how do you</p> <p>22 see that criticism?</p> <p>23 A. Well, it depends what you mean by</p> <p>24 "uncertainty." "Uncertainty" means different</p> <p>25 things to different people, of course. It's --</p>	<p style="text-align: right;">Page 3522</p> <p>1 Conceptual models are based on all of</p> <p>2 the data that were collected to date. And in my</p> <p>3 opinion, there were no uncertainties there. But</p> <p>4 there's always going to be uncertainties,</p> <p>5 scientific uncertainties is always going to exist.</p> <p>6 And that's why conceptual models continue to build</p> <p>7 as more and more data are collected. So they</p> <p>8 always get better as more data are collected.</p> <p>9 So there's always going to be a</p> <p>10 certain amount of uncertainty, but in this case</p> <p>11 there's very little that -- in my opinion. I</p> <p>12 think we've -- or not we. But based on the data</p> <p>13 that were collected, there's very little</p> <p>14 uncertainty as to the amount of water that exists</p> <p>15 out in the M3 area.</p> <p>16 MR. FEREDAY: Thank you. No further</p> <p>17 questions.</p> <p>18 THE HEARING OFFICER: Okay. Do the parties</p> <p>19 want to break?</p> <p>20 MR. ALAN SMITH: Yes.</p> <p>21 THE HEARING OFFICER: Okay. Before we</p> <p>22 break -- well, let's break.</p> <p>23 (Recess.)</p> <p>24 THE HEARING OFFICER: Okay. We are</p> <p>25 recording again.</p>
<p style="text-align: right;">Page 3521</p> <p>1 you know, it's a definition that unless you looked</p> <p>2 that up in Webster and you go strictly by that</p> <p>3 definition, everybody has their own preconceived</p> <p>4 idea of what "uncertainty" is.</p> <p>5 And I think, you know, if you have a</p> <p>6 question of a report as to, you know, why the --</p> <p>7 why it says "data are" rather than "data is," and</p> <p>8 you would consider that to be an inconsistency or</p> <p>9 an uncertainty because the incorrect word was used</p> <p>10 in the report, I don't consider that to be</p> <p>11 uncertainty. At least nothing significant.</p> <p>12 And so, you know, I think relative to</p> <p>13 the term "uncertainty," I think it was -- it's</p> <p>14 been overused quite a bit. I personally don't see</p> <p>15 a lot of the considerations that the staff</p> <p>16 considered to be uncertainties, in my opinion.</p> <p>17 But maybe I'm much more closely involved with the</p> <p>18 data than the staff.</p> <p>19 But, you know, I didn't see</p> <p>20 uncertainties where the staff were pointing out</p> <p>21 many uncertainties. And as an example, the</p> <p>22 conceptual model, yeah, you may say that there's</p> <p>23 an uncertainty because we don't have a well out in</p> <p>24 a certain area. But that's an uncertainty</p> <p>25 relative to something that is unknown. Okay?</p>	<p style="text-align: right;">Page 3523</p> <p>1 Mr. Thornton, your turn to</p> <p>2 cross-examine.</p> <p>3 MR. THORNTON: Okay. Thank you.</p> <p>4</p> <p>5 CROSS-EXAMINATION</p> <p>6 BY MR. THORNTON:</p> <p>7 Q. Thanks, Dr. Osiensky, for your</p> <p>8 information. Obviously, we just had a couple</p> <p>9 minutes to get the questions organized, so I may</p> <p>10 do my normal little jumping from here to there on</p> <p>11 my questioning.</p> <p>12 First of all, I'd like to find out,</p> <p>13 are you currently licensed to practice in the</p> <p>14 state of Idaho as a geologist?</p> <p>15 A. I am not.</p> <p>16 Q. Okay. And do you know Dr. Dale</p> <p>17 Ralston, of his expertise?</p> <p>18 A. Yes, I do.</p> <p>19 Q. Okay. And how long have you been</p> <p>20 associated or knowledgeable of Dr. Ralston?</p> <p>21 A. I've known Dale since August of 1975.</p> <p>22 Q. Okay. And would you consider him an</p> <p>23 expert in the area of hydrogeology?</p> <p>24 A. Yes, I would.</p> <p>25 Q. You had stated I think early on in</p>

<p style="text-align: right;">Page 3524</p> <p>1 your testimony, Dr. Osiensky, when you were 2 working on the development of the original model 3 for the University of Idaho out in north Ada 4 County, I believe you testified that you and Stacy 5 Douglas and maybe some other students measured 6 several wells, maybe even a couple hundred wells; 7 is that correct? 8 A. Yes. 9 Q. Okay. And of those wells, how many of 10 those wells did you have knowledge of as to which 11 aquifer that they were penetrating into? 12 A. When Stacy and I originally went 13 out -- and this was in June of 2006, we didn't. 14 So we went to local domestic wells without knowing 15 exactly how deep they were, but they were in the 16 area. So we did it based on an areal basis, 17 anything that was there and we could get access 18 to, we asked if we could get our measurement. 19 Q. And subsequent to that, of those same 20 wells, how many of those do you have knowledge as 21 to which aquifer that they are in? 22 A. Very, very little. Subsequent to 23 that -- we found that most of those wells were 24 shallow wells, were not completed into the Pierce 25 Gulch Sand. Okay? Of the 200 -- that's of the</p>	<p style="text-align: right;">Page 3526</p> <p>1 A. You mean during the selection process? 2 Q. Correct. 3 A. It was primarily -- now, this was 4 Hydro Logic's interpretation. Okay? So it was 5 based on their interpretation of the well log and 6 their knowledge of the quality of the driller. So 7 in other words, experience with the driller in how 8 they complete wells and whether they seal wells 9 and whether they report well logs accurately. 10 Q. And do you know how -- have any 11 information on the Treasure Valley Drilling 12 Company who was used by M3 and Hydro Logic as to 13 their accuracy of providing information for well 14 logs? 15 A. I have no information on that. 16 Q. Are you aware that Treasure Valley 17 Well Driller was one of the operators putting in 18 the M3 test well No. 1, 2, and 3? 19 MR. FEREDAY: Objection. I think this goes 20 beyond the scope of direct in terms of inquiring 21 into well drillers or their capabilities. 22 THE HEARING OFFICER: Mr. Thornton, purpose 23 of the inquiry? 24 MR. THORNTON: The purpose of that inquiry 25 was to determine if that particular well driller</p>
<p style="text-align: right;">Page 3525</p> <p>1 original 25 that Stacy and I measured. 2 Of the 200, there was more filtering, 3 because then Hydro Logic was involved in 4 identifying specific wells. So when Stacy and I 5 first went out there, we didn't identify any 6 wells. We just visited every house that we could 7 get to. It was more information for the later 8 200. 9 Q. Okay. And "more information," what 10 type of information was that? 11 A. It was selection based on the well 12 logs. So based on the valuations of the depths of 13 the wells, based on the driller's reports, 14 specific wells were selected for measurement and 15 others were excluded. 16 Q. And this information was based on the 17 well logs, then, is how you selected them? 18 A. That's right. 19 Q. All right. And have you heard 20 testimony by Mr. Squires how well-log information 21 is often not that exacting? 22 A. That's right. 23 Q. Okay. Of the wells that you excluded, 24 what was the basis for the exclusions of those 25 wells?</p>	<p style="text-align: right;">Page 3527</p> <p>1 was thought to be credible in sampling well logs, 2 which yesterday identified where there was a very 3 large discrepancy between what was identified in 4 the geophysical data from sand and clay versus 5 what the well log -- or what the well driller's 6 well log stated. 7 THE HEARING OFFICER: Okay. Overruled. 8 THE WITNESS: I learned only yesterday that 9 they were the drillers of the M3 wells. I didn't 10 know prior to yesterday. 11 Q. (BY MR. THORNTON): Okay. I believe 12 you stated -- and excuse me, because I'll be 13 scattering around here. I didn't get a chance to 14 organize a lot of my notes. I apologize up front 15 again. 16 I believe you stated earlier that the 17 cone of depression associated with the nine-day 18 aquifer test was very extensive but not 19 necessarily deep; is that true? 20 A. Right. 21 Q. I believe you also testified that the 22 cone of depression was very large, covering many 23 tens of square miles, likely extending under 24 Meridian; is that correct? 25 A. That's correct.</p>

<p style="text-align: right;">Page 3528</p> <p>1 Q. Okay. Have you ever worked on aquifer 2 characterization involving not only the spatial 3 area, but also the number of existing wells 4 potentially impacted? Have you ever done anything 5 of that same magnitude? 6 A. I'm not sure what your question is. 7 Q. In your previous experience, have you 8 worked on any aquifer testing or characterization 9 associated with an area with so much development 10 in terms of other existing wells? 11 A. No, I have not. 12 Q. Have you worked on or been involved 13 with the aquifer characterization up in Moscow? 14 A. I have. 15 Q. And the name of that aquifer is? 16 A. There's -- in Moscow? 17 Q. Yeah. 18 A. There's two that I've been dealing 19 with. But we deal with them based on formation 20 name. So there's the Wanabum Aquifer system and 21 the Grand Rone Aquifer system. The Wanabum, 22 W-a-n-a-b-u-m, and the Grande Rone, G-r-a-n-d-e, 23 R-o-n-e, two words. 24 Q. And then could you describe -- and so 25 you've been involved with that for how many years?</p>	<p style="text-align: right;">Page 3530</p> <p>1 Have the predictions on drawdown been 2 an overestimation or an underestimation? 3 A. In terms of from aquifer tests or from 4 annual pumping or -- 5 Q. From your aquifer tests on predicted 6 drawdowns versus what's actually happened. 7 A. Okay. Basically the aquifer tests -- 8 we've never used aquifer tests to determine or 9 predict drawdowns, annual drawdowns. What we use 10 is the aquifer test data to determine hydraulic 11 connection between wells and aquifer coefficients, 12 transmissivity, and storitivity. 13 Then we use those coefficients 14 sometimes in order to make predictions based on 15 Theis equations or some other equations, so we can 16 extrapolate to any time in the future. 17 And so what we found -- I think this 18 may be what you're getting to. We found some 19 difficulty in doing that in that case, because 20 what we have there is high transmissivity, but 21 very low storitivity. And we have a huge 22 uncertainty relative to the size of the basin. 23 And so we have -- we can estimate 24 storitivity within maybe an order of magnitude of 25 factor of ten, but we don't know the size of</p>
<p style="text-align: right;">Page 3529</p> <p>1 A. Since I got -- since I was recalled to 2 Moscow in 1997. 3 Q. Okay. And then have you been involved 4 with estimating the sustainability of that 5 aquifer? 6 A. I have. 7 MR. FEREDAY: Objection. This is getting 8 into that aquifer, not this one. 9 THE HEARING OFFICER: Overruled. There was 10 some testimony about Dr. Osienky's familiarity 11 with the aquifer. 12 Go ahead. Let's see where it goes. 13 THE WITNESS: Yes, I have. 14 Q. (BY MR. THORNTON): Okay. And what 15 has the experience been with the predictions of 16 drawdown of those aquifers versus what's actually 17 been happening over the last several years? 18 A. It's a long story. How far back would 19 you like me to go? 20 It's a very poorly understood basin, 21 and it has been for years and years. So it 22 depends on, you know, specifically what you're 23 looking for. 24 Q. Okay. Maybe I can narrow down my 25 questions, or the field.</p>	<p style="text-align: right;">Page 3531</p> <p>1 basin. So without knowing the size of the basin 2 and the storitivity, we have to guess, and we have 3 to guess within an order of magnitude. 4 Q. Do you know the size of the basin for 5 the Pierce Gulch Sand Aquifer? 6 A. I don't know the size of the basin. 7 Q. So is it potentially it could have the 8 same uncertainty as you do up in Moscow? 9 A. No, totally different story. In 10 Moscow we have very distinct boundary conditions. 11 We have granites. So we have granite outcroppings 12 surrounding the basin, and the basin is basically 13 horseshoe shaped, but it is open to the west. 14 Okay? 15 And we have always assumed in the 16 past -- when I see "we," generally the 17 hydrogeologic community -- that the Snake River is 18 the ultimate discharge area because that's the 19 lowest topographic feature in the area. But when 20 we sample up there, we do not see the water. 21 Okay? The water is there, but the chemistry the 22 age dates -- the confusing thing with the age 23 dates -- or at least this was deuterium and O-18 24 suggests that the water that's discharging in the 25 Snake River doesn't originate in Moscow. So we</p>

<p style="text-align: right;">Page 3532</p> <p>1 don't know the size of the basin.</p> <p>2 THE HEARING OFFICER: Okay, Mr. Thornton,</p> <p>3 now I want to be active in limiting the amount of</p> <p>4 information that we try to elicit from</p> <p>5 Dr. Osiensky about the Moscow area. He's</p> <p>6 testified that it's significantly different in its</p> <p>7 geology and its hydrogeology. And because we</p> <p>8 can't draw those parallels, I want to limit the</p> <p>9 number of the questions and answers on that</p> <p>10 subject.</p> <p>11 MR. THORNTON: Okay. One more question on</p> <p>12 that.</p> <p>13 THE HEARING OFFICER: Okay.</p> <p>14 Q. (BY MR. THORNTON): So the predictions</p> <p>15 of drawdowns completed by yourself and a group of</p> <p>16 other experts compared to what has actually been</p> <p>17 happening, how accurate are they?</p> <p>18 A. The --</p> <p>19 MR. FEREDAY: Objection.</p> <p>20 THE HEARING OFFICER: In what location? I</p> <p>21 don't even know.</p> <p>22 MR. THORNTON: Okay. I'm sorry.</p> <p>23 Q. In the Moscow area.</p> <p>24 MR. FEREDAY: Objection. I think it's --</p> <p>25 the Hearing Officer has already pointed out that</p>	<p style="text-align: right;">Page 3534</p> <p>1 wells. It indicates that the deepest part of the</p> <p>2 cone of depression is at the pumping well, and it</p> <p>3 gets shallower and shallower as you move away from</p> <p>4 the pumping well to the, you know, four-tenths of</p> <p>5 a foot of drawdown that we're measuring in</p> <p>6 observation wells.</p> <p>7 Q. Okay. And then you had drawn -- and</p> <p>8 unfortunately I didn't see somebody erase it. I</p> <p>9 was going to try to have it up there as an</p> <p>10 example. You had drawn on a log scale your time</p> <p>11 versus drawdown.</p> <p>12 And what I was interested -- and maybe</p> <p>13 you could just, without the accuracy that you drew</p> <p>14 it then, if you could just draw that curve or</p> <p>15 perhaps I could come up and ask you a question,</p> <p>16 whatever, just simply, you know, in 20 seconds</p> <p>17 just draw the X and Y-axis, and then you have the</p> <p>18 curve in there.</p> <p>19 A. We have drawdown here, and we have</p> <p>20 time on this axis (indicating).</p> <p>21 Q. Right.</p> <p>22 A. And then we have a log scale like this</p> <p>23 (indicating).</p> <p>24 Q. Correct.</p> <p>25 A. And so we're looking at the log of</p>
<p style="text-align: right;">Page 3533</p> <p>1 there are significant differences, as he's</p> <p>2 testified. And I don't think it's relevant.</p> <p>3 THE HEARING OFFICER: Sustained.</p> <p>4 Q. (BY MR. THORNTON): In terms of the</p> <p>5 cone of depression for -- to identify it as being</p> <p>6 extensive in area and not necessarily in depth,</p> <p>7 how -- what are some of the depths that you saw in</p> <p>8 terms of the cone of depression as they radiated</p> <p>9 out from the wells?</p> <p>10 A. You're talking about here --</p> <p>11 Q. In the M3 area.</p> <p>12 A. Okay. I believe -- and this is</p> <p>13 memory, but I believe there's about 29 feet of</p> <p>14 drawdown in SVR-7, as an example. I believe</p> <p>15 that's what I remember in terms of the drawdown.</p> <p>16 But a lot of that is well loss. Okay?</p> <p>17 So the actual drawdown in the well or</p> <p>18 in the aquifer outside of the well is much less</p> <p>19 because of well loss. Okay? So we have a</p> <p>20 relatively shallow cone of depression in that, by</p> <p>21 crude estimate, say that there was 20 feet of real</p> <p>22 drawdown in the pumping well -- okay? -- which is</p> <p>23 a very low drawdown pumping 917 gallons a minute,</p> <p>24 and then you extrapolate to where he measured</p> <p>25 four-tenths of a foot in some of the observation</p>	<p style="text-align: right;">Page 3535</p> <p>1 time. And so it starts at 1 minute and this is 10</p> <p>2 minutes, this is 100 minutes --</p> <p>3 Q. Sure.</p> <p>4 A. -- this is 1,000 minutes (indicating).</p> <p>5 Q. Okay. And then you had a curve, an</p> <p>6 illustrative or an illustrative curve.</p> <p>7 A. Right.</p> <p>8 Q. If you could just --</p> <p>9 A. That would be, as an example, the</p> <p>10 Theis-type curve that everybody talks about.</p> <p>11 Q. Sure. And so over time drawdown</p> <p>12 increases; is that correct?</p> <p>13 A. That's correct.</p> <p>14 Q. What I'm curious as, when you get out</p> <p>15 in time, whether it's one year, five years, or you</p> <p>16 predict 50 years, dealing with the uncertainty --</p> <p>17 I didn't have time to get a Webster's dictionary,</p> <p>18 or my staff didn't -- there is some confidence</p> <p>19 interval that brackets either side of that curve,</p> <p>20 is there not, in terms of your certainty or</p> <p>21 accuracy as to your prediction? Is that correct?</p> <p>22 A. I'm not sure exactly what you mean by</p> <p>23 that.</p> <p>24 In terms of how many data points that</p> <p>25 are scattered above the point?</p>

