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6 Typical Pump Building Area Detail (of the
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8 NOTE: Page numbers may change on final transcript.
9 Full exhibit list for today will be included in the final
transcript.

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1 Lansing, Michigan

2 Friday, June 20, 2008 - 8:31 a.m.

3 JUDGE PATTERSON: Ready?

4 MS. HALLEY: Just waiting for the screen to warm
5 up, I think.

6 MR. LEWIS: I think Mr. Predko is here. He wanted
7 to take up this issue that Mr. Wallace raised a few days ago
8 about this witness.

9 JUDGE PATTERSON: Okay.

10 MR. LEWIS: So if we could take care of that.

11 MR. PREDKO: Your Honor, the issue is regarding
12 witness Bill Taylor. And the issue with Dr. Taylor is that
13 he has been in and out of the country, and he is still of
14 the country. I've made every attempt to try and reach him
15 over the last two days since Mr. Wallace's request, and I
16 can't reach him. He has been scheduled to testify on the
17 24th since June 10th. And that's when we gave Petitioners
18 notice of the date on which he's supposed to testify. And
19 despite efforts, I can't contact him. I don't know his
20 schedule for the next three weeks. And I assume, based upon
21 his previous schedule, that he may be unavailable on other
22 dates. And so while I've tried, I cannot accommodate Mr.
23 Wallace's request to move that date. And I would just note
24 that the Huron Mountain Club has had at least three
25 attorneys here to do cross-examination on witnesses, and I

1 can't accommodate his last-minute request.

2 MR. WALLACE: Well, I'll just say what I said
3 before. He was scheduled much earlier in trial. I prepared
4 to cross-examine him, and he was cancelled at the last
5 minute and put to this later date. I've tried to clear this
6 date. I've tried very hard to clear this date. I can't
7 clear it. I can do it the next day. I can do it Friday. I
8 can do it almost any time in the weeks to come. I mean, he
9 must have another free day. And --

10 JUDGE PATTERSON: Well, if he does, fine; if he
11 doesn't, I guess we're going to have to do him on Tuesday.

12 MR. PREDKO: And your Honor, it could be a
13 last-minute thing. I do have a prep meeting scheduled with
14 him on Monday, which is the first time I know I will be able
15 to get a hold of him. But again, that's the first time that
16 I will know whether he has an available day. And if he
17 does, I'm fine to do it then. But if not, we'll have to go
18 forward on Tuesday.

19 JUDGE PATTERSON: All right.

20 MR. WALLACE: I mean, this is a witness being
21 taken way out of order. This is not in the normal course.
22 The accommodation was to let him be taken out of order,
23 which we're agreeable to.

24 JUDGE PATTERSON: Well, we don't know if we have a
25 problem yet.

1 MR. PREDKO: I'll report back.

2 JUDGE PATTERSON: Thank you for your efforts.

3 MR. PREDKO: I'll report back on Monday.

4 JUDGE PATTERSON: Ms. Halley, are you ready?

5 MS. HALLEY: Yes.

6 JOSEPH MAKI

7 having been called by the Respondent and previously sworn:

8 CROSS-EXAMINATION

9 BY MS. HALLEY: (continued)

10 Q Good morning, Mr. Maki.

11 A Good morning.

12 Q Let's go to page 21, please. Okay. We were beginning to
13 discuss the environmental impact assessment portion of the
14 statute and rule requirements yesterday.

15 MS. HALLEY: Just go down a little bit, please.
16 Thank you.

17 Q Now, Mr. Maki, could you read for us the requirements of the
18 EIA? And this is Rule 202, entitled "Environmental Impact
19 Assessment," little (a).

20 A Just read little (a)?

21 Q Well, particularly the small number (iii) there, I think is
22 the crux of it.

23 A So you'd like me to read small (iii)?

24 Q Yes.

25 A Okay. "An analysis of the potential impacts of proposed

1 mining activities on the condition or feature and, where
2 applicable, the effects of the condition or feature on the
3 proposed mining activities."

4 Q That's a requirement of the EIA; right?

5 A That's correct.

6 Q Now, I think I meant little (ii). I apologize, Mr. Maki.

7 A What was that?

8 Q I think I meant to ask you to read little (ii). I
9 apologize.

10 A "An identification of the proposed mining activities that
11 may impact the condition or feature and the processes" --
12 "process or mechanism through which the impact may occur."

13 Q Okay. Now, could we go and take a look at the definition of
14 "mining activity"? That's what it says; right? Every
15 proposed mining activity has to be assessed; right?

16 A Correct.

17 Q Okay. Could we go to the definition of mining activity,
18 which is on page 17? You have a copy of the statute and
19 rules with you; right?

20 A I do.

21 Q It's on page 17, at the bottom. Now, this is a long list,
22 isn't it?

23 A It is.

24 Q Okay. Now, is beneficiation on this list of mining
25 activity?

1 A It is.

2 Q Drilling and blasting?

3 A It is.

4 Q Transportation of overburden, waste rock, ore and tailings?

5 A It is.

6 Q Construction of utilities or extension of existing

7 utilities?

8 A It is.

9 Q Along with some other things; right?

10 A Correct.

11 Q Now, let's go back, please, to page 21. Now, in the EIA

12 portion of this application, did you note any analysis of

13 the impacts from running a power line up the 550 along the

14 510 and along the Triple A roads?

15 A No.

16 Q But that is indeed proposed at this point; right?

17 A That's what I understand, yes.

18 Q And the purpose of that line is to give power to the mine;

19 right?

20 A I'm not sure about that. The 550 upgrade?

21 Q Maybe that's an extension.

22 A I guess I don't have all the facts on that, so I'm not sure.

23 But I understand that there is a potential for running power

24 out to the proposed mine site.

25 Q Is it your understanding that the work is actually going on

1 probably as we sit here?

2 A That is not my understanding. I'm not sure. To run the
3 power out to the proposed mine site?

4 Q Yes.

5 A I'm not aware of that, no.

6 Q Okay. Well, if you went along with me on the idea that it
7 is, do you think that that should have been considered here,
8 part of the EIA?

9 A If that was their plan in their original permit application,
10 then yes.

11 Q What if it wasn't but it's going on related to the mine
12 anyway?

13 A They would ultimately have to get probably an amendment, in
14 my mind, to the permit.

15 Q Okay. And that should be done before the work starts?

16 A The work of?

17 Q The power line work.

18 A I don't think we have a requirement that says you have to
19 have the amendment prior to the work being done, except on
20 the --

21 Q Then what's the point of an amendment?

22 A -- on the proposed facility. I'm not aware of any work
23 being done at the proposed surface facilities.

24 Q Let's go back to mining activities, page 18. Says,
25 "Construction of utilities or extension of existing

1 utilities."

2 A Right. And I interpret that as at the mine site.

3 Q Okay. Well, let's go back to the other page, 21. Scroll
4 down to little (b). Do you agree with me that a portion of
5 the EIA is analysis of cumulative impacts?

6 A Yes.

7 Q Now, could you read little (b)?

8 A "An analysis of the potential cumulative impacts on
9 each of the condition or feature listed in subrule (2)
10 of this rule within the mining area and the affected
11 area from all proposed mining activities and through
12 all processes or mechanisms."

13 Q Please keep going.

14 A "The analysis shall consider additive effects and the
15 assessment of significant interactions between chemical
16 and physical properties of any discharges with
17 reference to physical and chemical characteristics of
18 the environment into which the discharge may be
19 released."

20 Q Now, if we -- well, let's go through that more slowly.
21 Okay? "Potential cumulative impacts." So potential, what
22 does that word mean? Does that mean --

23 A It hasn't happened but it possibly could happen.

24 Q Okay. So we're talking about potential cumulative impacts
25 on each of the conditions or features listed in subrule (2).

1 Now, if we look at subrule (2), which begins on the next
2 page and extends for a few pages, two pages, if we look at
3 page 23, which is -- contains little (q), can you read
4 little (q)?

5 A "Existing and proposed infrastructure and utilities."

6 Q Okay. So the cumulative impacts analysis, which you
7 testified yesterday includes past, present and future
8 activities from the definition of cumulative impacts in the
9 rules?

10 A Yes.

11 Q All right. And for features listed in subrule (2), which
12 include existing and proposed infrastructure and utilities;
13 right?

14 A Yes.

15 Q Okay. So is somebody supposed to assess that, the impacts
16 from it, the cumulative impacts?

17 A At the mine site.

18 Q Okay. Well, let's keep going, subsection (2) of this rule.
19 And then you said, "Within the mining area and the affected
20 area." Now, maybe we don't have to go back to the
21 definition of affected area. But affected area by
22 definition is outside of the mine site. Do you remember
23 that?

24 A I remember that.

25 Q Okay. So why do you think it only applies to something

1 happening inside the mine site?

2 A I don't understand the question. Why do I -- yeah, I don't
3 understand.

4 Q Well, you're telling me that you think the utilities inside
5 the mine site have to be assessed -- right? -- according to
6 this?

7 A Correct. I agree.

8 Q Okay. But we just read that actually the analysis
9 requirement extends to potential cumulative impacts, which
10 as we discovered yesterday includes past, present and future
11 within the mining area and the affected area. And I think
12 you agreed with me that the affected area is actually
13 outside of the mine site; right?

14 A By definition, yes.

15 Q Okay. Does that lead you to believe that impacts outside of
16 the mine site should be assessed under this requirement for
17 a cumulative impacts analysis?

18 A What impacts are you referring to?

19 Q Well, all of those that would stem from this list and from
20 mining activities, impacts to things on this list.

21 A I think impacts related to mining within the mining area
22 needed to be assessed for power, if that's what we're
23 talking about.

24 Q Does it say "and the affected areas"?

25 A I don't believe the application identified an affected area

1 by power, though.

2 Q It didn't. But does that mean it doesn't exist because it
3 wasn't in the application?

4 A We approved an application that the affected area was
5 defined for that particular feature, which was power, which
6 we approved the use of generators. We have not approved the
7 use of electrical power brought in. If the company wishes
8 to pursue that, they will have to amend the permit -- a
9 request for an amendment to the permit.

10 Q Have they so far?

11 A I'm not aware of that. I've been here for the last seven
12 weeks with you, so I have not had any interaction with the
13 company on any level about that.

14 Q I see. Okay. And let's just keep going. "The mining area
15 and the affected area from all proposed mining activities."
16 Not just some; right? All; right?

17 A Where are you looking at?

18 Q I'm sorry. I'm back on page 21, subsection (b) of Rule 202,
19 sub (1).

20 A Yes.

21 Q Okay. "All proposed mining activities" include all
22 processes or mechanisms, right? All?

23 A Yes.

24 Q No exceptions?

25 A There doesn't appear to be.

1 Q All right. Okay. Then it goes on to say, "The analysts
2 shall consider additive effects and the assessment of
3 significant interactions between chemical and physical
4 properties of any discharges." Doesn't it say that?

5 A It does.

6 Q Any?

7 A Correct.

8 Q No exceptions?

9 A No exceptions, no.

10 Q And "With reference to the physical and chemical
11 characteristics of the environment into which the discharge
12 may be released," right?

13 A Correct.

14 Q Okay. So there appear to be no exceptions at all for the
15 cumulative impacts analysis requirements; is that right?

16 A The way it's written there, no.

17 Q Well, we're not looking at anything other than the rule, are
18 we?

19 A No. We're looking at the rule.

20 Q So this governs the process and the application and
21 conceivably the project?

22 A It does.

23 Q Now, I don't want to go through this sort of back-and-forth
24 process for every item on this list. But I would like to
25 just ask you about a couple, if we can do that. Now, if you

1 turn a page, on page 22, this -- made a list of sub (c), the
2 things that have to be considered continues on for -- I'm
3 sorry. So the list of things that have to be considered
4 goes on for a number of pages. So I wanted to ask you about
5 subsection (e), little (ii) on page 22. It's the next page.

6 A Okay.

7 Q "Predicted seasonal and long-term variations of level or
8 discharge rates." Did you see that in the application, --

9 A I did.

10 Q -- long-term variations?

11 A What is your idea of long-term, I guess?

12 Q Well, you know, I have my own ideas, but that's probably not
13 what matters here unfortunately. I'm interested in your
14 idea of long-term and how that was --

15 A The requirement was specific on the number of years of data
16 that would be required, which --

17 Q Okay. What do you mean by that?

18 A Well, for -- if we move through the rules, to Y, it talks
19 about two years of relevant information for aquatic and
20 terrestrial floral and fauna.

21 Q Yes, it does.

22 A And then if you go to sub (3), it talks about at least two
23 years of monitoring site data and pertinent records, so --
24 and that identifies characteristics of seasonal and
25 long-term variations. So when I talk about -- when you

1 refer to long-term, I refer to that subsection. That meets
2 the requirement of long-term.

3 Q Two and three years? Two or -- two years?

4 A Two years of data.

5 Q Now, if we turn the page and go to page 23, up at the top,
6 subsection (e), "Residential dwellings, places of business,
7 places of worship," et cetera, et cetera. Do you see
8 "places of worship" on that list?

9 A I do.

10 Q And how is that taken into account in a cumulative impacts
11 analysis, or was it?

12 A I don't recall exactly in the application how that was taken
13 into account.

14 Q Was it?

15 A Cumulative impacts analysis on places of worship? I'm
16 not -- I guess I don't understand your question.

17 Q Or even if we back up to sort of the broader scope of the
18 EIA in general, was there any sort of assessment of how the
19 mining activities, including all the things on the list of
20 mining activities, may impact that feature, the place of
21 worship?

22 A I believe there was an assessment in there identifying
23 places of worship in the vicinity of the project. I can't
24 remember exactly, though.

25 Q Do you think the application designated Eagle Rock as a

1 place of worship?

2 A Oh, I don't think it did that, no. I think it was probably
3 referring to churches.

4 Q Do you think that somehow the application analyzed the
5 impacts from the mining activities on Eagle Rock?

6 A Analyzed the impacts of what, now?

7 Q Of the mining activities on Eagle Rock.

8 A As far as was it going to explode? Or help me out.

9 Q Well, we read what's required by the rules.

10 A Yes.

11 Q "Yes," what?

12 A Yes, we read what was required by the rules.

13 Q Right. Okay. But I'm asking you now, did the analysis in
14 the application related to places of worship under
15 subsection (p), did it perform the required analysis that's
16 required by the EIA and the cumulative impacts analysis?
17 Did you find anything in the application that addressed this
18 particular portion of the requirement?

19 A Places of worship?

20 Q Right.

21 A Like I said --

22 Q Related to Eagle Rock, I'm asking.

23 A No, I did not find anything in the application related to
24 Eagle Rock about -- I didn't find the word "Eagle Rock" in
25 the application.

1 Q Well, how was it referred to in the application?

2 A I believe in the geology section it was referred to as the
3 outcrop.

4 Q Okay. Was there an assessment, then, that the application
5 referenced as an assessment on the outcrop?

6 A Was there an assessment on the outcrop?

7 Q The type of analysis that we just talked about related to
8 Eagle Rock, the analysis required under the EIA and the
9 cumulative impacts analysis. You told me that you didn't
10 see anything in the application about that related to what
11 I'm calling Eagle Rock. I believe your answer was, "Well,
12 they don't call it Eagle Rock. They call it the outcrop in
13 the application," right? So I'm asking you the same
14 question related to your term for it, the outcrop.

15 MR. REICHEL: Objection to the form of the
16 question. It's unclear. I believe that -- I'll let
17 counsel -- it's not clear whether this question is asking
18 the witness whether he recalls seeing in the EIA a
19 discussion of Eagle Rock or the outcrop in that section of
20 the EIA that addressed the requirements of subrule (p),
21 pertaining to buildings including places of worship. Is
22 that the question?

23 MS. HALLEY: Not exactly. I'll rephrase it.

24 THE WITNESS: Okay.

25 Q Was there a cumulative impacts analysis having to do with

1 the outcrop related to it being a place of worship?

2 A No.

3 Q The EIA, we've just established, requires that proposed
4 mining activities that may impact the features listed that
5 we've been going through, that that needs to occur; right?

6 A Correct.

7 Q Now, we already went over the things included in mining
8 activity; right?

9 A We did.

10 Q Now, does that include transportation of overburden, waste
11 rock or end tailings? It's on page 17.

12 MR. REICHEL: Counsel, excuse the interruption.
13 Since we're not all necessarily following the same version
14 printed, could you refer to the specific rule or subrule?

15 MS. HALLEY: Rule 103(a)(iiiiii).

16 MR. REICHEL: Thank you.

17 THE WITNESS: What was the question again?

18 Q Does the definition of mining activity include
19 transportation of overburden, waste rock or end tailings?

20 A It does.

21 Q It does? Okay. And did you see that type of analysis done
22 in the EIA that addressed transportation of overburden,
23 waste rock or end tailings?

24 A An analysis?

25 Q Well, that's what's required by the EIA; right?

1 A Could you ask the question again?

2 Q Sure. Did you find anywhere in the application where the
3 impacts from the transportation -- in this case I think we
4 could agree it's the transportation of ore at this point --
5 right? -- that is going to be moving off the site, at least
6 to my knowledge? They're going to be transporting ore down
7 the roadways?

8 A That's my understanding, yes.

9 Q Okay. So let's just talk about it in the context of
10 transporting ore instead of all the other things on the
11 list. Okay?

12 A Okay.

13 Q All right. Now, did you see in the application anywhere a
14 analysis that discussed the impacts of that transportation
15 on all of the things on this list, on the list of items that
16 have to be considered under the cumulative impacts analysis?

17 A Where is that list again?

18 Q It's in Rule 202.

19 A Could you refresh my memory? What are we -- what's the list
20 again that you're referring to?

21 Q I'm wondering if you saw anywhere in the application a
22 cumulative impacts analysis of the potential impacts from
23 the transportation of the ore. That's all.

24 A There was an analysis on the transportation of the ore from
25 the underground facility, underground workings, to the

1 crusher through all the way to the storage bin.

2 Q How about off the site?

3 A No, I did not see that.

4 Q But you agree with me that subsection (v) of Rule 202

5 requires the analysis to extend to the affected area, which

6 by definition is outside of the mine site; right?

7 A By definition, yes.

8 Q Now, if we look at -- maybe we already covered that rule,

9 103 (1)(a)(iiiiiiiiiii) -- I'm sorry -- (iiii). I'm getting

10 ahead of myself there -- which is the definition of mining

11 activity, includes beneficiation; is that right?

12 A What are we looking at?

13 Q Rule 103.

14 A Oh, yes. I'm there.

15 Q Little (iiii) says beneficiation is a mining activity that's

16 to be analyzed in the EIA and cumulative impacts analysis?

17 A Correct.

18 Q Okay. Now, have you seen any analysis like that, like we've

19 talked about, that's required under the EIA for

20 beneficiation?

21 A No, there's no proposed beneficiation at the site.

22 Q Can we just go back for a minute to the definition of

23 cumulative impacts in the rules, which is on -- well, its'

24 on page 16. But for the record, it's Rule 102(h). Okay?

25 Cumulative impact; could you read that again for us?

1 A "Cumulative impact means the environmental impact that
2 results from the proposed mining activities when added
3 to other past, present and reasonably foreseeable
4 future activities."
5 Q "Reasonably foreseeable future activities," right?
6 A That's what it says, yes.
7 Q That's what it says?
8 A Yes.
9 Q Okay. Now, do you have any understanding of what's proposed
10 at the old Humboldt Mine site?
11 A Well, we don't have an application or a proposal in hand.
12 But my understanding is that it potentially could be used
13 for processing of ore.
14 Q What's that understanding based upon?
15 A We had some conversations with the company regarding that.
16 Q And what did you talk about?
17 A Well, the company presented to us some information regarding
18 the facility and its potential to be a processing facility.
19 Q What type of processing is being discussed?
20 A A flotation processing, I believe.
21 Q Now, I believe another gentleman whose name escapes me right
22 now -- I mean another witness is investigating on behalf of
23 Foth, which is a consulting firm for Kennecott, the
24 possibility of subaqueous tailings disposal at that site.
25 Has that been a part of your discussion with the company?

1 A It hasn't been directly with me but I believe other members
2 of the DEQ. I've been part of the discussions, but not
3 directly.

4 Q Would you -- there's what we've been calling here -- it's
5 sort of a pre-application process going on?

6 A Yeah, I would consider that; yes.

7 Q When did that process begin?

8 A I don't remember exactly when it began. What the heck month
9 are we in now?

10 Q We're in -- that's a good question -- June.

11 A It might have been in -- it might have been in March or
12 something. I can't remember exactly when. It was early in
13 the year, I think. I don't remember offhand.

14 Q Early in the year?

15 A I believe so.

16 Q Now, to your knowledge is Kennecott planning on attempting
17 to amend their permit to address the activities at the old
18 Humboldt mine?

19 A No, I don't -- they are not.

20 Q Are they planning to get a permit for whatever they might
21 want to do at the Humboldt mine?

22 A They would need to, absolutely.

23 Q That's why they're talking to the DEQ presumably; right?

24 A I would presume that, yes.

25 Q And it's your understanding based on what you know that a

1 permit would be required for whatever activities are
2 proposed at the Humboldt Mine?

3 A Absolutely. A Part 632 permit would be required for that
4 type of activity.

5 Q And probably others, too, I would guess?

6 A I would imagine, yes.

7 (Counsel reviews documents)

8 Q Now, while this is coming up, while this is happening, let's
9 go back to the definition of cumulative impacts, which
10 requires that past, present and reasonably foreseeable
11 activities be a part of the cumulative impacts analysis;
12 right?

13 A That's correct.

14 Q So -- let's see -- this permit is not yet final, and you're
15 in a pre-application process for the processing of the
16 Humboldt Mine?

17 A What permit isn't final?

18 Q This permit isn't final. This Part 632 permit isn't final;
19 right?

20 A Which one? The one we're talking about in the hearing?

21 Q The one we're talking about here today, yes.

22 A It is not final, is what you're saying? I don't understand
23 the question.

24 Q Right. The agency -- because of the process we're in right
25 now, the agency has not yet issues its final agency

1 decision; right?

2 A That's correct, yes.

3 Q Okay. Now, the --

4 (Counsel reviews documents)

5 Q All right. So given the cumulative impacts analysis
6 requires an analysis of things happening past, present and
7 reasonably foreseeable future, this application is not --
8 this permit is not final; you just agreed with me on that?

9 A Correct.

10 Q Okay. And since you're in a pre-application phase for
11 whatever is proposed at the Humboldt Mine, would you say
12 that that's a reasonably foreseeable activity? I mean, is
13 it reasonably foreseeable that that's going to happen?
14 They're talking to you about permits?

15 A I don't think it's -- I don't think anything is reasonably
16 foreseeable, because we haven't got a permit and looked at
17 the specifics of that project to even make -- I can't even
18 make an assumption whether it's reasonably foreseeable.

19 Q Well, are you having meetings about it?

20 (Counsel reviews documents)

21 MS. HALLEY: I apologize, your Honor. It's a lot
22 of unnumbered e-mails and things to wade through.

23 Q So what's your definition of "reasonably foreseeable," then?

24 A I would say reasonably foreseeable would be that we had gone
25 through the permitting process, and it looked like that that

1 permit was going to be issued. Then I would say that would
2 be a reasonably foreseeable activity.

3 Q So you don't think the fact that you're in a pre-application
4 discussion with the company, you know, brings that into
5 thank you realm of being reasonably -- it doesn't say, you
6 know, definitely happening; reasonably foreseeable.

7 A You're asked me for my definition, and I gave you my
8 definition.

9 Q I did. Okay. All right. Have you had any meetings related
10 to the Humboldt Mine?

11 A Yes, we have.

12 Q How many?

13 A Maybe two. Three, maybe. I can't remember offhand.

14 Q And when were they?

15 A Like I said, I --

16 Q Roughly.

17 A It was early in the year. I caught a glimpse of an e-mail
18 right there that said "January." So there was a January --
19 possibly a January meeting. I don't remember exactly when
20 the meetings started.

21 Q Who attended the meetings?

22 A Various people. Jim Sygo was part of them.

23 Q The deputy director of the DEQ?

24 A The deputy director, I believe.

25 Q So we're not just, you know, sort of talking with which just

1 the technical staff at this point? This his high-level
2 discussion?

3 A Right. It went from maybe just a preliminary technical
4 discussion, informing upper management of their interests,
5 and then sitting down with the company and upper management,
6 yes.

7 Q Okay. Who else? Jim Sygo?

8 A I believe Director Chester was part of a meeting.

9 Q The director of the DEQ?

10 A That's correct.

11 Q Where was the meeting held?

12 A I was in the Upper Peninsula office. I believe I phoned in.
13 But I'm not -- I'm not sure where everybody was at. Let's
14 put it that way. The director and I believe staff were in
15 Lansing. We had staff in the Upper Peninsula office.

16 Q So you weren't all physically in the same location?

17 A We were not, no.

18 Q Okay.

19 MR. LEWIS: Your Honor, I'd like to place a
20 relevance objection on the record to this line of
21 questioning. And the relevance objection is I think
22 something we've talked about earlier in this proceeding.
23 Apparently the proposition here for the relevance of this
24 line of questioning is based on the regulations which
25 counsel referred to which includes as a defined mining

1 activity the so-called beneficiation, which I understand is
2 what we're now talking about, the processing of ore.
3 However, I think it's clear from the regulations and clear
4 from the evidence in this case so far that there is no
5 beneficiation planned or part of the application process for
6 the mine and the mine permit that are at issue in this case.
7 And I don't believe there's any grounds to construe that if
8 and when Kennecott applies for a new and separate permit for
9 the beneficiation or processing of ore at a site completely
10 removed from the Eagle project, that that has any relevance
11 to the issues in this case which pertain only to this
12 project. And I believe this is simply a fishing expedition
13 for the Petitioners probably for staging their next legal
14 challenge to the next permit which may come down the road.
15 But regardless of the purpose, this line of questioning has
16 no relevance to this proceeding.

17 MR. REICHEL: Your Honor, I would join in the
18 objection as to the lack of relevance.

19 MS. HALLEY: Your Honor, the purpose for the
20 cumulative impacts analysis definition, including the past,
21 present and reasonably foreseeable future, that language,
22 particularly the reasonably -- reasonable foreseeable future
23 language, is to prevent the artificial bifurcation of
24 permitting processes, so that the process has the benefit of
25 looking at a complete set of impacts and a complete set of

1 mining activities. That's exactly why mining activities
2 includes all of these items, and it's exactly why cumulative
3 impacts go to past, present and reasonably foreseeable
4 future. It's to prevent this very situation that we're
5 being confronted with where the applicant has all of the
6 information, the applicant doesn't have to share that with
7 us, and here we are arguing about what actually is a tiny
8 sliver of this whole operation. And the purpose of this
9 statute obviously is to prevent this exact situation and
10 look at the whole thing so that the review of the DEQ and
11 the public does has the benefit of actually considering a
12 complete picture of all of the impacts from this type of
13 mining. We read the legislative findings yesterday. It's
14 clear that this type of mining carries risks that are
15 inordinate. And that is the purpose of this statute, to
16 address those risks. And the purpose of these particular
17 sections are to eliminate this artificial bifurcation of the
18 permitting process.

19 JUDGE PATTERSON: The problem I have is just at
20 this point as I understand it there's just discussion about
21 the remote possibility of something happening.

22 MS. HALLEY: If I might have a few more questions
23 with Mr. Maki, I think it will become clear that there's
24 been a little more than just discussions.

25 MR. LEWIS: Well, I want of the make clear my

1 point, too, your Honor. Counsel relies on the "reasonably
2 foreseeable" language here. But again, it's painfully
3 obvious from these regulations that it refers to reasonably
4 foreseeable activities at this site, this project, which is
5 the subject of this permit. There's no reason to construe
6 these rules as applying to some other project at some point
7 in the future at some other location which, as is plainly
8 obvious, will require a whole new separate permit and
9 application process. This language is pertinent to this
10 site. And the line of questioning counsel is pursuing is
11 not pertinent to this site, this application nor this
12 permit.

13 MR. WALLACE: Your Honor, the application we're
14 looking at was presented on the premise that the
15 transportation of ore would be to, I think, Canada. And we
16 have evidence that that's not the plan, and I think that
17 evidence is relevant. They have some other plan for the
18 transportation of this ore, and that affects the affected
19 area, because these ore trucks are going to go in one
20 direction and not another. That all has to do with this
21 permit. This transportation of the ore respecting this
22 permit affects what is required by the EIA. So they have no
23 explanation for -- so far for a plan that directly
24 contradicts what we were told when the filed this plan,
25 which is the ore is going elsewhere.

1 MS. HALLEY: And I believe the cumulative impacts
2 language addresses the temporal nature of Mr. Lewis'
3 argument. And the definition of mining area addresses his
4 geographical argument, because the mining area definition,
5 very clear, means "an area of land from which earth
6 materials removed in connection with nonferrous metallic
7 mineral mining, the lands on which material from that mining
8 is stored or deposited, the lands on which beneficiating or
9 treatment plants and auxiliary facilities are located," and
10 it goes on. But it includes, again, "and auxiliary lands
11 that are used in connection with the mining." This is the
12 same ore going from the Eagle site --

13 JUDGE PATTERSON: All right. I'll allow you to go
14 ahead with it, if you have a few more questions.

15 MS. HALLEY: Thank you.

16 Q Now, just take a moment to review this e-mail. It's from
17 Jim Sygo, January 31st of 2008, early this year.

18 A Yes.

19 Q Go ahead. Just review it.

20 (Witness reviews document)

21 Q Now, is this e-mail contemplating the development of a
22 mining team to work on this site?

23 MR. REICHEL: Let me interpose an objection at
24 this point. There's no foundation that this witness is a
25 recipient of or has knowledge of this e-mail.

1 Q Mr. Maki, are you aware that there are discussions about
2 establishing either a review by the same mining team or
3 setting up a new mining team to address the Humboldt site?
4 A Yes, I'm aware of that.
5 Q And do you foresee that you have a role in that process?
6 A I would assume I would, yes.
7 Q And what do you think that would be?
8 A I'm not sure yet.
9 Q But have you, in fact, had discussions about that?
10 A About my role?
11 Q About the mining team idea for the Humboldt site.
12 A Yeah, we had discussions about that.
13 Q What did those discussions entail?
14 A Well, the question was really posed should we put a mine
15 team together in preparation or anticipation if the company
16 were to present us with an application. And we didn't get
17 into any details on who would be on the team, what their
18 role would be. Again, we had very, very preliminary
19 information about this Humboldt facility.
20 Q Well, preliminary perhaps, but very high level with Director
21 Chester involved; right?
22 A Yes, Director Chester was involved at a meeting; correct.
23 Q Does Director Chester usually attend pre-application
24 meetings?
25 A I'm not -- I'm not aware. I don't know. My little, small

1 chunk of the world, you know, I don't know what he does with
2 other divisions or permitting processes.

3 Q I understand.

4 MS. HALLEY: I just have one little housekeeping
5 thing.

6 (Counsel reviews documents)

7 MS. HALLEY: All right. May I approach the
8 witness, your Honor?

9 Q What I have here is Intervenor Exhibit 626, which is also
10 Petitioner's Exhibit 7, the Sainsbury deposition and the
11 appendices, but Appendix 11 is not included in this
12 document.

13 MR. REICHEL: Thank you.

14 Q Now, this is Appendix 5 of Petitioner's 7 and Intervenor's
15 43, I think. Mr. Maki, have you seen this document before?

16 A I have, yes.

17 Q Okay. All right. What is it?

18 A This was a report provided by Dr. Sainsbury, his review of
19 the -- technical review of the crown pillar.

20 Q Which report is it?

21 A This is the May 2006 report.

22 Q Okay. May 4? We've talked about the May 4th and --

23 A It says "May" on it. I guess I've never seen a date
24 specifically attached to any of these. But May 2005.

25 Q Okay. And you've received this report in the course of your

1 work in 2006?

2 A I did, yes. Yes, I did.

3 Q Okay. Yes, you did. Now, does that have the word "draft"
4 on it anywhere?

5 A This one does not, no.

6 Q Okay. Thank you.

7 MS. HALLEY: I believe I'm done. Thank you, Mr.
8 Maki. And I'm going to reserve moving exhibits until our
9 cross-examination is complete. I think Mr. Wallace has some
10 questions.

11 CROSS-EXAMINATION

12 BY MR. WALLACE:

13 Q Mr. Maki, my name is Bruce Wallace. We've been seeing each
14 other for a month and a half now, so I don't need to
15 introduce myself. One initial question I have, and I don't
16 think I need to put this up on the board -- on the screen.
17 But you are now familiar with the e-mails that Mr.
18 Sainsbury -- Dr. Sainsbury sent out on November 9th to Mr.
19 Van As? Do you recall the e-mail I'm talking about?

20 A I don't know who Mr. Van As is.

21 Q Well, he was the recipient of an e-mail from Dr. Sainsbury,
22 November 9th, 2006, the same day that Dr. Sainsbury sent you
23 his final report. Do you recall?

24 MR. REICHEL: I'm going to interpose an objection.
25 We went through this. This is at least the third or fourth

1 time we've addressed this issue. It came up yesterday. The
2 e-mail that counsel is referring to is one the e-mails that
3 was included -- originally included as a part of a package
4 of exhibits of the Sainsbury deposition which was not the
5 subject of cross-examination during that deposition, and
6 therefore --

7 MR. WALLACE: Well --

8 MR. REICHEL: Let just finish my statement,
9 Counsel, please -- and therefore was not deemed admissible
10 into evidence. Presumably counsel is now, as was attempted
11 yesterday, going to paraphrase or read it into the record.
12 The court -- your Honor, you've made your ruling on the
13 inadmissibility of this, and I don't think it's appropriate
14 to try to circumvent that yet again by reading this into the
15 record or paraphrasing its contents into the record.

