

1 STATE OF MICHIGAN

2 STATE OFFICE OF ADMINISTRATIVE HEARINGS AND RULES

3 In the matter of: File No.: 06-57-0002-P  
4 Missaukee Lakes Master Homes, Part: 301, Inland  
5 LLC Lakes and  
6 Streams  
7 Agency: Department of  
8 Environmental  
9 Quality  
10 Case Type: Land and Water  
11 Management  
12 Division

13 HEARING - VOLUME NO. I

14 BEFORE RICHARD A. PATTERSON, ADMINISTRATIVE LAW JUDGE

15 525 West Allegan Street, Lansing, Michigan

16 Wednesday, December 19, 2007, 9:30 a.m.

17 APPEARANCES:

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19 and  
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Jim Krone  
Donna Lehman  
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Jackie Mosher  
Richard O'Neal  
Robyn Schmidt  
Brad Wilkins

RECORDED BY: Marcy A. Klingshirn, CER 6924  
Certified Electronic Recorder  
Network Reporting Corporation  
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1                   Lansing, Michigan

2                   Wednesday, December 19, 2007 - 10:02 a.m.

3                   (Petitioner's Exhibits 1 through 17, 19 through  
4                   30, 32 through 37, 42, 45 through 49, 51 through  
5                   53, 57 and 59 marked and received)

6                   (Respondent's Exhibits 1 through 26 marked and  
7                   received)

8                   (Intervenor's Exhibits 1 through 5, 8, 11 through  
9                   14, 16, 17, 18, 20 and 21 marked and received)

10                  JUDGE PATTERSON: Open the record by indicating  
11                  I'm Richard A. Patterson. I'm an administrative law judge  
12                  with the State Office of Administrative Hearing and Rules.  
13                  We're here today on the matter of the petition of Missaukee  
14                  Lake Master Homes, LLC, under -- is this case both 301 and  
15                  303 because it's only captioned -- under Parts 301 and 303  
16                  of the Michigan -- under NREPA, N-R-E-P-A. I would ask  
17                  counsel at this time to identify themselves on the record.

18                  MR. SHAFER: Bradley Shafer, appearing on behalf  
19                  of the Petitioners, your Honor.

20                  JUDGE PATTERSON: Okay.

21                  MR. HOFFER: Matt Hoffer on behalf of Petitioner,  
22                  your Honor.

23                  MR. PHELPS: Aaron Phelps on behalf of the  
24                  Intervenors, Missaukee -- or, excuse me, Missaukee Lake  
25                  Association.

1                   MR. LUNDGREN: Tim Lundgren on behalf of the  
2                   Intervenors.

3                   JUDGE PATTERSON: I'm sorry?

4                   MR. LUNDGREN: Tim Lundgren on behalf of the  
5                   Intervenors.

6                   JUDGE PATTERSON: Okay. Thanks.

7                   MR. REICHEL: Robert Reichel, R-e-i-c-h-e-l, on  
8                   behalf of the Respondent DEQ, Land and Water Management  
9                   Division.

10                  JUDGE PATTERSON: Okay. I understand there's been  
11                  some agreement or stipulation to a number of the exhibits.  
12                  And I've been handed notes by the court reporter indicating  
13                  that I assume everything -- all Respondent's Exhibits but 4,  
14                  5, 27 and 30 have been stipulated to; is that correct? Or  
15                  does somebody want to tell me what the agreement is? Maybe  
16                  that's an easier way to do it.

17                  MR. REICHEL: Okay. I believe you accurately  
18                  stated my understanding of what's been agreed to with  
19                  respect to the Respondent's exhibits; stipulation to the  
20                  admission of all of those we listed except 5, 27 and 30. I  
21                  believe that's correct.

22                  MR. HOFFER: That is correct.

23                  JUDGE PATTERSON: Okay. What about Intervenor's  
24                  exhibits?

25                  MR. PHELPS: I believe we have stipulated to the

1 admission of all of the exhibits except 6, 7, 9, 10 and 15,  
2 and 19.

3 JUDGE PATTERSON: Okay. And Petitioner's  
4 exhibits?

5 MR. SHAFER: Your Honor, I believe we have  
6 stipulated to all of them with the exception of 17, 18, 31,  
7 40 -- well, 31, 38, 40, 41, 43, 44, 50 and 58.

8 JUDGE PATTERSON: Okay. I also had on my note  
9 Exhibit 39. Is that no longer --

10 MR. SHAFER: Oh, I'm sorry. Yeah, it's probably a  
11 slash, 39 through 40, yes.

12 JUDGE PATTERSON: Okay. All right. And also for  
13 the record, I've apparently been provided folders of each  
14 party's respective exhibits which I thank you for. Mr.  
15 Shafer, anything preliminary before you start your case?

16 MR. SHAFER: No, your Honor.

17 JUDGE PATTERSON: Did you want to make an opening  
18 statement?

19 MR. SHAFER: Yes, your Honor.

20 JUDGE PATTERSON: All right.

21 MR. SHAFER: Your Honor, this is an application --  
22 this arises out of an application for dredging on Lake  
23 Missaukee --

24 JUDGE PATTERSON: You can stay seated if you're  
25 more comfortable.

1                   MR. SHAFER: I practice in federal court. They  
2 always make us stand.

3                   JUDGE PATTERSON: This is not quite federal court.

4                   MR. SHAFER: This is actually a rarity for me.  
5 Sorry. I usually have a podium as well. The dredging is in  
6 regard to one specific site -- one specific parcel which I  
7 think everyone will generally refer to as "lot 8 of Indian  
8 Lakes West."

9                   JUDGE PATTERSON: Lot 8?

10                  MR. SHAFER: Yes, sir.

11                  JUDGE PATTERSON: Okay.

12                  MR. SHAFER: The DEQ denied the permit and what  
13 you are going to find, not through trickery, not through  
14 fancy lawyering, not through anything except just looking at  
15 the documents that were sent to my client, that the reason  
16 that this was turned down was because another entity, a  
17 related entity, Indian Lakes, which owns the lots  
18 surrounding this lot would not give a conservation easement  
19 in order to ensure that there was not dredging in these  
20 other lots in the future. It's right in a document that was  
21 submitted to my clients in regard to the rejection.

22                  The issue here is removal of sediment. You will  
23 hear testimony -- we will present the testimony of three  
24 individuals: Dale Boughner who is the caretaker for this  
25 property, Dr. Tom Evans who has assisted him in this

1 process -- the application process who has experience in  
2 dredging and has received a dredging permit on Crooked Lake  
3 from the DEQ and Dr. John Lehman from the University of  
4 Michigan, our expert. And what they will all tell you is  
5 that it is not only difficult, it is dangerous trying to get  
6 out to the lake from this property. There is muck that is  
7 literally feet deep. You cannot feasibly put out a dock on  
8 top of this. You can't pull it in. You can't take it out.  
9 You can't manhandle things getting in the lake. You can't  
10 jump up on a jet ski hoist. And right now you can't get a  
11 boat out from this area either.

12 So what my client had requested -- and the  
13 individual who was involved in this particular property is a  
14 gentleman by the name of Harry Mohny. And you'll hear  
15 about Mr. Mohny's boat and you'll hear about that Mr. -- I  
16 believe it was Mr. Boughner and Mr. Mohny actually took Mr.  
17 Mohny's boat and tried to jam it with power on as far up as  
18 they could into the sediment in order to determine if they  
19 got the dredging, how far they would need a dock out and  
20 that's approximately 60 feet. And you will also hear  
21 testimony that this is a very shallow area and that if the  
22 dredging that my client requests is not permitted and my  
23 client simply has to put out a dock -- even given the  
24 infeasibility of that, but putting out a dock into deep  
25 water that's literally 400 to 500 feet out. So there's the

1 question of the reasonably prudent alternative in regard to  
2 a dock.

3 There is also the issue, your Honor, in regard to  
4 wading and swimming which are riparian rights of my client  
5 as well. This area of dredging is not only for the dock and  
6 a channel, it's for a swimming area. There is no way to  
7 wade out and get access to the lake because of all of this  
8 muck. There is no safe way to swim. There is no safe way  
9 to wade. There is no safe way to get to a hoist for a jet  
10 ski.

11 The alternative that you will see in regard to the  
12 documentation that the DEQ submitted is purportedly to put  
13 out a swim dock out there. Well, there's a couple problems  
14 with that. First of all, the swim dock, of course, would be  
15 in deep water. Children could not get out to that. Adults  
16 because of the muck around there could not be there in  
17 protection for the children and, still, no one could wade  
18 out in order to get, for example, on a jet ski or any other  
19 type of personal watercraft. So there are not reasonably  
20 prudent alternatives. You will hear the testimony from our  
21 expert that there will not be adverse environmental impacts.

22  
23 And, your Honor, what -- we have what is a public  
24 record. And I don't know how much of this is going to come  
25 in, but the court is obviously aware of the Tom's Bay matter

1 because your Honor was the one who ruled on that. That was  
2 a far larger dredging project. It was a dredging project  
3 where there was littoral vegetation in the dredged area.  
4 You will hear the testimony that this particular lot is  
5 pretty well devoid of vegetation. It is not a good area for  
6 fish to spawn in and the environmental impacts will be  
7 minimal. You will also hear testimony concerning whether  
8 this dredging is going to invoke a bunch of sediment going  
9 throughout the lake. We actually have a demonstration that  
10 we're going to do for you because we have the lake water and  
11 the sediment. And when Dr. Evans gets on the stand, and he  
12 took that testimony, we'll have him turn that over at the  
13 beginning of his testimony and then you can see as the day  
14 progresses how quickly the sediment falls to the bottom,  
15 which is one of the issues.

16 I also want to raise one other issue, your Honor.  
17 The way that the application was originally submitted was  
18 for a 50 by 200 feet -- 50 feet of lakefront 200 feet out.  
19 In conversations with the DEQ because of the wetlands area  
20 that is towards what they consider wetlands -- I'm not  
21 making that concession, but they're considering the area  
22 towards the shore to be wetlands -- we have agreed in  
23 negotiations with them previously, even though that didn't  
24 come up with a settlement, that we would forgo the first 20  
25 feet of dredging out from the property into the lake in

1 order to preserve that with some type of dock traverse above  
2 that. And for the purposes of this hearing, your Honor,  
3 we'll stip to that program, that this is really now not 200  
4 feet, it's 180 feet by 50.

5 JUDGE PATTERSON: Which would start 20 feet from  
6 the shore?

7 MR. SHAFER: Correct, your Honor.

8 JUDGE PATTERSON: Okay. I just wanted to make  
9 sure that -- all right.

10 MR. SHAFER: And unless you have any other  
11 questions?

12 JUDGE PATTERSON: I don't think I do. Thank you.  
13 Do either counsel for the Intervenor or the Department want  
14 to make an opening statement now or do you want to reserve?

15 MR. REICHEL: I'd like to reserve.

16 MR. PHELPS: As would we.

17 JUDGE PATTERSON: Okay. Are you ready with a  
18 witness?

19 MR. SHAFER: Yes, your Honor, Dale Boughner. And  
20 I guess because I don't have a podium, I guess I will sit  
21 down during the examination.

22 JUDGE PATTERSON: Okay.

23 REPORTER: Do you solemnly swear or affirm the  
24 testimony you're about to give will be the whole truth?

25 MR. BOUGHNER: I do.



1 DALE BOUGHNER

2 having been called by the Petitioner and sworn:

3 DIRECT EXAMINATION

4 BY MR. SHAFER:

5 Q Could you state your full name for the record?

6 A Dale Kenneth Boughner.

7 Q And, Mr. Boughner, are you familiar with an entity known as  
8 Missaukee Lakes Master Home (sic), LLC?

9 JUDGE PATTERSON: Sir, how do you spell your last  
10 name?

11 THE WITNESS: B-o-u-g-h-n-e-r.

12 JUDGE PATTERSON: Okay. I just wanted to make  
13 sure I had it right. I'm sorry. Go ahead.

14 MR. SHAFER: That's okay.

15 Q Are you familiar with an entity known as Missaukee Lakes  
16 Master Home, LLC?

17 A Yes, I am.

18 Q And do you have a role with that entity?

19 A I'm the property manager and also I work as a agent for that  
20 particular place.

21 Q And how long have you been the property manager of that  
22 property?

23 A About five years.

24 Q Okay. And what is the property that Master -- I'm sorry,  
25 Missaukee Lakes Master Homes, LLC, owns?

1 A Missaukee Master Home owns lot 8 and the subdivision is a  
2 subdivision which is owned by Indian Lakes West.

3 Q And what are your general responsibilities in regard to  
4 being a caretaker of that property?

5 A I oversee it and do requests that's required or asked for  
6 (sic) me by the owner of the properties.

7 Q And who is your contact person with regard to Master Homes?

8 A It would be Mr. Harry Mohney.

9 Q And how long have you known Mr. Mohney?

10 A Approximately five years.

11 Q And you're generally familiar with this area?

12 A Yes, I am.

13 Q Lot 8? You've been to it a number of times?

14 A Yes.

15 Q And have there been times that you have seen Mr. Mohney or  
16 other people using this property?

17 A Mr. Mohney uses it about three or four times a year  
18 especially -- a lot of times in the summertime he comes,  
19 maybe, for the month of July.

20 Q And does he have family and friends that use the property?

21 A Yes, he does. He's got family and grandchildren come up  
22 quite a bit in the summertime, also.

23 Q And are you familiar with the general age of the  
24 grandchildren?

25 A They run approximately, I'd say, from 6 to 9 or 10,

1            somewhere in that area.

2            Q     What is, for example -- if you can think, what is the most  
3            number of people you've ever seen using the property at the  
4            same time?

5            A     If he has a family outing up there, around the 4th of July  
6            and there's probably -- oh, there's 4, 6, 8 -- there's  
7            probably about -- anywheres from 12 to 20 people are there.

8            Q     Now, from your observations, have you ever seen Mr. Mohny  
9            or any of his friends or family swimming in the lake in  
10           front of his property?

11           A     It's impossible to swim there due to the depth of the muck.

12           Q     Have you been out there -- have you been out in the muck as  
13           well?

14           A     We put in a temporary dock a couple years ago. I had waders  
15           on and we only had it out there about six feet and I almost  
16           lost my waders. So we just abandoned the idea.

17           Q     And that was because of the suction of the muck?

18           A     Yes.

19           Q     Is there -- in the entire frontage of lot 8, is there any  
20           corridor or any way for someone to safely wade out into the  
21           lake?

22           A     Not in front of lot 8, no.

23           Q     Okay. Can a boat dock getting to the deeper water be put in  
24           there as the conditions currently exist?

25           A     The way it is now?

1 Q Yes.

2 A It would be almost impossible. The muck is too deep.

3 Q Can a boat come in to that area right now from out of the  
4 lake because of the muck?

5 A They couldn't get in very close. They could probably get  
6 within -- I'm not even sure of the dimension, but they could  
7 not get in that area, no.

8 Q From your observations -- well, let me ask you this  
9 question: While you've been the caretaker, has anybody put  
10 a lift for a boat in front of lot 8?

11 A The only boat we've had out there is just a small aluminum  
12 boat which was used to try to measure the muck or something  
13 like that. And you have to almost push it with a pole or  
14 something, you can't do anything else.

15 Q Because of the muck?

16 A Muck, yeah.

17 Q And so I take it that no one has ever put a lift out there  
18 for a jet ski?

19 A No; no. It's too much muck. You just couldn't do it.

20 Q Could you access a lift for a jet ski if the lift was out in  
21 the water where it would be deep enough for the jet ski to  
22 ultimately traverse out into the lake?

23 A You'd have to be out there quite a ways. I'm not sure of  
24 the depth or the amount it would have to be out there.

25 Q Because of the muck, could somebody walk out to --

1 A The muck is too deep. You just couldn't get to it, yes.

2 Q Okay. Are you familiar with the type of watercraft that Mr.

3 Mohney owns? Or boat?

4 A Mr. Mohney owns a Seaswirl. It's an open bow about --

5 17-footer approximately.

6 Q And what about personal watercraft?

7 A He has four jet skis.

8 Q In regard to the boat, have you become familiar with the

9 draft of that boat?

10 A The draft in that boat is approximately three feet.

11 Q Okay. And how did you determine that?

12 A Well, I had seen pictures of the boat and also I put it on

13 the trailer. I had that boat serviced, so just what it

14 takes to get it on the trailer.

15 Q Will the draft of that boat change depending upon the number

16 of people who are on it?

17 A Yes, it will.

18 Q And as more people get on, what will happen with the draft?

19 A It would take more water to float it. It probably could get

20 out into -- if you had a full boat loaded, probably draft

21 about four foot of water.

22 Q Now, did you participate in the dredging application request

23 in this matter?

24 A The previous one?

25 Q No, this one.

1 A This one? Yes, I did. I made it out.

2 Q Okay. And who did you submit it to?

3 A I submitted that to Robyn Schmidt. I asked her to come over  
4 ahead of time and she went through some of the stuff with me  
5 to help me prepare.

6 Q And do you recall --

7 MR. SHAFER: Do we have binders for the witness or  
8 how do we want to do that, your Honor?

9 MR. PHELPS: I have a binder for the witness.

10 MR. SHAFER: Okay.

11 JUDGE PATTERSON: Do you have an extra one?

12 MR. PHELPS: Yeah.

13 JUDGE PATTERSON: Yeah, why don't you give him  
14 that.

15 MR. SHAFER: Why don't we give him right now ours  
16 and the DEQ's.

17 Q Could you take a look at Exhibit 4 which has been stipulated  
18 to for entry?

19 A That's showing depth.

20 Q Not from what they told me. That's supposed to be the  
21 permit.

22 A Is it listed under numeral 4?

23 Q For theirs.

24 MR. REICHEL: Counsel, I believe the witness has  
25 in front of him the Petitioner's Exhibit 4.

1 MR. SHAFER: Oh, okay. All right.

2 JUDGE PATTERSON: Oh, it's the DEQ exhibits, the  
3 black binder -- or mine's black anyway.

4 Q Sorry about that. Take a look at the DEQ --

5 A It's a letter I sent in to Wendy Fitzner.

6 Q And how did it come about -- if you can explain to the judge  
7 how it came about you submitting this application?

8 A I handle requests of Mr. Mohny and he wanted to -- wanted  
9 to have -- bring his boat in to his house, so that's how  
10 the -- and I worked as an agent for them, so he asked me to  
11 file a request for a dredging permit.

12 Q Okay. And as originally sent in, do you recall what the  
13 dimensions were of the dredging?

14 A The best I remember, we sent in a dredging application of 50  
15 by 200.

16 Q And do you recall how much you -- how much material you  
17 wanted to dredge?

18 A I can't remember the exact number, but it was in cubic yards  
19 that we kind of based some of the dredging project onto.

20 Q Okay. And then after the application was submitted, did you  
21 receive a response from the DEQ?

22 A This response right here, they needed more information and  
23 then after the permit was submitted, we got a denial.

24 Q Okay. Was there a period of time -- or did there come a  
25 time when the DEQ requested additional information?

1 A The extra information?

2 Q Correct.

3 A I think I submitted that in the first part of January. It  
4 was within a couple of weeks when I got this (indicating)  
5 letter that they wanted additional information.

6 Q At all times the DEQ requested additional information, did  
7 you submit additional information to them?

8 A Yes, I did.

9 Q And prior to obtaining the denial letter, did anyone from  
10 the DEQ indicate to you why the dredging permit would be  
11 denied?

12 A Not that I recall.

13 Q Okay. I want to back up for a moment. And you're familiar  
14 with the Intervenors here, the Missaukee Lakes Association?

15 A Would you repeat that question, please?

16 Q Are you familiar with the group of individuals around the  
17 lake that are known as the "Missaukee Lakes Association"?

18 A I'm aware of them, yes.

19 Q And did you make any contact with them, with the association  
20 or any members of the association, prior to submitting --

21 A Before I even made an application for this dredging project,  
22 I asked Mr. Morrow to come over and wanted to show him what  
23 we planned on doing.

24 Q Do you know who Mr. Morrow is?

25 A Yes.



1 Q In regard to the association?

2 A He's the president of the Missaukee Lakes Association.

3 Q Okay. Go ahead.

4 A So I asked him to come over because I know there had been

5 some -- a project before this one that was denied or turned

6 down. So I just asked him to come over and I wanted to try

7 to explain to him what we intended -- or would like to do.

8 And that's about -- is all there.

9 Q Okay. And did anything else happen in regard to the

10 Missaukee Lakes Association?

11 A They were going to have a meeting so I was invited over to

12 the meeting. And I went over to the meeting and at the

13 meeting, it was more or less put out -- I'm not sure the

14 exact words, but, "It looks like Indian Lakes is going after

15 another dredging permit" or something to that effect.

16 Q Did they indicate -- did they ask you to provide them any

17 information?

18 A Not at that particular time, no.

19 Q Did they indicate to you what their position was in general

20 with regard to the dredging permit?

21 A Just the comments I heard around the room, it was negative

22 towards the dredging permit.

23 Q Did anyone from Missaukee Lakes Association ask you or

24 suggest or recommend to you in any regard the way the

25 dredging project -- proposed dredging projects could be

1 modified in order to take care of any concerns that they  
2 might have?

3 A From the DEQ?

4 Q No, from the Missaukee Lakes Association.

5 A Not particularly at that time.

6 Q Now, prior to the formal rejection of the application, did  
7 you have various conversations with individuals at the DEQ?

8 A I talked to -- before the denial?

9 Q Yes, sir.

10 A Not that I recall.

11 Q Did you receive any communication or correspondence from  
12 them?

13 A Not that I recall before the denial letter.

14 Q Okay. After the denial letter, did you have conversations  
15 with them?

16 A Yes. I filed a contested letter and asked that we could get  
17 together and try and form -- or decide if we could solve  
18 this informally.

19 Q And what occurred out of that?

20 A We had either three or four meetings with Robyn Schmidt and  
21 John Arevalo, I believe it was, and I think Mr. Richard  
22 O'Neal came out and looked at the project.

23 Q And when you say "we," who do you mean by "we"?

24 A It was myself and I also had -- Dr. Evans was with me on  
25 several occasions.

1 Q And what was Dr. Evans' role in this?

2 A He was also appointed by Mr. Mohny to help us obtain a

3 permit. He was serving as the agent, I would say, at that

4 time.

5 Q Okay. And in this process where you were meeting with

6 people from the DEQ, were there ever any requests that the

7 DEQ made of Master Homes in regard to concessions that could

8 be made so that the project could be approved?

9 A At one time Mr. Arevalo offered us a conservation easement I

10 think it was called, that if we would sign that permit

11 easement and not to ask for any dredging permits in any

12 other areas of that subdivision that we could probably get

13 the permit.

14 Q And does Missaukee Lake -- Missaukee Lakes Master Homes,

15 LLC, own those other lots?

16 A No, they don't.

17 Q Who are they owned by?

18 A That's owned by Indian Lakes West.

19 Q Okay. And are those lots currently for sale?

20 A Those lots are currently for sale.

21 Q From your familiarity with Indian Lakes and Missaukee Lakes

22 Master Home, how long have those lots been for sale?

23 A I come to work approximately five years ago and they were

24 for sale before that time. I'm not exactly sure.

25 Q Since you began your work on behalf of Master Homes, have

1           any of the lots in Indian Lakes West sold?

2       A     No.

3       Q     In regard to the conservation easement, did you communicate

4           that to Mr. Mohney?

5       A     Yes, I did.

6       Q     And did you respond to the DEQ in regard to whether or not

7           Master Homes was willing to work with Indian Lakes in order

8           to grant that conservation easement?

9       A     At that particular time, Mr. Mohney wasn't interested in

10          doing that as a permanent easement because -- he just

11          didn't -- I don't know. He just didn't want to do it.

12       Q     Okay. Mr. Mohney is also a representative of Indian Lakes

13          West?

14       A     Yes, he is.

15       Q     And he's the individual you report to in regard to your work

16          for Indian Lakes West as well; correct?

17       A     That's correct.

18       Q     Now, do you recall being on lot 8 in the lake area or

19          directly in front of it on February 28th of this year?

20       A     Yes, I do.

21       Q     And what was the purpose of that?

22       A     We, "we" being myself and the DEQ, were going to take some

23          depth measurements of the water and muck in front of lot 8.

24       Q     And do you recall who was there on behalf of the DEQ?

25       A     Robyn Schmidt was there and she had an assistant with her, I

1 can't remember her name offhand. And I had -- it was myself  
2 and a person by the name of Larry Julian. There was four of  
3 us.

4 Q Was Mr. Julian there on behalf of the DEQ or was he there on  
5 behalf of --

6 A He was there on behalf of Missaukee Lakes Master Homes.

7 Q Okay. And what, if anything, did you do at this time?

8 A I got there early in the morning and laid out a pattern of  
9 about every 10 feet and then I drilled all the -- all the  
10 holes in the ice and got it ready for the DEQ to measure.

11 Q So I take that at this time the entire area in front of lot  
12 8 was covered with ice?

13 A Yes, it was.

14 Q How thick; do you remember?

15 A It varied anywheres from three inches to probably about four  
16 or five.

17 Q Okay. And then what did the individuals from the DEQ do  
18 from your observations?

19 A Robyn Schmidt took and had a pole with numbers on it and she  
20 would stick that down and measure the depth of the water to  
21 the muck. And then the second reading she took, she would  
22 push it down as far as she could and took another reading.  
23 And her assistant was, I believe, taking satellite readings  
24 so they could have a ground positioning system so they knew  
25 where the readings were taken.

1 Q Now, did there come another time when you participated in  
2 the measuring of the muck in front of lot 8?  
3 A Yes, I did.  
4 Q When was that?  
5 A Just approximately September, I believe it was. Tom Evans,  
6 Dr. Evans and myself went out with a 10-foot pole and boat  
7 and we had a long string so we could get approximately the  
8 same measurements. And we measured the muck at that  
9 particular time.  
10 Q All right. Why don't you explain to the judge exactly how  
11 you went about doing that.  
12 JUDGE PATTERSON: This is September of '07?  
13 THE WITNESS: Pardon me?  
14 JUDGE PATTERSON: September of '07?  
15 THE WITNESS: Yes.  
16 JUDGE PATTERSON: Okay.  
17 A We had a 10-foot pole. I think it was a 5/8 diameter pole  
18 and we would shove that down until we hit hardpan.  
19 Q And what did you find from the measurements you were taking  
20 that day?  
21 A All of our measurements were under 8 feet.  
22 Q How far out did you go from the shoreline?  
23 A Approximately 200 feet. And we went out further -- after we  
24 got to the 200 foot mark, then we started going maybe every  
25 25 feet just as an approximation and we got -- probably went

1 out 500 feet that time, 4- to 500 feet.

2 Q Did you ever find an area that day as you were going out  
3 from lot 8 where the water level was more than 10 feet?

4 A Deeper than that?

5 Q Yes.

6 A No.

7 Q Would it be a fair statement then that this area in front of  
8 lot 8 is extremely gradual in its drop-off between the  
9 shoreline and 4- to 500 feet out?

10 MR. PHELPS: Objection; leading.

11 A Yes, it would.

12 Q How would you describe --

13 JUDGE PATTERSON: Okay.

14 Q -- the drop-off from the shoreline out to the level between  
15 4- to 500 feet?

16 A It was a very gradual drop-off.

17 Q From your observations and your measurements that day, do  
18 you have -- how far out from the shoreline do you believe  
19 someone would have to take a dock so that you would get  
20 appropriate water underneath a boat to be able to get out to  
21 have lake access?

22 MR. REICHEL: Objection; lack of foundation.

23 MR. SHAFER: He said he took all the measurements.

24 JUDGE PATTERSON: I'll overrule. You can answer  
25 that or you may answer it, if you can.

1 A I would just say approximately anywhere from 3- to 500  
2 feet.

3 Q Okay. Do you recall any conversations with the DEQ about  
4 the 20 feet right out from the shore area? Any concerns  
5 that they had --

6 A The DEQ is -- I guess I can say that they're considering  
7 that as being wetlands area and that if we were to possibly  
8 not request to dredge that out, that we could probably  
9 dredge on from there on out.

10 Q And did you ultimately concede that you would not dredge  
11 that first 20 feet?

12 A Yes, we talked about that.

13 Q Is there anything else you can recall other than the 20 feet  
14 and the conservation easement that the DEQ recommended --  
15 any of the members of the DEQ recommended that they would  
16 like to see a change so that they might approve this  
17 project?

18 A The last meeting I had with John Arevalo, I think Dr. Evans  
19 and myself, the only thing that came up was that if Mr.  
20 Mohny wanted to have a swimming beach, he should buy some  
21 property where there is a swimming beach. And that's -- the  
22 last meeting we had, that's --

23 Q And Mr. Arevalo said that?

24 A Yes, he did.

25 Q And he was with the DEQ?



1 A Yes, he is.

2 Q And is part of this dredging project for swimming?

3 A Pardon me?

4 Q Is part of this dredging project for swimming?

5 A Yes, it is. They want to be able to swim or bathe there.

6 Q Did there come a time that you and Mr. Mohney attempted to  
7 determine how close you could get a boat into shore with the  
8 muck that is there at present?

9 A We brought his I/O boat in there one time and I don't know  
10 exactly how close we could get. I'd have to guess, but  
11 maybe within 200 feet or so we were pretty well bogged down.

12 Q And how did you try to get that in? Did you guys get out or  
13 how did you do that?

14 A Well, he put it in reverse and was able to back out and we  
15 also had a paddle and a pole we pushed with.

16 MR. SHAFER: Just a moment and I'll finish this up  
17 pretty quick.

18 JUDGE PATTERSON: Okay. Take your time.

19 (Counsel reviews file)

20 Q Mr. Boughner, can you go over to Exhibit 14 of the  
21 Petitioner's book, which is the big one?

22 A It's a letter dated July 7th?

23 Q No, January 19th, 2007.

24 A Which?

25 Q It will say --

1 A In the big book?

2 Q Yes, sir.

3 JUDGE PATTERSON: Yeah, that other one on your  
4 left.

5 A Item 14?

6 Q Yes, sir. Exhibit 14.

7 A Okay.

8 Q I see your name up at the top. I assume that was sent to  
9 you?

10 A Yes, sir.

11 Q And who was it sent by?

12 A That was sent by John Arevalo.

13 Q Okay. And this was a letter sent to you by Mr. Arevalo?

14 A Yes.

15 Q And if you go down to the third full paragraph there, does  
16 Mr. Arevalo indicate his belief about what would have  
17 happened had the conservation easement been granted? And  
18 you can take the time to read it. I understand you forgot  
19 your reading glasses at my office.

20 A I forgot my reading glasses today, but I'm not used to  
21 wearing them.

22 (Witness reviews exhibit)

23 A Yeah, he's speaking about a voluntary conservation easement.

24 Q Yes, sir. Is this the information Mr. Arevalo gave you  
25 about if you had -- if Indian Lakes had granted the

1 conservation easement, the dredging project would have been  
2 approved?

3 A Yes.

4 Q When you were out there measuring, not with the DEQ people,  
5 but when you were out the second time measuring, what did  
6 you find in regard to the water depth as you went out into  
7 the lake? So from the top of the water to the top of the  
8 muck?

9 A It got a little deeper.

10 Q But do you recall any numbers how shallow the water was  
11 close to the shore?

12 A I do not recall numbers at that time.

13 Q All right.

14 MR. SHAFER: That's all I've got, your Honor.

15 JUDGE PATTERSON: Okay. Cross-examination?

16 MR. REICHEL: Mr. Boughner, my name is Robert  
17 Reichel. I'm an assistant attorney general. I represent  
18 the DEQ in this matter.

19 CROSS-EXAMINATION

20 BY MR. REICHEL:

21 Q Okay. You've testified that you work as an agent for Mr.  
22 Mohney; is that correct?

23 A That's correct.

24 Q And when were you first retained as an agent for Mr. Mohney?

25 A About three years ago.

1 Q Three years ago?

2 A Yes.

3 Q You've also testified, as I understand it, that you are an  
4 agent for -- have some employment capacity with Indian Lakes  
5 Development?

6 A Yes, I am.

7 Q And when were you so employed?

8 A Pardon me?

9 Q When did you start working for Indian Lakes Development?

10 A About five years ago.

11 Q And what was your position at that time with Indian Lakes  
12 Development?

13 A I was property manager at that time to oversee trespassers  
14 and the wood cutting and things like that.

15 Q Okay. Could you describe to the judge your understanding of  
16 what the area -- the property owned Indian Lakes Development  
17 in the vicinity of lot 8?

18 MR. SHAFER: Objection; relevance.

19 A Well --

20 JUDGE PATTERSON: Wait 'til we address the  
21 objection.

22 MR. REICHEL: Well, I think it's highly relevant,  
23 your Honor. First of all, this witness has alluded to his  
24 involvement or the involvement of Indian Lakes with a prior  
25 application for development at this site. He's also

1 testified that -- I believe, but we can establish foundation  
2 for this, that there was relationship between Indian Lakes  
3 Development and Missaukee Lakes Home, LLC, and Mr. Mohney --  
4 well, Mr. Mohney and Missaukee Lakes, LLC, the permit  
5 applicant. I think it is quite relevant to establish the  
6 context in which this permit application was being made and  
7 the issue of common ownership of property in the area. So I  
8 submit it is relevant.