<p style="text-align: right;">Page 3536</p> <p>1 Q. No. No. Just if you --</p> <p>2 And, Mr. Hearing Officer, if I could</p> <p>3 just quickly draw something there. Unfortunately,</p> <p>4 the curve was originally lost. This is a question</p> <p>5 I need to ask in terms of how certain are they in</p> <p>6 terms of their predicted drawdowns. We've never</p> <p>7 gotten that yet in the whole hearing.</p> <p>8 MR. FEREDAY: We would object to</p> <p>9 Mr. Thornton drawing charts.</p> <p>10 Q. (BY MR. THORNTON): Okay. So the</p> <p>11 point -- then I won't draw, which is fine.</p> <p>12 If you were to go out to five years.</p> <p>13 A. Okay. So out here somewhere.</p> <p>14 Q. Okay. So you're somewhere there at</p> <p>15 five years.</p> <p>16 A. Okay.</p> <p>17 Q. And let's say, as an example, the</p> <p>18 drawdown was supposed to be 20 feet, as just pure</p> <p>19 example, what is the range in terms of the</p> <p>20 probabilities that that's accurate, if you were to</p> <p>21 use one standard deviation or two or whatever? Is</p> <p>22 it 10 feet to 40 feet? Is it 5 feet to 100 feet?</p> <p>23 I want to know what that certainty is. I've never</p> <p>24 heard anybody ever tell me, other than it's a</p> <p>25 certain amount, and I ask "How certain are you?"</p>	<p style="text-align: right;">Page 3538</p> <p>1 haven't heard anything about certainty, which is</p> <p>2 problematic to the protestants concerned about</p> <p>3 injury, is we have no idea how accurate they feel</p> <p>4 this is in the future.</p> <p>5 THE HEARING OFFICER: Okay. Well, I'll</p> <p>6 sustain an objection. But it's based on the fact</p> <p>7 that there were two questions asked, and I don't</p> <p>8 know which one he's supposed to answer,</p> <p>9 Mr. Thornton. I want you to re-ask the question.</p> <p>10 I think you can explore the subject of certainty</p> <p>11 with Mr. Osiensky.</p> <p>12 MR. THORNTON: Okay.</p> <p>13 THE HEARING OFFICER: But you need to ask</p> <p>14 one question, and then let him answer that</p> <p>15 question.</p> <p>16 MR. THORNTON: Yeah, and I apologize. I</p> <p>17 didn't realize I asked two, but I'll try to --</p> <p>18 THE HEARING OFFICER: Well, you asked one</p> <p>19 question, and then you left that question and</p> <p>20 asked another.</p> <p>21 MR. THORNTON: Okay.</p> <p>22 THE HEARING OFFICER: So ask the question</p> <p>23 you want him to answer.</p> <p>24 MR. THORNTON: Okay. I'll try and see if I</p> <p>25 cannot have a senior moment here.</p>
<p style="text-align: right;">Page 3537</p> <p>1 and I never have gotten an answer.</p> <p>2 A. Well, okay. This is -- if we're going</p> <p>3 to extrapolate out there in time where we don't</p> <p>4 have any measurements --</p> <p>5 Q. Correct.</p> <p>6 A. -- so it's based on what the equation</p> <p>7 predicts. The equation is perfect. The equation</p> <p>8 is going to predict exact amount. It's an</p> <p>9 analytical equation.</p> <p>10 Q. Sure.</p> <p>11 A. It's going to predict exactly the</p> <p>12 amount of drawdown you should have based on</p> <p>13 everything that went into the equation in the</p> <p>14 first place, the transmissivity and storitivity.</p> <p>15 Q. Correct. Right. So now how accurate</p> <p>16 is that prediction?</p> <p>17 A. Okay.</p> <p>18 Q. Can you tell me as an expert that</p> <p>19 you're 100 percent certain that at year five it</p> <p>20 will be at 20 feet and no more, no less?</p> <p>21 A. The way I have to answer that --</p> <p>22 MR. FEREDAY: We'd object that 100 percent</p> <p>23 certainty has not been what his testimony is, nor</p> <p>24 is it the standard of proof.</p> <p>25 MR. THORNTON: And I would say that we</p>	<p style="text-align: right;">Page 3539</p> <p>1 Q. So at year five was a point of</p> <p>2 drawdown predicted to be 20 feet, by your</p> <p>3 equation. Okay?</p> <p>4 At year five, if we were to actually</p> <p>5 go to year five, what confidence interval is there</p> <p>6 in terms of -- I may not be articulating this</p> <p>7 right. How certain are you that it's going to be</p> <p>8 20 feet?</p> <p>9 A. Okay. I have to answer it this way.</p> <p>10 Q. Okay.</p> <p>11 A. The equation can predict what's there.</p> <p>12 No question about it that the equation is accurate</p> <p>13 based on the assumptions that go into the equation</p> <p>14 and the values that you present.</p> <p>15 Q. Right.</p> <p>16 A. Now, if the values are in error and so</p> <p>17 forth, then you're going to have -- you're going</p> <p>18 to have error in the interpretation of the data.</p> <p>19 Q. Correct.</p> <p>20 A. The other thing is it's very difficult</p> <p>21 to predict into the future, because we don't know</p> <p>22 what else is going to go on.</p> <p>23 Q. Right.</p> <p>24 A. We can predict the effect of the M3</p> <p>25 conditions -- okay? -- but we can't predict</p>

<p style="text-align: right;">Page 3540</p> <p>1 whether a new well is going to go into Meridian 2 and a new well is going to go into Eagle because 3 all bets are off. This is assuming the effect of 4 only the M3 condition. 5 But every well that goes into the 6 Pierce Gulch Sand Aquifer is additive to this. We 7 have to add all the effects together, and we can't 8 predict that. 9 So if 15 new straws go into the 10 aquifer after five years and they're equally 11 spaced, in other words, those wells are equally 12 distant from your well, as an example, and they 13 pump the same amount, then you're going to have 15 14 times more drawdown in your well than is caused by 15 M3. So everything is additive. 16 Q. And thank you. And I believe I 17 understand that. 18 My intent wasn't to look at my 19 question additive of others, just purely based on 20 if M3 was the only extractive addition to the 21 Pierce Gulch Aquifer, how certain or sure are you 22 of that? And if I could give -- I'm not trying to 23 testify. I'm trying to help. Maybe through the 24 work that I do in surface hydrology, when I'm 25 asked to predict a 100-year flood flow --</p>	<p style="text-align: right;">Page 3542</p> <p>1 it is, that's not going to change. So our 2 prediction is always going to be the same. 3 There's no error bracket involved. It's a 4 prediction based on that. 5 Now, how good that prediction is is 6 based on how good -- how well the equation fits 7 the scenario -- 8 Q. Correct. 9 A. -- the geology. 10 Q. So -- 11 A. So based on the data that we have 12 collected, it suggests that the Theis equation is 13 an excellent model. All of the data during the 14 aquifer tests fall right on the Theis curve. 15 There's no deviations that we're seeing in the 16 boundaries. That gives us a very strong 17 indication that it is an accurate model to use to 18 make predictions. 19 If we had a lot of deviation where the 20 aquifer test data don't fall on the Theis curve, I 21 would say "Okay. That's the wrong model to use. 22 We need to find a different predictor." But 23 that's not the case here. All of the aquifer test 24 data for all of the tests that were run basically 25 indicate that Theis, or the straight-line method</p>
<p style="text-align: right;">Page 3541</p> <p>1 MR. FEREDAY: Objection. He is testifying. 2 THE HEARING OFFICER: Well, I'll let him 3 pose this as a hypothetical question. 4 Mr. Thornton, overruled. Let's see 5 how you do. 6 MR. THORNTON: Thank you. 7 Q. When I'm asked to predict a 100-year 8 flood flow on a stream, there's an equation that 9 tells me it's going to be a thousand cfs. But 10 then based on the uncertain nature of the 11 equation, the variables that go into it and the 12 coefficients, it's bracketed by, as I'm sure 13 you're much more aware and knowledgeable than I 14 am, as standard deviations or confidence 15 intervals, that it could actually be anywhere from 16 800 to maybe 1200 cfs, could be in that realm. 17 And that's what I'm trying to find out 18 here, is what is that band around that 20-foot 19 drawdown? 20 A. Okay. We generally don't do that. 21 You're incorporating uncertainty into climatic 22 conditions of the surface water. You have an 23 increased rainfall event, yeah, you're going to 24 have more runoff. Here where we know what the 25 withdrawal rate is, 4500 gallons a minute I think</p>	<p style="text-align: right;">Page 3543</p> <p>1 equivalent, is a good model to predict future 2 drawdowns. 3 Q. Okay. And thanks for that. If you 4 want to, you can sit back down. 5 So I believe you also stated that if 6 during the nine-day aquifer test, if the volume 7 had been doubled, then potentially the drawdown 8 would have been I think you said double, but I 9 wasn't sure if I got that right. 10 A. Yeah, drawdown is directly 11 proportional to the pumping rate. 12 Q. Okay. And then -- and then in the 13 example for the nine-day aquifer test at 14 917 gallons a minute -- and this is what I 15 calculated out and can't find it now -- what 16 percentage of that 917 gallons per minute is what 17 M3 is asking for in terms of their peak use? Do 18 you know what percentage that 917 is? 19 A. In terms of their peak use? 20 Q. Yeah. 21 A. I don't know offhand. 22 Q. Their peak use would be somewhere 23 around 15 million gallons a day? 24 MR. FEREDAY: Objection. It's way beyond 25 the scope of his testimony.</p>

<p style="text-align: right;">Page 3544</p> <p>1 THE HEARING OFFICER: Okay. Mr. Thornton, 2 I think if you were to ask the question -- I'll 3 sustain the objection. I think if you were to ask 4 the question as a hypothetical question of this 5 expert witness, you can pose the question 6 correctly, rather than testifying yourself. 7 MR. THORNTON: Okay. Thank you. 8 Q. If you double the pumping rate 9 hypothetically from the seven-day aquifer test and 10 you did it for the -- or the nine-day aquifer 11 test, I guess it is, what would the likely 12 drawdown difference be if you doubled the volume? 13 A. The difference at an observation well? 14 If you -- I'll put it in illustrative terms. If 15 you had 1 foot of drawdown in a well after nine 16 days pumping at 917 gallons a minute, and you 17 doubled the pumping rate but pumped for nine days, 18 then you should have 2 feet of drawdown. 19 Q. Okay. And does the 917 gallons per 20 minute equate roughly to 1.3 million gallons per 21 day? You were doing some calculations on the 22 board that got erased. 23 A. Yeah, whatever 917 times 1440 is. 24 Q. I came up with 1.3 million. 25 And are you aware that M3's peak use</p>	<p style="text-align: right;">Page 3546</p> <p>1 Q. Sure. 2 A. Okay? So this is the way that we 3 predicted, so a lot of those numbers I can't do in 4 my head any longer. But, you know, with a quick 5 calculator, it's easy. 6 But if you look at drawdown -- and I 7 write "drawdown" as a written estimate to 8 differentiate from. "S" is storativity. So 9 drawdown is equal to Q, divided by 4 pi T. "T" is 10 transmissivity to the aquifer, and then you have W 11 and U. "W" is the well function of U. So this is 12 an infinite series. 13 So drawdown is directly proportionate 14 with Q. So whatever you do to Q is going to 15 affect the drawdown directly. So if you double 16 it, triple it, quadruple it, whatever, then you're 17 going to have that equivalent amount of drawdown 18 at any location in the aquifer. That's what's 19 predicted by the equation. 20 So but if you're talking about an 21 instantaneous withdrawal, that it occurs for one 22 day -- okay? -- it's just a small blip on this. 23 So it's actually -- you could use the same 24 equation to calculate the additional amount, but 25 then you'd have to add these equations together</p>
<p style="text-align: right;">Page 3545</p> <p>1 is looking at potentially 15 million gallons per 2 day, approximately? 3 A. Peak use? 4 Q. Yeah. 5 A. During a fire, as an example? 6 Q. Yeah, instantaneous, yeah, use. 7 And then -- 8 THE HEARING OFFICER: You asked a question? 9 MR. THORNTON: Yeah. 10 Q. Are you aware -- I've kind of lost 11 track of where -- 12 THE HEARING OFFICER: I think you said "Are 13 you aware?" and I don't think the question was 14 answered. 15 Q. (BY MR. THORNTON): Yeah, are you 16 aware that the peak discharge for M3 is 17 approximately 15 million gallons per day? 18 A. I'll take your word for it, yes. 19 Q. And then taking the test, the nine-day 20 aquifer test, the 1.3 million gallons, as compared 21 to the 15 million gallons, what difference in 22 potential drawdown would there be if they were to 23 use that amount of water? 24 A. If you look at -- again, let me just 25 illustrate by a simple equation.</p>	<p style="text-align: right;">Page 3547</p> <p>1 for the amount of time that it was pumping at one 2 rate plus another rate plus another rate. So it's 3 by two per position. And so it just becomes a 4 long equation. 5 Q. Okay. Is it fair to identify -- I 6 believe what you said in general is that if the 7 pumping rate is doubled, the drawdown is 8 basically -- that was experienced would be 9 doubled? 10 A. That's correct. 11 Now, could I explain a little bit? 12 Q. Oh, you bet. 13 A. I think, you know, what you're getting 14 at is you're looking at pumping at 15 15 million gallons a day, and that's going to have 16 a dramatic effect. And no, it won't because you 17 also have to take into account function of time. 18 So when we use the -- when we use the 19 nine-day aquifer test to predict how much 20 drawdown, that's like after nine days of pumping 21 at 917. 22 If you pump that well for one day at 23 15 million gallons a day -- okay? -- that will 24 have a certain effect. But again, it's all 25 additive. So if you average that 15 million</p>