16 MR. WALLACE: I'm not intending to do either. I
17 mean, if I can ask two or three more questions, I think my
18 purpose will be clear. And I've been putting it up on the
19 screen. But I think there's a very important point about
20 this that I would like to question the witness about.

21 MR. REICHEL: Well, with all due respect, Counsel,
22 I think it's reasonable to anticipation that in the course
23 of framing your question you will undertake to describe,
24 paraphrase, summarize its contents, which therefore, whether
25 intended or not, has the effect of circumventing and

1 overturning the tribunal's previous ruling. I guess if his
2 question is to be pursued, I request, your Honor, that
3 either it not be allowed, or if it's allowed, that counsel
4 be -- that any questioning on this subject not include an
5 attempt to characterize the substance of the communication.

6 MR. WALLACE: Here's what I'm asking about. I'll
7 just represent this to the court. I think this is
8 important. As long ago as perhaps the day of the Sainsbury
9 deposition and maybe instead more recently -- I haven't
10 asked any questions yet -- Mr. Maki learned that Dr.
11 Sainsbury had written an e-mail from the same time he
12 submitted a report to the DEQ, an e-mail in which he said
13 the rock mechanics are still deficient; they're not
14 adequate; they are deficient. And what I'd like to know of
15 this gentleman, because here we are in a de novo proceeding
16 about this application, is what has he done about that
17 information. Because he knows it. He knows it either from
18 the courtroom, or maybe he knows it from back when.

19 JUDGE PATTERSON: Didn't Dr. Sainsbury ultimately
20 sign off on the project?

21 MR. WALLACE: He did. But we've had testimony --

22 JUDGE PATTERSON: That's my problem with all of
23 this. He had his input; it was considered, and then he said
24 it was okay.

25 MR. WALLACE: Well, is it irrelevant to the agency

1 that we learned that at the same time he questioned the rock
2 mechanics as of that point in time? As Dr. Blake said, he
3 spoke out of both sides of his mouth. Isn't that something
4 that's worth pursuit if we're going to have a mine that's
5 stable here if the rock mechanics are still in doubt in the
6 mind of their selected expert for rock mechanics? We've all
7 been exposed to this information. Isn't this relevant to
8 the safety of this mine? Shouldn't it be pursued? And I'd
9 like to find out if he has pursued it. Quite apart from
10 whether this is -- you know, it's an admissible document,
11 which I think it is, but that's -- your Honor's ruled. But
12 quite apart from that, I mean, here we are trying to
13 determine if this mine is going to be safe.

14 JUDGE PATTERSON: I guess you can certainly ask
15 Mr. Maki what he's done in response to something.

16 Q And that's my question, Mr. Maki. In light of learning that
17 Dr. Sainsbury was still highly critical of the rock
18 mechanics at the time he submitted his final report, did you
19 ever ask him for a follow-up explanation? Have you?

20 MR. LEWIS: Objection; foundation.

21 MR. REICHEL: Join in the objection.

22 MR. LEWIS: I don't think it's been established
23 that Mr. Maki has learned that. Counsel assumes that in his
24 question. I don't believe there's a foundation for that.

25 JUDGE PATTERSON: I will sustain that.

1 Q Are you aware, sir, from your attendance at these
2 proceedings that Dr. Sainsbury was still highly critical of
3 the rock mechanics work at this mine --

4 MR. REICHEL: Objection.

5 Q -- at the time he submitted his final report to you? Have
6 you learned that from sitting here and hearing what we've
7 heard?

8 MR. REICHEL: Objection to the form of the
9 question and lack of foundation. What we're hearing is
10 counsel's characterization of an e-mail authored by Mr.
11 Sainsbury, Mr. Sainsbury's intent. This witness doesn't
12 know Mr. Sainsbury's intent with respect to that document.
13 Mr. Sainsbury is not available for cross-examination on this
14 issue. Let me restate the objection. First of all, I don't
15 think the questioned posed accurately characterizes the
16 contents of the e-mail in question assuming it were properly
17 in the record, which we submit it's not. And secondly, this
18 witness has no basis for offering some conclusion or
19 expressing a view as to whether confirming what this
20 question presupposes was Dr. Sainsbury's intent.

21 MR. LEWIS: Well, if I may, too, the question --

22 MR. WALLACE: We can look at the e-mails.

23 MR. LEWIS: Again, Mr. Wallace has not responded
24 to the substance of the foundation objections. He cannot
25 pose the question now based on what Mr. Maki has learned

1 so-called through these proceedings. The only way which he
2 would have learned that is through counsel's improper
3 attempts, putting up on the screen and otherwise
4 paraphrasing what's in a document that this court has
5 already ruled is inadmissible. So the question as posed is
6 still objectionable still based on a lack of foundation. So
7 it's just another way to try to evade the prior ruling of
8 the court.

9 MR. WALLACE: You know, this semantic tap dancing
10 over this issue -- I'm talking about a real mine here that's
11 going to be built, and the top official in the DEQ to
12 testify about it. I'd like to find out if anything's been
13 done about the concerns that we've raised. And they have
14 been raised. I mean, we can say they weren't admissible or
15 whatever. But this gentleman's been exposed to them. He
16 should have been exposed, you know, two years ago when the
17 e-mail was made available to all of us. What's been -- I'm
18 asking what's been done about that.

19 JUDGE PATTERSON: Can you answer that?

20 THE WITNESS: What's the question, again?

21 Q What's been done about the information that you learned
22 regarding Dr. Sainsbury's continued criticism of the rock
23 mechanics work in this application?

24 A Nothing has been done.

25 Q Okay. Thank you. And why not?

1 A I just learned about this e-mail through these proceedings.
2 Q Did you call up Dr. Sainsbury and ask him, "What the heck
3 here?"
4 A I did not, no.
5 Q Did anybody?
6 A I'm not aware of anybody.
7 Q You were at his deposition; right?
8 A I was, yes.
9 Q And the e-mail was presented there?
10 A Apparently. I don't recall the e-mail, but apparently it
11 was.
12 MR. LEWIS: Objection. It's clear from the record
13 it was not presented there. That was the basis of our
14 objection to that exhibit being admitted along with the
15 deposition transcript. And counsel knows better at this
16 point, I believe.
17 MR. WALLACE: Well, it was presented to us by you.
18 MR. LEWIS: Well, "you" is not Joe Maki. "You" is
19 not Joe Maki. And what --
20 JUDGE PATTERSON: Fine. Let's move on.
21 Q Just to be clear here, so we're looking at the statutory
22 definition from MCL 324.63201, definition "affected area" --
23 correct? -- on the screen?
24 A What was the question again?
25 Q I'm asking, we're looking now on the screen at the statutory

1 definition of "affected area" -- correct? -- Section 63201?

2 A Yes.

3 Q Okay. And my question as counsel for Huron Mountain Club,
4 first of all, have you ever been on the property of the
5 Huron Mountain Club?

6 A I have once.

7 Q In what connection, sir?

8 A I participated in a -- I forget what it was called. I think
9 it was a bunch of reporters that got together that do
10 environmental reporting, and I was invited to be -- to
11 participate in that field conference, I guess.

12 Q About when was that, sir?

13 A Oh, boy. You know, I don't have any idea. It was within
14 the last four years; I can say that much.

15 Q I mean, you've seen the modeling done by the MDEQ and
16 modeling done by CRA. You know that there's going to be
17 deposition of particulate matter on the lands of the Huron
18 Mountain Club in connection with this mining operation, do
19 you not, sir?

20 A You know, sir, that is really out of the scope of my
21 understanding and knowledge of the evaluations. I really
22 didn't have any part in that.

23 Q Okay. Did you have any part in making a determination as to
24 what the affected area was for the purpose of this mining
25 application?

1 A I did.

2 Q Let's look at the second slide, if we may. Who ultimately
3 within the MDEQ determined what affected area would be
4 required to be studied for the purposes of the EIA?

5 A Who determined -- could you rephrase that, please? I
6 don't --

7 Q Yes. Who within the MDEQ had the final say or
8 recommendation on what the affected area would consist of
9 for the purposes of the study you would require from the
10 applicant for an EIA?

11 A Well, the affected area is defined in the statute and rules.
12 And the company is required to follow those. We do not tell
13 the company what the affected area was or even where to
14 study the affected area.

15 Q Okay. But in determining that the EIA was a sufficient EIA,
16 did you not have to accept or reject their definition of
17 what the affected area was?

18 A That's correct, yes.

19 Q And who in your department made that determination?

20 A Several people.

21 Q Were you one of them?

22 A I was one of them, yes.

23 Q Okay. And I guess I'd like to know the basis of your
24 determination that the affected area that they defined was
25 satisfactorily defined.

1 A Well, as I mentioned in my testimony yesterday, there were
2 many aspects and many features that had to be defined for
3 the affected area. So there's not on answer. What was the
4 question again? I'm not sure.

5 Q What reasoning did you bring to bear on your acceptance of
6 the company's definition of the affected area?

7 A Which part? Which feature? Which media?

8 Q For the study of flora and fauna.

9 A We had Michael Koss, who will be testifying; he did the
10 review of that portion of the application.

11 Q Did you have any input into that?

12 A I did not. I did not --

13 Q What was your input?

14 A As far as?

15 Q As far as the determination of the affected area. You said
16 you had input into it.

17 A I said I had input. Not every part of it, but I had input.

18 Q What was your input?

19 A The input would have been that Mr. Koss reviewed the flora
20 and fauna. I believe that's what his role is, flora and
21 fauna. And his role was to determine was the data collected
22 and conclusions accurate. And if that were the case, then
23 the company's definition of the affected area, then yes, I
24 would have accepted that.

25 Q So your input was to accept what Mr. Koss had to say?

1 A That's correct.

2 Q You didn't have any input into the affected area in
3 question?

4 A I didn't -- could you rephrase that, please?

5 Q Well, let me just take us back through what I think we've
6 been discussing. I asked who at the MDEQ passed on
7 Kennecott's definition of the affected area. You said
8 several people. I asked who, were you one of them, and you
9 said you were.

10 A Yes.

11 Q And now I'm asking you, what was your input?

12 A And specifically to flora and fauna?

13 Q Yes.

14 A Again, my input would have been when Mr. Koss did his review
15 I would look at what the applicant's definition of the
16 affected area; if he concluded that they defined the area,
17 then I concurred that that was adequately done.

18 Q And you're aware that the footprint was defined -- the
19 footprint of the mine, 90 acres, was defined as the affected
20 area?

21 A For which feature?

22 Q For some purposes.

23 A For some purposes, yes.

24 Q And you were here for Mr. Kailing's testimony; right?

25 A I may have.

1 Q Are you aware, sir -- and maybe you're not. Maybe you're
2 not aware of this -- that the largest affected area that was
3 studied for any purpose, and particularly for flora and
4 fauna purposes for this EIA in connection with this
5 application, was about a 1300-acre area, which we looked --
6 the boundaries of which we've looked on maps many times?
7 Were you aware of that?

8 A Am I aware of the boundary for --

9 Q That the largest area studies for flora and fauna was about
10 1300 acres around this mine?

11 A I can't recall offhand what that area was.

12 Q You don't recall that it was whatever acreage it was?

13 A I don't remember the acreage.

14 Q Do you recall that its boundaries were a series of parallel
15 north-south and east-west lines? In other words, it's kind
16 of perpendicular?

17 A Yes, I do.

18 Q Not unlike the area on the map?

19 A Boy, I can't remember exactly what the boundary of the
20 affected area was for flora and fauna.

21 Q Did you have any discussions in your communications about
22 the definition of the affected area regarding the scientific
23 basis for defining the affects of a mining operation on
24 flora and fauna of coming up with a boundary line that's
25 kind of all north-south lines, doesn't follow tree lines,

1 doesn't follow forestation, doesn't follow water courses,
2 just follows boundaries?

3 A What was the question, again? Did I --

4 Q If in your review of the affected area that you passed on in
5 connection with your discussions with Mr. Koss for study of
6 flora and fauna you saw that the affected area was drawn in
7 terms of north-south and east-west lines rather than lines
8 that might correspond to natural areas or habitats or
9 something connected to flora and fauna, did you raise a
10 question about that?

11 A I did not.

12 Q Okay. Have you ever heard any discussion about how it
13 occurs that this 1300-acre area is defined not in terms of
14 natural features but in terms of apparently ownership lines?

15 A I have not heard any discussion, no.

16 Q Does that pique your curiosity? Do you wonder how that
17 could be scientifically?

18 A Well, I'm not a biologist, and I did not -- I wasn't
19 responsible for reviewing that. And that's really out of my
20 expertise. I don't know how those studies are carried out,
21 quite frankly.

22 Q Let me just ask you one more question. Did you ever
23 participate in any discussions with Mr. Koss or others on
24 the mining team as to why no studies were done of the
25 McCormick tract or the Huron Mountain Club property in

1 connection with the affected area of requirement?

2 A I don't recall we had any conversations specifically like
3 that.

4 Q Nobody ever raised that issue in your presence or to your
5 knowledge?

6 A No, they did not.

7 Q Did anybody other than Mr. Koss have any role in
8 connection -- from the DEQ's standpoint in connection with
9 flora and fauna in the past?

10 A Mr. Koss works for the Department of Natural Resources.

11 Q Yes.

12 A So no DEQ staff other -- you know, there was no DEQ staff
13 that did any evaluation of flora and fauna.

14 Q Any other DNR staff?

15 A I believe there was. And that's something you might want to
16 ask Mr. Koss. That was kind of his charge with that review.

17 Q When you passed along your recommendation that the -- that
18 included EIA was sufficient, did you -- were you aware of
19 who had done what to determine the extent of the flora and
20 fauna studies, or did you just assume that it had been done
21 fully?

22 A No. There was -- I believe there was somebody in the
23 endangered species section of wildlife, and I can't remember
24 that person's name. But Mr. Koss had told me that that
25 study -- that he had consulted, at least, with those

1 individuals on that. But I was not directly involved in
2 that review.

3 Q We're looking now at the screen at MCL 324.63205. And you
4 understood that the applicant has the burden of establishing
5 that the terms and conditions set forth in the permit
6 application "reasonably minimize actual or potential adverse
7 impacts on air, water and other natural resources, and meet
8 the requirements of this Act"?

9 A Yes.

10 Q You understood that was the burden of Kennecott?

11 A Correct.

12 Q Let's look at number 4. And you further understood that the
13 requirement was that the proposed mining operation not
14 pollute and destroy the air, water and other natural
15 resources; correct, sir?

16 A That's correct.

17 Q And as we discussed legislatively yesterday, the concern
18 underlying the statute was in particular the unique and
19 severe risks raised by sulfide mining; correct?

20 A I don't remember the exact words, but I remember the
21 discussion about the legislative findings.

22 Q You know that also sulfide mines have the potential to leach
23 sulfuric acid and heavy metals; correct? That's the risk
24 that --

25 A I don't know that all do.

1 Q Are you aware that the general track record of sulfide mines
2 in that regard almost without fail leaching sulfuric acid
3 and heavy metals?

4 A Could you repeat that? That was a --

5 Q Are you aware of the general history of sulfide mining that
6 led to this statute that you were involved in drafting?

7 A I'm aware of historical base metal mines, yes.

8 Q And you're aware of the very high incidents of leaching of
9 sulfuric acid and acid-bearing heavy metals?

10 A I'm aware of some examples, yes.

11 Q So would you agree that sulfide mines and this mine have the
12 potential to leach sulfuric acid and heavy metals?

13 A Yes.

14 Q That's why you're regulating it?

15 A That's correct.

16 Q Because it has this potential; correct?

17 A Correct.

18 Q Okay. And it has the potential to leach sulfuric acid and
19 heavy metals into the groundwater; correct? That's why
20 you're regulating it?

21 A That's the impetus for our regulations; correct.

22 Q And the potential to leach sulfuric acid and heavy metals
23 into the surface waters including the Salmon Trout River --
24 correct? -- this mine does, has that potential?

25 A Well, I think our regulation is not unique. It's not

1 specific to a -- specific to that. It has the potential for
2 leaching metals. And it's not directed toward sulfide
3 mining. This is a statute for nonferrous metallic mining
4 that may not have sulfides in it. But the statute is
5 essentially to address potential issues with mining that is
6 not -- that's nonferrous.

7 Q And you reviewed the permit application in light of your
8 recognition that this mine has the potential to leach
9 sulfuric acid and heavy metals into the waters and ground in
10 the area of the mine; correct?

11 A We reviewed the application in light of the fact that it did
12 have a sulfide component to its metallurgy, yes.

13 Q Okay. That's a slightly different statement from what I'm
14 asking and I'm just asking simply you recognized as you
15 reviewed this application that this mine will have the
16 potential to leach sulfuric acid into the groundwater and
17 into the surface waters and into the land in the area of the
18 mine.

19 A Correct.

20 Q And you recognize that this mine has the potential to
21 deposit particulate matter containing sulfides, copper and
22 nickel into the area around the mine and beyond? You know
23 it has that potential?

24 A Well, that's -- again, that's out of the scope of my
25 knowledge with the airborne depositions.

1 Q I'm not asking quantitatively; just you know it has that
2 potential to emit particulate matter containing sulfides,
3 copper and nickel?

4 A I know it has the potential to emit particulate matter; I
5 was not involved in really what the particulate matter was
6 made up of.

7 Q We're looking now, sir, at "MCL 324.63205, Mining Permit
8 Application Procedure" and I guess my question is this. The
9 second requirement under (c); in other words, (c)(I)
10 requires a description of materials, methods and techniques
11 that will be utilized; correct?

12 A Correct.

13 Q Okay. Did this mining application contain a description of
14 the materials that will be used for the vent raise filter?

15 A It did not.

16 Q You understand that this vent raise filter is a new
17 application that's a novel approach to the problem it
18 addresses; correct?

19 A I'm not aware of that. Again, that was out of my scope of
20 my review.

21 Q But you've never heard of a mine with a cloth filter over
22 the top of the vent raise, have you?

23 A I have not; no.

24 Q Okay. Would you agree with me that this mining application
25 required a demonstration that the filter on the vent raise

1 would be effective?

2 A Again, that's really out of the scope of my knowledge. I
3 don't know anything about filters that are used for
4 ventilation raises and I don't know the applicability or how
5 often they're used.

6 Q Okay. Is there, to your knowledge, a witness who's going to
7 come and testify about the filter here on behalf of the
8 MDEQ?

9 A I'm not aware of that. I think we did have MDEQ quality
10 witnesses that already testified, but maybe they did -- I
11 wasn't here for that testimony.

12 Q But the MDEQ doesn't know what the filter will consist of --
13 right? -- or how it will work or -- and they've never seen
14 it operate. Is that fair to say?

15 A I have no idea. Again, that's the air quality discharge
16 permit.

17 Q Just in terms of what's in the application, does the
18 application contain information about how this filter will
19 work?

20 A In the Part 632 application?

21 Q Yes.

22 A No, there is no description.

23 Q Did you ever participate in discussions as to why the filter
24 was neither described nor its operation included in the
25 application?

1 A I never was part of the conversation.

2 Q Did it just -- did it elude your notice or have you known
3 this all along that it was not in there?

4 A What was -- okay.

5 Q Have you known all along this application provided no
6 description either of the materials or the method of
7 filtering with a cloth over the vent raise?

8 A Are we talking about the 632 application?

9 Q Yes.

10 A Yes, I knew that.

11 Q Okay. But you passed the application along with your
12 recommendation that it be approved; correct?

13 A Correct.

14 Q Anybody ever question you about this within the Department;
15 why would you pass this along when it lacked statutorily
16 required information?

17 A Well, there was an air quality discharge permit that was
18 also part of this process, and that permit was addressing
19 the issues that you're bringing up here.

20 Q Okay. Are you familiar with the description in the air
21 quality permit of the materials and methods to be used on
22 the vent raise?

23 A I am not.

24 Q Okay. Did anybody ever raise with you whether or not there
25 was a description of the materials and methods to be used to

1 filter, supposedly control the emissions from the vent
2 raise?

3 A Okay. Could you repeat that again, please?

4 Q Yeah. I've asked you -- you said it wasn't in your
5 application; although, we can agree it was required to be;
6 correct?

7 A No, I disagree.

8 Q You disagree with the language of the statute?

9 A I disagree with your interpretation that it was required to
10 be part of the application.

11 Q Well, maybe we have to backtrack. This provision requires a
12 description of the materials, methods and techniques that
13 will be utilized in connection with the design of this mine;
14 right?

15 A Correct.

16 Q Okay. This application did not include a description of the
17 filter that is proposed for the vent raise, did it?

18 A It did not.

19 Q Okay. And it doesn't include a description of the methods
20 of filtration that will be used via this filter as well,
21 does it?

22 A It does not.

23 Q And yet, the statute requires that; we're looking at the
24 language; correct?

25 A In this section, yes.

1 Q Did you review the comments from the Huron Mountain Club
2 that were submitted in connection with this public comment
3 process?
4 A I reviewed a lot of comments; I can't remember exactly which
5 ones were which, but --
6 Q Okay. Well, I'll give you a second to read this, a minute
7 to read this.
8 (Witness reviews document)
9 A Okay.
10 Q What do you know about the resources of Kennecott to protect
11 against various contingencies if the mine fails post
12 closure?
13 A The resources?
14 Q Financial resources of Kennecott, KEMC?
15 A I have no idea what Kennecott's financial resources are.
16 Q Have you ever participated in discussions as to whether Rio
17 Tinto should be financially obligated in connection with the
18 financial assurance requirement in this mine?
19 A I don't recall that; no.
20 Q Who passed on the adequacy of the financial assurance?
21 A We had a consultant from ARCADIS that reviewed the financial
22 assurance and --
23 Q Okay. And were you privy to discussions of whether KEMC
24 itself was capable of meeting financial assurance
25 requirements?

1 A I don't believe that was ever a discussion.

2 Q In any event, you don't know whether they have the resources
3 to meet those requirements or not?

4 A Well, the requirement is that they'd have a irrevocable
5 letter of credit and they must have that in place prior to
6 the application being effective.

7 Q If you could look at our slide 9 for a moment, sir.

8 (Witness reviews document)

9 Q Now, this is a -- this is a portion of another comment
10 submitted by Huron Mountain Club and it has to do with the
11 lake system on the Huron Mountain Club property; correct?

12 A Yes.

13 Q Do you have any reason to disagree with the statement of
14 this comment that the lakes and rivers are in a pristine
15 condition and are being studied as part of a national study
16 as benchmark systems?

17 A I have no knowledge of it.

18 Q Okay. From your visit at -- to the Huron Mountain Club
19 property and any other information you have about that
20 property you understand that it contains pristine water
21 bodies and old growth forests that are unique in the Eastern
22 United States?

23 A I actually learned most of that through this testimony.
24 That was what I heard in some of your witnesses. But I
25 never had specific knowledge and never was part of any

1 studies or even evaluated any studies.

2 Q Any specific knowledge of the same kind of description of
3 the McCormick tract in terms of its unique features as a
4 natural resource? The McCormick tract?

5 A What was the question?

6 Q Have you been there?

7 A To the McCormick tract?

8 Q Yeah.

9 A Yes.

10 Q Okay. And you recognize it as a particularly sensitive and
11 unique area that's been protected over the years; correct?

12 A I understand it's been protected, but I'm a geologist and I
13 wouldn't understand if it was sensitive or not.

14 Q Okay. If you would look at our slide 11 for a moment, sir?
15 (Witness reviews document)

16 Q Putting aside, you know, quantitative analysis, would you
17 agree that this mining operation with all its various
18 features including noise, light, trucking, particulate
19 emissions, wastewater collection and the systems designed to
20 deal with that, that it has the potential -- that it has the
21 potential to affect both the McCormick tract and the Huron
22 Mountain Club property? The potential.

23 A I think with our permit conditions that are spelled out I
24 would say no.

25 Q Okay. Your definition -- and I thought it was a good one of

1 the potential is, "It hasn't happened but it possibly could
2 happen"; is that --

3 A Correct; that's what I said.

4 Q That's your definition. Okay. And would you agree that if
5 the permit conditions are not complied with that that
6 potential becomes a real potential?

7 A I think if the permit conditions are not complied with there
8 is potential.

9 Q And that's a potential to affect a large area -- correct? --
10 including the Huron Mountain club?

11 A I couldn't define what the area would be, because there are
12 very specific permit conditions for very specific features.
13 So I can't answer that question.

14 Q Okay. So putting aside the area affected, you recognize the
15 permit conditions are important to protection of the natural
16 resources?

17 A Absolutely.

18 Q And if they are violated, there is certainly the potential
19 of serious adverse impact on areas beyond the mine; correct?

20 A I think if all the permit conditions were not followed
21 through, there was -- there's potential for impact, yes,
22 beyond the mine.

23 Q Right. And if some of them were not complied with there is
24 that impact -- there is that potential?

25 A I'm not sure which ones you would refer to. I'd have to

1 go -- each one.

2 Q While we're on the subject of the permit conditions, is --
3 the permit conditions are added by the DEQ at the end of the
4 permitting process in connection with the issuance of the
5 proposed permit; correct?

6 A They are added prior to issuance of the permit.

7 Q Okay. Would you agree with me, number one, that if they're
8 violated -- if the permit conditions are violated that
9 there's no remaining procedure for public comment or
10 involvement in that? It's your task; right?

11 A I think you're correct on that, yes.

12 Q Is there opportunity for the public to participate in the
13 formulation of the permit conditions?

14 A I think during the public comment period several comments
15 came in regarding permit conditions, so yes, I think there
16 is an opportunity during that time period.

17 Q Okay. But after the permit's issued with the permit
18 conditions that you've put on it there's no further -- you
19 would agree there's no further public comment; correct?

20 A Yes. Statutorily there is no avenue for -- there might be
21 some avenue under other levels of the administrative rules,
22 but I'm not sure.

23 Q Okay. What communications did you have with Kennecott
24 officials about the conditions? Did you discuss them?

25 A At some points, yes. Yes.

1 Q Okay. And did you try to find out if they were feasible
2 for -- to be complied with?

3 A I don't think those are the conversations. We provided them
4 a draft of the conditions.

5 Q And to whom was the draft of the conditions provided?

6 A I think it was Mr. Cherry.

7 Q Okay. Did you do that?

8 A I believe I did, yes.

9 Q And then did you end up talking with him about the proposed
10 conditions?

11 A I'm sure we did; I don't recall any specifics.

12 Q And did you listen to what he said and were you -- did you
13 make adjustments based on what he said? I mean, that was
14 the point I assume.

15 A You know, we had made adjustments to the conditions, but I
16 don't recall for what reason we made adjustments; whether it
17 was from conversations with Kennecott or conversations with
18 upper management. I don't recall.

19 Q Does the MDEQ have a single enforcement division for
20 enforcement of permit conditions, or is it broken into
21 various areas?

22 A I believe it's broken into various -- if I understand it's -
23 - for compliance of those conditions it's broken into
24 various divisions and specialties.

25 Q Did Kennecott provide any written suggestions about -- or

1 comments on the proposed conditions that you shared with Mr.
2 Cherry?

3 A They did.

4 Q On more than one occasion, as you recall?

5 A I don't recall. I remember they provided comments in the
6 last public comment period, but I don't remember comments
7 that we'd received. I don't remember when.

8 Q What's the enforcement group for the enforcement of the
9 conditions of this proposed mine, its permit conditions?

10 What would be the staffing of enforcement for this mining
11 permit?

12 A Well, this specific mining permit it would be myself and
13 Melanie Humphrey for Part 632, and also for the TDRSA we'll
14 draw from Margie Ring who you'll hear from today on
15 enforcement and compliance. The hydrogeologic sections of
16 the review Chuck Thomas would be drawn on. I envision that
17 the mining team is kind of a group that reviewed this we'll
18 be able to draw from.

19 Q You'll all be involved in enforcement to some extent?

20 A To some extent I would envision that. But you know, I don't
21 make those decisions; I have a management that makes those
22 decisions. That's just my vision.

23 Q Throughout the DEQ I assume substantial staff are devoted to
24 enforcement of permits and permit conditions. Is that fair
25 to say?

1 A You know, I don't -- I'm not sure if I can answer that,
2 because I'm not really well-versed in what everybody does in
3 the DEQ. Again, I'm in the U.P. in one division. I don't
4 know what everybody does.

5 Q Can we agree that the reason why you're going to have an
6 enforcement team and there are other people in the DEQ,
7 maybe many involved in enforcement, is because permit
8 conditions do get violated by the regulated community, do
9 they not, sir?

10 A I'm not aware of that. I mean, I'm sure that happens, but I
11 think the purpose of us conducting the enforcement or the
12 inspections is to assure that there is compliance with those
13 conditions.

14 Q You're not aware that the regulated community from time to
15 violates the conditions of its permits?

16 A Like I said, I'm sure that happens. I can't think of any
17 specific because I haven't worked on any permits where I've
18 seen that happen, but I don't dispute that.

19 Q So it's to anticipate -- to be anticipated that permit
20 conditions in this instance may be violated. Is that not
21 true, sir? That's why you're going to go out there and
22 inspect?

23 A You know, I don't make the decisions why we go out to
24 inspect; I'm just the inspector. I assume it's to, again,
25 assure that conditions are met and followed properly.

1 Q Do you recognize there's the potential that the permit
2 conditions will be violated?

3 A I think there is a -- well, if the company doesn't comply
4 with them, then they're violated.

5 Q And if they are, you'll take whatever steps you can;
6 correct?

7 A As far as?

8 Q As far as fines, enforcement action.

9 A Right, and we would -- we enforce those conditions.

10 Q You know, a great deal of this -- as a result of the
11 Sainsbury and Blake reviews a great deal of the data to be
12 collected regarding the stability of this mine was put off
13 until subsurface activity is undertaken; correct?

14 A There is a condition in the permit that requires the company
15 to collect additional data regarding crown pillars.

16 Q Okay. Subsurface?

17 A Subsurface, correct.

18 Q Okay. And who's going to review their collection of that
19 data; would that be you?

20 A That will not be me; no.

21 Q Okay. Who's going to?

22 A We would have to subcontract with another rock mechanics
23 expert to review that data.

24 Q Sainsbury and Blake were highly critical of the information
25 provided by Golder in connection with the original

1 application; correct?

2 A I'd say Sainsbury was; I don't recall Dr. Blake being highly
3 critical. He had concerns, but I wouldn't --

4 Q Do you recall that Dr. Blake agreed with Dr. Sainsbury?

5 MR. REICHEL: Object to the form of the question.
6 I mean, there were a great many statements --

7 MR. WALLACE: I'll withdraw it, Counsel.

8 Q You do recall that Dr. Sainsbury was highly critical of
9 Golder?

10 A I do.

11 Q Okay. Now, Golder continued to be the principle supplier of
12 data to the DEQ in connection with this application in the
13 areas that Golder was responsible for; correct?

14 A That's correct.

15 Q Within the mining team was any action taken to deal with the
16 fact that you learned that Golder had provided considerable,
17 you know, inadequate and incorrect information in the first
18 instance?

19 A The action that was taken was that I had requested through
20 Mahesh Vidyasargar that Dr. Sainsbury provide a list of
21 information he needed or identify inadequacies in the
22 application.

23 Q And Golder continued to provide data. You didn't collect
24 any data yourselves at the MDEQ, did you?

25 A We did not; no.

1 Q Okay. You relied on the data Golder provided?

2 A That's correct.

3 Q And you continued to do that after you learned that Golder

4 was the subject of heavy criticism from your expert;

5 correct?

6 A That's correct.

7 Q Did anybody ever communicate to Kennecott concerns about the

8 credibility of their expert data collectors?

9 A I think it was fairly clear in Dr. Sainsbury's report, so I

10 suspect that communication was delivered to Kennecott in a

11 manner.

12 Q Okay. You never sent anything yourself?

13 A I never did; no.

14 Q Okay. Do you know if Mr. Fitch ever did?

15 A I don't know that; no.

16 MR. WALLACE: Should we take a little break?

17 JUDGE PATTERSON: We can.

18 (Off the record)

19 Q We're having a couple technical difficulties beyond our

20 control, so let me ask you about a couple other things while

21 we're working on this. You're familiar with the requirement

22 that flora and fauna studies cover a two-year period?

23 A A two-year period?

24 Q Two-year periods.

25 A Can I reference this (indicate')?

1 Q Sure.

2 A I think it's --

3 (Witness reviews document)

4 A Correct.

5 Q Okay. And you're familiar with the fact that when this

6 application was submitted that the only flora and fauna

7 study was a seven-month study; seven months in the year

8 2004? Do you recall that?

9 A I don't recall that; no.

10 Q Okay. Do you recall any observation regarding the fact that

11 the study was limited to at most a year's time frame?

12 A You know, again, that wasn't part of my review, but -- so

13 I'm not really sure the length of that study.

14 Q How about when the public comments criticized the fact that

15 it fell short of the statutory requirement? Did you then

16 take a look at it?

17 A I don't recall that specific comment.

18 Q Did you ever discuss with Mr. Koss why you were going ahead

19 with an application that had only a seven-month study in it

20 rather than two years, 24 months?

21 A Well, no; I never had a conversation with Mr. Koss.

22 Q Did Mr. Koss ever ask you, or to your knowledge ask anybody

23 else if he could approve this given that there was only

24 seven months covered rather than 24 months?

25 A No.

1 Q Do you have some theory that seven months is sufficient in
2 light of the language of the statute that says two years?

3 A I have no -- the statute also says relevant information may
4 include records of pertinent data at other sites having
5 documented similar conditions. So, again, I did not make
6 that review. I know there's that clause in that rule, so
7 I'm not sure.

8 Q We talked yesterday about reports dated May 4th, May 5th,
9 and May 22nd; correct? These were the ones that were
10 missing, the Sainsbury reports?