9 MR. SHAFER: May I respond, your Honor?

10 JUDGE PATTERSON: Sure.

11 MR. SHAFER: First of all, Mr. Boughner did not  
12 testify that he was involved in the prior application. He  
13 asked me a specific question, "Do you mean the prior  
14 application?" And, in fact, you can ask him. He wasn't  
15 involved in that. Be that as it may, the criteria here  
16 relates to the dredging application. It doesn't relate to  
17 what Indian Lakes on another piece of property may have  
18 asked for five years ago or 2002 -- well, yeah, I guess it  
19 was five years ago. It's totally irrelevant. The criteria  
20 that you're going to be asked to decide is does this  
21 proposed project create a significant impact upon the  
22 environment so that it should be denied, not what Missaukee  
23 Lakes might do in the future, more importantly, not what  
24 someone might -- who buys one of those lots might request as  
25 a dredging project that we don't know that they're going to

1 request. We don't know when it's going to be requested. We  
2 don't know who it's going to -- who's going to request it.  
3 The only thing here is one dredging project on one lot.  
4 That's the criteria this court has to apply. Anything that  
5 happened with Indian Lakes in the past, anything that anyone  
6 who might buy a piece of property from Indian Lakes in the  
7 future might want to do, totally extraneous and irrelevant,  
8 your Honor.

9 MR. REICHEL: May I respond?

10 JUDGE PATTERSON: Sure.

11 MR. REICHEL: First of all, I respectfully  
12 disagree. Beyond that, I would also note this is relevant.  
13 The whole issue of common ownership of property by Mr.  
14 Mohney or related entities is highly relevant to the issue  
15 of feasible and prudent alternatives. As the tribunal is  
16 well aware under Part 301 and the rules, one of the  
17 requirements that the agency and this tribunal is required  
18 to consider is the availability of feasible and prudent  
19 alternatives. That is also the case with respect to  
20 analysis of impacts on wetlands under Part 303. For that  
21 reason alone, I think that it is entirely relevant to  
22 inquire as to issues relating to ownership of property,  
23 either actually owned by Mr. Mohney or controlled by Mr.  
24 Mohney or related entities in the adjacent area.

25 JUDGE PATTERSON: I think there are two issues

1 that make it relevant -- or factors. One is the testimony  
2 regarding the proposed conservation easement and I think the  
3 ownership or interplay relates to that. And second is  
4 cumulative impacts under Part 303. So I'll overrule the  
5 objection.

6 MR. REICHEL: Thank you.

7 Q Okay. Do you remember my question, sir, or should I repeat  
8 it?

9 A No, I don't.

10 Q Okay. You've testified that you had some involvement with  
11 Indian Lakes for about the last five years; correct?

12 A Yes; correct.

13 Q What is your understanding, sir, of the area of property  
14 owned by Indian Lakes adjacent to or in the vicinity of  
15 Missaukee -- Lake Missaukee?

16 A Are you asking me who owns it or --

17 Q I'm asking you what property -- if you know, sir, could you  
18 describe the property owned by Indian Lakes in the vicinity  
19 of Lake Missaukee?

20 A Indian Lakes owns around 7,000 acres in that general  
21 vicinity. Indian Lakes West, I'm not too sure who owns  
22 that. I'm not sure of the structures or what it is. And  
23 also Missaukee Lakes Master Home, I believe -- best of my  
24 knowledge is that Mr. Mohney owns that house.

25 Q Okay. You refer to Indian Lakes West. I'd like to direct

1           your attention to the DEQ Exhibit Number 4, which is the  
2           black binder in front of you, the permit application. Have  
3           you located it, sir?

4        A        In the small book here?

5        Q        Yes; yes. I'm sorry. I misspoke, it's --

6        A        Which item?

7        Q        Number 4, please.

8        A        That's the letter I sent back to Wendy Fitzner.

9        Q        If you look at the date, sir, does this appear to you to be  
10       a copy of the first permit app- -- yes, the letter you sent  
11       to the DEQ applying for a permit; correct?

12       A        Yeah; okay; uh-huh.

13       Q        And did you prepare this document?

14       A        Yes, I did.

15       Q        And there are various documents attached to it; is that  
16       correct?

17       A        Yes, there was.

18       Q        And these pages are not numbered, but I think if you turned  
19       through to the fifth page -- do you see that? It's under a  
20       letterhead of "Harry Mohney, CO, Modern Bookkeeping,  
21       Incorporated." Do you see that document?

22       A        Yes, I do.

23       Q        Was this something that you provided to the DEQ in  
24       connection with the application?

25       A        Yes, I did.



1 Q And this is a letter or communication from Mr. Mohney  
2 talking about three legal entities; correct? Michigan Reef  
3 Development Corporation, Indian Lakes, LLC, and Missaukee  
4 Lakes Master Homes, LLC; correct?

5 A Correct.

6 Q Okay. Now, just before we go further, you've testified that  
7 you have been employed by Indian Lakes, LLC, since the last  
8 five years; is that correct?

9 A Approximately, yes.

10 Q Okay. And you've been working for Missaukee Lakes Master  
11 Homes for how long?

12 A Approximately three years.

13 Q Okay. Are you now or have you been employed by Michigan  
14 Reef Development Corporation?

15 A Not that I know of.

16 Q Okay. I'd like you to turn to the next page -- or actually  
17 the next -- yes, the next page. Do you see -- I'm sorry.  
18 Turn two more pages to a document that has in the lower  
19 right-hand corner a heading or label -- legend "Indian  
20 Lakes" -- do you see that? -- and "site plan" and  
21 typically --

22 A Is it a print of the subdivision?

23 Q Yes.

24 A It says, "View of the Dredge Spoils Site"?

25 Q No. I'm sorry. Go two more pages, sir.

1 A Two more pages? Okay. Yup.

2 Q You referred previously in your testimony to something  
3 called "Indian Lakes West." If you know, is the set of lots  
4 or units depicted in this exhibit what you understand to be  
5 Indian Lakes West?

6 A It would just be an assumption. I would assume that this is  
7 Indian Lakes West, yes.

8 Q Okay. Well, you provided actually a copy of this document  
9 to the DEQ with the permit application; correct?

10 A Yes, I did. That's right.

11 Q And where did you get it?

12 A This document was fastened onto -- this particular print was  
13 fastened onto a set of house plans that were left in the  
14 Missaukee Lakes Master Homes. It's where I got this  
15 document from. And I added what we planned on dredging on  
16 the front of it.

17 Q Okay. The handwriting there or the printing is yours?

18 A The handwriting is my handwriting, yes, it is.

19 Q Okay. With respect to Indian Lakes, what has been -- what  
20 are or have been your job responsibilities for Indian Lakes  
21 in the last five years?

22 A Indian Lakes West?

23 Q Yes.

24 A I have the grass mowed, I have it plowed out in the  
25 wintertime, patrol it for trespassers and I'm also an agent

1           for them. And I've -- Modern Bookkeeping has had some  
2           requests to buy some property and I've showed the property.  
3           That's about it.

4       Q     Okay. Modern Bookkeeping is what?

5       A     It's just a number. I don't know what -- it's down in the  
6           Lansing area someplace. I'm not too sure how that's tied  
7           in. I don't know the structure. I know that their  
8           number -- if you dial that number, you get Modern  
9           Bookkeeping.

10      Q     Okay. And is it your understanding, sir, that the units  
11           depicted in this figure, in Indian Lake West, have been  
12           offered for sale?

13      A     Yes, they have.

14      Q     Have any of them been sold to your knowledge?

15      A     No.

16      Q     Okay.

17      A     Correction. When I took over, two lots were sold, number 1  
18           and number -- I'm not sure, number 4 or 5 along there was  
19           sold. They were sold before I took over.

20      Q     When you took over --

21      A     Five years ago.

22      Q     Okay. What about lot 8?

23      A     That's where Missaukee Lakes Master Home is.

24      Q     Okay. Do you know if Indian Lakes sold that to Missaukee  
25           Lakes Master Home?

1 A I do not know that.

2 Q Do you know when -- there is today a cottage of some kind on  
3 lot 8; correct?

4 A Pardon me?

5 Q There's a house or a cottage on lot 8?

6 A Yes, there is.

7 Q Do you know when that was built?

8 A I do not.

9 Q Do you know who --

10 A It sat vacant for some number of years and when I -- I was  
11 property manager of Indian Lakes for a couple years and then  
12 I was requested by Mr. Mohney to see if I could make that  
13 house livable for him and that's what I did. The house was  
14 never finished. The basement needed work, things like that.

15 Q And so did you oversee or perform that work?

16 A Yes, I did.

17 Q And when did that occur, sir?

18 A In the last three years it's been ongoing.

19 Q And, again, I just want to be clear on this. Do you know as  
20 you sit here today who actually holds title to lot 8?

21 A I do not.

22 Q Is it your understanding that it's controlled by Mr. Mohney?

23 A That would have to be an assumption. I would say it does,  
24 but I don't get into the structure of the corporation of who  
25 owns what. I'm not trusted for that.

1 Q Okay. In addition to Indian Lakes West -- or let me back  
2 up. You testified earlier that it's your understanding that  
3 Indian Lakes controls approximately 7,000 acres in the  
4 vicinity of Lake Missaukee.

5 A Yes, sir.

6 Q Are you familiar with a property or an area of property  
7 called "Indian Lakes North"?

8 A No, I'm not.

9 Q You're not?

10 A No.

11 Q Are you aware of whether or not -- again, directing your  
12 attention to -- actually, I'm going to ask you to look at  
13 DEQ Exhibit 7. It's behind tab 7 in that same book.

14 A Same book?

15 Q Yes.

16 A Number 7?

17 Q Okay. Again, I think you testified on this. Is this  
18 exhibit --

19 A That's the letter to the DEQ?

20 Q Yes.

21 A Uh-huh (affirmative).

22 Q Do you recognize this, sir, as correspondence that you sent  
23 to DEQ in February of 2006?

24 A Yes, I did.

25 Q And is it fair to say that this was your attempt to respond

1 to communication from DEQ asking you for more information in  
2 connection with the application?

3 A Yes, it was.

4 Q Okay. And, again, you put this document together; is that  
5 correct?

6 A Yes, I did.

7 Q And to the best of your knowledge, were the facts stated in  
8 this application true?

9 A I would say they were, near as I can tell.

10 Q If you look at -- in this document, DEQ 7, in the upper  
11 right-hand corner there appears to be some handwritten  
12 page -- upper right, yes, handwritten page numbers. Do you  
13 see those on your copy?

14 A Yes, I do.

15 Q Can you turn to the one that's labeled "6"?

16 A What's the number?

17 Q Page 6 in the upper right-hand corner?

18 A Page 6?

19 Q It appears to be a plat map?

20 A Yes, it is.

21 Q And on that one there's depicted "Arrowhead Trail West." Do  
22 you see that?

23 A Yes, I do.

24 Q Is that the access road to the individual lots in the Indian  
25 Lakes West subdivision?

1 A Yes, it is.

2 Q Directing your attention to -- if you follow the west  
3 shoreline of Lake Missaukee there to the north, do you know  
4 whether or not Mr. Mohny or entities that he controls or  
5 manages own that property along the -- immediately north of  
6 there?

7 A If they own it?

8 Q Yes.

9 A It's part of Indian Lakes -- if it's part of Indian Lakes,  
10 which I assume it is, I would say that he owns it or  
11 probably the corporation owns it. I'm not too sure who the  
12 actual owner is.

13 Q Okay. Other than owning lot 8 -- or other than lot 8 of  
14 Indian Lakes West, what -- do you know whether or not  
15 Missaukee Lakes Master Homes, LLC, has any other property in  
16 the vicinity of Missaukee Lake?

17 A In that subdivision?

18 Q Well, first in that subdivision.

19 A I'm not aware of any.

20 Q Do you know whether -- as their agent in the area do they  
21 have any -- does that entity have any other property in the  
22 vicinity?

23 A No.

24 Q Looking at -- directing your attention back, sir, to the  
25 permit application, tab 4 in that same binder you're looking

1 at?

2 A Section 4?

3 Q Yes.

4 A Uh-huh (affirmative).

5 Q Directing your attention to the third piece of paper --

6 these are not numbered, but the third piece of paper in that

7 consolidated exhibit -- it says "page 2 of 7" at the bottom.

8 Do you see that?

9 A Mine don't have any page numbers that I can tell.

10 Q That's okay. I realize the printing is small, but I'd ask

11 you to look. If you look behind tab 4, the third piece of

12 paper you come to? That's what I'd ask you to look at.

13 A That says "Jennings and Dickerson Road" on it, the top up

14 there?

15 Q Yes; correct.

16 A Okay.

17 Q And do you see a signature line at the bottom --

18 A Yes, I do.

19 Q -- and the box checked "property owner"? And then it says

20 "manager," printed "Harry Mohney" and there's a signature.

21 Is that Mr. Mohney's signature as far as you know?

22 A To the best of my knowledge it is, yes.

23 Q Okay. Now, did you provide this application to Mr. Mohney

24 to be signed?

25 A I made up the application. I sent it in to Mr. Mohney and



1 he apparently signed it, yes.

2 Q Okay.

3 A I put the check in there as far as the property owner, not  
4 knowing at the time if it was right or wrong, but I checked  
5 it.

6 Q Well, in any event, there isn't any doubt in your mind is  
7 there, sir, that Mr. Mohny either individually or through  
8 an entity or entities that he controls, controls lot 8 in  
9 this subdivision?

10 A Yes.

11 Q Mr. Boughner, do you reside in the vicinity of Lake  
12 Missaukee?

13 A I reside on Sapphire Lake, which is about a quarter of a  
14 mile away.

15 Q Okay. Since you have worked for Indian Lakes West  
16 Development, how often approximately do you visit Lake  
17 Missaukee?

18 A I usually go down that road almost on a daily basis. I  
19 patrol most of the property that I can for trespassers. And  
20 during hunting season, we have all the land leased out, so I  
21 visit our lessees quite often.

22 Q You've testified previously that the house or the structure  
23 on lot 8 was constructed several years ago and was initially  
24 unoccupied. Are you familiar with the term "spec house"?

25 A I've heard of spec house, yes.

1 Q What do you -- do you understand that to -- was this -- do  
2 you know who built the house?

3 A It was built by I believe it was Lindal Homes.

4 Q Okay. It was initially unoccupied; correct?

5 A Yes, it was.

6 Q And it's been occupied intermittently if I understand you by  
7 Mr. Mohny or members of his family on a seasonal basis  
8 since that time?

9 A Yes.

10 Q The permit application, again, tab 4 -- I'm sorry. Let's  
11 look at tab 4. This proposes to use a hydraulic dredging  
12 technique; is that correct?

13 A Yes.

14 Q And have you ever observed hydraulic dredging on a inland  
15 lake in Northern Michigan?

16 A Yes, I have.

17 Q Okay. Have you ever observed the hydraulic dredging  
18 technique used by the vendor that you identify in the permit  
19 application; that is, Michigan Hydraulic Dredging?

20 A I did not observe it by that particular individual, no.

21 Q Okay. Is it your understanding that what they proposed to  
22 do and what the permit application sought permission to do  
23 was to use a suction dredge in a certain area on the bottom  
24 of Missaukee Lake to suck up sediment or muck; is that  
25 correct?

1 A Yes.

2 Q And then what would become of that after it was sucked up?

3 A It would be placed into a holding area where the water could  
4 drain back off and drain back into the lake eventually.

5 Q Does the permit application or the supplemental information,  
6 Exhibit 7, identify where this holding area was proposed to  
7 be or is proposed to be?

8 A I'm not too sure if it's in this one.

9 (Witness reviews exhibit)

10 A Yes, I think it does show a spoils area; uh-huh  
11 (affirmative).

12 Q Okay. You're referring to a spoils area on one of the  
13 figures that was attached to this?

14 A I got page 10 on top of mine.

15 Q Are you behind tab 4 or tab 7?

16 A I am behind tab 4.

17 Q Okay. So let me be clear on this. The idea is -- or the  
18 proposal is to suction accumulated sediment or material from  
19 the area -- a portion of the area in front of lot 8, pipe it  
20 to a location across this Arrowhead Trail where it would be  
21 dewatered?

22 A Yes, sir.

23 Q Okay. And what -- under this proposal, where would the  
24 water from this wet material go, or the liquid?

25 A If you look at the diagram, the water -- if you stand at the

1 bottom of that diagram, the water would flow to the left,  
2 which would be to the west. And I've had Robyn Schmidt look  
3 at that area. And we would probably have to put up one  
4 small dirt berm down near the end, but other than that, it's  
5 a natural hole in the ground.

6 Q So it's your understanding it would seep into the ground?

7 A Pardon me?

8 Q Is it your understanding that under this proposal this  
9 liquid would seep into the ground?

10 A Yes; yes.

11 Q It would not go into the surface water of Missaukee Lake?

12 A No. It's a sandy soil.

13 Q Directing your attention to tab 7, sir.

14 A We're in tab 7 now?

15 Q Yes.

16 A Uh-huh (affirmative).

17 Q The first page?

18 A If we could, sir.

19 Q Yes.

20 A On that diagram we just talked about, lot 8 is wider than  
21 what I've indicated on that particular print, too.

22 Q I'm sorry. You're going back to the previous exhibit?

23 A Yeah; uh-huh.

24 Q Okay. How wide is lot 8?

25 A I believe it's 100 foot. For some reason, I picked a

1 dimension of 70 foot on there. That's why I showed 50 and  
2 10 and 10.

3 Q How do you know that's 100 feet?

4 A I just got a new diagram the other day -- a new print; been  
5 going over to that property, looking at it.

6 Q And who gave you that diagram?

7 A I got it from the Missaukee Lakes Equalization Department.

8 Q Let me make sure. Is this some kind of a survey?

9 A It's a county -- the county owns it. It's the county where  
10 you register your stuff.

11 Q Okay. This is a tax office?

12 A Yes; yes.

13 Q Okay. So what you got from them was a tax bill that had a  
14 description of the property?

15 A They show diagrams also.

16 Q Okay. And it's your testimony that, in fact, the lot is 100  
17 feet wide -- where? -- at the lakeshore?

18 A Yeah, and I only showed 70.

19 Q And what did you base the 70 feet on?

20 A Well, I picked up -- I don't know where. I made an error.  
21 I think what happens, it goes along and it makes a jog or  
22 something. I'm not exactly sure.

23 Q Have you ever examined a survey -- you know what a survey  
24 is, something that a licensed surveyor does? Have you ever  
25 examined a survey of this lot?

1 A No.

2 Q Have you looked at the original plat, subdivision plat?

3 A I may have got it off some of them other prints I had in  
4 this folder here. I'm not exactly sure where the original  
5 came from.

6 Q So it's your belief today that it's 100 feet wide?

7 A Yes, it is.

8 Q Directing your attention to DEQ Exhibit 7, if you'd look at  
9 that tab, please?

10 A That's the section we're in?

11 Q Yes, that's where I want you to look at, the first page,  
12 item 6. If you recall, were you asked by the DEQ to clarify  
13 the purpose of this dredging and any and all alternatives  
14 considered?

15 A I don't recall.

16 Q If you turn to the next page of what is Exhibit 7, take a  
17 look at that.

18 A Okay. It says, "Clarify the permit area."

19 Q Well, first of all, just so the record is clear, the heading  
20 on the second page is a letter dated February 1st, 2006,  
21 from the DEQ to Missaukee Lakes Master Home with the  
22 heading, "Application Correction Request"; correct?

23 A Yes.

24 Q And if you look at item 6, the statement there or the  
25 question there is, "Clarify the purpose of this proposed

1 dredge and any alternatives considered"; is that true?

2 A Yes.

3 Q Okay. Turn back to the first page of that exhibit -- which  
4 you prepared; correct? The hand -- the printed document?

5 A Yes.

6 Q Okay. Under 6, it says, "Proposed dredge is for a private  
7 seasonal dock. Dock would be used to tie a boat to. Boat  
8 would be used for fishing, swimming and water sports." That  
9 is what you wrote to the DEQ; correct?

10 A Yes, I did.

11 Q So the idea -- the purpose of the project was enable -- to  
12 have a dock to which boat or boats could be moored; correct?

13 A Yes.

14 Q And staying with that same exhibit, if you turn to the  
15 fourth page in that set, about a third of the way down  
16 towards the right there's a phrase, "hydraulic dredge." Do  
17 you see that?

18 A Which, where it -- still the same section?

19 Q Tab 7, the fourth page.

20 A Okay.

21 Q Okay. And then going down that same page under "E," you're  
22 providing information about the nature of the dock that is  
23 being proposed. You've checked the box "a seasonal  
24 structure"? "Yes," that's what's being proposed; is that  
25 correct?

1 A Yes.

2 Q And there's also a question about the house, "dimensions of  
3 nearest adjacent structure, house." It says "use summer  
4 only"; is that correct?

5 A Yes.

6 Q And that's referring, I take it, to the house that exists on  
7 lot 8; correct?

8 A Yes.

9 Q And the dimensions of the proposed dock sought in the  
10 application were -- what? -- 60 feet by 3 feet?

11 A Yes.

12 Q Is that still the case?

13 A I don't know that for a fact. As far as I know, it's still  
14 the same case.

15 Q And how were those dimensions chosen?

16 A How were they -- are we -- derive at them or --

17 Q Yeah. How did you decide to ask for a dock 60 feet long?

18 A Well, because if you look at some dock books, the docks come  
19 in 20 foot sections that we're looking at buying. So that's  
20 the 60 feet and by 3.

21 Q You said you looked at dock books; is that correct?

22 A Yes.

23 Q So you've looked at materials about -- available for docks  
24 that one can buy?

25 A Yes.



1 Q Okay. Is it your understanding that the only length of a  
2 dock that you can buy is 60 feet?

3 A Is that length?

4 Q Yeah.

5 A No. It's just the particular one that we looked at.

6 Q Okay.

7 A There's probably all kinds of lengths.

8 Q Mr. Boughner, have you ever seen a boat -- oh, let me  
9 restate that. Has you or Mr. Mohny ever placed a boat at  
10 the shore of lot 8?

11 A The only boats we've ever placed there are some aluminum  
12 boats which we used to measure the muck.

13 Q Is it your testimony that Mr. Mohny himself has never put a  
14 boat into the water there?

15 A No.

16 Q Let me restate that just so the record is clear. To your  
17 knowledge, Mr. Mohny has never put a -- launched a boat  
18 from the shore of lot 8?

19 A No. There's just too much muck. You couldn't even get in  
20 there.

21 Q Okay. Have you ever launched a boat from there?

22 A Only the aluminum boats which just skid across there.

23 Q You've been to the site a number of times obviously. Have  
24 you observed during the summer months or the warm season  
25 vegetation; that is, parts of plants; sticking out or

1 emerging from the water near the shore of that area?

2 A I recall that vegetation --

3 MR. SHAFER: Objection.

4 JUDGE PATTERSON: Sir, wait 'til -- your counsel  
5 is objecting.

6 MR. SHAFER: Objection to "that area." I tried to  
7 limit this case to lot 8. I don't know what "that area"  
8 means.

9 JUDGE PATTERSON: Yeah, if you can be a little  
10 more specific?

11 MR. REICHEL: Okay. Well, we'll just start with  
12 lot 8.

13 Q In the area in front of lot 8, at that location, have you  
14 observed plants emerging from or sticking out of the surface  
15 of the water near the shore?

16 A There's what I would call "weeds." There could be some  
17 growth -- there is some growth. I don't pay much attention  
18 to tell you the truth.

19 Q Okay. As a part of your -- do you know if, first of all,  
20 you have ever cut down or removed vegetation from that area  
21 in front of lot 8?

22 A I have not, no.

23 Q Do you know whether or not Mr. Mohney has?

24 A Mr. Mohney hasn't, not that I know of.

25 Q Do you know if anyone has?

1 A His kids played out there a couple times in the summer and I  
2 couldn't say if they have or not.

3 Q Have you ever -- based on your visits to the site, is there  
4 similar vegetation; that is, vegetation emerging from the  
5 water near shore; at any of the other shoreline located  
6 either immediately north or south of lot 8?

7 MR. SHAFER: Objection; foundation.

8 A There's weeds along --

9 JUDGE PATTERSON: Wait, again. There's an  
10 objection again.

11 Q Okay. Mr. Boughner, during your visits to the site, you've  
12 observed the shore of -- not only at lot 8 but also along  
13 the vicinity of lot 8; that is, in the Indian Lakes West  
14 subdivision; have you not?

15 A Yes.

16 Q Okay. So my question is, in the remainder of Indian Lakes  
17 West subdivision; that is, other than lot 8; have you  
18 observed vegetation emerging from the water near the shore?

19 A Yes, I have.

20 Q And, again, directing your attention to tab 7 of the DEQ  
21 exhibits, if you can go to that? And I'd like you to turn,  
22 if you can find it, to what's labeled "page 10" in the upper  
23 right-hand corner.

24 A What's the label? 7?

25 Q 7 is the tab in the binder.

1 A Okay.

2 Q And then flip through that until you come to page 10 in the  
3 upper right-hand corner, please.

4 A It shows the spoils area again?

5 Q Yes. But if you look along the right-hand margin, what I'd  
6 like you to look at -- there's some printing there. Do you  
7 see that?

8 A Uh-huh (affirmative).

9 Q It says, "Proposed dredge area and wetlands area." Is that  
10 your printing, sir?

11 A Yes, it is.

12 Q Okay. And there's a cross-hatched area with the legend  
13 "Approximately 20 foot wide wetlands." Do you see that?

14 A Yes, I do.

15 Q Okay. And that to the best of your knowledge represents the  
16 conditions in the area depicted here?

17 A Yes, it does. Robyn Schmidt helped me with that, whatever  
18 you want to call it, diagnostic or whatever it is -- come up  
19 with that area when I made that diagram originally.

20 Q Now, sir, you've testified that Mr. Mohny owns a boat, a  
21 17-foot boat; is that correct?

22 A I believe it's 17-1/2-foot Seaswirl.

23 Q Okay. And I think you've testified that you've trailered  
24 that boat for him; is that correct?

25 A (Nodding head in affirmative)

1 Q "Yes"?

2 A Yes.

3 Q Okay. And to your knowledge, has he used that boat on Lake  
4 Missaukee?

5 A Yes, he has.

6 Q And how does he gain access to Lake Missaukee?

7 A We go over to the county park which has a boat launch and  
8 launch over there.

9 Q Okay. You also testified, I believe, that Mr. Mohney owns  
10 some personal watercraft; is that correct?

11 A He owns four personal watercraft that I know of.

12 Q Okay. And where, if you know -- or have those watercraft  
13 been used on Lake Missaukee?

14 A Yes, they have.

15 Q And how has Mr. Mohney or members of his family who have  
16 used them gained access to Lake Missaukee for that use?

17 A Those are all launched at the county park. Most of the time  
18 in the summertime he takes them over to Sapphire Lake and  
19 uses them on -- I have a cottage on Sapphire.

20 Q And how does he gain access to Sapphire Lake?

21 A There's a DNR launch site at Sapphire Lake.

22 Q To your knowledge, has Mr. Mohney -- we'll just go step by  
23 step. Has Mr. Mohney -- have you ever observed him swimming  
24 anywhere in Lake Missaukee?

25 A No.

1 Q You testified that you have some knowledge of members of his  
2 family, including grandchildren; is that correct? To your  
3 knowledge, have any of his grandchildren ever swum anywhere  
4 in Lake Missaukee?

5 A Not that I know of.

6 Q You testified on direct examination that you were present  
7 when Robyn Schmidt took some measurements through the ice in  
8 February of this year of water and sediment or muck at the  
9 site; correct?

10 A That's correct.

11 Q Do you have any reason to question the accuracy of those  
12 measurements?

13 A No, not the numbers I seen.

14 Q Now, you also testified, I believe, that you independently,  
15 I believe the testimony was, in September of this year  
16 attempted to measure water depth or other locations; is that  
17 correct?

18 A Out farther, yes.

19 Q And who was involved in that effort besides you?

20 A Dr. Evans and myself.

21 Q And what was your purpose in doing that?

22 A Well, we just wanted to find -- see for ourself -- going out  
23 a little farther to see what the water depths were. And as  
24 long as we were there, we measured the whole thing.

25 Q And how far out did you go?

1 A Anywheres from 300 to 500 feet total.

2 Q Are you saying you just -- you don't know?

3 A No, I do not know exactly.

4 Q Somewhere you estimate between 300 and 500 feet offshore?

5 A Yes.

6 Q Did you have with you any sort of measuring device to

7 ascertain how far you were offshore?

8 A We did not. We had a milk carton out at 100 feet and one at

9 200 feet and we kind of judged by that how far we were

10 going.

11 Q And how did you know these milk cartons were at those

12 distances from shore?

13 A We put those into the ice and then rechecked them with a

14 string from the shoreline when we rode out with our boat.

15 Q Did you, or to your knowledge, did Mr. Evans when you made

16 these excursion (sic) onto the lake in September, did you

17 make any notes or document your observations of depth?

18 A At that particular time we did not.

19 Q So as you sit here today other than some general

20 recollection, you can't tell the judge precisely what depth

21 of water you found at any particular location; correct?

22 A That's correct.

23 Q Nor could you testify today what depth of sediment or

24 so-called muck you would find at any particular location;

25 correct?

1 A That's correct.

2 Q That's true?

3 A Yes.

4 Q Now, you testified about Tom Evans. I understand he's going  
5 to testify further today. But what is your -- when did you  
6 first have any -- strike that. To your knowledge, does Mr.  
7 Evans work for Missaukee Lakes Master Homes?

8 A Did he?

9 Q Does he today?

10 A Only on this dredging project.

11 Q Were you involved in obtaining the assistance of Mr. Evans?

12 A I would say I would have been, yes.

13 Q And how did you happen to contact Mr. Evans to assist you or  
14 assist Mr. Mohney?

15 A Mr. Evans is -- had a dredging project over on Crooked Lake.  
16 And he had been through one time. I know Mr. Evans and I  
17 just asked for some of his help.

18 Q I see. Is he a friend of yours, sir?

19 A I guess if you want to say "friend" -- I know him  
20 personally, yes.

21 Q So you've got a social relationship with him?

22 A Yes. I don't socialize with him, but --

23 Q Okay. That's fine. In any event, do you know whether or  
24 not in connection with this dredging project that Mr. Evans  
25 was involved in on a separate lake, whether or not he made



1           some arrangements with you or Mr. Mohney to dispose of  
2           spoils from that project on property owned or controlled by  
3           Mr. Mohney?

4       A     He made a request to Indian Lakes to deposit spoils on  
5           Indian Lakes land, yes.

6       Q     And was that granted?

7       A     Yes, it was.

8       Q     And did he pay any consideration for that?

9       A     Nothing.

10      Q     Has he been -- to your knowledge, has he been compensated  
11           for whatever services he's provided in connection with the  
12           pending dredging application that's the subject of this  
13           case?

14      A     The only compensation he had, he bought some tubing one time  
15           which I reimbursed him for.

16      Q     When was the last time you were at the site, sir?

17      A     Pardon me?

18      Q     When was the last time you were at the site or more  
19           specifically, when was the last time you were out on  
20           Arrowhead Trail West?

21      A     Yesterday.

22      Q     Okay. When you visited the site, did you observe any signs  
23           indicating any of the lots were for sale?

24      A     There's a few signs left standing, but people are either  
25           knocking them down or throwing them down or some of them are

1           blown down. So there are a few signs left.

2       Q     Are there any signs indicating that a sale may be pending on  
3           any of these lots?

4       A     Yeah, there's a couple of them. They've been there for  
5           about three years.

6       Q     You've testified that one of your responsibilities for  
7           Indian Lakes was on occasion to show properties that were  
8           listed for sale; is that correct?

9       A     That's correct.

10      Q     And have you done that on one occasion or more than one  
11           occasion?

12      A     One, possibly two -- I showed a couple lots. And the  
13           comment were the lots are too expensive and there's too many  
14           restrictions. It's just not the type of a subdivision for  
15           that particular area.

16      Q     What restrictions are you referring to, sir?

17      A     In regards to the house, what you can put on the property,  
18           the night lights. I don't know all of them, but just  
19           there's quite a few restrictions.

20      Q     In connection with -- you've shown some of these properties;  
21           correct?

22      A     Yes.

23      Q     And have you made any statements or representations to the  
24           people who were interested in buying them about the ability  
25           to gain access to Lake Missaukee?

1 A Most of them were looking at back lots, so we didn't even  
2 talk about the dredging project or anything like that. None  
3 of those talked about the water. The people who looked at  
4 them were not even interested in lake frontage at all. They  
5 want a retirement house, but they don't want to pay that  
6 money.

