

STATE OF WISCONSIN CIRCUIT COURT SAWYER COUNTY

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JAMES HAUSMAN,

Plaintiff,

vs.

Case No. 03-CV-167

SAWYER COUNTY,

Defendant.

= = = = =

Deposition of:

PHILIP B. SOLSENG, P.E.

= = = = =

Date: Monday, January 17, 2005

Time: 9:00 o'clock a.m.

Reported by GREGORY GASSEN

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DEPOSITION of PHILIP B. SOLSENG, P.E.,

a witness in the above-entitled action, taken at the instance of the defendant, under the provisions of Chapter 804 of the Wisconsin Statutes, pursuant to notice, before GREGORY GASSEN, a Notary Public in and for the State of Wisconsin, at the offices of Stafford Rosenbaum LLP, Attorneys at Law, Three South Pinckney Street, in the City of Madison, County of Dane, and State of Wisconsin, on January 17, 2005, commencing at 9:00 o'clock a.m.

A P P E A R A N C E S

LAUREN L. AZAR,
MICHAEL, BEST & FRIEDRICH, LLP,
Attorneys at Law, 1 South Pinckney Street
Madison, Wisconsin, appearing on behalf
of the plaintiff;

JOSEPH P. WRIGHT,
STAFFORD ROSENBAUM LLP, Attorneys at Law,
Three South Pinckney, Madison, Wisconsin,
appearing on behalf of the defendant.

1 A P P E A R A N C E S (Continued)

2 ALSO PRESENT: ROB MONTGOMERY
3 JAMES HAUSMAN
4 NANCY JOHNSON DENT

5 = = = = =

6 PHILIP B. SOLSENG, P.E.,
7 called as a witness, after being first
8 duly sworn in the above cause, testified
9 under oath as follows:

10 EXAMINATION

11 BY MR. WRIGHT:

12 Q What is your full name, sir.

13 A Philip, P-h-i-l-i-p, Bruce Solseng, S-o-l-s-e-n-g.

14 Q Where do you live, Mr. Solseng?

15 A I live in Carver, Minnesota.

16 Q And where do you work?

17 A I work at Barr Engineering Company.

18 Q What's your position at Barr?

19 A I'm a vice president, principal.

20 Q And I've read your resume with the report that Barr
21 Engineering has prepared. Is that resume accurate as
22 of today?

23 A Yes.

24 Q You're still a licensed professional engineer in the
25 State of Wisconsin?

26 A Yes.

1 Q And briefly, can you tell me when did you first start
2 working on this project?

3 A In about the Spring of 2003.

4 Q And how did you come to learn of this project?

5 A Through Nancy Johnson Dent.

6 Q And how would you describe your position on this
7 project?

8 A More of a resource, technical resource to Nancy on
9 this project.

10 Q And what was her position?

11 A She's a principal project manager.

12 Q So is it fair for me to assume that she had overall
13 responsibility for this project?

14 A She's responsible for the client interaction on the
15 project, overall responsibility.

16 Q Did she have overall responsibility for the work
17 product as well as the client interaction?

18 A I have responsibility for the work product that I did.

19 Q So she wasn't your supervisor in the technical sense
20 on the work that you did that resulted in part of the
21 Barr Engineering report?

22 A That's correct, I was responsible for it.

23 Q Okay. And when Ms. Dent asked you to work on this
24 project, what did she tell you it entailed?

25 A To be clear on that, I guess I would say it entailed

1 the problem with erosion along the property of
2 Mr. Hausman.

3 Q And when you first were asked to work on the project,
4 what did you understand your tasks were going to be?

5 A To look at the cause of the erosion and potential
6 repairs to it. And actually, we were -- she was most
7 concerned about getting it fixed at the time.

8 Q At the time that you became involved, I think you said
9 it was Spring of 2003, had any repair work been done
10 on the Hausman property at that point as far as you
11 know?

12 A Not that I know of.

13 Q Okay. And I think you just said that your first
14 focus, or maybe Ms. Dent's primary focus at that time
15 was repair as opposed to causation, is that fair?

16 A Well, I think they kind of go hand-in-hand, but you
17 know, you find out what kind of the problem is and you
18 put a repair that's going to fix the problem, that's
19 correct.

20 Q Okay. Did you visit the property in Spring, 2003?

21 A Yes.

22 Q When did you first visit, do you know?

23 A I think it was in May, 2003.

24 Q And at the time you visited the property, what was its
25 condition along the shoreline that we're talking about

1 here?

2 A The condition, what we noticed were some tension
3 cracks along the shoreline.

4 Q And what else did you notice when you first visited?

5 A There was some sloughing of the shoreline.

6 Q I think I know what you mean by sloughing, but why
7 don't you explain how you're using the term.

8 A It's some movement of the soil.

9 Q Was that in conjunction with or separate from the
10 tension crack?

11 A They were in conjunction with, yes.

12 Q When you say movement of the soil, what do you mean,
13 what had happened?

14 A It had moved, you know, laterally.

15 Q I assume toward the lake?

16 A Towards the lake.

17 Q Okay. And when it moved laterally, did you also
18 observe any movement downward of any part of the
19 slope, either the landward or lakeward part of it?

20 A There appeared to be some downward movement of the
21 soil as well along the shoreline towards the lake.

22 Q Approximately how long were the tension cracks that
23 you observed?

24 A This was the intriguing thing. The tension cracks
25 were along the portions of the entire property plus

1 property to the north and plus property to the south.
2 So it was a fairly extensive amount of tension cracks.
3 Q When you say the property to the north and south, are
4 you referring to the immediately adjacent properties?
5 A Yes, immediately adjacent to the north and immediately
6 adjacent to the south.
7 Q Did you go on those properties to observe those
8 cracks?
9 A Yes.
10 Q You said, I think, that there was some downward
11 movement in the shoreline or the land next to the
12 shoreline. Can you tell me how much the land had
13 moved downward along those cracks?
14 A You know, from the tension crack to where the edge of
15 the shore was was maybe inches.
16 Q Was it one inch or 10 inches?
17 A I don't know if I measured it. We'd have to check.
18 Q How many cracks did you observe, do you remember?
19 A No.
20 Q What other conditions did you observe at the Hausman
21 property in May, 2003 that caught your attention or
22 seemed out of the ordinary to you?
23 A That was mostly it, the tension cracks.
24 Q Who was there with you during that visit?
25 A Nancy.

1 Q Was Mr. Hausman there?

2 A Yes.

3 Q Anyone else?

4 A I think that was it. Maybe Mr. Hausman's wife was
5 there, I'm not sure. I think she came when I was
6 there.

7 Q Okay. Was there still ice on the lake when you
8 visited?

9 A I don't think there was, no.

10 Q I assume you had not been to Mr. Hausman's property
11 before that visit, had you?

12 A No, I had not.

13 Q Okay. What did you do while you were there during
14 that first visit?

15 A What we did is, first we looked at the various tension
16 cracks, we looked at the shoreline, both on
17 Mr. Hausman's property and to the area north and to
18 the area south. And then Nancy and I took a survey of
19 the slope of the beach underwater. Then we measured
20 the distance from the house to the edge of the tension
21 cracks.

22 Q How did you do the survey of the slope underwater?

23 A We just took a ruler or a rule, a rod and measured the
24 depth of the ground from the top of the water, just
25 sounded the depth of the water.

1 Q How far out from the shoreline did you go?

2 A Went to about the edge of the dock, I'm not sure how
3 far that was.

4 Q Can you tell me any other observations that you made
5 that day that you considered to be significant for
6 your work in this case?

7 A The other observations, we looked at the trees and the
8 vegetation, and looked for leading trees and things
9 like that. I mean, there was some of those telltale
10 signs of movement. We looked at the riprap, you know,
11 that was there.

12 Q Did you see any telltale signs of movement?

13 A Yes.

14 Q What did you see?

15 A I saw the tension cracks for sure, and I saw there was
16 some trees that were leaning.

17 Q Where were the trees that were leaning?

18 A There were some on the north and some on the south
19 edge of the adjacent property.

20 Q How far inward from the lake or landward from the lake
21 did you see trees leaning?

22 A I don't recall.

23 Q I assume you talked to Mr. Hausman during that visit?

24 A Uh-huh.

25 Q You need to answer out loud, please.

1 A Yes, I'm sorry, I apologize for that.

2 Q That's all right. And what did Mr. Hausman tell you
3 or point out to you about his property while you were
4 there?

5 A He pointed out where the tension cracks were.

6 Q Did he tell you when they were first observed?

7 A Yes.

8 Q What did he tell you?

9 A He said they were first observed, I believe, in 2002,
10 and they showed up again in the Spring of 2003.

11 Q When you say showed up again, that makes it sound as
12 though they had disappeared and came back.

13 A I'm not sure that's what he meant.

14 Q Okay. Do you know whether there was any work done
15 with respect to those tension cracks from --

16 A I don't know.

17 Q Another rule. If you let me finish I'll try and let
18 you finish with a question and answer, okay?

19 A Yes.

20 Q Thank you. Did he tell you whether there'd been any
21 work done with respect to those tension cracks between
22 the time they were first observed in 2002 and the time
23 that you saw them in 2003?