<p style="text-align: right;">Page 3548</p> <p>1 gallons, then, over nine days -- okay? -- you'd</p> <p>2 have the same total drawdown.</p> <p>3 Q. I think I understand.</p> <p>4 A. Does that make sense?</p> <p>5 Q. Yes. So I believe that you testified</p> <p>6 that -- let's see -- that you've heard most of the</p> <p>7 testimony from Mr. Squires, is that correct, the</p> <p>8 last day yesterday?</p> <p>9 A. Yes, I have heard that.</p> <p>10 Q. And did you hear Mr. Squires identify</p> <p>11 that the PGSA is a large regional aquifer</p> <p>12 extending as far and southwest as Meridian?</p> <p>13 A. Yes.</p> <p>14 Q. Okay. Would you agree, then, that the</p> <p>15 model for the PGSA at M3 therefore reflect the</p> <p>16 regional nature of the PGSA?</p> <p>17 A. It does not cover the entire extent of</p> <p>18 the PGSA, because the PGSA extends out into the</p> <p>19 Treasure Valley. And so the Treasure Valley</p> <p>20 Hydrologic Project should have incorporated the</p> <p>21 PGSA into it, in terms of the full extent, at</p> <p>22 least for the model domain on that model.</p> <p>23 Q. So did the M3 model cover the extent</p> <p>24 of the PGSA aquifer?</p> <p>25 A. Not the full extent, no.</p>	<p style="text-align: right;">Page 3550</p> <p>1 drawdown of the PGSA and protestants' wells, but I</p> <p>2 don't believe you quantified those values, did</p> <p>3 you, in terms of the drawdown?</p> <p>4 A. For the domestic wells?</p> <p>5 Q. Yeah.</p> <p>6 A. No.</p> <p>7 Q. Do you have any knowledge as to the</p> <p>8 drawdown that may occur by pumping the PGSA to the</p> <p>9 other domestic well owners at -- based on</p> <p>10 testimony from M3, are largely located in the</p> <p>11 shallower aquifers? Have you seen that</p> <p>12 information?</p> <p>13 A. I have not seen that information.</p> <p>14 However, this is the way I view it, that</p> <p>15 predictions made based on Pierce Gulch Sand</p> <p>16 Aquifer -- okay? -- if the domestic wells are not</p> <p>17 completed in the Pierce Gulch Sand Aquifer, any</p> <p>18 predictions of drawdown beneath those domestic</p> <p>19 wells -- okay? -- those predictions at that</p> <p>20 location but in the Pierce Gulch Sand Aquifer</p> <p>21 beneath the domestic wells are valid. Okay?</p> <p>22 And so if we predict 3 feet of</p> <p>23 drawdown in the Pierce Gulch Sand beneath a</p> <p>24 domestic well that's completed in an upper zone,</p> <p>25 we have that prediction at that location.</p>
<p style="text-align: right;">Page 3549</p> <p>1 Q. Therefore, the potential effects to</p> <p>2 other users in the PGSA that weren't modeled, do</p> <p>3 we have an idea of what could be happening there?</p> <p>4 A. We can make predictions, easily make</p> <p>5 predictions using the same type of equation as</p> <p>6 this to any distance. Any distance, anytime we</p> <p>7 can make those predictions.</p> <p>8 Q. Have we made any of those predictions,</p> <p>9 to your knowledge? Has M3 or yourself made those</p> <p>10 predictions?</p> <p>11 A. Outside the model domain?</p> <p>12 Q. Right.</p> <p>13 A. Not as far as I know.</p> <p>14 Q. Is the M3 observation well, their</p> <p>15 network, adequate to measure effects of the</p> <p>16 protestants' wells that are several miles away?</p> <p>17 A. Not completely, because one of the</p> <p>18 things about domestic wells is the domestic wells</p> <p>19 themselves are pumping. So the best way to</p> <p>20 measure domestic wells and the effects are to</p> <p>21 measure specific domestic wells, because you need</p> <p>22 to incorporate the effects of the homeowner</p> <p>23 themselves pumping, and how much water they pump</p> <p>24 each day and so forth.</p> <p>25 Q. So I believe you testified about the</p>	<p style="text-align: right;">Page 3551</p> <p>1 Q. Are you saying that -- if I understand</p> <p>2 you correctly, are you saying that the prediction</p> <p>3 of 3 feet in the Pierce Gulch Sand Aquifer, and if</p> <p>4 you have a well above it that's in a shallower</p> <p>5 aquifer, that their drawdown would be 3 feet?</p> <p>6 A. It's possible. But again, it's very</p> <p>7 difficult to know because there's different strata</p> <p>8 between the Pierce Gulch Sand Aquifer and that</p> <p>9 zone. So without knowing exactly what's there,</p> <p>10 it's very difficult to make a very accurate</p> <p>11 prediction, plus the fact that that domestic well</p> <p>12 is pumping.</p> <p>13 And so getting information on how much</p> <p>14 water is pumped out of the domestic well is just</p> <p>15 about impossible, unless we have recorders in</p> <p>16 those wells, where you have flow meters on your</p> <p>17 wells.</p> <p>18 Q. In your expert opinion, what is an</p> <p>19 appropriate way to predict or what is needed to</p> <p>20 help predict potential effects to the domestic</p> <p>21 well owners?</p> <p>22 A. Well, again, the best way is</p> <p>23 monitoring. So the more monitoring data you have,</p> <p>24 that's by far the best. Because just like you've</p> <p>25 indicated, when you extrapolate an aquifer test</p>

<p style="text-align: right;">Page 3552</p> <p>1 out in time -- okay? -- there's a lot of</p> <p>2 assumptions that you make.</p> <p>3 So by far, you know, a long-term</p> <p>4 monitoring is the best in order to understand</p> <p>5 what's actually happening, because that's very</p> <p>6 definitive. You monitor it, you see it, if it's</p> <p>7 not happening, it's not happening. If you see it,</p> <p>8 you have a record that shows that certain effect</p> <p>9 is occurring.</p> <p>10 Q. And then I believe Mr. Squires</p> <p>11 yesterday identified a five-year period would be</p> <p>12 the beginning of good information collected to</p> <p>13 characterize the test model.</p> <p>14 A. I did hear him say that, uh-huh.</p> <p>15 Q. And then again, you're not aware of</p> <p>16 any modeling effort yet to -- for the shallower</p> <p>17 aquifers to predict effects?</p> <p>18 MR. FEREDAY: Objection. Asked and</p> <p>19 answered.</p> <p>20 Q. (BY MR. THORNTON): Are you aware</p> <p>21 of --</p> <p>22 THE HEARING OFFICER: Just a minute. I</p> <p>23 think that subject has been covered, Mr. Thornton.</p> <p>24 MR. THORNTON: All right. I'll withdraw</p> <p>25 the question.</p>	<p style="text-align: right;">Page 3554</p> <p>1 characterizing it.</p> <p>2 MR. THORNTON: Well, that's actually the</p> <p>3 point I was trying to make, is that he did not.</p> <p>4 He's not an expert in terms of reasonableness.</p> <p>5 THE HEARING OFFICER: No. And I think he</p> <p>6 very wisely avoided any discussion about it.</p> <p>7 MR. THORNTON: Right. Same information</p> <p>8 about Dr. Ralston.</p> <p>9 So with -- let me see here. Actually,</p> <p>10 I think that's the end of my questions.</p> <p>11 THE HEARING OFFICER: Okay.</p> <p>12 MR. THORNTON: Thank you, Dr. Osienksy.</p> <p>13 THE HEARING OFFICER: Okay. Do you want to</p> <p>14 launch into your questions, Mr. Smith?</p> <p>15 MR. ALAN SMITH: Whatever you want to do.</p> <p>16 THE HEARING OFFICER: Well, let me tell you</p> <p>17 just in conversation what I've determined based on</p> <p>18 timing. I have a meeting scheduled from 1:00 to</p> <p>19 1:30. And so if we can break for lunch sometime</p> <p>20 during that time period, I can, I think, get done</p> <p>21 what I need to get done within that half hour</p> <p>22 period of time.</p> <p>23 So depending on how many questions you</p> <p>24 think you have, we can start -- but I don't want</p> <p>25 to go much past about quarter to 1:00. So...</p>
<p style="text-align: right;">Page 3553</p> <p>1 THE HEARING OFFICER: Sustained.</p> <p>2 Q. (BY MR. THORNTON): When you were</p> <p>3 asked by Mr. Fereday a question regarding -- or</p> <p>4 were you asked a question by Mr. Fereday regarding</p> <p>5 pumping of the PGSA and the potential</p> <p>6 unreasonable -- quote, "unreasonable" effect on</p> <p>7 other senior water rights?</p> <p>8 A. I don't remember being asked that</p> <p>9 question.</p> <p>10 Q. I thought you were actually asked it</p> <p>11 twice in my notes.</p> <p>12 But do you have any knowledge of what</p> <p>13 unreasonable effects are to senior water rights?</p> <p>14 MR. FEREDAY: Objection. Asked and</p> <p>15 answered, and also asks for a legal conclusion.</p> <p>16 THE HEARING OFFICER: Yeah, I think on both</p> <p>17 sides of the issue -- and if I would have gotten</p> <p>18 an objection, Mr. Thornton, from you regarding</p> <p>19 Mr. Fereday's question, I would have sustained it.</p> <p>20 I think it calls for a conclusion that, number</p> <p>21 one, I don't think Mr. Osienksy -- or Dr. Osienksy</p> <p>22 is qualified to answer. And I think it's a legal</p> <p>23 question. So I'll sustain the objection.</p> <p>24 Mr. Osienksy didn't answer the</p> <p>25 question, and I think wisely avoided</p>	<p style="text-align: right;">Page 3555</p> <p>1 MR. ALAN SMITH: I don't have very many</p> <p>2 questions, but I never know how many objections</p> <p>3 I'm going to get. So I can't tell you.</p> <p>4 THE HEARING OFFICER: Okay. Let's try.</p> <p>5 Let's try. Go ahead. You may examine, Mr. Smith.</p> <p>6 MR. FEREDAY: Objection.</p> <p>7 THE HEARING OFFICER: For the count in your</p> <p>8 favor, Mr. Smith, overruled.</p> <p>9 MR. ALAN SMITH: All I did was clear my</p> <p>10 throat.</p> <p>11</p> <p>12 CROSS-EXAMINATION</p> <p>13 BY MR. ALAN SMITH:</p> <p>14 Q. I believe you said that all of the</p> <p>15 work you and Stacy Douglas did on the M3 property</p> <p>16 was funded by M3?</p> <p>17 A. That is correct.</p> <p>18 Q. And you're being paid to testify here</p> <p>19 today?</p> <p>20 A. That is correct.</p> <p>21 Q. And I wanted to ask you, you don't</p> <p>22 think that a longer pumping test would show any</p> <p>23 more or different stress on the aquifer than a</p> <p>24 shorter one, say nine days?</p> <p>25 A. It would definitely be a different</p>

<p style="text-align: right;">Page 3556</p> <p>1 stress. But in my opinion, the data would plot 2 the same way that the nine-day aquifer test would 3 plot, so that predictions would be the same. 4 Q. Would you refer to page -- the map on 5 Exhibit 50, page 22. 6 A. I have it. 7 Q. Exhibit 50, page 22. 8 Do you have that? 9 A. Figure 3? 10 Q. Yeah, figure 3, the map. 11 A. I have it. 12 Q. Does that not reflect about the same 13 drawdown effect that your drawing showed up there 14 that's now been erased? 15 A. Yes. Yes, it does. 16 Q. And you're aware that that drawdown 17 map is assuming a pumping rate of 10 cfs, not 18 23.18? 19 A. It does say it's 10 cfs, correct. 20 Q. Would the drawdowns shown on that map 21 double if 20 cfs was pumped instead of 10? 22 A. Yes, they would. 23 If I could explain. That would be 24 doubled over the entire 50 years. 25 Q. I believe you also, in talking about</p>	<p style="text-align: right;">Page 3558</p> <p>1 Q. -- wells and pumping? 2 A. That's correct. 3 Q. So it isn't just his statement, is it? 4 A. No. But that's the issue I have with 5 the statement. See, that statement is based on 6 Driscoll. And what Driscoll is is a purely 7 theoretical analysis. And so in theory, if you 8 assume homogenous isotropic conditions, no other 9 wells pumping anywhere within infinity, other than 10 that one well -- okay? -- then you should have 11 full recovery. That's what Driscoll suggests. 12 Q. But the Big Gulch well nevertheless 13 had trouble recovering? 14 A. It did not fully recover, yes, sir. 15 Q. Are you aware that there's some 16 question about whether it's even in the PGSA or 17 not? 18 A. Which well are we talking about? 19 Q. The Big Gulch well. 20 A. Yes, I am aware of that. 21 Q. I think you said long-term monitoring 22 should continue, and that was the best way to keep 23 track of what's going on in the aquifer. 24 Once M3 sells its property and leaves 25 the area, who does the monitoring?</p>
<p style="text-align: right;">Page 3557</p> <p>1 the Big Gulch well, said that we rarely have full 2 recovery and that doesn't indicate drawdown rates 3 exceed recharge rates. 4 Did you say that? 5 A. I did say that we rarely see full 6 recovery in a system such as this when you have 7 municipal wells pumping, because there are well 8 interferences that affect the data, which prevent 9 full recovery in most instances. 10 Q. Could that be caused by the withdrawal 11 exceeding the recharge? 12 A. No. It's a transient effect. It's 13 just caused by the pumping. So that -- what these 14 predictions are, assuming no recharge. 15 Q. All right. Would you look at 16 Exhibit 50, page 11. The third paragraph, the 17 second sentence states, "Although there are other 18 possible explanations, the fact that water levels 19 did not recover to pre-pumping levels suggests 20 that the aquifer may be of limited extent." 21 Did you find that? 22 A. I found that. 23 Q. And Mr. Vincent quotes Mr. Driscoll 24 there on -- 25 A. Correct.</p>	<p style="text-align: right;">Page 3559</p> <p>1 MR. FEREDAY: Objection. I think that 2 calls for speculation and it's beyond the scope. 3 THE HEARING OFFICER: Sustained, Mr. Smith. 4 Q. (BY MR. ALAN SMITH): And I don't 5 really want to go into this flow to the Payette 6 again. I think that's been beat to death. 7 But are you aware that Newton, 8 Petrich, Urban, and Ralston all disagreed with 9 that flow to the Payette? 10 MR. FEREDAY: Objection. I don't think 11 that reflects facts in evidence. Newton clearly 12 shows that flow. 13 THE HEARING OFFICER: Well, I think the 14 question can be asked, Mr. Fereday. Overruled. 15 THE WITNESS: So am I aware that other 16 people say that the flow is not in that direction? 17 Q. (BY MR. ALAN SMITH): All these other 18 expert witnesses, four of them, disagree with 19 that? 20 A. I can't say for sure which -- what 21 each individual investigator concluded. But I do 22 know that some have suggested that flow is not in 23 that direction. 24 Q. Are they all wrong? 25 A. Based on my interpretation of the</p>

<p style="text-align: right;">Page 3560</p> <p>1 data, I would have to say yes, they're wrong. 2 Q. I believe you said you and Stacy 3 Douglas talked to a lot of these well owners, and 4 none of them voiced any concerns? 5 A. That's correct. 6 Q. Did you tell them that these wells at 7 M3 were not going to affect them? 8 A. No. No. Basically, wherever people 9 were interested in talking, I did try to get some 10 impression about how they felt about the 11 development and so forth. 12 Q. Did you tell them that these 13 high-capacity wells would cause drawdowns to 14 affect other wells in the area? 15 A. I think most of them were aware of 16 that. Most of them had gone to some of the public 17 hearing and so forth. 18 Q. Did you tell them that? 19 A. No, I did not. 20 Q. Discuss it with them? 21 A. I did not discuss it with them. 22 Q. Did you advise them that development 23 of additional municipal groundwater and water 24 table drawdowns may require some existing wells to 25 have to be deepened or replaced?</p>	<p style="text-align: right;">Page 3562</p> <p>1 give his opinion. If he doesn't have one, he can 2 say so. 3 THE HEARING OFFICER: Well, Mr. Smith, I 4 think the question is vague because it asks the 5 question what happens with the groundwater. With 6 what specifically are you wanting him to address 7 with respect to a happening? I don't know what 8 that might be, and I'm not sure that Dr. Osiensky 9 would know what that "happening" is. So I'll 10 sustain the objection. 11 MR. ALAN SMITH: I'll rephrase the 12 question. 13 THE HEARING OFFICER: Okay. 14 Q. (BY MR. ALAN SMITH): Does anyone know 15 for sure the situation of the groundwater 200 to a 16 thousand feet below us? 17 MR. FEREDAY: Same objection. 18 THE HEARING OFFICER: Sustained. 19 Mr. Smith, I think your question needs 20 to go directly to something like age or direction 21 of flow or something that is concrete. And the 22 way in which the questions have been asked, I 23 don't think that Dr. Osiensky could venture an 24 answer. 25 Q. (BY MR. ALAN SMITH): If it takes 100</p>
<p style="text-align: right;">Page 3561</p> <p>1 A. No, I did not tell them that. 2 Q. Did you tell them that artesian wells 3 may stop flowing and have to be supplanted by 4 pumps? 5 A. No. It was all beyond the purpose of 6 my investigation. I was there to measure their 7 water level. 8 Q. It's not too unusual for you experts 9 to disagree about a lot of things, is it? 10 A. No. I would say whenever you have two 11 hydrogeologists in the same room, you get 12 disagreement. 13 Q. And I think you were referred to the 14 staff memo about Mr. Vincent's statements about 15 uncertainty. 16 Can you tell us whether or not anybody 17 knows for sure what happens with that groundwater 18 200 to a thousand feet down below is? Does 19 anybody really know? 20 A. The -- 21 MR. FEREDAY: Objection. I think it's a 22 vague question with regard to does anybody really 23 know what happens with that groundwater between 24 200 and a thousand feet. 25 MR. ALAN SMITH: He's an expert. He can</p>	<p style="text-align: right;">Page 3563</p> <p>1 years for this recharge to show up in the aquifer, 2 can we really say that the recharge is robust? 3 A. To answer that question, I'd have to 4 say that that's not what we're basing that 5 conclusion on, that it's robust. If you look at 6 travel times of 100 years, that's movement of a 7 water molecule from point A to point B, and it's 8 taking an unknown path to get from point A to 9 point B, which takes it 100 years. 10 We do know that there's lots of 11 recharge getting into the system, but those are 12 billions and billions of molecules all going in 13 different directions towards different wells and 14 so forth. So you can't quantify recharge based on 15 that concept. 16 Q. Can you tell us what effect this 17 pumping by M3 may have on the Boise or Payette 18 Rivers? 19 A. No, I can't. 20 MR. ALAN SMITH: I believe that's all the 21 questions I have. 22 THE HEARING OFFICER: Okay. Mr. Edwards, 23 questions? 24 MR. EDWARDS: I have no questions for him. 25 THE HEARING OFFICER: Mr. Fereday?</p>