7 Q Do you know what these lots are listed for?

8 A Off the top of my head I don't. I do not know.

9 Q You testified, sir, at one point that you and Mr. Mohny  
10 attempted to drive this 17-1/2 foot boat that he owns and  
11 uses on Missaukee Lake close to the shore; is that correct?

12 A Uh-huh (affirmative).

13 Q When did you attempt to do that?

14 A Approximately, I'm going to say, two years ago maybe in  
15 July. I had to take the boat in afterwards because we hit a  
16 log and it cost him almost \$1700.

17 Q You hit a log?

18 A In front of there, yes.

19 Q From your observation of the boat, do you know whether or  
20 not the engine is set up so that it -- how far down the  
21 propeller extends into the water can be adjusted?

22 A It can be adjusted. It's all controlled, I believe,  
23 hydraulically or whatever it is. It can be adjusted.

24 Q And so you testified earlier that it's your understanding  
25 that the draft of this boat is approximately three feet;

1 correct?

2 A I would say "yes."

3 Q Is that with the engine all the way down or in the lowest  
4 position?

5 A I would say that's with the engine all the way down. It  
6 could be maybe 3 foot 6. I'm just saying approximately.

7 Q Okay. But it is possible to raise the engine to reduce the  
8 total draft; correct?

9 A Yes, as you raise the engine up you lose steerage and it's  
10 very hard to steer that boat when the engine comes up.

11 Q Now, I just want to understand your prior testimony about  
12 this occasion that you described of trying to drive the boat  
13 closer to shore with Mr. Mohney. I believe you said you  
14 backed the boat out?

15 A We backed up enough because he hit this log and we didn't  
16 want to go farther forward, so he kind of backed it up and  
17 turned it around and we had to idle, once we got it turned  
18 around, all the way back across to the public dock.

19 Q Mr. Boughner, the permit application that you submitted on  
20 behalf of Mr. Mohney to the department proposed to dredge an  
21 area initially of 50 feet wide and 200 feet long; correct?

22 A That's correct.

23 Q Now, you testified that you have observed the conditions of  
24 the lake bottom at the project site; correct?

25 A Yes.

1 Q And let me ask you this: Based upon your understanding or  
2 observations of the site, if you know, are the  
3 characteristics of the lake bottom, specifically the  
4 presence of sediment or muck, similar in areas located -- if  
5 you look at the 50-foot strip that you're proposing to  
6 dredge, if you were to look on either the north or south  
7 side of that strip, to your knowledge, sir, would one  
8 encounter similar lake bottom conditions?

9 A I never paid that much attention to it. I really don't  
10 know.

11 Q You don't know?

12 A No.

13 Q Do you have any reason to believe that --

14 A It's possible, but I --

15 Q Okay. Do you have any reason to believe that this 50-foot-  
16 wide strip in front of part of lot 8 is unique within  
17 that -- let's just say the Indian Lakes West subdivision  
18 area?

19 MR. SHAFER: Objection; vague; foundation.

20 MR. REICHEL: Okay. Let me restate the question.

21 JUDGE PATTERSON: Okay.

22 Q You have testified, sir, you've been to the site and have  
23 observed conditions along the shoreline not just at lot 8;  
24 correct?

25 A I've seen the shoreline, yes.

1 Q Yeah. Okay. And it's your testimony, sir, that in front of  
2 lot 8 there is this accumulated sediment or muck; correct?

3 A Yes.

4 Q Have you had occasion to observe -- and let's just talk  
5 about the area of lot 8. You know, the --

6 A Okay.

7 Q You're proposing, if I understand it, to dredge a strip 50  
8 foot wide; correct?

9 A Correct.

10 Q Now, the frontage of lot 8 may be 70 feet. You think today  
11 it's 100 feet wide. In any case, under this dredging  
12 proposal, if it were permitted as proposed, there would be  
13 areas of the frontage on Missaukee Lake to the north and  
14 south of this proposed dredging strip; correct?

15 A Correct.

16 Q Is that true?

17 A Yes.

18 Q Okay. And what I'm asking you, sir, to the extent that  
19 you've observed conditions in front of lot 8, do you have  
20 any reason to believe that there is any more or less  
21 accumulated sediment or muck on those strips on either side  
22 of the area that you propose to dredge?

23 A I wouldn't know if there's any more or less. I guess I  
24 could not tell you that.

25 Q You have no idea?

1 A No. In front of lot 8, we've taken a post-hole digger and  
2 dug down and it's pretty well consolidated stuff.

3 Q Okay. Let me make sure I -- let me restate the question to  
4 make sure you understood it. I'm talking now -- this is for  
5 purposes of this question. We won't even talk about the  
6 rest of Indian Lakes subdivision. We'll just talk about the  
7 frontage of lot 8 as you understand it. And you've observed  
8 that frontage; correct?

9 A Uh-huh (affirmative).

10 Q And is it or is it not true to your knowledge, sir, that  
11 there is accumulated sediment or muck as you call it across  
12 the entire frontage of lot 8?

13 A I would say there would be, yes.

14 Q Okay. All right. So if the permit were granted as sought  
15 in the application, the intention is to dredge a strip 50  
16 feet wide; correct?

17 A Correct.

18 Q If that were done, have you taken into consideration what  
19 might happen with respect to muck or sediment located either  
20 to the north or south of this strip that you propose to  
21 dredge?

22 A Somewhat, but I guess we feel that the -- we felt that the  
23 bottom -- it was hard enough that it would not just flow  
24 back into there that quickly.

25 Q The bottom of what was hard enough?

1 A The muck.

2 Q The muck adjacent to the strip you're going to dredge?

3 A Right.

4 Q Okay. Do you expect there to be some sort of a vertical  
5 wall on either side of this dredging excavation?

6 A It's usually at a slope of some sort.

7 Q And let me ask you this: Does the permit application that  
8 you've submitted on behalf of the applicant propose or does  
9 it not propose to periodically do maintenance dredging; that  
10 is, to go back in and re-dredge?

11 A We asked for maintenance dredging, yes.

12 Q And where is that reflected in the permit application?

13 A Pardon me?

14 Q Can you show me where in the permit application that's  
15 reflected?

16 A I talked to Robyn Schmidt and it was supposed to be changed  
17 on the --

18 (Witness reviews exhibit)

19 A It was marked on -- I was positive it was marked on her copy  
20 that we asked for a dredging maintenance of five years. I  
21 don't see it in this copy here.

22 Q And so what -- can you explain to the tribunal what you  
23 believe you were requesting in terms of this? What would  
24 you do in the next five years assuming it was dredged once?

25 A We'd examine at that time to see if it needed it or not.



1 Q And why would you propose to re-dredge?

2 A Well, with different areas, just people said that they had  
3 to do it.

4 Q Isn't it true, sir, that if this were permitted, if the  
5 strip 50 foot wide through this sediment or so-called muck  
6 were dredged, that over time there would be a reaccumulation  
7 or redistribution of muck or sediment into the dredged area?

8 A I could not say that for sure because I haven't had that  
9 much experience in anything like that.

10 Q But you've said now that you believe you applied for  
11 permission to maintenance dredge for five years.

12 A Yes.

13 Q So you anticipate that there may be a need to do it; is that  
14 correct?

15 A I was told by our people that dredge that the best thing --  
16 to ask for it and if you need it, you got it.

17 Q Now, this variant of what was actually applied for that was  
18 described earlier; that is, leaving in place -- or that is,  
19 not dredging the first 20 feet offshore -- first of all,  
20 that's not what the permit application says, is it? The  
21 permit application -- let me put it in plain English. The  
22 permit application applied for dredging from the shoreline  
23 200 feet out; correct?

24 A Right; yes.

25 Q And that permit application has never been modified in that

1           respect, has it?

2       A     No.

3       Q     Now, you've indicated or if I understood your testimony

4           there's been some discussion about the possibility of

5           modifying the project to limit the dredging to an area

6           commencing about 20 feet offshore; is that correct?

7       A     That's correct.

8       Q     And when did you propose that to the DEQ?

9       A     It was proposed to John Arevalo, I believe, about the second

10          or third time we talked with him on the -- in the contested

11          case scenario.

12       Q     Okay. After the initial permit denial?

13       A     Yes.

14       Q     Did you ever put this modified request in writing?

15       A     Not that I know of.

16       Q     Okay. And under the permit that you're proposing or this

17          modified proposal, let me get this straight, there would be

18          an area of 20 feet near shore that would be -- not be

19          dredged; correct?

20       A     Yes.

21       Q     And so -- but what would happen 20 feet offshore?

22       A     20 feet offshore?

23       Q     Yes.

24       A     That's where the dredging would start then.

25       Q     Okay. And at what depth?

1 A I don't know the depth unless I'd look at the chart.

2 Q Do you want to look at the chart?

3 A It's in this book?

4 Q Well, when you say "the chart," do you mean the chart that

5 Ms. Schmidt prepared or is this --

6 A Yeah, where we measured the depths.

7 Q Okay. If you look in that same book, that's at tab 24.

8 A It looks like it would be around three or four foot of water

9 approximately, if that's what I'm reading.

10 Q And so under this scenario, there would be, as you've

11 described it, accumulated muck or sediment from the shore 20

12 feet out; is that correct?

13 A Yes.

14 Q And it's your testimony that you expect that that muck or

15 sediment would remain in place and none of it would migrate

16 into the dredged area?

17 A I would have to make that assumption.

18 Q You'd make that assumption, but you don't know that?

19 A Don't know that.

20 MR. REICHEL: If I may have just a moment?

21 JUDGE PATTERSON: Sure.

22 Q I'd like to direct your attention, sir, back to tab 7, and

23 the second page from the end of that exhibit.

24 A Second page in or back?

25 Q Second page from the back.

1 A Item 1 that --

2 Q Yes. Okay. At the top of that picture as we're looking at  
3 it, there's a cross-hatched -- again, this is a map of the  
4 Indian Lakes West subdivision, is it not; correct?

5 A Yes.

6 Q Looking at the top, there's a cross-hatched area  
7 immediately -- I believe that would be south of unit 1. Do  
8 you see that?

9 A The one that goes to the lake?

10 Q Yes.

11 A Yes.

12 Q And that's described in the legend as a "general common  
13 element." Do you see that?

14 A I don't have my glasses. I can't read.

15 Q Okay. I'm sorry. All right. I'll represent to you that  
16 that's what appears. But let me ask you this: Is it your  
17 understanding that Indian Lakes West owns that cross-hatched  
18 area?

19 A If it's part of the subdivision, I would assume they do, but  
20 I do not know that for a fact.

21 Q Okay. Have you ever observed the shoreline conditions in  
22 that area?

23 A No, I have not.

24 Q You've never been there?

25 A I've been there, but I don't go to the shore.

1 Q Do you know whether or not there is any more or less  
2 vegetation along the shore in that area in comparison to lot  
3 8?

4 A There's a road goes down there and it turns to the left and  
5 that's usually if I -- we have lessees down there and that's  
6 the way I go. There's an old dock piled up at the end of  
7 that road, so I don't go to the shoreline there.

8 Q Okay. Well, you say there's a dock there?

9 A Yes, piled on the shore.

10 Q Okay. Have you ever seen that dock placed in the lake?

11 A I've never seen it in the lake. I've seen pictures of it.

12 Q Okay. Do you know who uses that dock?

13 A Nobody uses that dock. It's been there since I've had the  
14 property five years.

15 Q You've never seen the dock used?

16 A I've never seen it in the lake, no. I've got pictures of  
17 it.

18 Q Do you know who owns it?

19 A I would assume that Indian Lakes West would own it, but I  
20 don't know it.

21 Q And, again, looking at the same figure of the subdivision,  
22 there's an area that's also cross-hatched between what's  
23 labeled "units 10 and 11." Do you see that?

24 A Yeah, okay.

25 Q Okay. If you know, do you understand that to be a common

1 area like the area at the top?

2 A Just what it says here.

3 Q Okay. Again, is it your understanding that that  
4 cross-hatched area would be owned by Indian Lakes?

5 A I would assume it is, yes. I don't know all the ownerships  
6 of all the properties, but if it's in that area.

7 Q Well, let me put it this way: You testified that you work  
8 both for Missaukee Lakes Master Homes and Indian Lakes;  
9 correct?

10 A Yes.

11 Q And you have for several years; correct?

12 A Yes.

13 Q And you've also testified that you have been asked on  
14 occasion to show lots listed for sale in Indian Lakes West;  
15 correct?

16 A Right.

17 Q And those requests to show the lots came from an office that  
18 you understand to be associated with Mr. Mohny or one of  
19 his business entities; is that correct?

20 A Yes.

21 Q So to the best of your knowledge, Mr. Mohny or entities  
22 that he controls patrol the subdivision unless some of the  
23 lots have been sold; correct?

24 A Yes.

25 MR. REICHEL: I have nothing further at this time.

1 JUDGE PATTERSON: Mr. Phelps?

2 MR. PHELPS: My name is Aaron Phelps. I represent  
3 the Association. I've just got a few follow-up questions  
4 for you.

5 CROSS-EXAMINATION

6 BY MR. PHELPS:

7 Q And on the issue of ownership --

8 A Sir, you're going to have to speak louder because I've been  
9 doing some shooting and I've lost hearing in one ear.

10 Q My apologies. On the issue of ownership, as I understand  
11 it, your testimony is that Mr. Mohny either directly or  
12 indirectly through entities he owns, controls the Indian  
13 Lakes West subdivision and all of that shoreline along the  
14 lake in that subdivision; correct?

15 A Yes.

16 Q And, in fact, he or -- either directly or indirectly owns  
17 and controls the shoreline -- undeveloped shoreline for  
18 several thousand feet north of the Indian Lakes subdivision;  
19 correct?

20 A Yes.

21 Q And if you've got the Petitioner's exhibit book -- the  
22 purple colored one?

23 A Big book?

24 Q Yes. If you could just flip to Exhibit 12?

25 A Section 12?

1 Q Yup, tab 12, first page. You there? That's a letter dated  
2 December 21, 2006; correct?

3 A Yes.

4 Q And that's your signature on the second page?

5 A Yup.

6 Q And this was a letter you sent to the DEQ and the second to  
7 the last paragraph, the sentence starts out, "Considering  
8 that Mr. Mohny owns over 9,900 feet of frontage and has  
9 riparian rights on more than 345 acres." Do you see that  
10 sentence?

11 A (Nodding head in affirmative)

12 Q Okay. And so back in '06, regardless of whether it was  
13 Lakes Master Homes or Indian Lakes West or Indian Lakes  
14 North or some other entity, your representation to the DEQ  
15 was that Mr. Mohny owned nearly 10,000 feet of shoreline on  
16 Lake Missaukee; true?

17 A Yes.

18 Q Now, you've indicated in your testimony and your permit  
19 application that one of the reasons the Petitioner wants to  
20 dredge in front of lot 8 is to have a swimming area;  
21 correct?

22 A Yes.

23 Q And right now that's absolutely not suitable for swimming;  
24 correct?

25 A Correct.



1 Q And that's because it's a bog; true?

2 A It's muck, yes.

3 Q Yeah. It's wet, fluid sediment that goes down for several  
4 feet; correct?

5 A Yes.

6 Q And I think you were looking at Exhibit 24 a little bit ago.  
7 This is a chart with water depths and muck that was taken  
8 February 28th. Do you remember that?

9 A Yes.

10 Q And I think you testified you were present when these  
11 measurements were taken?

12 A Yes, I was.

13 Q You and the DEQ; correct?

14 A Yes.

15 Q And now according to the chart, if you go out 20 feet, 30  
16 feet, 40 feet, you're into more than 2-1/2 foot of muck;  
17 correct?

18 A Yes.

19 Q And as you go out, you've got it looks like up to 4 -- close  
20 to 4-1/2 feet of muck at various points in the proposed  
21 dredged area?

22 A Yes.

23 Q And the permit proposal is to dredge 2-1/2 feet deep;  
24 correct?

25 A (Nodding head in affirmative)

1 Q Is that correct?

2 A Yes.

3 Q And just so I'm clear as to what the 2-1/2 means, that means  
4 that you're going to go below the water toward where the  
5 muck starts and you're going to take 2-1/2 feet out and  
6 stop?

7 A The indication was or the -- when the permit was made, we  
8 were looking at taking 2-1/2 feet of the muck out.

9 Q 2-1/2 feet deep?

10 A Yeah, the muck.

11 Q Yeah. And as I described it, you go down to where the muck  
12 starts below the water and you take out 2-1/2 feet and you  
13 stop?

14 A Right.

15 Q And according to this chart, that means that there will  
16 still be muck in the proposed dredge area; correct?

17 A Well, at the time we made up the application, we didn't have  
18 that information right there.

19 Q Okay. Well, based on the permit application that's before  
20 the tribunal, the proposal is to go 2-1/2 feet deep.

21 A I understand; right.

22 Q And if you go 2-1/2 feet deep, you're still going to have  
23 muck, unconsolidated sediments in the proposed dredge area?

24 A That's right.

25 Q You're going to have it on each side and you're going to

1           have it on the bottom; correct?

2       A     Yes.

3       Q     And so I think you've already testified that this muck  
4           sediments makes the area unfit for swimming or walking. In  
5           fact, I think you said it's almost impossible to get through  
6           it; true?

7       A     Yes.

8       Q     I think you've also testified that the draft on Mr. Mohney's  
9           boat is approximately 3 feet; is that right?

10      A     Yes.

11      Q     And do I understand that to mean that you need approximately  
12           3 feet of water for that boat to operate?

13      A     Yes.

14      Q     And, again, if we go to Exhibit 24, the water depth charts  
15           that you and the DEQ took, if you go out 200 feet, you've  
16           got 3 -- almost 4 feet of water before you get to the muck;  
17           correct?

18      A     Yes.

19      Q     And so based on the draft of the boat and the amount of  
20           water that you and the DEQ measured, there would be adequate  
21           water at 200 feet to operate the boat?

22      A     Unless you had the boat full of people or if you tried to  
23           pull a water-ski, the back of the boat drops down.

24      Q     It's your -- you propose to pull water-skiers right within  
25           this dredge area?

1 A If you tried to, I said.

2 Q Are you aware of Mr. Mohny having that intention, of  
3 dragging water-skiers through the dredged area?

4 A I'm sorry. I didn't hear you.

5 Q Have you heard Mr. Mohny say that he wants to use this  
6 dredge area to pull water-skiers?

7 A No, I have not heard that.

8 Q But at the very least, you certainly agree that based on the  
9 draft spec that you've testified -- the 3-foot draft and the  
10 water depths that you and the DEQ took on February 28th of  
11 this year, that there's adequate water to operate the boat  
12 at that level -- at that length?

13 A One of the things -- that this lake changes water depth all  
14 the time. And it's maintained by the county. So this lake  
15 level can go up and down.

16 Q And the further you go out with the dock, the deeper the  
17 water gets?

18 A Yes.

19 Q These docks that -- I think you testified you reviewed dock  
20 literature or various docks that are for sale; correct?

21 A I had a guy come over to me and drop me off some literature  
22 on a dock, yes, which he sells on Lake Missaukee.

23 Q And the dock that you propose, is that a floating dock?

24 A Yes.

25 Q And how much water do you need for that particular dock to

1 float in?

2 A I don't know for sure.

3 Q Would you also turn in the DEQ exhibit book -- which I think  
4 is the opposite one you --

5 A Big one?

6 Q Yeah. I think it's the smaller -- Exhibit 7. Oh, page 10  
7 is another one you looked at previously. Up in the  
8 right-hand corner it says "page 10" under tab 7. Let me  
9 know when you get there.

10 A It shows the dredge spoils area?

11 Q That's correct. I want to be clear that the handwriting in  
12 this drawing -- this was your drawing; correct?

13 A Yes, it is.

14 Q And you submitted this to the DEQ on behalf of Mr. Mohney?

15 A Yes.

16 Q And in the bottom left area it says, "All land owned by  
17 Missaukee Lakes Master Homes, LLC." You see that; correct?

18 A Yes.

19 Q And by "all land owned," I assume you mean the land  
20 surrounding lot 8?

21 A Well, I just put that down because they wanted to know who  
22 owned the lot across the street and I made the assumption  
23 that they owned that land there.

24 Q Well, you made a representation to the DEQ that that's who  
25 owned the land?

1 A Yes, I did.

2 MR. PHELPS: That's all I have.

3 REDIRECT EXAMINATION

4 BY MR. SHAFER:

5 Q Mr. Boughner, can you go to Exhibit 17 of the big book? And  
6 I'd like you to go to the fifth page in, if you could.

7 A What page?

8 Q Fifth page, page 5. There's no numbers, but the fifth page  
9 in. It says, "page 3 of 7" on the bottom.

10 A "3 of 7," yes, sir.

11 Q Is the handwriting on this document -- on this particular  
12 page yours?

13 MR. REICHEL: Objection; this exhibit is not in  
14 evidence.

15 MR. SHAFER: I'm going to lay a foundation to get  
16 it into evidence.

17 JUDGE PATTERSON: Okay. Go ahead.

18 A Yes, that is my handwriting.

19 Q Is the handwriting across the entire document yours?

20 A Yes, it is.

21 Q Does this reflect, to the best of your knowledge, the  
22 information that you submitted to the DEQ at some point  
23 during this application process?

24 A Yes, it is.

25 MR. SHAFER: Your Honor, I'd move for the

1 admission of Petitioner's Exhibit 17.

2 MR. REICHEL: Your Honor, we object because we  
3 have compared this proposed exhibit to documents actually  
4 submitted to the DEQ. There's no evidence that this  
5 document, with this hand notation that counsel just  
6 highlighted, was ever actually delivered to the DEQ.

7 MR. SHAFER: Your Honor, that goes to the weight.  
8 And he can testify what it is and where it came from. He's  
9 already said all this is his and he said he submitted it to  
10 the DEQ.

11 MR. PHELPS: Your Honor --

12 MR. SHAFER: There's no foundational basis other  
13 than to say it's not what it is. Well, the weight is the  
14 weight. It has nothing to do with admissibility.

15 MR. PHELPS: I don't think he's testified as to  
16 when he submitted it and I think that goes to the relevance.  
17 If he submitted it yesterday, I don't think it'd be  
18 relevant. If he submitted it after the process -- the  
19 permit was permitted --

20 MR. SHAFER: I believe my question was sometime  
21 during the application process. And once we put it into  
22 evidence, I can ask him that question.

23 MR. PHELPS: Well, he can ask it to him now.

24 JUDGE PATTERSON: I was looking for a date. I'll  
25 overrule -- overrule the objection. You can submit --

1 MR. SHAFER: Thank you.

2 Q Mr. Boughner, I want to direct your attention to

3 specifically page 3 of 7.

4 A What number?

5 Q Page 3 of 7 at the bottom.

6 A 3 of 7, yes, sir.

7 Q And at the end of box B, which is in the middle of the page,

8 there's a handwritten notation, "Added five-year maint."

9 You see that?

10 A Yes, sir.

11 Q What is that -- is that your handwriting?

12 A Yes, it is.

13 Q And what is that supposed to mean?

14 A We asked for a five-year maintenance and John Arevalo and

15 myself talked about this at that time and there's a notation

16 we made and copies were given to him. And I had a signed

17 document someplace, but I do not have it with me.

18 Q Okay. Now -- so did I understand your testimony correctly

19 you believe at some point during this application process

20 that you had provided the DEQ with Exhibit 17 that had that

21 notation, "added five-year maint."?

22 A Yes, I do.

23 Q And I take it "added five-year maint." means a five-year

24 maintenance plan?

25 A Yes.



1 Q Okay. And you discussed that with the people at the DEQ?

2 A Yes. I believe at the time Robyn Schmidt was with us on

3 that particular day.

4 Q Now, going over to the other booklet, tab 7 -- and hopefully

5 you still have it open to that page, page 10? Do you see

6 that, the diagram?

7 A Yes, I got -- which page?

8 Q Page 10.

9 A 10? Page 10.

10 Q Okay. Now, you have the diagram of lot 8 and it says "50

11 feet" and there's 10-foot buffers on each side?

12 A Yes.

13 Q Okay. Is that what you meant about your calculation for 70

14 feet?

15 A Yes.

16 Q Now, Mr. Boughner, the application that you submitted to the

17 DEQ for dredging, did that ask for dredging on any other

18 lots other than lot 8?

19 A No.

20 Q Have you personally on behalf of either Indian Lakes or

21 Missaukee Lakes Master Homes, LLC, ever submitted any

22 dredging application for any dredging other than on lot 8?

23 A No, this is the only application I've ever filled out.

24 Q The attorney general was asking you some questions about Mr.

25 Mohny coming over to Sapphire Lake to boat. Do you

1           remember that question or maybe it was your answer to one of  
2           his questions?

3       A     It was my answer, I believe, because he asked if he ever  
4           boated on Lake Missaukee, I believe.

5       Q     Okay. And then you said he had boated on Sapphire Lake.

6       A     That's correct.

7       Q     Why did he do that?

8       A     Well, they wanted to keep the boat in the water and not take  
9           it out every five minutes and they had no place to do  
10          anything with it. So I have a dock in front of my house, so  
11          they took the boat and the four jet skis and left them over  
12          there for about a week.

13      Q     And, you know, let me -- I got to go back for a second and I  
14          want to make sure that I asked all the correct follow-up  
15          questions. You were asked about the two common accesses at  
16          Indian Lakes West. Do you remember those questions? The  
17          hatched area of the diagram?

18      A     Yes.

19      Q     Have you ever submitted dredging applications for those?

20      A     No.

21      Q     You talked about some signs in the Indian Lakes West area  
22          that say "Sale Pending." Do you remember that testimony?

23      A     Those were put up by, I believe, Chuck Green, Charlie Green.  
24          That was before my time. I think he tried to generate  
25          interest that these lots were all selling.

1 Q Are there any sales pending on any of the properties in  
2 Indian Lakes West to your knowledge?

3 A No.

4 Q If they were, would you know that?

5 A I would know that, yes.

6 Q In response to one of the questions about the water level  
7 chart and the draft of the boat, have the lake levels in  
8 Lake Missaukee been lower at times that you're aware of --  
9 lower than what you have seen in 2006 and 2007?

10 A Yes, they have.

11 Q And does that generally vary all during the year?

12 A The county has a dam or something, they open the water and  
13 let water out of the lake, but they can't let water in. So  
14 it's pretty well a spring fed lake or rainwater or something  
15 that's -- so on a real bad year it could be lower, yes.

16 Q Okay. You were asked a question about the 20-foot wetland  
17 zone immediately adjacent to the shore. And what I want to  
18 ask you, and I want to make sure that I have your testimony  
19 correctly, did you agree with the DEQ during this process  
20 not to dredge that first 20 feet of shore?

21 A Yes, we did.

22 Q Okay. Now, you were also asked a question about -- based  
23 upon the application of the 2-1/2 feet of dredging that  
24 farther out in the lake that there would still be muck  
25 there. Do you remember that testimony?

1 A Yes.

2 Q But before that, it would be dredged all the way down to  
3 sand under your application; correct?

4 A We made that assumption, yes.

5 Q Okay.

6 MR. SHAFER: That's all I've got, your Honor.

7 JUDGE PATTERSON: Okay. Any recross?

8 MR. REICHEL: Very limited, your Honor.

9 JUDGE PATTERSON: Okay.

10 RECCROSS-EXAMINATION

11 BY MR. REICHEL:

12 Q You were asked, sir, a few minutes ago about whether or not  
13 there previously had been an application or there was ever  
14 an application for dredging off the common elements in the  
15 Indian Lakes West subdivision?

16 A I understand there was an application submitted, yes.

17 Q Okay. A moment ago you said there wasn't.

18 A Pardon me?

19 Q I believe you testified a few minutes ago that there was no  
20 application for that.

21 MR. SHAFER: Your Honor, objection. That  
22 mischaracterizes his testimony.

23 JUDGE PATTERSON: I think the testimony was there  
24 hadn't been any dredging there. Not that there --

25 MR. SHAFER: His testimony -- the testimony is

1           what the testimony is, but the question I asked him, did he  
2           ever submit an application for dredging there.

3                   JUDGE PATTERSON: Oh, okay.

4                   MR. SHAFER: But you can go back and take a look  
5           at his testimony.

6    Q       Just to follow up on your response to my question, sir, was  
7           there or was there not an application for dredging at that  
8           location?

9    A       There was an application submitted I understand, yes.

10   Q       And did you ever -- do you know who made that application?

11   A       I do not know who made it, no.

12   Q       Do you know whether or not it was made on behalf of Indian  
13           Lakes?

14   A       I assume it was, but that's only an assumption. It probably  
15           could have been made by Chuck Green, but I don't know that  
16           either. It was before my time.

17   Q       Have you ever seen any of the paperwork on that application?

18   A       No, I have not.

19                   MR. REICHEL: I've nothing further.

20                   JUDGE PATTERSON: Mr. Phelps?

21                   MR. PHELPS: Just a couple follow-ups.

22                                   RE CROSS-EXAMINATION

23   BY MR. PHELPS:

24   Q       You were just asked on redirect about dredging 2-1/2 feet  
25           down and then coming to sand. Do you remember that general

1 testimony?

2 A Yes.

3 Q And you're welcome to turn back to Exhibit 24. But  
4 according to Exhibit 24, at 20 feet, the muck is 2.73 feet  
5 deep; correct?

6 A According to that chart, yes.

7 Q And as you go further out, the depths of the muck increase:  
8 40 feet, 3.3 feet; 6 feet on 2.94 feet. You see that?

9 A Yes.

10 Q So at least as of 20 feet and out toward the lake, 2-1/2  
11 foot removal of muck would still leave at least some muck in  
12 the dredged channel.

13 A It depends on how deep the water is at that particular time.

14 Q Well, if we just assume that this chart represents this,  
15 that these are the correct water -- strike that. Is to  
16 assume that these are the water levels --

17 A Because when we first made out the application, the water  
18 was a lot lower.

19 Q Okay. And so if the water levels increased, then when you  
20 go down 2-1/2 feet, you're still going to have some muck at  
21 least according to these levels; correct?

22 A Yes.

23 Q And according to the Exhibit 7, which is the drawing, page  
24 10, that you've looked at throughout your testimony, that  
25 first 20 foot is wetland; correct?

1 A Yes.

2 MR. PHELPS: Nothing further.

3 MR. SHAFER: Next witness?

4 JUDGE PATTERSON: Thank you. It's 10 after 12:00.  
5 Do you want to break for lunch?

6 MR. SHAFER: Sure.

7 (Off the record)

8 MR. SHAFER: Your Honor, Petitioners would like to  
9 call Dr. Thomas Evans.

10 JUDGE PATTERSON: Okay.

11 REPORTER: Do you solemnly swear or affirm the  
12 testimony you're about to give will be the whole truth?

13 DR. EVANS: I do.

14 THOMAS EVANS, Ph.D.  
15 having been called by the Petitioner and sworn:

16 DIRECT EXAMINATION

17 BY MR. HOFFER:

18 Q Dr. Evans, could you state your full name for the record?

19 A Thomas Edward Evans, E-v-a-n-s.

20 Q Okay. And what is the highest level of education you've  
21 obtained?

22 A A Ph.D.

23 Q And on what subject?

24 A Chemistry.

25 Q And where from?

1 A University of Florida.

2 Q Okay. And are you currently employed?

3 A No, I am retired. I love it.

4 Q Good. And do you own any property in Missaukee County?

5 A I do.

6 Q And where is that property located?

7 A I have a cottage on Crooked Lake.

8 Q And about how far is that from what we call "lot 8"?

9 A Guess half mile.

10 Q Okay. Now, Dr. Evans, what is this that I'm holding in my  
11 hand here?

12 A That is a six-foot length of acrylic tube which I got on Dr.  
13 Lehman's advice and which I used to sample the water and  
14 sediment in front of lot 8.

15 Q And do you recall how far lakeward of lot 8 that you  
16 extracted this?

17 A I was walking and I think we were in the range -- 60 to 80  
18 feet. Dale Boughner was with me at the time. He was in a  
19 boat and I was walking. I think it was 60 to 80 feet  
20 offshore.

21 Q Okay. And what's going to happen when I invert this?

22 MR. REICHEL: I'm going to interpose an objection  
23 here in terms of foundation. I don't know if this is being  
24 offered as substantive evidence, demonstrative evidence or  
25 what. I don't think there's any foundation established as



1 to the circumstances under which this was taken, when it was  
2 taken, how if at all it is representative of any condition  
3 that's relevant, how it's going to be manipulated -- is  
4 representative of any fact that's at issue in this case. So  
5 before we proceed with this stunt, I would like some  
6 clarification as to what this -- whether this is being  
7 offered as substantive evidence, demonstrative and if so, on  
8 what basis.

9 MR. HOFFER: Your Honor, this is going to be  
10 offered as demonstrative evidence. And if you'd like Mr.  
11 Evans to describe when and how he took it, I'd be happy to  
12 do so.