24 A I don't recall that.

25 Q Okay. What else did Mr. Hausman tell you during that

1 first visit?

2 A I'm not sure I can remember everything, that was 2003.

3 Q Okay. Well, you may not remember everything, but I
4 guess I want to know what you do remember. Can you
5 remember anything else that he told you during that
6 visit?

7 A He mentioned that he was concerned about the tension
8 cracks. He was concerned that his shoreline was
9 eroding away. He mentioned where his shoreline used
10 to be historically. He mentioned there was a severe
11 wave event some time ago, and I forget when it was,
12 and that his shoreline eroded away from what it was
13 historically.

14 Q Anything else that you can remember today that
15 Mr. Hausman told you during that first visit?

16 A I presume it's relevant to the project that we're
17 discussing.

18 Q If it was about the weather, I don't care, unless it
19 was weather that affected the shoreline, so fair
20 enough. Things that related in any way to the work
21 that you were doing there, or let me add one other
22 thing. If he told you anything about what Sawyer
23 County may have done or may not have done with respect
24 to either the lake levels or his property or himself,
25 I want to hear that, too.

1 A He certainly did say that the water levels were high,
2 and he certainly did say, you know, that it was above
3 what the approved elevation should be, and he thought
4 that this was the potential cause for a lot of his
5 erosion.

6 Q Anything else that you remember that Mr. Hausman told
7 you during that first visit?

8 A I cannot recall.

9 Q Okay. Aside from measuring the slope and looking at
10 the tension cracks, what other work did you do that
11 first visit?

12 A Took photographs, we did a soil sample. We, like I
13 said, we measured the distance from the house to the
14 beach and the tension cracks, the survey.

15 Q When you say the survey, you mean the survey of the
16 slope of the ground into the lake?

17 A Right, correct. We also looked at some historical
18 photographs of the lake.

19 Q Were those ones that Mr. Hausman provided?

20 A That's correct.

21 Q Do you remember when they dated from?

22 A There's certainly some in 2002, I do recall that. I'm
23 not, and I think there may have been some before that
24 from the 1990s, 1996 I think or something like that.

25 Q Any earlier than that that you remember?

1 A I don't remember.

2 Q Okay. Any other work that you did while you were
3 there on that first visit?

4 A The visit was mostly a data gathering visit, and I'm
5 trying to think of all the data we gathered. And that
6 was, you know, in looking at things. I think that was
7 probably it.

8 Q Okay. You mentioned that you inspected or observed
9 the properties to the north and south of the Hausman
10 property, correct?

11 A That's correct.

12 Q Did you visit any other sites along the lakeshore of
13 Round Lake while you were there?

14 A I don't recall that we did.

15 Q Did you visit any of the control structures that
16 affect Round Lake?

17 A I did not.

18 Q When was the next time that you visited the Hausman
19 property?

20 A I have not been back since.

21 Q Have you been back to Round Lake since that visit in
22 May of 2003?

23 A No.

24 Q Did you ever travel the lakeshore of Round Lake in a
25 boat to observe any of the shoreline?

1 A I did not.

2 Q Or in any other conveyance?

3 A I think the only other conveyance would have been the
4 roadway as you get there.

5 Q Other than that, you didn't walk the shoreline or take
6 a canoe or anything else to look at it?

7 A No, I did not.

8 Q Okay. Have you ever at any time visited any of the
9 control structures that affect Round Lake?

10 A No.

11 Q What did you view your role as in the report that Barr
12 Engineering has produced?

13 A My role was to look at the cause of the tension
14 cracks, and then to prepare a repair to the shoreline
15 under my guidance.

16 Q There were others within Barr Engineering who worked
17 on the repair solution?

18 A That's correct.

19 Q What were their names?

20 A Aaron Grosser.

21 Q Can you spell that, please?

22 A A-a-r-o-n, Grosser, G-r-o-s-s-e-r.

23 Q What's his position?

24 A He's a geotechnical engineer.

25 Q What was his responsibility?

1 A He's the one that was responsible for designing the
2 sheet pile wall and looking at some methods of
3 shoreline protection.

4 Q Who else at Barr worked under your supervision on this
5 project?

6 A That's probably the main person. Aaron may have had
7 others work for him.

8 Q And that was just with respect to the repair work, not
9 the causation issue?

10 A That's correct.

11 Q Did anyone besides yourself work on the causation
12 issue with respect to the tension cracks?

13 A I don't recall. Aaron may have done some work on
14 that.

15 Q Anyone else?

16 A And Aaron may have had someone do some additional work
17 on that, I'm not sure, I don't recall.

18 Q Any other parts of the project that you worked on
19 besides the repair issue and the causation issue?

20 A Could you repeat the question?

21 Q Sure. Were there any other parts of the Barr
22 Engineering work on this project that you were
23 involved in besides the repair issue and the causation
24 issue?

25 A No.

1 Q Okay. Did you have any involvement, for example, in
2 the sections of the Barr report that talk about what
3 remedies might be undertaken in order to maintain the
4 lake levels at what Barr views as the appropriate
5 level?

6 A No.

7 Q Okay. After your visit to the Hausman property in May
8 of 2003, walk me through, if you would, the steps that
9 you took in doing your work.

10 A Okay. Basically, what we did is we plotted the data,
11 and then we looked at the failure mechanisms, and then
12 we designed the repair. I guess there would be one
13 intermediate step there, we'd look at alternatives and
14 then design the repair.

15 Q What data was it that you plotted?

16 A It would have been the slope on the beach, the grain
17 size of the beach sand. We would have looked at some
18 literature search to see what the typical soil would
19 be in the area. We would have probably, we would have
20 looked at some of the anticipated wave heights.

21 Q Any other categories of data that went into your work?

22 A I said plotting the survey, right?

23 Q No, you didn't, but we'll add that, plotting the
24 survey?

25 A Plotting the survey data.

1 Q Okay. Anything else?

2 A And I said literature, literature review of typical
3 characteristics for the soil that's there based on the
4 grain size analysis.

5 Q Anything else?

6 A That's probably it.

7 Q Okay. With respect to the wave heights, where did you
8 get data about possible wave heights on Round Lake?

9 A I think we used -- I did not do the wave height
10 analysis, but we would have looked at some typical
11 wave heights for some fetch distances.

12 Q Who did the analysis or collected the data with
13 respect to wave heights?

14 A That would probably have been under Nancy, she would
15 have looked at that.

16 Q Did you have any discussion with Mr. Hausman or
17 anybody else for that matter about what the wave
18 heights were during the wave event that you mentioned
19 earlier?

20 A Yes, we did.

21 Q What were you told?

22 A I don't recall any specific numbers, but I remember
23 him saying they were large, high waves.

24 Q Did he give you any indication of how high large is?

25 A I don't recall.

1 Q On a lake the size of Round Lake, what would you
2 consider to be large waves, or is that Ms. Dent's
3 area?

4 A I think that would be Nancy's area. I'm not --

5 Q With respect to data, you've given me the things that
6 you looked at as being the slope on the beach, the
7 grain size, you did a literature search with respect
8 to the typical soils in the area. You had some data
9 with respect to wave heights, and you plotted the
10 survey data, I guess, from the slope going into the
11 lake. Is there any other category of data that went
12 into your work with respect to the failure analysis?

13 A I think that is most of the data that we collected.

14 Q And aside from the photographs that you took, did you
15 do anything else, for example, measurements to
16 document the tension cracks that were in the soil in
17 May of 2003?

18 A And what do you mean by document?

19 Q Well, let's start with the simple one. Did you
20 measure the tension cracks?

21 A Yes.

22 Q And what else, if anything, did you do to analyze
23 those tension cracks other than what we've talked
24 about with respect to the categories of data?

25 A We did do some analysis of the data.

1 Q Did you calculate a number for the shear resistance of
2 the sand or other soils that are located there?

3 A We probably did, and I'm not sure that, if Aaron would
4 have done that or not.

5 Q If he did, you don't remember now what that figure
6 was?

7 A I don't remember.

8 Q Setting aside for a moment your ultimate conclusion
9 about what the failure mechanism was with respect to
10 those tension cracks, in your opinion what are the
11 potential causes of tension cracks such as those you
12 saw at Mr. Hausman's property?

13 A What are the potential causes of the tension cracks,
14 is that what you said?

15 Q Yes.

16 A The cause of the tension crack is certainly lateral
17 movement of the soil.

18 Q And underlying the lateral movement of the soil, what
19 are the potential causes of that, meaning the lateral
20 movement?

21 A The cause would have to be loss of some support or
22 some pulling apart of the soil to cause it to move.

23 Q And what mechanisms did you consider that could have
24 caused the pulling apart or lateral movement of the
25 soil?