11 MR. REICHEL: Objection to the form of the
12 question. There were three different statements there that
13 you're asking him to agree with.

14 MR. WALLACE: I'll withdraw it.

15 Q Do you recall the May 4th, May 5th, and May 22 Sainsbury
16 reports?

17 A Do I recall -- I recall them, yes.

18 Q Okay. Do you recall that when you went looking for them
19 they were missing?

20 A I recall the May 22nd document was missing, yes.

21 Q Okay. What became of the May 4th and May 5th documents?

22 A The May 4th document and May 5th; I can't remember which one
23 was which, but I -- that was sent to me via a copy on an e-
24 mail and I ultimately deleted that, because I had requested
25 a more concise document.

1 Q Okay. I'm trying to understand why deleting the document
2 deals with your concern of a more concise document. Why
3 wouldn't you keep it? It was full of information.

4 A Once I -- well, I received the May 22nd document. That was
5 what I wanted; what was useful to me. That document wasn't
6 useful to me.

7 Q Did you have any thought about what bearing this would have
8 on FOIA requests if you deleted it?

9 A I did not; no.

10 Q When was the first time you told anybody that you deleted
11 it?

12 A I don't recall when that was.

13 Q Well, what exactly was Sainsbury asked to do?

14 A Well, under our original contract Dr. Sainsbury was asked to
15 review the application and make comments on the application
16 essentially -- and I don't have the contract in front of me,
17 but essentially it was to review the application, determine
18 if it -- there was enough information to do a thorough
19 review and, if not, to provide comments on what information
20 was necessary.

21 Q So do you recognize this document which is, among other
22 things, Exhibit 5 to the Sainsbury dep, and I believe it's
23 DEQ Exhibit 57?

24 A I recognize this, yes.

25 Q And my understanding is you received this at a time when you

1 were preparing to make a list of questions or requests to
2 Kennecott; correct?

3 A I received this prior to that.

4 Q Okay. One of your purposes for it was to use it in
5 connection with making requests and posing questions to
6 Kennecott?

7 A What I had asked of the consultants and the mining review
8 team was to provide me -- to provide comments and/or
9 requests for clarifications they needed in the application
10 in order to continue to review it.

11 Q And if I've got this right, starting at page -- starting at
12 number 58 in Respondent Exhibit 67, which is the June 21st,
13 2006 letter, you had a list of requests to Kennecott based
14 on your review of Sainsbury; correct?

15 A That's correct.

16 Q And they begin with number 58? Can we agree on that?

17 A Yes.

18 Q Okay. And when you told us that you wanted Sainsbury to
19 distill this down to bullet points it was in order to
20 address what Sainsbury had told you were concerns but in a
21 way that you could convey to Kennecott; correct?

22 A That's correct.

23 Q And this letter that we're looking at, Respondent's 67, is
24 the letter that you then drafted based on what Sainsbury
25 provided to you?

1 A That's correct.

2 Q Okay. And Sainsbury was your rock mechanics expert raising
3 the rock mechanics concerns; correct?

4 A At that time, yes.

5 Q At that time. You had no other rock mechanics --

6 A We did not.

7 Q Okay. No expertise in the Department at all?

8 A No.

9 Q Okay. I'll read this aloud, just for the record. He
10 begins, "Surface subsidence, to a greater or lesser degree,
11 is an inevitable consequence of almost all types of
12 underground mining," and he cites to Brady and Brown. Do
13 you agree with that?

14 MR. REICHEL: Are you asking him to agree with
15 this statement, or that's what it says?

16 MR. WALLACE: With the statement.

17 A I don't have any basis to agree with that statement. I am
18 not a rock mechanics expert by any stretch.

19 Q "There is a concern that mining-induced subsidence with
20 adversely affect the hydrological environment surrounding
21 the proposed Kennecott Eagle Mine in the Upper Peninsula of
22 Michigan"; correct? I'm reading it correctly?

23 A That's what it says; correct.

24 Q Okay. And you accepted that from Sainsbury, your rock
25 mechanics expert; correct?

1 A I accepted that Dr. Sainsbury expressed a concern.

2 Q Did you make a request or a comment or raise a question to
3 Kennecott in connection with the statement of Sainsbury that
4 subsidence is a concern in all underground mining
5 operations?

6 A I did not; no.

7 Q Okay. How about his concern about the hydrological
8 environment surrounding the mine?

9 A There were several questions regarding hydrologic
10 environments around the mine, but not that specific
11 question.

12 Q Not that specific question? Let's look at page two. Okay.
13 On page two of Sainsbury he points out that the Salmon Trout
14 River flows above the orebody and the area is surrounded by
15 wetlands; correct?

16 A That's correct.

17 Q Okay. And one of the hydrologic features that he was
18 talking about and was concerned about in this report is that
19 the orebody is under a river; correct?

20 A He identifies that it is under a river, yes.

21 Q And you don't have any experience with mines conducted under
22 rivers; correct?

23 A I personally don't; no.

24 Q And nobody on your mining team that you know of knew of
25 successful operations mining under rivers?

1 A I'm not aware of that.

2 Q So he goes on to say at the bottom:

3 "The predicted crown pillar subsidence has not
4 been coupled with groundwater flow analysis to estimate
5 the impact of increased rock mass permeability caused
6 by mining-induced rock mass deformation and how the
7 Salmon Trout River may be affected"; correct?

8 A What's the question?

9 Q I'm just reading his language to you; I'm going to ask you a
10 question about it. Did I read it correctly?

11 A Yes, I believe you did.

12 Q Okay. Now, my question is, did you address this concern,
13 the concern that predicted crown pillar subsidence has not
14 been coupled with groundwater flow analysis in your
15 questions to Kennecott?

16 A We requested -- we had several requests about flow and
17 hydrogeology and -- maybe not full particularly, but
18 hydrogeology in our request.

19 Q Okay. And he goes on to say "and how the Salmon Trout River
20 may be affected." Did you ask Kennecott to analyze how the
21 Salmon Trout River might be affected by crown pillar
22 subsidence?

23 A Not in that -- the request that we sent to Kennecott, again,
24 were based off of Dr. Sainsbury's request, so I'm not sure
25 that we didn't. It may not -- may not have done it in that

1 specific way, but I --

2 Q Okay. Well, let's look back at the comments. And while
3 we're switching back -- or the questions, rather. While
4 we're switching back, all I'm trying to find out here, sir,
5 is you received this report, the Sainsbury report, and he
6 raises a question about -- raises a criticism that this is
7 not -- this has not been analyzed; in particular it hasn't
8 been analyzed as to its affect on the Salmon Trout River.
9 You then put together a document that was to respond to your
10 rock mechanics expert's concerns; concern about the Salmon
11 Trout River. Did you go and ask Kennecott then if they'd
12 analyzed the affect of these phenomena on the Salmon Trout
13 River?

14 A I did not; no.

15 Q Okay. And why did you not, sir?

16 A We had -- Kennecott provided a hydrogeologic assessment --
17 which we have a witness that will testify to that -- as well
18 as a rock mechanics assessment. So we did ask questions, as
19 I mentioned, and we did have people review that.

20 Q But your -- Dr. Sainsbury, as your expert in rock mechanics,
21 with you having no other source of expertise, says in a
22 report to you, "We need to look at how the Salmon Trout
23 River may be affected by these phenomena." And I'm asking
24 you why you would not have then gone to Kennecott and asked
25 them to report on that.

1 A You know, that's a -- if you look at Dr. Sainsbury's request
2 he gets to the points of how you can determine that through
3 some of the modeling. It may not be specific. And
4 ultimately Dr. Sainsbury was satisfied with the response to
5 these comments.

6 Q Well, we don't have any document that says he was satisfied
7 with the response to the comments, do we, sir?

8 A I disagree. I think we have his final recommendation that
9 concluded that this application could be issued; however,
10 according to mining best practices you should collect data
11 underground.

12 Q In any event, I guess I'm trying to -- your premise for the
13 use of Sainsbury was to use it to pose questions to
14 Kennecott, so he says very specifically, "We need to couple
15 crown pillar subsidence with groundwater flow and study the
16 impact of increased rock mass permeability caused by mining-
17 induced rock mass deformation and how the Salmon Trout River
18 may be affected." And I ask you, sir, to tell us whether or
19 not you went to Kennecott and ever asked them how the Salmon
20 Trout River would be affected by these phenomena.

21 A What were the phenomena again?

22 Q Crown pillar subsidence couples with groundwater flow to
23 estimate the impact of increased rock mass permeability, and
24 then he qualifies that saying "permeability caused by
25 mining-induced rock mass deformation" and how that's going

1 to affect the Salmon Trout River.

2 A I think we did ask questions very similar to that.

3 Q Tell us which ones --

4 A Could you read that to me again? That's a mouthful. I'm
5 having a hard time trying to remember every one of them.

6 Q You know what? I think I'm going to give you your own copy
7 of this, so --

8 A Okay. Thank you.

9 Q Page three; page two as it goes over on to page three.

10 MR. LEWIS: Counsel, if you'd be so kind, would
11 you tell us what you've handed the witness, please?

12 MR. WALLACE: I've handed him a copy of the
13 document that's been up on the screen, which is the May
14 report of Dr. Sainsbury, which is tab 5 to the Sainsbury
15 deposition.

16 MR. LEWIS: Thank you.

17 MR. DYKEMA: Respondent Exhibit 57.

18 (Witness reviews document)

19 A Could we go to the questions that I asked regarding crown
20 pillar?

21 Q Yes. They're there. They start with 68 -- they start with
22 58. I'm sorry.

23 (Witness reviews document)

24 A No, I did not ask that specific question.

25 Q Did you ask any questions ever of Kennecott about how the

1 Salmon Trout River would be affected by underground mining?

2 A Would it be possible to get a copy of my questions?

3 MR. WALLACE: It's Respondent Exhibit 67.

4 MR. REICHEL: And, your Honor, if I may approach.

5 I have a copy.

6 JUDGE PATTERSON: Sure.

7 MR. WALLACE: Okay.

8 THE WITNESS: Thank you.

9 (Witness reviews document)

10 A I never did ask them specifically that question; no.

11 Q Did you ask them anything about the affects of underground

12 mining on the Salmon Trout River?

13 A I think we asked them several questions of affects of

14 underground mining and subsidence, but never in that

15 specific format that you're referring to.

16 Q Well, I'm not so much referring to format as the content of

17 Sainsbury and he's talking about the affect, among other

18 things, of mining-induced rock mass deformation on this

19 river.

20 A And not being a rock mechanic expert, I'm not sure that in

21 Dr. Sainsbury's request that he ultimately agreed were

22 answered. But there wasn't a question in there maybe not in

23 the terms that you're putting out, but maybe in rigorous

24 analysis and techniques. I'm not sure. I'm not a -- it's

25 really out of the scope of my evaluation, but --

1 Q I mean, you really don't know what your own questions are
2 asking, do you, sir, to be honest?

3 A To be honest, I do not have that expertise to be able to
4 define and analyze what those questions really mean.

5 Q Well, questions 58 through roughly 65 are the rock mechanics
6 questions, are they not?

7 A I believe so, yes.

8 Q And some of them you're not sure what they really are about;
9 is that fair to say?

10 A I have a general idea, but I couldn't sit up here and
11 honestly say I understand everything about it because I am
12 not a rock mechanics expert. That's why we hired Dr.
13 Sainsbury.

14 Q But as you sit here today, you can't think of any particular
15 reason why you never asked about the effects on the Salmon
16 Trout River?

17 A No, I cannot.

18 Q You were aware of a comment from many sources that the
19 Salmon Trout River was at the very heart of the concerns of
20 the public?

21 A Absolutely.

22 Q Were you told by anybody else in the Department, "Stay away
23 from that subject. It's just too delicate for us"?

24 A No, not at all.

25 Q "Don't dig into the Salmon Trout River part of this, because

1 we're mining right under it"?

2 A No, not at all.

3 Q Did any of the public comments ever -- for example, the
4 public comments reflecting concern about the future of the
5 Salmon Trout River make their way into your inquiry of
6 Kennecott?

7 A We had a hydrogeologist that you'll hear from did you
8 hydrogeologic review. And those comments were considered
9 when he was evaluating the hydrogeology, or comments of that
10 nature were.

11 Q Okay. I guess what I'm asking you is, Sainsbury said,
12 "Here's some specific concerns about the Salmon Trout
13 River." You didn't inquire of Kennecott about those. The
14 public said, "We have many concerns about the Salmon Trout
15 River." In looking through this list, I don't see that you
16 asked Kennecott about the Salmon Trout River from the
17 standpoint of the public comment. Did you ask Kennecott
18 anything about the effects of this mine on the Salmon Trout
19 River to satisfy Sainsbury or the public's concerns?

20 A I did not, not in this document. No, I didn't.

21 Q Let's look at page five of Sainsbury. Mr. Maki, I'm going
22 to go to page five of the document that I handed you. Okay.
23 On page five Dr. Sainsbury raises the concern about the
24 assumption of an RMR rating using the number ten for one of
25 the RMR characteristics; correct? You see in the middle of

1 the page?

2 A Yes. And are you referring to the fourth paragraph?

3 Q The third and fourth paragraphs, yes.

4 A Third and fourth paragraphs. Yes, I see that.

5 Q Okay. And my question here, again, is, did you raise this
6 with Kennecott?

7 A Did I raise this with Kennecott?

8 (Witness reviews document)

9 A No, we did not ask any questions about particularly to what
10 Dr. Sainsbury has in here. I'm not quite sure I understand
11 it, but I don't have anything here that says anything about
12 the RMR or groundwater condition rating of ten.

13 Q You didn't go back to Kennecott and say, "Why did you use
14 ten? Why did you assume dry conditions?"

15 A I did not, no.

16 Q Let's look at page six of Sainsbury. On page six he talks
17 about pre-mining in situ stress and points out that, among
18 other things, that Parker had found excessive horizontal
19 stresses several times the magnitude of the vertical stress
20 of White Pine; correct?

21 A Boy, you're really going out of my expertise here. But are
22 you reading something here?

23 Q I'm in the third paragraph of page six of Sainsbury's memo
24 to you.

25 A I see that, yes.

1 Q Did you in your questions ask Kennecott anything about the
2 White Pine horizontal stress figures and their implications
3 for this mine?

4 A I did not.

5 Q With this Sainsbury document in hand and his being the
6 expert and you're not being the expert, how did you make
7 decisions about what concerns of his to raise with Kennecott
8 and which ones to ignore?

9 A I did not use this report to make those decisions. As I
10 mentioned before, not being a rock mechanic expert, this
11 report was somewhat useless to me because I had a hard time
12 trying to glean from it what I needed. That's why I
13 requested more of a summary.

14 Q Well, were you able to tell, though -- I mean, even if you
15 didn't understand what he was saying, were you able to tell
16 that he raised page after page concerns about the status of
17 the Golder study of the crown stability?

18 A So let me -- I understood that he was raising concerns. Did
19 I understand what those concerns were specifically? No.

20 Q Did you make, you know, a conscious decision, then, if you
21 didn't understand them to ignore them --

22 A No.

23 Q -- and not raise them with Kennecott?

24 A I made a conscious decision to request from Dr. -- through
25 MFG that Dr. Sainsbury provide me something that I would

1 being somewhat of a layman in this be able to glean and ask
2 questions about them.

3 Q At the time did you see -- did you see the problem with that
4 methodology? If you were trying to reduce Sainsbury's
5 questions to things that you would understand that you might
6 lose in translation some real concerns?

7 A I guess I wouldn't say understand, more along the lines of
8 that I could pull out in a bulleted form like many of the
9 other mining team members did.

10 MR. WALLACE: Let's look at page ten. Scroll
11 down. And I'm on page ten now.

12 Q Sainsbury says to you in this memo, "The long-term
13 time-dependent behavior of the Eagle crown pillar was not
14 considered in any of the analyses." Do you see that
15 language?

16 A Where are we at?

17 Q Fourth paragraph, page ten.

18 A I see that, yes.

19 Q Now, you understand what that's saying, don't you?

20 A Yes.

21 Q I don't know if we need to go back to your questions, but
22 did you ask any questions of Kennecott about your
23 consideration for the long-term time-dependent behavior of
24 the Eagle crown pillar?

25 A No, I don't have that in there.

1 Q And what we're talking about here is he says none of the
2 analyses -- what will happen over a longer period of time at
3 this mine in terms of the crown pillar stability; correct?
4 Is that what this is about?

5 A I have to just -- it's out of my scope. I'm not comfortable
6 commenting on things that I really -- I mean, I can read
7 what this says. But again, not being a rock mechanics
8 expert, I'm not sure what he was inferring here.

9 Q Well, then I guess I need to ask you again. Why when he
10 says this hasn't been considered you didn't ask Kennecott to
11 consider it?

12 A Because I did not use this document. Like I said, I asked
13 Dr. Sainsbury to put things in more of a condensed form.

14 Q I know you didn't use this document. But you had this
15 document, and you knew this concern had been raised. You
16 must have gone through some process of saying, "I'm not
17 going to get into what's going to happen over the
18 long-term"?

19 A No, I never did that; no.

20 Q Never thought about it at all?

21 A I never made a conscious decision to eliminate anything from
22 any of these documents.

23 Q You know, isn't one of the features of the closure of this
24 mine that the hole is going to be plugged?

25 A No.

1 Q There's not going to be any opportunity to inspect the
2 stability of the crown pillar, is there, after the mine is
3 closed and the portal is plugged?

4 A Again, you're well out of my expertise. I don't know any
5 techniques. I don't know the techniques that could be used
6 in that assessment.

7 Q Okay. Well, I was trying to find out who was going to do
8 the inspections of this mine. I thought it was going to be
9 you and Ms. Humphrey.

10 A As far as the closure goes or as far as during operations?

11 Q And post-closure.

12 A Well, post-closure there's monitoring requirements for
13 subsidence monitoring.

14 Q But in terms of opportunity to observe the crown pillar
15 itself, that's going to be gone -- right? -- because it's
16 going to be shut off?

17 A The physical viewing of the crown pillar will no longer be
18 available.

19 Q Has the concern of Sainsbury about the long-term
20 time-dependent behavior of the crown pillar ever been
21 considered to this date?

22 A I don't know.

23 Q Not to your knowledge, I gather?

24 A Not to my knowledge, no.

25 MR. WALLACE: Let's look at page 11, the second

1 paragraph from the bottom. Okay.

2 Q On page 11 of the Sainsbury report, second paragraph from
3 the bottom, he raises the question of Athens; correct?

4 A Yes, he does.

5 Q And he says, "Discreet sub-vertical faults have been
6 identified as the cause of significant subsidence that was
7 observed at Athens Mine"; correct?

8 A That's what it says, yes.

9 Q And you know about Athens; plug failure, the whole thing
10 just fell to the bottom?

11 A I learned about it through this hearing, yes.

12 Q Did you in any way in your questions to Kennecott after you
13 got this report or at any other time ask them, ask
14 Kennecott, to do an analysis of the Athens Mine collapse
15 relative to their mine design?

16 A We did not.

17 Q And again, is it your testimony that there was no conscious
18 decision on your part to exclude discussions of other mines
19 that Sainsbury thought were relevant?

20 A That's my testimony, yes.

21 Q And you excluded them -- well, why did you exclude them?
22 A What was the question again?

23 Q Why did you exclude from questions to Kennecott anything
24 about the other mines that Sainsbury considered relevant?

25 A Again, I did not rely on this document. I relied on his

1 summary document and the points that he had made.

2 MR. WALLACE: Let's look at page 12. Scroll to
3 the bottom.

4 Q The second paragraph from the bottom of page 12, Sainsbury
5 says, "Crown pillar hydrologic stability was not considered
6 in the crown pillar subsidence analysis or the bedrock
7 hydrogeological investigation"; correct?

8 A That's what it says.

9 Q What did you do about that, if anything, in your questions
10 to Kennecott?

11 A Like I said, we had a hundred geologists reviewing the
12 bedrock hydrogeology, and that's --

13 Q In your questions to Kennecott, did you raise anything
14 connected to Sainsbury's concerns?

15 A No, not specific; no.

16 Q In fact, the subject of mining-induced hydrological effects
17 didn't get addressed until in connection with this hearing;
18 is that correct?

19 A What was the question again?

20 Q The subject of mining-induced hydrological impact of this
21 proposed mine was never addressed in the application; isn't
22 that fair to say?

23 A I don't know. I did not read the hydrogeologic. I'm not an
24 expert in that. However, our conditions do require the
25 company at from the lowest point on up to analyze for that.

1 MR. WALLACE: On page 13, if we could look at that
2 for a minute?

3 Q The second paragraph on page 13 of Sainsbury states that,
4 "The Society of Mining Engineers suggests that
5 induced horizontal strain should be less than .005 for
6 there to be no significant impacts to surface bodies of
7 water for mining."

8 Do you remember reading that?

9 A In this report?

10 Q Yes.

11 A This was a long time ago when I read this report, so, no.

12 Q When you looked at this report, did you pay any particular
13 attention to his few comments about surface bodies of water,
14 the river and so forth? Did you say, "Oh, this is something
15 that I better pay particular attention to, because we're
16 mining under water"?

17 A Well, I think through the whole review process
18 consideration -- serious consideration was looked at on the
19 hydrogeology and potential impacts to the Salmon Trout River
20 and its wetlands.

21 Q Okay. With respect to this particular Society of Mining
22 Engineers standard, did you ask Kennecott any questions
23 about induced horizontal strain in relationship to the fact
24 that they were going to mine under water?

25 A No.

1 Q Is there any aspect of the various potential considerations
2 in mining under water that you ever specifically posed to
3 Kennecott?

4 A Could you repeat that?

5 Q Yeah. Is there any aspect of the fact that this mine was
6 going to be conducted under a water body that you
7 specifically addressed to Kennecott for further information?
8 Because it's been raised several times by Sainsbury, as
9 we've just reviewed.

10 A I think there's several questions related to hydrogeology
11 that we asked. I guess my opinion is that they were
12 questions specifically to understand the hydrogeology and
13 determine if the conclusions in the application were
14 accurate.

15 Q Well, hydrogeology is a much broader subject than simply the
16 subject of -- the specific subject of mining under a surface
17 body, surface water body; correct? Hydrogeology deals with
18 groundwater and groundwater flow. It doesn't necessarily
19 have to implicate surface water at all, does it?

20 A Oh, I disagree with that. I think there's hydrologic
21 conditions that allow interaction between surface water and
22 groundwater.

23 Q And entirely agree. But what I'm asking here is your
24 concern -- you've got some specialization in hydrogeology;
25 correct?

1 A Some, yes.

2 Q And your hydrogeological expertise is brought to bear in the
3 areas where there's no surface water, if you're only talking
4 groundwater; correct?

5 A My expertise from --

6 Q Your experience, hydrogeology is not simply about surface
7 water; correct?

8 A You're right. Primarily it's the study of groundwater.

9 Q Primarily is the study of groundwater. Surface water poses
10 unique elements in its own right as Sainsbury has raised;
11 correct?

12 A Surface water?

13 Q Surface water. The presence of surface water, the presence
14 of sensitive surface water.

15 A I'm not following that question.

16 Q It raises specific concerns different from the general
17 concerns of groundwater flowing --

18 A I don't think you can really separate the two that
19 definitely, because they are connected. The water has to
20 get to the ground, so I would disagree with that.

21 MR. WALLACE: You know, if I had about a
22 three-minute break, I could probably wrap this up pretty
23 fast.

24 JUDGE PATTERSON: Okay.

25 (Off the record)

1 Q Mr. Maki, I'm going to try to show you something on the
2 Elmo. Can you read that?

3 A Yes, I can.

4 MR. REICHEL: Excuse me. Mr. Wallace, can you
5 identify what you've put up on the screen?

6 MR. WALLACE: Yes; yes. I've put on the screen an
7 e-mail from a W. Blake to Mr. Maki dated June 28th, 2007,
8 12:21 p.m., subject, "Eagle project report." And it reads,
9 "Joe, here is my draft report. I'm not completely happy
10 with it, but I hope that it is what is needed to get the
11 Eagle project mine application permit back on track. Best,
12 Wilson."

13 Q Do you recall receiving this?

14 A I do.

15 Q Okay. At this time was Mr. Blake a consultant to you and
16 the mining team?

17 A He was.

18 Q Was he a member of the mining team?

19 A Well, yes, he was, I would say.

20 Q And do you have any idea what he meant by get the Eagle
21 project mine application permit back on track?

22 A I don't. I don't know what he was referring to there.

23 Q Did you receive this e-mail?

24 A I did, yes.

25 Q Did you have any discussion with him about it?

1 A This particular e-mail, I don't believe I did. I don't
2 recall.

3 Q Did you have any conversations with him about, "We're in
4 some trouble here. We need a report from you to get back on
5 track," words to that effect?

6 A No. I actually was not the one who drafted the request for
7 proposal.

8 Q But in any event, you did receive this e-mail about the time
9 indicated, as best you recall?

10 A The best I recall, yes.

11 Q I just want to ask you the last area just for some names --
12 okay? -- for planning purposes for us. And I'm going
13 through the application Table of Contents. And I'm
14 wondering who was sort of in charge of each of this areas.

15 A Okay.

16 Q All right. The geology itself, Eagle project geology, were
17 you top person?

18 A I was not.

19 Q Who was that?

20 A Well, we had a couple of phases there. Our consultants that
21 were doing the rock mechanics experts looked at the geology
22 for one reason, and our hydrogeologists looked at it for
23 another reason.

24 Q Okay. And your hydrogeologist?

25 A Was Chuck Thomas.

1 Q Development activities?

2 A Development activities? What --

3 Q Topsoil stripping, facility grading plan, excavation,
4 development rock excavation, geology and ore resources,
5 plans to limit access to the facility. It's a section of
6 the --

7 A Yeah. There's several things that went on there, like,
8 plans to limit accessibility. I reviewed that for their
9 fencing. Like, the soil stability and things are required
10 to have, you know, sediment -- soil and sediment control
11 plan, and we do have staff that reviews that.

12 Q And who was that?

13 A Well, when it's -- actually once it's been done, we have
14 staff that inspect it. So I guess I'd have to say that I
15 reviewed the plan.

16 Q Okay. Anybody else involved in that part of it?

17 A I don't think so. I don't recall, though.

18 Q I'll tell you what. Why don't I hand you a copy of the
19 application and then we'll just look at the Table of
20 Contents together?

21 MR. WALLACE: This is the application itself.

22 MR. REICHEL: Thank you.

23 A Volume one.

24 Q So that was at 4.2. How about 4.3, Surface Facilities and
25 Operations? Who would be the key person on that?

1 A Again, there's many people that looked at that, like the
2 truck wash. There was aspects of the truck wash, like, for
3 water collection and things like that, Kristen Mariuzza
4 would have reviewed that. But in general -- in these
5 general terms, I would have reviewed the surface facility
6 and operations along with Doug Pascoe.

7 Q Okay. Ventilation shaft?

8 A Doug Pascoe reviewed the ventilation shaft as well as that
9 was part of the air quality permitting process.

10 Q Okay. And TDRSA?

11 A Margie Ring, who you'll hear from, I believe, this
12 afternoon, we hope.

13 Q Site utilities?

14 A Site utilities, well, again, potable water supply Chuck
15 Thomas actually reviewed some of that. Sanitary systems,
16 that's a requirement of the health department. But again,
17 in general, I would have reviewed this portion of it along
18 with other members of the team.

19 Q All right. Wastewater treatment, who's that?

20 A That would have been Kristen Mariuzza.

21 Q Anybody particularly looking at blasting materials, handling
22 and storage?

23 A No. That's a requirement under the Tobacco -- I can't
24 remember what it's called -- Firearms, Tobacco, whatever
25 that group is.

1 Q So that's what that refers to, the federal regulation?

2 A Correct; yes. They reference that in their application.

3 Q How about underground mine description design and so forth?

4 Who's the key person in the mining team as to that?

5 A Well, Doug Pascoe would have looked at a lot of the mining

6 methods that were being used. But our rock mechanics expert

7 would have also looked at that type of information.

8 Q So Dr. Blake would be your top guy?

9 A Well, as of right now, yes.

10 Q Dr. Blake is still on this project?

11 A I don't believe -- I don't believe so, but I'm not sure. We

12 contracted him to come in as an expert witness, but I'm not

13 sure what's happened since then.

14 Q Okay. Mine dewatering system?

15 A The mine dewatering system was a combination of the folks

16 that were looking at the groundwater discharge. Kristen

17 Mariuzza looked at that for basis of design of the treatment

18 facility. And Chuck Thomas also looks at that 'cause he

19 developed some conditions for hydrogeologic purposes.

20 Q All right. How about quality assurance and quality control

21 for liner?

22 A That would have been Margie Ring.

23 Q Okay. Operations monitoring plan, is that Margie Ring, too?

24 A That would have -- that whole section you look at is --

25 there's several aspects to that, so you have the TDRSA which

1 would be Margie Ring, groundwater quality, hydrogeologic,
2 there was many people involved in that monitoring
3 requirements.

4 Q Any of them members of the mining team, per se?

5 A Oh, I would say all of them, yes.

6 Q Regional hydrologic monitoring?

7 A That would have been Chuck Thomas.

8 Q Groundwater and surface water sampling?

9 A Groundwater and surface water sampling procedures, there
10 were a couple of people there. Kristen Mariuzza was part of
11 that, and actually Chuck Thomas was part of that as well,
12 groundwater.

13 Q Could you have frankly used more staff to do this job?

14 A I don't think so. The staff that was brought together had
15 never gave me an indication that they were overwhelmed with
16 their review. Let's put it that way.

17 Q Okay. I mean, you felt you had enough people to look at the
18 8,000 pages and give it, you know, the close look it
19 deserved?

20 A I believe so, yes.

21 Q You did not, however, feel you had sufficient expertise in
22 your organization to do that; correct?

23 A That's correct.

24 Q Was rock mechanics the only area where you felt you had
25 insufficient expertise?

1 A No.

2 Q What other areas?

3 A Geochemistry, specifically mine and mine waste geochemistry,
4 and the financial assurance.

5 Q And who was your geochemistry expert?

6 A That would have been Dr. Ted Eary.

7 Q Biological monitoring, who was in charge of that?

8 A Again, we had DNR folks, Wildlife and Fisheries individuals
9 that were part of that, as well as we have a unit called
10 Surface Water Assessment Unit.

11 Q And who with the DNR?

12 A Jessica Mistak would have been for some of the -- for the
13 aquatics, and then we had Mike Koss reviewed the monitoring
14 for the other portions.

15 Q Reclamation plan?

16 A Again, that was a consolidated effort by the mining team. I
17 looked at it primarily to look at are they going to remove
18 everything and put it back to remove everything and put it
19 back to, you know, as close to pre-mining conditions. But
20 some of the other aspects, like removal of the TDRSA and
21 what timing that would happen at, we had, like, other staff
22 that were looking at the timing of that and if it was
23 necessary or something had to be left behind through the
24 process.

25 Q Who's going to inspect the backfilling procedures when they

1 take place?

2 A The mine backfilling procedures?

3 Q Yeah. I mean, if anybody.

4 A If we need to, we're going to bring in a rock mechanics
5 expert to do that review.

6 Q On backfilling?

7 A On backfilling, yes.

8 Q And would that be Dr. Blake?

9 A I have no idea who that would be.

10 Q Have you ever been privy to discussions as to why the
11 backfilling plan does not provide for backfilling the drifts
12 or the tunnels?

13 A The what now?

14 Q Have you ever been involved in discussions as to why the
15 backfilling plan is going to leave all of the tunnels and
16 drifts as voids unfilled?

17 A Tunnels and drifts? No, I haven't been privy to a
18 conversation like that.

19 Q I mean, you know nobody's going to backfill the miles of
20 tunnels; correct?

21 A The access tunnels? Is that what you're referring to?

22 Q Right. They're going to stay as voids underground?

23 A Correct.

24 Q And that will cause subsidence; correct?

25 A I have no idea.

1 Q Underground facilities, I'm looking now at 7.4.2. Who was
2 the expert in that?

3 A Well, again, some of these are -- like, the ventilation
4 system and things like that, probably had to do with air
5 quality. So we had -- it was a number of people that would
6 have looked at some of this stuff.

7 Q Who in particular looked at electrical and other utilities?

8 A I don't believe anybody looked at electrical. I think
9 that's pretty much an industry-wide -- we didn't have an
10 electrician review it, I should say.

11 Q I mean, actually this is electrical and other utilities, so
12 I gather no expert would -- it would include whether power
13 is going to be brought in or whether it's going to be run by
14 generators or both?

15 A Underground facilities it's specific to, I don't believe
16 they'll have generators underground. But at least I didn't
17 see that in the application.

18 Q Reclamation of underground openings, 7.4.2.8.1. I'm just
19 asking who's --

20 A Right. I'm looking. I'm trying to find that. Reclamation
21 of underground openings. Again, our rock mechanics expert
22 and I as well looked at reclamation.

23 Q Okay. Under 7.5.2 the post-closure monitoring plan, tell me
24 which people are going to have responsibilities for which
25 items there.

1 A As far as the inspections or --

2 Q As far as what's covered by pages 78 to 82.

3 A Okay. Chuck Thomas looked at groundwater monitoring,
4 Kristen Mariuzza and Jessica Mistak would have looked at
5 some of the surface water quality and biological monitoring.

6 Q Anybody else?

7 A That's all I can think of offhand.

8 Q And contingency items were you basically? Well, I don't
9 know. Who looked at these pages 86 to 94?

10 A Well, I looked at all of the pages. But again, some of the
11 contingency items were essentially assigned to specific
12 staff. Like, the TDRSA, that's Margie Ring. Kristen
13 Mariuzza looked at some of the wastewater collection and
14 treatment. And once again, air emissions was essentially
15 covered under the air permit.