13 JUDGE PATTERSON: Okay. Please do so.

14 A Being a scientist, I learned a long time ago that  
15 experiments can oftentimes dispel a lot of misconceptions  
16 about situations. What I did is take this out -- and I took  
17 several samples. I provided one of them to Dr. Lehman for  
18 his analysis. This one was taken out, both ends were open.  
19 I pushed it as near vertically as I could to the point of  
20 refusal. I pushed hard on it. I rotated it to get it as  
21 deep as I could get it to go. At that point, I put a rubber  
22 stopper in the top of it to prevent the atmospheric air from  
23 going back into the cylinder so that it would act as a  
24 vacuum and maintain the integrity of the contents. I  
25 withdrew it. I put a stopper on the bottom end of it so

1 that nothing came out. And then as you can see, I put tape  
2 over them to make sure that they were there.

3 The purpose was, A, to get samples for Dr. Lehman.  
4 I had more than he needed. And I noticed in reading some of  
5 the correspondence relative to this that there was a claim  
6 made that it would be almost colloidal, that if anything got  
7 disturbed or went into suspension, it would remain in  
8 suspension for days, weeks, possibly months or years in some  
9 speculation. And as I said, I'm a scientist, I did an  
10 experiment. One way to find out how long it will stay in  
11 suspension is to invert it and put it in suspension and then  
12 see how long it takes to settle out.

13 Q And when did you take this specific sample?

14 A That sample was taken in late June of this year.

15 Q And where has this sample been between late June and this  
16 moment?

17 A That has been in my possession. It's been stored in my  
18 garage. I took it out of there this morning and put it in  
19 the car and brought it here.

20 Q Okay. And what do you expect to happen when this is  
21 inverted and returned?

22 A I expect that a bunch of the stuff on the bottom will mix  
23 into the water.

24 MR. REICHEL: Again, I'm going to interpose an  
25 objection to this. First of all, I mean, this is being

1           touted as some sort of an experiment. First of all, I don't  
2           believe there's been any contention by the DEQ that -- let  
3           me restate this. He's described at least in general terms  
4           where this sample was taken. Again, it is not clear how  
5           this could be or is representative of the actual conditions.  
6           May I voir dire here? I mean --

7                         JUDGE PATTERSON: Sure.

8                                 VOIR DIRE EXAMINATION

9           BY MR. REICHEL:

10          Q       How far offshore do you claim to --

11          A       60 to 80 feet.

12          Q       Okay. And it's your contention that the material in this  
13                   tube is representative of the entire thickness of sediment  
14                   that you collected or that existed at that location?

15          A       That is a vertical core sample of the sediment at that  
16                   location.

17          Q       All the way to hardpan?

18          A       All the way to hardpan; point of refusal.

19          Q       Okay. And it's your contention that -- so looking at what's  
20                   in this tube, that would be the full thickness of sediment  
21                   that exists at the location 60 feet offshore?

22          A       That's correct.

23          Q       And when do you say you took this, June of '07?

24          A       June of '07.

25                         MR. REICHEL: Your Honor, even offered as

1 demonstrative evidence, I think this has the potential to be  
2 misleading and confusing among other reasons. I would note  
3 that this appears to be -- the thickness of this material  
4 that's at this tube appears to be substantially -- vertical  
5 thickness substantially less than the thickness of muck  
6 depths collected offshore as documented in DEQ Exhibit  
7 Number 24. So I don't possibly see how this could be fully  
8 representative of what conditions exist at that location.

9 THE WITNESS: May I address that?

10 JUDGE PATTERSON: Only through counsel.

11 MR. HOFFER: Your Honor, may I have Mr. Evans  
12 address the vertical height of the sediment?

13 JUDGE PATTERSON: Sure.

14 DIRECT EXAMINATION

15 BY MR. HOFFER: (continued)

16 Q Can you explain the phenomenon that you experienced in  
17 taking samples?

18 A Yes.

19 THE WITNESS: I agreed with you implicitly when I  
20 saw that because I knew how deep the muck was or the  
21 sediment was when I was taking that sample. And Mr.  
22 Boughner was with me and I brought it up and I said, "My  
23 gosh, I must not have pushed through the bottom because this  
24 is clearly lower than what I was standing in." And so I  
25 decanted that and moved to a different location. And that's

1 why I said I pushed harder and I rotated to get down. And I  
2 brought it up and it was still condensed. I can't tell you  
3 why. Perhaps Dr. Lehman will address that. But I can tell  
4 you that when it comes out of the tube, it has less vertical  
5 height than before I put the tube in. And we know from  
6 analysis that the bottom is quartz, that it is sand, that it  
7 was all the way down to the bottom and it is reproducible,  
8 it has happened on multiple occasions. I can't tell you  
9 exactly why.

10 MR. REICHEL: Again, just to further supplement my  
11 objection, I mean, whatever -- this individual has been  
12 listed as a fact witness. He apparently has significant  
13 academic credential in chemistry, but he's not been listed  
14 as an expert. I don't think this is an issue of chemistry.  
15 This is, again, apparently intended to influence the fact  
16 finder's perception of the behavior -- or the extent and  
17 behavior of sediments from muck in the area here. And I  
18 don't think that this -- it's been established, number one,  
19 that this is representative, number two, that this  
20 represents any sort of valid, scientifically recognized  
21 experiment and, number three, that it's really relevant to  
22 any issue in dispute in this case. So on all those grounds,  
23 I think the tribunal should not allow this stunt to proceed.

24 MR. HOFFER: Your Honor, one, the supposed  
25 dispersal of the sediment during the proposed dredging

1 activities is one of the reasons why the permit was denied  
2 by the DEQ. There's also substantial argument by the  
3 Intervenor, Missaukee Lake Association, specifically their  
4 Exhibit 12, the November 22nd, 2007, report of Dr. Jaworski  
5 where he states that the sediment will remain in suspension  
6 from 12 to 48 hours. Mr. Evans has established that this is  
7 what he says it is. He's laid the foundation for that. And  
8 as far as its value as a demonstrative evidence, that's  
9 something that counsel can address both through  
10 cross-examining Mr. Evans and through subsequent argument.

11 JUDGE PATTERSON: I'll allow you to pursue that.  
12 I'll overrule the objection.

13 MR. HOFFER: Thank you, your Honor.

14 Q Dr. Evans, what is your relationship to the Missaukee Lakes  
15 Master Homes?

16 A I was appointed as an agent earlier this year for Missaukee  
17 Lakes Master Homes specifically for the purpose of  
18 representing them in helping to obtain this permit.

19 Q Okay. And have you visited the area known as lot 8?

20 A Absolutely.

21 Q And how many times would you say you visited lot 8?

22 A Somewhere between 15 and 20.

23 Q And are you familiar with the area lakeward of the shoreline  
24 on lot 8?

25 A I am.

1 Q And can you describe the vegetation present lakeward of lot  
2 8 compared to the areas north and south?

3 A It has been my observation there is generally less  
4 vegetation in the lake in front of lot 8 than there is north  
5 or south.

6 Q Okay. And have you made examinations of the water depths  
7 lakeward of lot 8?

8 A I have.

9 Q And was anybody with you when you made those observations?

10 A Mr. Boughner was with me.

11 Q And what kind of devices did you have for measuring the  
12 depth?

13 A Our attempt was not to determine precise depths because that  
14 had already been done. Our attempt was simply to verify the  
15 maximum depth and to see if we went out substantially  
16 farther if that maximum depth would change significantly. I  
17 had a 10-foot-long, five-eighths-inch-diameter steel rod  
18 that we used. And periodically we would drop it to the  
19 point of refusal. I mean, it goes through the sediment  
20 quite easily and it hits the sand and it stops. And even  
21 with reasonable force, it can't be easily penetrated into  
22 the sand. And we went out as far as 500 feet and never  
23 found more than 8 feet to hard bottom.

24 Q Okay. And did you also observe the depth between the top of  
25 the water and the top of the sediment?

1 A We observed it, but only casually. We did not see a  
2 significant quantitative difference, but we made no attempt  
3 to measure it.

4 Q What was the purpose of your casual observation of the depth  
5 between the water surface and the top of the sediment?

6 A Our purpose was to see whether, in fact, there was a prudent  
7 and feasible alternative. If we put a raft farther out for  
8 swimming, would we encounter significantly different water  
9 conditions? And we concluded we did not.

10 Q All right. And what type of water conditions were you  
11 looking for in your search for a reasonable and prudent  
12 alternative?

13 A We were looking for more depth between the top of the water  
14 and the start of the mud.

15 Q And were you able to find the place where the depth between  
16 the top of the water and the top of the mud would be  
17 sufficient for comfortable swimming?

18 A We were not.

19 Q Okay. And how far do you say you were from lot 8 -- how far  
20 lakeward were you of lot 8?

21 A I had a GPS with me. Apparently Dale forgot because I was  
22 using it. I had it in my possession. I had a GPS and I  
23 took data points and I went back later and read it. And we  
24 were out in excess of 500 feet from the shore. I took a  
25 data point called a POI onshore and I took a POI at our --



1           that's a point of interest -- at our farthest excursion from  
2           shore and it was over 500 feet.

3       Q     And did you make any visual references as to where you were  
4           as compared to the shore?

5       A     Yes, and I could have showed it to you when it was on  
6           display here.

7       Q     Give me one moment. Okay. Can you point out where you were  
8           and explain how you knew that that's where you were?

9       A     Well, I think this (indicating) is lot 8; can't tell for  
10          sure. We went we thought straight out into the lake. I  
11          said my GPS said we were out over 500 feet and when I  
12          looked, I saw that we were approximately on the extension of  
13          this shoreline. So it was -- if you were to take this  
14          shoreline and extend it out linearly, that's (indicating)  
15          approximately where we were.

16      Q     So if you looked southward at the shoreline, what would you  
17          observe from where you were?

18      A     I would look that I was essentially parallel to the  
19          shoreline south of here.

20      Q     Okay. And did you take another sediment tube besides the  
21          one that we have here today?

22      A     I did.

23      Q     And when was that sediment tube taken?

24      A     That was taken the same time.

25      Q     And what was the purpose of taking that sediment tube?

1 A The purpose of that was that Dr. Lehman had requested that I  
2 take those samples so that he could get accurate  
3 measurements. And I kept that sample in my possession until  
4 I passed it over to him when he visited the site in July.

5 Q And where specifically was that sample taken from?

6 A We had a buoy, it was actually, I think, a plastic container  
7 that had been anchored and it was 100 feet offshore and we  
8 took that 100 feet off.

9 Q Okay. And where was that sediment tube between the time you  
10 took it and the time that you gave it to Dr. Lehman?

11 A It was in my possession at all time.

12 Q Okay. Thank you. And when you were visiting lot 8, have  
13 you ever waded out into the sediment?

14 A I have waded out into the sediment.

15 Q And what has been your experience with the sediment?

16 A There's a lot of misconception about that sediment. It is  
17 heterogenous.

18 Q And what do you mean by heterogenous?

19 A That means that it is not the same everywhere. There are  
20 places where it will almost support weight. I could walk  
21 out and I could be knee deep and take one more step and sink  
22 down to my hips. And if you looked at it -- if you looked  
23 at the data, there was no significant change in the bottom  
24 depth, the hard bottom depth. The difference was in how  
25 compressive or easily dispersible the muck was in between.

1           And once you sunk in, absolutely it is anything but a fine  
2           dispersed organic solid because it is not easily displaced.  
3           And when you try to pull a foot out, it won't go back in and  
4           fill in, so it creates a partial vacuum. And I think Mr.  
5           Boughner said he almost lost his waders one time. It is  
6           extraordinarily difficult to wade through. Every foot is a  
7           struggle to pull it out from the next one.

8           Q     And what experience can you have if the sediment at certain  
9           places will support your weight and other places it won't?

10          A     I'm not following the drift of the question.

11          Q     You stated that at certain places the sediment will support  
12          your weight.

13          A     It would partially support it. There was no place where I  
14          did not sink in.

15          Q     Okay. And there's other places where you sank deeper?

16          A     Other places where I sank much deeper.

17          Q     And what would happen if you then tried to extract yourself  
18          from a place where you'd sink deeper?

19          A     Well, of course, in order to pull that foot out, you have to  
20          push harder on the foot which hasn't sunk all the way down,  
21          so then that one proceeds to sink even deeper in. And it  
22          just becomes a losing proposition. It is an absolute fight  
23          and struggle to pull one foot out and move it forward to the  
24          other. And, in fact, Mr. Boughner was in the boat at the  
25          time. I was able to hold onto the boat and the shovel and

1 the tube and without that, I would have fallen.

2 Q Okay. And in your experiences, was there anyplace within  
3 200 feet from shore that a person could swim comfortably  
4 around lot 8 or lakeward of lot --

5 A No. I did not wade out 200 feet, but we could tell from the  
6 boat. We took the boat out there many times and clearly  
7 there was no significant difference out there.

8 Q And where would a person have to locate either a swim raft  
9 or extend a dock to in order to be able to swim comfortably?

10 A We didn't find such a place. I don't know.

11 Q Okay. And have you physically examined the sediment before?

12 A Yes, I have.

13 Q And how did you extract the sediment that you examined  
14 physically?

15 A Well, it depends, we took it three different ways. When we  
16 first went out in a boat to take the samples that Dr. Lehman  
17 requested, I found that I was not able to pull the tube back  
18 out. It's only atmospheric pressure with the volume  
19 displaced by that, but I pulled as hard as I could and I  
20 couldn't pull it out. We wrapped tape and rope around it  
21 and tried to leverage it. And I couldn't get it out, which  
22 is why I subsequently waded out. And when I waded out, I  
23 took a shovel with me, an ordinary garden shovel, and I used  
24 the shovel to dig away on the sides so that I could then  
25 move the tube laterally and loosen it up enough that I was

1           able to take it out. So this fluid stuff is sufficiently  
2           non-fluid that you can pick it up on a shovel. You pick up  
3           big chunks of it and I have some here that I brought along  
4           for a demonstration.

5       Q     Dr. Evans, what is this that I'm handing to you?

6       A     These are two samples that I took with the shovel while  
7           trying to extract the tube. This (indicating) one has been  
8           left out to dry so that you can see that it is anything but  
9           a fine, fluid organic sample. You can see lots of fibers  
10          through it. I'm not an expert on this. I don't know if  
11          those are pieces of roots or if they're part of leaves, but  
12          there's a lot of filaments through it holding it together.  
13          And this other, if you care to examine it, is still wet.  
14          It's just a bigger chunk, very much heavier because it's got  
15          a lot more water, but it's the same consistency, at least  
16          qualitatively.

17       Q     Okay. And did you also take photographs of these sediments?

18       A     I did.

19       Q     And do you recognize the photograph that's on the screen  
20          there in the middle?

21       A     I do. Strictly speaking, my wife took that because that's  
22          my hand in it. So she took it, but, yes.

23       Q     And you can describe the contents of that photo?

24       A     Those are three chunks --

25                       MR. REICHEL: Can I interpose something here?

1 JUDGE PATTERSON: Yes, sir.

2 MR. REICHEL: Is this being offered as substantive  
3 evidence or demonstrative?

4 MR. HOFFER: This will be offered as substantive  
5 evidence.

6 MR. REICHEL: And where is it on your exhibit  
7 list?

8 MR. HOFFER: It is disclosed as Exhibit Number 53,  
9 I believe, and it was included in a compact disk in the back  
10 folder of the disclosure you were given. Let me double-  
11 check the number. Actually, that is Exhibit Number 54 on  
12 your list that I disclosed to you and the images are  
13 contained on a compact disk that was in the back folder --  
14 or the back pocket of the folder you were given.

15 MR. REICHEL: I was not served with any such  
16 compact disk, your Honor. I've never seen this, heard of  
17 this until today.

18 MR. PHELPS: I don't -- I'm not sure what -- is  
19 this (indicating) what you're talking about? These exhibit  
20 binders?

21 MR. HOFFER: Yes, that is what I'm talking about.

22 JUDGE PATTERSON: I have one in mine.

23 MR. PHELPS: We don't have one.

24 MR. REICHEL: We didn't get one. This is a  
25 surprise.

1                   MR. HOFFER: Is it listed in the index? It is  
2 listed on the index.

3                   MR. PHELPS: What's it listed as?

4                   MR. HOFFER: It's Exhibit Number 54. And I wasn't  
5 notified that anyone hadn't received those. It specifically  
6 says that it was included on a compact disk.

7                   JUDGE PATTERSON: It appears to be on the index,  
8 but apparently copies weren't actually furnished.

9                   MR. PHELPS: For the Intervenors, we don't -- I  
10 don't have an objection to it -- to this photograph. I  
11 didn't get the disk. We haven't seen it before, but it is  
12 just a photograph. So from our perspective --

13                   JUDGE PATTERSON: Okay.

14                   MR. REICHEL: All right. I'll withdraw the  
15 objection.

16                   JUDGE PATTERSON: Okay. Thank you.

17 Q                Okay. And getting back to where you were, can you describe  
18 what's in the photo?

19 A                Yes. That is a photo of three of the chunks, two of which I  
20 brought here that I took out in making it possible for me to  
21 withdraw the polymethylmethacrylate tube.

22 Q                And in your experience, does this photograph accurately  
23 represent the sediment clumps that you extracted?

24 A                Yes. I mean, they were bigger and these were broken up  
25 some, but, yes.

1 Q And is this image also of sediment that you extracted?  
2 A It's a close-up of the exact same one you took before.  
3 Q And does this image accurately depict the sediment you  
4 extracted?  
5 A It does.  
6 Q And what is this (indicating) photograph of?  
7 A It is apparently a close-up of a different one of the three  
8 and it accurately depicts the clump.  
9 Q And that seems to be all the images.  
10 MR. HOFFER: Your Honor, I'd move to admit these  
11 images into evidence.  
12 JUDGE PATTERSON: I believe there wasn't any  
13 objections?  
14 MR. PHELPS: No objection.  
15 JUDGE PATTERSON: All right. No objection,  
16 they'll be entered.  
17 (Petitioner's Exhibit 54 marked and received)  
18 Q Mr. Evans, were you present at any of the meetings with DEQ  
19 staff?  
20 A I was.  
21 Q And who specifically did you participate in meetings with?  
22 A With Robyn Schmidt and John Arevalo.  
23 Q And you heard testimony earlier considering -- or discussing  
24 a 20-foot-wide area of wetlands that were near the shore?  
25 A I did.



1 Q And in your best recollection, where did that 20-foot figure  
2 come from?

3 A I don't know where that came from. I heard it, but I am not  
4 aware of the origin of it.

5 Q What was the purpose of that 20-foot area?

6 A As I understand it, that was claimed by the DEQ to be  
7 wetlands covered under 303. And in a letter, I think, dated  
8 January 29 we responded to the DEQ that we would modify our  
9 application so that we would not disturb any of the wetlands  
10 but we would start offshore from their defined wetlands and  
11 proceed 50 feet wide, 200 feet away from the edge of the  
12 wetlands.

13 Q Okay. And you said 200 by 50 feet. So I believe in an  
14 opening statement it was given that it would be -- the new  
15 dredge area would be 180 by 50. Is that correct, with your  
16 understanding?

17 A That's what I heard this morning, but the letter that we  
18 sent them in late January, I think it was January 29, said  
19 50 by 200. We didn't modify the size, we simply modified  
20 moving it offshore so that we avoided an issue of wetlands.

21 Q Okay. And to be accurately -- and to be totally precise,  
22 what did you understand would happen if you avoided that  
23 20-foot section?

24 A That Part 303 would no longer be an issue.

25 Q And where did you get that understanding from?

1 A From Mr. Arevalo.

2 Q Okay. Thank you. And you stated that you own property in  
3 Missaukee County?

4 A That's correct.

5 Q And that's on Crooked Lake?

6 A Yes, it is.

7 Q And has any dredging occurred recently on Crooked Lake?

8 A Yes, it has.

9 Q And can you describe the dredging that has occurred on  
10 Crooked Lake?

11 A I'm aware of two separate dredging issues on Crooked Lake.  
12 On the west end of the lake, the DEQ has done substantial  
13 dredging and on the east side of Crooked Lake, I have done  
14 some dredging.

15 Q Okay. As to the DEQ dredging, can you describe the best you  
16 can the scope of that dredging?

17 MR. PHELPS: Your Honor, I'm going to object. I'm  
18 going to object to this on the basis of relevance. I don't  
19 know what dredging on Crooked Lake has to do with any issue  
20 in this case.

21 MR. REICHEL: I join in that objection, your  
22 Honor.

23 MR. HOFFER: I can get there, but what this is  
24 going to have to do with is there's been concerns raised  
25 that the dredging at lot 8 will disturb loons. And Mr.

1 Evans will provide testimony that there were loons close to  
2 the area where the DEQ itself constructed dredging on  
3 Crooked Lake.

4 MR. REICHEL: Even assuming that's true, that  
5 doesn't establish the relevance of such testimony and we  
6 don't admit that that's true in this case.

7 MR. PHELPS: And it's the same issues --

8 MR. HOFFER: The relevance --

9 MR. PHELPS: There's been no tying together the  
10 circumstances to make them even remotely similar. So I  
11 would think it's still --

12 JUDGE PATTERSON: Yeah, frankly I agree. I don't  
13 see the relevance of dredging on another lake.

14 MR. HOFFER: Your Honor --

15 Q Mr. Evans, are there loons on Crooked Lake?

16 A There are. Well, not right now, it's frozen. But they have  
17 nested there every year for at least the last 50 years that  
18 I've been there.

19 Q And where do these loons nest?

20 MR. REICHEL: Continuing objection to any inquiry  
21 about wildlife conditions on Crooked Lake. Crooked Lake is  
22 not at issue in this case.

23 JUDGE PATTERSON: Yeah, I agree. I don't see the  
24 relevance to --

25 MR. HOFFER: Well, your Honor, I'm laying a

1 foundation here. And the argument has been made by the DEQ  
2 that these -- and by the Intervenor in its, I believe,  
3 November 22nd report, Exhibit 12, that dredging activity has  
4 the possibility of disturbing loons and their nesting  
5 habitats. And Mr. Evans will testify as to his experience  
6 and whether that argument would be a valid reason to deny  
7 the permits or not.

8 MR. REICHEL: May I respond, your Honor?

9 JUDGE PATTERSON: Sure.

10 MR. REICHEL: To the best of my recollection in  
11 consulting with DEQ staff, there has been no contention by  
12 DEQ with respect to the permit application at issue here  
13 that the subject area involves loon habitat.

14 MR. HOFFER: Your Honor, if there's no argument  
15 that our dredging is going to disturb loon habitat, then we  
16 don't need to talk about this. I mean, is the Intervenor  
17 prepared to say the same?

18 MR. PHELPS: I'm not prepared to say the same and  
19 I don't need to say the same. The objection is that it's  
20 irrelevant. What happened on Crooked Lake, whether there  
21 were loons, where they nested, what kind of dredging there  
22 was, did they dredge within 5 feet, 10 feet, 100 feet of the  
23 loon net (sic) is so far removed from whatever conditions  
24 that are on this lake as to make it irrelevant and therefore  
25 inadmissible. And to the extent anybody from our

1 perspective testifies about wildlife, they'll be subject to  
2 cross-examination.

3 MR. HOFFER: Well, your Honor, if the argument's  
4 going to be made that dredging disturbs loons, then we just  
5 look at an instance that's only a few miles away and  
6 determine whether dredging --

7 JUDGE PATTERSON: Why don't we wait on that. Dr.  
8 Evans, are you going to be here for the whole hearing?

9 MR. SHAFER: I think you are, aren't you?

10 THE WITNESS: I expect to be.

11 MR. HOFFER: Okay.

12 JUDGE PATTERSON: Why don't we wait. And if it  
13 doesn't come up, then we don't have a problem. If it does,  
14 then you can put him on in rebuttal.

15 MR. HOFFER: That sounds great.

16 JUDGE PATTERSON: All right.

17 Q Dr. Evans, have you ever conducted hydraulic dredging?

18 A I have.

19 Q And visually, can you describe what happens during hydraulic  
20 dredging?

21 A What happens during the hydraulic dredging, A, hydraulic  
22 dredging is a broad term and there are a variety of  
23 different techniques used for hydraulic dredging. In my  
24 case, I do not have a cutter head. It is equivalent to  
25 vacuuming a carpet. I have an intake tube six inches in

1 diameter which I put down in the sediment I wish to remove.  
2 I have a big trash pump that pumps it and it creates a  
3 partial vacuum in the water and the flow of the water comes  
4 in and everything in the vicinity of the intake is carried  
5 along by the water flow and pumped across the lake. I have  
6 fine sediments in front of my place very similar to what  
7 I've seen in front of lot 8. And when I dredge, I do not  
8 get a dispersion of those into my beach, which it would be  
9 because I'm on the west side -- the east side of the lake  
10 and a generally prevailing west wind. I do not get any  
11 sediments coming on to my beach as a result of my dredging.

12 Q Now, does the dredging cause any disturbance in the  
13 sediment?

14 A It causes some disturbance in the sediment as it is drawn  
15 into the intake of the dredge.

16 Q And what would you compare the amount of disturbance created  
17 by the dredging to? Is there anything else that would cause  
18 a similar disturbance?

19 A A person walking through it, a person swimming, an outboard  
20 motor running through, big fish swimming, anything that  
21 would disturb the water.

22 Q Okay. And, Dr. Evans, have you seen boats on Lake  
23 Missaukee?

24 A I have.

25 Q What type of boats have you seen on Lake Missaukee?

1 A Everything from pontoon boats to stern drives to outboards  
2 to canoes to personal watercraft.

3 Q And have you made any examination of the draft depths of  
4 these type of boats?

5 A I have.

6 Q What type of a investigation have you done?

7 A I've talked to dealers and I have done an Internet search of  
8 large manufacturers such as Four Winns in Cadillac, SeaRay  
9 and Bayliner which is the largest manufacturer of boats in  
10 the United States.

11 Q And what did you discover?

12 A I discovered that I can't find any trailerable boat that has  
13 a draft exceeding 3-1/2 feet.

14 Q Okay. And to backtrack a little bit, you said that you have  
15 met with Mr. Arevalo of the DEQ?

16 A I have.

17 Q And have you discussed the use of the dredge area for  
18 swimming purposes with Mr. Arevalo?

19 A We have.

20 Q And what has been Mr. Arevalo's response?

21 A "If Mr. Mohny wants a place to swim, he can go buy some  
22 property elsewhere."

23 MR. HOFFER: That's all for now, your Honor. Hold  
24 on one moment.

25 Q Mr. Evans -- or, Dr. Evans, do you recall how long ago I

1 inverted this (indicating) tube?

2 A Not exactly. I didn't note the time.

3 Q All right. Do you know what the time is right now?

4 A By my watch, it's about nine minutes to 2:00.

5 Q And can you describe the contents of the tube?

6 A Contents of the tube look to me approximately like they  
7 looked before you inverted them.

8 MR. HOFFER: Thank you, Dr. Evans. Your Honor,  
9 we're all set for right now.

10 JUDGE PATTERSON: Okay.

11 MR. REICHEL: Mr. Evans, my name is Rob Reichel.  
12 I'm the attorney for the Department of Environmental  
13 Quality.

14 CROSS-EXAMINATION

15 BY MR. REICHEL:

16 Q You testified on direct examination that you are an agent  
17 for the permit applicant in this proceeding?

18 A That's correct.

19 Q And who designated you an agent?

20 A My understanding is Mr. Mohny did.

21 Q Have you ever talked to Mr. Mohny?

22 A Yes.

23 Q When did you talk to him?

24 A I've talked to him on several occasions. I don't know the  
25 exact date.



1 Q Okay. Did he approach you to be his agent?

2 A No, he did not.

3 Q Did you volunteer to be his agent?

4 A I did.

5 Q And why did you do that?

6 A Two reasons: One because he had done me a significant  
7 favor. When I wanted to dredge the sediments in front of my  
8 cottage so that I could use it for swimming, the one thing I  
9 was lacking was a place to put spoils. He owns substantial  
10 vacant land across the road from my cottage. I had written  
11 him a letter and asked could I buy that land, could I lease  
12 that land or would he give me permission to put spoils over  
13 there. And he sent back and said he would give me  
14 permission to put spoils over there. So I felt I owed him a  
15 favor. Plus, I know Mr. Boughner. And two things: One, I  
16 had some experience with the application process having gone  
17 through it previously myself. And I have, as many of us do,  
18 access to the Internet so that I could download forms and  
19 things and Mr. Boughner is not on the Internet so I said I  
20 could be of some assistance to him in doing that.

21 Q Okay. So you chose to be involved in this at least in part  
22 because Mr. Mohny allowed you to use some of his property  
23 without charge for disposal of dredge spoils; is that  
24 correct?

25 A That's correct.

1 Q Although you -- you've testified you have a Ph.D. in  
2 chemistry, you don't hold yourself out to be an expert in  
3 limnology, do you?

4 A I do not.

5 Q Or in wetlands?

6 A I do not.

7 Q Now, have you -- when did you first become involved as an  
8 agent for Mr. Mohny in this process if you recall?

9 A I don't know for sure. Either early this year or late last  
10 year, but I don't know for sure. Essentially I believe Mr.  
11 Boughner had Mr. Mohny write a letter and at a meeting that  
12 we had with Mr. Arevalo, he gave a copy of the letter and  
13 said that I was authorized to act as an agent for this  
14 specific application.

15 Q And how if at all have you been compensated for your  
16 services?

17 A On a couple times when we had meetings that went longer like  
18 this, they've bought my lunch. That's it. They have not  
19 covered my mileage, my gasoline, my time or anything. Today  
20 they bought my lunch.

21 Q You've testified that you visited lot 8 I think you said 15  
22 to 20 times; is that correct?

23 A Yes.

24 Q When do you recall the first occasion that you visited that  
25 site?

1 A That site?

2 Q Yup.

3 A 50 years ago. It wasn't delineated as lot 8 at that time,  
4 but certainly 50 years ago.

5 Q Did you grow up in this area or did you vacation there?

6 A No, but my parents have had a cottage on Crooked Lake since  
7 1956 and I've had one on there since '99 or '97, something  
8 like that. So I've been going to that lake -- except for  
9 when I was out of state going to graduate school, I've gone  
10 there every year since '56.

11 Q And have you visited other parts of Lake Missaukee over the  
12 years?

13 A Yes, I have.

14 Q Would you agree with me that based upon your observations of  
15 Lake Missaukee over the years that the area on the western  
16 end of the lake including the subdivision, Indian Lakes  
17 West, is one of the few remaining undeveloped areas of  
18 shoreline on Lake Missaukee?

19 A I think it is undoubtedly the largest, yes. I have not --  
20 in recent years, I have not attempted to go around the  
21 circumference of Lake Missaukee and see exactly what's been  
22 developed and what has not.

23 Q But you're confident -- you would certainly agree with the  
24 proposition that the extent referred to in some of the  
25 correspondence of something approaching 10,000 lineal feet

1 of lake shoreline is one of the largest remaining, if not  
2 the largest remaining -- strike that -- is the largest  
3 remaining undeveloped stretch of shoreline on Lake  
4 Missaukee?

5 A I believe that to be correct.

6 Q You testified -- okay. And you said -- you said you've been  
7 to the site 15 to 20 times. Let me ask you a different  
8 question. Since becoming involved as an agent for Mr.  
9 Mohny, how many times have you visited the site?

10 A 8 or 10. I have to be careful there because it's probably  
11 much more than that because I take my dog for a walk every  
12 morning when I'm up at the lake and we will frequently walk  
13 down there and walk past the site as part of our morning  
14 walk. So I suppose if you actually say just at lot 8, maybe  
15 it's 50 to 100 times.

16 Q So I take it from your testimony that you've been  
17 vacationing in the vicinity and/or been retired in that area  
18 a sufficient number of years that you would have seen this  
19 site before this subdivision was even platted and the  
20 Arrowhead Trail West was laid out; correct?

21 A That's correct. I am not retired in that area. I still  
22 have a cottage there, but I am not retired in that area.

23 Q Okay. Thank you. So have you had occasion to observe -- do  
24 you know when this area -- this subdivision was platted out  
25 and the road paved there?

1 A No, I don't.

2 Q Okay. Do you have any knowledge of when the structure of  
3 the house that exists on lot 8 that's been testified to was  
4 built?

5 A No, I do not.

6 Q You testified on direct examination that -- you were asked  
7 about whether you looked at the area lakeward of the shore  
8 and you were asked to characterize I believe the amount of  
9 vegetation on lot 8 or I should say immediately offshore  
10 from lot 8 in comparison to areas to the north and south.  
11 Do you recall that testimony?

12 A I do.

13 Q Did you make any attempt to quantify the amount of  
14 vegetation?

15 A I did not.

16 Q Okay. And, again, I think you testified, you don't hold  
17 yourself out as any sort of expert in wetland vegetation, do  
18 you?

19 A I do not.

20 Q During your visits to the site that you've testified, and by  
21 now I'm talking specifically about the immediate vicinity of  
22 lot 8, have you had occasion to notice any changes in the  
23 amount of vegetation or the height of vegetation on the  
24 shore area immediately landward of the lakeshore?

25 A On the shore area?

1 Q Yeah, let me restate the question. Has there been -- have  
2 you observed any either cutting or flattening of vegetation  
3 along the lakeshore of lot 8?