1 A We looked at the various mechanisms. The erosion in a
2 very broad sense was caused by either air or water,
3 and we quickly narrowed it down to water. And we
4 determined that water was the fundamental cause of the
5 tension cracks.

6 Q And in what ways could the water, what are the
7 potential ways in which the water could have caused
8 the tension cracks?

9 A There's quite a number of ways. What the water is
10 trying to do is at its higher level is to try to level
11 out the land and form a beach, and in that process the
12 water acts on the soil in many different ways. The
13 most obvious one is of course wave action at a higher
14 level tending to erode the soil. There are other
15 causes. The saturation of the soil at a higher level
16 causes it to be heavier, increases the moisture
17 content, increases the capillary suction.

18 Q Increases the capillary suction did you say?

19 A Increases the capillary suction. The higher water at
20 least in the northern climates is subject to frost
21 action, and this also serves to weather the soil and
22 causes it to erode more easily.

23 Q What other causes or potential ways are there in which
24 the water affected the shoreline at Mr. Hausman's
25 property?

1 A There's also higher groundwater. What occurs is the
2 groundwater on a higher water level in the lake will
3 also cause a higher groundwater level within the bank,
4 especially in these sands, that would be a natural
5 occurring condition. And as the groundwater rises and
6 the lake level drops, there would be a destabilization
7 effect caused by the lowering, what we call a sudden
8 draw down effect of the soil as it tries to, as the
9 seepage water goes through. I mean, these are
10 fundamental weathering processes that form beaches.

11 Q And with respect to the, you mentioned the
12 groundwater, with respect to the higher groundwater
13 question, if you will, what steps, if any, did Barr
14 Engineering undertake to determine the level of the
15 groundwater at Mr. Hausman's property?

16 A We did not, at least to the extent for slope
17 stabilization we did not.

18 Q You did not look at where the groundwater level was in
19 connection with your work on either determining --
20 well, strike that. Let me break it up. With respect
21 to determining what caused the tension cracks at
22 Mr. Hausman's property, Barr Engineering did not
23 undertake any analysis of where the groundwater level
24 was on his property?

25 A To determine the cause, is that the question?

1 Q Yes.

2 A No.

3 Q With respect to the repair work that you did at the
4 Hausman property, did Barr Engineering undertake any
5 analysis to determine the groundwater level?

6 A What we did in the repair, we provided for groundwater
7 drainage.

8 Q And that was through some weep holes in the sheet
9 piling?

10 A That's correct.

11 Q Other than that, did you do anything to determine the
12 relationship between the groundwater level and the
13 repair work -- strike that. Let me ask it again a
14 different way. Other than with respect to the weep
15 holes that were put into the piling in connection with
16 the repair work, did Barr Engineering do anything to
17 determine the groundwater level at Mr. Hausman's
18 property?

19 A Not that I know of.

20 MR. WRIGHT: Let's go off the
21 record a minute.

22 (A short recess is taken)

23 Q Mr. Solseng, before we took the break I was asking you
24 some questions about groundwater. I wanted to
25 continue with the list of the potential ways in which

1 water could have caused the tension cracks at the
2 Hausman property, and you've told me a couple of
3 them. Are there other ways that water could have
4 caused the tension cracks at Mr. Hausman's property?

5 A Other than the ones that I mentioned you're referring
6 to, and I'm trying to think of what I said. I
7 mentioned frost and ice and things, I mentioned
8 capillary, I mentioned seepage, I mentioned water
9 content, weight, I mentioned wave action.

10 (Short pause)

11 A Something may come to me.

12 Q Okay.

13 A The reason that I, that I'm thinking is because most
14 failure conditions in soil are seemingly water
15 driven. And there's a whole matrix of, or a whole lot
16 of different ways that water can affect the
17 conditions. It can decrease its shear strength, it
18 can cause pore pressure changes, it can, it changes
19 soil characteristics. So I'm trying to be somewhat
20 inclusive on that, and there are a lot of different
21 ways that water affects the landforms.

22 Q If anything else comes to you, please interrupt me and
23 we'll add it to the list, okay?

24 A Yes.

25 Q Okay. Now, with respect to the failure, or the

1 tension cracks I should say, initially, let's focus on
2 the tension cracks at the Hausman property, can you
3 summarize for me what your opinion is with respect to
4 the causation of those tension cracks?

5 A The high water level was trying to move the earth to
6 form a beach, and in that process of trying to level
7 the beach, the soil would, was trying to move
8 laterally, and it moved laterally, and in that
9 particular case in a block, and it caused a tension
10 crack.

11 Q Okay. And explain to me, if you can, because I'm not
12 an engineer, how the water can cause that slab of
13 earth, for lack of a better phrase, to move
14 laterally.

15 A There's a couple of ways. One, it could cause the
16 loss of support at the toe of the small slope. So it
17 would tend to move and fill that void that was
18 created. It could have caused the soil or the water
19 within the tension crack to freeze and push it over.

20 It could have caused enough water pressure within
21 the soil itself to cause it to push over by seepage
22 forces. It could have frozen within the high water,
23 and when the ice went out, it could have physically
24 moved, tried to move the soil as well.

25 Q The receding ice pulls on the soil do you mean, in

1 essence?

2 A It could have, or floated or, you know, whatever. The
3 ice and the soil tend to become frozen together, and
4 that's one mechanism of moving soil. You see it a lot
5 in the glaciers actually with the large boulders and
6 stuff floating within the glaciers. So there's a
7 number of ways that this could have happened, and this
8 is the process of forming a new beach at a higher
9 water level.

10 Q And what do you believe was the cause of the tension
11 cracks at the Hausman property?

12 A Again, it was the high water trying to form a new
13 beach.

14 Q Well, you just listed for me about five different ways
15 in which the water could have affected the property
16 and cause those tension cracks. Can you narrow it
17 down for me among those five as to which was the most
18 likely cause of the failure?

19 A That's difficult, because what we saw was after the
20 fact. We did not see the tension cracks physically
21 form. There could have been waves that could have
22 occurred and temporarily removed the support of the,
23 at the toe of the slide or the beach, and it would
24 have moved, and then it would have subsequently filled
25 in, we don't know that.

1 We didn't see the ice physically move it. We
2 didn't see it actually happen, but we know that these
3 processes do occur, and unless you can physically see
4 it, it's hard to say exactly what happened. But we
5 know that that would have happened as the beach was
6 trying to form at a higher level.

7 Q Has Mr. Hausman or anyone else ever described to you
8 their observations, their firsthand observations of
9 how these cracks formed? In other words, did anyone
10 ever tell you that they saw these cracks form?

11 A I don't recall that, no.

12 Q Okay. Do you, in your work that you've done on this
13 project, do you have an opinion as to a time frame
14 when these cracks occurred, for example, a month or
15 even a year?

16 A This process, the erosional process is, you can think
17 of it as two trains of thought. There's one, some
18 people say it's a very slow process that occurs over a
19 long, long period of time. The other theory is that
20 it occurs rapidly and large changes occur. And
21 actually, it's kind of a combination of the two.
22 There are some subtle changes that occur for a long
23 time and then something happens that would cause a
24 more rapid change to occur.

25 And the simplest explanation would be like an

1 earthquake. There's stresses that would build up over
2 a long, long period of time, and suddenly it breaks
3 quickly. That's not, that's very typical in nature.
4 There are small changes, stresses that take place that
5 occur over a long period of time, and things happen
6 seemingly really fast. But in actuality, if you would
7 have observed them for a long time, you could perhaps
8 measure them, and I'm not sure.

9 And that's somewhat what happened here is that
10 there were probably some small things that occurred
11 over a period of time, and then suddenly it would have
12 failed. And again, I'm talking about the nature of
13 how things occur, and that would be typical.

14 Q Is it fair for me to conclude that you believe that
15 these tension cracks appeared suddenly then?

16 A There would have been the time when they were there
17 and the time that they were not there. I don't -- you
18 know, certainly that would be sudden, and yeah, I
19 mean, I'm not exactly sure how you mean by sudden.

20 Q Well, I think you used the word first, so I guess I'm
21 trying to understand the range in which you think
22 something is sudden. If something is there on the
23 first of the month and the last of the month, to me
24 that's not sudden. If it's there one morning when I
25 get up and it was not there the night before when I

1 went to bed, maybe that's sudden. And I'm trying to
2 understand what your temporal range is for this
3 event.

4 A When I say things occur over a long period of time,
5 I'm talking about years, and with some natural things
6 it's centuries, and some other natural things it's
7 longer than that. So there's slow and there's fast.
8 Now, this is certainly sudden in terms of that it
9 would have occurred within a very short period of
10 time. And I'm not, I mean, less than a day, less than
11 some period, maybe less than an hour. But there would
12 be some period when it would have been there, and all
13 of a sudden it would have occurred that you would see
14 it.