<p style="text-align: right;">Page 3564</p> <p>1 MR. FEREDAY: No redirect. 2 THE HEARING OFFICER: Okay. Thank you, 3 Dr. Osiensky. 4 And we will break for lunch. Let's 5 come back at quarter to 2:00, if that's okay. 6 It's a little longer lunch hour, but -- 7 MR. THORNTON: Quarter to 2:00. 8 THE HEARING OFFICER: -- but only by five 9 minutes or so. Quarter to 2:00. 10 (Lunch recess.) 11 THE HEARING OFFICER: Okay. Let's go on 12 the record. 13 Based on discussions with parties, we 14 have determined that we will need to hold an 15 additional day of hearing or continue this hearing 16 again on the 30th of July. And the Department 17 will prepare and send out a notice. And the 18 notice period will be shortened because of the 19 short period of time we have between now and the 20 30th. 21 We've also discussed the presentation 22 of additional testimony, rebuttal testimony by 23 Department witnesses. And as the Hearing Officer, 24 I am allowing those Department witnesses to 25 respond to the testimony related to the</p>	<p style="text-align: right;">Page 3566</p> <p>1 to identify the basis for all of my observations 2 about M3's sometimes contradictory statements 3 relative to aquifer testing, the hydrogeologic 4 setting, aquifer continuity, faulting, et cetera. 5 Having had a chance to sleep on it, 6 however, there are a few issues that I feel 7 warrant a brief response. 8 First, I understood Mr. Squires to 9 indicate that he now thinks that the PGSA is not 10 significantly faulted anywhere, not even by the 11 West Boise/Eagle fault. I understand that he now 12 believes that the aquifer boundary along the 13 up-dip limit is instead everywhere the result of 14 the dipping aquifer intersecting with land 15 surface. 16 And along those lines I think it's -- 17 you know, it's disconcerting to staff to have it 18 revealed by the principal investigator of a 19 fundamental change to the hydrogeologic conceptual 20 model for the target aquifer on what was to be the 21 second-to-the-last day of the hearing. 22 That this is a fundamental change is 23 without question, as can be seen by inspection of 24 figures contained in several of M3's submittals. 25 I would refer the Hearing Officer to figures 4 and</p>
<p style="text-align: right;">Page 3565</p> <p>1 applicant's witnesses in rebuttal relating to 2 their original testimony. 3 Based on the discussions we've had, 4 Mr. Sean Vincent, if you'll come forward, please, 5 and assume the witness chair. And I'll just 6 remind you you're under oath. So please be 7 seated. 8 You may narrate your testimony. 9 10 SEAN VINCENT, 11 having been called as a rebuttal witness by the 12 Department and previously sworn, testified as 13 follows: 14 15 DIRECT NARRATIVE TESTIMONY 16 THE WITNESS: Thank you. 17 I was not initially interested in 18 protracting this already lengthy matter when we 19 discussed the possibility of having staff respond 20 to M3's experts' response to our testimony in 21 yesterday's hearing. 22 After all, my cross-examination 23 testimony was based primarily on my narrative 24 testimony, and that is already available via our 25 website in written form, which includes citations</p>	<p style="text-align: right;">Page 3567</p> <p>1 6 in Exhibit 2 to illustrate that the existing -- 2 THE HEARING OFFICER: Okay. Let us get to 3 that. 4 MR. THORNTON: And was there a figure in 5 there? 6 THE WITNESS: Figure 4 is the first. 7 MR. THORNTON: Figure 4. 8 THE WITNESS: Figure 4 is labeled 9 "Conceptual Block Diagram of the Pierce Gulch Sand 10 Aquifer," and it clearly shows a major fault 11 transecting the Pierce Gulch Sand Aquifer and 12 causing it to be terminated in its I believe 13 that's northeast limit by the fault. 14 Moreover, figure 6 is a plan view map 15 which shows the same fault -- fault system, 16 actually, as a dashed red line, which also forms 17 the boundary of the PGSA in the lower-right corner 18 of that figure. 19 I might mention that there is also 20 discussion of the existence and hydrologic 21 functioning of this same fault system in many of 22 the other M3 submittals, including Exhibit 12, the 23 third paragraph on page 59. 24 THE HEARING OFFICER: Okay. Let us find 25 it.</p>

<p style="text-align: right;">Page 3568</p> <p>1 MR. THORNTON: That is Exhibit 12?</p> <p>2 THE WITNESS: Correct.</p> <p>3 MR. ALAN SMITH: Page 59?</p> <p>4 THE WITNESS: Page 59.</p> <p>5 Perhaps I'll just read that paragraph.</p> <p>6 It says, quote, "As noted in the hydrogeologic</p> <p>7 overview section of this report, the West</p> <p>8 Boise/Eagle fault lies approximately one-half mile</p> <p>9 to the northeast of the Lexington Hills well</p> <p>10 No. 1. Review of well driller's reports and the</p> <p>11 hydraulic data included in the CH2M Hill report</p> <p>12 indicates this fault acts as a no-flow barrier and</p> <p>13 edge to the Pierce Gulch Sand Aquifer. It has</p> <p>14 incorporated the effects of this no-flow boundary</p> <p>15 into all of the log-log type curve analyses</p> <p>16 discussed below. Aqtesolv generated type curves</p> <p>17 that reflected the effects of this boundary by</p> <p>18 simulating this boundary using image well theory,"</p> <p>19 end quote.</p> <p>20 I guess it's my opinion that this</p> <p>21 significant last-minute change to the</p> <p>22 hydrogeologic conceptual model serves to undermine</p> <p>23 claims made by M3's experts that there is</p> <p>24 certainty regarding the hydrogeology of the target</p> <p>25 aquifer. I mean is the aquifer faulted or is the</p>	<p style="text-align: right;">Page 3570</p> <p>1 Exhibit 902.</p> <p>2 And on pages 16 --</p> <p>3 THE HEARING OFFICER: Okay. Let us find</p> <p>4 it. Okay. What page?</p> <p>5 THE WITNESS: Page 16.</p> <p>6 THE HEARING OFFICER: Okay.</p> <p>7 THE WITNESS: At the bottom of page 16 is a</p> <p>8 quote from Exhibit 12.</p> <p>9 THE HEARING OFFICER: Just a minute,</p> <p>10 Mr. Vincent.</p> <p>11 Mr. Thornton have you found the</p> <p>12 reference?</p> <p>13 MR. THORNTON: I think I got there right</p> <p>14 now. It says "Higher standard"?</p> <p>15 THE WITNESS: Yeah.</p> <p>16 MR. THORNTON: Okay. Thank you.</p> <p>17 THE HEARING OFFICER: Go ahead,</p> <p>18 Mr. Vincent.</p> <p>19 THE WITNESS: And at the bottom of that</p> <p>20 slide is a quote that I took from Exhibit 12. And</p> <p>21 it discusses HLI's opinion of the need for -- or</p> <p>22 the recommendation that the wells be fully</p> <p>23 penetrating for aquifer tests.</p> <p>24 And similarly, on page 18 of my</p> <p>25 narrative testimony, there's mention that the plan</p>
<p style="text-align: right;">Page 3569</p> <p>1 aquifer not faulted? We have a fundamental</p> <p>2 question here.</p> <p>3 And I get indications in reading</p> <p>4 through the documents that it is faulted, and</p> <p>5 there's indications elsewhere that it is not</p> <p>6 faulted. And that there is a barrier to flow, and</p> <p>7 there's not a barrier to flow. It's confusing to</p> <p>8 staff, and this is -- this is a problem with the</p> <p>9 conceptual model. And again, it points to</p> <p>10 uncertainty, in my mind.</p> <p>11 Second issue, Mr. Squires now appears</p> <p>12 to feel that it's not important to use</p> <p>13 fully-penetrating pumping wells when performing</p> <p>14 aquifer tests. And that's fine. There are</p> <p>15 reasons, as I understand Dr. Osiensky mentioned</p> <p>16 some of those today, that fully-penetrating</p> <p>17 pumping wells are not always required, and</p> <p>18 provided certain conditions are met, that's -- you</p> <p>19 can still get good results.</p> <p>20 However, the point is that M3's own</p> <p>21 experts felt that it was important that</p> <p>22 fully-penetrating test wells be used for aquifer</p> <p>23 tests. And I guess when I originally did my</p> <p>24 narrative testimony, I provided several quotes</p> <p>25 which appear -- my narrative testimony is</p>	<p style="text-align: right;">Page 3571</p> <p>1 is to use a fully-penetrating test well for the at</p> <p>2 the time proposed aquifer tests.</p> <p>3 So it's kind of irritating to have to</p> <p>4 defend something which was not our original</p> <p>5 concept. The staff is not of the opinion that</p> <p>6 it's impossible to make good use of test data from</p> <p>7 non-fully-penetrating test wells.</p> <p>8 It's HLI that seems to go out of the</p> <p>9 way to argue that we need fully-penetrating test</p> <p>10 wells. And that's fine. But I think it's my job</p> <p>11 to point out contradictions where they occur. And</p> <p>12 I believe that is one.</p> <p>13 Lastly, with regard to Mr. Squires'</p> <p>14 testimony, I believe Mr. Fereday represented that</p> <p>15 it was my testimony that the fact that the source</p> <p>16 of the water to the Emmett wells was not found by</p> <p>17 the hydrogeochemical analysis to be that of the</p> <p>18 PGSA somehow represented a contradiction in HLI's</p> <p>19 conceptual model.</p> <p>20 And I don't believe that I ever said</p> <p>21 that. We weren't provided a quote. And I -- if I</p> <p>22 did, I don't believe that to be the case. The</p> <p>23 Emmett wells, according to the HLI conceptual</p> <p>24 model, are cross-gradient so that isn't</p> <p>25 necessarily a contradiction, in my mind.</p>

<p style="text-align: right;">Page 3572</p> <p>1 With regard to the testimony of 2 Dr. Osiensky, which unfortunately I could only 3 hear a few minutes of this morning, I think it's 4 noteworthy to point out that his conclusion that 5 the boundary effects associated with the so-called 6 green line and the West Boise fault were seen in 7 the SVR-7 aquifer test data. 8 And that appears to be in conflict 9 with Mr. Squires' recent theory that he expressed 10 in yesterday's testimony that the PGSA is not 11 anywhere faulted to a significant degree, and that 12 there were no boundary effects seen in the SVR-7 13 aquifer test data. 14 I also just want to briefly mention 15 that I guess I found it somewhat interesting to be 16 criticized so heavily for my comments regarding 17 the rather complicated regional water-level trend 18 analysis that was performed by HLI. 19 I never implied that it was a bad 20 analysis or that it wasn't appropriate. I said 21 that it doesn't make any sense to perform a 22 well-specific regional trend analysis. By 23 definition, a regional trend analysis cannot be 24 well specific. It should apply to a large area. 25 That is what it means to be regional.</p>	<p style="text-align: right;">Page 3574</p> <p>1 I'm trying to get at. 2 THE HEARING OFFICER: I think that is the 3 nature of your question. So I'll throw it out to 4 the parties. 5 What kind of formality do we want to 6 require in these questions? 7 Protestants and Mr. Fereday, what do 8 you think is the best thing? 9 And what we have here, I guess, is a 10 conflict between the formal order of presentation 11 and perhaps a possibility of efficiency in what 12 we're doing. 13 So what do you think, Jeff? 14 MR. FEREDAY: Well, if we could conclude 15 with Sean's testimony today, both any surrebuttal 16 that the protestants would elicit and what he -- 17 he has concluded his testimony. I think that 18 would be ideal to move this forward. So if that 19 could be done, we would have no objection to 20 having the protestants go outside the scope at 21 this time. 22 On the other hand, if they still 23 intend to reserve an argument that they can recall 24 the staff, then we would suggest that the scope be 25 kept narrow and precise, just as Mr. Vincent's</p>
<p style="text-align: right;">Page 3573</p> <p>1 So I guess I don't understand what is 2 being taken exception to here. I think the 3 analysis was appropriate, but I think that it was 4 an indication of complexity. There was not a 5 regional trend going on if each and every well had 6 its own thing in response to water-level 7 fluctuations. 8 So that's all I have to say. I'll 9 gladly stand for questions. 10 THE HEARING OFFICER: Okay. Mr. Thornton, 11 do you wish to examine? 12 MR. THORNTON: A question for 13 clarification, Mr. Spackman, if I could. 14 We have the chance, sounds like, or 15 the opportunity for, if we wish, to call 16 Mr. Vincent back; is that -- 17 THE HEARING OFFICER: Well, your question, 18 at least to me, raises an issue of whether we in 19 this examination, Mr. Vincent, allow questions 20 beyond just what he has testified about. 21 MR. THORNTON: Right. 22 THE HEARING OFFICER: Or whether we limit 23 the testimony to just those subjects that he 24 testified about. 25 MR. THORNTON: Yeah, that's actually what</p>	<p style="text-align: right;">Page 3575</p> <p>1 testimony just now has been. 2 THE HEARING OFFICER: Protestants? 3 MR. THORNTON: I guess my thought is I'd 4 probably like to be able to reserve the 5 opportunity to ask him more detailed questions at 6 a later time. 7 THE HEARING OFFICER: Okay. Then let's 8 very narrowly limit the scope of the examination 9 to what Mr. Vincent has testified about. 10 MR. THORNTON: Okay. 11 THE HEARING OFFICER: I don't want to go 12 through it twice. 13 MR. THORNTON: And I agree. 14 THE HEARING OFFICER: Okay. 15 MR. THORNTON: I'm off track occasionally, 16 which I'm sure I will be. 17 THE HEARING OFFICER: No, I think that's 18 okay. So I want everybody to adhere to those 19 strict rules of examination or standards. We 20 won't call them rules. 21 MR. THORNTON: Okay. 22 THE HEARING OFFICER: Okay. Mr. Thornton? 23 MR. THORNTON: In light of the ability to 24 recall for questions and versus what I believe I 25 heard the testimony just given by Mr. Vincent, no</p>