4 A There's sand on the land in lot 8 towards the shore. So I  
5 don't -- unless I'm right near the lake, I don't typically  
6 think of much vegetation there other than larger trees which  
7 are going through the sand. I don't know that I can  
8 specifically say I remember a change in the amount of sand  
9 there.

10 Q Okay. Let me ask you a slightly different question. I want  
11 you to now focus on the area immediately lakeward of the  
12 shore. Okay? Have you observed during your visits to the  
13 site any changes of the height -- have you observed  
14 vegetation being cut or flattened in that area?

15 A I have not observed vegetation being cut or flattened in  
16 that area.

17 Q Now, I believe you testified that you -- I'm just not  
18 clear -- on at least one occasion, perhaps more, you and Mr.  
19 Boughner accessed the lake in an aluminum boat; is that  
20 correct?

21 A That's correct.

22 Q And where did you put that boat in?

23 A At lot 8.

24 Q So you would have physically, presumably, pushed that into  
25 the lake from the shore?

1 A That's correct. It's a flat-bottomed aluminum boat that two  
2 people are capable of pulling over dry ground or pushing out  
3 into the lake.

4 Q And how many times have you done that?

5 A Approximately three. I don't know for sure.

6 Q Okay. Would that have all been in the last year or two  
7 years?

8 A All within the last two years. Maybe it's more like four,  
9 but I don't know exactly.

10 Q Now, you've testified that you made some observations of the  
11 sediment on the bottom of Missaukee Lake offshore from lot  
12 8; correct?

13 A Correct.

14 Q Give me again the dates on which you collected samples  
15 there, please.

16 A I don't have specific dates. It was in June of this year  
17 and we went back, I think -- I know it was in June because  
18 Dr. Lehman was to come up -- and I'd have to look at the  
19 records to see. I believe he was coming up in July and he  
20 had requested that I buy those tubes and collect the  
21 samples. So I ordered the tubes and I got them in and  
22 collected the samples prior to his visit. And I believe it  
23 was late June. We had company up over the 4th of July, so I  
24 don't believe it was the first -- early July. I believe it  
25 was mid to late June.

1 Q Okay. And when did you first have contact with Dr. Lehman  
2 about this project?

3 A Don't know, April maybe.

4 Q Did you contact him or did he contact you?

5 A I contacted him.

6 Q And why did you contact him?

7 A Because I was looking for expert witnesses who could give an  
8 authoritative opinion as to the environmental effects of the  
9 proposed dredging.

10 Q And how did you happen to contact Dr. Lehman?

11 A By e-mail.

12 Q No. Let me restate the question. Why did you choose -- why  
13 did you contact Dr. Lehman? Did you know him?

14 A No, I did not know him prior to this. I went to the  
15 University of Michigan and I went to Michigan State  
16 University and I looked at the faculties and I looked at  
17 their areas of expertise and research interests and chose a  
18 few people to contact.

19 Q And so did you make the decision to retain Dr. Lehman in  
20 this matter?

21 A No, I did not because I'm not authorized to do that.

22 Q Did you recommend that he be retained?

23 A I recommended that -- I asked him if he would be willing to  
24 testify and he answered yes. And when he answered yes, then  
25 I recommended that he be retained.



1 Q And how did you describe the scope of work or project that  
2 you wanted him to perform?

3 A I wanted him to look at the environmental effects of  
4 dredging an area of 50 feet wide by 200 feet deep starting  
5 on the lakeward side of the wetlands in front of lot 8 on  
6 Missaukee Lake.

7 Q And did you ask him to perform some research?

8 A I asked him to do whatever he thought necessary to render an  
9 expert opinion.

10 Q And when you say "environmental effects," did you specify  
11 any particular kind or category of effects?

12 A I don't -- I mean, we did some by e-mail and we did some  
13 discussions and I believe I forwarded him the citations and  
14 the rules for 301 and the definitions of the public trust  
15 and the definitions of riparian rights. And I wanted him to  
16 be able to address those areas.

17 Q In contacting him, am I correct in understanding that you  
18 communicated to him that you were acting as an agent for Mr.  
19 Mohny with respect to this project and that the permit  
20 application filed on behalf of Mr. Mohny had been denied  
21 and you were looking for Mr. Lehman to assist you or Mr.  
22 Mohny in having that decision overturned?

23 A I don't believe I said I was interested in having him  
24 overturn it. I believe I said that I was interested in  
25 getting his expert opinion as to the environmental effects

1 of such a project if the permit were to be issued.

2 Q And did you make any representation to him as to conclusions  
3 that the permit applicant had made or positions the permit  
4 applicant made on that subject thus far to the DEQ?

5 A Don't recall specifically.

6 Q Did you express any opinion that you may have formed as to  
7 the nature, extent of adverse environmental effects about  
8 this proposed permit application?

9 A I may have given my opinion. If I did, I also said, "But  
10 I'm not an expert on this area which is why I'm looking for  
11 an authoritative expert." I did tell him that I thought the  
12 DEQ had made a number of factual and substantial errors and  
13 that we needed an expert to take a look at it.

14 Q Was any part of the work assignment that you gave to Dr.  
15 Lehman to discuss this matter with the DEQ staff?

16 A No.

17 Q To your knowledge, has he ever done so?

18 A To my knowledge, he has not. At that time, we had had our  
19 last meeting with Mr. Arevalo and his last comment to me  
20 was -- when I asked him a question about swimming, his  
21 comment was, "I'm not going to argue with you. The meeting  
22 is over." I said, "Okay."

23 Q With respect to these observations of sediment depth, now,  
24 did you -- you may have already testified -- did you or did  
25 you not participate -- or attend the collection of water

1 sediment depth performed by the DEQ by Ms. Schmidt in  
2 February of this year?

3 A I was not present. In fact, I believe I was not an agent at  
4 that time. So when you asked earlier when I was appointed,  
5 it would have been after February 28th.

6 Q Okay. And you have reviewed, have you not, those data that  
7 were compiled by Ms. Schmidt?

8 A I have.

9 Q And have you collected or documented any data that  
10 contradict the findings made by Ms. Schmidt as reflected in  
11 Exhibit -- DEQ Exhibit Number 24?

12 A I haven't examined that particular exhibit but, no, I did  
13 not see anything that contradicted the data. I saw some  
14 things that contradicted the conclusions that some people  
15 made relative to that, including Mr. Arevalo, who wrote a  
16 letter back saying there was seven feet of mud in that area.

17 Q Okay. But you have no reason as you testify -- you're not  
18 testifying today that to your knowledge the data reflected  
19 in Exhibit 4 (sic) inaccurate?

20 A I am not testifying to that effect.

21 Q Now, other than some of these photographs that you took,  
22 what, if any, documentation have you -- written  
23 documentation have you prepared of the location depths, et  
24 cetera, of sediment sampling that you performed at the site?

25 A I have not prepared written documentation for that.

1 Q And do you have any written documentation of the sample  
2 locations that you testified to earlier being, quote, "in  
3 excess of 500 feet offshore"?

4 A I have GPS wave point, but I do not have written  
5 documentation -- strictly speaking, a POI, not a wave point.

6 Q I believe you testified earlier that -- or it's that you --  
7 you indicated it's your belief that in correspondence to Mr.  
8 Arevalo in late January of this year, Mr. Mohney authorized  
9 his agents to modify -- let me back up. You've looked  
10 obviously at various documents in the permit file here;  
11 correct?

12 A Correct.

13 Q And would those include, do they not, the permit application  
14 originally submitted by Mr. Boughner?

15 A I believe they do.

16 Q Okay. And you would agree, sir, that the permit application  
17 as filed with the department proposed to dredge an area 50  
18 feet wide, 200 feet offshore commencing at the shore of Lake  
19 Missaukee on lot 8; correct?

20 A I believe that to be correct, although I was not involved  
21 and I was not an agent at that time.

22 Q Okay. But I believe you testified if I understood you  
23 correctly on direct examination, that at some point in  
24 writing, someone on behalf of Mr. Mohney communicated to the  
25 department that they were now proposing to commence the

1 dredging beginning at a point 20 feet offshore?

2 A No, I don't believe that's accurate. I believe what was  
3 proposed was that the dredging would commence on the  
4 lakeward side of the defined wetlands area. 20 feet was not  
5 mentioned.

6 Q All right. And it's your belief that this was reflected in  
7 correspondence in late January of this year?

8 A I believe it is specifically in the letter dated January  
9 29th.

10 Q Okay. If you would direct your attention to the book of  
11 exhibits from Petitioner -- I believe it's Petitioner's  
12 Exhibit 15, please? Is that the correspondence that you  
13 were referring to?

14 A I believe it is. I believe in the penultimate paragraph of  
15 page two, it says,

16 "I therefore ask you to issue my permit amended as  
17 we discussed so that the hydraulic dredging would start  
18 on the lakeward side of the wetlands area you have  
19 identified and covering an area of 50 feet wide by 200  
20 feet long."

21 Q Okay. So it is your understanding that as of the date of  
22 this letter and even today, that it is the Petitioner's  
23 proposal to hydraulically dredge an area lakeside of the,  
24 quote, "wetlands"; is that correct?

25 A Correct.

1 Q You testified that you are not a wetland scientist; correct?

2 A That's correct.

3 Q Do you know -- so you don't know or you're not prepared to

4 testify how far offshore wetlands as defined under Part 303

5 of Natural Resources Environmental Protection Act extend, do

6 you?

7 A That's correct. When this was written, I had been told by

8 Mr. Boughner that Robyn Schmidt had defined it as

9 approximately 20 feet offshore. But I didn't know if it was

10 exactly 20 feet. I'd also somewhere heard a number of 33

11 feet, but it's not a precise number because the shoreline

12 moves throughout the year.

13 Q Do you know whether or not -- well, you have no firsthand

14 knowledge, but do you know whether or not any distinction

15 was made between emergent wetland vegetation and other types

16 of wetland vegetation?

17 A I do not.

18 Q So just to clarify, are you today an agent for the

19 permittee -- permit applicant?

20 A I believe I am.

21 Q Okay. So it's your testimony that today the permit

22 applicant is not seeking what was originally proposed in the

23 permit application but rather an amended project which --

24 under which hydraulic dredging would commence at an area

25 lakeward or lakeside of wetlands along the shore of lot 8?

1 A That's correct.

2 Q And let me get straight how you expect this to proceed. So  
3 a hydraulic dredge would be brought to the site to commence  
4 dredging of this 50-foot-wide strip; is that correct?

5 A I don't know how one could do it if one didn't bring a  
6 dredge to the site, yes.

7 Q Okay. So how as you understand it -- how would the dredging  
8 apparatus be brought to that location?

9 A It would come across the lake.

10 Q So it would be on a barge of some kind?

11 A Correct.

12 Q Do you have any idea what the draft of that barge is?

13 A The draft of that barge is probably 12 inches, 15 inches if  
14 it is like mine.

15 Q Oh, you own one?

16 A I do.

17 Q And, again, this is very confusing to me. The stated  
18 purpose -- although the permit application proposed a dredge  
19 to a sediment depth of 2-1/2 feet, at what depth -- or to  
20 what depth is the applicant today proposing to dredge?

21 A It would be my understanding -- although I don't know that I  
22 can make this decision, it is my understanding that he would  
23 propose to dredge to a hard bottom.

24 Q And have you formed any understanding based upon either your  
25 review of the file or your own observations as to at what

1 depth that hard bottom occurs?

2 A That hard bottom would occur at approximately the depths  
3 that are indicated in the point of refusal that Ms. Schmidt  
4 obtained on 2-28 of this year.

5 Q So to the extent that -- have you reviewed the original  
6 estimates of a volume of material to be dredged that were  
7 contained in the permit application submitted by Mr.  
8 Boughner?

9 A I did at one time. I haven't recently.

10 Q Do you believe -- is it your belief or your contention that  
11 the proposed dredging volumes -- I think we first -- the  
12 dredging volumes proposed in that permit application differ  
13 from what you would expect to be the dredging volumes under  
14 the modified project that you've testified to today?

15 A That's probably correct.

16 Q Do you know whether it's an increase or a decrease?

17 A I would assume it to be an increase. I believe it is still  
18 within the same category of project under the rules. I  
19 believe anything less than 10,000 cubic yards is in the same  
20 category.

21 Q Have either you or anyone acting on behalf of the permit  
22 applicant attempted to calculate or estimate the volume of  
23 sediment material under this modified proposal now advanced  
24 by the Petitioner that would be dredged?

25 A I have not, but it would be a somewhat simple thing to do.



1 But I haven't done it. Actually, it would be a difficult  
2 thing to do simply because of the amorphous nature of the --  
3 the exact same problem that I illustrated in the tube over  
4 there where I was amazed when I brought it out that the  
5 height of the column in the tube was not equal to the height  
6 of top of the sediment. The top of the sediment is an  
7 amorphous thing. It's difficult to measure accurately. And  
8 if you talk about how much am I dredging, if I took out a  
9 cubic yard of that and dried it, I'll have substantially  
10 less than a cubic yard of material that I've dredged -- very  
11 substantially less than a cubic yard because --

12 Q Because you've dried it?

13 A -- as Dr. Lehman's data will show, a large part of the  
14 material is water. And we're not dredging water.

15 Q Okay. Let me get this straight. So you're testifying on  
16 the one hand that this material on the top is amorphous. On  
17 the other hand, you want this tribunal to believe that it  
18 looks like chunks?

19 A I did not say at any time, to the best of my knowledge, that  
20 the material at the very top acts as chunks. I believe what  
21 I said is when I could not extract the tube because of the  
22 suction, I took a shovel and dug down. And when I dug down,  
23 I got the chunks. I never said that that was at the very  
24 surface. And I also said it's very heterogenous.

25 Q So can you or can you not provide an estimate of the volume

1 of material that under this modified permit application you  
2 propose to dredge?

3 (Off the record interruption)

4 Q So can you answer the question?

5 A It would be possible to make such an estimate. If I would  
6 look at Dr. Lehman's data to see the -- which I have not  
7 done, but I know he's created data that describes the amount  
8 of water that is in the material. I could take the dry away  
9 and make a reasonable approximation of the volume to be  
10 dredged, but I have not done so.

11 Q You also testified on direct examination about an excursion  
12 that you made with Mr. Boughner, I believe, in -- this  
13 September; is that correct, possibly?

14 A Yes. I think so. I don't know. If he said September, that  
15 sounds good to me.

16 Q Okay. All right. And, again, how did you get access to the  
17 lake then?

18 A Same way. We took this leaky flat-bottom aluminum boat.

19 Q Which you launched from the shore?

20 A Which we launched from shore.

21 Q Okay. And you navigated out you believe 500 feet offshore?

22 A It was in excess of 500 feet because my wave point said we  
23 were over 500 feet. We actually went a little bit beyond  
24 that, but not a long way.

25 Q Okay. And you've testified on direct examination that in

1           your opinion, at a distance of 500 feet offshore, that  
2           swimming -- I forget the exact word you used, but something  
3           to the effect that swimming would not be feasible.

4       A     The qualities were not substantially different than they  
5           were closer to shore.

6       Q     Okay. Is it your contention -- let me restate that. It's  
7           not your contention, is it, that a boat, a watercraft would  
8           have to be 500 feet offshore to navigate, is it?

9       A     I thought we were just talking about swimming.

10      Q     No, that's what I'm trying to draw a distinction. Your  
11           opinion was respect only to the issue of swimming; correct?

12      A     Correct.

13      Q     Could you clarify something? Going back to your first  
14           contact with Mr. Mohney, I believe you indicated that you  
15           wrote to him. Did you actually write to him or did you  
16           write to some entity that he controlled and ask him  
17           permission?

18      A     I don't know the answer to that for sure. I could look at  
19           the letter, but I don't know.

20      Q     Well, how did you ascertain who owned the property?

21      A     I can't tell you that for sure, but it is certainly common  
22           knowledge of the people who live up there who owns the land  
23           across from us. And I don't remember if I got it from one  
24           of my neighbors or if I got it from Mr. Boughner. But it's  
25           not a secret. It's general knowledge.

1 Q No, but I mean, who were you dealing -- is it your  
2 understanding that Mr. Mohny individually owned this  
3 property or some entity that he controls owned the property?  
4 A I have no idea.  
5 Q Have you heard of an entity called the "Michigan Reef  
6 Development Company"? Does that ring a bell for you?  
7 A I have because I've seen it referenced in some of the  
8 documents here. That's all I know about it.  
9 Q Mr. Evans, based upon -- you've testified that you visited  
10 Lake Missaukee on a number of occasions. And I'm not now  
11 limiting this just to the area in front of lot 8 in the  
12 Indian Lakes subdivision. But in general, have you, during  
13 your visits to the lake, observed other docks extending from  
14 the shore of the lake into the lake?  
15 A I have.  
16 Q Have you observed docks extending more than 50 feet?  
17 A Probably.  
18 Q More than 100 feet?  
19 A No, I don't believe so.  
20 Q Anywhere on the lake?  
21 A I don't believe I have.  
22 Q But you don't know?  
23 A I've not done a survey to try to estimate lengths of docks  
24 at all places on the lake. I know on the east side of the  
25 lake, shallow water goes out for a ways, but I know that

1 some of those don't come all the way to shore. They start  
2 out a ways and then go out a ways. And, you know, you're  
3 driving by on the road -- I think the speed limit's 35  
4 there -- and I see them. But I wouldn't want to speculate  
5 as to how long those are. Could there be one 100 feet?  
6 There could be, I don't know.

7 Q You don't know?

8 A I don't know.

9 MR. REICHEL: Nothing further at this time.

10 MR. PHELPS: Mr. Evans, I'm Aaron Phelps. I  
11 represent the Association. I just have a few questions for  
12 you.

13 CROSS-EXAMINATION

14 BY MR. PHELPS:

15 Q With regard to your testimony regarding measurement you took  
16 with the tube?

17 A Yes.

18 Q You testified that that was taken about 60 to 80 feet  
19 offshore?

20 A Yes.

21 Q In front of lot 8?

22 A Yes.

23 Q And did you get a GPS coordinate for that?

24 A No. I said it's very, very difficult to walk and I had a  
25 tube in one hand and I had a shovel in another and I was

1           trying to hold onto the boat and I wasn't about to take my  
2           GPS out under those circumstances.

3       Q     And did you have a --

4       A     We did have a -- I think Mr. Boughner called it a buoy. It  
5           was probably a bleach bottle or detergent bottle or  
6           something that was anchored presumably 100 feet offshore.  
7           And looking at the shore and looking at that bleach bottle,  
8           I said, "I'm in the range of 60 to 80 feet."

9       Q     Okay. And that's really where I was going is you didn't  
10          measure out 60 to 80?

11      A     Absolutely not.

12      Q     And you didn't measure the plastic buoy either?

13      A     I did not.

14      Q     So you don't know whether it was 100 feet or not or more or  
15          less?

16      A     It could have been 103 feet. I don't know. And as I said,  
17          if it was 100 today, it wouldn't be 100 a week from now  
18          because the water level changes.

19      Q     And so the 60 to 80 is just nothing more than your estimate?  
20          It's not a based on measure?

21      A     60 to 80 is my estimate of 60 to 80.

22      Q     And you waded out this 60 to 80 feet?

23      A     Yes, I did.

24      Q     Did you have on, like, waders?

25      A     No, I didn't. I had on a bathing suit and water shoes.

1 Q Okay. And how far up on your body did the water come when  
2 you were taking the measurement?

3 A I don't remember specifically on that measurement because I  
4 waded out a little further also to see whether I could see  
5 any changes and then I gave up on it. I think it probably  
6 got up to mid-chest, something like that, at the worst.

7 Q Okay. So somewhere maybe a little above your belly button?

8 A Yeah; yeah. Somewhere in there. But, again, that was not  
9 something that I was attempting to measure and that's a best  
10 recollection. I don't know for sure.

11 Q Okay. And how tall are you?

12 A I'm 6'1".

13 Q And from your feet to just above your belly button then is  
14 maybe 3-1/2 feet?

15 A 3-1/2, 4. I don't know.

16 Q Okay. And that would have been from --

17 A That's easily determined, I would say.

18 Q I don't want to measure you.

19 A All right.

20 Q We'll take your word for it. All right. And so at 3-1/2  
21 feet, that's where -- as best you can recall, the top of the  
22 water line when you took the measurement with the tube?

23 A Yup. I have no way of knowing how far the bottom of my feet  
24 were from the hardpan at that point. I sunk as much as I  
25 sunk.

1 Q Right. And you've testified that there was no place where  
2 you could stand on top of the muck, you always sunk?  
3 A That's correct.  
4 Q And I want to understand just a little better these  
5 observations that you made when you were out in the boat.  
6 As I understand it, you went out 500 feet or so in the boat  
7 and you observed that it was about 8 feet down hard bottom;  
8 correct?  
9 A Roughly.  
10 Q And at about -- the proposal is to dredge out 200 feet?  
11 A Correct.  
12 Q And there would be no dredging between 200 feet and 500  
13 feet?  
14 A Correct. 200 feet from the lakeward side of the wetlands.  
15 Q Okay. As you understand?  
16 A Yes.  
17 Q That's a little different than what we've heard.  
18 A It's what's in the letter and it's what was discussed with  
19 Mr. Arevalo and in the letter which was a follow-up to those  
20 discussions.  
21 Q Okay. And as you understand it, the proposal is to have a  
22 dock of about 60 foot in length?  
23 A I'm speculating on that. I don't know.  
24 Q You don't know?  
25 A I don't know.



1 Q Well, at any rate, the dock would be -- do you have any  
2 reason to believe the dock would be more than 200 feet?  
3 A I do not.  
4 Q And so wherever the dock is, your understanding of Mr.  
5 Mohney's intentions are to tie his boat and other watercraft  
6 to the dock?  
7 A I don't know that.  
8 Q Okay. You're his agent for this project?  
9 A I'm his agent. I have not discussed that aspect of it. I  
10 said I was an agent for the purposes of trying to obtain  
11 this permit. And exactly how he would moor his boats, as  
12 far as I knew, was not a critical area for this permit  
13 process. He could put a boat hoist out there. There's a  
14 number of things he could do and we never discussed that.  
15 Q Well, my point was that there would be a -- whether it was  
16 tied or in a boat hoist or fastened upside down, the boat  
17 would be attached or near the end of the dock?  
18 A Presumably, yes.  
19 Q Okay. And then I guess to state the obvious, the intention  
20 would be to get into the boat and drive it out into the  
21 larger part of the lake?  
22 A I think so.  
23 Q And to do that, they would have to drive the boat obviously  
24 from the end of the dock which as you understand is going to  
25 be no more than 200 feet from shore?

1 A Yes.

2 Q And drive it from the 200 feet out past this 500 foot mark  
3 through that 300 foot pass of muck; correct?

4 A Correct.

5 Q And based on your observations, you don't see -- it's your  
6 understanding that the water depth between that 200 foot and  
7 500 foot mark is sufficient for watercraft travel?

8 A Say that again.

9 Q The water depth based on your observations from 200 feet  
10 offshore to 500 feet offshore headed to the lake is  
11 sufficient to allow watercraft to travel in and out?

12 A Is sufficient?

13 Q Is, yes.

14 A That's correct. Now, I have not been over there during the  
15 low water periods, so I don't know how much lower it went.  
16 But during the time I have been there, especially if -- for  
17 a boat on plane -- and the 200 feet would be adequate room  
18 for a boat to be on plane, there would have been adequate  
19 water in that depth.

20 Q You've seen Mr. Mohny's boat?

21 A I have.

22 Q You've been on his boat?

23 A I have not.

24 Q Based on your observations of his boat, you see no reason  
25 why he would have any problem navigating from the edge of

1 the proposed dredge area out into the lake?

2 A Not under the conditions that I have seen.

3 Q You were asked on direct examination about the vegetation on  
4 lot 8 as I understood it along the shoreline of the lake.  
5 Do you remember that?

6 A Yes.

7 Q And correct me if I'm wrong, but as I recall, you said  
8 that -- your testimony was that there was less vegetation to  
9 the north and to the south of lot 8 than on lot 8 itself?

10 A I don't believe I testified to that. I believe I was asked  
11 about vegetation on the lot out of the water and I was also  
12 asked about vegetation in the riparian lot in the water.

13 Q Okay. And is your testimony in both of those instances that  
14 the vegetation is -- there's less vegetation in the lot 8  
15 portion as opposed to the property north and south of lot 8?

16 A Yes, that's correct.

17 Q And do you know if that's because Mr. Mohny or someone  
18 acting on his behalf has removed the vegetation that was  
19 there 10 years ago?

20 A I do not know that.

21 Q You don't know one way or the other?

22 A I do not know one way or the other. I said on the lakeward  
23 side near the cottage or near the house, there's a lot of  
24 bare sand and there's not a lot of vegetation in that sand  
25 at this time. In terms of the lake, I don't know. I can

1 tell you standing on shore there's a relative paucity in  
2 front of lot 8 relative to north and south of it. I don't  
3 know why that is and I don't know how long it has been that  
4 way.

5 MR. PHELPS: Okay. That is all I have.

6 REDIRECT EXAMINATION

7 BY MR. HOFFER:

8 Q Dr. Evans, why did you select Dr. Lehman as compared to the  
9 other experts that you reviewed?

10 A I thought he had the finest credentials in resume and the  
11 demonstrated greatest area of expertise of any of the people  
12 that I had contacted. I did have another guy at Michigan  
13 State who was a fisheries guy that I thought was highly  
14 qualified and said he was willing to testify until we got  
15 into the details. And then I won't say his name, but he  
16 said he gets a good deal of his funding from the DNR and  
17 happens to work with some of the people that were involved  
18 and did not want to be involved because he didn't want to  
19 bite the hand that feeds him. I said I respect that and we  
20 dropped it.

21 Q Okay. And at any time have you attempted to influence Dr.  
22 Lehman's opinion on this matter?

23 A I have not attempted to and I see zero reason to believe  
24 that I could.

25 Q Okay. Thank you. And the Respondents questioned you about

1 the factual and substantial errors you had believed to occur  
2 in the permit denial. Now, what are those factual and  
3 substantial errors that you believe has occurred?

4 A One factual error was when Ms. Schmidt characterized this as  
5 all loose, unconsolidated, fine, organic material. Clearly  
6 it is not. One is when Mr. Lehman said there is seven feet  
7 of mud in front of lot 8. Clearly there is not.

8 Q I'm sorry. Who said seven feet of mud?

9 A I'm sorry. John Arevalo. I'm sorry. John Arevalo, in a  
10 letter, wrote back that there is seven feet of mud there and  
11 he simply confused the data. He added when he should have  
12 subtracted. I also thought their claim of a feasible and  
13 prudent alternative was speculation, not a finding, because  
14 we could not find any kind of feasible let alone prudent  
15 alternative for swimming.

16 Q Thank you. And you --

17 A When I tried to discuss that with Mr. Arevalo, the answer I  
18 got is, "I'm not going to argue with you."

19 Q Okay. And can you describe more precisely what you mean  
20 that the qualities are no different 500 feet out than they  
21 are 100 feet out?

22 A By that I meant that the bottom -- to hard bottom, was  
23 approximately the same depth and the range of six to eight  
24 feet -- it's not monotonic. It's not absolutely flat. It  
25 goes up. It goes down. And depending on exactly where you

1 measure you get a little more or less depth to hard bottom.  
2 And as we observed qualitatively, the depth from the top of  
3 the water to the start of the silt did not change  
4 dramatically, but we did not attempt to measure that  
5 accurately.

6 Q Okay. And, Dr. Evans, would you let any of your children or  
7 grandchildren swim lakeward of lot 8 in its current  
8 condition?

9 A Not a chance. Nor would I myself.

10 MR. HOFFER: Okay. Your Honor, we're all set.

11 MR. REICHEL: Nothing further.

12 JUDGE PATTERSON: Okay. Thank you, Dr. Evans.

13 MR. HOFFER: Your Honor, we'd call Dr. John T.  
14 Lehman.

15 JUDGE PATTERSON: Okay.

16 REPORTER: Do you solemnly swear or affirm the  
17 testimony you're about to give will be the whole truth?

18 DR. LEHMAN: I do.

19 JOHN T. LEHMAN, Ph.D.

20 having been called by the Petitioner and sworn:

21 DIRECT EXAMINATION

22 BY MR. SHAFER:

23 Q Could you state your name for the record and spell your last  
24 name?

25 A Okay. My full name is John Theodore Lehman, L-e-h-m-a-n.

1 Q And where are you currently employed?

2 A At the University of Michigan, Ann Arbor.

3 Q And what are you employed as?

4 A I'm a professor.

5 Q What is your highest degree?

6 A Ph.D.

7 Q And what did you get your Ph.D. in?

8 A Zoology.

9 Q And where did you get that?

10 A At the University of Washington in Seattle.

11 Q Doctor, if you could take a look at Exhibit 1 of the big  
12 packet there?

13 A Yes.

14 Q Is that 22-page document a copy of your current Curriculum  
15 Vitae?

16 A It was a copy of my Curriculum Vitae as of August. There's  
17 been a couple of additional publications that would need to  
18 be listed.

19 Q Okay. And does that generally -- does Exhibit 1 generally  
20 reflect your education, experience and training?

21 A Yes, it's accurate.

22 Q Okay. What are your general areas of training or what areas  
23 have you generally been trained in? Let me phrase it that  
24 way.

25 A All right. I've been trained in biology, zoology, ecology,

1 evolution, oceanography and especially limnology.

2 Q And what is limnology?

3 A Limnology is like the oceanography of inland waters. It's  
4 sort of the study of the physical, chemical, biological,  
5 geological features of inland freshwater and saltwater lakes  
6 and ponds.

7 Q And do you teach -- particularly in limnology, do you teach  
8 courses in that discipline at University of Michigan?

9 A Yes, certainly I've taught in that area for 30 years. I'm  
10 teaching limnology this coming winter term. It's a course  
11 that I teach to upper division undergraduates, juniors,  
12 seniors and also to graduate students.

13 Q And have you also published articles in regard to limnology?

14 A Certainly.

15 Q And have you also published articles in regard to general  
16 inland lake ecology?

17 A Certainly.

18 Q Do you have any idea of how many articles on inland lake  
19 ecology you have published over your term?

20 A In excess of 100.

21 Q Now, in addition to your training, do you have certain  
22 experiences that you have undergone in regard to these  
23 disciplines we've talked about; lake ecology, evolution,  
24 oceanography and limnology?

25 A Well, certainly. I published work in US and international



1 journals pertaining to things like nutrient dynamics, to  
2 food web structure, mathematical modeling, nutrient  
3 dynamics, lake trophic condition. I've done extensive work  
4 on the Great Lakes of North America and also east Africa  
5 spending over 300 days at sea on Erie, Huron, Superior,  
6 Michigan, Lakes Victoria, Edward and Albert in east Africa.

7 Q When you talked about lake trophic conditions, what does  
8 that mean for those of us who wear green and white rather  
9 than maize and blue?

10 A Yes, certainly. Actually, they know over at MSU, too. It  
11 comes from the Greek word "trophos" which means to feed.  
12 And so what it has to do with is the feeding relations  
13 within a food web; who eats whom and so forth.

14 MR. SHAFER: Your Honor, I've reviewed your  
15 transcript in Tom's Bay, that's my only familiarity with  
16 you, and I don't know if you actually want me to move him as  
17 an expert or you heard his credentials, you have his CV,  
18 it's admitted in and you want me to just move on?

19 JUDGE PATTERSON: It's up to you. If you want to  
20 qualify him, you can do that.

21 MR. SHAFER: Sure. I'd move for the admission of  
22 Dr. Lehman as an expert in zoology, ecology, lake ecology,  
23 evolution, oceanography and limnology.

24 JUDGE PATTERSON: Any voir dire questions?

25 MR. REICHEL: No, no voir dire. We will stipulate

1 to Dr. Lehman's extensive credentials and expertise in  
2 zoology and limnology. I don't know that oceanography has  
3 any particular bearing on this case. But he's obviously a  
4 well-qualified expert in zoology, ecology and limnology and  
5 well-known in the disciplines. So we would stipulate to  
6 that.

7 MR. PHELPS: We have no objection.

8 JUDGE PATTERSON: All right. No objection, he  
9 will be qualified as proffered.

10 MR. SHAFER: Thank you, your Honor.

11 Q Have you been qualified as an -- well, let me ask you this:  
12 Have you been qualified as an expert in other matters  
13 concerning limnology, for example?

14 A Things having to do with sort of court system generally, is  
15 that what you mean?

16 Q Correct.

17 A Yes.

18 Q And on how many occasions?

19 A On two occasions that I recall.

20 Q And who did you testify on behalf of?

21 A The first case was before an administrative law judge, Judge  
22 Lacasse here in Lansing, and it pertained to a case that was  
23 brought by the Township of Hamburg against City of Brighton  
24 and the DEQ. And in that case, I testified on behalf of  
25 Brighton and the DEQ.