15 Now, there would be some smaller cracks that
16 maybe you would not see that would have occurred that
17 would have said yes, this is moving, but you wouldn't
18 see them, and then they get bigger suddenly. So
19 there's, it's a step process.

20 Q Perhaps over the course of a day, is that what you're
21 saying, that it would go from not discernible to the
22 naked eye to then cracks of at least a couple of
23 inches width?

24 A Well, my feeling is, and I don't have any proof of
25 this, but I think it would have occurred over

1 seconds. It would have been there and then not
2 there. But that's the one that you would observe.
3 You would observe it one time, and you'd go out there
4 and all of a sudden you'd see it because something
5 would have occurred.

6 Q And in your work, were you able to pin down a period
7 of time, whether that be an hour, a day, a week or a
8 month, where these tension cracks first appeared?

9 A I would not.

10 Q And am I correct in concluding that because we don't
11 have any firsthand observation of the moments or
12 period of time when these cracks first appeared, we
13 don't have any firsthand knowledge of which mechanism
14 is most likely the cause of the cracks?

15 A The mechanism is the natural erosion process of the
16 higher water trying to establish a new beach, and
17 there are many mechanisms involved that would cause
18 that to occur.

19 Q When you say higher water, what water level are you
20 referring to, do you know?

21 A The beach would have been established at one water
22 level, a particular water level. And when the water
23 gets above the established beach from that water
24 level, it would try to establish a new beach, and
25 that's a higher water level that I'm speaking of.

1 Q Okay. And can you put numbers to the level that you
2 consider to have been the beach in the first instance,
3 and then secondly, to the higher water level that you
4 believe caused or contributed to the failure that is
5 the tension cracks?

6 A I really cannot.

7 Q Can you quantify the difference between the water
8 level that was the beach and the water level that you
9 consider to be a higher water level?

10 A The beach that we surveyed was a very gently sloping
11 beach towards the end of the dock, and that's probably
12 within the beach established by the normal water
13 levels.

14 Q The ordinary high water mark?

15 A I don't know that. It would have been established by
16 some water level that was somewhat consistent. When
17 the water rose above that level, the shoreline started
18 to erode.

19 Q And I'm trying to understand what water level you
20 think the water was at at the time that the tension
21 cracks appeared. Do you know what the water level
22 was?

23 A No.

24 Q Okay. Do you know what the water level -- strike
25 that. I think you testified earlier that Mr. Hausman

1 told you the cracks first appeared in 2002, is that
2 correct?

3 A What I, you asked me if I could recall what
4 Mr. Hausman said at the meeting, and I said that he
5 said that the cracks, he observed cracks in 2002. I'm
6 not sure that's when they first appeared, but he said
7 he saw them in 2002.

8 Q Did you do anything to determine what the water level
9 was in 2002 at the time that Mr. Hausman first
10 observed the cracks?

11 A We do have some records that show the water level was
12 high in 2002, that's correct.

13 Q And who at Barr Engineering worked most closely with
14 determining what the water levels were in 2002?

15 A That would have been Nancy.

16 Q Did you have any involvement in gathering water level
17 data for Barr's work on this project?

18 A No.

19 Q In doing your work to determine the cause of the
20 tension cracks, what water level did you assume there
21 was on Round Lake at the time the cracks were first
22 observed?

23 A Could you repeat that question?

24 MR. WRIGHT: Would you read it
25 back?

1 (Reporter reads back last question)

2 A Okay. At the time the cracks were first observed, I'm
3 not sure about when they were first observed. I know
4 they were observed in 2002. The photographs that I
5 saw in 2002 showed a water level that was above the
6 riprap or at about the riprap elevation, the top of
7 the riprap elevation, which was above the beach
8 elevation that we had surveyed in 2003.

9 Q And when you visited in 2003, where was the water
10 level?

11 A The water level was, at least on the north side of
12 Mr. Hausman's property, away from the riprap. I mean,
13 it was on the beach.

14 Q You mean it was lower than the lowest level of the
15 riprap?

16 A On the north end it was below the bottom of the
17 riprap, I believe.

18 Q And how did that compare with what you observed in the
19 photos from 2002?

20 A The water was at the top of the riprap.

21 Q And are we referring now to the same riprap, meaning
22 the riprap you referred to at the north end of
23 Mr. Hausman's property?

24 A Yes.

25 Q And what, if you have an estimate, what is it of the

1 height differential between the bottom of the riprap
2 at the north end of the property and the top of the
3 riprap?

4 A What is the height difference?

5 Q Yes.

6 A A foot or so or more, something like that.

7 Q At the time that you observed the cracks in May, 2003,
8 did you take a measurement of how deep they were?

9 A I believe we did.

10 Q Do you recall?

11 A I'm not sure, I don't remember the number.

12 Q Can you give me a range?

13 A I'd have to look at the notes to know that. I think
14 we could look at the, there's some photographs that
15 were taken that would show what the depths could be
16 looked at. I'm not sure, I'd have to -- I don't
17 remember.

18 Q Can you characterize for me the quality or type of the
19 soil that was within the cracks? Was it fine, was it
20 course, what kind of soil was it?

21 A It was fine, fine to medium sand, beach sand.

22 Q And what was the nature of the vegetation on the soil
23 that cracked?

24 A Where?

25 Q Well, if it differed, tell me it differed, but on the

1 Hausman property I'm talking about.

2 A On the Hausman property there was a lawn. To the
3 south of the Hausman property it was trees and natural
4 vegetation. To the north of the property it was some
5 trees.

6 Q Was there any way for you to determine where the
7 cracks began and where they ended, in other words --
8 well, go ahead and answer, if you can.

9 A Where the cracks began and where they ended on a
10 certain elevation or?

11 Q Well, this is a layman trying to ask an engineer
12 questions, so you tell me a better way to put it, if
13 you can. But what I'm trying to understand is, was
14 there a point at which the crack began and then spread
15 as in a windshield, for example?

16 A This is an interesting condition, something that I did
17 not expect when I first saw it, but there were
18 essentially tension cracks at different intervals,
19 lateral tension cracks along the Hausman property, to
20 the north of the property and to the south of the
21 property. And whether or not they extended
22 continuously or not was not exactly easy to see.

23 I mean, you know, sometimes you don't see the
24 crack on the surface, it might not always be readily
25 visible. But there was the extent, the lateral extent

1 of the cracks was very significant, indicating that
2 there were, there was a bigger, a bigger effect such
3 as high water that was affecting everything. It
4 wasn't just a localized effect. It was a much larger,
5 much larger effect, something that you'd expect from
6 something like high water that was an overall global
7 effect causing the problem.

8 Q Were those cracks more or less consistent with simply
9 static high water or a wave event?

10 A The process of making a new beach would be a
11 combination of static water wave events and a number
12 of different events. And to isolate it from one or
13 the other, I'm not sure. What happening was the beach
14 was establishing at a higher level, and that's the
15 fundamental cause of what I saw.

16 Q Tell me, if you can, how the cracks were oriented as
17 compared to the shoreline at Mr. Hausman's property.

18 A The cracks were parallel to the shoreline.

19 Q Uniformly parallel? In other words, were there any
20 cracks that were off by any significant angle from the
21 shoreline, from parallel to the shoreline?

22 A There were certainly, the general alignment was
23 parallel. Now, there were certain cracks that would
24 fall in, I call them shadow cracks, that were more
25 advanced than some of the cracks, and they would break

1 off towards the lake. But the overall configuration
2 was lateral cracks along the shoreline, parallel to
3 the shoreline.

4 Q Okay. Now, did you understand also that Mr. Hausman,
5 besides having the tension cracks, has claimed that he
6 lost a certain amount of shoreline to erosion?

7 A Yes.

8 Q Okay. Did you have any involvement in analyzing that
9 event or events?

10 A No.

11 Q Okay. You didn't have any, your work did not delve at
12 all into how or why that shoreline may have
13 disappeared?

14 A It did not.

15 Q Okay. In looking at the tension cracks, what work did
16 you do to analyze this failure mechanism?

17 A I would have to recall, Aaron Grosser was the one that
18 did some of these shear, the shear analysis. We did
19 look at some of the wave analysis, the wave erosion
20 potential of the soil.

21 Q How did you look at that, what did you do to look at
22 that?

23 A We looked at the grain size.

24 Q Just a visual examination of the soil?

25 A Mostly a visual examination, and determine from

1 literature whether or not it was erodible.

2 Q Anything else you did to analyze the issue of the
3 tension cracks?

4 A There may have been some computations about seepage
5 pressures and uplift pressures, and there may have
6 been some computations on ice forces, things like
7 that, and I'm not sure those computations were as
8 detailed. They would have been more of a, you know,
9 these are fine sand particles easily moved by seepage
10 and things like that. I mean, it was more of a visual
11 type of evaluation.