16 Q Okay. Sir, I've asked some other people this. But if there
17 is an Athens-type plug failure or other severe failure of
18 this crown pillar, is there any way to remediate the
19 consequences of that that you know of?

20 A I don't know. I'm not an expert in that at all.

21 Q Has that question ever been asked, "What will we do if
22 what's happened to so many other mines happens here?"

23 A I think the question was asked what is the stability of this
24 crown pillar and what measures can be taken to assure that
25 that stability -- that level stays stable.

1 Q Okay. But in terms of the next step, if we're wrong, what
2 can be done about it? Has that been the subject of
3 discussions or study if there's a crown pillar failure under
4 the salmon Trout River?

5 A Uh-huh (affirmative). I'm looking in the application in
6 here.

7 (Witness reviews document)

8 A What was the question again now?

9 Q Are you aware of whether the question has been asked,
10 whether the subject has been discussed of if there is a
11 crown pillar failure underneath the Salmon Trout River what
12 will we do about it, what can be done about it?

13 A There was a section in the application that discussed
14 unplanned subsidence, and our rock mechanics expert would
15 have reviewed that. So was there a discussion about that?

16 Q You're familiar with these other mines, Athens and many
17 other mines. In the course of this trial you've certainly
18 learned about them, --

19 A Yes.

20 Q -- as a geologist you know about mines that collapse; --

21 A Yes.

22 Q -- not just subside five feet, ten feet, but collapse?

23 A Correct.

24 Q And my question is, are you familiar with any plan to deal
25 with such a collapse here if it occurs under the Salmon

1 Trout River? Or is the stark reality that there is no way
2 to remediate such a disaster?

3 A Well, once again, there is a section in here, Unplanned
4 Subsidence." And I did not review that, and that's out of
5 my scope of expertise. So I'm not sure I'm even able to
6 answer your question on that.

7 Q So if it's addressed -- you think it's addressed in the
8 application?

9 A I don't -- again, this was out of the scope of my
10 evaluation. So --

11 Q What if I represented to you that it's not addressed at all,
12 "What would we do, how would we remediate a crown pillar
13 failure?"

14 A Once again, I'm not an expert in that, so I wouldn't know.
15 That's why we had to rely on outside expertise.

16 Q Well, you haven't ever obtained a report or a plan or
17 proposal from anybody as to what to do if there is a crown
18 pillar failure, have you? Does that exist in this record?

19 A Well, again, I think if I -- there is for a plan for
20 unplanned subsidence in the application, and our expert
21 would have reviewed that.

22 Q Crown pillar failure is what I'm asking about, sir.

23 A I guess I'm not -- I don't know.

24 MR. WALLACE: I have nothing further.

25 MR. EGGAN: Your Honor, I have a few questions.

1 JUDGE PATTERSON: Okay.

2 CROSS-EXAMINATION

3 BY MR. EGGAN:

4 Q Mr. Maki, just and, again, I'm going to try and be brief.
5 But I'll begin by asking probably a pretty obvious question.
6 This is the first project under Part 632, isn't it?

7 A Yes, sir, it is.

8 Q This is the first application that you had received under
9 Part 632 of any kind?

10 A Correct.

11 Q And nobody at least in Michigan, at least with the DEQ, has
12 ever processed this kind of hard rock mining permit
13 application prior to this, had they?

14 A I believe the State of Michigan has processed hard rock
15 underground mining permit applications.

16 Q And I don't dispute that. I guess what I'm saying is what
17 we're talking about here is under Part 632, under these new
18 regulations, I guess, is where I'm going.

19 A Correct. No one has.

20 Q Okay. And my sense is that the DEQ, just like all of us,
21 was learning as it went along?

22 A I think we had a good learning experience as drafting the
23 rules, so they were fairly fresh with us.

24 Q That's an explanation. But I think in terms of my
25 declarative statement you were clearly learning as you went

1 along and applying these new rules to a brand new
2 application learning as you went along?

3 A I was applying these new rules to an application;
4 absolutely.

5 Q Learning as you went along?

6 A I would say, yes, I learned as I went along. I did not have
7 all the knowledge of 632 in my head before going into this.

8 Q Okay. Again, this had not been done in the State of
9 Michigan before this?

10 A No, it has not.

11 Q Okay. And we can also agree, I suspect, that this is really
12 not a garden variety kind of permit application that the
13 MDEQ receives? This required special attention?

14 A It required serious attention. However, I'm not sure of all
15 the permitting processes at MDEQ. So I guess I couldn't
16 compare this one to another permit.

17 Q Well, are you aware of other permits where they establish a
18 special team that is assembled just for the purpose of
19 analyzing that particular permit?

20 A I'm not aware of that, no.

21 Q Okay. All right. Certainly it is not within your
22 experience other than this project to have assembled a
23 special team to have evaluated this particular permit?

24 A Correct.

25 Q And from what I understand about the staffing that was to

1 participate in this team, most of those folks did not have
2 sulfide mining experience?

3 A I would disagree with that.

4 Q Did Chuck Thomas?

5 A No.

6 Q Did Margie Ring?

7 A No.

8 Q Did Doug Pascoe?

9 A Yes.

10 Q Hard rock sulfide mining experience?

11 A Yes, sir.

12 Q So he had been involved in the permitting processes for a
13 sulfide mine?

14 A Oh, I did not -- I'm sorry. I didn't hear your first part
15 of that question. A permitting process?

16 Q Yes.

17 A No. I would say "no," then.

18 Q Okay. Your testimony would that be Mr. Pascoe had
19 experience with sulfide mines?

20 A With underground --

21 Q What was that experience?

22 A The Ropes gold mine.

23 Q The Ropes gold mine?

24 A Yes, sir.

25 Q Okay. Good. Kristen Mariuzza, did she have specialized

1 experience in hard rock or --

2 A Not that I'm ware of, no.

3 Q Jessica Mistak?

4 A Not that I'm aware of.

5 Q Mike Koss?

6 A No, I don't believe so.

7 Q Okay. So essentially the group that you assembled was a

8 group that probably had experience in their areas, but not

9 specifically with hard rock sulfide mining in Michigan --

10 excuse me -- hard rock sulfide mining, period?

11 A Well, I would say that some of our consultants definitely

12 did.

13 Q Yes. And that is a given, and I didn't ask you about those.

14 I'm talking about the DEQ employees that were involved in

15 this.

16 A That's correct. They have not probably.

17 Q Okay; okay. I'm also thinking of the nonferrous metallic

18 minerals mining act and the legislative findings. And I

19 just want to make sure, you would agree, wouldn't you, sir,

20 that the -- with the legislature that there are special

21 concerns surrounding nonferrous metallic mineral mining?

22 A I would agree that's what the legislative findings indicate,

23 yes.

24 Q Okay. And that's what I'm -- that's what I'm going by.

25 A Yes.

1 Q So you would agree with that?

2 A Yes.

3 Q And those special concerns really relate to the presence of
4 that acid rock drainage potential?

5 A I would -- I would disagree with that.

6 Q Well, let me read to you the legislative finding, and it is
7 from MCL 324.63202(c). Do you have that in front of you?

8 A I do.

9 Q Okay. And I'm looking at paren C. And here's what I read
10 from that:

11 "Nonferrous metallic sulfide deposits are
12 different from the iron oxide ore deposits currently
13 being mined in Michigan in that the sulfide minerals
14 may react when exposed to air and water to perform acid
15 rock drainage."

16 So clearly with respect to the findings of the Michigan
17 legislature, the concern was with acid rock drainage, the
18 drainage that could result from mining operations from this
19 order?

20 A Right; I agree. That's one of the concerns.

21 Q Okay. Good. And acid rock drainage can cause significant
22 damage to the environment; you would agree with that,
23 wouldn't you?

24 A If uncontrolled, I would agree with that.

25 Q All right. And at this particular site, given the presence

1 of the Salmon Trout River and the proximity of the Yellow
2 Dog, we have the potential for acid rock drainage to rivers
3 and streams, don't we, the potential?

4 A I guess our permit conditions --

5 Q No. I'm not asking about your permit conditions. I'm
6 talking about mining operations in this area given the
7 proximity of rivers and streams, we have the potential for
8 acid rock drainage into those rivers and streams?

9 A You know, I'm not sure I'm really qualified to answer that
10 question, because that's why we hired the experts is to look
11 at the potential for these rocks to generate acid and what
12 are the potential effects of that. So I'm not the one that
13 I guess --

14 Q Just so that I understand, the head of the team, that's you,
15 the quarterback, isn't even sure whether there's even a
16 potential for acid rock drainage into the rivers and streams
17 that are right there at this site?

18 A I think the fact that we hired these folks and we have the
19 conditions, I would agree, there would be a potential if our
20 conditions weren't implemented.

21 Q Understood. So there is a potential?

22 A Yes.

23 Q And there is also a potential for acid rock drainage into
24 groundwater, isn't there?

25 A With the caveat that, if our conditions were not followed,

1 there is that potential.

2 Q And as a result of that potential, the legislature passed
3 this legislation related to nonferrous metallic minerals
4 mining special provisions, didn't they?

5 A They did.

6 Q And those provisions go beyond permitting conditions for
7 other mines in Michigan, the routine metallic mines in
8 Michigan?

9 A Could you rephrase that?

10 Q Sure. Here's what I'm going at: In paren D, it's MCL
11 324.63202(d) provides the special conditions surrounding
12 nonferrous metallic minerals mining warrant additional
13 regulatory measures beyond those applied to current iron
14 mining operations.

15 A Yes.

16 JUDGE PATTERSON: Just for the record, Counsel, I
17 think you said "conditions." It's actually "concerns," as I
18 read it, "special concerns."

19 MR. EGGAN: Oh, my mistake, Your Honor. Yeah.

20 Q "These special concerns surrounding nonferrous." I
21 apologize for that.

22 A Yeah. Okay.

23 Q So essentially what the legislature is saying is there are
24 special concerns, and those special concerns warrant
25 regulation that goes beyond regulations that have been

1 imposed on other forms of mining in this state?

2 A I would agree with that, yes.

3 Q Okay. Now, as I understand it, the MDEQ relied on Kennecott
4 to provide the hydrological report in this matter, the
5 hydrogeological report?

6 A Correct.

7 Q Okay. In other words, the MDEQ didn't do its own report on
8 that issue, did it?

9 A The DEQ did not.

10 Q Okay. And nobody came to you as the head of the team and
11 said, "Perhaps we should do our own independent report," did
12 they?

13 A No, they did not.

14 Q And likewise, the MDEQ didn't do its own independent
15 groundwater modeling at the site, did it?

16 A No.

17 Q It relied on what Kennecott provided?

18 A Correct.

19 Q And nobody came to you and said, "There are concerns about
20 the groundwater modeling. Perhaps we should do our own
21 independent groundwater modeling," did they?

22 A No.

23 Q Although the MDEQ would have had the capability to have done
24 its own independent groundwater modeling, wouldn't it?

25 A I believe so, yes.

1 Q Okay. And the MDEQ would have had the ability to have
2 conducted its own hydro report at this site, wouldn't it?

3 A That I'm not sure.

4 Q It's own hydrogeologic report on this site? You don't think
5 so?

6 A Based off of Kennecott's data, I mean, you have to collect
7 the data.

8 Q No. Based on its own data, collection of data on its own.

9 A I think physically they could have, yes.

10 Q Yes. And there's certainly nothing in the Act that would
11 have prevented the DEQ if it felt it appropriate to have
12 done that?

13 A No. There's nothing that prevents that from happening.

14 Q You could have -- you certainly could have done it if
15 somebody would have thought it was the right thing to do?

16 A I don't know that. I don't make those decisions. But it's
17 physically possible.

18 Q Okay. With respect to Part 31 issues, I'm assuming that you
19 deferred to others on Part 31 issues?

20 A That's correct.

21 Q Okay. Now, I need to ask you a question about amendment of
22 the permits and some questions really that relate to how
23 these conditions that you imposed on the permit came about.
24 Okay? And let's talk about amendment of the permit first.
25 And I realize amendment of the permit is a process that is

1 provided in the statute -- or excuse me -- in the rules.

2 You understand that?

3 A I do.

4 Q Okay. And you're familiar with that process?

5 A Somewhat, yes.

6 Q Okay. Well, you talked a little bit about this process of
7 amendment when you were talking about the Humboldt issue and
8 the possibility of beneficiation out there at the Humboldt
9 Mine site?

10 MR. REICHEL: Objection; lack of foundation. I
11 don't believe that's what he testified.

12 MR. EGGAN: I'm just --

13 Q Do you recall that there was some testimony earlier with
14 respect to the possibility of amending the permit
15 application or applying for another permit with respect to
16 beneficiation at Humboldt?

17 A There was a conversation about applying for a separate Part
18 632 permit for Humboldt.

19 Q Okay. So you would see that as a separate permit as opposed
20 to an amendment of the existing permit?

21 A Again, I don't necessarily make those decisions, but I
22 would -- my opinion would be, yes, that would be a separate
23 permit.

24 Q Well, then, fair enough. Then let's just talk about
25 amendment of the existing permit. Okay? What we know is

1 that if Kennecott wants to amend their permit they have to
2 go through a process, don't they?

3 A They do.

4 Q They have to apply to amend their permit, don't they?

5 A Yes; yes, they do.

6 Q And that amendment is then reviewed by DEQ staff, isn't it?

7 A It is.

8 Q And then within a given period of time that request for
9 amendment is -- the MDEQ has to decide whether or not it's a
10 significant amendment. And if it is a significant
11 amendment, it has to be presented just as an ordinary permit
12 application would be. It has to go through the public
13 comment process, doesn't it?

14 A Yes, it does.

15 Q Okay. Now, with respect to the conditions that you added or
16 that someone added to the 632 permit in this case, there was
17 no permit -- there was no application, was there, for an
18 amendment to the permit at that time?

19 A No.

20 Q Okay. And there was no -- you indicated that you offered
21 some proposed conditions language to Kennecott and there was
22 a discussion back and forth between you and Kennecott of
23 those new conditions; am I right?

24 A Generally, yes.

25 Q Okay. And that I assume occurred sometime -- what? --

1 before the permit was issued?

2 A Correct.

3 Q And that process, this give-and-take process between you and

4 Kennecott, that was not -- that was not a process that

5 included anyone else, I take it, for instance, the public?

6 A The public was not involved, no.

7 Q The public was not involved in that process?

8 A Correct.

9 Q And these meetings that you conducted with Kennecott where

10 these permit conditions were discussed, they weren't public

11 meetings, were they?

12 A They were not.

13 Q Some of them were telephone conversations?

14 A Correct.

15 Q Some of them were in-person discussions?

16 A Best of my recollection, I think, yes.

17 Q But in any event, the public was not invited to participate

18 in that process?

19 A That's correct.

20 Q And the conditions that you're talking about were never

21 presented, say, in a newspaper, published in a newspaper in

22 advance where the MDEQ suggested it was going to impose

23 these special conditions so the public could comment?

24 A No, I disagree.

25 Q They were these particular conditions prior to their

1 issuance were put in the newspaper prior to their issuance?

2 A Prior to the final issuance of the permit, the conditions
3 had been put out for public review.

4 Q Yes. And did you accept comments on those?

5 A Yes, we did.

6 Q Okay. Was there consultation with the Petitioners, those
7 who offered comments on the proposed permit? Was there
8 consultation with them as to -- in advance of any proposed
9 or suggested permit conditions?

10 A I wasn't part of that if there was.

11 Q Okay. Now, you did have -- you did and you've mentioned in
12 your testimony that you had meetings and discussions with
13 Kennecott on a host of issues throughout this process?

14 A On a few issues. I wouldn't categorize it -- but, yes, we
15 did.

16 Q Well, I think that -- and you correct me if I'm wrong -- but
17 I thought I heard you testify that sometimes you'd have a
18 conversation with somebody from Kennecott once a week on a
19 permit-related question.

20 A No. I think the testimony was with respect to my
21 involvement with the mining companies, meaning, Cleveland
22 Cliffs, do I -- what is my involvement with inspections and
23 communication. and I said depending on the issue, we may
24 communicate once a week depending on the issue.

25 Q Well, then maybe I should go back a little bit. How often

1 do you think -- how many times do you think you met with
2 representatives of Kennecott from the time the application
3 was filed until now?

4 A You know, half a dozen, ten times maybe.

5 Q Okay. All right. And did you have telephone conversations
6 with them also during that time period?

7 A Occasionally, yes.

8 Q Maybe half a dozen to ten times more?

9 A You know, I really -- I don't know. But I don't recall.

10 Q Well, did you have written communications with them on
11 occasion where you sent letters to them or special requests?

12 A I did, yes.

13 Q So you did have telephone conversations with them?

14 A Yes.

15 Q And you did have meetings with them on occasion, you said --

16 A Correct.

17 Q -- half a dozen to ten times, something like that, and
18 written communications?

19 A Correct.

20 Q Okay. My question for you, sir, is you heard the testimony
21 of the KBIC members suggesting that they had worshipped at
22 Eagle Rock?

23 A I did hear that testimony, yes.

24 Q And that came from Dale Goudreau, you heard his testimony, I
25 think?

1 A You know, sir, I don't remember the names, but I do recall
2 testimony.

3 Q Okay. And maybe Susan LaFernier?

4 A I do remember that, yes.

5 Q And essentially -- and there were others. Essentially what
6 they were saying was they go to Eagle Rock to pray?

7 A Yes, that's what they said.

8 Q That's right.

9 A Yes.

10 Q And you heard them saying that they view Eagle Rock as a
11 sacred site?

12 A I do recall that, yes.

13 Q And you also heard them say that they actually worship at
14 that site?

15 A I do recall some testimony about worshipping there. I don't
16 remember the exact details, but --

17 Q Understood.

18 A Yeah.

19 Q Here's where I'm going with this: You had -- we know that
20 you had meetings with Kennecott on a host of issues.

21 A Yes.

22 Q Did you ever have a meeting with the Keweenaw Bay Indian
23 Community to discuss Eagle Rock and the community's use of
24 Eagle Rock as a place of worship?

25 A No, sir, we did not.

1 Q You did not?

2 A No.

3 Q Did you personally ever participate in a meeting with KBIC
4 on any issue?

5 A I was at meetings with KBIC, but I wouldn't say specifically
6 on this permitting process.

7 Q Okay. Are you aware that there was a government to
8 government consultation between the DEQ and the Keweenaw Bay
9 Indian Community in December of 2007?

10 A I wasn't aware of that, no.

11 Q Okay. Did anyone either before -- well, let me focus it on
12 this issue. Prior to the issuance of the permits in mid
13 December of 2007, did anybody from the MDEQ contact you and
14 tell you that you needed to consider the place of worship
15 issue that we're talking about?

16 A No.

17 Q No one from MDEQ ever contacted you and raised that issue to
18 you?

19 A No.

20 Q And you had meetings with Kennecott on a host of issues,
21 you've talked about that, but no one, certainly not you met
22 with KBIC to discuss that place of worship issue?

23 A No, sir.

24 Q Now, let's also be realistic here. Okay. We know that the
25 proposed plan for the mine right now proposes that they're

1 going to put a fence around Eagle Rock; am I right?

2 A You're correct.

3 Q Okay. And you and I know that with that fence around there
4 nobody from KBIC is going to be able to go to that site, go
5 to Eagle Rock and worship?

6 A I'm not aware of Kennecott's guidance on allowing people in
7 and out of the facility, so --

8 Q So that's an issue that the State is willing to turn over to
9 Kennecott? Kennecott gets to decide whether or not citizens
10 of this state can use a place of worship that they have used
11 for hundreds of years? Kennecott, a private company, gets
12 to decide that?

13 A Well, I would say that's a better --

14 Q "Yes" or "no"? "Yes"? Kennecott gets to decide that?

15 A I don't know.

16 Q You don't decide it?

17 A I don't decide that.

18 Q Okay. But it sounds to me, at least initially was, your
19 answer would be that Kennecott gets to decide that?

20 A And I'd like to -- I think the property is owned by the
21 Department of Natural Resources. That's their surface
22 lease. That might be a better question for them.

23 Q Somebody else gets to answer that question, certainly not
24 the head of the Part 632 mine permit team?

25 A I don't think I have the ability to make that decision,

1 quite frankly, on who can and cannot.

2 Q So let's talk about another issue. Let's assume for a
3 minute that Kennecott allows somebody to -- allows members
4 of the community to go into the rock from -- rock area from
5 time to time, opens the fence for them. You and I know
6 there's going to be trucks traveling up and down the mouth
7 of Eagle Rock, isn't there, --

8 A Yes.

9 Q -- the mouth of the mine?

10 A At the portal? Is that what you're referring to?

11 Q Yes.

12 A Yes, sir, there will be.

13 Q And those are huge trucks, aren't they?

14 A Define "huge," because they're really not that big.

15 Q Are they bigger than your car?

16 A I have a van, so I'd say they're probably about the same
17 size as my van.

18 Q So you're suggesting that the trucks that are going to haul
19 mine -- that are going to haul materials up to the
20 temporary -- or excuse me -- the TDRSA are going to be the
21 size of your van?

22 A You know, the trucks that I've seen underground aren't that
23 big. They may be -- I would have to say they're bigger than
24 my van. But when you said "huge," when I think of huge I
25 think of Cleveland Cliffs, Incorporated's trucks.

1 Q Going to be a lot of activity around the out of that --
2 around the portal, isn't there?

3 A I believe that's -- there will be, yes.

4 Q And there's going to be a lot of noise there, sometimes
5 blasting?

6 A There will be noise, yes.

7 Q The din of industrial activity?

8 A Yes.

9 Q And it will be a place that will be difficult for KBIC
10 members to find sanctuary, even if they were somehow allowed
11 by Kennecott to pray at that site?

12 A I couldn't answer that. I don't know what their needs are
13 or how they even --

14 Q Have you ever been into a church?

15 A Yes, I have.

16 Q A place of sanctuary; am I right?

17 A Yes.

18 Q Okay. Generally quiet?

19 A I would agree, yes.

20 Q Hushed voices during church activities?

21 A Yes.

22 Q That's to allow people the opportunity to pray?
23 Or to hear the sermon.

24 Q Understood. But also to give people an opportunity for
25 quiet, solitude, consultation with whoever they're praying

1 to?

2 A I guess so. I'm not --

3 Q And it's going to be pretty tough with the din of industrial
4 activity, isn't it?

5 A Once again, I'm not understanding the question. It will be
6 noisy and there will be light.

7 MR. EGGAN: I don't have anything else. Thank
8 you.

9 Q Oh, you know what, I do have one question. Who is the
10 expert that the MDEQ hired to assess the potential for acid
11 rock drainage at the site?

12 A That would have been Dr. Ted Eary.

13 Q And how was it that he was selected?

14 A Dr. Eary was -- the name was provided to me by a gentleman
15 in Minnesota that worked for the Department of Natural
16 Resources. We originally were trying to contract with a Kim
17 Lappakko, who was -- who I knew from previous work
18 experience. We were looking for people that might have that
19 technical experience. And Mr. Lappakko, it was kind of an
20 interesting process, but ultimately he kind of led me to Dr.
21 Eary as having that expertise.

22 Q Understood.

23 MR. EGGAN: Thank you. Nothing else, Judge.

24 MS. HALLEY: Your Honor, I could offer exhibits at
25 this point.

1 JUDGE PATTERSON: Okay.

2 MS. HALLEY: The first exhibit I'd like to offer
3 is Petitioner's Exhibit Number 5, which is the appendix to
4 the Inman report, Appendix 5, page five, which was the OGS
5 organization chart we saw yesterday.

6 MR. REICHEL: The organizational chart of the OGS?
7 MS. HALLEY: Yes.

8 MR. REICHEL: No objection.

9 MR. LEWIS: Well, I guess my only concern is
10 that's going to be in the record as Petitioner's Exhibit 5,
11 and that's a large volume of materials, as I understand. So
12 my only concern is how the Court is going to be able to
13 identify that as that particular page as the exhibit here.

14 MS. HALLEY: I'd be happy to provide a hard copy
15 of the exhibits that are accepted.

16 JUDGE PATTERSON: All right.

17 MR. REICHEL: Again, my response is premised that
18 it's just that one page so far that you've referred to.

19 MS. HALLEY: That's correct.

20 JUDGE PATTERSON: Right.

21 MS. HALLEY: Petitioner's Exhibit 6, which is the
22 disc provided by the DEQ, the folder titled "245 Response,"
23 and it's file number 4,573. It is a document from Mr. Maki
24 to Mr. Wilson.

25 MR. REICHEL: I need to look at that again.

1 MS. HALLEY: I'm sorry. Did you say something,
2 Mr. Reichel?

3 MR. REICHEL: I'm sorry. I didn't mean to mumble.
4 I need to look at it again just to make sure I understand
5 what it is that we're talking about. We need to retrieve it
6 from our computer, unless you have it in front of you there.

7 MS. HALLEY: I do, if that would speed up the
8 process. We could either put them up or I could hand them
9 to you on paper, whatever you prefer.

10 MR. REICHEL: Okay. Just for the record, I see
11 that this is a memorandum dated January 4th, 2006, from Joe
12 Maki to Steve Wilson with the subject line, "Mining Team
13 Recommendations to the State Geologists Regarding Kennecott
14 Eagle Minerals Company Part 632 Mining Application." As to
15 that document, I have no objection. I would also note for
16 the record actually that that is I believe already in
17 evidence as -- just one moment, please -- I believe it was
18 our Exhibit Number 79. As to that, we have no objection.

19 MR. LEWIS: I'm going to make the same suggestion
20 I made before when this came up on this voluminous exhibits.
21 And I think Counsel was amenable then. And that would be on
22 the first one offered that we just -- if Counsel would just
23 make that a new exhibit number and then on this latter one
24 as well, again, being apparently a single page within a
25 voluminous exhibit that's contained on a disc. That would

1 make it much more easier for the Court or counsel for the
2 parties to later identify and understand what those exhibits
3 are.

4 MS. HALLEY: I'm happy to provide that. So that
5 means the exhibit that was just entered, Petitioner's 5,
6 would be 163, Petitioner's 163.

7 JUDGE PATTERSON: Okay.

8 MS. HALLEY: And this one, if it's accepted, will
9 be 164.

10 MR. REICHEL: And with respect to this last
11 exhibit, in reviewing this, I noted that both documents;
12 that is, what was previously offered and introduced as
13 Respondent's 79 and what would now be Petitioner's 164; has
14 a date -- each of them has a date of January 4th, 2006,
15 which I believe reviewing the document internally and Mr.
16 Maki's testimony apparently is some kind of typographical
17 error, but we can go back with on redirect. But I just
18 wanted to note for the record that the document bears the
19 date January 4th, 2006, but I believe based on Mr. Maki's
20 testimony and the internal contents of the document it's
21 obvious that it couldn't possibly have been written on
22 January 4th, 2006, but instead must have been as Mr. Maki
23 testified, January 4th, 2007. But I can explore that on
24 redirect.

25 MS. HALLEY: I will accept that explanation.

1 MR. REICHEL: I have nothing else on that.

2 JUDGE PATTERSON: Okay.

3 MS. HALLEY: Admitted then?

4 JUDGE PATTERSON: Yes.

5 MS. HALLEY: Thank you.

6 (Petitioner's Exhibits 632-163 and 632-164
7 received)

8 MS. HALLEY: Petitioner's Exhibit 25, which is the
9 letter from Governor Granholm to Director Chester
10 instructing the type of review she required.

11 MR. LEWIS: I think that might already be in,
12 actually.

13 JUDGE PATTERSON: I thought it was.

14 MR. REICHEL: I believe it is.

15 MS. HALLEY: Thank you. I apologize, then.
16 Petitioner's Exhibit 5, which is Appendices -- we'll take
17 one at a time -- Appendix 3 to the Inman report, which is a
18 list of the mining team, and that would be Petitioner's
19 Exhibit 165.

20 JUDGE PATTERSON: I'm sorry. 965?

21 MS. HALLEY: I'm sorry. What, sir?

22 JUDGE PATTERSON: What was the number?

23 MS. HALLEY: Oh, it would be Petitioner's new
24 Number 165.

25 JUDGE PATTERSON: Oh, 165.

1 MS. HALLEY: Right.

2 MR. REICHEL: Counsel, I believe you're referring
3 to the document you projected yesterday, which had a list of
4 participants -- identified participants in the mining team;
5 is that correct?

6 MS. HALLEY: That's correct.

7 MR. REICHEL: Just that page or pages?

8 MS. HALLEY: For now. I thought for the sake of
9 simplicity we'd just take it one at a time.

10 MR. LEWIS: Is that all that's on that document?

11 MS. HALLEY: It's all the Appendix 3 only includes
12 that one page.

13 MR. LEWIS: Just the list?

14 MS. HALLEY: Yes.

15 MR. LEWIS: No text or anything beyond that?

16 MS. HALLEY: No; just that table.

17 MR. LEWIS: Okay.

18 MR. REICHEL: No objection.

19 MR. LEWIS: No objection.

20 JUDGE PATTERSON: All right. No objection, it
21 will be entered.

22 (Petitioner's Exhibit 632-165 received)

23 MS. HALLEY: And the next exhibit is Petitioner's
24 5, which is Appendix 4 of the Inman report, and that is
25 simply a list of Dr. Inman's interviewees. That would be

1 Petitioner's Exhibit 166.

2 MR. REICHEL: As to that, Your Honor, I'm going
3 to object. I don't want to repeat the lengthy discourse we
4 had yesterday. It was and continues to be our position that
5 the interviews that the Inman report is not relevant in this
6 matter.

7 MS. HALLEY: I believe Your Honor has ruled on
8 that issue.

9 JUDGE PATTERSON: I believe I did, and I did rule
10 it was relevant. So based on that I'll admit it.

11 (Petitioner's Exhibit 632-166 received)

12 MS. HALLEY: The next exhibit is Petitioner's 5,
13 the Inman report itself, which would be Petitioner's Number
14 167, the text of the Inman report, not the appendices.

15 MR. REICHEL: The entire text, Counsel?

16 MS. HALLEY: Yes.

17 MR. REICHEL: And for the record, for the
18 previously stated reasons, I recognize you've made your
19 ruling, but I continue to object.

20 JUDGE PATTERSON: Okay. I will admit it based on
21 the previous ruling.

22 (Petitioner's Exhibit 632-167 received)

23 MS. HALLEY: The next exhibit is Petitioner's 5,
24 Inman Appendix page 327 of the document, and that is the
25 Honigman Law Firm's FOIA request to the DEQ dated October

1 23rd of 2006.

2 JUDGE PATTERSON: What was the number of that
3 again?

4 MS. HALLEY: It's Petitioner's Exhibit 5, and page
5 327 of the Inman Appendices of the appendices.

6 JUDGE PATTERSON: All right.

7 MR. REICHEL: Again, renew my objection, Your
8 Honor. This is a FOIA request. There's no basis for them
9 to be a part of this proceeding.

10 MS. HALLEY: It was in the appendices of the Inman
11 report, which we just admitted.

12 JUDGE PATTERSON: I believe I previously ruled on
13 them in a motion in limine saying I didn't have jurisdiction
14 over enforcement of FOIA, but it could be explored so far as
15 DEQ's response to the application or how ever I phrased
16 that.

17 MS. HALLEY: I believe that Your Honor ruled on
18 this yesterday when I clarified that we're not asking this
19 Court that make a ruling on FOIA.

20 JUDGE PATTERSON: I think I did. And I will admit
21 it on that basis.

22 MR. LEWIS: And that was Number 168 now, Ms.
23 Halley?

24 MS. HALLEY: Yes. That would be Petitioner's
25 Exhibit 168.

1 (Petitioner's Exhibit 632-168 received)

2 MS. HALLEY: The next exhibit is Petitioner's 5,
3 which is in the Inman Appendices page 331 of the appendices,
4 and that is Kennecott's FOIA request dated November of 2006
5 asking for all correspondence between Maki, MFG and Itasca.
6 And that would be Petitioner's Exhibit 169.

7 MR. REICHEL: Same objection.

8 JUDGE PATTERSON: I will admit that based on the
9 previous one.

10 (Petitioner's Exhibit 632-169 received)

11 MS. HALLEY: Petitioners offer Petitioner's
12 Exhibit Number 5, the Inman Appendices. And again, this is
13 page 333 of the appendix document. And that is the DEQ-this
14 response to the Kennecott request. And that would be
15 Petitioner's 170.

16 MR. REICHEL: Same objection.

17 JUDGE PATTERSON: Same ruling.

18 (Petitioner's Exhibit 632-170 received)

19 MS. HALLEY: DEQ Exhibits 50 and 51. 50 is
20 documentation of a conference call between Mr. Maki, Itasca
21 and Kennecott, which we discussed. And 51 is the request
22 from Dr. Sainsbury to Kevin Beauchamp of Golder regarding
23 the RMR clarification question that Mr. Maki had knowledge
24 of. And those would be the DEQ. We can just leave them
25 with DEQ's numbers. If we need to renumber them --

1 JUDGE PATTERSON: And those were again what?
2 DEQ --
3 MS. HALLEY: DEQ 50 and 51.
4 JUDGE PATTERSON: Okay.
5 MR. REICHEL: As to 50 I have no objection. I
6 just want to review 51 again.
7 (Counsel reviews document)
8 MR. REICHEL: I'm not certain that actually this
9 was discussed with Mr. Maki. But, Counsel, did you examine
10 him about this document yesterday?
11 MS. HALLEY: Let me pull it back up again to be
12 sure.
13 (Counsel reviews document)
14 MS. HALLEY: I did; I did. And this document --
15 JUDGE PATTERSON: We're talking about 51?
16 MS. HALLEY: Yes. DEQ 51.
17 JUDGE PATTERSON: And that's what again?
18 MS. HALLEY: It is a memorandum from Kevin
19 Beauchamp to David Sainsbury with Joe Maki copied. And it's
20 a discussion of which RMR classification Golder had used,
21 because Dr. Sainsbury noted some discrepancies and
22 irregularities in that. Also this --
23 JUDGE PATTERSON: And that was --
24 MS. HALLEY: Go ahead.
25 JUDGE PATTERSON: Wasn't that an exhibit in Dr.