1 Q Have you testified on behalf of the DEQ in any other  
2 matters?

3 A Yes. Another case was in the Manistee County Circuit Court.  
4 The instance was Arcadia Bluffs erosion case on the shore of  
5 Lake Michigan.

6 Q Now, Doctor, what were you asked to do in regard to this  
7 particular case?

8 A Well, I was asked to determine whether or not in my  
9 professional judgment there would be any ecological or  
10 limnological problems resulting to Missaukee Lake in case  
11 there was some hydraulic dredging to produce a dock for both  
12 boating and swimming.

13 Q And were you provided certain materials in regard to what  
14 you were asked to do?

15 A Yes.

16 Q And I guess maybe I should back up and just say, who was it  
17 that contacted you?

18 A I was contacted by Dr. Thomas Evans.

19 Q Okay. And what materials were provided to you, if you can  
20 recall?

21 A Over the span of several weeks and months, I was provided  
22 with quite a number of documents. These included a 1999  
23 report about a lake assessment for Lake Missaukee that was  
24 produced by, I think, a J & L Consulting Service; a series  
25 of e-mails, letters or correspondence between DEQ or DNR

1 officials and a Mr. Dale Boughner. There may have been some  
2 other correspondence between DEQ officials and others. I  
3 also reviewed two reports that were written by a Mr. Eugene  
4 Jaworski, one of them dated October of 2007, one of them  
5 dated November of 2007. I saw a report about lake  
6 assessments in general that mentioned Lake Missaukee in its  
7 title by a Mr. Richard P. O'Neal. I looked at some EPA  
8 archival data about Lake Missaukee. I looked at water  
9 quality reports that were posted to a Missaukee Lakes  
10 Association website that had been produced by something that  
11 was called, I think, Professional Lake Management. I also  
12 reviewed some original data and original results that I've  
13 generated.

14 Q Okay. And we're going to get to that. Did you make any  
15 site inspection of what -- you've listened to the testimony,  
16 what we've referred to as lot 8?

17 A Yes, I did.

18 Q And when was that, if you can recall?

19 A That was on the 20th of July, 2007.

20 Q And who were you with, if anyone?

21 A I was with Dr. Evans and I also made the visit to the site  
22 with my wife and research associate, Donna Lehman.

23 Q Okay. As the result of your work for this matter, have you  
24 generated some reports?

25 A Yes, I have.

1 Q And if you would, take a look at Exhibits 2 and 3 of the big  
2 binder.

3 A Yes.

4 Q Are those your reports?

5 A Yes, they are.

6 Q And in the first report -- I guess I'm looking through your  
7 CV, that's why I'm not finding it. On page 4, there's some  
8 photos there.

9 A Yes.

10 Q Did you take those?

11 A Yes, I did.

12 MR. SHAFER: I think we have an overhead of that  
13 as well. It's already in evidence.

14 Q Is that (indicating) one of the photos, Doctor?

15 A Yes, it is.

16 Q And you took that?

17 A Yes.

18 Q And what is that photo of?

19 A I was standing on the solid ground of what I understand is  
20 described as lot 8. And I was looking lakeward from that  
21 site as I took that photo.

22 Q Okay. You see a pole there about mid-height, but about  
23 three-quarters of the way to the right?

24 A Yes.

25 Q Do you understand what the significance of that pole is?

1 A Not exactly.

2 Q Okay. The second picture, what is that of?

3 A That is a view to the north from what has been described as  
4 lot 8 where I actually was probably not standing on lot 8  
5 land any longer. But this is to the north, I would say no  
6 more than, say, 100 to 150 feet from the previous photo.

7 Q Okay. And you understood that there was a proposed dredging  
8 project on lot 8; correct?

9 A Yes.

10 Q And what were your observations in regard to the proposed  
11 dredging site?

12 A Well, the site itself, I mean, the nature of the bottom  
13 material was -- I think it's been described as "muck" and  
14 that's probably an accurate characterization. It's the kind  
15 of material that would rapidly engulf any kind of a, you  
16 know, hopeful swimmer or kind of a wandering child. I  
17 ventured out into it wearing my boots and they became  
18 ensnared in the mud and it was a bit of a trial to pull them  
19 out. I couldn't imagine anybody actually venturing out  
20 there for recreation.

21 Q Did you make any calculations or measurements while you were  
22 there?

23 A I made some measurements, certainly.

24 Q And what type of measurements did you make?

25 A All right. In addition to stepping out into the muck, Dr.

1 Evans and I also pushed off in one of those -- in the  
2 flat-bottom boat that was figured in the previous image.  
3 And he held the boat in position using a long pole while I  
4 took some physical, chemical measurements of the water  
5 column. Those included temperature, dissolved oxygen, pH.  
6 I also obtained water samples at three sites of varying  
7 distance from the shore. I returned those samples to the  
8 laboratory and performed a variety of analyses on them.

9 Q Okay. Let me stop you right there.

10 A All right. Okay.

11 Q Let me ask you, for example, in regard to the water  
12 temperature, dissolved oxygen and pH, why did you take those  
13 measurements?

14 A Well, those are essential starting points for most  
15 limnological investigations, to start to characterize the  
16 nature of the water quality that you are going to  
17 investigate.

18 Q Okay. And what was the purpose for taking the water  
19 samples?

20 A That was to ascertain the characteristics of water quality  
21 so that I could have a framework to assess what might be the  
22 potential impact of the proposed project.

23 Q Okay. So you -- was there anything else that you did out  
24 there at the time that we haven't already covered? Because  
25 we'll get to your laboratory in a minute. But I just want

1 to make sure -- did I miss anything that you did while you  
2 were out there?

3 A I also collected some mud samples. I had along a device  
4 that's called a "Ponar Dredge" or "Ponar Grab." And I took  
5 two replicate surficial sediment collections from each of  
6 the three sites that I previously described to you. And I  
7 returned those to my laboratory as well.

8 Q And was it your understanding where you were taking these  
9 samples from, that was in the proposed dredge area?

10 A Yes, that was my understanding.

11 Q Okay. So then you got back to the laboratory and what, if  
12 any, experiments or analyses did you undertake?

13 A I performed some additional measurements on the water. I  
14 measured its specific conductance, for one. I then  
15 performed chemical measurements to determine total  
16 phosphorus, dissolved phosphorus -- it's called "soluble  
17 reactive phosphorus." I measured nitrate. I measured total  
18 dissolved nitrogen. I measured total particulate nitrogen.  
19 I measured soluble reactive silica. I measured chloride. I  
20 measured bicarbonate. And I also made some inspections and  
21 measurements of the sediment samples.

22 Q Okay. Doctor, all these analyses that you undertook, are  
23 those type of analyses that people in your profession and  
24 occupation would conduct in order to determine whether there  
25 would be a material ecological impact upon, for example,



1 here a dredging project?

2 A I think that it would go beyond just a question of a  
3 dredging project. It has to do with the nature of the water  
4 quality properties themselves and potential to grow algae,  
5 potential to experience different types of chemical  
6 perturbation and have different kinds of reactions. I guess  
7 I should also mention that in the field I measured water  
8 transparency.

9 Q I'm sorry. I didn't hear all that.

10 A In the field, I measured water transparency.

11 Q Okay. And what was the purpose of that?

12 A That was to determine how transparent the water was and how  
13 far I could see down into the water.

14 Q All right.

15 JUDGE PATTERSON: Secchi disk?

16 THE WITNESS: I used a Secchi disk. But in point  
17 of fact, the Secchi disk was visible all the way down to the  
18 sediment surface. So the surficial sediment was visible.

19 Q And I take it you then committed your results to writing?

20 A Yes.

21 Q And that is what we see as Exhibits 2 and 3; is that  
22 correct?

23 A That is correct.

24 Q All right. Now let's take a -- let's talk about the water  
25 quality for a moment. What was the purpose of making an

1 examination of the water quality?

2 A One of the things that I wanted to find out was whether or  
3 not the lake would be potentially susceptible to nuisance  
4 blooms of blue-green algae in particular. I wanted to find  
5 out what its potential might be to support biological  
6 productivity of phyto- -- of algae in general and to -- that  
7 probably covers it.

8 Q Okay. Why is the potential blooms of blue-green algae  
9 important in this particular instance?

10 A At the point when I was enlisted to conduct these -- this  
11 assessment, the argument had been raised that opposing  
12 parties were claiming that this dredging operation would  
13 unleash a torrent of ecological woes on Missaukee Lake and  
14 that among these would be a reduction of water transparency,  
15 a release of plant fertilizing nutrients into the water that  
16 could provoke outbreaks of nuisance algae blooms and I  
17 wanted to determine if that -- if there was any credibility  
18 to that claim.

19 Q Okay. And so what did you do in regard to your water  
20 quality analysis? How did you perform that?

21 A You want to know the methods?

22 Q Well, just a short synopsis maybe.

23 A Okay. For measuring total phosphorous, for example, I take  
24 a brown water sample, meaning an unfiltered water sample,  
25 and I add to it a strong oxidant called "potassium

1 persulfate." I then digest that sample at a elevated  
2 temperature of 108 degrees for two hours at which point all  
3 of the phosphorus that might be present in organic forms  
4 like DNA or, you know, other organic forms of phosphorus are  
5 all completely oxidized and reduced to orthophosphate, a  
6 form of phosphorus that's very easily measurable. That's  
7 one example.

8 Q And is that a type of experiment that is appropriate in your  
9 profession to try to measure water quality?

10 A Certainly. We do it all the time.

11 Q And what did the results of your testing lead you to  
12 conclude?

13 A Well, specifically with respect to the potential for Lake  
14 Missaukee to develop nuisance blooms of blue-green algae, I  
15 determined that it was extremely unlikely. The ratio of the  
16 total nitrogen to total phosphorus in that lake is way out  
17 of the danger zone -- it might be called.

18 Q Okay. Did you make specific examinations of the sediment  
19 characteristics?

20 A Yes, I did.

21 Q And what did you do?

22 A Well, first I took those fresh samples that I brought back  
23 to my laboratory and I took subsamples out of them, placed  
24 them in a petri dish under a Vill dissecting microscope and  
25 I examined them at probably 50X magnification. I was

1 looking through it to see what the general nature of the  
2 substrate looked like. So I could see fibrous plant  
3 material. I could see clear quartz grains. I did not see  
4 any macroinvertebrates; any large worms, insect larvae,  
5 mollusks at that time. And I'll explain later that I  
6 subsequently went through that sample very -- all of those  
7 samples methodically looking for the presence of enclosed  
8 macroinvertebrates.

9 Q Okay. Why is that important for the conclusions you were  
10 asked to consider in this matter?

11 A Well, one of the things that was alleged to me that was  
12 being argued was that there might be a vibrant biological  
13 community at that site which was somehow going to be  
14 displaced or destroyed as a result of the dredging activity.  
15 So naturally I wanted to find out whether there was such a  
16 community.

17 Q And would these macroinvertebrates be kind of like the lower  
18 end of the food chain?

19 A Well, they would be an end -- a point in the food chain that  
20 might serve as forage for fish. They certainly feed on  
21 other things themselves. They don't make their own food.

22 Q Okay. Was there anything else you were specifically looking  
23 for, any other specific reasons why you did the sediment  
24 characteristic analysis?

25 A Well, I also -- okay. Now, visual inspection is one thing

1 and then there's also chemical inspection. And so one of  
2 the other things that I did was, in terms of determining  
3 what its physical and chemical characteristics were, I took  
4 those sediment samples or subsamples of them. I weighed  
5 them fresh and wet and then I dried them to a constant  
6 weight in what's called a "drying oven" at 60 degrees  
7 Celsius, determined what the water content was by the loss  
8 of weight. Then I took the dried samples, I pulverized them  
9 with a mortar and pestle and took some of that and  
10 incinerated it at 550 degrees Celsius to incinerate all of  
11 the organic matter. And, again, I determined how much  
12 organic matter content there was by the loss of weight  
13 between pre-action and post-action.

14 Q And why is that important in regard to what you were  
15 attempting to examine in this matter?

16 A Well, there was -- part of the question was to find out how  
17 much inorganic versus organic material might be in the  
18 sediments, what its water content was so that I could find  
19 out how well the water was basically intimate -- whether it  
20 was intimately associated with the sediments or not. And  
21 ultimately, to make some assessment of the phosphorus  
22 content and the likelihood the phosphorous could leach out  
23 of the sediment into the lake water.

24 Q Okay. And why was that analysis of whether phosphorous  
25 could leach out, why was that important to you in this

1 matter?

2 A Initially I didn't consider that it would be the first thing  
3 that I would target until I started to see some additional  
4 documents being produced by the opposing party that said,  
5 "Oh, there could be vast amounts of phosphorous coming out  
6 if this sediment is disturbed" and I just couldn't believe  
7 it. So I decided the best way to do that is to perform the  
8 measurements and experiments to find out.

9 Q Okay. Now, as a result of all -- did we go through all of  
10 the experiments and analyses you did in the laboratory or  
11 did I miss some?

12 A I don't think I described -- I described how I measured the  
13 phosphorous in the lake water. And to measure the total  
14 phosphorous content in the mud, it's the exact same  
15 digestion. I just used a higher concentration of the  
16 oxidant and a longer oxidation time. I also did not  
17 describe how I checked for leachate or phosphate from the  
18 sediment. What I did there was I took some of the dried  
19 sediment, known quantity, known weight, put it into test  
20 tubes with filtered Missaukee Lake water with known  
21 phosphorous content and I shook that for a -- at a --  
22 mechanically shaken for 48 hours and then I ascertained how  
23 much phosphate had entered the water from the sediment.

24 Q Okay. Was there also something you did referred to as a  
25 "sink rate analysis"?

1 A Yes; yes. That's good. It's in my report and I'm sorry if  
2 I --

3 Q All right. Why don't you explain to the judge -- although  
4 he probably well knows what that is, but why don't you  
5 explain to the judge for the record what that is.

6 A Okay. This is a means of determining what the average  
7 sinking rate is of particulate material. So in this case,  
8 the particulate material was going to be the sediment from  
9 Lake Missaukee. So what I did was I took a known quantity,  
10 a measured quantity of that sediment. I suspended it in  
11 Lake Missaukee water, a known volume of that, placed it in a  
12 graduated cylinder that's not unlike the acrylic cylinder  
13 that we see against the window. In this case, there was no  
14 head space; in other words, there was no air space; so it  
15 was stoppered at the top. The entire apparatus was placed  
16 inside a water bath so it would be at constant temperature  
17 during experiment and I let the experiment run for one hour.

18 At the end of that time, I drew off the top layer  
19 with a peristaltic pump very gently so I couldn't disturb  
20 anything below it. Then I drew off a middle layer, again,  
21 very gently so I didn't disturb what was below it. And then  
22 finally I decanted the bottom layer which had -- I mean, the  
23 vast bulk of all the sediment was down there just as the  
24 case here. And I then weighed the amount of sediment that  
25 was in each one of those layers by filtering them through

1 filters that had been pre-weighed; in other words, they're  
2 called tared filters; and dried them and then I was able to  
3 ascertain how much phosphorous -- or how much sediment was  
4 there. Then I used a technique that had been developed by a  
5 scientist named Paul Bienfang to ascertain the average  
6 sinking rate in meters per day or feet per day of those  
7 particles.

8 Q And what does the sink rate tell you or what would it tell  
9 you in this case?

10 A Well, what it told me in this case is that the particles  
11 from the part of Lake Missaukee which was at issue here for  
12 the dredging site have a settling rate of 25 feet per day,  
13 7.6 meters a day. And that they will not stay suspended in  
14 the water column for extended periods of time. You get to  
15 the motivation of that experiment -- again, it was this  
16 claim that I had determined that there would somehow be  
17 persistent turbidity plumes that would result in the lake  
18 and spread far and wide as the result of this dredging  
19 activity.

20 Q Okay. Based upon your analyses and observations, what  
21 conclusions were you able to reach?

22 A With regard to what? To what?

23 Q Well, let's first talk about -- and I guess you dealt with  
24 it a little bit, but in regard to the sinking rate.

25 A Okay. In regard to the sinking rate, I feel that any



1 concerns that there would be persistent turbidity plumes as  
2 a result of this activity are unwarranted and unjustified.

3 Q Okay. So the sediment would basically settle to the bottom  
4 of the lake reasonably quickly?

5 A Certainly any that is released. And I'm not certain there  
6 would be a lot that would be released by the -- you know,  
7 according to the mechanism that had been described.

8 Q Okay. Now, you -- you were talking about earlier that --  
9 you wanted to get back to it but you were talking about the  
10 fact that you did not find any small invertebrates?

11 A That's correct.

12 Q And what else did you do in order to examine that?

13 A At the point when I felt that I had made enough chemical  
14 measurements of those Ponar Dredge samples that I had  
15 collected, I decided to examine the whole thing. And I did  
16 this by passing the mud and washing that mud through a  
17 grated series of brass mesh screens, one of which was about  
18 1 millimeter in aperture size and the other one was smaller  
19 than that, close to a half millimeter in size. And I did  
20 that. This is a standard way of looking for what we call  
21 "macrobenthos-" -- macroinvertebrates. And I couldn't find  
22 a single one. I could not find a single animal -- I mean,  
23 in those six samples that I had collected.

24 Q And why are those findings important to you in regard to the  
25 work you were asked to do in this matter?

1 A Well, I was asked to figure out if this was going to have a  
2 significant ecological effect on the communities of the lake  
3 or on the lake ecosystem. And one possibility would be that  
4 it could remove an important forage source for fish, but  
5 there's nothing there.

6 Q Okay. In regard to -- I want to back up a little bit. But  
7 in regard to your physical review of the site of lot 8, did  
8 you reach any conclusions in regard to the ability to swim  
9 in that area?

10 A Oh, certainly. I think it's impossible. I don't think it's  
11 possible to probably wade in that area.

12 Q That was going to be my next question. What about -- did  
13 you reach any conclusions in regard to whether the lake  
14 could be accessed by a power boat from that area right in  
15 front of lot 8?

16 A No, there's no possibility of ordinary boat access other  
17 than the heroic methods of dragging these things -- you  
18 know, pushing them with poles that we had to resort to.

19 Q Did you reach any conclusions as to whether there would be  
20 any comfortable, convenient or safe way to dock a boat there  
21 at present?

22 A Yes, I did come to a conclusion, yeah.

23 Q And what is your conclusion?

24 A No, under the current condition there's no possible way.

25 Q Okay. Did you reach any conclusions as to whether the --

1 we're using the word "muck" here -- accretions would be  
2 another scientific term?

3 A Certainly.

4 Q Okay. Did you reach any conclusions as to whether the  
5 accretions were natural or unnatural development?

6 A Oh, those are -- okay. Yes, I did. Yes, I can elaborate.

7 Q Elaborate, please.

8 A Okay. The accretions are the fibrous remains of terrestrial  
9 and aquatic vascular plants meaning angiosperms, flowering  
10 plants basically. And so they're somewhat -- you might call  
11 them peaty in nature. And they're definitely natural.  
12 They're a natural accretion. They're part of the way that  
13 lakes fill in -- and we talk about the senescence of lakes.  
14 This is one of the things that destroys lakes or makes them  
15 go away.

16 Q Okay. You're familiar with the term -- if I'm pronouncing  
17 this correctly -- "lake eutrophication"?

18 A Eutrophication. That's correct.

19 Q Okay. And what exactly is that?

20 A It's a term that has had an evolving history. It was  
21 probably introduced about the 1940's. It wouldn't be good  
22 to use the Greek origins because it's a little misleading.  
23 But what it was originally meant to represent was the aging  
24 process of lakes. Imagine that lakes might start off their  
25 life as a lake as deep, clear water bodies and that they'd

1 fill up over time. And as they filled up, they'd become  
2 gradually more biologically productive. That term  
3 "eutrophication" was then modified by a phrase called  
4 "cultural eutrophication" to indicate that humans might have  
5 the ability to accelerate that aging process for lakes. And  
6 a lot of times in the modern literature, you'll just find  
7 the word "eutrophication" being used in lieu of "cultural  
8 eutrophication."

9 Q So like, for example, fertilizers, that's one of the  
10 concerns, is it not?

11 A Yes.

12 Q Okay. And are you also familiar with the term "lake  
13 succession"?

14 A Yes.

15 Q And what does that mean?

16 A When it was originally introduced, it was tied in with this  
17 concept of eutrophication; that somehow, over time, lakes  
18 either drain away or they fill in and they cease to be  
19 lakes. They become meadows or something.

20 Q Okay. Are the accretions that you saw in front of lot 8 a  
21 form of or an aspect of lake succession?

22 A Yes.

23 Q Based upon all of your analyses -- and I'm going to get back  
24 to a couple of them in a minute, but based upon all your  
25 analyses, were you able to reach any conclusions as to

1           whether this proposed dredging project would have any  
2           demonstrable impact of any natural resources of note in Lake  
3           Missaukee?

4       A     Yeah, I was able to draw a conclusion.

5       Q     And what conclusion did you reach?

6       A     I concluded that it would have minimal effect, unmeasurable  
7           effect.

8       Q     And I don't know if we talked about this or part of your  
9           testimony was relating to this, but did you make a sediment  
10          core analysis?

11      A     I did using a core that was provided to me by Dr. Evans.

12      Q     Okay. And what was the purpose of making that examination?

13      A     Well, sediment cores are the best way to retrieve an intact  
14          profile of the extant lake sediment retaining its  
15          stratigraphy, meaning whatever sequence of layers there may  
16          be. And so in that respect, they're superior to the Ponar  
17          Dredge when one is interested in the vertical profile of the  
18          sediment. And consequently, I wanted to examine whether or  
19          not there was a considerable difference as you move  
20          vertically down through the sediment.

21      Q     Do you know when you received that sample?

22      A     I received it on the 20th of July 2007.

23      Q     And what form was it in at the time? If you could just  
24          describe what was handed to you?

25      A     It was an acrylic tube that was somewhat shorter than that

1 (indicating) one. It didn't have the air head space in it.  
2 And it was securely stoppered at both ends. And, you know,  
3 the sediment was present. It looked like there was sand at  
4 the bottom and there was an intact sediment/water interface.

5 Q Okay. And what did you do with that core sample?

6 A I returned it to the laboratory and I extruded it. Now,  
7 what that means is I used a mechanical piston to push up  
8 from the bottom. And as the sediment was emerging from the  
9 top of the core, I would slice it off at 2.5 centimeter  
10 intervals which was basically 1 inch intervals. And then  
11 each of those intervals -- sections became a target for  
12 subsequent analytical measurements.

13 Q All right. And what were the type of measurements that you  
14 made after that?

15 A Well, I measured the fresh weight, the dry weight, the ash  
16 weight as I had with my Ponar samples. I also subsequently  
17 measured the top three sections for their phosphorous  
18 content.

19 Q Okay. And are the results of those analyses contained in  
20 your reports?

21 A Everything except the phosphorous measurements which I did  
22 much later.

23 Q Okay. And what were your findings with regard to this core  
24 sample analysis?

25 A Well, I determined that the water content was -- it's in my

1 report, but, let's say, perhaps, on the order of 80 percent  
2 in the upper part of the core. After we got down -- the  
3 surficial sediments were pretty organic and somewhat peaty,  
4 perhaps 50 or more percent organic matter by dry weight.  
5 The lower two segments, basically like the 13th and 14th  
6 inch down in the core were sandy, very low organic content.

7 Q And what does all that tell you in regard to what you were  
8 asked to examine in this matter?

9 A Well, for one thing, the high water content of both those --  
10 the surface -- surficial sediments and what I collected by  
11 Ponar tells me that the lake water is in really intimate  
12 contact with that surficial sediment. And that's relevant  
13 in terms of the potential for that to have already been  
14 leached of any easily removable nutrients.

15 Q Doctor, did you also -- I think you testified about this to  
16 an extent, but did you also make an analysis as to the  
17 percentage of water in the sediment?

18 A Yes, certainly. I was trying to allude to that right then.  
19 So the difference between the fresh wet weight and the dry  
20 weight is what happens when the water is driven off. And so  
21 I determined that some of that surficial sediment from the  
22 Ponar samples might be 90 percent water.

23 Q Okay. Were you able to determine how far out in Lake  
24 Missaukee one would have to go to swim or wade?

25 A No, I didn't even try.

1 Q Based upon your observations and analysis, are there any  
2 remarkable, physical, chemical or biological characteristics  
3 of the site that would make the proposed dredging project  
4 contraindicated?

5 A No.

6 Q Were you able to -- when you looked at -- did you look at  
7 vegetation as well in this area?

8 A Yes, I did.

9 Q And did you compare the area of vegetation at lot 8 in  
10 relation to the lots directly adjacent to it?

11 A Certainly.

12 Q And what were your observations?

13 A The observation is that the aquatic macrophytes, the large  
14 plant aquatic vegetation, is really in low abundance and low  
15 species richness in that site compared to the surrounding  
16 areas.

17 Q Okay. And what is the importance of vegetation in regard to  
18 the ecology of the lake?

19 A Well, one of the things that can happen with these floating  
20 and emergent aquatic vegetation is that some aquatic  
21 invertebrates might use them as a site to either attach  
22 themselves or something and potentially that could provide  
23 some forage for fish. And also the structural -- the  
24 three-dimensional structure of these macrophytes could also  
25 provide some kind of a habitat complexity. And in that



1           respect, this site was weak compared to everything around  
2           it.

3       Q     Okay.  And I'm just surmising, but would it be a fair  
4           characterization then to say that that would be -- in front  
5           of lot 8 would be a poor area for fish foraging as opposed  
6           to other adjoining areas?

7       A     That's absolutely true.

8       Q     Okay.  What about fish spawning?  Were you able to make any  
9           observations as to whether this area would be a likely area  
10          for fish spawning?

11      A     Yes.  I made observations and I have some opinions about  
12          that.

13      Q     Okay.  What are your opinions?  Well, let me first ask you  
14          what your observations were.

15      A     Well, my observation is that this type of a mucky surface is  
16          a terrible place for most fish to spawn.  And I would regard  
17          that as a poor habitat site for spawning.

18      Q     Okay.  Based upon your knowledge, what type of areas do the  
19          type of fish that are in this lake generally prefer for  
20          spawning?

21      A     Well, some of the things that are -- like bluegill and their  
22          ilk -- some panfishes will use either harder or sandy  
23          bottoms that they tend to nest -- will -- well and try to  
24          remove any kind of flocculent debris from them.  So, you  
25          know, bare, sandy bottom, maybe a little gravel --

1 Q Okay. Based upon your observations and analysis, do you  
2 have an opinion as to whether there are any natural -- oh, I  
3 think I might have asked you this, any natural resources of  
4 note that would be impaired or destroyed by conducting the  
5 dredging project and installing the proposed dock on the  
6 subject property?

7 A I saw none.

8 Q Okay. Based upon your observations and analysis, do you  
9 have an opinion as to whether the proposed dredging would  
10 disrupt the Lake Missaukee ecosystem in any discernible way?

11 A I certainly have an opinion.

12 Q What is your opinion?

13 A It will not.

14 Q You have seen some -- I don't know if I'd call them  
15 "reports," but some letters from Mr. O'Neal?

16 A Yes.

17 Q Okay. Do you have -- based upon your observations and  
18 analysis, do you have any opinions as to the validity of his  
19 opinion that the sediments from the proposed dredging  
20 project will not readily settle?

21 A Oh, yeah, I have an opinion.

22 Q And what is your opinion?

23 A That his opinion is unwarranted based on experimental  
24 evidence.

25 Q Based upon your work in this matter as well as your

1 education, training and experience, do you have an opinion  
2 as to whether the requested dredging permit would be  
3 consistent with the public trust?

4 MR. REICHEL: Objection; lack of foundation for  
5 this witness to testify how a conclusion is with respect to  
6 the public trust -- although he undoubtedly has eminent  
7 qualifications in biology and zoology, he has no particular  
8 basis for opining with respect to the public trust as I can  
9 discern from his report, other than simply reading the  
10 definition, which anyone, including this tribunal, could do.  
11 So there's not any particular -- there's no foundation for  
12 any expert opinion on that subject.

13 JUDGE PATTERSON: Mr. Shafer?

14 MR. SHAFER: Let me just -- I'll split out the  
15 question in a number of different ways. Okay?

16 JUDGE PATTERSON: All right.

17 MR. SHAFER: So we'll just do this a little bit  
18 longer.

19 Q Based upon your work in this matter, Doctor, do you have an  
20 opinion as to whether riparian rights of owners along Lake  
21 Missaukee would be negatively affected?

22 A I see no negative effects to anyone's riparian rights.

23 Q Okay. Based upon your work in this matter, do you have an  
24 opinion as to whether the recreation of the lake -- or the  
25 recreation that goes on in the lake would in any way be

1 negatively affected?

2 A I have an opinion and I see no negative effect on  
3 recreation.

4 Q Based upon your work in this matter, do you have an opinion  
5 as to whether the proposed dredging project would have a  
6 negative effect on the fish and wildlife in Lake Missaukee?

7 A Yes, I have an opinion and I don't see any negative effect  
8 on fish and wildlife.

9 Q Based upon your work in this matter, do you have an opinion  
10 as to whether this proposed dredging project would affect  
11 the aesthetics of the lake in any manner?

12 A Yes, I mean, from my point of view, these are personal  
13 subjective things and, no, I don't see that it harms the  
14 aesthetics.

15 Q Okay. Are you aware of any agricultural matters that might  
16 be impacted upon with regard to this dredging project?

17 A I'm not aware of any.

18 Q Are you aware of any commerce that might be impacted?

19 A Not aware of any.

20 Q Are you aware of any industry that might be impacted?

21 A Not aware of any.

22 Q Are you aware of any local government that would be  
23 negatively impacted?

24 A Not aware of any.

25 Q I just want to finish up, Doctor, with one area and that

1           dealt with the phosphorous analysis.

2       A     Okay.

3       Q     And that was in regard to the materials that Mr. Jaworksi --

4           that were presented relating to Mr. Jaworski; is that

5           correct?

6       A     That's correct.

7       Q     And I guess just in case we didn't cover it completely

8           before -- but do you have any opinions in regard to the

9           concerns Mr. Jaworski registered in regard to -- what was

10          it? -- phosphorous leaching out?

11      A     Yes.

12      Q     Okay. And what is your opinion?

13      A     I think it's ridiculous.

14      Q     Now, you're aware that he relied upon a couple of articles?

15      A     I know that he cited one.

16      Q     Okay. And have you reviewed that article?

17      A     Certainly.

18      Q     And do you believe that that article is applicable to the

19          circumstances in regard to Lake Missaukee?

20      A     In no way that I can imagine.

21      Q     Okay. Could you explain to the judge why?

22      A     The article that was cited was one by a scientist named -- I

23          think it's Gainswin. It was published in a journal called,

24          The Science of the Total Environment. And it's one of two

25          companion articles by the same set of authors in the same

1 issue of that journal. It pertains to some investigations  
2 of sediments that were collected from a British river called  
3 the River Tame, T-a-m-e, not the Thames. This is a river  
4 that flows through Birmingham in the UK which has been the  
5 industrial heartland of the UK for two centuries and it's  
6 just notoriously polluted. It's still subjected to  
7 wastewater outfalls from secondary treatment sewage plants  
8 that don't have any phosphorous removal capabilities. And  
9 just as an example, the phosphorous content in that river  
10 water is between 1,000 and 10,000 times higher than the  
11 phosphate concentrations in Missaukee Lake. The  
12 experiments, I mean, just bear virtually no relationship  
13 that I can see to anything that might be relevant to the  
14 Missaukee Lake case.

15 Q And I take it even before this project, you've conducted  
16 research in regard to phosphorous release?

17 A Certainly, yes.

18 Q And you published -- have you published articles in that  
19 regard?

20 A Yes.

21 MR. SHAFER: One moment, your Honor?

22 JUDGE PATTERSON: Sure.

23 Q Doctor, do you have a general understanding -- well, let me  
24 ask you this: What is the flushing rate of a lake?

25 A The way it's typically defined is the amount of time that

1           you might imagine it would take from -- if a lake were  
2           either completely empty until it filled up or if it were  
3           full and it drained out if you didn't have any extra water  
4           coming in. So it's usually calculated as a ratio between  
5           the volume of the lake and either the inflow or the outflow.

6        Q     And do you have any information or opinion in regard to the  
7           flushing rate of Lake Missaukee?

8        A     I have some general ideas about what range it should lie in.

9        Q     Okay. And what range do you believe that is?

10       A     I think it should be on the order of two to three years.  
11       That's probably a maximum.

12       Q     All right. Let me ask you a couple last questions. What  
13       are calcium cations?

14       A     Calcium cation? Oh, I think cations.

15       Q     Okay. Cations.

16       A     Yes.

17       Q     I'm sorry.

18       A     Okay. Okay. This is, you know, this is the element  
19       calcium. And when it's dissolved in water and it's a free  
20       ion, it carries two positive charges with it.

21       Q     Okay. And what are orthophosphates?

22       A     Orthophosphates are inorganic forms of phosphorous.  
23       Basically the phosphorous is in the chemical form  $PO_4$ , for  
24       oxygen, with 4 oxygens associated with 1 phosphorous.