12 Q Any computer modeling done or computer work of any
13 kind?

14 A I don't recall that.

15 Q You don't remember or you don't believe it was done?

16 A I don't recall.

17 Q Okay. Did you perform any tests on the soil at
18 Mr. Hausman's property other than to take a soil
19 sample?

20 A The only test we did was the grain size analysis.

21 Q And other than measuring the cracks, did you do
22 anything else to the cracks themselves to analyze or
23 inspect them?

24 A No.

25 Q Did you take any borings into the areas on either side

1 of the crack to determine what underlay the cracks?

2 A We did that one boring in the beach to see if, you

3 know, what was underlying the cracks.

4 Q What did you determine was underlying it?

5 A It appeared to be all sand.

6 Q Am I correct in saying that this area of Mr. Hausman's

7 property appeared to be sitting on, for lack of a

8 better word, fill?

9 A I don't know that.

10 Q Did you analyze the neighboring properties at all to

11 determine what kind of soil was underneath or around

12 the cracks on those properties?

13 A I did look at it, yes.

14 Q Was there any difference at all between the soil on

15 the neighboring properties and Mr. Hausman's property?

16 A I don't recall any differences.

17 Q Were the neighbor's properties also fine grainy sand

18 as you've described Mr. Hausman's?

19 A It appeared to be.

20 Q Did you take any samples from those properties?

21 A No.

22 Q Did you measure those cracks?

23 A We looked at the cracks and we looked at the

24 photographs, but I don't recall measuring them,

25 physically measuring them.

1 Q Other than Mr. Hausman, did you talk to anybody else
2 in Sawyer County about the cracks on his property?

3 A I didn't.

4 Q Did you talk to the neighbors whose property you
5 inspected?

6 A I'm trying to recall for the neighbor on the north
7 whether we talked to him or not, I don't remember if
8 we did or not.

9 Q Did you have permission to go on those properties?

10 A I don't remember.

11 Q Okay. Did you ever have any discussions with Dan
12 Tyrolt?

13 A No.

14 Q Did you ever have any discussions with John
15 Hirschfield?

16 A No.

17 Q Did you ever have any discussions with any
18 representative of Sawyer County?

19 A No.

20 Q Let me ask you about the second component of your
21 work, the repairs that were done to Mr. Hausman's
22 property. Can you just describe generally for me
23 again what your role was with respect to the repairs?

24 A My role with respect to the repairs was primarily an
25 advisory role.

1 Q Who'd had primary responsibility for the repairs?
2 A I would have had primary responsibility but through
3 Aaron Grosser.
4 Q So you oversaw Mr. Grosser's work?
5 A That's correct.
6 Q When you visited in May, 2003, had anything been
7 undertaken at that point in order to start the repair
8 work in any way?
9 A Not by us, no.
10 Q When you visited in May, 2003, were there any stakes
11 in the water?
12 A Yes.
13 Q What was your understanding of who put the stakes
14 there?
15 A I understood that Mr. Hausman put the stakes.
16 Q Did you have any discussions with anyone from
17 Wisconsin Department of Natural Resources about the
18 repair work?
19 A No.
20 Q Not at any time?
21 A No.
22 Q What was your understanding of what the stakes
23 represented when they were there in May, 2003?
24 A My understanding was that was the beach historically.
25 Q Who told you that?

1 A Mr. Hausman.

2 Q To the best of your memory what did he tell you about
3 where the beach was historically and the relationship
4 between that and where the stakes were?

5 A He had said that, and I don't recall the year, that he
6 had measured out some distance from his house to where
7 the edge of the beach was. And when Nancy and I
8 measured that same distance, it was, I do recall the
9 distances now, I think he said 39 feet, and we
10 measured to the same, to the beach about 31 feet.

11 Q Meaning the beach as you saw it in May, 2003 was about
12 eight feet inland from where Mr. Hausman told you it
13 was?

14 A That's correct.

15 Q And did he tell you that he had put the stakes in the
16 water?

17 A I think he had put the stakes in the water, yes.

18 Q And those were meant to represent where the beach was
19 prior to the event that caused this loss of eight feet
20 of shoreline as far as you were aware?

21 A That's correct.

22 Q Tell me about the discussions, if any, that you had
23 with Mr. Hausman on that visit about the repair work
24 that was to be done.

25 A I don't recall anything specific other than the fact

1 that he wanted a beach that was going to be stable.

2 Q Did you have any discussion with him about where the

3 beach should extend to, to what point it should extend

4 to?

5 A He thought the beach, that his repairs should extend

6 to where it was historically, correct, yes.

7 Q And your understanding was that the stakes represented

8 that point?

9 A My understanding was that was what it represented.

10 Q Okay. Did you have any discussions with him then

11 about what type of repairs should be done?

12 A We may have, we may have discussed alternatives, we

13 may have discussed approaches, I don't exactly recall.

14 Q When you first got involved with this project, what

15 did Ms. Dent tell you about what kind of repair was

16 going to be done at the Hausman property?

17 A When we first started?

18 Q When you first got involved.

19 A When I first got involved? I don't remember exactly,

20 I don't remember what she said. I know we eventually

21 designed a sheet pile wall.

22 Q When was the first time you discussed with either

23 Ms. Dent or Mr. Hausman the various types of repairs

24 that could be effected on his property?

25 A I'm not sure.

1 Q Did you ever discuss with Mr. Hausman the option of
2 putting riprap on the property to repair the problem?

3 A Nancy may have.

4 Q Did you?

5 A I don't think that I did. I may have at some
6 meetings.

7 Q Do you have any memory as you sit here today of saying
8 or discussing with Mr. Hausman the idea of putting
9 riprap in place along his shoreline?

10 A The use of riprap was certainly discussed. Whether I
11 discussed it with Mr. Hausman or not, I'm not, I don't
12 recall that.

13 Q Did you ever discuss with Mr. Hausman the possibility
14 of using vegetation as a protective barrier?

15 A Vegetation was discussed with Mr. Hausman by Jeff Lee
16 mostly. That was not --

17 Q Were you part of those discussions?

18 A I was not part of that discussion.

19 Q Did you ever have any discussion with Mr. Hausman
20 about vegetation as a barrier?

21 A I did not discuss vegetation as a barrier.

22 Q Did you discuss the sheet pile with Mr. Hausman?

23 A Like I said, I believe we discussed alternatives, but
24 most of our discussion with Mr. Hausman was through
25 Nancy. And whether I discussed it directly with

1 Mr. Hausman or Nancy would have, I'm not exactly sure
2 how the communication would have transpired. During
3 the initial visit we may have discussed different
4 alternatives. I don't recall what we all discussed,
5 but certainly there was probably some discussion of a
6 number of things that could be done.

7 Q Do you have any memory as you sit here today of
8 discussing with Mr. Hausman the cost of any
9 alternative as opposed to a sheet pile wall?

10 A The discussion of costs would have been through Nancy
11 or Aaron Grosser.

12 Q So the answer is you don't remember discussing any
13 alternative to a sheet pile with Mr. Hausman, is that
14 true?

15 A That's true.

16 Q Okay. When did you begin work on designing the repair
17 to the shoreline of Mr. Hausman's property?

18 A It would have been after the May, 2003 visit.

19 Q And what involvement did you personally have in
20 actually designing the repair?

21 A My involvement was, Aaron Grosser was the one that
22 designed it, was the primary designer. And he used
23 other individuals in that design as well. What he
24 would do is come to me and ask me what I thought about
25 that design.

1 Q Other than the review of Mr. Grosser's work, did you
2 ever put pen to paper with respect to the design of
3 the repair at Mr. Hausman's property?

4 A In terms of the sheet pile wall?

5 Q Yes.

6 A The pen to paper that I would have done would have
7 been the general sketch of how it should look in terms
8 of depth. And I do recall there was some discussion
9 about the need to go relatively deep on this sheet
10 pile wall.

11 Q Some discussion with whom?

12 A With Aaron Grosser.

13 Q And why was it that you felt a need to go fairly deep
14 with the sheet pile wall?

15 A Because of the nature of the sand.

16 Q Other than the general sketch that you repaired, did
17 you do any independent engineering work other than --
18 strike that. Other than reviewing Mr. Grosser's work
19 and providing a general sketch of what the sheet pile
20 wall would look like, did you yourself do any
21 engineering work with respect to the repair?

22 A No.

23 Q Did you ever do any on-site inspections of the repair
24 work at any time?

25 A No.

1 Q Let me come back to the tension cracks for one
2 minute. Have you ever seen any cracks like this
3 before?

4 A Yes.

5 Q Where?

6 A We have done a fair number of, you know, slope
7 stabilization projects. So it would have been on
8 several projects where similar cracks would have
9 developed.