1 Sainsbury's deposition?

2 MS. HALLEY: I believe it is. And if you'd
3 rather --

4 JUDGE PATTERSON: I'm not sure.

5 MS. HALLEY: I think actually you're right. It
6 probably already is admitted, then. I think so. You're
7 exactly right, your Honor. So that is Petitioner's 7, also
8 Intervenor's 626, and it's Appendix 3. So I believe that
9 this -- all of Sainsbury's exhibits to his deposition except
10 Appendix 11 were already admitted.

11 MR. REICHEL: That's our understanding.

12 MS. HALLEY: Okay. Thank you for the
13 clarification.

14 MS. HALLEY: Next I move to enter Petitioner's
15 Exhibit 7, or Intervenor's 626, which is the Sainsbury
16 deposition, Appendix 11, document number 29, which is the e-
17 mail -- it's the e-mail from Mahesh Vidyasargar to David
18 Sainsbury in which changes to the document are made.

19 MR. LEWIS: There's been no foundation laid for
20 that with any witness.

21 MS. HALLEY: Mr. Maki did discuss that changes
22 were made in the -- between the May 4th and the May 5th
23 document, and that's exactly what this document reflects,
24 exactly which changes were made. We did discuss it
25 yesterday.

1 MR. LEWIS: Objection on the same basis we
2 objected to counsel's efforts to introduce other parts of
3 the Exhibit 11 to the Sainsbury deposition, your Honor.

4 JUDGE PATTERSON: I'll now sustain it. We do have
5 Mr. Maki's testimony about those changes. The record will
6 stand with that.

7 MS. HALLEY: I'm sorry? You're sustaining the
8 objection?

9 JUDGE PATTERSON: We do have Mr. Maki's testimony.
10 I think that's sufficient for the record.

11 MS. HALLEY: Your Honor, I might point out that
12 the documents in Appendix 11 are exempt from hearsay under
13 the Michigan Rules of Evidence 801(d)(2)(D). And that
14 section reads -- it's related to the admission by a party
15 opponent. "The statement is offered against a party and is,
16 one, a statement by the party's agent or servant concerning
17 a matter within the scope of the agency of employment made
18 during the existence of their relationship." These e-
19 mails -- these are all e-mails, and they certainly are
20 statements that are made by the party's agents, either MFG
21 or Itasca or Mr. Maki and in some instances I believe Mr.
22 Wilson, and they were given to us. They were statements
23 given to us by the Department, therefore they are exempt --
24 they are not hearsay therefore under this rule.

25 JUDGE PATTERSON: If that's the document I'm

1 thinking of, we discussed it yesterday, and I think I made a
2 ruling on it. I did not consider it an admission.

3 MR. LEWIS: Yes, the basis of --

4 JUDGE PATTERSON: The content of it I don't
5 interpret as being an admission, so I don't think that it's
6 exempt on you.

7 MS. HALLEY: Your Honor, I believe the basis of
8 your ruling has been that those documents are hearsay. And
9 given the contents of this rule, I respectfully request a
10 reconsideration of that ruling.

11 MR. LEWIS: Well, that's not the basis of the
12 ruling. It wasn't the basis of the objections, either, when
13 we took up Exhibit 11 to the Sainsbury deposition. It was
14 not hearsay. It was a lack of foundation. It was a lack of
15 an opportunity to present those documents to Dr. Sainsbury
16 and cross-examine him in his deposition about those
17 documents. Yesterday and again today the basis of the
18 objection has not been hearsay. It's lack of foundation and
19 opportunity to cross-examine the witness. And no witness
20 here has laid a foundation for the admissibility for those
21 exhibits since this court's ruling.

22 JUDGE PATTERSON: Not only that, as I interpret
23 that document, I did not consider it an admission -- qualify
24 for a hearsay admission. So I will sustain the objection.

25 MS. HALLEY: Well, that would have been

1 Petitioner's 171. Petitioner's 172 --

2 MR. LEWIS: Well, wait a minute.

3 MS. HALLEY: -- is offered --

4 MR. LEWIS: You didn't use up 171. So if you're
5 offering the next one, it would be 171, I believe.

6 MR. WALLACE: It's an offered exhibit but not
7 admitted.

8 MR. LEWIS: Oh, excuse me.

9 JUDGE PATTERSON: Yeah, I think that should be
10 reflected that way.

11 MR. LEWIS: Okay. And also before we go on, I'm
12 not sure, Ms. Halley, if you got a ruling on the DEQ Exhibit
13 50. That's the one Mr. Reichel had no objection to and nor
14 do I.

15 JUDGE PATTERSON: Okay. Thank you for pointing
16 that out.

17 MS. HALLEY: Oh, thank you.

18 (Respondent's Exhibit 50 received)

19 MS. HALLEY: The next exhibit is Petitioner's
20 Exhibit 7, Appendix 11, document number 33, which is from
21 Mahesh -- it's an e-mail from Mahesh Vidyasargar to Mr.
22 Maki. We discussed this one yesterday, and Mr. Maki said
23 that he received this particular document.

24 MR. LEWIS: I'm sorry? What number is it,
25 Counsel?

1 JUDGE PATTERSON: 172.

2 MS. HALLEY: Right, we would be on 172.

3 MR. LEWIS: But what --

4 JUDGE PATTERSON: Oh, the underlying number?

5 MS. HALLEY: Petitioner's Exhibit 7, Appendix 11,
6 and it's document number 33 in Appendix 11. I have it right
7 here if you would like to --

8 MR. LEWIS: Well, I'm just trying to figure out
9 what Petitioner's 7 is. I'm missing my list at the moment.

10 MS. HALLEY: It's the Sainsbury deposition.

11 MR. LEWIS: Then where is this documented? In
12 which exhibit to the Sainsbury deposition?

13 MS. HALLEY: Well, I guess it's Petitioner's
14 Exhibit 172, then. We're assigning new numbers anyway.

15 MR. LEWIS: No, my question is, if you're
16 representing it's a document in the Sainsbury deposition,
17 what exhibit to the Sainsbury deposition is this document
18 contained in?

19 MS. HALLEY: Appendix 11.

20 MR. LEWIS: Same objection, your Honor.

21 MS. HALLEY: This one we discussed. Mr. Maki's
22 the recipient of the e-mail, and he testified about it
23 yesterday. He remembered receiving it.

24 MR. LEWIS: Well, that may be. If we could see it
25 again to refresh my recollection, that may help.

1 MS. HALLEY: We'll put them up.
2 (Counsel reviews documents)
3 MS. HALLEY: It's a message to Mr. Maki discussing
4 that he received the technical memorandum.
5 MR. LEWIS: And what's further down?
6 MS. HALLEY: Pardon me?
7 MR. LEWIS: What's further down?
8 MS. HALLEY: Let me see the next page.
9 MR. LEWIS: Are there more pages.
10 MS. HALLEY: There's one other page. It's the
11 discussion of how --
12 MR. LEWIS: I'm sorry?
13 MS. HALLEY: Discussion of how to distribute the
14 document.
15 MR. LEWIS: All right. So there's two e-mails
16 here. There's one that's copied to Mr. Maki, and then
17 there's a separate one. Is there any indication as to
18 whether Mr. Maki received the attachment?
19 MS. HALLEY: Well, this is what was provided in
20 the DEQ file, and he testified that he did.
21 MR. LEWIS: Let me see the bottom part again,
22 please.
23 MS. HALLEY: There you go.
24 MR. LEWIS: And this is going to be 172, I think,
25 if I got that right?

1 MS. HALLEY: That's correct.

2 MR. LEWIS: I have no objection, your Honor.

3 MR. REICHEL: No objection, your Honor.

4 JUDGE PATTERSON: All right.

5 (Petitioner's Exhibit 632-172 received)

6 MS. HALLEY: Next offer would be Petitioner's 173,
7 which is from Appendix 11 of the Sainsbury deposition. It's
8 document number 37. And it is the document that we
9 discussed yesterday, and we talked a good deal about it.
10 And Mr. Maki had the opportunity to address this part of the
11 message, the highlighted part. And there's only -- I'll
12 show the second page of the document. There's only that on
13 the second page.

14 MR. LEWIS: I'm sorry, Counsel. My memory is just
15 not that good. Is this a document that is received -- sent
16 by or received by Mr. Maki?

17 MS. HALLEY: No, it's not. It was sent from
18 Mahesh Vidyasargar to Dr. Sainsbury, and Ted Eary was
19 copied.

20 MR. LEWIS: I don't believe there's any of a
21 foundation necessary, as we've discussed, about Exhibit 11
22 to the Sainsbury deposition for the admissibility of this
23 document, your Honor.

24 MR. REICHEL: I'll join in the objection.

25 JUDGE PATTERSON: I don't think we need -- Mr.

1 Maki was given that statement and explained it. I don't
2 think we need to admit the exhibits. I'll sustain the
3 objection.

4 MS. HALLEY: So that would be Petitioner's 173,
5 understanding that it's offered by not admitted?

6 JUDGE PATTERSON: Correct.

7 MS. HALLEY: The next exhibit, your Honor, is
8 from -- again, from Appendix 11, number 42, which is the e-
9 mail we've discussed a number of times now from Dr.
10 Sainsbury to Andre vanAs at Rio Tinto. And that would be
11 Petitioner's Number 174.

12 MR. LEWIS: Same objection.

13 MR. REICHEL: And we've objected --

14 JUDGE PATTERSON: Pardon me?

15 MR. REICHEL: We have repeatedly objected to this,
16 your Honor.

17 JUDGE PATTERSON: Yeah, I'm going to exclude it
18 based on that repeated objection.

19 MR. LEWIS: I think Petitioner's -- you know,
20 they've offered the entire Exhibit 11, so I'm not sure this
21 exercise of going through various pieces of Exhibit 11 and,
22 you know, labeling them as new offered exhibits is
23 necessary.

24 JUDGE PATTERSON: Well, to my thinking, unless -- there
25 has been a blanket objection to exhibit -- or Appendix 11.

1 And the only exception to that, I think, is one e-mail that
2 was sent to Mr. Maki. And I entered that based on the fact
3 that he actually received it. But absent that, I don't
4 think I'm going to admit this.

5 MS. HALLEY: Your Honor, we will lay the
6 foundation for this document later in this proceeding.

7 JUDGE PATTERSON: All right.

8 MS. HALLEY: But it's number 174, at this point
9 offered and not admitted.

10 JUDGE PATTERSON: Correct.

11 MS. HALLEY: Next is Petitioner's Number 6, which
12 is related to Inman appendices, and it's Appendix 5, Section
13 6-G. And this would be Petitioner's 175. This is the memo
14 we looked at from Mark Feldhauser to Director Chester
15 discussing which files, particularly the May 4th, 5th and
16 22nd Sainsbury reports, were absent from the district file
17 at the office.

18 MR. REICHEL: Your Honor, as I recall -- I need to
19 look at it again. As I recall the testimony yesterday,
20 there's no indication that Mr. Maki was a recipient or
21 sender in this e-mail. He was asked on cross-examination a
22 series of questions about what his knowledge of what
23 documents or were not, a lengthy series of questions about
24 his knowledge of what documents were or were not in the
25 file. But I don't believe a foundation has been laid

1 through this witness for the admission of these documents.

2 MS. HALLEY: Well, your Honor, again this an
3 appendix --

4 JUDGE PATTERSON: That was in response to the FOIA
5 request of NWF; is that correct?

6 MS. HALLEY: No, your Honor. No.

7 JUDGE PATTERSON: All right.

8 MS. HALLEY: This is part of the Sainsbury -- I'm
9 sorry. It has nothing to do with Sainsbury. Let me back
10 up. This is a document in the Inman appendices, so it's
11 attached to the Inman report, which has already been
12 admitted.

13 JUDGE PATTERSON: Right. I understand that.

14 MS. HALLEY: And what it is, is a memo from Mark
15 Feldhauser in the Gwinn office to Steve Chester laying out
16 sort of steps of how the DEQ is responding to the Sainsbury
17 incident and particularly that these files from May 4th, May
18 5th and May 22nd were nowhere to be found in the Gwinn files
19 in any way. The relevance is not -- I mean, we're not, you
20 know, necessarily interested in that for its own right. But
21 it's already -- your ruling before applies to this. The
22 Sainsbury incident is relevant. This is a key part of that
23 discussion per Dr. Inman.

24 JUDGE PATTERSON: All right. I'll admit it over
25 the objection, then. I'm not sure frankly what probative

1 value it has.

2 (Petitioner's Exhibit 632-175 received)

3 MR. REICHEL: Counsel, in the interest of clarity
4 in the record, would it be possible to designate -- assign
5 that a new exhibit number?

6 MS. HALLEY: Yes. That will be Petitioner's 175.

7 MR. REICHEL: Just for clarity as to what we're
8 dealing with.

9 MS. HALLEY: Certainly. The next document is
10 Petitioner's Exhibit Number 6, which is the DEQ-supplied
11 disc in the e-mail's folder. The document is entitled "OGS-
12 KEM-DOC-297." And it is an e-mail from Mr. Sygo to others
13 in the DEQ discussing the pre-application process going on
14 for the facilities at the Humboldt mine.

15 MR. REICHEL: Your Honor, we object on at least
16 two grounds; first of all, lack of relevance. Number two,
17 again, this entire line of inquiry going to the possibility
18 that Kennecott may at some future time seek a permit from
19 the DEQ to construct a beneficiation operation at a site
20 remote from this that's subject to this proceeding is not
21 relevant to this proceeding. And secondly, I don't think
22 there's a foundation laid through this witness for the
23 admission of this document.

24 MR. LEWIS: I'll join the objection, your Honor.

25 MS. HALLEY: Well, as to the relevance, I believe

1 in the definition of -- I believe it's mining area, that
2 it's very clear that auxiliary facilities that are related
3 to the project are included -- should be included, anyway,
4 in this particular process. Furthermore, Mr. Maki testified
5 at good length about what he knew about the goings on at the
6 Humboldt mine, that he plans to be involved in that process.
7 He expects to be the team leader. They're in the process of
8 developing a mining team to address it. I think he has
9 quite a bit of knowledge about it, and he testified at
10 length about that.

11 JUDGE PATTERSON: All right. I'll admit it over
12 the objection.

13 (Petitioner's Exhibit 632-176 received)

14 MR. REICHEL: Well, your Honor, what -- again,
15 this is a chain of e-mails, at least as it appears on our
16 screen. What sequence are you -- and just to note for the
17 record, I don't want to argue with your Honor. But I would
18 note that with respect to the claim of relevance, I just
19 want the record to be clear that it's the department's
20 position, and has been, that what is at issue in this case
21 is the activities that were proposed in the -- that led to
22 the issuance of this permit that is the subject of this
23 context is the permit's position as testified to by this
24 witness; that if and when Kennecott proposes -- and in that
25 sense this facility was not and is not yet -- this Humboldt

1 site was not -- is not yet an auxiliary facility. When and
2 if an application is sought to engage in mining activity
3 there, that would be the subject of an entirely separate
4 process.

5 MS. HALLEY: I think you've already ruled on this.

6 JUDGE PATTERSON: I have.

7 MR. REICHEL: I just wanted to state this on the
8 record.

9 JUDGE PATTERSON: Yeah, he's just reaffirming the
10 department's position.

11 MR. LEWIS: What's the new exhibit number,
12 Counsel?

13 MS. HALLEY: That will be 176. Next exhibit is
14 Petitioner's 6, which again is the disc. And the file --
15 the folder -- excuse me -- it's titled "245 Response." And
16 the file number is 368. And that is Mr. Wilson's e-mail to
17 Mr. Smary asking if opponents to the mine might have a trump
18 card to stop the mine on a cultural basis essentially.

19 MR. REICHEL: Your Honor, again, we went into it
20 yesterday. Mr. Maki was not a participant and not a
21 recipient or a sender of this e-mail. He has knowledge of
22 this e-mail. It is wholly irrelevant. So there's no
23 foundation, number one. Number two, it is utterly
24 irrelevant to any issue in this proceeding.

25 MR. LEWIS: Join the objection. We did have this

1 discussion yesterday. I'm not sure why we have to take up
2 time trying to introduce exhibits that were -- for which it
3 was already made plain yesterday that the judge would not
4 allow testimony about the documents or contents of the
5 documents.

6 MS. HALLEY: Well, I didn't offer any exhibits
7 yesterday. This is clearly an admission by a party
8 opponent, and I think we did discuss yesterday, Mr. Wilson
9 is Mr. Maki's supervisor and certainly affects the
10 atmosphere in which this procedure has gone on. Therefore,
11 I believe it is relevant, and it's an admission by a party
12 opponent.

13 MR. REICHEL: Your Honor, with all due respect,
14 the text of this, as I recall it, is by no stretch of the
15 imagination an admission.

16 JUDGE PATTERSON: I agree, Counsel. I was about
17 to say that. And the fact that Mr. Maki was not privy to
18 this -- based on the fact I don't consider, as Mr. Reichel,
19 an admission. And the fact that Mr. Maki wasn't privy to
20 it, I'm going to sustain the objection.

21 MS. HALLEY: That's Petitioner's 177, offered by
22 not admitted.

23 JUDGE PATTERSON: Correct.

24 MS. HALLEY: And the next is Petitioner's Exhibit
25 6. The folder is 245 Response. The file number is 2062.

1 And this is a discussion of Kennecott being a potential
2 contributor to a contemplated 501 c 3 organization. And
3 that would be Petitioner's 178.

4 MR. REICHEL: Again, your Honor, I think there's a
5 lack of foundation for this. This was the subject of a line
6 of questioning, but that questioning is not -- this witness
7 testified that he has only general knowledge of the
8 possibility of creating such an organization. He did not
9 testify that there is today in place a plan or that the DEQ
10 has implemented a plan to organize such an organization on
11 the terms described in these documents, number one. So
12 there's no foundation for it. Number two, again, it is
13 irrelevant.

14 MR. LEWIS: Join that, your Honor.

15 MS. HALLEY: Your Honor, again, I believe this is
16 an admission of the party opponent under Michigan Rules of
17 Evidence 801(d)(2)(D).

18 MR. REICHEL: It's not admission, your Honor.

19 JUDGE PATTERSON: Counsel, I agree witness you. I
20 don't see that as being an admission. I will exclude it.
21 The record can stand on Mr. Maki's testimony regarding his
22 knowledge.

23 MS. HALLEY: That's Petitioner's --

24 JUDGE PATTERSON: 501 c 3, whatever it is at this
25 point.

1 MS. HALLEY: This is Petitioner's 178, offered but
2 not admitted. For the sake of making my record, I'm going
3 to offer Petitioner's 6. The folder, again, is 245
4 Responses. It's file 2476. This is a document that
5 describes the purpose of this 501 c 3 organization and lists
6 Mr. Fitch as the chosen CEO, and Muzzers (phonetic), Cherry
7 and Trippel as board members.

8 MR. REICHEL: Same objection, your Honor.

9 MR. LEWIS: Same objection, your Honor.

10 JUDGE PATTERSON: Same ruling.

11 MS. HALLEY: That's 179, offered but not admitted.

12 JUDGE PATTERSON: Right.

13 MS. HALLEY: I also make -- offer Petitioner's
14 Exhibit 6, 245 Response folder, file number 2379. That is
15 the e-mail from Mr. Wilson to Mr. Peterson indicating that
16 he has listed the Citizens for Responsible Mining group on
17 his favorites, and with the tag line, "A mine is a terrible
18 thing to waste." That will be Petitioner's 180.

19 MR. REICHEL: We object on the basis of lack of
20 foundation, relevance, and it is not, once again, a party
21 admission.

22 MR. LEWIS: Same objection, your Honor.

23 JUDGE PATTERSON: Same ruling. It will be
24 excluded.

25 MS. HALLEY: Petitioner's Exhibit 6, 245 Response

1 folder, file 2485. This is a message from Mr. Maki to Mr.
2 Wilson inquiring about taking a trip out west at Mr.
3 Trippel's invitation. And he -- this is a message from him,
4 and he testified about it. And that would be Petitioner's
5 181.

6 MR. REICHEL: Again, your Honor, it is true that
7 there was testimony about this. This is not, we submit,
8 relevant. I mean to the extent that it was offered and the
9 reports and efforts will show it established some sort of
10 bias or something, I believe the witness's testimony is that
11 all of this invitation was extended by a consultant. It was
12 not -- there was no gratuity, no payment or anything else.
13 It was -- he traveled at state expense for a purpose related
14 to the job. I don't believe that this is relevant in this
15 proceeding.

16 JUDGE PATTERSON: Well, due to the fact that it
17 was an e-mail that Mr. Maki generated, I will admit it for
18 whatever probative purpose it has.

19 (Petitioner's Exhibit 632-181 received)

20 MS. HALLEY: Petitioner's Exhibit 6, Folder 245
21 Response, file number 4692. That is a message from -- e-
22 mail from Mr. Wilson to Mr. Trippel thanking him for the
23 trip, the same trip Mr. Maki testified that he went on that
24 was discussed in the exhibit just admitted, 181.

25 MR. REICHEL: Same objection.

1 JUDGE PATTERSON: I'm going to exclude it based on
2 the fact that Mr. Maki didn't generate this.

3 MS. HALLEY: And that's Petitioner's 182, offered
4 but not admitted.

5 JUDGE PATTERSON: Correct.

6 MS. HALLEY: And last and probably least is
7 Petitioner 6 from the same folder, 245 Response, file 5071;
8 is the message to -- it's called to "Milt, Joe and Steve --
9 I don't think we ever figured out if it was Joe Maki and
10 Steve Wilson or not -- discussing the preservation of
11 outcrops -- rock outcrops around the state. And that would
12 be Petitioner's 183.

13 MR. REICHEL: Again, your Honor, I don't think
14 there's a foundation. My recollection is the witness was
15 not able to testify --

16 JUDGE PATTERSON: Yeah, he didn't have even know
17 if the "Joe" was him.

18 MR. REICHEL: -- if he was even that addressee.
19 He had no knowledge.

20 JUDGE PATTERSON: Yeah, there's a, I think to say
21 the least, lack of foundation. I'll exclude it.

22 MS. HALLEY: That's Petitioner's 183, offered but
23 not admitted.

24 JUDGE PATTERSON: Correct.

25 MS. HALLEY: I think that's the end of my list.

1 MR. WALLACE: I have one, your Honor. And that's
2 Petitioner's Exhibit 6, the disc folder, 245 Response.
3 We're marking it as 184. It's an e-mail to Joe Maki from
4 Wilson Blake dated June 28th, 2007.

5 MR. REICHEL: Is this the one that you --

6 MR. WALLACE: This was my ELMO debut exhibit.

7 MR. REICHEL: Counsel, so we could retrieve this,
8 is there a number that you have similar to what --

9 MS. HALLEY: Mr. Reichel, this one is in the
10 folder, the same folder labeled "245 Response." However,
11 this document was not assigned a number. It's simply a
12 document in that folder called "Eagle.projectreport.doc" It
13 wasn't given any number.

14 MR. REICHEL: Thank you. If you may indulge me,
15 may I just look at it again?

16 (Counsel reviews document)

17 MR. LEWIS: I have no objection.

18 MR. REICHEL: No objection, your Honor.

19 JUDGE PATTERSON: Okay. Thank you. No objection,
20 and it will be entered.

21 (Petitioner's Exhibit 632-184 received)

22 MR. LEWIS: I would just note for the record,
23 there's some notations on there I think made by counsel.
24 Not objectionable, but just noting that for the record;
25 identification notations.

1 MS. HALLEY: Simply a notation of the exhibit.

2 JUDGE PATTERSON: I did notice that. Is that it?

3 MS. HALLEY: Yes, sir. Thank you.

4 JUDGE PATTERSON: Mr. Reichel, how much redirect
5 do you have?

6 MR. REICHEL: Enough that -- well --

7 JUDGE PATTERSON: The issue is, do you want to
8 break for lunch now? I know Mr. Maki is very, very anxious
9 to end his participation in this proceedings.

10 MR. REICHEL: Yes, as I am well aware of that,
11 your Honor. My concern is simply that between -- I have
12 probably at least 10 to 15 minutes of redirect, which
13 although not inviting it, I would not be surprised would
14 trigger some re-cross. My concern would be at ten minutes
15 to 1:00 we would be going beyond the time when perhaps Mr.
16 Maki wants to eat. Although I will defer to Mr. Maki. If
17 your preference is to go ahead through the lunch -- further
18 through the lunch hour, I can do that.

19 JUDGE PATTERSON: What do you want to do?

20 THE WITNESS: I'd prefer to go through.

21 MR. REICHEL: All right.

22 THE WITNESS: But I don't want to cause people to
23 go into shock from not eating, either.

24 JUDGE PATTERSON: As you can see from my shape, I
25 can outlast it.

1 THE WITNESS: I can stand to miss a few myself. I
2 appreciate it. Thank you.

3 MR. REICHEL: Okay. Well, that's fine. I'm
4 certainly willing to proceed if the court is.

5 JUDGE PATTERSON: That's fine I me.

6 REDIRECT EXAMINATION

7 BY MR. REICHEL:

8 Q Mr. Maki, you were asked a great many questions by both Ms.
9 Halley and Mr. Wallace about issues related to various
10 documents prepared by Dr. Sainsbury. I don't propose to go
11 through all of that in detail. But you were asked, among
12 other things -- I'm paraphrasing here -- how in light of
13 certain statements contained in the initial so-called
14 Sainsbury report you would nonetheless have supported
15 issuant to this permit. Do you recall that line of
16 questioning?

17 A I do.

18 MR. REICHEL: Could you please put up Respondent's
19 Exhibit --

20 Q Well, let me ask you this: Well, first of all, do you
21 recall whether or not, Mr. Maki, in approximately November
22 of 2006 you received from -- you or the DEQ received from
23 Mr. Sainsbury a communication -- a further communication on
24 the issue of the crown pillar stability and rock mechanics
25 issues?

1 A I recall.

2 Q And is it your understanding that you received that after he
3 had -- let me strike that. Prior to time, if you know, had
4 you or other department staff made available to Mr.
5 Sainsbury supplemental information provided by Kennecott in
6 response to the June 2006 so-called list of 91 questions?

7 A Yes.

8 Q And if you recall, sir, what was the substance of Mr.
9 Sainsbury's November 2006 communication to you?

10 A The communication essentially said he supported the project
11 with conditions, some limiting conditions.

12 Q Perhaps when we have that up we'll go back to that.

13 MR. REICHEL: Number 75, please.

14 Q We have up on the screen what's been marked for
15 identification as Respondent's Exhibit Number 75. Do you
16 recognize this document, sir?

17 A Yes, I do.

18 Q Is this the document I was just -- we were just referring
19 to?

20 A Yes, it is.

21 Q And I'm not going to ask you to read the entire thing. But
22 is it fair to say that the substance of this communication
23 by Mr. Sainsbury to the department was that he concluded
24 that with a changing of the proposed upper mine elevation
25 and the follow-up collection of some additional data in

1 situ, that he now supported issuance of the permit?

2 A Yes, that's correct.

3 Q Did you and, to your knowledge, other department staff rely
4 upon Mr. Sainsbury's recommendation in this regard?

5 A Yes, the department did.

6 MR. REICHEL: Would you please bring up
7 Respondent's Exhibit Number 92? I'd note for the record
8 that this is a -- this document is a technical memorandum on
9 Itasca letterhead from David Sainsbury addressed to Mr. Hal
10 Fitch dated March 2nd, 2007.

11 Q Do you recognize this document, sir?

12 A I do.

13 Q Have you seen a copy of it before today?

14 A I have.

15 Q And again, without going through it, are you familiar with
16 its contents?

17 A I am.

18 Q And how would you summarize the substance of Mr. Sainsbury's
19 communication to the department at this time?

20 A Once again he describes in a little bit more detail on his
21 position in that the permit could be issued limiting the
22 elevation of mining and collecting additional data.

23 Q Notwithstanding the concerns that he had previously
24 identified in 2006?

25 A Correct.

1 Q And in further processing a review of the application, did
2 you, Mr. Maki, and other DEQ staff rely upon Mr. Sainsbury's
3 recommendation?

4 A Yes, we did.

5 Q Again, this is already reflected in the record, but I just
6 want to review it briefly. I think you've already
7 testified, and Mr. Blake -- Dr. Blake has himself testified
8 that he was -- that the DEQ retained Mr. Wilson Blake -- or
9 Dr. Wilson Blake to perform a further independent review of
10 the rock mechanics and crown pillar stability issues; is
11 that correct?

12 A That's correct.

13 MR. REICHEL: Could you please bring up
14 Respondent's Exhibit Number 9?

15 Q And do you recognize and have you reviewed this document,
16 sir?

17 A Yes, I have.

18 MR. REICHEL: And I would note for the record,
19 your Honor, as I suspect you may recall that it was some
20 weeks ago that this document was introduced during Dr.
21 Blake's testimony in this case.

22 Q And again, without going through it in detail today, Mr.
23 Maki, could you summarize what conclusions and
24 recommendations Dr. Blake reached in this document with
25 respect to crown pillar stability and approval of a mining

1 permit with respect to those issues?

2 A Yes. Dr. Blake essentially concurred with Dr. Sainsbury's
3 recommendation of limiting the mining elevation to 327.5, I
4 believe, was the elevation; I can't be certain; and also
5 recommended that the permit should be issued.

6 Q And again, did you and to your knowledge did other DEQ staff
7 rely upon Dr. Blake's recommendation?

8 A Yes.

9 MR. REICHEL: Could you please bring up Exhibit
10 112? I would note for the record that this is a technical
11 review -- document called "Technical Review of the National
12 Wildlife Federation's Permits regarding Kennecott's Proposed
13 Project to Construct and Operate the Eagle Mine." And I
14 believe it was -- could you scroll down, please? It was
15 dated December 2007. And again I would note for the record,
16 your Honor, that this exhibit, Respondent's Exhibit's 112,
17 has already been admitted into evidence during the course of
18 Dr. Blake's testimony.

19 Q But again, are you familiar with this document, Mr. Maki?

20 A Yes, I am.

21 Q And are you familiar with the conclusions and
22 recommendations -- first, the conclusions that Dr. Blake
23 offered on the subject of crown pillar stability and mine
24 permitting after his review of comments submitted by the
25 National Wildlife Federation?

1 A I am.

2 Q And how would you summarize his recommendation -- both his
3 review and his recommendations to the department?

4 A The summary essentially stated the still concurred with his
5 original assessment that the permit could be issued with the
6 conditions. And he got into a little more detail about his
7 review and conclusions of the actual NWF data. I don't
8 remember that specifically, what his conclusions were.

9 Q That's fine. And again, it's already in the record. I just
10 wanted the record to be clear as to what documents -- since
11 you were asked on a series of cross-examination how you and
12 other DEQ staff reached certain conclusions regarding
13 permits, I'm simply trying to establish what you considered.
14 And again, with respect to this document, Exhibit 112, is
15 this a document that you and, to your knowledge, other DEQ
16 staff, relied upon in making the ultimate decision to issue
17 the permit?

18 A It is.

19 Q Excuse me for jumping around sir. I'm going from a series
20 of notes. Do you still have in front of you the Part 632
21 rules, sir?

22 A I do.

23 Q And you were asked a series of questions on
24 cross-examination with regard to various items that under
25 the Part 632 rules are required to be considered during the

1 course of environmental impact assessment. Do you recall
2 that line of questioning?

3 A I do.

4 Q And do you recall being asked by counsel, including Mr.
5 Eggan, about your understanding or knowledge of whether or
6 not Eagle Rock was being or had been used as, using Mr.
7 Eggan's phrase, a place of worship? Do you recall that?

8 A I recall that, yes.

9 Q Now, to your -- well, strike that. I'd like to direct your
10 attention to rule -- Part 632 rules, Rule 202(2)(p). Rather
11 than putting it up on the screen, I'd just ask you to read
12 that into the record, sir.

13 A "Residential dwellings"? Is that where we're talking about?

14 Q Yes.

15 A "Residential dwellings, places of business, places of
16 worship, schools, hospitals, government buildings or other
17 buildings used for human occupancy all or part of the year."

18 Q Okay. Now, you've testified -- to your knowledge, was the
19 subject of this particular subrule; that is, "dwellings,
20 places of business, places of worship, schools, hospitals,
21 government buildings or other buildings used for human
22 occupancy all or part of the year," was that addressed in
23 the environmental impact assessment?

24 A It was.

25 Q While we're on the rules, sir, you are also asked, turning

1 to the next subrule in that same rule, which is subrule (q),
2 that refers to "existing and proposed infrastructure and
3 utilities." Do you see that?

4 A I do.

5 Q At the time the permit application was submitted, and
6 throughout the course of the permit review process, what was
7 your understanding of how Kennecott proposed to supply
8 electrical power to this surface facilities?

9 A It was my understanding that they were going to use diesel
10 generators.

11 Q And so to your knowledge, sir, did the permit application
12 through upon which this permit is -- decided to issue the
13 permit, did the project as proposed by Kennecott include the
14 installation of new utility lines to the site?

15 A It did not.

16 Q And I believe you touched on this in cross-examination, but
17 I'd like the record to be clear. Strike that. You were
18 asked a series of questions about the impact of potential
19 air emissions from the facility. Do you recall being asked
20 that by both counsel?