<p style="text-align: right;">Page 3576</p> <p>1 questions.</p> <p>2 THE HEARING OFFICER: Okay. Mr. Smith?</p> <p>3 MR. ALAN SMITH: No questions.</p> <p>4 THE HEARING OFFICER: Mr. Edwards?</p> <p>5 MR. EDWARDS: No questions.</p> <p>6 THE HEARING OFFICER: Mr. Fereday?</p> <p>7</p> <p>8 CROSS-EXAMINATION</p> <p>9 BY MR. FEREDAY:</p> <p>10 Q. Thank you, Mr. Vincent for coming back</p> <p>11 today.</p> <p>12 With regard to the West Boise/Eagle</p> <p>13 fault, which I refer to in shorthand as the WBE</p> <p>14 fault, you aren't saying, are you, that the WBE</p> <p>15 fault shows up as a boundary in any aquifer tests,</p> <p>16 are you?</p> <p>17 A. That's what I heard Dr. Osiensky say</p> <p>18 this morning.</p> <p>19 Q. Are you saying that it shows up as a</p> <p>20 boundary in an aquifer test that you could</p> <p>21 identify?</p> <p>22 A. I'm saying that Dr. Osiensky said that</p> <p>23 this morning, if I heard him correctly.</p> <p>24 Q. Then I'm asking you, though, whether</p> <p>25 you are -- whether it's your belief or your</p>	<p style="text-align: right;">Page 3578</p> <p>1 partial penetration. And I guess this is the</p> <p>2 first time I -- and correct me if I'm wrong, but I</p> <p>3 understand you to recognize that you can get --</p> <p>4 you can have a valid aquifer test even though the</p> <p>5 pumping well partially penetrates; correct?</p> <p>6 A. Yes. And I was not here for</p> <p>7 Dr. Osiensky's testimony. But in my discussion</p> <p>8 with staff prior to this afternoon's hearing, I</p> <p>9 understood that he indicated that a certain</p> <p>10 distance beyond a certain distance the partial</p> <p>11 penetration effects diminish, and I concur.</p> <p>12 Q. And with regard to your quote on</p> <p>13 page 16 of your Exhibit 902, your quote of HLI,</p> <p>14 you, of course, recognize that that quote starts</p> <p>15 out with the word "Ideally," that "Ideally aquifer</p> <p>16 tests would be conducted with a fully-penetrating</p> <p>17 well"? And I hope you recognize, and do you not,</p> <p>18 that an ideal condition cannot always be achieved?</p> <p>19 A. Yes.</p> <p>20 Q. With regard to the WBE fault point,</p> <p>21 would you agree that moving to the northeast on</p> <p>22 the M3 property, across the entire property, the</p> <p>23 aquifer ends there in any event, whether it is the</p> <p>24 up-dip expression of the aquifer or even the WBE</p> <p>25 fault? You would agree that the aquifer is</p>
<p style="text-align: right;">Page 3577</p> <p>1 conclusion that it does?</p> <p>2 A. I believe it was seen in the Lexington</p> <p>3 Hills 30-day aquifer test, at least that was the</p> <p>4 indication provided in the reanalysis of 16</p> <p>5 aquifer tests. That was the interpretation.</p> <p>6 Q. How about the two aquifer tests that</p> <p>7 were done for M3 Eagle?</p> <p>8 A. I didn't necessarily see that, no.</p> <p>9 Q. Okay. Now, would you agree that with</p> <p>10 regard to your comment about the green line,</p> <p>11 whether the green line is a truncating fault or</p> <p>12 the edge of an aquifer, you'd have the same kind</p> <p>13 of boundary show up, would you not, in an aquifer</p> <p>14 test?</p> <p>15 A. Yes, you would. The aquifer</p> <p>16 disappears. There's an interesting phenomenon</p> <p>17 that occurs when an aquifer outcrops and goes from</p> <p>18 being confined to unconfined. There's a</p> <p>19 transition which can have an impact, at least in</p> <p>20 theory, on the propagation of the production</p> <p>21 because the change in effective storage</p> <p>22 coefficient. But it does represent a negative</p> <p>23 hydraulic boundary.</p> <p>24 Q. Thank you.</p> <p>25 I appreciate your comment about a</p>	<p style="text-align: right;">Page 3579</p> <p>1 bounded there?</p> <p>2 A. It is bounded, yes.</p> <p>3 Q. Okay. At that location?</p> <p>4 A. Yes.</p> <p>5 Q. I also wanted to ask you about your</p> <p>6 statements regarding the regional water-level</p> <p>7 trend analysis. I take it from your comment that</p> <p>8 what the disagreement was, if there was a</p> <p>9 disagreement, was really a semantic one.</p> <p>10 Could that be a good way of describing</p> <p>11 it?</p> <p>12 A. Yeah, I have an issue with the</p> <p>13 description of it as being a regional water-level</p> <p>14 trend analysis. And the fact that it was not and</p> <p>15 cannot be is an indication of complexity, and that</p> <p>16 was my point, my original point.</p> <p>17 Q. But you do agree that the analysis</p> <p>18 done was an appropriate analysis, as I believe you</p> <p>19 stated; isn't that correct?</p> <p>20 A. I think so, yes.</p> <p>21 MR. FEREDAY: Okay. No further questions.</p> <p>22 THE HEARING OFFICER: Okay. Thank you,</p> <p>23 Mr. Vincent.</p> <p>24 Mr. Owsley, do you have testimony to</p> <p>25 present?</p>

<p style="text-align: right;">Page 3580</p> <p>1 MR. OWSLEY: Yes, just briefly.</p> <p>2 THE HEARING OFFICER: Okay. Have a chair.</p> <p>3 You're under oath.</p> <p>4 MR. OWSLEY: Okay.</p> <p>5 THE HEARING OFFICER: You may narrate your</p> <p>6 response.</p> <p>7</p> <p>8 DENNIS OWSLEY,</p> <p>9 having been called as a rebuttal witness by the</p> <p>10 Department and previously sworn, testified as</p> <p>11 follows:</p> <p>12</p> <p>13 DIRECT NARRATIVE TESTIMONY</p> <p>14 THE WITNESS: Okay. I have not prepared a</p> <p>15 formal narrative response. I'm just going to go</p> <p>16 by my notes. And I'd just like to clarify a</p> <p>17 couple concerns, I guess, that's been brought up</p> <p>18 in this last couple days.</p> <p>19 One with respect to some of the wells</p> <p>20 that I identified as having declining water levels</p> <p>21 and could not be verified. I brought in some</p> <p>22 records, and I'd like to explain those just to</p> <p>23 clear up the confusion on that.</p> <p>24 So the first one I'll start with would</p> <p>25 be the Banducci old well. I was able to track</p>	<p style="text-align: right;">Page 3582</p> <p>1 originally completed.</p> <p>2 When I originally contacted the</p> <p>3 Banduccis about monitoring their well, they</p> <p>4 indicated to me that this old one had gone dry.</p> <p>5 And it was dry when I attempted to measure it. It</p> <p>6 is still in existence. It's located approximately</p> <p>7 25 feet from their new well, and which is</p> <p>8 substantially deeper.</p> <p>9 And the static water level in their</p> <p>10 new well is approximately 64 feet, which is right</p> <p>11 about the bottom of their old well. I have tagged</p> <p>12 the bottom of this well, and it is 64 feet deep.</p> <p>13 So there's no water in that well. I hope that</p> <p>14 clarifies the Banducci old well.</p> <p>15 The next one I'd like to talk about is</p> <p>16 the Dater well. Again, I have a copy of this well</p> <p>17 log that I'll hand out to everyone.</p> <p>18 THE HEARING OFFICER: Let's mark this as</p> <p>19 Exhibit 910.</p> <p>20 (Exhibit 910 marked.)</p> <p>21 THE WITNESS: I would suspect the reason</p> <p>22 that this well was not located is because it's not</p> <p>23 directly within the study area of this M3 project.</p> <p>24 This well is located north of Dry Creek Valley in</p> <p>25 one of the tributary valleys.</p>
<p style="text-align: right;">Page 3581</p> <p>1 down a well log for this well. I have copies if</p> <p>2 people would like them.</p> <p>3 THE HEARING OFFICER: We'll mark this as</p> <p>4 Exhibit 9- -- in the 900 series.</p> <p>5 Where are we at, Debbie? There was</p> <p>6 902, but there were additional.</p> <p>7 MS. GIBSON: I have 907.</p> <p>8 THE HEARING OFFICER: Shall we mark it as</p> <p>9 907?</p> <p>10 MR. LAWRENCE: 907 and 908 were marked.</p> <p>11 THE HEARING OFFICER: Oh, okay.</p> <p>12 MR. LAWRENCE: So I believe the next one</p> <p>13 would be 909.</p> <p>14 THE HEARING OFFICER: Okay. Thank you,</p> <p>15 Mr. Lawrence.</p> <p>16 909.</p> <p>17 (Exhibit 909 marked.)</p> <p>18 THE WITNESS: So as we heard this morning,</p> <p>19 the Banduccis indicated on their questionnaire</p> <p>20 that their old well had gone dry. And this is the</p> <p>21 well log for the old well.</p> <p>22 And if we could go through it really</p> <p>23 quick, it's only 64 feet deep. The static water</p> <p>24 level when it was drilled was 54 feet. So there's</p> <p>25 only 10 feet of water in the well when it was</p>	<p style="text-align: right;">Page 3583</p> <p>1 And as you can see in the well log,</p> <p>2 Mr. Dater's well is completed down into broken</p> <p>3 lava. And he has hired consultants in the past to</p> <p>4 help investigate his declining water levels. And</p> <p>5 they've concluded that he's gone about as deep as</p> <p>6 he can go without serious expenditures.</p> <p>7 So I have monitored his well five</p> <p>8 times, roughly, in a one-year period. And the</p> <p>9 water levels, for the most part, are stable, from</p> <p>10 what I can tell in my brief one-year measurements.</p> <p>11 But he has had his pump lowered several times, and</p> <p>12 he has pumped air on occasion. And he's very</p> <p>13 concerned with his water levels. But again, this</p> <p>14 is a well that's located over north of Dry Creek</p> <p>15 Valley.</p> <p>16 So again, I hope this clarifies any</p> <p>17 confusion on that well.</p> <p>18 And the third and final well I'd like</p> <p>19 to discuss with respect to declining water levels</p> <p>20 was the Sharron Cummins well. And again, I'll</p> <p>21 hand out well logs for it.</p> <p>22 THE HEARING OFFICER: We'll mark this as</p> <p>23 Exhibit 911.</p> <p>24 (Exhibit 911 marked.)</p> <p>25 THE WITNESS: And again, this well is</p>

<p style="text-align: right;">Page 3584</p> <p>1 similar to the Dater well. It's located even 2 further away from the M3 property. It's, again, 3 north of the Dry Creek Valley and the Spring 4 Valley area.</p> <p>5 As you can tell on the well log, this 6 well is completed into granite. Again, 7 Ms. Cummins has had significant water-level 8 declines over the past few years. She's had to 9 have her pump lowered three times in the last year 10 that I've been measuring her well. And that's 11 what I know about that well.</p> <p>12 So I'd just like to submit those 13 records to all the parties to hopefully clarify 14 any confusion.</p> <p>15 With respect to clarifying some 16 issues --</p> <p>17 THE HEARING OFFICER: Let's talk about 18 these documents just a minute.</p> <p>19 THE WITNESS: Sure.</p> <p>20 THE HEARING OFFICER: They've been marked. 21 There are three documents that at least have been 22 assigned exhibit numbers. And I assume Mr. Owsley 23 would like to have those in the record.</p> <p>24 Any objection by the parties as to 25 receiving these into the record? Is there a need</p>	<p style="text-align: right;">Page 3586</p> <p>1 redrilled.</p> <p>2 Now, his new well is completed deeper 3 down into the mudstone. And that was the reason 4 for his well replacement.</p> <p>5 So I just wanted to clarify. There 6 wasn't a water-level decline in that particular 7 well. It was a construction issue. And I can 8 note that for the record.</p> <p>9 One more well that we've heard a lot 10 about, the Greg Taylor well and the mysterious 11 125-foot water-level measurement.</p> <p>12 I measured Mr. Taylor's well I believe 13 five times in the past year. It's a really easy 14 well to measure. The particular day that the well 15 was dry, I -- I wasn't the one that physically 16 made the measurement, but I was standing 2 feet 17 away watching, coaching, supervising the whole 18 time.</p> <p>19 And there's no question in my mind 20 that that well was dry and that we did go to the 21 bottom of the well. The problem we had that day 22 was the water level probe we were using had a very 23 light sensor on the end of it, probably a few 24 ounces. And it's not designed to tag the bottom 25 of a well.</p>
<p style="text-align: right;">Page 3585</p> <p>1 to review these for that, Mr. Fereday, or other 2 parties?</p> <p>3 MR. FEREDAY: We have no objection.</p> <p>4 THE HEARING OFFICER: Okay. Protestants?</p> <p>5 MR. ALAN SMITH: No objection.</p> <p>6 THE HEARING OFFICER: Okay. Documents 7 marked as Exhibits 909, 910, and 911 are received 8 into evidence.</p> <p>9 (Exhibits 909, 910, and 911 admitted.)</p> <p>10 THE WITNESS: There's one more well I'd 11 like to provide -- two more wells I'd like to 12 provide some clarification on that I have some 13 direct knowledge about.</p> <p>14 One of them was a well identified by 15 Jason Smith. And it's identified as the Steele 16 well in Exhibit 74 on the map of all the 17 questioned wells.</p> <p>18 This well is located up along 19 Highway 16 due west of the M3 property. I am 20 currently monitoring Mr. Steele's new well, and 21 have had an interview with him regarding what 22 happened to his old well. His old well was 23 completed into a coarse sand unit directly above a 24 thick clay unit, most likely the Pierce Gulch Sand 25 Aquifer. And his well collapsed and it had to be</p>	<p style="text-align: right;">Page 3587</p> <p>1 In fact, it's so light that you have a 2 really hard time, unless it's a very shallow well, 3 to feel when you're hitting the bottom of the 4 well.</p> <p>5 And so we didn't feel comfortable 6 reporting a depth to bottom of a well that we 7 can't completely verify. So we came up and down 8 the well several times and experienced the same 9 problem. We'd hit slack at approximately 10 115 feet.</p> <p>11 So what we did to completely verify we 12 were at the bottom of the well, the spool was 13 allowed to -- the reel was allowed to free-spool 14 out, and it would take down 125 feet of cable or 15 of E tape down into the well.</p> <p>16 So the fact that 125 feet of tape went 17 down into that well doesn't mean the well is 18 125 feet deep. The well is 116 feet deep, and it 19 was dry on the day that we measured it.</p> <p>20 As we heard in testimony, when they 21 came to abandon the well, there was water in it. 22 And I verified that prior to the abandonment. I 23 revisited that well approximately two weeks after 24 I measured it dry, and there was water in it. And 25 it was shocking as to how quick the response was.</p>

<p style="text-align: right;">Page 3588</p> <p>1 And I talked to Mr. Taylor about this, 2 and the only conclusion I could come up with is 3 that that well was somehow connected to the 4 shallow gravel aquifer system that had just 5 currently been recharged through the canal 6 systems, because it was just at the beginning of 7 the irrigation season. 8 And as we heard testimony from 9 Mr. Squires, it appears that's the case. That 10 well was actually -- even though it was 114 feet 11 deep, it was grabbing water from the shallow 12 aquifer system. And my conclusions were validated 13 by Mr. Squires' analysis of that well. 14 So I hope that clarifies any confusion 15 on the Greg Taylor measurements. 16 There are a few additional points I'd 17 like to make, and I'm just going to go through my 18 notes that I've collected in the past few days and 19 address those. 20 We've heard testimony about adequate 21 monitoring, properly constructed monitoring 22 levels, collecting water levels on adequate 23 frequencies. And I agree with all that. That's 24 the way we should be doing this. 25 But what's concerning to me is that M3</p>	<p style="text-align: right;">Page 3590</p> <p>1 MR. THORNTON: So page 128, I have. Is 2 that -- 3 THE WITNESS: That's correct. 4 MR. THORNTON: Okay. 5 THE HEARING OFFICER: Okay. 6 THE WITNESS: So again, I pointed this out 7 in my narrative testimony. I don't think it 8 matters whether you take a trend over the entire 9 data or you pick the highs, the lows. Either way 10 you do it, for the most part you're going to get 11 declining trends on a majority of those 12 water-level records that we see from the M3 site. 13 So again, it just raises confusion as 14 to how the PGSA is considered to be increasing 15 when the best data I think I've seen shows 16 decreasing water levels. 17 There was testimony yesterday about 18 the southeast Boise groundwater management area 19 being a sustainable aquifer and that the current 20 aquifer system is in equilibrium, meaning the 21 recharge is equal to the discharge. 22 I just wanted to point out that two 23 very important aspects of that equilibrium is that 24 the United Water Columbia surface water treatment 25 plant is right over there, as well as the Micron</p>
<p style="text-align: right;">Page 3589</p> <p>1 has done this with their monitoring wells, and we 2 have fairly good records over the last three years 3 for a significant number of wells on their 4 property. And figure 46 in Exhibit 44 highlights 5 those water levels. 6 But we've heard testimony that the 7 water levels in the Pierce Gulch Sand Aquifer are 8 increasing, but that's contradicted with the water 9 levels that we see in figure 46. 10 So I'd just like to point out that 11 there's still some confusion as to how the -- the 12 general idea that the Pierce Gulch Sand Aquifer 13 water levels are rising, but the good quality data 14 that we've seen from the M3 site shows the water 15 levels are declining. 16 THE HEARING OFFICER: Okay. Take us to 17 that exhibit. 18 THE WITNESS: It's Exhibit 44, I believe. 19 And I think it's figure 46. Yes. 20 MR. THORNTON: Figure 46? 21 THE WITNESS: Correct. 22 THE HEARING OFFICER: I'm lost. 23 THE WITNESS: That's the one. 24 THE HEARING OFFICER: Okay. This is one of 25 the exhibits that has multiple figure numberings.</p>	<p style="text-align: right;">Page 3591</p> <p>1 injection well. And it appears that that system 2 would not be in equilibrium if the two management 3 practices were to cease. 4 So I am confused as to how that's a 5 sustainable resource when we had to implement some 6 significant management practices to maintain water 7 levels. 8 There was also testimony yesterday 9 about the order of magnitude change that's 10 indicated in that same figure 46 in Exhibit 44 and 11 about being within a proximity of the pumping 12 center to the south. 13 Now, I'm assuming the pumping center 14 to the south is indicating Meridian, which is 15 probably a large assumption on my part. But 16 again, I'd like to point out that the United Water 17 State and Linder well is closer to the pumping 18 center to the south than the test well No. 1. And 19 the test well No. 1 has significantly more 20 drawdown associated with the State and Linder 21 well. 22 So that -- again, I'm not clear as to 23 what's inferred as the pumping center and how we 24 could understand the significant water-level 25 change that we experienced.</p>