10 Q Have you ever seen cracks like this along a shoreline
11 of a lake?

12 A Yes.

13 Q Can you tell me where?

14 A The one that's most closely resembles this would have
15 been a project in western Minnesota, Lake Koronis.

16 Q K-o-r-o-n-i-s. I went to the Camp Koronis as a kid,
17 and I don't remember any cracks.

18 A You weren't looking for them.

19 Q Where else have you seen any cracks like this?

20 A Similar cracks may have been observed on some of the
21 St. James mine where we claimed a mine pit. It's an
22 open pit mine, and in this open pit mine, the water
23 level was rising, and there were similar cracks
24 forming as the water was rising and failing the
25 embankment, or not the embankment, the slope.

1 Q With respect to the tension cracks, did you analyze at
2 all the question of whether the tension cracks would
3 have occurred had the lake level been at what Barr
4 Engineering views to be the state ordered maximum
5 water level?

6 A Could you restate that again?

7 Q With respect to the tension cracks, did Barr
8 Engineering do any work to determine whether the
9 tension cracks would have occurred if the water level
10 in Round Lake had been at the state ordered maximum?

11 A We did not do an evaluation of that, no.

12 Q Did you do anything with respect to the tension
13 cracks, to take apart the riprap at Mr. Hausman's
14 property and take a look at what was underneath it?

15 A We did not take apart the riprap.

16 Q Do you have an understanding as to whether there was a
17 barrier of any kind underneath that riprap?

18 A As I recall, there was some riprap on the north end --
19 I'm sorry, on the south end of the proper that had a
20 geotextile under it. I did not see that on the north
21 end.

22 Q And where were the cracks?

23 A The cracks were in back of the riprap.

24 Q Okay. And were there cracks where there was a
25 geotextile barrier?

1 A The property to the north of Mr. Hausman's property, I
2 did observe geotextile on that property, and there
3 were cracks in back of that geotextile.

4 Q Directly landward of that geotextile?

5 A On the landward side of that geotextile.

6 Q Do you know whether anyone at Barr Engineering asked
7 the DNR whether it would approve using riprap as a
8 part of the repair process at the Hausman property?

9 A I don't know that.

10 Q Okay.

11 MR. WRIGHT: Let's go off the
12 record a minute.

13 (A short recess is taken)

14 (Exhibits 125 and 126 are marked for identification)

15 Q Mr. Solseng, before we move to the report, I had a
16 couple of other questions with respect to the
17 measurements that were taken in May, 2003 when you
18 visited the Hausman property. Who took the
19 measurements?

20 A Nancy and myself.

21 Q Okay. And can you tell me the two points from which
22 you measured the 31 feet that you mentioned earlier?

23 A We measured from the house to the edge of the, to the
24 top of the shoreline, the edge of the riprap.

25 Q So that was from the corner of the house down to the

1 top of the riprap?

2 A That's correct.

3 Q You did not measure down to the water?

4 A No.

5 Q Did you take any measurement other than from the

6 corner of the house to the top of the riprap?

7 A I think we did, yes. As I recall, we measured all the

8 way to the water and things like that, yes.

9 Q Okay. Do you know which corner of the house you were

10 measuring from?

11 A I think it's the northeast corner.

12 Q And I assume you took the straightest line you could

13 to the top of the riprap from there?

14 A Yes.

15 Q Measured the shortest distance?

16 A Yes.

17 Q Okay. And was it your understanding that you were

18 duplicating the measurement that Mr. Hausman took?

19 A That's correct.

20 Q Okay. Was Mr. Hausman there while you took the

21 measurement?

22 A Yes.

23 Q I'm going to ask you to take a look, if you would, at

24 Exhibit 125. Can you tell me what that is?

25 A It's entitled A Study of the Cause of Shoreline Loss

1 at Hausman Property on Round Lake During 2002/2003.

2 Q Okay. And that's a report that was prepared by Barr
3 Engineering?

4 A It was prepared by Barr Engineering at the request of
5 Michael, Best & Friedrich dated 4 January, 2005.

6 Q Okay. And the report indicates at the beginning of
7 each section, I believe, which of the Barr Engineering
8 personnel prepared each part of it, is that correct?

9 A That's correct.

10 Q Okay. Did you have any role in reviewing the report
11 as a whole?

12 A The entire report, no. I did review it to understand
13 it and comment to Nancy about it, but I did not have
14 the role of critiquing it from a technical standpoint.

15 Q Was there any critique performed within your
16 organization?

17 A I presume that Nancy would have taken care of that.

18 Q You don't know whether there was one?

19 A I don't know that.

20 Q Okay. The first section of the report is entitled
21 Introduction, and it indicates that Ms. Dent prepared
22 that. Do you see that, if you'd open your report to
23 section Roman numeral I. Did you have any role in
24 preparing the introduction?

25 A This would have been reviewed by me.

1 Q Did you make any changes or suggest any changes when
2 you reviewed it?

3 A I probably had some minor edits.

4 Q Do you know what those were?

5 A No.

6 Q Did you keep a draft copy of the report?

7 A No.

8 Q How did you communicate your minor edits to Ms. Dent?

9 A I probably would have marked up her copy and we would
10 have talked about it.

11 Q Did you give your copy back to her with your changes?

12 A Yes.

13 Q Did you have any involvement in Section II of the
14 report, Overview of Factors Affecting Round Lake Water
15 Levels?

16 A I had no role in that.

17 Q Did you even review this part of the report?

18 A I did read it.

19 Q Okay. Did you make any suggestions as to how it might
20 be changed or edited?

21 A There may have been some minor edits to make things
22 more clear for clarity. There was no technical edits.

23 Q Okay. Now, with respect to Roman numeral III,
24 Conclusions. It looks as though you prepared
25 Section A1 of that part of the report?

1 A That's correct.

2 Q Take a look, if you would, at the second paragraph
3 under Section 1, Description of Shoreline Failure.
4 And you refer there to the measurement of 39 feet from
5 the house to the edge of the riprap, do you see that?

6 A Yes.

7 Q Then take a look at figure 9 that's part of
8 Exhibit 125. Do you see that?

9 A Yes.

10 Q Now, is it your understanding that the 39 feet
11 measures from the corner of the house as shown there
12 to the top of the riprap, the landward side of the
13 riprap?

14 A That's my understanding.

15 Q And that understanding came from Mr. Hausman?

16 A That's correct.

17 Q Okay. Because the tape measure appears to be down on
18 the beach and I just wasn't clear.

19 A What we did is we measured to the same, what Jim
20 Hausman measured to the top of the riprap there as we
21 measured the top of the riprap as shown on figure 10.

22 Q And now, taking a look at figure 10, I take it that's,
23 I can't tell, it looks like Ms. Dent down at the
24 water's edge there?

25 A That's correct.

1 Q And who's the gentleman standing in the shadow, is
2 that you or Mr. Hausman?

3 A That looks like Mr. Hausman.

4 Q Okay. And do you know what the significance of the
5 stake is that's landward of Ms. Dent?

6 A I don't remember.

7 Q And it looks like, I could be wrong, but it looks like
8 there's a red tape measure right at Ms. Dent's feet?

9 A Yes.

10 Q Is that where 39 feet measures to that point, from the
11 edge of the house to that point is 39 feet?

12 A No, I think that was 31 feet.

13 Q Or 31 feet, excuse me.

14 A And I'm not sure exactly where the 31 feet is, I think
15 it's to the riprap.

16 Q Okay. And the riprap had not moved between 1994 and
17 2003?

18 A I think the riprap must have been moved, yes.

19 Q Okay. Now, figure 8 is a photograph, do you see that?

20 A Yes.

21 Q Who took that photograph, do you know?

22 A Looks like it would have been either me or Nancy.

23 Q So this is a Barr Engineering photo, not a Hausman
24 photo?

25 A It looks like a Barr Engineering photo.

1 Q Figure 14 shows tension cracks on adjacent property?

2 A Yes.

3 Q Which property is this, do you know?

4 A This would have been the property to the south.

5 Q And how far are we from the property line that divides

6 the Hausman property from the property to the south

7 where this crack is shown?

8 A I'm not sure but it, you know, it's probably more than

9 50 feet, I'm not sure, but it's some distance away it

10 appears to be.

11 Q And am I correct that in the upper right-hand corner

12 of this photograph it shows the edge of the lake?

13 A That's correct.

14 Q So does it appear that the tension crack here runs

15 perpendicular to the shoreline, roughly speaking?

16 A No, this tension crack appears to me to run generally

17 parallel. You can see that it's down in the lower

18 portion of the photograph, and then it makes a small

19 arc and then it goes to the north. So it's generally

20 parallel, although there are some arcs that are

21 certainly going towards the lake.

22 Q Okay. Figure 15, which property is shown here?

23 A This is the property to the north of the Hausman

24 property.

25 Q Do you know from any source when these cracks first

1 appeared, meaning the cracks shown in figure 14 and
2 15?