21 A I do.

22 Q And I think you've touched on this. First of all, if you
23 recall, sir, was there within the environmental impact
24 assessment -- if you need to refer to it, we can bring it up
25 here. If you recall, was there a section that addressed the

1 subject of air quality?

2 A There was.

3 Q And if you recall, did that section of the environmental
4 impact assessment make reference -- did it or did it not
5 make reference to an anticipated application for an air use
6 permit under Part 55?

7 A It did.

8 Q And again I believe you testified to this. During the
9 course of the mining review team's consideration and review
10 of the Part 632 permit application, to what extent did you
11 and other team members consider or rely upon the parallel
12 review of the Part 55 permit application?

13 A We primarily relied on that.

14 Q And it's your understanding, is it not, sir, that ultimately
15 the department on the same date the Part 632 permit was
16 issued, issued an air use permit under Part 55; is that
17 correct?

18 A That's correct.

19 Q I'd like to direct your attention -- do you have the statute
20 with you, sir?

21 A I do.

22 Q If you could, please turn to section 63205(11).

23 A Yes.

24 Q Are you there, sir?

25 A Yes, I am.

1 Q Does that -- now, you've testified about this several times,
2 and I want to go over that. But looking at -- subsection
3 (11) provides -- does it not? -- a description of the
4 circumstances under which the department shall approve a
5 mining permit application?

6 A That's correct.

7 Q And the seceding section, subsection (12), describes the
8 circumstances under which the department shall deny a mining
9 permit application; is that correct?

10 A That's correct.

11 Q Now, looking at subsection (11)(b), could you read the first
12 two sentences of that into the record, please?

13 A Yes. "The proposed mining operation will not pollute,
14 impair or destroy the air, water or other natural resources
15 or the public trust of those resources in accordance with
16 Part 16 of this Act. In making this determination, the
17 department shall take into account the extent to which other
18 permit determinations afford protection of the natural
19 resources."

20 Q So again, with respect to the Part 632 review or that
21 portion of the process upon which -- in which you
22 participated, was it or was it not your understanding that
23 the agency was considering determinations that were made
24 with respect to in other permits, including the air permit
25 and the water permit?

1 A That's correct.

2 Q Mr. Maki, while we're on the subject of this section, again,
3 as I noted, you've been asked a whole series of questions
4 about this including a series late yesterday after you'd
5 been on the stand several hours late in the day, and a whole
6 series of questions about who had the burden of proof, et
7 cetera. Now, because there was at least to me some apparent
8 confusion in what you were saying, I'd like to go over again
9 with you, so the record is clear, as to whether or not in
10 your consideration as a part of the mining review team you
11 and other members -- well, we'll talk about you. Was it
12 your understanding that in reviewing the mining permit
13 application that the department needed to consider the
14 requirements of subsection (11)?

15 A I did understand that, yes.

16 Q And you also testified yesterday that, you know --
17 paraphrasing here, but I believe that you, in performing
18 your review of the permit application, you were also guided
19 by the Part 632 rules; is that correct?

20 A That's correct.

21 Q If you recall, Mr. Maki, do the Part 632 rules contain
22 language that parallels this language in subsection (11) of
23 the statute?

24 A I believe it does.

25 Q Okay. Again, I direct your attention to -- if you'll bear

1 with me -- to rule 201, subrule (6) through (7). I'm not
2 going to ask you to read all those.

3 (Counsel reviews documents)

4 Q Okay. Again, I direct your attention to subrule (6) and
5 particularly subrule (7). I'm not going to ask you to read
6 it. But looking at that, sir, based upon your knowledge of
7 it, does that parallel and reiterate the requirements of
8 section (11) of the statute?

9 A It does.

10 Q And again, do the requirements of this rule form part of the
11 basis upon which you reviewed and made recommendations
12 regarding issuance of this permit?

13 A That's correct.

14 Q And to your knowledge, was the same standard in the statute
15 and rules made available to other members of the mining
16 review team for their consideration?

17 A I believe it was, yes.

18 Q Now, on cross-examination earlier today, you were asked by
19 Mr. Egan a series of questions about whether -- about
20 amendments to Part 632 permits. Do you recall being asked
21 about that, sir?

22 A I do.

23 Q Now, is it your -- could you tell me your understanding,
24 sir, based upon Part 632 and the rules, to the provisions
25 regarding amendment of a permit, to they apply during the

1 course of the period where the permit -- or the department
2 is reviewing a permit application, or do they apply after a
3 permit has actually been issued?

4 A I understand it to be after the permit is issued.

5 Q And to the extent that changes in the permit or a draft
6 permit that is the subject for a public notice and comment
7 are made between the time a permit is put out for -- on
8 public notice and when the permit is actually issued, do you
9 understand a change from a draft permit -- the language of a
10 draft permit to be an amendment of the permit?

11 A I don't.

12 Q Yesterday I believe Ms. Halley asked you a series of
13 questions about whether provisions regarding various
14 contingencies were included in subsection (m) of the permit
15 that was issued. Do you have the permit available to you,
16 sir?

17 A I do.

18 Q I believe one of the questions you were asked was whether or
19 not the permit addressed the contingency or the possibility
20 of surface subsidence. Do you recall that?

21 A I do.

22 Q I believe you testified that that subject was not addressed
23 in subsection (m). But I'd like to direct your attention
24 now, sir, to permit condition L 17, which I believe appears
25 at page 20 of the special permit conditions. Have you

1 located that, sir?

2 A I have.

3 Q What does that permit condition require or provide for?

4 A That condition requires the applicant to conduct subsidence
5 monitoring beginning with the lowest opening -- beginning
6 with the opening of the lowest drift and throughout
7 reclamation.

8 Q Okay. And I'd also like to direct your attention, sir, to
9 special condition E 8, which I believe appears at page --
10 the bottom of page 6 and carries over onto page 7.

11 A I found it.

12 Q Are you familiar with the provisions of this condition, sir?

13 A I am.

14 Q I believe you touched on this previously. But among other
15 things, does this condition of the permit require the
16 permittee to collect on an ongoing basis subsurface
17 geologic, geotechnical and hydrogeologic data to evaluate
18 rock stability and hydraulic conditions?

19 A It does require that.

20 Q And does it require them, in light of that data, to report
21 and be certified, whether modeling or predicted rock
22 stability in their modeling is valid?

23 A That's correct.

24 Q And what does the permit say has to happen if based upon
25 this supplemental data -- does it say, among other things,

1 "If at any time unpredicted rock stability conditions
2 are encountered that may result in project of
3 subsidence to the surface or impacts to surface water,
4 the permittee shall immediately notify the MMU
5 supervisor and shall cease excavation of earth
6 materials to access or remove ore until a revised
7 predictive model and plan to prevent adverse impacts to
8 the land, surface and/or surface water is submitted to
9 the DEQ,"

10 and the DEQ issues the plan -- issues approval of the plan?

11 A That's correct.

12 Q I believe you were also asked whether or not the permit
13 addresses a circumstance under which or addresses the
14 possibility of a failure in the wastewater treatment plant.
15 Do you recall being asked about that?

16 A I do.

17 Q Direct your attention first, sir, to in the general
18 conditions of the permit, condition B 1. I'm sorry. Strike
19 that. In the special permit condition page, I believe this
20 is page 1 of that section, condition B 1, what does that
21 section of the permit address or require?

22 A It requires the permittee to operate the Eagle project in
23 conformance with the following permits: The air use permit,
24 groundwater discharge permit, notice of coverage of
25 stormwater management during construction activities, and

1 notice of intent to stormwater management during operations.

2 Q Turing to special conditions H 11 and 17 -- H 11, I believe,
3 appears on page 13 of the permit. What does that require
4 the permittee to do?

5 A "The permittee shall produce, manage, treat and
6 discharge water associated with the mine operations
7 only in conformance with the groundwater discharge
8 permit."

9 Q And moving down to condition H 17, what does that require?

10 A "The permittee shall construct and operate the
11 wastewater treatment system to handle process upset
12 conditions such as power disruption or malfunctions of
13 the process units in accordance with the plan set forth
14 in the permit application."

15 Q You were also asked by Ms. Halley what provisions in the
16 permit address the contingency of mine flow in excess of 60
17 gallons per minute. Do you recall being asked about that?

18 A Yes, I do.

19 Q I'd like to direct your condition, sir, to special
20 conditions L 8, 9 and 10. What does special condition L
21 require?

22 A What was that?

23 Q What does special condition -- I'm sorry -- L 8 require?

24 A It says,

25 "The permittee shall monitor the flow of water from

1 mine dewatering with a meter that reports total flow.
2 The permittee shall keep a log of daily meter readings
3 and computed daily flow in US gallons per day which
4 shall be available for inspection by MDEQ upon request.
5 The permittee shall report data to the MMU supervisor
6 quarterly."

7 Q And without -- I'm not going to ask you to read the next two
8 conditions, 9 and 10. But do they require certain actions
9 to be taken by the permittee in the event that certain
10 thresholds of dewatering flows; that is, which is
11 essentially the -- a function of mine inflow --

12 A That's correct.

13 Q -- if those thresholds are exceeded?

14 A That's correct.

15 Q You were also asked whether or not the Part 632 permit
16 included provisions addressing the contingency of failure of
17 the planned filter air emissions controls on the mine raised
18 ventilation stack. Do you recall being asked about that?

19 A I do.

20 Q Recognizing that you are not and have not been involved in
21 detail in the air quality Part 55 permitting, do you have a
22 general understanding -- well, first of all, I believe
23 you've already testified that the permittee has to as a
24 condition of this permit to comply with the air permit; is
25 that correct?

1 A That's correct.

2 Q And is it or is it not your understanding that mechanisms
3 exist under the air permit for requiring -- for forcing
4 compliance with the requirements of that permit?

5 A That's correct.

6 Q I believe you were also asked whether or not the permit
7 addresses the contingency of underground mine water after
8 reflooding of the mine, causing or threatening to cause
9 contaminated water to migrate into other aquifers. Do you
10 recall being asked about that?

11 A Yes.

12 Q And directing your attention to special permit conditions L
13 18 and 19. What do those conditions of the permit require?

14 A 18 and 19?

15 Q Yes.

16 A 18 requires an ongoing characterization of the geochemistry
17 of the oreway's rock and overburden; that is, mine and
18 peripheral rock that is exposed. 19,

19 "The permittee shall operate and maintain treatment and
20 containment facilities and practices to protect
21 geological formations, groups of formations or parts of
22 formations capable of yielding significant quantities
23 of groundwater to wells and springs."

24 Q Without going into detail, is it your understanding, sir,
25 that this permit contained various mechanisms to acquire

1 continued groundwater monitoring even after mine reflooding
2 for a certain period of time; is that correct?

3 A That's correct.

4 Q You've also been asked, I think on more than one occasion,
5 whether or not the DEQ -- whether or not in reviewing the
6 permit application the DEQ relied upon data submitted by the
7 permit applicant, Kennecott or its consultants. Do you
8 recall that?

9 A I do.

10 Q As opposed to the hypothetical possibility of going out and
11 doing your own hydrogeological characterization. Do you
12 recall that?

13 A I do.

14 Q Again, Mr. Maki, under Part 632 and the rules as you
15 understand them, who is required to collect and submit the
16 data required under the statute?

17 A The applicant.

18 Q Is there any provision in Part 632 that you're aware of that
19 either requires or authorizes the DEQ to go out and conduct
20 its own independent hydrogeological investigation?

21 A There is not; not to my knowledge.

22 Q You were asked yesterday -- I think the record is clear on
23 this, but I want to make absolutely certain -- about an
24 invitation that was extended to you and some other DEQ staff
25 to participate in a tour of some mines in another part of

1 the country. Do you recall that?

2 A I recall that.

3 Q And again, although you received an invitation from this Mr.

4 Trippel -- is that correct?

5 A That's correct.

6 Q Who paid for your expenses on that trip?

7 A The department did, Department of Environmental Quality, our

8 department.

9 Q Do did you accept any sort of gratuity or compensation from

10 Mr. Trippel?

11 A Not at all, no.

12 Q You were also asked -- you were asked some questions in

13 the -- about a statement contained in the so-called Inman

14 report to the effect that -- near the conclusion of that

15 report to the effect that you had, according to Dr. Inman,

16 at one point said to him in an interview that this project

17 was your baby. Do you recall that?

18 A I do.

19 Q Do you recall whether or not you actually said that?

20 A I that recall specifically, no.

21 Q Okay. Let me ask you this, leaving aside exactly what you

22 did or didn't say to Dr. Inman. Do you approach this

23 project with any sort of presupposition that the permit

24 should be issued?

25 A Not at all.

1 Q Did you consider yourself at any stage in this process an
2 advocate for the permit applicant?

3 A No.

4 MR. REICHEL: May I have just a moment, your
5 Honor?

6 JUDGE PATTERSON: Sure.

7 Q Mr. Maki, you've been asked a number of questions about the
8 affected area and both as the term is used in the statute
9 and the rules and how it relates to the environmental impact
10 assessment that was part of the permit application; correct?

11 A Yes.

12 MR. REICHEL: And again, could you please put up
13 the definition of affected area in the statute which appears
14 at 63201(b)? And could you focus on that or just sort of
15 zoom in? All right.

16 Q Can you read that, sir?

17 A I have it in front of me as well.

18 Q All right. Well, let's work with that. Could you read that
19 definition one more time? I believe you have, but I just
20 want to follow up on this.

21 A Yes.

22 "Affected area means an area outside of the mining area
23 where the land surface, surface water, groundwater or
24 air or resources are determined through an
25 environmental impact assessment to be potentially

1 affected by mining operations within the proposed
2 mining area."

3 Q Okay. I want to focus on the last phrase for a moment. Is
4 it or is it not your understanding that for purposes of the
5 statute the question is what the impacts are or may be, what
6 the effects may be by mining operations within the proposed
7 mining area; is that correct?

8 A That's correct.

9 Q And again, in this case throughout the application process
10 and up to today, where do you understand the mining
11 operations are proposed -- what the boundaries of the
12 proposed mining area? That is, where are mining activities
13 proposed to be carried out?

14 A Specifically on the map? Or within -- within a fenced in
15 area.

16 Q Yes, as opposed to does that include, for example, the
17 former Humboldt mine site?

18 A It does not.

19 Q Does it include whatever facility is used for offloading ore
20 that is some -- any other location where ore removed from
21 this property is taken or processed?

22 A It does not.

23 Q Now, the environmental impact assessment reached a
24 conclusion -- did it not? -- as to the area that the authors
25 of the environmental impact assessment believed would

1 actually be affected; is that correct?

2 A That's correct.

3 Q And I believe you've testified in the EIA, and the document
4 states itself, that it's an area essentially of about
5 90-some acres; correct?

6 A That's correct.

7 Q Now, although the environmental impact assessment reached
8 that conclusion, to your knowledge, did the area that was
9 considered for various environmental media or features for
10 potential impact extend beyond the 92-acre footprint of the
11 mine?

12 A It did.

13 MR. REICHEL: Nothing else at this time, your
14 Honor.

15 MR. LEWIS: I have a few questions.

16 JUDGE PATTERSON: Okay.

17 CROSS-EXAMINATION

18 BY MR. LEWIS:

19 Q Mr. Maki, at any time prior to the time that -- well, let me
20 put it this way: At the time Dr. Sainsbury indicated that
21 he also felt the permit should be approved, did he, to your
22 knowledge, have any questions remaining unanswered?

23 A Not to my knowledge.

24 Q As far as the reference to the potential for migration of
25 water out of the mine into the groundwater, is there also a

1 contingency in the permit that requires the applicant to
2 monitor for that eventuality?

3 A There is.

4 Q And is there also a condition in the permit which requires
5 that in the event there is some indication that may be
6 occurring, that the water from the mine is to be removed,
7 treated and recirculated to deal with that contingency?

8 A There is that contingency, yes.

9 Q And in reference to some questions about the crown pillar
10 stability part of the questions that were sent to Kennecott,
11 I believe, in the DEQ exhibit, 67 questions, there were
12 also -- were there not? -- a number of questions sent to
13 Kennecott with those 91 questions pertaining to
14 hydrogeology?

15 A Yes, there was.

16 Q And those questions also addressed such things as potential
17 impacts to not only groundwater but to streams?

18 A That's correct.

19 Q Were the responses by Kennecott to all of 91 questions, not
20 those that could be characterized as crown pillar stability,
21 made available to Dr. Sainsbury and the other contract
22 consultants?

23 A Everybody had access to those comments or responses.

24 MR. LEWIS: That's all I have. Thank you.

25 MR. WALLACE: Let me try to do this succinctly.

RECROSS-EXAMINATION

BY MR. WALLACE:

Q We looked this morning at the Sainsbury report, which is about 20 pages long; correct?

A I believe so, yes.

Q 44 references on the back of it, references to scholarly publications and studies and so forth?

A That's correct.

Q And it raises a bunch of issues that we talked about, such as impact on the Salmon Trout River and long-term time-dependent stability issues; correct?

A That's correct.

Q Is there any place in the record, sir, that we can find that Sainsbury actually looked again at these issues and was satisfied with the response to them?

A I think the only thing in the record is Dr. Sainsbury's two memos to us saying that he supports the project with conditions.

Q The November 1 -- I mean, November 9 memo less than a page long; correct?

A And I believe there was another one in June.

Q March 3?

A Or March. I can't remember the date, but that's -- that would be the evidence.

Q And neither of them reflects in any way that he actually

1 learned about, studied, reconsidered any of the issues we
2 talked about this morning, time-dependent behavior, effects
3 on the Salmon Trout River, relevance of the Athens Mine?

4 A He didn't --

5 Q Those one-page documents compared with this 20-page document
6 don't make any reference to any of those issues; correct?

7 A It does not make reference, no.

8 Q And there's no place else in the entire record of this case
9 that we could look at, unless you direct me otherwise, and
10 learn that Dr. Sainsbury actually looked at again and was
11 satisfied with a response on all of the issues that he
12 raised; correct?

13 A I don't believe there's anything in the record, no.

14 Q Do you happen to know, sir, as a geologist whether the
15 thickness of the crown pillar has any particular bearing on
16 the long-term, time-dependent stability of the crown pillar?

17 A I'm a geologist. But, again, that's way out of my
18 expertise.

19 Q The permit condition that we looked at, he essentially says
20 as you mine upwards into the crown pillar, conduct diamond
21 drilling and analyze for stability; correct? Is that a fair
22 summary of it?

23 A Partially, yes, partially to check for stability, yes.

24 Q And who's doing this drilling?

25 A That would be the burden on the applicant.

1 Q Okay. And what are they analyzing to determine the
2 stability as they mine upwards, sir?

3 A Well, they're collecting -- they're required to collect in
4 situ stress data, standard geologic data, geotechnical and
5 hydrogeologic data.

6 Q And who's collecting this data?

7 A The company.

8 Q The drillers or presumably consultants?

9 A I'm not sure how that would work.

10 Q I mean, aren't we left here, sir, with after this process is
11 all over and public is no longer involved and mining is
12 going on underground in all likelihood with a determination
13 being made as to the stability of the crown pillar based on
14 data collected by somebody like Golder and submitted at the
15 discretion of Kennecott to the Department?

16 MR. REICHEL: Objection.

17 JUDGE PATTERSON: Are we talking --

18 Q Don't we have to -- by the standard of that permit
19 condition, doesn't the public simply have to take on faith
20 the entire balance of the crown pillar stability issue?

21 A I think the public could have access to all the analysis
22 that has been collected and reviewed by the Department
23 throughout the project.

24 Q And what's going to be the process for that, sir, under the
25 statute?

1 A The process?

2 Q Whereby the public will have access to the diamond drilling
3 results, the stress ratios, the data that's supposedly going
4 to be collected?

5 A They would have to request that data from the Department.

6 Q Do you have in mind or has anybody suggested to what data
7 would signal to the DEQ that crown pillar stability is now
8 at issue as this data is provided to you?

9 A No, we don't have a standard on that. We'll have to rely on
10 our --

11 Q I mean, hopefully they're not going to mine until it
12 collapses. But the standard calls for them to notify you
13 when the stability issues are raised; right?

14 A That's correct.

15 Q And that's going to be up to them to determine there's no
16 guideline, there are no numbers, there are no calculations
17 that are to tell us that, are they?

18 A There's another organization that would be down there as
19 well -- it would be MSHA -- that would be doing regular
20 inspections of crown pillar stability as well.

21 Q But MSHA doesn't as a matter of course look at stress
22 ratios, for example, do they, or collection of this kind of
23 data, or do you know?

24 A I don't know offhand, no.

25 Q I guess I'm just trying to understand the final analysis.

1 Looking at the last detailed rock mechanics work we had done
2 for Kennecott and submitted to you where the rock mechanics
3 analysis was wholly inadequate, indefensible, and then a
4 single-page memo is issued that says, "Here's an idea.
5 Let's just check it again later after we're mining" with
6 nothing in between, how that complies with the spirit of
7 this statute, which is to vet mine plans and stability in
8 advance with the public having input?

9 MR. REICHEL: Object to the form of the question.

10 It was essentially a compound speech.

11 Q Do you know what I'm driving at here, sir?

12 A I don't.

13 Q Okay. I'll try to take it again. The last detailed
14 analysis -- rock mechanics analysis that we saw coming from
15 the Kennecott side was studied by Sainsbury and found to be
16 indefensible; correct?

17 A You know what? I think there was additional data that was
18 presented to Dr. Sainsbury through this request for
19 additional data that he had.

20 Q There was some additional data; you're correct.

21 A Yes.

22 Q There wasn't data addressing the Salmon Trout River, there
23 wasn't data addressing long-term time-dependent behavior;
24 correct?

25 A You know, I don't know. That data was reviewed by Dr.

1 Sainsbury.

2 Q Have you ever seen a calculation that explains why 327.5
3 meters is the calculated correct mining level to proceed?

4 A I haven't, no.

5 Q Do you know where that numbers comes from, have any idea?

6 A I don't.

7 Q It's a very specific number, is it not, sir, to the half a
8 meter?

9 A Yes.

10 Q And finally, I hope, is your affected area interpretation
11 that you advance today -- and this will be a legal question
12 that somebody else will answer for all of us -- but I'm
13 trying to understand, if an ore truck drives off the site,
14 gets 100 yards up the Triple A Road and tips over and leaves
15 a pile of ore in the rain to leach into the soil and into
16 the water, is that area not deemed a potentially affected
17 area to be studied and analyzed under the statute from your
18 reading of it?

19 A That would be regulated under -- by either the Marquette
20 County Road Commission or the State Police.

21 Q You don't think that's being regulated by you in this mining
22 permit application?

23 A I don't.

24 MR. WALLACE: I guess I have nothing further.

25 MS. HALLEY: I just have a couple questions.

1 RE CROSS-EXAMINATION

2 BY MS. HALLEY:

3 Q The trip you went on for which Mr. Trippel was your tour
4 guide, I think that's what you told me, did anybody from
5 Kennecott join you on that trip?

6 A No.

7 Q Now, the November 9th memo from Dr. Sainsbury, which is
8 Appendix 9 to his deposition, do you have one of these up
9 there with you, Mr. Maki? Do you have --

10 A I'm sorry. I don't have that.

11 Q Okay. Well, if you want to see it, I'll bring it to you.
12 But maybe we can just move through it more quickly. I'm
13 trying. Is it your understanding of that memo that Dr.
14 Sainsbury was commenting on the mine as it is proposed today
15 and as it is approved today with a limit of 327.5 meters?
16 Do you want to see it?

17 A Yeah. I'm not -- I guess I'm not following what your
18 question is anyways.

19 MS. HALLEY: May I approach the witness, Your
20 Honor?

21 JUDGE PATTERSON: Sure.

22 Q My question, Mr. Maki, is based on Dr. Sainsbury's November
23 9th, 2006, memo, is it your understanding that this memo
24 addresses the mining level limitation that's in your permit?

25 A The 327.5, yes.

1 Q Exactly. Okay. Yes. All right. Thank you. Now, Mr.
2 Maki, we've talked about this e-mail in which Dr. Sainsbury
3 expresses concern to Andre vanAs at Rio Tinto. When is the
4 first time you learned about that e-mail?

5 A Early on in this -- I believe in this proceeding.

6 Q In this proceeding?

7 A I believe so, yes.

8 Q Okay. Did you attend the deposition of Dr. Sainsbury in
9 Minneapolis?

10 A I did.

11 Q Now, I'm going to read to you from the transcript of Dr.
12 Sainsbury's deposition. Okay?

13 MS. HALLEY: And this is, for the record, page 47.
14 And I'm going to start on line four of page 47.

15 Q And the person posing the questions here is Mr. Haynes, and
16 Dr. Sainsbury is responding. Okay?

17 A Okay.

18 Q All right. Let's see. To give you the context, they are
19 discussing what happened with what they're calling the final
20 report. Okay? Let's see. Mr. Haynes says,

21 "Who else did you send it to?" And Dr.

22 Sainsbury's response is, "I believe" -- "I believe in,
23 much later, I believe it was in October or November of
24 2006, about that time, after the" -- "after the
25 response from Kennecott, I contacted Joe Maki and I

1 also" -- "and also Jon Cherry, and we had a telephone
2 discussion. I asked for verbal permission to provide
3 this document to personal contacts within Rio Tinto."
4 And Mr. Haynes asks, "And why did you ask for that?"
5 Dr. Sainsbury replied, "Because I was concerned that
6 there was no one with any rock mechanics expertise on
7 the Kennecott side that had reviewed this document."
8 The next question from Mr. Haynes, "And what caused you
9 that concern?" Dr. Sainsbury, "My concern for the
10 project." Question, "In what way? What do you mean
11 your concern for the project?" Answer, "Well, I
12 believed that" -- "I knew for a fact that there were
13 people working in Rio Tinto that have expertise in this
14 area and that they would see my review and understand
15 it for what it is." He goes on to say sequentially,
16 I'm not leaving anything out, "I don't" -- "it was my
17 opinion at the time that there was no one internally
18 for Kennecott that the expertise required to understand
19 the technical nature of the discussions in this
20 report." Question from Mr. Haynes, "Did you receive
21 permission to send the document to persons at Rio
22 Tinto?" Answer, "Yes." Question, "From Mr. Maki?"
23 Answer, "No. I believe" -- "well, I believe it was
24 more from Jon Cherry." Question, "I see. And who did
25 you send it to at Rio Tinto?" Answer, "It's in the

1 e-mail record. Andre vanAs is his name." Question,
2 "And did you receive any response from Mr. vanAs?"
3 Answer, "A very brief response." Question, "And that's
4 in the e-mail record as well?" Answer, "Yes."
5 Question, "Did you receive any other responses from
6 anybody at Rio Tinto?" Answer, "No, I did not."
7 Question, "Do you know whether or not Rio Tinto took
8 any action" -- "report to them?" Answer, "I believe
9 they didn't."

10 So actually you learned about this concern that Dr.
11 Sainsbury had about the crown pillar stability in June of
12 2007; that was six months or so before the permit was
13 granted; right?

14 A That was the time, approximately six months before the
15 permit was --

16 Q And in November of 2006, Dr. Sainsbury certainly was
17 considering the crown pillar thickness that is reflected in
18 the permit as it was issued -- right? -- like in his memo
19 that you just --

20 A That's what he has in his memo, yes.

21 Q Okay. I have a couple of questions about the sections of
22 the statute -- I'm sorry -- sections of the permit that Mr.
23 Reichel asked you about, but maybe we can do it without
24 going through this. Section E8, --

25 A Yes.

1 Q -- I believe that was your response -- well, you didn't
2 respond, but it was the section you looked at when Mr.
3 Reichel was discussing subsidence, a contingency for
4 subsidence; is that right?

5 A I recall discussing this with Mr. Reichel.

6 Q Okay. Now, if we look at the sentence on the -- near the
7 end of E8 that begins with, "If at any time," do you see
8 that? It's on page seven. You see that?

9 A At the end of E8?

10 Q I believe so. Can you show me where --

11 A That is a doozy of a sentence. You're right. There it is.

12 Q Okay. Do you see it, though?

13 A I do.

14 Q It begins with, "If at any time"?

15 A Yes.

16 Q Okay. It says,
17 "If at any time unpredicted rock stability
18 conditions are encountered that may result in
19 projection of subsidence to the surface or impacts to
20 surface water, the permittee shall immediately notify
21 the MMU supervisor and shall cease excavation of earth
22 materials to access or remove ore until a revised
23 predictive model and a plan to prevent adverse impacts
24 to the land surface and/or surface water is submitted
25 to the supervisor and the DEQ issues written approval

1 of the plan."

2 Is that what that says?

3 A That's what it says.

4 Q Do you think that if the mining is at a stage where there is

5 unpredicted rock stability that may already or may result in

6 projection of subsidence to the surface or impacts to

7 surface water that those impacts to the surface water are

8 going to keep going on while somebody develops a plan and a

9 new model and all sorts of things here?

10 A I think what it's saying is that if they identify conditions

11 that may -- that means they are not occurring, but that may

12 have the potential to occur, then they are required to

13 follow through with this.

14 Q Well, how is that risk assessed in this provision? I mean,

15 who gets to decide that?

16 A Well, the applicant has to make that determination.

17 Q The applicant. But this provision doesn't at all go to any

18 sort of plug failure, does it? I mean, this doesn't apply

19 if it's a core failure similar to what we saw at the Athens

20 Mine, does it?

21 A You know, I don't understand how that plug failure really --

22 how that all was --

23 Q Well, the whole crown pillar --

24 A Well, I --

25 Q -- collapses in one big chunk.

1 A But I don't understand what kind of data would be needed to
2 be collected to identify that. So again, this condition was
3 to help --

4 Q But would you agree with me that if there were a plug
5 failure at the this site that this provision will do nothing
6 to deal with that?

7 A No. I think this provision is to identify the potential for
8 subsidence of any nature.

9 Q Well, that's not my question. If a plug failure occurs at
10 this site, will this provision do anything about it, help in
11 any way? Just "yes" or "no."

12 A So you're saying the failure has occurred? Well, then --

13 Q Right. Because plug failures often occur with very little
14 forewarning. So let's assume for a moment that it's
15 occurred. Is this program in any way going to address that?

16 A You know, I don't feel comfortable answering, because I
17 don't know enough about it to be able to make that
18 assessment about plug-type failures. That's why we hired
19 Dr. Blake.

20 Q I'm not asking you to understand anything about a plug
21 failure except that it happens at one time and the whole
22 roof collapses at one time very quickly. That's it.

23 A That's your explanation, and I'm not positive that's the --

24 Q Okay. If the roof collapses all at one time and very
25 quickly, whatever we call that, does this provision help in

1 any, protect the natural resources?

2 A Now, the roof is pieces of roof, the whole roof? I'm not --

3 Q The whole roof.

4 A The whole roof comes down?

5 Q Yeah.

6 A Again, I'm not sure I can answer that.

7 Q Is this your understanding of the contingency plan for a

8 crown pillar failure, this provision right here, E8?

9 A This is a -- this is a condition to identify potential

10 problems before they occur.

11 Q That wasn't my question.

12 A I would say, yes, it's reasonably -- probably identifies as

13 a contingency that --

14 Q To address crown pillar failure?

15 A Well, it doesn't address crown pillar failure so, no. This

16 condition does not.

17 Q Now, if we look at Section L8 through 10, which I believe

18 you and Mr. Reichel also discussed -- right? --

19 A Yes.

20 Q -- could you -- you only looked at number eight, but could

21 you take a moment there to look at numbers nine and ten

22 also?

23 (Witness reviews document)

24 A Okay.

25 Q Now, is it your understanding that any of these provisions

1 are indeed a contingency plan for mine inflow over 60
2 gallons per minute?

3 A You know, these would probably be best asked to Chuck
4 Thomas. He's the hydrogeologist who came up with these
5 conditions.

6 Q But you're in charge of the contingency plans, so I'm asking
7 you. I'm not asking you about the details of these
8 sections. I'm asking you do these Sections L8 through 10
9 serve as a contingency plan for too much inflow into the
10 mine?

11 A I think it does, because it identifies a threshold. And if
12 that threshold is met, the contingency is that they must
13 stop pumping.

14 Q The contingency is what?

15 A Again, these aren't my conditions. But the way I understand
16 these is that if they reach a certain threshold they have to
17 conduct additional monitoring.

18 Q Right. I think you've nailed it, Mr. Maki. That's what
19 they have to do, conduct additional monitoring.

20 A Correct.

21 Q And that's what those provisions say; right?

22 A That's what they say.

23 Q Is that a contingency plan? Is monitoring a contingency
24 plan?

25 A No, I wouldn't say monitoring is a contingency plan.

1 MS. HALLEY: No further questions. Thank you, Mr.
2 Maki.

3 MR. EGGAN: I have nothing further, Your Honor.

4 MR. REICHEL: Very briefly, Mr. Maki.

5 FURTHER DIRECT EXAMINATION

6 BY MR. REICHEL:

7 Q On the last point Ms. Halley was asking about conditions
8 nine and ten, can I direct your attention to 10D?

9 A Yes.

10 Q Does that -- under the described circumstances I'm not going
11 to ask you to read it. Is there a requirement that under a
12 certain circumstance that Kennecott would be required to
13 submit a remedy proposal?

14 A There is, yes.

15 Q Mr. Wallace asked you about the data that would be collected
16 under special condition E8 and whether or not that would be
17 available to the public. Do you recall that?

18 A I do.

19 Q Again, you've read this already, but there is a -- the first
20 section of E8 talks about collecting certain data on a
21 continuing basis as the mine development proceeds; correct?

22 A Correct.

23 Q And does that require that that be provided to the DEQ and
24 certified in the annual report that's required to be
25 submitted to the DEQ?