25       Q     Okay. And are you familiar with the interaction between

1 calcium cations and orthophosphates?

2 A Yes.

3 Q And how would you describe the assertion that calcium and  
4 phosphorous are likely to be coprecipitating in Lake  
5 Missaukee?

6 A I consider that very unlikely.

7 Q And why is that?

8 A Well, for one thing, there's not a lot of carbonate in the  
9 sediments of Lake Missaukee. And secondly, if there were,  
10 then an experiment that was designed to leach that phosphate  
11 from the sediment might be -- would be expected to produce  
12 some phosphate coming out into the lake water in solution.  
13 And that was not observed in my experiments.

14 Q Okay. Doctor, do you recall what the numerical results of  
15 your phosphorous analysis was?

16 A Which one?

17 Q The second one. The sediment.

18 A Sediments. Okay. I did two things. One is I looked at the  
19 total phosphorous content of that sediment; in other words,  
20 the total amount of phosphorous per gram dry weight. And  
21 the other thing I did was try to see if I could leach any  
22 phosphate out of that sediment into the lake water. Do you  
23 want to know them both?

24 Q Sure.

25 A Okay. No, Lake Missaukee surficial sediment contains 260



1 parts per million phosphorous; in other words, 260  
2 micrograms of phosphorous per gram of dry weight of that  
3 sediment. Of that, none of it is -- essentially none of it  
4 is leachable. It simply doesn't come out if it's suspended  
5 in lake water.

6 MR. SHAFER: That's all I've got, your Honor.

7 JUDGE PATTERSON: Anybody need a break other than  
8 me?

9 MR. PHELPS: Yes.

10 MR. SHAFER: Let's take one.

11 JUDGE PATTERSON: Okay. Let's take about 10  
12 minutes.

13 (Off the record)

14 JUDGE PATTERSON: Whenever you're ready.

15 MR. REICHEL: Yes, thank you. Dr. Lehman, as  
16 you've heard, my name is Robert Reichel. I'm an attorney  
17 for the DEQ in this matter.

18 THE WITNESS: How do you do.

19 CROSS-EXAMINATION

20 BY MR. REICHEL:

21 Q I'd like to follow up on some of the points you testified to  
22 on direct examination as well as some aspects of your  
23 report. One of the things that you testified about and  
24 described was collection of some samples at the site using  
25 what I believe you described as a Ponar sampling unit?

1 A Yes, P-o-n-a-r.

2 Q Correct. Could you describe more specifically how you  
3 deployed that unit? In other words, could you describe to  
4 the judge at what -- as I understand it, as a lay person,  
5 there is a method for tripping the device; is that correct?

6 A That's correct.

7 Q Okay. Could you describe precisely where at the sample  
8 locations, at what elevation or what point in the water  
9 column or above the sediments you deployed this device and  
10 the method you used to collect the samples?

11 A Certainly. Let me be as clear as possible. First of all,  
12 it's not a full-sized Ponar Dredge which would be difficult  
13 for me to manhandle. This is what's called a "petite  
14 Ponar," so it's lighter than some of the things that have to  
15 be operated from cranes. So I sat in the stern of the small  
16 craft that was being held in position by Dr. Evans. He had  
17 a long pole that he drove down into the sediments so the  
18 boat would not drift. And the Ponar sample -- let's be  
19 clear that we don't confuse it with another sampler which is  
20 called an "Ekman sampler." Ekman sampler has a trigger that  
21 would actually be released by dropping a messenger from the  
22 surface. A Ponar dredge will close itself -- it will  
23 release itself when the dredge which goes down in like an  
24 open clamshell position, rests on the sediment surface and  
25 then there is a release of tension that allows a spring to

1 kick a metal pin out of position and the clamshell can close  
2 on the sediment. So it does require that the Ponar come  
3 down and rest on the sediment surface.

4 Q Let me ask you, if you recall, at what elevation  
5 approximately above the sediment surface did you release  
6 this petite Ponar device?

7 A Well, I lowered it into the lake water from the boat. So --

8 Q To the surface of the water or to some depth or --

9 A At the surface of the water I lowered it. A Ponar Dredge  
10 goes down in an open position and will not close and collect  
11 a sediment sample until it comes in contact with the  
12 sediment and is actually applied to the sediment surface.

13 Q So if you recall, I mean, how many of these samples did you  
14 collect?

15 A I took at least six.

16 Q Three -- or six. Okay. But they were three samples?

17 A Three stations, two duplicates.

18 Q Okay. And I don't want to beat this to the ground, but I  
19 just want to be clear on your testimony.

20 A Right; sure.

21 Q So you had this sampling device, you lowered it over the  
22 side of the boat as you described?

23 A That's right.

24 Q And then you released it at the surface of the lake?

25 A It releases -- it trips itself when it comes in contact with

1 the bottom. If I had understood that this might be, you  
2 know, a point that's difficult to visualize, I could have  
3 brought a sampler, could have showed you what it is. When  
4 you lower it and there's tension on it between the weight of  
5 the sampler itself and the hand that's holding the line, the  
6 sampler stays in its open position.

7 Q Understood. I guess what I'm trying to establish is how far  
8 it traveled -- the sampling unit traveled vertically once  
9 you released the tension before it hit the sediment.

10 A I would say that at the deepest site, approximately 1 meter,  
11 at the other sites, the intermediate site about 0.6 meters  
12 and then maybe about 0.5 meters.

13 Q Okay. Would the distance that the sampling device travels  
14 from the point of release to where it actually impacts  
15 something that would trigger the sampling jaws or whatever  
16 it is, would that have any bearing on how deeply into the  
17 sediment the sampling device would penetrate?

18 A Well, I think I see what you're getting at and I guess the  
19 answer could both be "yes" and "no." What I've been --  
20 well, it'll come out. Maybe I shouldn't just wax on about  
21 this.

22 Q Well, no, the answer is that it might. It may affect that?

23 A It may affect -- depending on how you define the surface of  
24 the sediment. It will trip all these in a reproducible way.

25 Q Okay. Let me go back to a more basic point. As I

1 understand it from your testimony, one of the purposes of  
2 collecting samples with this device was to take some --  
3 collect samples from which you could and did take some  
4 qualitative observations under a microscope of the incidence  
5 of certain macroinvertebrates; is that right?

6 A That's correct.

7 Q And as a general proposition, Dr. Lehman, isn't it true that  
8 macroinvertebrates would tend to be found near the surface  
9 of the sediment or the lake bottom as opposed to at some  
10 depth?

11 A Not necessarily so, particularly in the case of sediments in  
12 which there is not a strong oxygen gradient within the  
13 sediments themselves. Much of what confines freshwater  
14 invertebrates to the near surface has to do with lethal low  
15 oxygen concentrations that would be far below that. That's  
16 not the case of these sediments because the water penetrates  
17 them so much that they're not anoxic.

18 Q Okay. Now, obviously and this is reflected in your  
19 report -- in your testimony that you collected these samples  
20 in question on a single day in July of this year; correct?

21 A That's correct.

22 Q In your professional experience and training as a  
23 limnologist, isn't it true that there is the potential for  
24 seasonal variation in the incidence, abundance of  
25 macroinvertebrates at different times of the year?

1 A It is correct with respect to certain taxonomic groups but  
2 not all.

3 Q Okay. So simply put in plain English, isn't it possible  
4 that by sampling at -- in July, there's nothing wrong with  
5 sampling -- but sampling that data in July, that sample  
6 would not necessarily be representative of either the  
7 incidence or abundance of other macrophytes on the bottom of  
8 that portion of the lake; isn't that true?

9 A You mean that there might -- sampling at some other time --

10 Q Yes.

11 A -- might have collected an invertebrate? That's possible.

12 Q Now, in terms -- as an ecologist, and I believe you touched  
13 on this in explaining some of the aspects of the dynamics.  
14 You're looking, among other things, at essentially a food  
15 web; is that correct? That is a variety of organisms, plant  
16 and animal organisms, that have an interrelationship, some  
17 providing food sources for others higher up the chain or in  
18 some web of relationships; correct?

19 A Some are connected and some are not.

20 Q Okay. Macroinvertebrates are a particular kind of species  
21 that -- aquatic worms that you referenced in your report,  
22 are by no means the only type of aquatic life that would  
23 exist in a food chain or in a food web in this kind of lake  
24 environment; isn't that true?

25 A That is true.

1 Q For example, isn't it true that there are organisms or life  
2 upon which these kinds of organisms themselves; that is,  
3 aquatic worms; would, for example -- would depend as a  
4 source of energy or food; correct?

5 A That is true.

6 Q And at least as disclosed in your report, you made no  
7 attempt to either measure or determine the types or  
8 abundance of those other kinds of organisms in your  
9 investigation?

10 A What organisms are you referring to?

11 Q Zooplankton.

12 A I don't think that any of those benthic invertebrates would  
13 eat zooplankton; possibly diatoms that might sink on to  
14 the -- into the sediments. The chlorophyll concentration is  
15 extremely low.

16 Q Going back to something I asked you about -- even -- isn't  
17 it also true that for certain kinds of species,  
18 macroinvertebrate species, there can be variations from year  
19 to year in the abundance of organisms such as, let's say,  
20 midges, for example?

21 A That's correct.

22 Q So, again, the observations that you made on this one date,  
23 this one year would not necessarily be representative of the  
24 presence or absence of species of that kind at this location  
25 in other times; true?

1 A If it were a different substrate type, I might be inclined  
2 to agree with you. But given this substrate type and its  
3 very poor potential to support what are called  
4 "chironomids," but they're little -- different fly larvae  
5 and oligochaetes, the little --

6 Q Worms.

7 A -- worms, I would tend to disagree at this site.

8 Q At least insofar as I could determine from your testimony  
9 and your report, you didn't conduct any sort of a fish  
10 survey at this site, did you?

11 A No.

12 Q You didn't conduct any sort of a survey for the presence of  
13 amphibians at the site?

14 A No, I did not.

15 Q Or any other wildlife species at the site?

16 A I did not.

17 Q Reptiles, for example?

18 A I did not.

19 Q Are there other sampling methods available for sampling or  
20 trapping aquatic insects other than what you used?

21 A Yes.

22 Q For example, would those include light traps below water,  
23 subaquatic light traps?

24 A I suppose light traps could be employed.

25 Q Floating cages?



1 A Floating cages is one means, particularly to catch emerging  
2 flies.

3 Q Emergence traps?

4 A That's basically the same thing.

5 Q But those are not techniques that you used in your  
6 investigation of this site?

7 A I did not use any of those methods at that site.

8 Q With respect to aquatic vegetation, your report alludes to  
9 some species that you observed at the site. Well, first of  
10 all, let's be clear, you didn't undertake any sort of  
11 quantitative evaluation of aquatic plants at the site, did  
12 you?

13 A No, only visual observation and I call that  
14 semi-quantitative. I can tell if something is more abundant  
15 or less abundant.

16 Q Okay. And from an ecological perspective, isn't it true  
17 that among other things, at least some species of aquatic  
18 plants can provide a habitat for other forms of life  
19 including macroinvertebrates? In other words, insects or  
20 bugs can -- I believe you testified to this on direct  
21 examination.

22 A That's correct. I was just going to say that.

23 Q Can use these aquatic plants as a substrate?

24 A That's true.

25 Q And at least so far as I could discern from your report,

1           there's no indication that you made any attempt to observe  
2           in detail any of the aquatic plants at the site to estimate  
3           quantitatively or qualitatively the presence of those kinds  
4           of organisms on or attached to the aquatic vegetation; isn't  
5           that true?

6        A     Well, that's true.  But by looking into the water, I didn't  
7           see any, either.

8        Q     Again, you didn't sample any of the plants for the presence  
9           of aquatic insects, did you?

10       A     No, I did not.

11       Q     Are you aware that all of the vegetation that you mentioned  
12           having observed at the site in your report, and by my notes  
13           those include Potamogeton, Sagittaria and Typha, are  
14           considered obligate wetland plant species by the DEQ under  
15           Part 303 of the Natural Resources and Environmental  
16           Protection Act?

17       A     That is possibly true.  I tend not to use the word  
18           "wetlands" in my own teaching because it is subject to  
19           cultural interpretation and I realize that in this case  
20           there are sort of either statutory or regulatory  
21           connotations to them.  So if I were teaching about that  
22           area, I would call it the "littoral zone" of a lake.  But,  
23           you know, I'm not trying to make a legal distinction.

24       Q     Okay.  Fair enough.  And, in fact, that raises an  
25           interesting question.  To what extent, if any, in the course

1 of your -- you've listed in your report and in your direct  
2 examination today certain documents that you've looked at as  
3 part of your project review here. Although there was  
4 reference to some provisions of what's referred to as Part  
5 301, Inland Lakes and Streams and an administrative rule  
6 promulgated under that, that you apparently referred to,  
7 there's no -- at least I was not able to determine that any  
8 part of your evaluation considered any of the provisions or  
9 criteria of what's referred to as "Part 303, Wetland  
10 Protection"?

11 A I don't recall that I did any such thing.

12 Q Okay. And if you had, isn't it --if you had, wouldn't it be  
13 fair to say that they would have been enumerated in your  
14 quite thorough list of documents reviewed contained in your  
15 report?

16 A I think that's probably true.

17 Q One of the plants that I believe -- or types of aquatic  
18 plants that you indicate in your report you observed was  
19 pond weed, at least that's the common name; is that correct?

20 A I think you're probably talking about the Potamogeton?

21 Q Yes.

22 A Yes. Okay.

23 Q And to your knowledge, does or can Potamogeton provide an  
24 important food source for waterfowl?

25 A I think in some instances it can, in terms of when its

1 inflorescences -- there are flowers present.

2 Q So the short answer is it can?

3 A Yeah, certain parts of it.

4 Q And, well, obviously it only -- or presumably it only  
5 flowers at certain times of the year; correct?

6 A That's correct.

7 Q Isn't it also true that that type of aquatic plant can also  
8 provide a -- food and shelter for fish?

9 A Yes, in general.

10 Q And based upon your observations of the site, is it your  
11 observation -- or do you recall how far offshore you  
12 observed aquatic plants in the project area? And by that I  
13 mean the area lakeward along what's been referred to as "lot  
14 8"?

15 A I didn't see much by looking into the water that extended  
16 much further than those emergent stems that were visible in  
17 the figure number 1.

18 Q Okay. In terms of that kind of aquatic plants, there are  
19 different categories. I'll use lay terms. But one of them  
20 is emergent; correct?

21 A Correct.

22 Q Which in a lay sense means plants that literally emerge  
23 through the surface of the water; correct?

24 A That's correct.

25 Q There are other types of aquatic vegetation that includes

1 plants that float on the surface?

2 A That is correct.

3 Q And I believe pond weed would be an example of that; is that  
4 correct?

5 A They're different species. Some of them are what we call  
6 "submerged" and some of them are floating weed.

7 Q Okay. And that's my next question. There's another class,  
8 at least, of submerged aquatic plants?

9 A That's correct. That's correct. That's correct.

10 Q And isn't it true that each of those categories of aquatic  
11 plants can provide habitat and structure for other forms of  
12 aquatic life?

13 A That's true.

14 Q Now, with respect to your observation, again, you didn't --  
15 your report doesn't purport to quantify the incidence or the  
16 abundance of the aquatic plants that you observed at the  
17 site. But you did testify that as a general matter, that  
18 you observed relatively fewer aquatic plants in the area  
19 lakeward of lot 8 than some other area or areas located on  
20 either side of that in a northerly or southerly direction.  
21 Is that a fair summary of your testimony?

22 A That's correct.

23 Q But you're not -- it isn't your testimony that aquatic  
24 plants were absent in what you understand to be the focus of  
25 this proposed project?

1 A No. And I'd say that there's photographic evidence that  
2 they're not utterly absent.

3 Q I believe, but I'd just like to confirm this, that among the  
4 documents you were asked to review was a project review  
5 report compiled by one of the DEQ staff people involved  
6 which I believe occurs -- if you have those notebooks in  
7 front of you? I'd like you to look at the smaller one  
8 that's labeled "DEQ." And specifically document number  
9 13 -- can you locate that, please?

10 A Okay. This says at the top, "Project Review Report."

11 Q Correct. Please take a moment to look at it. My question  
12 will be do you recall whether or not this was among the  
13 documents that you reviewed as a part of your involvement in  
14 this project? And if you need to refer to your report for  
15 that purpose, feel free to do so, which I believe is --

16 A Yes, okay. It's listed among the documents that I looked  
17 at.

18 Q Okay. Just to be sure, and the document that you have in  
19 front of you -- there were some glitches in these things --  
20 just if you turn to the second page, is there -- do you have  
21 a two-sided copy there or is it blank?

22 A That's (indicating) what the second page is.

23 Q Oh, your version is blank. My apologies.

24 MR. REICHEL: If I may approach?

25 JUDGE PATTERSON: Sure.

1 MR. SHAFER: I don't have that. If I can just get  
2 a copy at some point?

3 MR. REICHEL: Yeah.

4 MR. WILKINS: Here's two extras.

5 MR. REICHEL: Again, may I approach, your Honor?

6 JUDGE PATTERSON: Sure.

7 Q Okay. I'm handing you what I'll represent to you is a  
8 two-sided copy of the document that was behind tab 13 in  
9 that book. And do you have any recollection of reviewing  
10 this?

11 A I don't know off the top of my head quite honestly whether I  
12 saw this back side of it. It's possible because I certainly  
13 list the document in the list of things that I reviewed.

14 Q Okay. And directing your attention to the first page of it,  
15 the front side with the heading, "Project Review Report,"  
16 there's a -- under the heading of item 8 you'll see a  
17 reference to total wetland -- under item 8 there's a listing  
18 of plants, dominant plants and then indicator status. Do  
19 you see that?

20 A I see. Are there any numerical abundances?

21 Q No, I'm not asking you that. I'm just asking you whether or  
22 not -- for two things. First, you don't necessarily today  
23 recall whether you looked at this in detail, but this  
24 document was among those that you reviewed; correct?

25 A Yes.

1 Q And so my next question would be -- take a moment to review  
2 this list of plants. Do you have any -- based upon your  
3 observation, do you have any reason to disagree with the  
4 DEQ's staff's observation that these species were observed  
5 at the project site?

6 A I have no reason to dispute the factual nature of this  
7 document.

8 Q Okay. Now, you've been asked a series of questions about --  
9 and your opinion -- your report, excuse me, Exhibit 4, I  
10 believe -- or 3, excuse me, which summarizes your analysis  
11 offers certain conclusions on various questions; correct?  
12 And one of those had to do -- let me just go back to your  
13 direct examination.

14 A That may be Exhibit 2.

15 Q Sorry. I didn't mean to confuse you. You're absolutely  
16 right, 2 is what I meant to refer to. Thank you. Now, when  
17 you were offering the conclusions stated at page 8 of this  
18 report -- if you can, turn to that, please. This is in  
19 Petitioner's Exhibit 2.

20 A Certainly. Yes.

21 Q I'd like to make sure I understand and the administrative  
22 law judge understands what you understood -- what specific  
23 proposal you were commenting upon. And let me be more  
24 precise. First of all, did you as a part of your review on  
25 this matter ever have occasion to actually look at the



1 permit application that was filed on behalf of the applicant  
2 here?

3 A If it's included in my list of documents, then I did. If  
4 it's not, I probably did not because I tried to be very  
5 thorough.

6 Q Understood. And I'm not -- not to trick you, but I would  
7 represent to you that I've reviewed your list of documents  
8 reviewed and I did not see any reference therein to the  
9 permit application. Either the initial permit application  
10 that was the subject of testifying by Mr. Boughner this  
11 morning nor the supplemental information which were  
12 respectively included in the other notebook as Respondent's  
13 Exhibits 4 and 7. So, again, to the best of your knowledge,  
14 you've not had occasion to review either of those documents;  
15 is that correct? If you'd like to look at them --

16 A To the best of my knowledge, I have not.

17 Q Okay. So I'd like you -- to ask you to take a look at least  
18 one of them now. Specifically, if you can, turn to the  
19 other notebook, the DEQ notebook exhibit notebook, Number 7.

20 A Yes, this is something dated February 1st, 2006.

21 Q 15th perhaps? Tab 7?

22 A Is this something that's handwritten "February 15th"?

23 Q Handwritten, yes.

24 A "DEQ Kate Hayes"?

25 Q That's correct. That's what I'm asking you to refer to.

1 A All right.

2 Q I recognize you may not have reviewed this document before,  
3 but I'd like to direct your attention specifically to the  
4 lowest -- there are a number of paragraphs there you see in  
5 handwriting, number 6?

6 A Yes.

7 Q Which I believe -- you were present during Mr. Boughner's  
8 testimony this morning, were you not?

9 A Yes.

10 Q Okay. I don't necessarily expect you to recall this, but  
11 I'll represent to you that he indicated that he completed  
12 this portion of this exhibit in response to a request by the  
13 DEQ to, quote, "clarify the purpose of this proposed dredge  
14 and any and all alternatives considered." First of all --  
15 so this leads to my first question. When in your report you  
16 opined as to the effects of the project, what did you  
17 understand precisely the scope of the project to include?

18 A I understood that the project would involve hydraulically  
19 dredging a zone in the lake that was 50 feet wide along the  
20 shore extending 200 feet out perpendicular to the shore.  
21 And I understood that the intent was to remove the  
22 overburden of the organic accretions down to the sandy  
23 pavement.

24 Q And so that is what you understand -- you understood at the  
25 time you wrote this report?

1 A That is what I understood at the time.

2 Q And is it your understanding today that the project includes  
3 dredging in that 50-foot -- in a 50-foot-wide, 200-foot-long  
4 strip down to the substrate? That is to remove all the  
5 organic material or so-called muck down to a sandy bottom or  
6 a hard bottom?

7 A That I don't know.

8 MR. SHAFER: I'm going to -- your Honor, I'm going  
9 to object to that question. That mischaracterizes the  
10 testimony. That characterizes very fine his questions, but  
11 not the answers that were provided by the representatives of  
12 my client.

13 MR. REICHEL: All right. Well, let me -- let me  
14 I'll -- restate the question.

15 JUDGE PATTERSON: Okay.

16 Q Is it or is it not your understanding that what is being  
17 proposed here in the project that you are opining on  
18 includes dredging in a 50 by 200 -- 50-foot-wide by 200-foot  
19 strip all of the accumulated organic material or muck down  
20 to a hard substrate?

21 A I don't know what is being proposed here. There's clearly  
22 some kind of a dispute going on that's non-scientific in  
23 nature. But I was asked to ascertain whether doing such a  
24 thing would have an adverse environmental effect on the  
25 lake.

1 Q And let me -- directing your attention back to this exhibit  
2 that was before you, tab 7, this paragraph 6, there's a  
3 description of the project purpose provided by Mr. Boughner  
4 to the DEQ. "Proposed dredges for a private seasonal dock.  
5 Dock would be used to tie a boat to." Is that consistent  
6 with your understanding?

7 A I don't know that anybody talked about tying a boat to it  
8 specifically. I mean, I assumed that a dock was supposed to  
9 be used for swimming, wading and boating. That was my  
10 understanding.

11 Q Okay. Well, I'd ask you to, sir -- let me read to you the  
12 next sentence and tell me if this is correct. "Boat would  
13 be used for fishing, swimming and water sports." Do you see  
14 that?

15 A I do.

16 Q Okay. Now, you were asked among other things as to whether  
17 or not -- I don't believe this is a biological opinion, but  
18 just frankly a lay observation -- asked your perception of  
19 the opportunities for swimming or wading near the shore of  
20 lot 8; correct?

21 A That's correct.

22 Q And your opinion, the substance of it is that that just  
23 can't be done. It's not feasible; is that -- or is that a  
24 fair summary of your --

25 A I wouldn't do it. I wouldn't allow a child to do it if I

1 had some responsibility in the matter.

2 Q Okay. Understood. But that, again, is just sort of a  
3 practical observation that you made; correct?

4 A That's correct.

5 Q Okay. Now, isn't it true -- or tell me if I'm wrong -- that  
6 you've not been asked to consider as a part of your  
7 evaluation any -- the availability or existence of any  
8 feasible or prudent alternatives to the proposed dredging  
9 project, have you?

10 A That's correct. What you say is correct.

11 Q And, in fact, your opinion expresses no -- excuse me, your  
12 report expresses no opinion on that subject?

13 A That's correct.

14 Q So, for example, you haven't opined as to whether or not as  
15 an alternative to the dredging project being proposed here  
16 an alternative -- an available alternative would include  
17 constructing a dock -- perhaps a floating dock from the  
18 shore area at lot 8 out into Lake Missaukee about 200 feet  
19 in length? That's not an alternative that you would  
20 consider, have you?

21 A I've considered --

22 Q None?

23 A -- no other. Simply not a --

24 Q Okay. It's not --

25 A -- not in the universe of things I was asked to consider.

1 Q Okay. Fair enough. But let me ask you this: One of the  
2 things that you were asked to consider and I believe your  
3 report refers to -- let me just find the reference here --  
4 is -- at the page 3 of your report, there's a list of  
5 references to various documents, definition of public trust  
6 and R2801 sections listed at a website there or the URL's  
7 listed. And there's also a reference in paragraph 19 to a  
8 particular section of the environmental statute that deals  
9 with inland lakes and streams, the reference being 301.06.  
10 Do you see that?

11 A I do.

12 Q Okay. Are you aware, sir, that under the regulations  
13 promulgated by the DEQ under that statute, that one of the  
14 criteria the department is required to consider is whether  
15 or not a feasible and prudent alternative exists to the  
16 proposed activity?

17 A I do believe that I read that in one of those documents.

18 Q Okay. But, again, I just want to be clear, you have not  
19 undertaken any evaluation of that issue?

20 A No. I have not and as you said, I think it says the DEQ has  
21 that responsibility.

22 Q Okay. If I were to tell you that under Part 303 which deals  
23 with wetland protection -- again, I believe you've not been  
24 asked to look at this. But one of the decisional criteria  
25 under that statute is whether or not the permit applicant

1 can demonstrate that no feasible and prudent alternative  
2 exists. Again, you are in no position to opine that the  
3 applicant has met that burden, assuming it exists?

4 A I agree with you. It's not a scientific issue.

5 Q Have you ever observed a hydraulic dredging operation at an  
6 inland lake in Northern Michigan?

7 A Not that I specifically recall. It could have happened over  
8 my lifetime.

9 Q As a part of your analysis and investigation, did you  
10 undertake any or collect any water depth data?

11 A No. You're talking about water samples at various depths  
12 from the surface?

13 Q No, let me -- no. I'm sorry. Let me restate the question.  
14 I'm asking did you go out in the field in attempt to  
15 determine how deep the water column was above the sediments  
16 that existed at the project site?

17 A Yes, I did.

18 Q You did?

19 A At the three sampling sites.

20 Q Okay. And did you undertake to determine or measure the  
21 depth or the sediment thickness at those locations?

22 A No, I did not.

23 Q There's been testimony with respect to this, but I believe  
24 you heard testimony regarding some water and sediment depth  
25 observations that the DEQ staff took in February of this

1 year. Do you recall hearing testimony about that?

2 A That's correct. I do.

3 Q And do you recall whether or not those data were among the  
4 things that you looked at as a part of your review?

5 A I recall that they were.

6 Q Yes. Okay. And, again, as you sit here today, you don't  
7 have any basis for disputing the accuracy of those data, do  
8 you?

9 A I am dubious about one aspect of them because, I think --  
10 and I'll be happy to expand if you want me to.

11 Q All right. Could you explain, please, which aspect and  
12 which data point?

13 A Okay. In terms of determining what the surface of this  
14 sediment layer is, the actual situation in Missaukee Lake is  
15 that there is what we call a "nepheloid layer," an  
16 n-e-p-h-e-l-o-i-d -- or a layer of suspended particles that  
17 lies above the actual sediment surface. It would actually  
18 be part of the lake itself. I believe that if people were  
19 simply to look down and observe that they might get the idea  
20 that that was the surface of the sediment rather than a part  
21 of the lake water column. Frankly, that's why that sediment  
22 column behaves the way it does. It doesn't have an  
23 overlying layer of the little particulate matter in it.

24 Q Okay. So is your -- now, your observation that there was  
25 this nepheloid layer -- is that the correct term?



1 A Yes.

2 Q Your belief that exists is based upon your own direct  
3 observation of this site?

4 A Direct observation, yes.

5 Q And, again, just so I'm clear on this, you're talking about  
6 a phenomenon where there are some sediment particles  
7 suspended in the water column above a more continuous layer  
8 of accumulated sediment; is that --

9 A That's correct.

10 Q But are you saying that it is your belief that the sediment  
11 depth data reported by the DEQ reflect some conflation of  
12 nepheloid layer with actual accumulated sediment?

13 A I believe that it's possible.

14 Q It's possible, but you don't know?

15 A Of course I don't know, but it's possible.

16 Q And let's assume for -- hypothetically that the data  
17 reported by the DEQ with respect to their observations of  
18 where sediment existed at these sampling locations,  
19 indicated that sediment was encountered based upon a  
20 presence of some nepheloid layer; that is, the suspended  
21 particles; if that's the correct term?

22 A Yes.

23 Q That would tend to overstate, would it not, if that were --  
24 if that observation were made, that would tend to overstate  
25 or exaggerate the elevation at which sediments actually

1 exist?

2 A It would exaggerate the vertical extent of sediments -- of  
3 organic sediments above the sandy pavement and therefore  
4 elevate that surface closer to the lake water surface.

5 Q So conversely, let's say that at a particular location  
6 sampled by the DEQ -- I mean, if this hypothesis is correct  
7 or this possibility, actually, came to fruition, wouldn't  
8 that mean that any given sample location where this error or  
9 conflation might have occurred, that, in fact, there would  
10 be a greater depth in the water column than observed by the  
11 DEQ; that is, between the water surface and sediment; for a  
12 boat or watercraft to navigate than would be implied by the  
13 reported elevation data; correct?

14 A That's true.

15 Q I want you to assume that the -- hypothetically that the  
16 dredging projects proposed in this permit application were  
17 allowed to proceed and so a 50-foot-wide strip along the  
18 lakeshore were dredged hydraulically. Based upon your  
19 observations of the site, would you expect that that  
20 dredging activity -- well, let me back up. If the DEQ --  
21 excuse me -- if the permittee -- assuming they got a  
22 permit -- performed that dredging, wouldn't you expect based  
23 upon your observations of the site for there to be  
24 accumulated sediment or so-called muck on either side of  
25 this trench, if you will, that would have been excavated

1 through the muck?

2 A Yes, I would expect the sediments that were there to exist.

3 Q Okay. Would you expect that the sediments that exist on  
4 either side of this hypothetical excavation would remain  
5 completely immobile?

6 A I don't know.

7 Q You don't know?

8 A I didn't perform any such experiments.

9 Q Wouldn't you agree that there is at least a possibility that  
10 particularly with respect to those sediments that you've  
11 described, the particulate matter, that is not compacted for  
12 those materials over time to migrate into and then deposit  
13 on this hypothetical trench -- what I've described to you?

14 A I don't know if they would honestly.

15 Q You don't know, but isn't it possible?

16 A No, I don't know. I don't know if it's possible.

17 Q To what extent, if any, as a part of your review have you  
18 looked at Lake Missaukee as a whole in this -- or data  
19 pertaining to the lake as a whole as part of this review?

20 A I reviewed the water quality data that are posted to the  
21 Lake Association website that were produced by this  
22 Professional Lake Management group. And that includes three  
23 sites if you would consider that to be lake wide.

24 Q Okay. Apart from the water quality data that you referred  
25 to, have you undertaken any sort of review either by

1 physical observation during your site visit or otherwise  
2 to -- of the nature of -- or the extent of -- I'll just use  
3 this term loosely -- relatively undisturbed; that is,  
4 natural areas; along the lakeshore in Lake Missaukee as a  
5 whole?

6 A Yes, I've read some things about that.

7 Q And based upon your reading on that subject, is it or is it  
8 not your understanding that the approximately 10,000-foot-  
9 long strip of lakeshore property owned or controlled by the  
10 permit applicant is the largest remaining natural area along  
11 the shore of Lake Missaukee?

12 A That's my understanding.

13 Q And so when you testified on direct examination that --  
14 exact words here -- something to the effect that the  
15 project, the area in front of -- the shoreline area in front  
16 of lot 8 was -- just check my notes here -- I believe you  
17 said something -- it was no different than the rest of the  
18 surrounding area that's --

19 A No, I don't think so. I said -- I think I said it was  
20 unremarkable.

21 Q Unremarkable. Okay. Or it was not exceptional?  
22 Unremarkable is your --

23 A I think "unremarkable" is the word I used.

24 Q Okay. But just to be clear, in making that comparison, you  
25 were talking about areas immediately adjacent to, that is,

1           either to the north and/or south side of this lot 8;  
2           correct?

3       A     That's correct.

4       Q     Along this larger undisturbed shoreline area; correct?

5       A     I was referring to areas that were adjacent and extended in  
6           some direction in either direction.