3 A They were there on May 3rd, I know that.

4 Q And other than that, do you know when they first
5 appeared?

6 A No.

7 Q What's figure 16a?

8 A 16a is an illustration showing some failure mechanisms
9 of the shoreline failure without geotextile.

10 Q Who prepared that?

11 A I did.

12 Q You indicate next to the numeral 1 HWL, which means
13 what?

14 A There's two number one's.

15 Q The one in the circle that's actually part of the
16 drawing.

17 A That's high water level May 9th, 2002.

18 Q Okay. Who took the measurement that resulted in an
19 elevation of 77.7?

20 A That would have been Nancy.

21 Q Okay. Can you quantify for me what the height
22 differential would be, assuming the mechanism that
23 you've shown here, what the height differential would
24 be between the existing ground level and the ground
25 level after the tension crack appears? Wouldn't there

1 be some shearing that would result in a height
2 differential?

3 A Yes. That's illustrated somewhat on figure 15, and on
4 figure 12, and on figure 11, and you can also see it
5 on figure 10 that there appears to be some height
6 differential. And judging from those figures, you
7 would estimate it to be, you know, something less
8 than, something around a foot, you know, more than an
9 inch, less than two feet.

10 Q What is that height differential called, is there a
11 technical term for it? Is the term scarp appropriate?

12 A I would have to make sure I understand the word
13 scarp. Scarp is used differently, and I'm not sure of
14 the exact, precise definition of scarp.

15 Q Okay. Well, I'll leave that alone then. With respect
16 to figure 16b, what does that represent?

17 A This is a schematic diagram of a storm wave attack on
18 beach and dune from the U.S. Army Coastal Engineering
19 Research Center.

20 Q We didn't have a dune at Mr. Hausman's property, did
21 we?

22 A We had sand.

23 Q Yes, but we didn't have a dune, right?

24 A The word dune here is sand dune is what it implies.

25 Q And we did not have a dune at Mr. Hausman's property,

1 correct?

2 A I would have to look at the definition of dune to be
3 sure that I understand exactly what dune means and how
4 it applies to Mr. Hausman's property. In the general
5 sense, in a general sense I'd have to understand what
6 dune means.

7 Q Well, I didn't make it up, you put this in the
8 report. What significance did this diagram of a dune
9 have to you with respect to the Hausman property?

10 A Because it's sand.

11 Q Okay. Other than that, does Mr. Hausman's property
12 have a crest or did it have a crest like that shown in
13 profile A of figure 16b?

14 A It had a landward sand to it that was away from the
15 lake. In that respect it was similar.

16 Q It didn't have a crest, though, did it?

17 A Mr. Hausman's property did not have a crest that I
18 know of.

19 Q Okay. What's the relevance of figure 16b?

20 A The relevance of 16b shows how wave erosion attacks
21 sand, and they use this particular document at a dune,
22 sand dune. And the material on Mr. Hausman's property
23 was sand, not too dissimilar from sand dunes, and it
24 shows how it erodes under high water.

25 Q And it also reflects a storm tide, does it not, in

1 profile C?

2 A That's correct.

3 Q Are there any tides on Round Lake of any significance?

4 A There could be a storm tide.

5 Q Did you do anything to investigate whether a storm
6 tide had anything to do with the tension cracks or
7 other damage at Mr. Hausman's property?

8 A The high water would be indicative of what happened at
9 Mr. Hausman's property, similar to this storm tide.

10 Q So you're just comparing the high water level that you
11 believe occurred on Round Lake, just the general high
12 water level that Barr Engineering believes occurred on
13 Round Lake is similar in your mind to a storm tide?

14 A It would be similar in terms of elevation, that's
15 correct.

16 Q And is it your understanding that there was any
17 significant change in elevation of the level of Round
18 Lake such as would occur with a storm tide coming
19 first up and then receding?

20 A There's certainly seems to be some changes in water
21 level on Round Lake.

22 Q Did you do anything to investigate the rapidity with
23 which the water level changes on Round Lake?

24 A No.

25 Q So you can't compare the rapidity of any water level

1 change on Round Lake to the rapidity with which a
2 storm tide might come ashore and then recede?

3 A In terms of water level?

4 Q Yes.

5 A No.

6 Q If you'd look at figure 17. First of all, did you
7 have any involvement in preparing this?

8 A Yes.

9 Q And what is this figure meant to reflect or display?

10 A This is an illustration of a failure mechanism that
11 could happen with the geotextile.

12 Q And with the geotextile in place as you've shown here,
13 would there be any pressure differential in the soil
14 as between the soil that is landward of the geotextile
15 barrier and the water and riprap that are on the other
16 side?

17 A If the lake was high and then it dropped, yes, there
18 would be.

19 Q Okay. And what is the pressure differential
20 between -- strike that. With respect to this drawing
21 right here, did you make any assumptions about whether
22 the lake level would rise or fall?

23 A With respect to this drawing, is that the question?

24 Q Yes.

25 A This drawing does not show that, no.

1 Q Okay. And what's the mechanism that you show here as
2 causing a failure in creating a tension crack?

3 A Okay. This mechanism is intended to show along with
4 figure 16a another mechanism of failure that sometimes
5 happens with geotextiles. A geotextile is generally
6 used to prevent the piping of the soil as the waves
7 attack it and the water drags the sand through the
8 riprap. The geotextile is intended to prevent the
9 migration of sand. And this was intended to show
10 that, even though you have that protection from the
11 migration of sand through the riprap, you can still
12 have a failure with the geotextile.

13 Q And what your basis for saying that?

14 A My basis for saying?

15 Q That there could still be a failure even if there's
16 geotextile there.

17 A The basis for it is because there could be some
18 hydrostatic pressures that could still move the soil.

19 Q And what pressures would be needed to move the soil?

20 A The pressures on the soil?

21 Q Yes.

22 A Would be the seepage pressures.

23 Q And can you quantify that for me?

24 A Typically, the water pressures would have to be
25 something like twice the unit density of the soil to

1 cause it to move. That's a very typical value.

2 Q And what measurement of unit density of the soil did

3 you make at the Hausman property?

4 A We did not specifically make that measurement.

5 Q Okay. Did you specifically or generally make any

6 measurement of the density of the soil at

7 Mr. Hausman's property?

8 A We would have used some typical values to look at

9 that.

10 Q But where did you derive those typical values from?

11 A Literature.

12 Q Did you take any measurement of the soil density at

13 Mr. Hausman's property?

14 A No.

15 Q Why not?

16 A Didn't think we needed to.

17 Q Well, you just said you used soil density as part of

18 your calculations, right?

19 A Yes.

20 Q So why not measure the actual soil that you were

21 opining about?

22 A Because the soil density in place would not vary too

23 much from the typical values used in the literature.

24 Q How do you know that if you didn't measure it?

25 A And the -- how would I know that if I didn't measure

1 it?

2 Q Yes.

3 A The soil density would not have physically changed

4 significantly from published loose sand densities that

5 would have been there.

6 Q That's an assumption you made?

7 A That's an assumption I made, that's correct.

8 Q If you'd take a look at Page 12 of Exhibit 125,

9 please. And then I'm looking in particular at the

10 table of the types of protection and the approximate

11 cost and so on, do you see that?

12 A Yes.

13 Q Who prepared that table?

14 A That would have been prepared jointly between Nancy

15 and myself.

16 Q Okay. And with respect to the sheet pile protection

17 that's listed there, how did you come up with the

18 approximate cost?

19 A I believe that was based on Mr. Hausman's estimate of

20 the cost for the sheet pile.

21 Q And with respect to the riprap, how did you come up

22 with the cost of that?

23 A That was based on some unit, some quantities and some

24 unit prices for the quantities.

25 Q Okay. Quantities of rock?

1 A Quantities of rock and filter.

2 Q And who did the investigation to give you the unit
3 prices and the filter prices and so on?

4 A That would have been Aaron Grosser or one of his, one
5 of our other engineers helping him.

6 Q Okay. And with respect to the bioengineering, who
7 came up with the cost of that?

8 A I believe that was Jeff Lee.

9 Q Let me ask you to take a look at Page 13, the bottom
10 paragraph under Section C, do you see that?

11 A Yes.

12 Q Did you prepare this Section C? Well, let me ask it a
13 different way. The first three items 1, 2, 3 on
14 Page 14 each show that a different person from Barr
15 Engineering prepared those paragraphs, do you see
16 that?

17 A Yes.

18 Q What I'm trying to figure out is who wrote the
19 paragraph that precedes those sections that comes
20 right beneath the heading of that letter C?

21 A That was not prepared by me, although I may have
22 reviewed it.

23 Q Okay. Was that Mr. Lee do you believe?

24 A I would have to ask Nancy.

25 Q Okay. If you'd take a look at Section 1 on the next

1 page where it says that you prepared it, do you see
2 that?

3 A Yes.

4 Q You make the statement, "Erosion is accentuated during
5 periods when water levels are above normal in the
6 lake." What's the basis for that statement?

7 A The basis for that statement would be experience and
8 previous analysis on other lakes and reservoirs.

9 Q Okay. Now --

10 A And literature search, research.

11 Q And is all of the literature that you researched for
12 this report reflected in the appendix that lists the
13 sources for your work?