1 A That's correct.

2 Q And do you know whether or not under the administrative
3 rules -- maybe you can find the citation here with the rules
4 in front of you -- there is a requirement that the annual
5 report be provided, among others, to the local unit
6 government; is that correct?

7 A That's correct. I recall that, yes.

8 Q And also posted on the website for the DEQ?

9 A What rule is that? I vaguely remember that, but I --

10 Q Let me ask you this: To the extent that data is submitted,
11 and it's required to be submitted whether or not Kennecott
12 identifies a deviation from its stability predictions, that
13 available would be available to the public for anyone who
14 asks; correct?

15 A Correct.

16 Q Can I direct your attention, sir to Rule 501.1 of the Part
17 632 rules?

18 A Yes.

19 Q This talks about the annual mining and reclamation report?

20 A That's correct.

21 Q And does that require, among other things, that the
22 Department post a copy of the report on the website?

23 A It does.

24 MR. REICHEL: Nothing further.

25 MR. WALLACE: I've got one more question just so I

1 understand.

2 FURTHER CROSS-EXAMINATION

3 BY MR. WALLACE:

4 Q So once a year the public will get a notice, will have
5 access to a notice, the mine may collapse now or it may not
6 as of a given day? Is that the public notice, annually? Is
7 that what you're saying?

8 A Annually the applicant -- yeah. The permittee shall file a
9 mining and reclamation report.

10 FURTHER CROSS-EXAMINATION

11 BY MS. HALLEY:

12 Q 10D, which Mr. Reichel just was discussing, the remedy
13 proposal, could you tell us what the timing for the remedy
14 proposal is?

15 A What was -- was it condition L? 10D. I found it, yes.

16 Q Yeah. L 10D.

17 A Now, what was your question?

18 Q My question is, what's the timing of the remedy proposal
19 that's required?

20 A 30 days.

21 Q 30 days. So dewatering could be going on for 30 days before
22 a remedy proposal is even submitted to the DEQ? Is there
23 any time frame there for any requirement at all for actually
24 solving the problem or a time frame in which it has to be
25 solved?

1 A Well, there are going to be providing us weekly reporting.

2 Q Right.

3 A So within that time frame, within a 30-day time frame, they

4 have to provide us with the remedy.

5 Q Right. Remedy proposal?

6 A Remedy proposal, yeah.

7 Q Right.

8 A So what is your question?

9 Q Okay. So a remedy proposal to the DEQ within 30 days;

10 correct?

11 A Correct.

12 Q Okay. So in the meantime those 30 days we don't know what's

13 going on at the site? I mean, we get weekly reporting, but

14 nothing's being done to actually fix the problem

15 potentially; right? It's not required by this?

16 A It's not required by this, but --

17 MS. HALLEY: Okay. No further questions.

18 MR. LEWIS: Nothing from me, Your Honor.

19 MR. REICHEL: Nothing further. Thank you, sir.

20 MR. DYKEMA: Your Honor, I have no questions.

21 JUDGE PATTERSON: You're done.

22 (Off the record)

23 MR. REICHEL: Are we ready to proceed?

24 JUDGE PATTERSON: Okay. Please do so.

25 MR. REICHEL: Respondent calls as its next witness

1 Margie Ring.

2 MARGIE RING

3 having been called by the Respondent and sworn:

4 DIRECT EXAMINATION

5 BY MR. REICHEL:

6 Q Good afternoon, Ms. Ring. Could you please state your name
7 for the record and spell your last name?

8 A Margie Ring, R-i-n-g.

9 Q Ms. Ring, you work for the Department of Environmental
10 Quality; correct?

11 A Yes.

12 Q In the Waste and Hazardous Materials Division?

13 A Yes.

14 Q And you are based in the Upper Peninsula district office; is
15 that correct?

16 A Yes, that's correct.

17 Q Ms. Ring, your CV has already been identified and admitted
18 by stipulation as Respondent's Exhibit Number 17. But I'd
19 like to ask you briefly to review your educational
20 background starting with college.

21 A I have a bachelor of science degree from Michigan
22 Technological University in geological engineering.

23 Q And what year did you receive that degree?

24 A 1980.

25 Q And that was in geological engineering; is that correct?

1 A That's correct.

2 Q Since you completed your bachelor's degree, have you taken
3 any additional either academic course work or other training
4 related to your profession?

5 A I have had some graduate level course work in hydrogeology
6 and cartography at the University of New Hampshire and
7 Michigan State University respectively, and I've also
8 attended a number of training courses and workshops during
9 my employment with the Department of Environmental Quality.

10 Q And can you give us some idea, not an exhaustive list, but
11 some of the -- whether any of the courses or workshops that
12 you've taken during the course of your career relate at all
13 to engineering aspects of landfills or waste containment
14 facilities?

15 A Yes, I've attended workshops or courses in vent and liner
16 design, compacted clay liner design, flexible membrane
17 liner, landfill bioreactors, soils, soil mechanics.

18 Q How were you first professionally employed?

19 A I was a petroleum engineer for Amoco.

20 Q And during what years?

21 A 1980 to 1985.

22 Q Okay. And when did you first come to work for either the
23 DEQ or its predecessor agency, the Michigan Department of
24 Natural Resources?

25 A 1989.

1 Q And in 1989, that would have been the DNR; correct?

2 A Yes, that was the DNR at the time.

3 Q What branch or division of the DNR did you work in
4 initially?

5 A The Waste Management Division.

6 Q And when you first started your career, what did your
7 responsibilities include?

8 A I was an engineer, an environmental engineer for a
9 five-county region in the Upper Peninsula reviewing landfill
10 design, operation, construction, reviewing construction
11 permits, reviewing operating license applications, and
12 conducting construction inspections and compliance
13 inspections at landfills as well as I was involved in the
14 bond program for dump closures throughout the U.P.

15 Q And without going into a lot of detail, that latter project
16 involved closure or remediation of unlicensed dumps; is that
17 correct?

18 A Yes.

19 Q And have you continued since 1989 to work in those general
20 same areas; that is, solid waste, regulation and management?

21 A Yes.

22 Q And have your responsibilities increased over time?

23 A Yes. I now cover the entire U.P. for landfills. I have
24 added some additional duties with regard to some committee
25 work. I serve on remediation advisory team for Michigan

1 Waste and Hazardous Materials Division. I coordinate and
2 edit the rules interpretation document for Part 115. I
3 serve on the engineers' committee, the solid waste
4 committee, and I also write operational memos which are
5 policy documents occasionally.

6 Q Okay. You referred a moment ago to Part 115. So the record
7 is clear, by that you mean a section of the Natural
8 Resources and Departmental Protection Act that deals with
9 solid waste management?

10 A Yes, that's correct.

11 Q And has that statute or its predecessor statute been the
12 primary focus of your work since 1989?

13 A Yes.

14 Q And could you give Judge Patterson some idea of how
15 frequently or to what extent as a regular part of your work
16 for the DEQ or the DNR as an environmental engineer you've
17 had occasion to deal with issues of landfill liner design
18 and performance?

19 A Almost continually. I have 13 landfills that I have
20 oversight responsibilities for, regulatory oversight
21 responsibilities for. They're, you know, frequently
22 building new cells, submitting new engineering plans, just
23 about every year at least one is doing some additional
24 construction. We get new construction permits on a -- well,
25 maybe one or two a year maybe. But, you know, there's

1 usually ongoing construction about every year.

2 Q Okay. And when a landfill proposes to construct a new cell
3 or a new landfill, to what extent, if any, are you involved
4 as a part of your duties in reviewing and approving designs
5 for the containment and leak detection systems for the
6 liners?

7 A I'm the one who does the review.

8 Q Okay. And as a part of your -- and when we're talking about
9 landfills, are we talking about municipal solid waste
10 landfills and industrial landfills?

11 A Yes.

12 Q Again, I think you touched on this. But as a regular part
13 of our duties, do you have occasion to inspect and monitor
14 landfills compliance with the requirements of state law,
15 particularly Part 115 and its rules?

16 A Yes, I do.

17 Q And does that include having occasion to monitor the
18 performance of landfills and their liners and leak detection
19 systems?

20 A Yes.

21 Q And, again, without going into a lot of detail, does Part
22 115 have associated with it administrative rules promulgated
23 by the department that provide detailed guidance on
24 standards for design and operation of solid waste landfills?

25 A Yes.

1 Q And are you familiar with those requirements?

2 A Yes.

3 Q Ms. Ring, moving forward in time to approximately 2005, did
4 you have occasion to be assigned by your supervisor to
5 provide some assistance to other DEQ staff in connection
6 with what was then a proposed mining project that brings us
7 here today; that is, the Kennecott Eagle Mine?

8 A Yes.

9 Q And what was the nature of your initial involvement?

10 A It was requested that I meet with the OGS, Office of
11 Geological Survey staff, Kennecott and their consultant to
12 discuss what we might be looking for for the design of the
13 temporary development rock storage area.

14 Q Okay. And at that preliminary meeting, were you given some
15 general information about what Kennecott was proposing to do
16 with regard to managing this temporary development rock --
17 excuse me -- development rock from the anticipated mine?

18 A Yes, I believe so.

19 Q And the purpose of the meeting was what? Was Kennecott
20 seeking informally some information from the department
21 about how that -- such a facility to store such rock might
22 be regulated, or how would you describe it?

23 A Well, they were looking what type of design we would want to
24 see, and I believe we had draft rules at the time for 632
25 that were giving some -- providing some guidance and also,

1 you know, what kind of construction quality assurance plan
2 we might be looking for. So technical information about
3 design and construction.

4 Q Just while you brought that subject up, could you explain
5 for the record what a construction quality assurance plan is
6 as it relates to the installation or construction of a waste
7 disposal or waste storage or disposal area?

8 A Yes. It's a plan that's provided and approved in advance of
9 construction that describes all the testing requirements for
10 each element of the construction project from the base
11 grades through the -- through composite clay liners, the
12 liner systems and drainage systems. It includes testing
13 requirements, testing frequency, testing standards,
14 observation requirements, record keeping requirements, they
15 are all spelled out in the plan.

16 Q And broadly speaking, what are the purpose of those kinds of
17 requirements?

18 A To ensure good quality construction of the repository or
19 storage area.

20 Q So that it would perform as designed?

21 A Correct.

22 Q Later in 2005 or in 2006 -- excuse me -- in 2006 -- 2005 or
23 2006, were you asked or assigned to participate with other
24 DEQ staff in a mine review team?

25 A Yes.

1 Q And if you recall, was that -- did that occur before or
2 after Kennecott actually filed its Part 632 mining permit
3 application?

4 A I'm not sure on the timing, but I believe I was told I was
5 on the committee prior to the application being received.

6 Q And if I were to tell you that the application was
7 received -- it's already in the record -- in February of
8 2006, does that refresh your recollection?

9 A I believe I was told before I was on.

10 Q And when you were told that you'd been asked to participate
11 in this technical review team, what were you told about,
12 well, first of all, Part 632, and then, secondly, what role
13 you were going to be asked to play?

14 A I was told that I would -- well, I was given a copy of the
15 rules and also told that my primary focus would be on the
16 temporary development rock storage area design and
17 construction.

18 Q And ultimately just -- you were just one member of a larger
19 team; is that correct?

20 A Yes.

21 Q And did you understand the team to be comprised of staff of
22 various individuals who were asked to bring particular
23 specialized knowledge or expertise to bear on part of the
24 mining permit application?

25 A Yes.

1 Q After the application was received, were you provided by
2 Office of Geological Survey staff a copy of the mining
3 permit application?

4 A Yes.

5 Q And I believe there's already testimony in the record. But
6 was Mr. Joe Maki of the Office of Geological Survey your
7 primary contact on that project?

8 A Yes.

9 Q And I didn't cover this already. I apologize here. Is it
10 still the case that your office, you're physically based in
11 the Upper Peninsula district office in Gwinn; is that
12 correct?

13 A That's correct.

14 Q Is that the same office as Mr. Maki?

15 A Yes.

16 Q Once you were given the access to the mining permit
17 application, what task or tasks were you asked initially to
18 perform?

19 A I was given the portions of the application that pertained
20 to the temporary development of storage area and asked to
21 review and comment on it.

22 Q And were you among other things to identify any items where
23 additional information or clarification might be required?

24 A I'm not sure if it was specifically put that way, but
25 generally yes.

1 Q Did you understand that to be part of something you could
2 comment on if --

3 A Yes.

4 Q And, again, at this preliminary stage, did you -- were you
5 looking at this aspect of the application in conjunction
6 with the requirements of Part 632 and its rules?

7 A Yes.

8 Q And did you subsequently after you got the document, had a
9 chance to review it, did you prepare and share with Mr. Maki
10 any written comments on the mine application?

11 A Yes, I did.

12 Q Could you please bring up Respondent's proposed Exhibit 60?
13 Ms. Ring, could you identify for the record what this
14 document is?

15 A This is a interoffice communication or memo from me to Joe
16 Maki about the geological survey dated May 9th, 2006,
17 subject, "Comments on Eagle Mine Application."

18 Q So you authored this document?

19 A Yes, I did.

20 Q And does this represent or does this document contain your
21 initial comments on the portions on the mining permit
22 application?

23 A Yes.

24 Q Now, you testified that you -- Mr. Maki gave you copies of
25 particular sections of the application that related

1 specifically to the TDRSA; correct?

2 A Yes.

3 Q Did you also on your own initiative undertake to look at
4 other aspects of the application?

5 A Yes. I read through the entire application.

6 Q And based upon that review, you then prepared a series of
7 written comments that are contained in this document; is
8 that correct?

9 A Yes.

10 Q Now, were some of these comments -- were all of these
11 comments related specifically to the TDRSA?

12 A Not all of them, no.

13 Q I'd like to briefly, if we can, walk through some of the
14 initial comments that the made. I'm not going to ask you
15 read them all, but just to briefly touch on the subject
16 matter --

17 A Okay.

18 Q -- and then to ask you based on that what additional action
19 was taken. The first comment on the first page references
20 information in the application indicating that from you
21 gleaned that flyash was proposed to be used as part of the
22 backfill material?

23 A Yes, that's correct.

24 Q Now, just to be clear, is this -- was this comment related
25 to the TDRSA or just the permit application in general?

1 A Just the permit application in general.

2 Q And to the extent that you had a question concern about
3 this, to your knowledge, was this issue subsequently
4 addressed or resolved?

5 A I'm not sure.

6 Q Well, was the point of this comment -- let me ask you this:
7 What was the point of his comment that --

8 A Well, I notice that they didn't mention that they included
9 this as part of the geochemistry -- water chemistry
10 evaluation, and I suggested it be included as part of the
11 geochemistry review. I've since been advised that they may
12 not be using the flyash so I'm not sure how that was
13 resolved.

14 Q Well, let me ask you this: If you know, in addition to some
15 DEQ staff and DNR staff who participated in the mining
16 review team, do you know if the DEQ retained services of an
17 outside contractor with expertise in geochemistry.

18 A I believe so. I'm not sure.

19 Q Is it fair to say that the geochemical evaluation was not
20 the primary or indeed the specific focus of your review?

21 A That's correct.

22 Q Okay. Your next item relates to a proposed addition of
23 calcium limestone to the TDRSA in order to neutralize
24 potential acid rock development or acid mine -- potentially
25 acidic development rock; is that correct?

1 A Yes.

2 Q Could you briefly describe the nature of the question or
3 comment that you made here?

4 A Well, the application touched on the issue of
5 remineralization when the limestone is added, and I
6 commented that I had seen problems at municipal landfills
7 with remineralization of limestone.

8 Q And could you explain what you mean by problems that you had
9 seen in municipal landfills with remin- --

10 A Well, it was a specific case where the leachate collection
11 system was constructed with limestone. And it reacted with
12 the leachate over time and cemented up the system.

13 Q And why was that a problem?

14 A Well, then they couldn't extract leachate from the landfill
15 anymore. They had to -- they got the system and
16 reconstructed it. I'm not sure this is an analogous since
17 they're placing this well above the leachate collection
18 system, but I was just highlighting that I had the concern.

19 Q Perhaps we'll come back to that later, because as you -- I'm
20 going to ask you later in your testimony to describe what
21 you understand to be the structure of the proposed system.
22 But the long and the short of it if I understand you
23 correctly is that as of this time you do not believe
24 their -- the potential for remineralization would impair the
25 functioning of the contact water; that is, or leachate

1 collection system at this facility? Or how would you state
2 it?

3 A I don't believe it will be an issue with leachate collection
4 system or the contact water collection system as it's termed
5 here.

6 Q The third point addresses a leak detection system. Can you
7 explain the nature of your comment?

8 A If I can just read through it here?

9 (Witness reviews document)

10 A The original design proposed that the leak detection system
11 be a double liner system under the sump area only. There
12 wasn't a definition in Part 632 for leak detection system,
13 but I didn't feel that as proposed that that was adequate to
14 be considered a leak detection system.

15 Q Okay. Perhaps we should back up for a moment. To your
16 knowledge, do the Part 632 rules specifically address or is
17 there a rule or rules that specifically address the storage
18 and handling of developed rock?

19 A Yes.

20 Q And what rule is that?

21 A That's Rule 409.

22 Q And a moment ago when you said the rules didn't
23 specifically -- let's back up. Does that rule contain
24 certain requirements regarding the containment and
25 collection of liquid in areas that are used to store

1 either -- used to store development rock?

2 A Yes.

3 Q And a moment ago you said that those rules not specify a
4 particular design for a leak detection system; is that
5 correct?

6 A That's correct.

7 Q And when you talk about a leak detection system, could you
8 explain briefly for the record what you mean?

9 A Generally the way I view it it's a secondary liner system
10 under the primary storage system. It's intention is to
11 detect any liquid that might pass through the primary liner
12 system, collect that and allow for, you know, determination
13 of whether or not the primary system has leaked or failed.

14 Q And, again, we'll go into this in more detail. But in a
15 broad sense, a landfill or in this case a development rock
16 storage area is planned and engineered in such a way to have
17 a, quote, "primary" system with a low permeability layer or
18 layers intended to prevent further downward migration of
19 liquid or leachate; is that --

20 A Yes.

21 Q And so the function of the leak detection system would be
22 something positioned in a vertical sense below that primary
23 layer intended to determine if there is, in fact, leakage?

24 A Yes, that's correct.

25 Q And, again, the -- what was the substance of your comment

1 under item 3 here?

2 A Well, I didn't agree that -- well, I said that they should
3 put the leak detection system under the entire lined area
4 rather than just under the sump.

5 Q Okay. When you talk about a "sump," let's back up for a
6 moment. Based upon review of the mining permit application
7 and those portions of it describing the temporary
8 development rock storage area, do you understand the rock
9 storage area to be in a broad sense a rectangular shaped
10 storage area with sloped sides and various liner systems at
11 the bottom and the sides of the structure?

12 A Yes.

13 Q And when you talk about a "sump," what do you mean by that?

14 A That's a low area constructed into the liner system. The
15 liner grades are designed so they all drain to this low
16 point. It's deeper so you can put a pump in there, and
17 that's where the water -- contact water or leachate that is
18 collected on the primary liner drains to. And then a pump
19 system is put in there to pump the water or leachate out for
20 disposal.

21 Q And if I understand you correctly, the substance of your
22 comment was that the leak detection should not be provided
23 only just in the sump area but that there should be a layer
24 under the entire primary liner which would have the function
25 of being able to detect leaks?

1 A Correct.

2 Q And jumping ahead here for a bit here, you provided these
3 comments to Mr. Maki; correct?

4 A Yes.

5 Q If you know, did Mr. Maki compile comments from you and
6 other members of the mining review team and incorporate
7 comments collected from members of the team and communicate
8 them to Kennecott in a list that has come to be referred to
9 as a list of 91 questions. Do you recall that?

10 A Yes.

11 Q And to your knowledge, was this comment that we just talked
12 about among -- well, first of all, you communicated to Mr.
13 Maki. Was this included in the list of 91 questions?

14 A I believe it was, yes.

15 Q And do you recall ultimately whether Kennecott provided
16 written responses to this list of 91 questions?

17 A Yes, they did.

18 Q And as a part of your -- I'm jumping ahead a bit here. But
19 as a part of your involvement in this process, did you --
20 after that information was received, did you have occasion
21 to review it?

22 A Yes.

23 Q And would that have been in approximately October of 2006?

24 A Yes, I think so.

25 Q Ultimately were you involved in providing comments on or

1 suggestions regarding conditions that should be -- that you
2 recommended be included in any mining permit issued to
3 Kennecott?

4 A Yes.

5 Q And did you ultimately make a recommendation on the subject
6 of your comment number 3; that is, this leak detection
7 system?

8 A Yes, I did.

9 Q And what was that recommendation?

10 A It said that they should extend the secondary liner system
11 of the leak detection system under the entire primary liner
12 system.

13 Q And to your knowledge, did you subsequently review the draft
14 permit before it was issued?

15 A yes.

16 Q And did you review the permit as it was finally issued?

17 A Yes.

18 Q And to your knowledge, did the permit ultimately issued
19 contain a condition addressing the design of the liner
20 system consistent with your recommendation?

21 A Yes, it did.

22 Q Moving ahead to comment number 4, could you briefly describe
23 what that was about?

24 A Well, they discussed the possible prehydration of the
25 bentonite which is also the -- also known as the

1 geocomposite clay liner. And it was discussion, but it
2 didn't say whether they were going to do it or not. I
3 wanted to make clear that it wasn't an acceptable practice
4 to prehydrate or wet it before the liner was laid over it.

5 Q And if you know, was this comment incorporated in the
6 so-called list of 91 questions?

7 A Yes, it was.

8 Q And if you recall, did Kennecott respond to it and, if so,
9 how?

10 A They submitted as part of their response to the 91 comment
11 letter a revised construction quality assurance plan that
12 included the prohibition on prehydration.

13 Q So in other words, they modified their plans to make it
14 clear they would not do that?

15 A Yes.

16 Q Turning to item number 5, could you briefly describe or
17 summarize the nature of this comment?

18 A They evaluated the performance of the TDRSA using a 7 year
19 storm event because that was the estimated life of the
20 temporary storage area. And more commonly in reviewing the
21 landfill design, we use a 24 hour, 25 year storm event to
22 look at a more extreme event. So I asked them to rerun
23 their HELP model to evaluate it for that storm event.

24 Q I believe there's already been some testimony in the record.
25 But in the interest of completeness, could you briefly

1 explain what you mean by HELP model and what its function
2 is?

3 A Yeah. It's an EPA program developed to evaluate landfill
4 performance, and it's hydrogeologic evaluation of landfill
5 performances, the acronym. And what it does is model the
6 various layers of the design of the landfill and uses
7 climate data. And in this case, they used site specific
8 climate data or as near as they could get to evaluate their
9 performance of the various components of the landfill
10 design.

11 Q And, again, was this comment number 5 in the 91 comment
12 letter?

13 A Yes.

14 Q And to your recollection, did Kennecott address that in
15 their response?

16 A Yes, they did.

17 Q And in what fashion, do you recall?

18 A They ran the model as I requested.

19 Q So bottom line, based upon that supplemental information,
20 was the concern or the comment that you expressed in item 5
21 addressed to your satisfaction?

22 A Yes.

23 Q Moving to item number 6, could you briefly describe what the
24 substance of your comment was here?

25 A Well, looking at the operations plan for the TDRSA, I made

1 some recommendations regarding monitoring of the contact
2 water collection sump and the leak detection collection sump
3 and also proposed a maximum flow rate to be allowed in the
4 leak detection collection sump.

5 Q Okay. Let's break that into parts. First, you made
6 recommendations about recording levels of the contact water
7 collection sump. Again, this is the structure that would
8 collect liquid that accumulates above the primary liner; is
9 that correct?

10 A Yes.

11 Q And you wanted that done on at least a daily basis; is that
12 correct?

13 A Yes.

14 Q And with respect to the leak detection collection sump; that
15 is, the monitoring in the area below, that is between the
16 primary and secondary liner; correct?

17 A Yes.

18 Q And then also you made a comment regarding an action level
19 to be established for flow rates. Could you explain what
20 you mean by that in this context?

21 A Typically when we were monitoring a leak detection system or
22 secondary collection system, we have the landfill operator
23 or storage area operator check those levels, and we
24 establish a limit above which if the flow seems to exceed
25 that rate they have to investigate the cause and take

1 certain actions to be determined by, you know, what we find.

2 Q Okay. And, again is this -- an approach such as this
3 something that you regularly use in the Part 115 or solid
4 waste program?

5 A Yes.

6 Q And when an action level like this is established -- and
7 perhaps we'll touch on this more later -- is it intended to
8 be -- to suggest that the system is being designed in such a
9 way that it will -- is allowed to or intended to allow 25
10 gallons per acre per day to flow through the primary liner?

11 A No.

12 Q So what is its function then?

13 A Well, we do see some variability due to other sources in a
14 landfill leak. So we -- or a liner leak, I should say, that
15 can affect the flow rate from day to day. So we allow for
16 some variability in that flow rate before it would trigger a
17 response. But it isn't intended to say it can leak up to
18 that rate. It's just things that may influence the --

19 Q Okay. And just to clarify the first part of your comment
20 under 6, it talked about recording levels in the contact
21 water collection sump and levels in the leak detection
22 collection sump. You're talking about creating some written
23 record of that; is that correct?

24 A Yeah. Typically they'll go out and keep a log.

25 Q But by way of background, in facilities such as this, and

1 more to the point, the facility that is proposed here, is
2 there also a -- are there mechanisms established for
3 continuously monitoring the amount of liquid in both the --
4 both the primary liner and the leak detection system?

5 A Yes, there are sensors that are placed in the sump and give
6 a continuous readout. And in most cases, for a primary
7 system, it's an automated system so the flow -- the levels
8 can't get about a certain level or the pumps will turn on
9 and pump the liquid in the system down and just, you know,
10 take it out of the sump.

11 Q Okay. And we'll perhaps go back to that later. And
12 ultimately was your -- the comment that you made in item 6
13 regarding recording levels and this establishing an action
14 level such as you've addressed here, was that ultimately
15 addressed or not addressed in the permit conditions?

16 A It was addressed in the permit conditions, yes.

17 Q Item number 7, can you briefly describe what that talks
18 about?

19 A The operations plans said that the TDRSA might be used for
20 temporary storage of contact water from the site in the
21 event of extreme snowmelt conditions and the wastewater
22 treatment plant and the contact water basins were exceeding
23 their capacity. I asked them to demonstrate how they would
24 still meet the requirement that they not exceed one foot of
25 head on the liner.

1 Q And let's break down that last sentence into a couple parts.
2 First of all, when you talk about the requirement that the
3 head not exceed one foot on the liner, first of all, what is
4 one -- what do you mean when you talk about one foot of
5 head?
6 A That's a foot of liquid -- elevation of liquid that is
7 standing in the system.
8 Q Okay. And you're talking here about a level of liquid or an
9 elevation of liquid where?
10 A On the liner exclusive of the sump.
11 Q And this is the primary liner?
12 A Primary liner, yes.
13 Q And where does this one foot of head requirement come from
14 that you're referring to?
15 A That is a requirement of the Part 632 rules and Rule 409.
16 Q Okay. And is that comparable to similar rules under Part
17 115?
18 A Yes.
19 Q And you've testified you're familiar with the permit
20 proposed by the Department and ultimately issued. If you
21 recall, in the permit as it was ultimately issued, what does
22 that say about exceeding one foot of head?
23 A It says it shall not exceed one foot of head on the liner.
24 Q And does it specify -- does it make any exception to that?
25 A No.

1 Q Does it say it shall not be exceeded at any time?

2 A I believe so.

3 Q So is it your understanding that the permit as issued would
4 authorize Kennecott to exceed the one-foot-of-head
5 requirement?

6 A No.

7 Q Turning to your next comment number 8 -- well, first of all,
8 is this next comment number 8 one that relates to the TDRSA
9 or was it more general in nature?

10 A It was a more general comment.

11 Q And could you briefly summarize what the nature of your
12 comment or concern was?

13 A Well, I had looked at the groundwater monitoring program for
14 the site and suggested they do volatile and semi-volatile
15 parameters as part of the monitoring program.

16 Q And why would you be concerned -- or did you suggest there
17 might be a concern about volatile or semi-volatile
18 parameters?

19 A Well, just because of the amount of traffic and storage and
20 such on the site of various products; the potential for
21 spills more than anything.

22 Q Now, if you know, does the -- are you familiar with the term
23 "Pollution Incident Prevention Plan"?

24 A Yes.

25 Q And are you also familiar with the term "Spill Prevention" -

1 - "SPCC"?

2 A Yes.

3 Q And what do those involve?

4 A Well, they're -- well, Pollution Incident Prevention Plan is
5 supposed to be a plan to prevent -- I'm not familiar with
6 all the particulars of them, but that's -- the SPCC is
7 containment of spills, I believe, and the -- and a reaction
8 to it, and the Pollution Incident Prevention Plan is also --
9 deals with trying to prevent spills and what the response
10 is, I believe, if one occurs.

11 Q Right. And if you know, are those sorts of plans intended
12 to address, among other things, the handling or storage of,
13 for example, fuels that might be used for vehicles?

14 A Yes.

15 Q And if you know, did the permit as issued in this case
16 include provisions for requiring such pollution incident and
17 spill response plans?

18 A Yes.

19 Q Turning to comment number 9. You note that some reference
20 is made regarding disposal of various materials in the mine
21 including liner components, broken concrete and building
22 demolition. You go on to say the mine should not be
23 considered a disposal area. And you further say only those
24 items that are exempt from the definition of "solid waste"
25 should be considered for possible disposal in the mine. To

1 be clear, are you talking about something you'd read in the
2 initial permit application that suggested the possibility of
3 putting materials inside the mine workings?

4 A Yes.

5 Q And if you know, how did the permit ultimately issued in
6 this case address the issue of characterizing and disposal
7 of either solid waste or hazardous waste?

8 A There's several prohibitions in there spelling out
9 conditions stating that solid waste -- anything that is
10 categorized as a solid waste cannot be placed in the mine.
11 If they can demonstrate that it meets an inertness
12 definition or other exemption it can be; otherwise, it's
13 considered a solid waste or hazardous waste and has to be
14 disposed of in accordance with those statutes.

15 Q But would it be fair to say that the bottom line is that any
16 material that is subject to regulation as solid waste would
17 under this permit be required to be managed in accordance
18 with the applicable requirements in Part 155?

19 A Yes.

20 Q So for example, if it was not exempt where would it have to
21 go?

22 A Well, to a landfill if it was a solid waste; licensed
23 landfill.

24 Q Your next comment, number 10, talks about the absence of
25 plans for housing the pump discharge area. What was the

1 nature of your comment and what was your concern, if any?

2 A Well, the collection sump has a pump in it. The workings
3 rise out to a side slope riser and then all the electronics
4 and piping emerge above ground. We have concerns for
5 freeze-up for those facilities in the wintertime if they
6 don't have some sort of containment and a heat source to
7 protect them. So I asked them to include a heating element
8 and housing to accommodate winter conditions and protect the
9 system.

10 Q Okay. If you know, under the Part 632 permit as issued was
11 there ever a requirement that Kennecott prior to
12 constructing the TDRSA provide -- or submit to the DEQ for
13 review and approval engineering -- detailed engineering
14 plans for its TDRSA facility?

15 A Yes, there was.

16 Q And in fact has Kennecott submitted such plans to the
17 Department?

18 A Yes.

19 Q And have you been asked to review them?

20 A Yes.

21 Q And based upon your review of those plans was the issue that
22 you've identified in comment number 10 addressed?

23 A Yes, it was.

24 Q Comment number 11 has several parts, but they relate to the
25 construction quality assurance plan; is that correct?

1 A Yes.

2 Q If you know, was this comment among those that were
3 communicated in the 91-comment letter to the company?

4 A Yes, it was.

5 Q And was this something that was addressed in the company's
6 response?

7 A Yes.

8 Q And has the comments that you -- were the comments that you
9 raised addressed to your satisfaction?

10 A Yes, they were.

11 Q Ms. Ring, moving forward in time. After the response by
12 Kennecott -- I believe the record reflects in October of
13 2006 to the DEQ's list of questions -- or comments I should
14 say -- you've testified now that you reviewed those with
15 respect to the issues you were asked to look at. And did
16 you based on that prepare a written memorandum to Mr. Maki
17 and about your recommendations with respect to the permit?

18 A Yes, I did.

19 Q Do you recognize this document, Ms. Ring?

20 A Yes, I do.

21 Q And what is it?

22 A This was an e-mail from me to Joe Maki on January 25th, 2007
23 regarding, "Eagle Mine project: Recommendation for permit
24 condition."

25 Q And in this memo did you express any conclusion or

1 recommendation with regard to whether the TDRSA -- whether
2 you would recommend approval of the TDRSA portion of the
3 application?

4 A I did with a condition.

5 Q And what was that condition?

6 A The condition had to do with the requirement that the leak
7 detection system be extended under the entire primary liner
8 system. And it goes into a somewhat specific description
9 there.

10 Q Okay. And there's actually quoted language that represents
11 your recommendations regarding the permit conditions?

12 A Yes.

13 Q And if you know, ultimately was language consistent with
14 your recommendations included in the permit?

15 A Yes.

16 Q Later following the Department's notice in 2007 of a
17 proposed decision to issue the Part 632 permit to Kennecott
18 under certain conditions, were you provided -- well, first
19 of all, you're aware, are you not, that the Department
20 conducted public meetings and invited public comment on the
21 proposed decision?

22 A Yes.

23 Q Were you as a member of the mining review team provided
24 access to comments submitted to the DEQ as they pertained to
25 the TDRSA issues?

1 A Yes, I was.

2 Q And did you review and consider those comments?

3 A Yes.

4 Q And based upon that review and consideration what, if any --

5 were you asked to or did you put together a proposed

6 response to any of the comments?