<p style="text-align: right;">Page 3592</p> <p>1 And then there was a few points I'd 2 like to comment on regarding Dr. Osiensky's 3 testimony. 4 He indicated that he felt it was more 5 appropriate to call the water entering the 6 groundwater model of the southeast boundary 7 underflow rather than recharge, which I have no 8 problems with. I agree with that. It really is 9 more of an underflow component. 10 However, the amount of water that is 11 being entered into the model as underflow is what 12 troubles me. If you look at table 3 in the USGS 13 Berenbrock report, he measured -- 14 THE HEARING OFFICER: Where is this? 15 THE WITNESS: This is a -- I do not know 16 the exhibit number. It was one that was submitted 17 early in on the hearing. 18 MR. THORNTON: Is that the one titled 19 "Boise River gains and losses" by -- 20 THE WITNESS: Charles -- 21 MR. THORNTON: It would be 800. 22 THE WITNESS: -- Berenbrock. 23 THE HEARING OFFICER: Let's go off the 24 record for a minute. 25 (Discussion.)</p>	<p style="text-align: right;">Page 3594</p> <p>1 from the distribution throughout the irrigated 2 land in the Treasure Valley. And we've heard 3 Dr. Glanzman as well as Mr. Squires over time and 4 time again say that that cannot be the source of 5 recharge to the PGSA. So again, it's complexing 6 to me as to how the two are different. 7 And that's all I have. 8 THE HEARING OFFICER: Okay. Protestants, 9 questions of Mr. Owsley? 10 11 CROSS-EXAMINATION 12 BY MR. THORNTON: 13 Q. Yeah, Mr. Owsley, for Mr. Taylor's 14 well -- 15 A. Yes. 16 Q. -- that you just described, the 17 question is, are you certain that was dry the day 18 you were there? 19 A. Yes. 20 MR. THORNTON: I have no further questions, 21 knowing that we're going to get to recall him. 22 THE HEARING OFFICER: Okay. Mr. Smith? 23 MR. ALAN SMITH: I just have one. 24 /// 25 ///</p>
<p style="text-align: right;">Page 3593</p> <p>1 THE HEARING OFFICER: We're recording and 2 have found the referenced exhibit. 3 Mr. Owsley. 4 THE WITNESS: If I could point you to 5 table 3 of that exhibit. Again, there were two 6 measurements conducted on the New York Canal. And 7 measurements 1 through -- 8 THE HEARING OFFICER: Just a minute. I'm 9 not there. 10 Do you have a page number? 11 MR. JASON SMITH: 19, I believe. 12 THE HEARING OFFICER: Table 3. 13 THE WITNESS: Okay. So there were seven 14 measurements made upgradient from the M3 model 15 boundary. And if you look at the March 20th date, 16 the canal actually gained 7 cfs through this 17 location. And on the March 27th date, it only 18 lost 24 cfs. 19 So the inflow into the southeast 20 corner of the model boundary at 115 cfs is 21 complexing to me as to where that water can be 22 coming from. 23 And one final point I'd like to make 24 regarding Dr. Osiensky's testimony this morning is 25 that he believes the recharge to the PGSA comes</p>	<p style="text-align: right;">Page 3595</p> <p>1 CROSS-EXAMINATION 2 BY MR. ALAN SMITH: 3 Q. I believe you said the East Boise 4 Aquifer was sustainable if the Micron injection 5 well -- and what was the other? 6 A. The United Water Columbia surface 7 water plant. 8 Q. United Water Columbia? 9 A. Correct. 10 Q. In looking at figure 46 on Exhibit 44 11 that's on page 128, looking at the State and 12 Linder well. 13 A. Yes. 14 Q. Do you have that? 15 A. I have that. 16 Q. Does it show some decline in water 17 levels from the summer of 2007 to 2008? 18 A. Yeah, it appears to. There's a lot of 19 noise in that data, but it appears that it's about 20 a half a foot lower. 21 MR. ALAN SMITH: I believe that's all I 22 have. 23 THE HEARING OFFICER: Okay. Mr. Edwards? 24 MR. EDWARDS: Mr. Spackman, I'd like to ask 25 for leeway to talk to Mr. Owsley about the well</p>

<p style="text-align: right;">Page 3596</p> <p>1 that he has been testing and measuring at my 2 place. 3 THE HEARING OFFICER: Okay. You can ask 4 him those questions when surrebuttal testimony is 5 presented, if you'd like to call him. 6 MR. EDWARDS: I can't hear you. 7 THE HEARING OFFICER: If you would like to 8 call Mr. Owsley as part of the presentation of 9 surrebuttal testimony -- 10 MR. EDWARDS: Okay. 11 THE HEARING OFFICER: -- then you can do 12 that at a later time. And I've set some standards 13 that limit the examination to the subjects that 14 Mr. Owsley has testified about. So I don't want 15 to expand beyond those, and I don't believe that 16 he testified regarding your well in his most 17 recent testimony. 18 So I'll limit that, but give you the 19 opportunity to recall Mr. Owsley when the 20 presentation is being made. 21 MR. EDWARDS: Okay. Then I understand that 22 I will ask then -- ask to be recalling him. 23 THE HEARING OFFICER: Yes. 24 MR. EDWARDS: Okay. 25 THE HEARING OFFICER: No further questions,</p>	<p style="text-align: right;">Page 3598</p> <p>1 Mr. Glanzman saying that in his geochemistry 2 report that the upgulch wells do show influence of 3 precip coming into that part of the Pierce Gulch 4 Sand Aquifer? 5 A. Again, I don't recall that. What I 6 recall from Mr. Glanzman in precipitation was 7 Willow Creek Aquifer was influenced by 8 precipitation. But I don't recall that through 9 the Pierce Gulch Sand Aquifer. 10 Q. Would you agree with me, though, that 11 if a well were affected or a part of an aquifer 12 were more susceptible to precipitation then that 13 portion of the -- then the well into that portion 14 of the aquifer would tend to reflect changes in 15 precip? 16 A. If that was the primary source of 17 recharge for that aquifer, yes. 18 Q. What if it were just a part of the 19 recharge source? 20 A. I would assume it would have to be a 21 significant part of the recharge source. 22 Q. So are you saying that it would have 23 to be significant, whatever that might mean, 24 before any change in precip would show up in that 25 hydrograph?</p>
<p style="text-align: right;">Page 3597</p> <p>1 then, Mr. Edwards? 2 MR. EDWARDS: No. 3 THE HEARING OFFICER: Mr. Fereday? 4 5 CROSS-EXAMINATION 6 BY MR. FEREDAY: 7 Q. Mr. Owsley, with regard to your 8 reference to Exhibit 44, figure 46, these four 9 wells that show a slight downward trend over that 10 two-year period are located, are they not, in the 11 upgulch area of the M3 property? 12 A. Yes. 13 Q. You've heard testimony from 14 Mr. Squires and Mr. Utting that wells in the 15 upgulch area in the upgulch portion of the -- or 16 the up-dip portion of the Pierce Gulch Sand 17 Aquifer tend to be more affected by precipitation, 18 haven't you? Do you remember that testimony? 19 A. I don't recall that specific 20 testimony. 21 THE HEARING OFFICER: Okay. You need to 22 speak up, Mr. Owsley. 23 THE WITNESS: I don't recall that 24 testimony. 25 Q. (BY MR. FEREDAY): Do you recall</p>	<p style="text-align: right;">Page 3599</p> <p>1 MR. ALAN SMITH: Objection. Argumentative. 2 THE HEARING OFFICER: Overruled. 3 THE WITNESS: No. But we've heard that the 4 Pierce Gulch Sand Aquifer is robustly recharged 5 from various sources and precipitation isn't a 6 significant source. So I don't know how it would 7 overwhelm the water-level trend. 8 Q. (BY MR. FEREDAY): And your testimony, 9 then, is that it would have no effect whatsoever, 10 evidently? 11 A. No. It may have a slight effect, but 12 I would say not to be a significant portion of the 13 recharge to control the hydrograph. 14 Q. With regard to slight effects, is it 15 your testimony that the variations that we see on 16 this graph, which appear to me to be from between 17 something like 3 inches and 6 inches over -- from 18 one year to the next, that is two one-year 19 measurements, is it your testimony that those are 20 significant changes? 21 A. They're not significant. They're 22 definitely declines, and they match coincidentally 23 very well with the rate of decline that Mr. McVay 24 provided. 25 Q. Would that be an average of about</p>

<p style="text-align: right;">Page 3600</p> <p>1 .21 feet per year?</p> <p>2 A. Yeah, between .25 and .5 feet per year</p> <p>3 is roughly what I see in that figure.</p> <p>4 Q. And yet you did no evaluation</p> <p>5 whatsoever, did you, of why those might have</p> <p>6 changed in that area, nor did you do any</p> <p>7 evaluation of the precip trend in that area;</p> <p>8 correct?</p> <p>9 A. We looked at precip.</p> <p>10 Q. How does this compare with the</p> <p>11 precipitation trend? Do you know?</p> <p>12 A. For 2006 and 2007, precipitation was</p> <p>13 low. So it could be correlated.</p> <p>14 Q. Did you do any evaluation also of</p> <p>15 pumping from other wells outside of M3, such as</p> <p>16 wells to the west?</p> <p>17 A. No.</p> <p>18 Q. Did you do any evaluation of the</p> <p>19 pumping from wells to the south of M3 that could</p> <p>20 have affected those?</p> <p>21 A. No.</p> <p>22 Q. Including the new wells that have gone</p> <p>23 on in the municipal -- gone online through</p> <p>24 municipal purposes to the south of M3, did you</p> <p>25 evaluate what those would have done?</p>	<p style="text-align: right;">Page 3602</p> <p>1 well No. 1, which is the red-colored graph at the</p> <p>2 bottom of that page, is caused by pumping in</p> <p>3 Meridian?</p> <p>4 A. I don't know where it's caused from.</p> <p>5 Q. You've done no analysis at all, have</p> <p>6 you, to figure out what might cause that?</p> <p>7 A. No.</p> <p>8 Q. With regard to the top orange graph,</p> <p>9 we have about a 10-foot drawdown in the State and</p> <p>10 Linder well.</p> <p>11 Do you recall any testimony as to</p> <p>12 where -- what would have caused that spike</p> <p>13 drawdown over there around roughly July -- excuse</p> <p>14 me, June of 2008, very quick down and up? Do you</p> <p>15 recall any testimony?</p> <p>16 A. On what well? State and Linder?</p> <p>17 Q. State and Linder, which is the orange</p> <p>18 near the top.</p> <p>19 A. I recall it being discussed, but I</p> <p>20 don't recall what caused it.</p> <p>21 Q. And you didn't do any study, did you,</p> <p>22 to try to figure out what would have caused that?</p> <p>23 A. No.</p> <p>24 Q. So when you testified earlier that the</p> <p>25 pumping centers that would affect, for example,</p>
<p style="text-align: right;">Page 3601</p> <p>1 A. No.</p> <p>2 THE HEARING OFFICER: Again, you need to</p> <p>3 speak up, Mr. Owsley.</p> <p>4 THE WITNESS: No.</p> <p>5 THE HEARING OFFICER: Okay. Mr. Fereday,</p> <p>6 do you have several more questions for Mr. Owsley?</p> <p>7 MR. FEREDAY: Just a few.</p> <p>8 THE HEARING OFFICER: I really need to take</p> <p>9 a break.</p> <p>10 MR. FEREDAY: Okay.</p> <p>11 THE HEARING OFFICER: So maybe I better do</p> <p>12 that at this point. We'll be back on at</p> <p>13 three o'clock.</p> <p>14 MR. FEREDAY: Okay.</p> <p>15 (Recess.)</p> <p>16 THE HEARING OFFICER: We're recording again</p> <p>17 after the afternoon recess.</p> <p>18 Mr. Fereday, you were examining</p> <p>19 Mr. Owsley.</p> <p>20 MR. FEREDAY: Yes.</p> <p>21 Q. Mr. Owsley, we're on Exhibit 44,</p> <p>22 figure 46. I wanted to make sure I understood</p> <p>23 your testimony.</p> <p>24 Is it your testimony, sir, that the</p> <p>25 15 feet of drawdown annually recognized in test</p>	<p style="text-align: right;">Page 3603</p> <p>1 test well 1, were to the south, you really didn't</p> <p>2 know, did you, where the pumping centers would be</p> <p>3 that would affect test well 1?</p> <p>4 A. That is what was indicated in the</p> <p>5 response to our staff memorandum.</p> <p>6 Q. So it's your testimony that HLI</p> <p>7 asserted that the pumping centers affecting test</p> <p>8 well 1 are to the south, not to the west?</p> <p>9 A. That's what it said.</p> <p>10 Q. Do you know what pumping centers lie</p> <p>11 across Highway 16 to the west of test well 1?</p> <p>12 Remember, test well 1 is down in the panhandle.</p> <p>13 A. Yeah, I would think Willow Brook</p> <p>14 subdivision would have a large well.</p> <p>15 Q. Would you expect that it would be felt</p> <p>16 in test well 1?</p> <p>17 A. I could imagine the Kling irrigation</p> <p>18 well impacted test well 1 as well.</p> <p>19 Q. How about the Phillips well?</p> <p>20 A. I don't know that well.</p> <p>21 Q. Or the turf farm that's in that area?</p> <p>22 A. Potentially.</p> <p>23 Q. So is it your view, Mr. Owsley, that</p> <p>24 two years of data on that exhibit are conclusive</p> <p>25 as to a trend in the aquifer?</p>

<p style="text-align: right;">Page 3604</p> <p>1 A. Well, we have three years of data on 2 some of those wells. And I was just pointing out 3 the fact that we heard testimony that the last few 4 years PGSA wells are rising. And it doesn't 5 appear so based on this figure. 6 Q. What about the ten years of data from 7 the State and Linder well, Mr. Owsley? Did you -- 8 which is nearby. Did you look at that data at all 9 in making that conclusion? 10 A. Not more than what was presented on 11 this graph. 12 Q. So you've really done no analysis of 13 your own, have you, with regard to water levels 14 shown on Exhibit 44, figure 46, have you? 15 MR. ALAN SMITH: Objection. Asked and 16 answered. 17 THE HEARING OFFICER: Overruled. 18 THE WITNESS: I did visual trend analysis. 19 Q. (BY MR. FEREDAY): You just looked at 20 the graphs? 21 A. Uh-huh. 22 Q. And your assumption or your statement 23 about the possibility that test well 1 is affected 24 by pumping in the Meridian area is just 25 speculation, isn't it?</p>	<p style="text-align: right;">Page 3606</p> <p>1 THE WITNESS: 20. 2 "The wells the staff cites as having a 3 large fluctuation, Kling domestic, Kling 4 irrigation, and M3 1 are on the western portion of 5 the M3 Eagle property, and relatively close to 6 other pumping wells of the Boise Valley." That's 7 all I see. So that's where I was implying to. 8 Q. (BY MR. FEREDAY): So you don't know 9 whether those are to the west or the south in the 10 valley, do you? 11 A. No. 12 Q. With regard to your measurement of the 13 Banducci well when you determined that it was 14 dry -- 15 A. Uh-huh. 16 Q. -- did you measure that after the 17 replacement well was constructed? 18 A. Yes. 19 Q. How far away was the replacement well 20 from the original well, Mr. Owsley? 21 A. Approximately 25 feet. 22 Q. And that replacement well is not 23 sealed throughout its entire depth, is it? Or do 24 you know? 25 A. I don't know off the top of my head.</p>
<p style="text-align: right;">Page 3605</p> <p>1 A. It's based on the statement in the 2 response to our staff memorandum. 3 Q. Can you -- 4 A. Find that? 5 Q. -- find a statement in the staff 6 memorandum which said that Meridian area wells are 7 affecting test -- or causing 15 feet of drawdown 8 in test well 1, or something to that effect? 9 A. In our staff memorandum, no. 10 Q. In the response to the staff 11 memorandum. Isn't that what you said? 12 A. If you give me a minute, I probably 13 could find it. 14 THE HEARING OFFICER: Let's go off the 15 record. 16 (Discussion.) 17 THE HEARING OFFICER: Okay. We are 18 recording. 19 THE WITNESS: The pumping center identified 20 in the response to the staff memorandum on page 20 21 of 42. 22 THE HEARING OFFICER: What exhibit is this? 23 THE WITNESS: This is Exhibit 45. And it 24 refers to it, it says -- 25 THE HEARING OFFICER: What page again?</p>	<p style="text-align: right;">Page 3607</p> <p>1 We could look at the record. It's one of them 2 that's included. I would suspect no, just based 3 on the testimony I've heard throughout this. If 4 you want, we could look at the record. 5 Q. No, that's -- that's fine. 6 Assuming that that well, that 7 replacement well is not sealed, that replacement 8 well could drain water away from that original 9 Banducci well, couldn't it? 10 A. Yes. 11 Q. Did you evaluate whether that might 12 have happened? 13 A. No. But from my talking with the 14 Banduccis, that well went dry prior to them 15 drilling the replacement well. 16 Q. But you don't know the reason why they 17 reported it went dry, do you? 18 A. No. 19 Q. With regard to the water levels that 20 you are taking, such as the level you -- the 21 measurement you did at Banducci, are those water 22 levels available these days on the IDWR website? 23 A. They should be available through the 24 well log program, yes. 25 Q. Are you personally overseeing putting</p>