14 (Witness examines document)

15 A You mean the one on Page 16?

16 Q Yes, sir, and following. In other words, are there
17 any sources that you consulted that you did not list
18 in Section IV of the report that's been marked as
19 Exhibit 125?

20 (Witness examines document)

21 A There probably is, and the reason I'm saying that is
22 because typically when I look at a problem, I have my
23 standard soil engineering books which I would use to
24 look at properties, look at things like that. And
25 they're like my college books, and I don't see those

1 listed, but they would be the typical soil engineering
2 books.

3 Q Is there any source in particular that allowed you to
4 make the statement, "Erosion is accentuated during
5 periods when water levels are above normal in the
6 lake"?

7 A I would have to check.

8 Q Okay. Do you remember any as you sit here right now?

9 A I don't recall. The only one that may have been is
10 this U.S. Army Coastal Engineering Research Center on
11 Page 17, No. 26, Volumes 1 and 2. That may have said
12 something, I would have to look at that. That's
13 where that figure from 16b was derived from. There
14 may have been something in that book that would have
15 said that.

16 Q Now, in the last sentence of paragraph 1 on Page 14 of
17 Exhibit 125 you say that, "Based on site observations
18 in May 2003, it was determined that the same
19 mechanisms that are causing shoreline erosion on
20 Mr. Hausman's property are also causing erosion
21 adjacent to Mr. Hausman's property and around the
22 majority of the lakeshore." Do you see that?

23 A Yes, I do.

24 Q Okay. What's the basis for the statement that the
25 same mechanisms that are causing shoreline erosion on

1 Mr. Hausman's property are also causing erosion around
2 the majority of the lakeshore?

3 A Okay. That statement would be as reported by Jeff Lee
4 and Nancy when they observed the lake and explained to
5 me what they saw, and what they reported they saw
6 around the lake and how it was similar to what was
7 occurring at Mr. Hausman's property.

8 Q Okay. So your statement to that effect is based
9 solely on work done by others, not work done by you?

10 A That's correct.

11 Q Okay. Other than Ms. Dent and Mr. Lee telling you
12 that they saw similar erosion elsewhere on the lake,
13 do you have any other basis for the statement that you
14 included in the sentence I just read?

15 A No.

16 Q Take a look, if you would, sir, at Exhibit 126.
17 That's the County Highway NN report that Barr
18 prepared, do you have that in front of you?

19 A Yes.

20 Q Did you have any role in the preparation of that
21 report?

22 A No.

23 Q Have you reviewed it?

24 A No.

25 MR. WRIGHT: Let's go off the

1 record for a minute.

2 (A short recess is taken)

3 MR. WRIGHT: Mr. Solseng, subject
4 to reviewing the new materials that were brought
5 here today by Mr. Furlow, I'm done with the
6 questions for now, but I reserve the right to ask
7 you some more later if in those documents that I
8 haven't seen before there's anything else that I
9 want to ask you questions about.

10 MS. AZAR: We're going to object to
11 that.

12 MR. WRIGHT: That's fine. I
13 understand your position and you understand mine.

14 MS. AZAR: I would like to put it
15 on the record as to what our position is.

16 MR. WRIGHT: Sure, go ahead

17 MS. AZAR: Our position is that we
18 responded promptly to all your document requests,
19 we produced the documents this morning as you had
20 requested, and we have indeed produced
21 Mr. Solseng. If you've got any further questions
22 for Mr. Solseng, we request that you ask them
23 now.

24 MR. WRIGHT: Well, I can't do that,
25 because I only got the documents today. I mean,

1 we can sit here, if you want to sit here while I
2 review them all, we can do that, but I'm not going
3 to do that. And I'll reserve the right to ask him
4 some questions over the phone if I need to to
5 follow up on any documents that have been produced
6 for the first time today. So we understand our
7 positions, and we can take it up later if we need
8 to, but Mr. Solseng, thanks very much for coming
9 in today.

10 MS. AZAR: And I have potentially
11 some further questions.

12 MR. WRIGHT: Oh, go ahead.

13 EXAMINATION

14 BY MS. AZAR:

15 Q Mr. Solseng, Mr. Wright asked you at one point whether
16 or not you actually measured the groundwater levels on
17 the Hausman property, do you remember that?

18 A Yes.

19 Q And you stated no, you had not measured the
20 groundwater levels, is that correct?

21 A That's correct.

22 Q When you took a soil sample on Mr. Hausman's property,
23 was it apparent whether or not there was groundwater
24 within that sample?

25 A There was water in the sample but we didn't actually

1 measure water. We didn't, we didn't actually
2 measure. I mean, we saw it was there and that was
3 it. It was not an investigation of the groundwater.

4 Q At the very end of the questioning Mr. Wright was
5 asking questions about the last sentence in Section 1
6 on Page 14 of Exhibit 125. Would you please look at
7 that?

8 (Witness examines document)

9 A Okay.

10 Q Mr. Wright asked you what the basis for that
11 conclusion was, and you indicated that your basis was
12 descriptions provided by Mr. Lee and Ms. Dent, do you
13 recall that?

14 A Yes.

15 Q Mr. Solseng, did you personally see and investigate
16 the tension cracks on the properties adjacent to
17 Mr. Hausman's property?

18 A Yes.

19 Q And was that inspection part of the basis for that
20 statement?

21 A Yes.

22 MR. WRIGHT: Object to the form of
23 the question belatedly. Which statement are you
24 now referring to, the one about the majority of
25 the lakeshore or the adjacent properties?

1 MS. AZAR: Right now with this line
2 of questioning I'm talking about the wording
3 "causing erosion adjacent to Mr. Hausman's
4 property."

5 MR. WRIGHT: Okay.

6 MS. AZAR: Okay.

7 Q So let me continue and ask that again. In relation to
8 that phrase, "causing erosion adjacent to
9 Mr. Hausman's property," was the basis of that
10 conclusion, did that include personal investigation on
11 your part of those properties?

12 A That's correct.

13 Q Now, moving on to the next phrase causing erosion
14 "around the majority of the lakeshore," you indicated
15 that you relied primarily on Mr. Lee's and Ms. Dent's
16 descriptions, correct?

17 A That's correct.

18 Q Did you also view photos of the erosion that was
19 located around the majority of the lakeshore?

20 A Yes.

21 Q And were those photos also a basis of your
22 conclusion?

23 A Yes.

24 Q Mr. Solseng, Mr. Wright had asked whether or not you
25 investigated whether the tension cracks would have

1 occurred had the water level been at the state
2 ordered maximum or below that water level, do you
3 recall that?

4 A Yes.

5 Q You stated that you did not specifically do an
6 evaluation of that issue, do you recall that?

7 A Yes.

8 Q If you did not look at whether the tension cracks
9 would have occurred at a lower water level, how could
10 you render an opinion that the cause of the damage on
11 the Hausman property was related to high water?

12 A The high water -- or the tension cracks and the
13 erosion taking place on the Hausman property and the
14 adjacent properties is really associated with the high
15 water trying to establish a new beach. And all those
16 tension cracks and all the stress we observed there is
17 a new lake level trying to level the shoreline to a
18 stable form.

19 Q One moment, please.

20 (Short pause)

21 Q Mr. Solseng, at the very beginning of this deposition
22 Mr. Wright asked who was in attendance at the site
23 visit at the Hausman property. Was Mrs. Solseng and
24 Mr. Dent also present at the site visit?

25 A Yes, I should have thought of that, my wife and

1 Nancy's husband were also present.

2 MS. AZAR: No further questions.

3 MR. WRIGHT: I have no questions,

4 Mr. Solseng, thank you.

5 (11:21 a.m.)

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1 STATE OF WISCONSIN)
)ss.
2 COUNTY OF DANE)

3 I, GREGORY GASSEN, a Notary Public in and for the
4 State of Wisconsin, do hereby certify that the above
5 deposition was taken before me at the offices of Stafford
6 Rosenbaum LLP, Attorneys at Law, Three South Pinckney
7 Street, in the City of Madison, County of Dane and in
8 said State, on January 17, 2005, commencing at
9 9:00 o'clock a.m.; that it was taken at the request of
10 the defendant, upon verbal interrogatories; that it was
11 taken in shorthand by me, a competent court reporter and
12 disinterested person, approved by all parties in
13 interest, and thereafter reduced to writing by me using
14 computer-aided transcription; that said deposition is a
15 true record of the deponent's testimony; that said
16 deposition is to be used in the above-entitled action now
17 pending in Circuit Court; that the appearances were as
18 shown on Pages 2 and 3 of the deposition; that reading
19 and signing was not requested; that the said PHILIP B.
20 SOLSENG, P.E., before examination, was sworn by me to
21 testify the truth, the whole truth, and nothing but the
22 truth relative to said cause.

23 Dated January 25, 2005.

24

25

Notary Public, State of Wisconsin