7       Q     Right.  Have you been asked to form any opinion as to  
8           whether or not the -- again, assuming the project described  
9           in the permit application, the dredging an area of  
10          approximately 50 feet wide, 200 feet long in front of lot 8  
11          were implemented, have you been asked to form any conclusion  
12          with respect to whether there would be a need in the future  
13          to renew or do further dredging in that area to preserve  
14          what you understand to be the project purpose?

15      A     No.  I was not --

16      Q     So you haven't asked to look at that?

17      A     -- I was not asked to.

18      Q     Have you independent of any request formed any opinion on  
19          that subject?

20      A     No, I have not.

21      Q     Would you agree that there's at least a possibility that to  
22          achieve the stated purpose of establishing a hard bottom --  
23          strip of lake bottom 200 feet long and 50 feet wide given  
24          this site and the characteristics around it, that further or  
25          repeated maintenance dredging would be required?

1 A I'd have to say that -- given the utter speculative nature  
2 of that question, I'd have to say, no, I don't know if  
3 there's a possibility.

4 Q Now, as a basic ecological principle, you would agree, would  
5 you not, that the slice of Missaukee Lake lakeward of lot 8,  
6 whether it's 70 feet wide or 100 feet wide -- we've heard  
7 varying testimony on that -- does not exist in an ecological  
8 vacuum; correct? It's part of a larger ecosystem?

9 A Certainly.

10 Q And that looking at proposals to alter conditions that exist  
11 in that -- strike that -- that when evaluating potential  
12 environmental effects on lakes -- inland lakes like Lake  
13 Missaukee, to view something from a truly ecological  
14 perspective, one would need to look at the lake  
15 holistically, as a system; is that a fair statement?

16 A That certainly is one thing that one does.

17 Q Now, with respect to this project, you're -- directing your  
18 attention to your Exhibit 2, page 8, if you could, turn to  
19 that please.

20 A Yes.

21 Q Look at -- under "conclusions," item 8, do you see that?

22 A Yes.

23 Q And you expressed the opinion therein that, "There are no  
24 natural resources of note that would be impaired or  
25 destroyed by installing the proposed dock at this lone

1 site." Is that what you said?

2 A That is what I said.

3 Q And that is your opinion today?

4 A That is.

5 Q Okay. But the premise is, what you were looking at was  
6 exclusively impacts on natural resources with respect to a  
7 project at this lone site; correct?

8 A I don't think I was confining it just to this one lone site.  
9 I could put that in the context of the natural disturbance  
10 that occurs on an annual basis within a lake like Missaukee  
11 Lake.

12 Q No; no. Let me restate the question. What you were looking  
13 at, were you not, were the consequences of a particular  
14 activity at a lone site; correct?

15 A Yes.

16 Q At this strip --

17 A At this specific --

18 Q This specific parcel?

19 A -- project. Yes; yes.

20 Q All right. Now I want to ask you a hypothetical question or  
21 perhaps a series of hypothetical questions. First, I want  
22 you to assume, as you may already be aware, that the lot 8  
23 is part of a larger platted subdivision which includes at  
24 least 12 other lakefront lots -- okay? -- in this same area.

25 A That may be true.

1 Q Okay. Just I'll ask you to assume that. I'll ask you to  
2 assume further that if a proposal were made or a series of  
3 proposals were made to engage in similar dredging operations  
4 to that proposed here for each of those areas in that strip  
5 of lakefront -- do you follow my question?

6 A I understand.

7 Q Okay. Under those circumstances, would it still be your  
8 opinion, hypothetically, given that increase in the size,  
9 scope, number of dredging areas -- would it still be opinion  
10 that such an activity would not have an adverse impact on  
11 natural resources?

12 MR. SHAFER: Objection; improper hypothetical;  
13 lack of foundation; vagueness.

14 MR. REICHEL: Okay. I believe that there is a  
15 foundation. It's already been established on this record  
16 that the permit applicant owns or controls each of those  
17 areas, indeed something approaching 10,000 linear feet of  
18 Lake Missaukee shoreline; number two, that the property has  
19 been and continues to be offered for sale; number three,  
20 that according to exchange of correspondence between agents  
21 of the permit applicant and the DEQ, the owner of the  
22 property has specifically reserved the right or the  
23 possibility of conveying these other properties to third  
24 parties without any restriction with respect to maintaining  
25 their current natural condition. So I respectfully submit,



1 number one, that there is a foundation for posing this  
2 hypothetical. Number two, I think that among the criteria  
3 that the department is required to consider in evaluating  
4 this proposed activity is to view this proposed project in a  
5 larger context of possible cumulative impacts upon the  
6 resources of the lake. So I think that there is both  
7 foundation and relevance for this line of inquiry.

8 MR. SHAFER: Can I respond, your Honor?

9 JUDGE PATTERSON: Sure.

10 MR. SHAFER: First of all, there's been no  
11 foundation whatsoever that he's made a specific analysis of  
12 any of the other lots. He said actually this one was  
13 different than the two that are directly adjacent to it.  
14 We've had no testimony about any of the other lots. Second  
15 of all, in quite sarcastic tone, the attorney general has  
16 been talking about, "Well, we don't even know what this  
17 dredging project is." The word he used here was "similar."  
18 That's exactly what he said. He hasn't defined it. He  
19 hasn't said, "Is it beyond wetlands? Do these lots all have  
20 wetland? How far are the wetlands? Where is it going out  
21 to?" He's done nothing in regard to that. The final point  
22 is it doesn't matter because this project has to be  
23 evaluated on the ecological impact of this project. If some  
24 other purchaser wants to come in later on and do an  
25 application for dredging, he or she will have to have that

1 evaluated based upon the cumulative impact of that project  
2 based upon everything that's gone before it.

3 Now, we could sit here and we could talk about  
4 what would happen if hypothetically somebody did a quote,  
5 "similar" project, you know, on the other lake (sic) -- four  
6 lots, eight lots, here, there, doesn't matter. That isn't  
7 what is at issue here. What is at issue here is, number  
8 one, is there an economic impact from this lot which is  
9 significant; number two, is there a reasonably prudent  
10 alternative. That's what this case is about.

11 MR. REICHEL: Again, I think I've made the basic  
12 point. With respect to the allegation of vagueness, I will  
13 restate the question to be -- hypothetical to be --

14 Q In each of the other 12 lots in the subdivision as depicted  
15 in the plat that's part of the permit application, that a  
16 proposal would be made to dredge to the lake bottom strips  
17 50 feet wide and 200 feet long.

18 MR. REICHEL: So if that --

19 MR. SHAFER: Same objections. Same problems.

20 JUDGE PATTERSON: I'm going to overrule the  
21 objection.

22 A Okay. I understand the intent and direction of your  
23 question. And I will tell you that I don't know and I don't  
24 think anybody knows what, if any, ecological effects would  
25 result from that. They could be nil. The only thing that I

1 do know is that it could be subjected to a scientific  
2 experiment. So if an experiment was done in a controlled  
3 manner, we could find out if there was actually any kind of  
4 effect. And, frankly, this stuff is completely reversible.  
5 It's possible to remove the structures that were in place  
6 and let the lake revert to its previous condition if it was  
7 really adverse -- a real adverse effect. I conduct whole  
8 lake experiments to find out what happens. I'm not  
9 proposing to do one in this case, but I submit to you that  
10 it's certainly possible to get the answer to that question  
11 and not have to rely on speculation.

12 Q Well, I understand that if more data were collected, one  
13 might have a better factual basis, but that really wasn't my  
14 question. So you're saying you can't answer the question?

15 A I'm saying that I don't know that there is an answer to that  
16 question that's within the grasp of science at this time.

17 Q And let me follow up on something you asked -- you said in  
18 response to my previous question. I want to make sure I  
19 understood this. You're saying that this project would be,  
20 quote, "totally reversible." Okay. By that do you mean  
21 that -- let's say a dock was installed that could be  
22 removed. Is that what you meant?

23 A That's right.

24 Q Now, if someone has stripped out all the accumulated organic  
25 material several feet in depth of an area 50 feet wide and

1           200 feet long, are you suggesting that someone could go out  
2           then and -- what? -- dig the spoils back up and dump them  
3           back on the lake bottom? How would that be reversed?

4       A     Or they could just wait. Obviously that stuff has  
5           accumulated over some period of time. I didn't say what the  
6           time scale is going to be and I don't know.

7       Q     You don't know? And, again, you testified in response to my  
8           previous question that you don't know -- paraphrasing here,  
9           how likely it would be or whether it would be that this  
10          dredged area would fill back in. Didn't you testify to that  
11          earlier?

12      A     That's correct. That's only something that we could find  
13          out experimentally.

14      Q     But I think you just testified, if I understand you, that  
15          you would fully expect this dredging project to be  
16          reversible.

17      A     Yes.

18      Q     Through natural processes?

19      A     Yes.

20      Q     So it would fill back in eventually?

21      A     As long as the human structures and activities were removed,  
22          I think that's very fair. That's a very fair conclusion to  
23          draw.

24      Q     But you don't know the time scale?

25      A     I don't know the time scale.

1 Q Let me ask you one other question, again, a hypothetical. I  
2 want you to assume hypothetically that the wetlands, the  
3 lacustrine wetlands -- or that's not the term you used. How  
4 would you describe the shoreline area?

5 A Littoral zone.

6 Q Littoral zone. Assume hypothetically that someone were to  
7 disturb the littoral zone along a 10,000 front linear length  
8 of this portion of the lake by dredging out all the  
9 accumulated sediments or muck to a distance of 200 feet  
10 offshore. Are you saying you could not opine as to whether  
11 or not that activity would have any adverse effect on the  
12 lake as a whole?

13 A That's correct.

14 Q Is it your opinion that under those circumstances that such  
15 an activity would not adversely affect habitat for fish or  
16 wildlife?

17 A I'm saying that I don't know and I don't think anybody  
18 knows.

19 MR. REICHEL: I have nothing else.

20 MR. PHELPS: May I proceed?

21 JUDGE PATTERSON: Sure.

22 MR. PHELPS: Dr. Lehman, I just would like to  
23 cover a few subjects with you.

24

25

CROSS-EXAMINATION

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BY MR. PHELPS:

Q First, based on my review of your report, is it accurate to say you did not do a wetland delineation?

A I'd say that that's probably true because I don't necessarily know how to do a wetland delineation.

Q Okay. And with regard to the Ponar Grab -- that's the correct terminology?

A Yes.

Q That device?

A That's one way you could refer to it.

Q You've done your best to describe how it works, and I think I understand it's a clamshell shaped device that scoops sediment out underneath the water; correct?

A That's correct.

Q Give us an approximation of how much sediment quantity is pulled out of the lake.

A Well, it usually comes up full of sediment, you know, to its full capacity with a little bit of overlying water present as well. So the content that comes out of the Ponar is probably a little bit more watery than would be the true content of the actual surficial sediment.

Q Well, is the sediment that you bring up -- would it -- give us a sense, would it fit in a container the size of a football, a basketball?

1 A Oh, I see. I see. Yeah, I used Tupperware containers that  
2 were basically -- I don't know -- maybe 9 inches by 12  
3 inches that were of the appropriate size that would  
4 accommodate sort of the footprint of the dredge sampler. So  
5 I would just lower it into the container and I would open it  
6 up and the sediment would stay behind and the device would  
7 come free.

8 Q So the quantity that the Ponar Grab brings up is  
9 approximately a 9 by 12 by how high?

10 A Probably about I'd say 4 inches high, maybe.

11 Q Okay. So 9 by 12 by 4 inches is the volume we're talking  
12 about with the Ponar Grab?

13 A Yeah, with this particular model.

14 Q Okay. The one you used?

15 A That's correct.

16 Q And when you lower it into the sediment, is it -- the  
17 closing mechanism, is that triggered when it hits the  
18 bottom?

19 A Yes. Well, it doesn't actually close until I start to pull  
20 it back up. What happens is as it lands on the sediment  
21 surface, there's a spring that holds a locking metal rod in  
22 place. And because the tension is released from the -- you  
23 know, from my hand on a rope, it's possible for the spring  
24 to push the locking metal rod out of its hold -- it's hole  
25 and therefore as I pull the dredge back up, it closes.

1 Q And so when you're in the boat and you lower it down, you  
2 lower it all the way down to the bottom?

3 A That's right.

4 Q And then as you start to pull it up, it clamps closed and  
5 catches its sample?

6 A That's correct.

7 Q Okay.

8 MR. PHELPS: And if I could approach?

9 JUDGE PATTERSON: Sure.

10 Q I don't believe you have our exhibit book yet. This is  
11 Exhibit 11, figure 2. And I'm really just giving this to  
12 you for demonstrative purposes. I'm not asking you to  
13 assume that these are even correct. But if we look at the  
14 graph, it shows -- the top line is the water level. You see  
15 that?

16 A Yes.

17 Q And then kind of a bottom dotted line is the -- I guess we  
18 call it the "sandy bottom" or the "hard bottom" of the lake.  
19 Do you see that?

20 A Yes.

21 Q And then the diagonal lined area, that's unconsolidated muck  
22 and ooze in this graph, but we could describe it however we  
23 want. It's sediment. Do you see that part of the graph?

24 A Yes.

25 Q And according to the Exhibit 24 -- which is the February



1 28th water and muck depth levels chart.

2 A I recall seeing that.

3 Q At 60 to 80 feet, the muck is between 2.94 feet and 3.5  
4 feet. Okay? You can just assume that that's true.

5 A Or not. I don't know.

6 Q I mean, that's why I said you can assume it's true. And  
7 when you drop down the Ponar Grab into the muck, if we  
8 assume these numbers are right, you're lowering it into  
9 2.94, 3-1/2 feet of muck and when you get to the bottom  
10 you're closing it.

11 A No; no; no; no; no. I'm sorry. You misunderstand  
12 completely. No, this actually -- it doesn't penetrate  
13 through the muck at all. I mean, as Dr. Evans demonstrated,  
14 you can pick that stuff up in a shovel. That's what it  
15 closes on. It closes on the muck itself. It just doesn't  
16 close on the little lake water layer that's on the top that  
17 has some particulate matter in --

18 MR. SHAFER: Your Honor, just for some  
19 clarification here. In regard to the exhibit that we were  
20 just talking about which is the last page of Exhibit 24, we  
21 were presented with a corrected version this morning. Some  
22 of it -- by the attorney general. Some of it -- some of the  
23 copies have been changed, some of them may not. I don't  
24 know which one he has, so --

25 JUDGE PATTERSON: Oh, okay.

1 Q Well, at any rate --

2 JUDGE PATTERSON: Can we clarify that?

3 MR. REICHEL: I believe we inserted a corrected  
4 version. I can provide another copy, if you'd like.

5 JUDGE PATTERSON: Okay.

6 MR. REICHEL: Would you like me to do that, your  
7 Honor?

8 JUDGE PATTERSON: Yeah, if you would.

9 MR. SHAFER: He might have the right one, I just  
10 don't know, because we didn't --

11 MR. REICHEL: I apologize for the confusion on  
12 that.

13 MR. SHAFER: No, it's okay.

14 MR. REICHEL: I can give you another copy of that.

15 MR. SHAFER: It's just that we've been moving  
16 those binders in and out so I don't know which one he has.  
17 He might have one of mine which is your stuff as opposed to  
18 your modified stuff.

19 MR. REICHEL: If I may, Judge Patterson, I  
20 don't --

21 JUDGE PATTERSON: Okay.

22 Q Let's see if I can make sure we're -- maybe we're finally on  
23 the same page as to how this experiment works. But if we've  
24 got -- the Ponar Grab is evidently 4 inches deep; correct?

25 A That would be the depth that it grabs.

1 Q Right. It can grab a 4-inch chunk of sediment?

2 A That's right, from the surface.

3 Q And the muck at the lake varies, but all of the measurements  
4 once you're out at least 10 feet are over 4 inches; correct?

5 A Oh, certainly.

6 Q And so the point is that the Ponar Grab is not -- is not the  
7 device that grabs a representative sample of all of the  
8 sediment in any one spot, it grabs a 4-inch chunk or layer  
9 of sediment?

10 A It grabs a representative sample of the surficial sediments.  
11 And as you know, I required a sediment core as well.

12 Q Right. We're going to come to that. But it's the samples  
13 that you take with the Ponar Grab that you use for your  
14 sediment sinking rate test?

15 A That's true.

16 Q Correct. And as I understand it, you did one sinking rate  
17 test?

18 A That's right.

19 Q And you did it with one Ponar Grab sample?

20 A That's right.

21 Q And that would have been a grab of a 4-inch chunk of  
22 sediment in one spot of the lake?

23 A That's correct.

24 Q Okay. And with regard to the core -- well, let me come back  
25 on the subject of the sinking rate test. Once you -- those

1 sediments are in a tube. And I think you said you put them  
2 in a water incubator or a water bath, I think is the word?  
3 A Yes; correct.  
4 Q And I assume that they're then left still?  
5 A That's correct.  
6 Q They're not agitated?  
7 A That's right.  
8 Q And obviously -- and I would assume you would agree that in  
9 a lake setting when sediments are stirred up -- you have on  
10 occasion wave action in a lake?  
11 A Yes, wave action and turbulence.  
12 Q And you have boat motors and boats traveling about the lake?  
13 A That's right.  
14 Q And the rate at which a sediment is going to sink is going  
15 to be different depending on whether it's in a still,  
16 non-agitated container or whether it's in an open body of  
17 water being subjected to agitation that might keep it from  
18 sinking?  
19 A That is incorrect. The sinking rate is independent of any  
20 advective motions and diffusive motions that go on in the  
21 water around it. That's the essence of the design of this  
22 experiment. It's to find what the true sinking rate is of  
23 that particulate matter. If one wants to try to superimpose  
24 extra hydrodynamic features on that, then that calls for  
25 additional mathematical modeling and so forth. But if a key

1 point is what is the sinking rate of that material and how  
2 might it settle in a quiescent environment -- or how it will  
3 settle in any environment, frankly, that's the appropriate  
4 experiment to perform.

5 Q Well, just using lay terminology here, --

6 A Oh, I'm sorry.

7 Q -- if we took the same sediments, two samples of the same  
8 sediment and we put one in a still container to see how fast  
9 it settled out and we took the other sediment and threw it  
10 in the lake and it was subjected to boat activity and waves,  
11 is it your testimony that those would settle out at the same  
12 rate?

13 A I'd say that their sinking rates would be the same.

14 Q Would they settle to the bottom at the same rate?

15 A They might not.

16 Q And so the sinking rate test you did -- and I am  
17 understanding that the phrase "sinking rate" has a  
18 scientific meaning -- connotation to it. But that test you  
19 did is not necessarily representative of how fast particles,  
20 sediments in the lake would clear out and actually settle to  
21 the bottom of the lake?

22 A You're saying how fast -- that's a little technical. The  
23 thing you want to know is what is the rate of removal of the  
24 particles from a particular water layer, you know. And the  
25 sinking rate measurement is absolutely vital to make that

1 subsequent calculation. And in terms of lots of -- having  
2 lots of turbulence, in fact, having complete and total  
3 turbulence, I could make the calculation as to how that  
4 would affect the rate at which it was removed from that  
5 surface layer. But it might double or triple, quadruple the  
6 time, but not much more than that.

7 Q And you didn't do that calculation?

8 A Well, I'd do it in my head right now.

9 Q Okay. Well, it's not in your report; right?

10 A That's right. I haven't been asked to do it, but here, but  
11 I'll tell you what it is.

12 Q Okay. Well, you've also mentioned that you took -- in  
13 addition to the Ponar samples you took -- I shouldn't say  
14 you took core samples. Dr. Evans took a core sample;  
15 correct?

16 A That's correct.

17 Q And I believe your report, it's page 6 -- and if you want to  
18 look at it, it's tab 2, I believe, of the Petitioner's  
19 exhibits on page 6. And my understanding -- and I think you  
20 were here for Dr. Evans' testimony.

21 A Excuse me. Let me make sure I've got this. I'm looking  
22 at --

23 Q Tab 2, page 6.

24 A Of the Petitioner's? Tab 2. This is Robyn Schmidt  
25 employment record?

1 Q This (indicating) is the Petitioner's book.

2 A Oh, this is the Petitioner's? I see. Okay. Page 6 of  
3 Exhibit 2?

4 Q Yes.

5 A Okay.

6 Q That's your report?

7 A Yes.

8 Q And before we get to that exact language, let's make sure we  
9 understand. What Dr. Evans did is he took that acrylic tube  
10 and he lowered it into the water right into the sediment and  
11 then he capped it on the top and eventually he capped it on  
12 the bottom; right?

13 A That's what I understand him to have testified to.

14 Q And then he gave that to you and according to your report,  
15 paragraph -- or section B3, the sediment in that tube sample  
16 was approximately 14 inches in length. You've got it in  
17 centimeters, but I think that's roughly 14 inches.

18 A Sure. That's correct. You're correct.

19 Q And you were here when Dr. Evans testified that he took that  
20 sample at about 60 to 80 feet from shore?

21 A Yes.

22 Q And, again, we go to Exhibit 24. And according to the water  
23 depth and muck depth chart, at 60 to 80 feet, we've got muck  
24 of 2.94 feet to 2.77 at 70 feet and 3.5 at 8 feet. You see  
25 that?

1 A I see it written here.

2 Q Or at 80 feet?

3 A Yeah. That is -- what? -- 2.1 -- you're looking at number  
4 8, is that what your --

5 Q Yeah, 8 represents 80 feet.

6 A So you're saying 2.1 feet of water, 3.5 feet of muck?

7 Q Right.

8 A Okay.

9 Q And I guess the question is, since you weren't there with  
10 Dr. Evans when he took the sample, can you explain -- is  
11 there any way you can explain how the muck depths are 2.7  
12 feet plus in that 60 to 80 foot range yet the sediment  
13 sample you received from Dr. Evans has only 14 inch -- or  
14 less than half the sediment?

15 A I think the only way to reconcile that is to comprehend how  
16 it was that the people in the field were ascertaining what  
17 the surface of the muck was. And as I've already indicated,  
18 there's some reason to think that there's ambiguity in that  
19 demarcation.

20 Q Okay. And I guess ultimately with respect to your opinion,  
21 you don't know how the measurements -- muck measurements or  
22 water measurements were taken with respect to Exhibit 24?

23 A I don't.

24 Q And other than -- you don't personally know how Mr. Evans  
25 conducted his sampling with the acrylic tube?



1 A No, personally, I don't.

2 Q Okay. And so you can't personally reconcile these two  
3 seeming inconsistencies?

4 A I'm not sure that they're inconsistent as long as we  
5 understand what the systematic differences are in the  
6 determination with the surface sediment layers.

7 Q But you don't know that as you sit here today?

8 A I don't know. I don't know if we can reconcile it or not.

9 MR. PHELPS: That's all I have.

10 JUDGE PATTERSON: Okay. Mr. Shafer, any redirect?

11 MR. SHAFER: Yes, your Honor.

12 REDIRECT EXAMINATION

13 BY MR. SHAFER:

14 Q Dr. Lehman, even in a straight line at a certain point out  
15 from the shoreline, will the muck depths be different along  
16 those lines, like, say, from the northern boundary of the  
17 line to the southern boundary of the line, or is this muck  
18 all identical at all points on a line?

19 A I can't imagine it would be. There's all kinds of  
20 depositional irregularities in that kind of a basin.

21 Q Okay. Now, is there any way to evaluate whether sediment  
22 will remain for a long period of time suspended in the water  
23 column after this dredging project other than the way that  
24 you examined it?

25 A Well, sure, you can do the experiment in the lake.

1 Q Okay. Let me ask you a question. And I think this is what  
2 counsel was driving at, and maybe I'm wrong. But your  
3 sinking experiment evaluates the rate of sinking without  
4 external factors such as wind and turbulence from a boat?

5 A That's correct.

6 Q Okay. Now, first of all, aren't the accretions an  
7 indication that this would be a non-wavy area of the lake?

8 A It's certainly an area of deposition rather than erosion.

9 Q Okay. And if we were then to try to figure out or try to  
10 have the dredging occur at a period of time where we were  
11 trying to control as best we can for those externalities,  
12 would it then be appropriate to conduct the dredging on a  
13 day where it's not windy and then impose on the dredging  
14 permit a requirement nobody use a boat in the area for a  
15 day?

16 A Sure, why not?

17 Q Now, there was some testimony in regard to the other lots in  
18 Indian Lakes West. And you have testified in great detail  
19 about all the examinations you made, so let me just kind of  
20 ask you some questions. Did you take any sediment samples  
21 or were you provided any sediment samples from any lots  
22 other than lot 8?

23 A No.

24 Q Did you make any Ponar Grabs from any lots other than lot 8?

25 A No.

1 Q Did you make any examination of the muck itself in any lots  
2 other than lot 8?

3 A No.

4 Q I want to get for a moment, if I could, a slightly better  
5 handle on your opinion in regard to the submerged vegetation  
6 in this area right in front of lot 8. And I understand that  
7 you did not do any type of quantitative analysis, but if you  
8 could tell the judge in general, was this an area of high  
9 vegetation, very low vegetation? If you could quantify it  
10 in some regard, I would appreciate that.

11 A Okay. I can certainly do it in sort of a semi-quantitative  
12 way. One of the ways that I determined what the actual  
13 distance was down to the true surface of the sediment was I  
14 lowered my Secchi disk --

15 THE WITNESS: As I think your Honor knows what  
16 that is --

17 JUDGE PATTERSON: I do.

18 A -- to the point at which it rested on the surface of that  
19 sediment and didn't sink into it. It was perfectly possible  
20 to see it because the water was transparent right down to  
21 that surface and it was possible to see if there was any  
22 kind of vegetation that was around it or over it. There  
23 wasn't any at the sites out at -- and that includes, you  
24 know, submerged vegetation at the 200-foot site, at the 100-  
25 foot site. There was a little bit at that close to shore

1 site. So, yes, there was some submerged vegetation at that  
2 point.

3 Q Okay. Now, I asked you some questions and there was some  
4 follow-ups on not using the term "lake succession." But  
5 what I wanted to ask you is, is dredging one way to retard  
6 lake succession?

7 A Well, let's go back to that definition that we were talking  
8 about and the way the lakes age and senesce. They fill in  
9 with this kind of organic matter over time. And if you were  
10 going to try to reverse it, yeah, you're absolutely correct.

11 Q I know it's probably somewhat self-apparent, but the lake  
12 filling in and dying, that wouldn't be a good thing, would  
13 it?

14 A I don't know. It might be good for meadow voles. I mean,  
15 all those things --

16 Q How about for people using the lake?

17 A I don't think lakeshore residents would like their lake to  
18 go away.

19 Q Okay. You made a number of evaluations and I think you  
20 basically testified that there were times that you got into  
21 the boat and there were other times that you were actually  
22 in the muck; is that correct?

23 A That's correct.

24 Q The evaluations you made and the analysis you made, could  
25 you have made that strictly from shore?

1 A From standing on the shore?

2 Q Yes, never going into the water, never going into the muck.

3 A No; no.

4 Q Could you evaluate, for example, you know, the consistency  
5 of the muck without actually getting up close and seeing it  
6 and stepping in it?

7 A No, of course not.

8 Q Just so that the record is clear in regard to some questions  
9 that the attorney general asked you -- and I just want to  
10 make sure that the opinions you have expressed -- am I  
11 correct that that was based upon a dredging project 50 feet  
12 wide -- I'm sorry -- 50 feet wide starting at the shore  
13 going out 200 feet into the lake down to the hardpan; is  
14 that correct?

15 A That's the way I considered the project.

16 Q Okay. So all the questions I asked you about the effect on  
17 the ecosystem and fish and everything, that was based upon  
18 your understanding of that being the project; is that  
19 correct?

20 A Yeah, at the time that I was asked to do it, that's what I  
21 thought they meant.

22 Q Okay. Would any of your opinions that you've expressed  
23 today change if the project started at the end of the  
24 wetlands, whatever that is -- you've heard different  
25 testimony, 20 feet, 33 feet -- the end of the wetlands, 200

1 feet out into the lake? Would that affect any of your  
2 opinions?

3 A No.

4 Q There were some questions that the attorney general asked  
5 you about pond weed. Did you see any pond weed in this  
6 area?

7 A I did.

8 Q Okay. Where was that?

9 A Well, there was some on the site and I listed it in my  
10 report. It was called "Potamogeton" -- is the genus name.  
11 But it wasn't luxuriant. I mean, I saw more of it off the  
12 site. But, I mean, I listed the things that were there.  
13 There definitely were some, you know, rare individuals of  
14 various genera.

15 Q Okay. Let me ask you this question, Doctor: Do you believe  
16 that an unacceptable disruption to the aquatic resources  
17 would result if this dredging project was undertaken?

18 A Repeat that. Unacceptable --

19 Q Unacceptable disruption to the aquatic resources.

20 A Of the lake?

21 Q Sure.

22 A Okay. No, I don't believe that that would happen.

23 Q Okay. Any other aquatic resources other than the lake?

24 A Not that I --

25 Q The attorney general was asking you about -- all I'm doing

1 is the attorney general was asking you about some Part 303  
2 criteria. I'm literally reading you the Part 303 criteria.  
3 And so you got what I got.

4 A Okay.

5 Q Any other aquatic resources you believe that there would be  
6 an unacceptable disruption of as a result of this dredging  
7 project?

8 A No, certainly not.

9 MR. SHAFER: That's all I have, your Honor.

10 JUDGE PATTERSON: Okay. Recross?

11 MR. REICHEL: Just one question, Mr. Lehman, or  
12 one line of questioning.

13 THE WITNESS: Sure.

14 RECCROSS-EXAMINATION

15 BY MR. REICHEL:

16 Q Counsel asked you on redirect about this phenomenon of a  
17 senescence of lakes generally. Lakes filling in over time?

18 A Yes; yes.

19 Q You haven't undertaken any evaluation of how a time line  
20 within which the -- hypothetically, Lake Missaukee would  
21 fill in, have you?

22 A Not specifically to Lake Missaukee, but I understand enough  
23 about lakes of its general nature, certainly.

24 Q And extrapolating from lakes of this type generally, do you  
25 believe that the senescence or filling in of Lake Missaukee

1 completely is -- turning it into a meadow is imminent?

2 A It's not imminent.

3 Q Are we talking --

4 A Time scale might be a couple thousand years. Of course, it  
5 will occur progressively and the lake will progressively  
6 fill in around the edges and you'll gradually watch that  
7 water contract into a few deeper basins.

8 Q The scale for this phenomenon would be in the thousands of  
9 years?

10 A Before the lake's completely filled in. But I'd say that if  
11 somebody has been making measurements over their lifetime,  
12 they've noticed a considerable amount of accretion in that  
13 lake in the near shore areas. It has to be the case.

14 Q Has that killed the lake?

15 A It transforms the lake into something else. And so I don't  
16 take a -- you know, I don't want to apply a value judgment  
17 to the ecosystem.

18 Q Are you expressing an opinion here, just to bring it home,  
19 that there's -- that the dredging project proposed in this  
20 permit application is needed to avoid the destruction of the  
21 lake?

22 A I'm not saying that it's needed to avoid the destruction of  
23 a lake.

24 MR. REICHEL: That's all I have.

25 MR. PHELPS: Just a couple questions.



1 JUDGE PATTERSON: Okay.

2 RE-CROSS-EXAMINATION

3 BY MR. PHELPS:

4 Q You talked briefly before about -- I may pronounce it  
5 wrong -- the nepheloid layer?

6 A Yes.

7 Q How thick was that based on your observations on the west  
8 end of the lake?

9 A I don't know. If I had to -- it didn't always look like it  
10 was the same thickness. I would say I feel secure about six  
11 inches in one place, maybe greater than that someplace else.

12 Q And how is that affected by the dredging and the removal of  
13 sediment?

14 A I don't know. I don't know.

15 Q Okay. When you were on the lake, did you notice any plumes  
16 of sediment?

17 A Well, I actually created some and what I did was I took the  
18 excess sediment from some of my Ponar samples that I  
19 wouldn't want to keep and I just discarded into the lake  
20 water as I always do. And I noticed that it didn't persist  
21 as a sediment plume. It sank out of view pretty quickly.  
22 And so that's actually where I got the idea, "I ought to  
23 quantify the sinking rate of this material because it seems  
24 to be pretty high."

25 Q Well, did you travel to other parts of the lake?

1 A No, I did not.

2 Q Okay. You didn't take any samples of sediment or nepheloid  
3 layers anywhere else in the lake?

4 A No, I did not.

5 Q And you don't know if -- so you don't know whether this type  
6 of sediment and this nepheloid layer is unique to that end  
7 of the lake or not?

8 A I don't know. But, you know, I've seen maps of the lake and  
9 I know what the bottom types are and I'd be very surprised  
10 if there would be anything like this overlying sand -- the  
11 sandy bottom areas.

12 MR. PHELPS: Nothing else.

13 MR. SHAFER: Nothing else, here.

14 JUDGE PATTERSON: Okay. Thank you, Doctor.

15 THE WITNESS: Okay.

16 (Hearing adjourned at 5:17 p.m.)

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