<p style="text-align: right;">Page 3608</p> <p>1 them there?</p> <p>2 A. Yes.</p> <p>3 Q. With regard to recharge, Mr. Owsley,</p> <p>4 do you have any reason to dispute the Treasure</p> <p>5 Valley Hydrologic Project assumptions about</p> <p>6 recharge from the Boise River and canals to the</p> <p>7 aquifer system?</p> <p>8 A. Do I have any reason to doubt that?</p> <p>9 Q. Yeah. Do you have any reason to</p> <p>10 dispute it?</p> <p>11 A. I have confusion with their Boise</p> <p>12 River seepage values, yes. I believe I referred</p> <p>13 to that in my previous testimony.</p> <p>14 Q. And the canal values as well, you're</p> <p>15 confused there?</p> <p>16 A. They're more straightforward because</p> <p>17 there's more measurements on the canal.</p> <p>18 Q. But you've done no evaluation</p> <p>19 yourself, have you, about river losses, canal</p> <p>20 losses, or recharge into the PGSA, have you?</p> <p>21 A. No.</p> <p>22 MR. FEREDAY: That's all we have.</p> <p>23 THE HEARING OFFICER: Okay. Thank you,</p> <p>24 Mr. Owsley.</p> <p>25 Mr. McVay?</p>	<p style="text-align: right;">Page 3610</p> <p>1 THE HEARING OFFICER: Yes.</p> <p>2 Mr. Thornton?</p> <p>3 MR. THORNTON: And --</p> <p>4 THE HEARING OFFICER: I'm sorry. It's</p> <p>5 probably a surprise to you.</p> <p>6 MR. THORNTON: Well, a little bit, yeah.</p> <p>7 Not as much as my kids are when I see them</p> <p>8 sneaking in the home at night. But I was</p> <p>9 understanding, he would give his narrative at</p> <p>10 some --</p> <p>11 THE HEARING OFFICER: No, he said he did</p> <p>12 not have a narrative.</p> <p>13 MR. THORNTON: Oh, you don't have a</p> <p>14 narrative. Oh, okay. I'm sorry. Okay.</p> <p>15 THE HEARING OFFICER: So if you have</p> <p>16 questions of him --</p> <p>17 MR. THORNTON: I do.</p> <p>18 THE HEARING OFFICER: Okay.</p> <p>19</p> <p>20 MIKE McVAY,</p> <p>21 having been previously called as a surrebuttal</p> <p>22 witness by North Ada County Groundwater Users</p> <p>23 Association and previously sworn, testified as</p> <p>24 follows:</p> <p>25 ///</p>
<p style="text-align: right;">Page 3609</p> <p>1 MR. McVAY: I don't have a narrative</p> <p>2 testimony, but I won't be available on the 30th if</p> <p>3 they need to call me.</p> <p>4 THE HEARING OFFICER: Okay. What do the</p> <p>5 parties want to do? Protestants?</p> <p>6 MR. THORNTON: I'd like to ask, if I could,</p> <p>7 a few more specific questions if he's not going to</p> <p>8 be available on the 30th.</p> <p>9 THE HEARING OFFICER: Of Mr. McVay?</p> <p>10 MR. THORNTON: Yeah, if possible.</p> <p>11 THE HEARING OFFICER: Well, what are we</p> <p>12 doing under the circumstances? Mr. Fereday?</p> <p>13 MR. FEREDAY: Well, we had hoped to get on</p> <p>14 with our -- the remainder of our case today. We</p> <p>15 only have, looks like, 35 minutes. So this is --</p> <p>16 that would effectively put us out of time.</p> <p>17 THE HEARING OFFICER: Well, because of his</p> <p>18 unavailability and our desire to finish, I mean</p> <p>19 the other alternative, I guess, is for us to find</p> <p>20 a later date. I don't think we want to do that.</p> <p>21 So it's extraordinary, but, Mr. McVay,</p> <p>22 I'll take you out of order, I guess, and allow the</p> <p>23 protestants to examine you on surrebuttal, and</p> <p>24 we'll see what happens.</p> <p>25 MR. McVAY: Still under oath.</p>	<p style="text-align: right;">Page 3611</p> <p>1 DIRECT EXAMINATION</p> <p>2 BY MR. THORNTON:</p> <p>3 Q. Mr. McVay, were you able to be here</p> <p>4 when I think it was Dr. Osienky was talking about</p> <p>5 some of the water-level declines just today? I</p> <p>6 don't know if you heard his testimony.</p> <p>7 A. Yes, I heard his testimony today.</p> <p>8 Q. One point that I heard in his</p> <p>9 testimony was that in reference to how he would do</p> <p>10 a different analysis of that data.</p> <p>11 Did you hear him identify that he</p> <p>12 would have just used all the data points</p> <p>13 available?</p> <p>14 A. I think I just heard him say he</p> <p>15 wouldn't have done it the way I did it.</p> <p>16 Q. Okay. So you didn't necessarily hear</p> <p>17 him say that he would have just used all of the</p> <p>18 data points?</p> <p>19 A. I didn't hear that.</p> <p>20 Q. Okay. Well, if you go to Exhibit 50</p> <p>21 and to your I think it was Attachment A or</p> <p>22 Appendix A in the back.</p> <p>23 A. Okay.</p> <p>24 Q. For the -- an example, if you turn to</p> <p>25 the last graph, well log for -- well log</p>

<p style="text-align: right;">Page 3612</p> <p>1 pneumonics 32DBD1. 2 Do you see that? And did you identify 3 a decline, declining water table there? 4 A. I did. 5 Q. And I don't know how familiar you are 6 with, say, all of the data points, but if you used 7 all of the data points and drew a regression line 8 through that, would that result in a decline over 9 time as well in your estimation, or do you know? 10 A. I don't remember. I think this might 11 be all the data points for this well. I know they 12 used mostly fall measurements. I think this is 13 that same well. 14 Q. Do you have an indication that -- if 15 you were to have used all the data points, do you 16 have any indication of what the results would have 17 showed for the wells in terms of a decline or an 18 increase in the water table over that time period? 19 MR. FEREDAY: Objection. Calls for 20 complete speculation. 21 THE HEARING OFFICER: Ask the question 22 again, Mr. Thornton. 23 Q. (BY MR. THORNTON): For the wells that 24 you analyzed, did you look at the variety of data 25 points that existed for them, the data?</p>	<p style="text-align: right;">Page 3614</p> <p>1 analysis, I was trying to compare the wells to 2 each other. And so these data points span 3 different periods of time and different collection 4 intervals. And so it was hard to compare them 5 directly. And so I didn't even note what those 6 trends were. 7 Q. (BY MR. THORNTON): Okay. And all the 8 testimony that you've listened to from the experts 9 from M3, has that changed your view on what you 10 have identified in your staff memo in Appendix A? 11 Do you have a different thought in terms of 12 water-level decline based on testimony you've 13 heard from other experts? 14 A. No, I do not. 15 MR. THORNTON: That's all the questions I 16 have. 17 THE HEARING OFFICER: Okay. Mr. Smith? 18 MR. ALAN SMITH: No questions. 19 THE HEARING OFFICER: Mr. Edwards? 20 MR. EDWARDS: No questions. 21 THE HEARING OFFICER: Mr. Fereday? 22 MR. FEREDAY: Yes. 23 /// 24 /// 25 ///</p>
<p style="text-align: right;">Page 3613</p> <p>1 A. (No audible response.) 2 Q. And how many of those wells, based on 3 the analysis you did in this Appendix A, based on 4 your methodology, showed a decline? 5 A. How many of the wells that I analyzed 6 in my procedure showed a decline? 7 Q. Yes. 8 MR. FEREDAY: I'm going to object. This 9 has been asked and answered. All but two, I 10 believe he said. 11 MR. THORNTON: Thank you, Mr. Fereday, for 12 that answer. 13 Q. If you were to have all of the data 14 points be analyzed, if you analyzed all of the 15 data points and drew a regression line through 16 them, in your professional judgment, do you know 17 if that would have shown a decline, steady state, 18 or an increase? 19 A. I don't recall. 20 MR. FEREDAY: Objection. That calls for 21 speculation. 22 THE HEARING OFFICER: Overruled. 23 THE WITNESS: I don't recall. I did draw 24 regressions through all the data points when I 25 first looked at them. Again, when I did this</p>	<p style="text-align: right;">Page 3615</p> <p>1 CROSS-EXAMINATION 2 BY MR. FEREDAY: 3 Q. With regard to well DAD1 that 4 Mr. Thornton was just asking -- excuse me, DBD1 5 that Mr. Thornton was just asking you about -- 6 A. Right. 7 Q. -- that well is not completed in the 8 Pierce Gulch Sand Aquifer, is it? 9 A. I'm not sure. I think that I noted it 10 as PG, but I would defer any aquifer 11 characterization to -- or designation to HLI. 12 Q. But you don't know, do you? 13 A. I do not know for sure. 14 Q. And just to clarify, the purpose of 15 this analysis was not to determine trends in the 16 PGSA, in any event, was it? 17 A. It was not. 18 MR. FEREDAY: No further questions. 19 THE HEARING OFFICER: Okay. Mr. Thornton, 20 redirect, based on Mr. Fereday's questions? 21 MR. THORNTON: I do not have any, 22 Mr. Hearing Officer. 23 THE HEARING OFFICER: Mr. Smith? 24 MR. ALAN SMITH: I just have one. 25 ///</p>

<p style="text-align: right;">Page 3616</p> <p>1 CROSS-EXAMINATION</p> <p>2 BY MR. ALAN SMITH:</p> <p>3 Q. Mr. McVay, if all of these aquifers</p> <p>4 are in hydraulic communication with each other,</p> <p>5 does it make much difference whether it's in the</p> <p>6 PGSA or a shallower aquifer?</p> <p>7 MR. FEREDAY: Object. This witness has not</p> <p>8 been qualified to answer that question.</p> <p>9 THE HEARING OFFICER: Overruled.</p> <p>10 Q. (BY MR. ALAN SMITH): You may answer.</p> <p>11 A. If they were in hydraulic connection</p> <p>12 with each other, I wouldn't think the designation</p> <p>13 would matter that much.</p> <p>14 MR. ALAN SMITH: Thank you. That's all.</p> <p>15 THE HEARING OFFICER: I'm not sure the</p> <p>16 answer was responsive to the question, as I heard</p> <p>17 the question and the answer. And --</p> <p>18 MR. ALAN SMITH: I thought he said the</p> <p>19 designation would not matter that much.</p> <p>20 THE HEARING OFFICER: I think there was a</p> <p>21 qualifier with -- included in it.</p> <p>22 Q. (BY MR. ALAN SMITH): Can you clarify</p> <p>23 your answer, Mr. McVay?</p> <p>24 A. If these wells are -- or the aquifers</p> <p>25 were in hydraulic connection, I don't think the</p>	<p style="text-align: right;">Page 3618</p> <p>1 the room, a Mr. Carter Froelich. And it so</p> <p>2 happens that Mr. Froelich is here today. He was</p> <p>3 the author of that letter.</p> <p>4 And rather than have the letter be</p> <p>5 offered as something that Mr. Brownlee received</p> <p>6 from his consultant, we would prefer just to call</p> <p>7 Mr. Froelich. I recognize that he has not been</p> <p>8 designated or previously identified, but he is an</p> <p>9 expert on the financing through community</p> <p>10 investment infrastructure district mechanisms, and</p> <p>11 we would like to call him just to get that -- his</p> <p>12 letter in and have him explain what these things</p> <p>13 are.</p> <p>14 THE HEARING OFFICER: Okay. Mr. Froelich?</p> <p>15 THE WITNESS: Yes, sir.</p> <p>16 THE HEARING OFFICER: If you'll come</p> <p>17 forward, please.</p> <p>18 Please raise your right hand.</p> <p>19</p> <p>20 CARTER FROELICH,</p> <p>21 having been called as a rebuttal witness by M3</p> <p>22 Eagle LLC, was duly sworn and testified as</p> <p>23 follows:</p> <p>24</p> <p>25 THE HEARING OFFICER: Thank you. Please be</p>
<p style="text-align: right;">Page 3617</p> <p>1 designation would matter.</p> <p>2 THE HEARING OFFICER: Okay. Mr. Edwards,</p> <p>3 questions?</p> <p>4 MR. EDWARDS: No questions.</p> <p>5 THE HEARING OFFICER: Recross, Mr. Fereday?</p> <p>6 MR. FEREDAY: None.</p> <p>7 THE HEARING OFFICER: Okay. Thank you,</p> <p>8 Mr. McVay.</p> <p>9 MR. THORNTON: That was a nice way of</p> <p>10 getting your Thursday free.</p> <p>11 THE WITNESS: Long weekend.</p> <p>12 THE HEARING OFFICER: Okay. Mr. Fereday,</p> <p>13 do you wish to start with another rebuttal</p> <p>14 witness?</p> <p>15 MR. FEREDAY: Yes. We would call Mr. Bill</p> <p>16 Brownlee.</p> <p>17 And we also have a request. We --</p> <p>18 Mr. Brownlee will be testifying about the</p> <p>19 community infrastructure district, the CID, which</p> <p>20 he mentioned last time further in response to your</p> <p>21 questions about financing.</p> <p>22 THE HEARING OFFICER: Okay.</p> <p>23 MR. FEREDAY: And as part of that</p> <p>24 testimony, he intends to offer a letter that was</p> <p>25 written to him from a -- an expert who we have in</p>	<p style="text-align: right;">Page 3619</p> <p>1 seated.</p> <p>2</p> <p>3 DIRECT EXAMINATION</p> <p>4 BY MR. FEREDAY:</p> <p>5 Q. Please state and spell your name and</p> <p>6 give your address.</p> <p>7 A. My name is Carter Froelich. The last</p> <p>8 name is spelled F-r-o-e-l-i-c-h. 950 West</p> <p>9 Bannock, Suite 1100.</p> <p>10 Q. In?</p> <p>11 A. In Boise, Idaho. Excuse me.</p> <p>12 Q. And what is your education?</p> <p>13 A. I have a B.A. in business economics</p> <p>14 from UC Santa Barbara. I have a master's of real</p> <p>15 estate development from the University of Southern</p> <p>16 California. I am also a certified public</p> <p>17 accountant in the states of Arizona and</p> <p>18 California. And I am a former state certified</p> <p>19 real estate appraiser in the state of Arizona.</p> <p>20 Q. Do you have any experience with bond</p> <p>21 financing for real estate development projects?</p> <p>22 A. Yes, I do. Our firm, The Development,</p> <p>23 Planning, and Financing Group has been involved in</p> <p>24 tax-exempt bond financings for over -- well, the</p> <p>25 professionals in our firm for over 25 years.</p>

<p style="text-align: right;">Page 3620</p> <p>1 We've been involved in financings related to 2,000 2 projects all over the United States, and the 3 issuance of in excess of about \$15 billion worth 4 of bonds. 5 Q. That's 15 billion with a "b"? 6 A. Billion with a "b," correct, sir. 7 Q. What does your company do exactly? 8 A. Our firm is a full service real estate 9 consulting firm. We work primarily with the 10 private sector in the step in the planning, 11 implementation and administration of special 12 taxing districts throughout the country. 13 Q. Do these special taxing districts 14 issue tax-exempt bonds? 15 A. Yes, they do. 16 Q. And what -- are they tax exempt on a 17 state level, a federal level? 18 A. Both state and federal. 19 Q. And how are these bonds authorized? 20 By state law? federal law? how? 21 A. Well, that's somewhat of a loaded 22 question. But this type of a bond financing is 23 allowed through federal tax codes, but each of the 24 states in which we perform work has enacted 25 enabling legislation to allow this type of</p>	<p style="text-align: right;">Page 3622</p> <p>1 Q. -- mechanism. 2 A. A CID is a separate political 3 subdivision separate and distinct from the 4 jurisdiction of which it's established. It's a 5 separate political subdivision that is enabled to 6 issue tax-exempt bonds to finance the construction 7 or acquisition of eligible public infrastructure. 8 In the state of Idaho, that would be 9 water improvements, sewer improvements, roadways, 10 drainage, police facilities, fire facilities, 11 public recreational facilities, impact fees, real 12 property interests, et cetera, related to public 13 infrastructure. 14 Q. Does the State of Idaho have a statute 15 authorizing this? 16 A. Yes. The State of Idaho passed its 17 Community Infrastructure District Act in 2008, and 18 it became law July the 1st, 2009. 19 Q. What are CIDs typically used for? 20 A. In our experience, CIDs or other types 21 of special taxing district financing are utilized 22 for the construction of primarily the backbone 23 infrastructure related to large, master-planned 24 communities, although they can be used for smaller 25 communities as well.</p>
<p style="text-align: right;">Page 3621</p> <p>1 financing to take place within the state. 2 Q. And is tax-exempt bonding for these 3 kinds of projects a specialty of yours? 4 A. It is. 5 MR. FEREDAY: Mr. Hearing Officer, we would 6 ask that Mr. Froelich be recognized as an expert 7 in this area, bond financing for land development 8 projects. 9 THE HEARING OFFICER: Okay. Mr. Thornton? 10 MR. THORNTON: I just need to ask him if 11 your 401s like mine have turned into 201s. If 12 they have, you're not an expert. 13 No, I have no objection. 14 THE HEARING OFFICER: Mr. Smith? 15 MR. ALAN SMITH: None. 16 THE HEARING OFFICER: Mr. Edwards? 17 MR. EDWARDS: None. 18 THE HEARING OFFICER: So recognized. 19 Q. (BY MR. FEREDAY): Mr. Froelich, the 20 community infrastructure district is what 21 Mr. Brownlee mentioned during his testimony 22 recently. 23 Could you explain what that is and how 24 financing works for I'll call it a CID -- 25 A. Okay.</p>	<p style="text-align: right;">Page 3623</p> <p>1 Q. And is it a fact, then, that the 2 interest payments on these bonds to the 3 bondholders are exempt from federal and state 4 taxation? 5 A. Correct. 6 Q. Is it your experience that these bonds 7 are fairly attractive to a variety of investors? 8 A. Yes, they are. 9 Q. What's your involvement with M3 10 Eagle's project, sir? 11 A. We were initially brought on board to 12 assist in the drafting of the CID legislation with 13 other representatives from the legal community 14 that are part of M3's team. 15 We were also involved in the lobbying 16 of that statute, being the CID statute. 17 Subsequent to the passage of the legislation, we 18 have been involved in the planning, if you will, 19 of the CID. 20 We've assisted in putting together a 21 CID draft application for the City of Eagle. 22 We've also drafted numerous documents related to 23 the formation of the district, once the M3 Eagle 24 project had been annexed into the city boundaries, 25 meaning the city of Eagle.</p>

<p style="text-align: right;">Page 3624</p> <p>1 Q. So I take it from your answer that M3 2 Eagle has taken significant steps towards the 3 creation of a CID to fund infrastructure at the M3 4 Eagle project; is that correct? 5 A. That is correct. 6 Q. And you've helped them do this? 7 A. That is correct. 8 Q. How, in your opinion, would the CID's 9 existence affect the M3 Eagle's project -- M3 10 Eagle project's ability to attract additional debt 11 or equity financing? 12 A. In our experience, the existence of 13 special taxing districts is a plus for a project. 14 A lot of times the third-party lenders or equity 15 partners, whether debt or equity, look at this as 16 an additional repayment source for any funds that 17 they would be advancing to the project. So it's a 18 positive. 19 Q. So it is a positive? 20 A. Absolutely. 21 Q. Does it make it more likely that the 22 project will be financed and built overall, in 23 your opinion? 24 A. In my opinion, it does. 25 Q. Has that been your experience working</p>	<p style="text-align: right;">Page 3626</p> <p>1 they're very professional, everything has been 2 very planned, very methodical, and so it's been 3 very nice working with them as we've been able to 4 move this process forward. 5 Q. What is your firm's view of M3 6 Companies, the -- one of the partners here, M3 7 Companies' track record and reputation in the 8 development business? 9 A. Well, obviously, they've done some 10 projects in the state of Arizona that we're 11 familiar with. We didn't actually work on them. 12 But they've been very well received by the market. 13 I understand there's also an additional project 14 that they have in Colorado that we have not been 15 involved in. 16 But from everything that we have seen, 17 we have not heard anything derogatory or -- I mean 18 we've just heard nothing but good things. 19 Q. With regard to the M3 CID's likelihood 20 of success, how important is it that M3 Eagle owns 21 the land free and clear at this stage? 22 A. Well, especially in economic times 23 that we're going through, it's a huge thing to 24 have no debt on the property. Not all of my 25 clients are as lucky as M3.</p>
<p style="text-align: right;">Page 3625</p> <p>1 around the country for the -- with these kinds of 2 projects? 3 A. Yes, it is. 4 Q. And where -- could you just give us an 5 idea of where you've worked on these projects, 6 using CIDs? 7 A. Yeah. Our firm has offices in 8 California and Nevada, Arizona, obviously here in 9 Idaho, Texas, and Florida. And the majority of 10 the 2,000 districts that we've established over 11 the course of doing business have been in those 12 states. 13 Q. How does M3 Eagle compare to the other 14 projects that you have worked with in terms of its 15 size, the program planning that it has undertaken, 16 the expertise of its management team, and so 17 forth? 18 A. In relation to the project, this is 19 very typical of the size of projects that we get 20 involved in. We've been involved with projects 21 anywhere from a thousand to 56,000 acres. So this 22 fits well within those parameters. 23 The planning that we've seen and the 24 management of M3, I would have to rate them on, 25 you know, the top 5 or 10 percent. Obviously,</p>	<p style="text-align: right;">Page 3627</p> <p>1 But it is -- here again, it's another 2 one of the factors that the financial institutions 3 are going to be taking a look at, as well as the 4 bond goes because there's less stress on the 5 project. And so when it comes for us to go 6 forward and issue debt, it's definitely a 7 positive. 8 Q. Have you worked with other 9 developments that have not had that benefit, that 10 is, have had leveraged land or land on which they 11 had debt? 12 A. Yes, I have. 13 Q. Have they been successful? 14 A. Some of them have; some of them have 15 not. 16 Q. What is your view of M3's financial 17 structure? 18 A. Well, I've been able to take a look at 19 some of the financial statements of their 20 financial partner. They have a very, very strong 21 financial partner behind them. So that, here 22 again, is a very strong positive as relates to the 23 project going forward. 24 Q. The land that they own, the 25 6,000 acres for this project, that has value, too,</p>

<p style="text-align: right;">Page 3628</p> <p>1 obviously; correct?</p> <p>2 A. Correct, absolutely.</p> <p>3 Q. You've calculated that?</p> <p>4 A. I have not calculated to look at the</p> <p>5 value of that property, no.</p> <p>6 Q. What is your experience dealing with</p> <p>7 the City of Eagle in this project?</p> <p>8 A. My experience in dealing with the City</p> <p>9 of Eagle has primarily been with the city</p> <p>10 attorney, and there have been some other public</p> <p>11 works folks in a couple of the meetings that I</p> <p>12 have been involved.</p> <p>13 Every indication that we have is that</p> <p>14 the City is willing to go forward with the</p> <p>15 establishment of the district. We've had cursory</p> <p>16 reviews of some of the documents and questions put</p> <p>17 back to us, which we have responded to. And based</p> <p>18 on every indication that I have been given,</p> <p>19 there's no reason to anticipate that a CID would</p> <p>20 not be established.</p> <p>21 Q. Mr. Froelich, I'm having handed to you</p> <p>22 a letter on your company's letterhead from you to</p> <p>23 Mr. Brownlee dated July 21st, 2009.</p> <p>24 A. Okay.</p> <p>25 Q. Do you recognize this? And can you</p>	<p style="text-align: right;">Page 3630</p> <p>1 MR. THORNTON: No. Sorry.</p> <p>2 THE HEARING OFFICER: Mr. Smith?</p> <p>3 MR. ALAN SMITH: No objection.</p> <p>4 THE HEARING OFFICER: Mr. Edwards?</p> <p>5 MR. EDWARDS: No.</p> <p>6 THE HEARING OFFICER: The document marked</p> <p>7 as Exhibit 83 will be received into evidence.</p> <p>8 (Exhibit 83 admitted.)</p> <p>9 Q. (BY MR. FEREDAY): Mr. Froelich, you</p> <p>10 mentioned, I note, water facilities and -- in this</p> <p>11 letter and water supply.</p> <p>12 What is the importance of the water</p> <p>13 supply question in your business, in the CID</p> <p>14 financing business?</p> <p>15 A. Well, obviously water is important.</p> <p>16 Without water you're not able to build houses.</p> <p>17 And going after water for the entire project is</p> <p>18 important because now we're able to demonstrate</p> <p>19 that not only can we build infrastructure and pay</p> <p>20 for that through the bonds, because a lot of this</p> <p>21 infrastructure that we're going to be constructing</p> <p>22 up front will be repaid through later phases. For</p> <p>23 instance, a wastewater treatment plant is a good</p> <p>24 example of that that will serve not only the first</p> <p>25 phase, but later phases as well.</p>
<p style="text-align: right;">Page 3629</p> <p>1 tell us what it is, please.</p> <p>2 A. Yes, I do. This is a letter that was</p> <p>3 written by me really to provide information</p> <p>4 related to community infrastructure districts,</p> <p>5 eligible infrastructure, why this type of district</p> <p>6 is -- why we're starting to see more and more of</p> <p>7 it around the country, why it's important, and the</p> <p>8 status of the work that we have done in relation</p> <p>9 to the M3 CID.</p> <p>10 There's also on the back of it an</p> <p>11 estimate of costs prepared by Stanley Consultants</p> <p>12 related to the construction costs that are</p> <p>13 anticipated for the M3 project, as well as those</p> <p>14 costs we feel are eligible for CID infrastructure</p> <p>15 financing.</p> <p>16 Q. Mr. Froelich, does this July 21st</p> <p>17 letter fairly summarize the salient features of</p> <p>18 the M3 CID proposal?</p> <p>19 A. Yes, it does.</p> <p>20 MR. FEREDAY: We offer this as Exhibit --</p> <p>21 MR. LAWRENCE: I believe 83. Yes, 83.</p> <p>22 MR. FEREDAY: -- Exhibit 83, please.</p> <p>23 (Exhibit 83 marked.)</p> <p>24 THE HEARING OFFICER: Mr. Thornton, any</p> <p>25 objection to the admission of this document?</p>	<p style="text-align: right;">Page 3631</p> <p>1 We need to be able to demonstrate that</p> <p>2 we will be able to build out those final phases,</p> <p>3 that there will be water provided, that the water</p> <p>4 will be coming back for the wastewater treatment,</p> <p>5 that we can sell lots, et cetera.</p> <p>6 And this is one of the first questions</p> <p>7 that bondholders want to know: Does the project</p> <p>8 have water? because that is one of the precursors</p> <p>9 for the going forward with development.</p> <p>10 Q. Mr. Froelich, in your opinion, what is</p> <p>11 the probability of success of the M3 Eagle CID</p> <p>12 bond issuance?</p> <p>13 A. It is my opinion that we will form the</p> <p>14 district, and we will be going forward and issuing</p> <p>15 debt. And I don't see anything that would lead me</p> <p>16 to believe otherwise.</p> <p>17 Q. With regard to your dealings with the</p> <p>18 City, you note that you have submitted some</p> <p>19 applications there.</p> <p>20 So this -- is it fair to say that this</p> <p>21 process is on track, that M3 Eagle has taken steps</p> <p>22 to put into motion the implementation of the CID</p> <p>23 project?</p> <p>24 A. Absolutely.</p> <p>25 Q. We have, well, maybe one further</p>

<p style="text-align: right;">Page 3632</p> <p>1 question.</p> <p>2 In comparison to the other projects</p> <p>3 that you've worked on involving establishing CIDs,</p> <p>4 how does this stack up as it's getting started</p> <p>5 here? Is it running into problems? Are you</p> <p>6 seeing push-back from the City? Is there anything</p> <p>7 from the bond market that you see as a problem?</p> <p>8 How does this stack up?</p> <p>9 A. Well, in my experience, the process to</p> <p>10 date has been going fairly smoothly, in terms of</p> <p>11 the working relationship with the City. And so</p> <p>12 from that perspective, I think it's very positive.</p> <p>13 Obviously, the bond markets, just like all</p> <p>14 financial markets, have been stressed of late.</p> <p>15 However, what we're seeing is that the</p> <p>16 bond markets are recovering and interest rates are</p> <p>17 dropping, and they're heading in the right</p> <p>18 direction. And so we look very favorable going</p> <p>19 forward.</p> <p>20 MR. FEREDAY: Thank you. No further</p> <p>21 questions.</p> <p>22 THE HEARING OFFICER: Okay.</p> <p>23 Mr. Thornton -- oh, I also want to do something</p> <p>24 extraordinary at this point. I have one question</p> <p>25 for Mr. Froelich before we start.</p>	<p style="text-align: right;">Page 3634</p> <p>1 disadvantage, one, as being handed this document,</p> <p>2 and I'd sure like to have time to read that over.</p> <p>3 THE HEARING OFFICER: I'll give you some</p> <p>4 time to read it if you'd like.</p> <p>5 MR. THORNTON: Yeah, if I could do that to</p> <p>6 try to come up with some thoughts or ideas.</p> <p>7 THE HEARING OFFICER: Recess for five</p> <p>8 minutes.</p> <p>9 (Proceedings adjourned at 3:53 p.m.)</p> <p>10 -oOo-</p> <p>11</p> <p>12</p> <p>13</p> <p>14</p> <p>15</p> <p>16</p> <p>17</p> <p>18</p> <p>19</p> <p>20</p> <p>21</p> <p>22</p> <p>23</p> <p>24</p> <p>25</p>
<p style="text-align: right;">Page 3633</p> <p>1 EXAMINATION</p> <p>2 BY THE HEARING OFFICER:</p> <p>3 Q. Mr. Froelich, you referred in your</p> <p>4 testimony to reviewing the position -- financial</p> <p>5 position of a financial partner in M3 Eagle LLC,</p> <p>6 and that this financial partner has a strong</p> <p>7 financial position.</p> <p>8 Can you identify that financial</p> <p>9 partner?</p> <p>10 A. The Dallas Pension Fund of the Dallas</p> <p>11 Police and Fire.</p> <p>12 Q. Okay.</p> <p>13 A. Correct.</p> <p>14 THE HEARING OFFICER: The reason that I ask</p> <p>15 that question is because in previous examination</p> <p>16 there were -- there was an attempt to explore the</p> <p>17 financial position of that partner in the M3 LLC,</p> <p>18 and there were attempts successfully to keep out</p> <p>19 that information in the hearing.</p> <p>20 And I think Mr. Froelich's testimony</p> <p>21 has opened up that avenue for inquiry,</p> <p>22 Mr. Fereday.</p> <p>23 Mr. Thornton?</p> <p>24 MR. THORNTON: Appreciate the opportunity</p> <p>25 to ask questions. But I feel we're at a</p>	

1 REPORTER'S CERTIFICATE

2 I, JEFF LaMAR, CSR No. 640, Certified
3 Shorthand Reporter, certify:

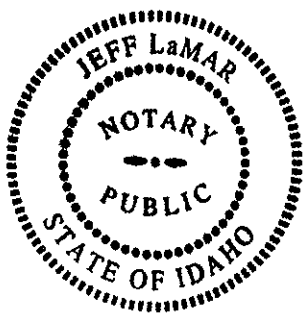
4 That the foregoing proceedings were taken
5 before me at the time and place therein set forth,
6 at which time the witness was put under oath by me.

7 That the testimony and all objections made
8 were recorded stenographically by me and transcribed
9 by me or under my direction.

10 That the foregoing is a true and correct
11 record of all testimony given, to the best of my
12 ability.

13 I further certify that I am not a relative or
14 employee of any attorney or party, nor am I
15 financially interested in the action.

16 IN WITNESS WHEREOF, I set my hand and seal
17 this 31ST day of July, 2009.



24
25

A handwritten signature of Jeff LaMar, consisting of stylized cursive letters, written over a horizontal line.

JEFF LaMAR, CSR NO. 640

Notary Public

Eagle, Idaho 83616

My commission expires December 30, 2011

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