7 A Yes, I was asked to respond to a specific comment.

8 Q What is this about?

9 A I was given a public comment that was provided that was

10 concerned with the actionable flow rate that I had suggested

11 and I just responded explaining how I chose the number that

12 was selected, the 25 gallons per acre per day. In essence I

13 based it on what we require in landfills -- in the landfill

14 program.

15 Q Okay. And again, I think you touched on this earlier. I

16 believe you testified that the Part 632 rules on this

17 subject does not -- do not themselves specify any particular

18 action rate; is that correct?

19 A That's correct.

20 Q So what, if anything, did you look to by way of analogy in

21 making your recommendation?

22 A Well, I looked at specifically the rule for leak detection

23 systems for type 2 landfills. We don't have a specific one

24 for type 3 landfills. It references the type 2 rules, which

25 are municipal landfills. And there it describes a response

1 flow rate of 25 gallons per acre per day for a landfill with
2 a primary liner design with less than two feet of clay, and
3 we generally interpret it to mean a GCL rather than clay, a
4 geocomposite clay liner as the clay component.

5 Q Okay. And so, again, this is something I believe you
6 addressed in your initial comment because you had suggested
7 language on this point; is that correct?

8 A Yes.

9 Q And again, so the record is clear, is the condition in
10 question intended to authorize Kennecott to -- first of all,
11 does it reflect your judgment that the liner -- primary
12 liner system is actually expected to leak at this rate -- or
13 designed to leak at this rate, I should say?

14 A No, it's not designed to leak.

15 Q Is it -- do you understand this condition to be an
16 authorization to leak at that rate?

17 A No.

18 Q So would you describe it as a trigger for specified
19 response?

20 A Yes.

21 Q Now, Ms. Ring, during the course of your involvement and
22 participation on the mining review team did there come a
23 time when you were asked by Mr. Maki to review the proposed
24 permit, the proposed decision to issue the permit?

25 A Yes.

1 Q And were you asked to look at the permit in its final
2 proposed form?

3 A Yes.

4 Q And were you asked to indicate whether you supported or did
5 not support with respect to the issues that you were
6 focusing on the issuance of that permit?

7 A Yes, I was.

8 Q And what was your response?

9 A I recommended -- well, yes, I recommended issuance based on
10 the area that I reviewed.

11 Q And in doing so were you taking into consideration the
12 requirements of Part 632 and its rules?

13 A Yes.

14 Q Solely for illustrative purposes I don't want to take too
15 much time, but I realize this not the most exciting subject
16 in the world, but we talked a lot about the details of the
17 design of this system. I would like to just for the benefit
18 of the judge and the record to ask you to look briefly at a
19 couple of diagrams that actually -- did you provide these to
20 me at my request?

21 A Yes.

22 Q And let's take them one at time, but are these -- the first
23 one of which is marked as Proposed Demonstrative Exhibit R-
24 208.

25 MR. REICHEL: I've distributed copies to the court

1 and counsel.

2 Q I'm going to ask you to go through every aspect of this.

3 First, can you identify what is depicted here?

4 A This is a detail of the liner system, the final design for
5 the temporary development rock storage area, so it's a cross
6 section of the drainage layer and the different components
7 of the liner system.

8 Q So in other words, if you were to look at either the side
9 slopes or the bottom of the TDRSA, this would at least
10 conceptually show you the various elements in the design?

11 A Yes.

12 Q And for simplicity sake -- do you have a pointer with you
13 there? I'd ask you just to briefly outline proceeding
14 from -- in this diagram from the top to the bottom --

15 A Okay.

16 Q -- identify each of the component elements as you understand
17 them.

18 A Well, the top layer here is the processed development rock.
19 That's development rock that's taken from the stopes of
20 the -- or the entrance to the mine, I believe. And they're
21 going to make it a uniform size and place that above the
22 granular drainage layer, which is the collection layer for
23 the --

24 Q Just to be clear, when you're talking about -- there's a
25 certain zone where the rock is required to be of this

1 uniform size; is that correct?

2 A That's right. That's a two-foot thick layer here on top of
3 the two feet of sand drainage layer.

4 Q Okay. And so what's the function of the sand drainage
5 layer?

6 A Well, it has two functions. One, it's to collect the water
7 that percolates through the rock and -- development rock
8 that's above it, and also it's protective of the liner
9 system.

10 Q When you say "protective" that means minimizing the risk of
11 damage to the liner?

12 A Yes.

13 Q Okay. And then moving down, what occurs below the sand --
14 granular drainage layer of sand?

15 A This layer here (indicating) is the -- is a geonet,
16 geocomposite drainage layer. It consists of two geotextile
17 or fabrics and in between them is a rigid plastic netting
18 material that has a high transmissivity or flow rate to
19 carry large volumes of liquid rapidly.

20 Q So what's the function of this? To promote the movement of
21 water through?

22 A Yes.

23 Q And where is that water supposed to go?

24 A Well, that -- this would -- depending where you are in the
25 location, this would drain towards the central collection

1 pipe and then that drains to the collection sump for
2 eventual removal from the landfill -- or the TDRSA.

3 Q Okay. So we're now talking about the system designed to
4 collect the -- that's described in the application, in the
5 permit, the contact water?

6 A Yes.

7 Q That is the liquid that comes in contact with the
8 development rock?

9 A Correct.

10 Q Okay. And under this design what happens to that water once
11 it goes -- gets to that point?

12 A Well, it drains to the collection sump. It's pumped out and
13 into a gravity drainage line, I believe, and taken to the
14 wastewater treatment plant or pumped to the wastewater
15 treatment plant for treatment and disposal.

16 Q Right. And again, we have talked about this, but just so
17 the record is clear, is it your understanding that under the
18 terms of the permit that all the liquid collected from the
19 temporary development rock storage area -- is that required
20 to be conveyed to the wastewater treatment plant?

21 A I believe so.

22 Q All right. What's the next feature under this --

23 A Well, under the geonet is a 16-mil HDP, high density
24 polyethylene liner. That's the basic and permeable layer --
25 protective layer system. Below that is a geocomposite clay

1 liner, and --

2 Q And what's the function of that?

3 A That's just another protective layer for that leakage.

4 Q So both of those layers are intended to be low permeability?

5 A Yes.

6 Q To keep the liquid that would pool -- keep liquid pooled

7 above them essentially?

8 A Yes.

9 Q And what comes underneath that?

10 A Then there's another drainage net and that's the collection

11 system essentially for the leak protection system. If any

12 water gets through the primary liner system it's -- that net

13 is designed to collect it and convey it to the collection

14 sump.

15 Q And what -- if liquid accumulates or is collected in the

16 leak detection system, what is done with that liquid?

17 A Well, that, again, is -- they have monitoring of the levels

18 in the secondary collection system transducer and they would

19 pump anything out if it's present.

20 Q And where would it be pumped to?

21 A Again, the wastewater treatment plant. Actually, there's

22 another liner below that.

23 Q Oh, I'm sorry. Yes. You're quite right. Thank you.

24 Trying to proceed too hastily here.

25 A Right. And then under --

1 Q If you could explain the last component.

2 A Then there's a 40-mil liner underneath the drainage net, and
3 underneath a fabric to help protect the liner from anything
4 below.

5 Q Okay. And then that second system is intended again to be
6 of low permeability and to prevent downward migration of
7 liquid if it actually entered the leak detection system?

8 A Correct.

9 Q This next figure I apologize is a little bit busy here.
10 They're actually a whole series of things. I don't want to
11 spend too much time on it. Directing your attention to this
12 area here in the middle; there are multiple figures. Could
13 you briefly describe what is depicted in this diagram?

14 A This is a cross section of the collection sump. If you --
15 this underneath here (indicating) would be where the leak
16 detection system drains into and you can see the pipe that
17 comes down in. There's a transducer that comes in so they
18 can measure levels. And this extends up the side slope to
19 remove any liquid from the system. Above it is the primary
20 collection sump, and again, there's a piping that goes down
21 in it. There's a submersible pump in there with a
22 transducer on it to measure levels, and then the pump
23 conveys the liquid up through the side slope riser for
24 treatment and disposal.

25 Q So again, this depicts part of the facility is used to

1 monitor; that is, using transducers; correct?

2 A Yes.

3 Q And then to remove or pump out liquid that accumulates
4 either above the primary liner or the secondary liner leak
5 detection system; correct?

6 A Yes; that's correct.

7 Q And I notice at the risk of getting too busy here that this
8 particular diagram in the middle has something designated
9 AA -- A-AA to A -- "AA to AA" and then "B to B." Looking
10 at -- is there another figure here that illustrates through
11 a cross section this "A to A"?

12 A Right; just above it is cross section AA, and that's looking
13 at what the configuration of the piping is in the system on
14 the side slope of the TDRSA, and then BB is depicted here;
15 it's just a cross-section of the sump itself, again, showing
16 the lower * 3:39:07 layer there.

17 Q Again, so this just illustrates what you understand to be
18 the design that is consistent with the requirements of the
19 permit?

20 A Correct.

21 Q And I've asked you a series of questions, Ms. Ring, about
22 the permit in this, which is already in evidence.

23 MR. REICHEL: Would you please bring up 117?

24 Q While we're waiting for this to come up on the screen, do
25 you have a copy of the permit with you?

1 A Yes.

2 Q Perhaps we can get started with this. Directing your
3 attention to page seven of the special conditions under the
4 heading, "F: Development rock" there are a series of
5 numbered permit conditions that follow on that and
6 succeeding pages; correct?

7 A Yes.

8 Q Are these the permit conditions that you understand to
9 govern the construction, operation and monitoring of the
10 TDRSA?

11 A Yes.

12 Q I don't want to go through all of them, but I want to direct
13 your attention specifically to, first F-1 that talks about a
14 leak detection liner system below the entire layer. Again,
15 was this your recommendation?

16 A Yes.

17 Q And that is required under the permit; correct?

18 A Yes.

19 Q And looking at item 3, it says, "The permittee shall not
20 allow the hydraulic head in the liner to exceed one foot at
21 any time"; is that correct?

22 A Yes.

23 Q I'm not going to go through all of it, but does the permit
24 also require in condition -- set forth conditions for
25 monitoring, specifically F-18?

1 A Yes.

2 Q And this talks about this transducer monitoring. Is that --
3 am I correct to understand that's some kind of a electronic
4 or mechanical device that on a continuous basis enables the
5 operator to see the -- how much liquid is there?

6 A Yes; that's correct.

7 Q And a similar requirement appears -- and 18 has to do with
8 the liquid in the -- above the primary liner system; right?

9 A Yes.

10 Q 19 has a parallel requirement for the leak detection system;
11 correct?

12 A Yes.

13 Q And does the permit also require -- specify certain other
14 monitor requirements within the TDRSA itself?

15 A Yes. In number 19 anytime liquid is removed from the system
16 they have to test it for sulfate content and pH.

17 Q Could you -- let's back up to that a little bit. Could you
18 explain -- when you talk about when it's removed from the
19 system, you're now talking in this context, 19, about if
20 liquid were to come into the leak detection system; that is,
21 get between -- below the first liner or the primary liner
22 and get into the leak detection system, what has to happen?

23 A They have to pump it down and they have to take a sample of
24 the material they're pumping out, liquid they're pumping out
25 and check the sulfate content and pH of it, --

1 Q And --

2 A -- of the liquid.

3 Q Go ahead.

4 A I said just of the liquid they pump out.

5 Q And do the succeeding conditions of the permits -- that's

6 20, 21 and 22 -- identify certain actions that should be

7 taken in response to that monitoring we just described?

8 A Yes.

9 Q And does the permit also contain requirements for inspection

10 and maintenance of this system?

11 A Yes, I believe so.

12 Q Again, I believe I asked you this but I just want the record

13 to be clear, Ms. Ring. Based upon your review of the permit

14 application materials, permit, do you believe that the TDRSA

15 as designed and regulated under the conditions of the permit

16 is or is not consistent with the requirements of Part 632

17 and its rules?

18 A I believe it is.

19 MR. REICHEL: Thank you. I've nothing further at

20 this time.

21 MS. LINDSEY: I have no questions at this time.

22 MR. EGGAN: Your Honor, I have a few questions.

23 And then I believe the other attorneys will have some also.

24 MR. REICHEL: Excuse me, Mr. Egan, in my haste--

25 I apologize. I wanted to move for admission of some

1 exhibits here. Sorry for the confusion. At this time I
2 would move for admission of Respondent Proposed Exhibit 60,
3 which was the May 9th memo that Ms. Ring testified to;
4 Respondent's Exhibit Number 85, the e-mail that she also
5 testified to with the recommendations for permit conditions;
6 Respondent's Exhibit Number 106 with her proposed response
7 to comment; and finally for demonstrative purposes only,
8 Respondent's Proposed Exhibits 208 and 209.

9 MS. HALLEY: Mr. Reichel, what was the first
10 number you stated? I'm sorry.

11 MR. REICHEL: I'm sorry. 60, six zero. And
12 again, that was -- well, we had up on the screen the May
13 9th, 2006 comment document.

14 MS. HALLEY: No objection.

15 MR. WALLACE: No objection.

16 MR. EGGAN: I have no --

17 MR. REICHEL: Next is 85. I'm sorry.

18 MR. EGGAN: I'm sorry. Go ahead. I thought you
19 were finished.

20 MR. REICHEL: No, I'll let you respond.

21 MR. EGGAN: Oh. No objection, but I thought we
22 were responding to all of those that you were offering,
23 but --

24 MR. REICHEL: Oh, okay. Yes. I'm sorry. I'll
25 just -- I'm moving the admission of all of those.

1 MR. EGGAN: Okay. And I don't have any objection
2 to the exhibits that he mentioned, except 208 and 209, which
3 he offers for demonstrative purposes only and, again, you
4 know, I maintain my position with respect to demonstrative
5 exhibits.

6 JUDGE PATTERSON: That will be noted. There be no
7 other objections, the proffered exhibits will be entered.

8 (Respondent's Exhibits 60, 85, 106, 208 and 209
9 received)

10 MR. REICHEL: With that I pass the witness.

11 MR. EGGAN: Thank you. Ms. Ring, I have just a
12 few questions, but I know that my fellow attorneys for
13 petitioners will have some questions for you.

14 CROSS-EXAMINATION

15 BY MR. EGGAN:

16 Q Just a few questions initially with respect to your prior
17 experience handling mine-related matters. Prior to this
18 matter did you have any experience handling mining-related
19 issues at all?

20 A Well, I worked on the -- well, it depends on how you define
21 "mining issues." I worked on the review and design and
22 construction of the repository that was constructed at the
23 White Pine Mine as part of that closure project.

24 Q And the repository; what would that have been?

25 A As part of the closure of the White Pine Mine and the

1 cleanup of the site they constructed what was in essence a
2 landfill to contain contaminated sediments that were
3 resulting from mining activities as part of the overall
4 cleanup of the site. So essentially another landfill, but -
5 -

6 Q I see. So that was a situation where you were working on a
7 matter that was attempting to remediate past problems that
8 had occurred because of mining operations?

9 A Yes.

10 Q Okay. And in this situation you're at the other end working
11 on a mitigation effort to avoid problems from occurring at
12 all?

13 A Yes.

14 Q Okay. Prior to this project had you worked on any similar
15 project where you were attempting to assist in the design of
16 a plan that was to mitigate a potential problem before it
17 occurred at a mine?

18 A At a mine? No.

19 Q Okay. And my guess is that you had not worked on any matter
20 involving the potential for acid rock drainage?

21 A No. No, I had not.

22 Q You have not?

23 A Right.

24 Q Okay. And prior to undertaking the responsibility here for
25 the review of the TDRSA project, did you do any research

1 into acid rock drainage?

2 A Not prior to it, but while I was reviewing it I did look up
3 a few things on the Internet.

4 Q Okay. You did a Google search on acid rock drainage?

5 A Yes.

6 Q And my guess is you learned that acid rock drainage can be a
7 serious environmental problem?

8 A Yes.

9 Q Okay. And you have an understanding that the area at -- in
10 the Yellow Dog Plain where this project is proposed is an
11 environmentally sensitive area?

12 A I would -- yeah. Okay.

13 Q You would agree with that?

14 A Yeah.

15 Q Okay. And as a result, there has to be -- this acid rock
16 drainage issue has to be handled with care?

17 A Yes.

18 Q And the TDRSA has to have measures in place to assure that
19 acid rock drainage does not -- or acid does not escape from
20 the TDRSA area?

21 A That's correct.

22 Q Okay. Now, I noted that one of the things that you
23 mentioned that you had insisted on was that the TDRSA area
24 have a one-foot head; in other words, water cannot exceed a
25 level of one foot there at the TDRSA?

1 A Well, and the rules require it.

2 Q And the rules require it too?

3 A Yes.

4 Q Okay. Now, are you -- you're aware that the rock that is
5 going to be placed at the TDRSA is reactive?

6 A Potentially, yes.

7 Q If mixed with water it will react? "Yes"?

8 A Yes, I believe so.

9 Q And mixed with air it will react?

10 A Well, there's probably moisture in the air, so yeah.

11 Q Okay. And so as a result of that, there has to be a concern
12 with a one-foot water head at the TDRSA. Did you take into
13 consideration the fact that when this one-foot head, this
14 water that will be in this one-foot head mixes with the
15 TDRSA there will be the potential for the creation of acid?

16 A Well, the water is -- the one-foot of head is contained
17 within the granular drainage layer.

18 Q Understood. Understood.

19 A So the potential for contact would be the rain or
20 precipitation event. It would run through the rock and down
21 into the collection layer.

22 Q Understood.

23 A So that's the opportunity for reaction there.

24 Q Okay. But you do understand that the design of this large
25 area for the storage of this development rock has the

1 potential to create drainage -- acid rock drainage, and as a
2 result the mixture of water is not a good idea?

3 A Well, the idea is to contain it with the collection system.

4 Q Okay. Are you also aware that the TDRSA area is going to be
5 used as a contingency for overflow of contact water from the
6 contact water basins?

7 A I saw that in the application, yes.

8 Q All right. And did you express any concern about that?

9 A Yes, I did.

10 Q And what was the resolution of that concern?

11 A Well, I asked them to -- well, model the snow event, because
12 that was the -- how it was discussed to look at what affect
13 would be of a snowmelt -- of a significant snowmelt in the
14 contact water --

15 Q Do you continue to have a concern about the fact that the
16 TDRSA area is being used as overflow for the contact water
17 basin?

18 A Well, I have concern that -- because they cannot the head
19 limits; that they couldn't -- they wouldn't have that much
20 storage capacity there.

21 Q That's right. And so if the contact water basins overflow
22 because of an event and the water flows into the TDRSA area,
23 you only really have one foot of head there and if the
24 inflow continues you have the potential to overflow the
25 whole system, don't you?

1 A Well, potentially. It would have to be a very significant
2 event, because you have two-foot of sand --

3 Q Understood.

4 A -- and the rock above it.

5 Q Exactly. But you also have the possibility that the company
6 may have underestimated the flow rate into the contact water
7 basins. Did anybody raise that issue with you?

8 A I believe that was addressed by other reviewers.

9 Q That would have been addressed by someone else?

10 A Yes.

11 Q The flow rate into the system itself?

12 A Yeah.

13 MR. EGGAN: Okay. I don't think I have any
14 additional questions, but I know that the other attorneys
15 have some, so I'll leave it to them. Thank you.

16 MS. HALLEY: Hi, Ms. Ring, I'm Michelle Halley
17 representing the National Wildlife Federation and the Yellow
18 Dog Watershed Preserve. I have just a few questions.

19 THE WITNESS: Okay.

20 CROSS-EXAMINATION

21 BY MS. HALLEY:

22 Q When we were talking about Exhibit 60, which was your memo
23 from 2006 discussing some of your concerns with the
24 application, number 1 addressed the issue of the impacts of
25 flyash to the geochemistry of the water in the reflooded

1 mine; right?

2 A Yes.

3 Q Okay. Now, have you seen any recalculation about the water
4 chemistry in the reflooded mine taking the flyash into
5 account?

6 A No, I haven't.

7 Q So if that is indeed still -- if the backfill's still going
8 to include flyash, would that remain a concern that's
9 unaddressed?

10 A Yes.

11 Q Now, I think you may have said that you had heard somewhere
12 that maybe they wouldn't use flyash in the backfill?

13 A Yeah. I did follow up to see if that had been looked at,
14 and that was -- something was told to me; I can't remember
15 who told me that, but --

16 Q Is that a definitive decision or --

17 A I don't know.

18 Q Okay. So you don't know whether they're going to use flyash
19 in the backfill or not?

20 A No, I don't.

21 Q Okay. Now, you -- number 2 of that same memo -- do we need
22 to put it up or are you --

23 A I've had it in front of me.

24 Q Okay. You talked about concerns from remineralization and
25 I'm just wondering what other concerns other than the

1 ability to contact -- to collect the contact water
2 remineralization might lead to.

3 A Well, remineralization within the rock itself that's being
4 stored there. I don't -- after looking at it further I
5 don't know that there's enough of a potential -- I was
6 concerned about the potential to block drainage through the
7 rock. And I think with the small rate compared to the
8 volume of rock that there's probably not enough there that
9 it would block all the pathways. There might be some small
10 localized effect, but I don't think it's a major concern.

11 Q A small ratio of limestone to development rock you mean?

12 A Yeah, and I -- you know, I can't speak to the geochemistry
13 of what the proper ratio is, but --

14 Q I understand. Okay. You may have cleared this up when we
15 were looking at Exhibit 209, but I wasn't sure whether the
16 contact water collection layer thickness had been increased
17 to two feet of granular material or not.

18 A It was.

19 Q Okay. Now, the health model; that's designed to model
20 landfills; right?

21 A Yes; yes.

22 Q It's not designed to model rock storage piles; right?

23 A Yes, but it's -- the design is the -- you know, similar to a
24 landfill; it's analogous.

25 Q But the behavior of acid-generating rock is dissimilar to

1 the behavior of municipal solid waste --

2 A Yes.

3 Q -- in that it's acid-generating; right?

4 A I don't know that the acid content is pertinent in an
5 evaluation. It's looking at the flow rates and levels
6 within the system.

7 Q Related to that, I'm wondering what is the -- what is the
8 average weight of the kind of waste that you're usually
9 dealing with?

10 A Oh, that's a tough one. It's very variable.

11 Q Okay. Just a neighborhood.

12 A Well, good compaction in a solid waste landfill, a municipal
13 landfill is about 1800 pounds per cubic yard. And you see
14 variable from about 1200 to about 1800. I also deal with
15 industrial landfills and depending on the type of waste
16 going in there, there's a great deal of variability there as
17 well, so --

18 Q Okay. Do you know off the top of your head what 1800 pounds
19 per yard cubed is in pounds per foot cubed?

20 A No.

21 Q Okay. I don't either; that's one problem. Now, I want to
22 ask you what happens if the leakage rate of the liner is 24
23 gallons per day per acre.

24 A Well, it doesn't trigger a response, but we might ask them
25 to look at it anyway.

1 Q But under the permit as it's written nothing happens?

2 A Correct.

3 Q And at 25 gallons per day per acre what happens?

4 A Well, they would presumably be testing the quality as well

5 if they're pumping liquid out of there, so we -- but either

6 one is a trigger for further investigation of the source of

7 the high flow rate. So generally we would look for cause.

8 I mean, there's different things. There can be a leak in

9 the landfill potentially -- or the liner system, but there's

10 also other sources that can make -- cause higher flow rates

11 in the secondary.

12 Q Okay. Now, you said you had an opportunity to review part

13 632; right?

14 A Yes.

15 Q Okay. Do you have it with you up there?

16 A Yes.

17 Q Can we turn to Part 63205 subsection (c)?

18 A This is in the statute portion?

19 Q Yes, in the statute.

20 A 63205. Is that subsection (2)(c)?

21 Q Subsection (2), subsection (c), and then little (v); small

22 Roman numeral five.

23 A Okay.

24 Q Could you read that into the record?

25 A "Provisions for the prevention, control, and

1 monitoring of acid-forming waste products and other
2 waste products from the mining process so as to prevent
3 leaching into groundwater or runoff into surface
4 water."

5 Q So to prevent leaching; right? Is that what it says?

6 A Prevent leaching into groundwater, yes.

7 Q Now, when nothing happens at 24 gallons per day per acre --
8 well, let me start over. Sorry. What does "prevent" mean?
9 The word "prevent"; how did you interpret that? Did you
10 read this provision when you were assessing --

11 A Well, at some point in the process I've read it, yes.

12 Q Okay. And you made a determination at some point that this
13 liner system complies with this provision?

14 A Yes.

15 Q So how did you interpret, when you made that decision, the
16 word "prevent"?

17 A Well, "prevent" means stop, right? So --

18 Q It means --

19 A Stop it from happening.

20 Q Stop it from happening?

21 A Yeah.

22 Q So have a leakage rate of 25 gallons per acre per day,
23 before anything at all happens isn't stopping it from
24 happening; right?

25 A Well, that's what we're detecting in the secondary

1 collection system or the leak detection system. It's not
2 telling us what's going underneath it.

3 Q Are you 100 percent sure that this system won't leak?

4 A No.

5 Q Was a pollution incident prevention plan or -- well, which
6 complies with the SPCC; were those included in the
7 application?

8 A I don't know.

9 Q Have you seen one since?

10 A No.

11 Q Would you like to review that; something you're interested
12 in?

13 A Well, I might be interested, but it's not really -- I'm not
14 the one who'd make the decision.

15 Q You're not the one --

16 A Who would decide whether or not to approve it. We have
17 other people that do that type of review.

18 Q Okay. But it's not in the application?

19 A I don't know if it is or not; I don't recall.

20 Q What if I represented to you that I looked it up and it's
21 not in there? There's not --

22 A Okay.

23 Q It's not there and you don't think there's -- you're not
24 aware of one since?

25 A No; I have not been made aware of one.

1 Q What's the purpose of the pollution incident prevention plan
2 just generally speaking?

3 A To prevent pollution incidents from happening.

4 Q Related to pollution from what?

5 A Generally they're for handling of hydrocarbons: diesel
6 fuel, gasoline, whatever they're storing onsite and using
7 onsite.

8 Q And I think you testified that you felt there was a
9 potential for spills given how much of this material was
10 going to be at the site; is that right?

11 A Yeah.

12 Q Now, related to your memo, I'm interested in 11 -- number
13 11, section D. It says,
14 "Section 6.1.2.4: Seam testing and repair.
15 Subsection 8 states that four of five tests per sample
16 shall pass the minimum peel and shear requirements. We
17 require that five of five samples pass the shear test
18 requirements."
19 Was this addressed somewhere?

20 A Yes.

21 Q Where is that?

22 A That was in the revised CQA plan in the October -- what? --
23 2007 submittal.

24 Q Okay. Now, was there a standard penetration test performed
25 to estimate the potential settlement of the TDRSA?

1 A I don't recall.

2 Q Would you expect there to be settlement of the TDRSA,
3 especially if I told you that --

4 A Well, the -- I'm sorry. Go ahead.

5 Q I was just going to refresh your memory perhaps that the
6 average unit weight of the rock is 125 pounds per foot cubed
7 as represented in the application; although it seems low,
8 but that's what the application says.

9 A Okay.

10 Q Would you expect settlement of the TDRSA?

11 A Well, you mean of the material in the TDRSA?

12 Q Settlement of the TDRSA itself.

13 A Well, yeah, there'll be some loading on it, so -- but if
14 they properly prepare the subgrade it shouldn't too much.
15 But yeah.

16 Q So with that weight, and the height of the rock will be 45
17 feet; right?

18 A I believe so.

19 Q So there would be some settlement?

20 A There could be.

21 Q Would you expect there to be?

22 A Well, --

23 Q Pardon?

24 A I don't know.

25 Q Oh, okay. Now, according to the application, slopes of two

1 to one may be utilized on the TDRSA, the storage pile. Is
2 that common?

3 A Well, I can't speak for a TDRSA, but in a landfill no.

4 Q Have you seen landfill slopes of two to one that have
5 failed?

6 A No.

7 Q Would you expect a slope of two to one to fail?

8 A It's possible.

9 Q On the range of possibility likely?

10 A Well, it would depend on a number of factors, depending on
11 what the waste is.

12 Q Rocks.

13 A Well, we don't generally put rocks in landfills, so --

14 Q Well, that's -- you know, that's kind of a point that --

15 A You know, rocks tend to have a different angle of repose and
16 a different strength character to them than a solid waste
17 would. And then there's a whole range of strengths to solid
18 waste, so a slope in a landfill that's, say, filled with
19 sludge with a two to one slope would fail. If it's full of
20 rocks, that's another story. I mean, rocks can be piled
21 fairly steeply.

22 Q But you don't know for sure?

23 A I don't know for sure; no.

24 Q But you're raising an important point, I think, that a rock
25 stockpile can't necessarily be treated in the same way as a

1 landfill; right?

2 A Right.

3 Q It's a whole different animal; right?

4 A Right.

5 MS. HALLEY: Thank you. I have no further
6 questions.

7 MR. WALLACE: I have just a couple.

8 CROSS-EXAMINATION

9 BY MR. WALLACE:

10 Q Where did the 25-year storm event figure come from?

11 A That's what we use in the landfill program. It's a
12 standard.

13 Q Is that figure turning out to be sufficient in the modern
14 era of huge flooding in big storms?

15 A So far.

16 Q So far?

17 A I can't speak for Iowa, but --

18 Q I don't know. In the years I've been litigating I've
19 litigated a lot of 50- and a hundred-year storms, which
20 doesn't seem possible because I'm not 200 years old. But, I
21 mean, do you think maybe that figure should be updated as we
22 talk about it?

23 A Well, maybe.

24 Q You just accept that number; that's not one you've created
25 yourself?

1 A Well, it's the statutory requirement in the program I work
2 in, so I can't change it.

3 Q If there's a 50-year storm event or a hundred-year storm
4 event will this TDRSA fail, overflow or --

5 A I don't know.

6 Q Is that calculable?

7 A It could probably be modeled.

8 Q But to the best of your knowledge it has not been modeled?

9 A No.

10 Q Is the fabric liner a known manufactured product?

11 A Yes.

12 Q Do you know what its useful life is?

13 A Well, I mean -- you know, we have landfills that we intend
14 to be there forever essentially, so I don't think that we
15 put a -- well, you said "fabric," so is that what you --

16 Q The fabric liner, yeah.

17 A The fabric in which component? I mean, there's a fabric
18 under the secondary liner and there's fabric components in
19 the netting.

20 Q Okay. And do you know what the useful lives of those
21 manufactured products are?

22 A I haven't seen a number for it.

23 Q In your experience with landfills, you know that landfills
24 leak sometimes; right?

25 A Yes.

1 Q Okay. And they leak -- leachate from the waste; correct?

2 A Yes.

3 Q And this is true even if they're lined and engineered;

4 correct?

5 A Yes.

6 Q Have you been responsible for a landfill over in Menominee

7 Township on the west side of the --

8 A Yes.

9 Q And is that a manufactured -- I mean, an engineered landfill

10 that's operated by a major company?

11 A Well, there's three landfills I can think of.

12 Q In the township?

13 A Yeah.

14 Q There's a big landfill area there.

15 A Yeah. I know which one you're talking about then. Okay.

16 Yes.

17 Q And there have been failures and leakages there; correct?

18 A Not of the liner system.

19 Q Not of the liner system itself? How about of the engineered

20 landfills; have they leaked?

21 A Any one? Yes.

22 Q So it can happen even if you have a design plan and a

23 collection system and so forth, because things go wrong;

24 human beings make mistakes, things don't get reported,

25 gauges don't work; correct?

1 A Yes.

2 MR. WALLACE: I have nothing further. Thank you.

3 MR. REICHEL: Just to follow up briefly on a few
4 items from cross-examination, Ms. Ring.

5 REDIRECT EXAMINATION

6 BY MR. REICHEL:

7 Q I believe Mr. Egan asked you about a scenario under --
8 well, a couple things. First, about this one foot of head.
9 I'm not sure the record is clear on this, but let me ask you
10 a question -- I'm trying to paraphrase it here -- a question
11 about -- a question about a scenario where if there was one
12 foot of head that this one foot of liquid would -- I think
13 the implication was would come in contact with the
14 development rock. Do you recall being asked that?

15 A Yes.

16 Q I'm waiting for this thing to heat up here, but I think even
17 before we get it up I believe you testified already that
18 under the design that was approved there is a two-foot layer
19 of -- a granular drainage layer -- excuse me -- with, i.e.,
20 sand on top of the liner before you get to any development
21 rock; correct?

22 A Yes.

23 Q And when you talk about one foot of head, I mean -- I don't
24 know if you have your pointer there -- I'm sorry. This is
25 still warming up. This is not to scale, but you indicate

1 conceptually where -- if there was one foot of head, where
2 that would be in relation to --

3 A Well, it's the 20- --

4 Q -- the lowest level of the rock.

5 A It would be about halfway up. It's a 24-inch layer of
6 material, so 12 inches would be about half that distance.

7 Q Okay. So in other words, under the mandated condition that
8 the head be kept no greater than one foot above the liner at
9 all times, there would not be contact between that standing
10 water -- i.e., head -- in the rock; correct?

11 A Correct.

12 Q I believe you were also asked about some scenario under
13 which the system would overflow -- I guess I'm not sure
14 exactly from my notes what scenario Mr. Eggan was talking
15 about, but I think you were asked about this -- the
16 possibility that the excess water from the contact water
17 storage basins, which are part of the wastewater treatment
18 system, would be piped into the TDRSA. Do you recall that?

19 A Yes.

20 Q But again, I just want to be clear about this. As you
21 understand the permit, would it authorize pumping contact
22 water from the contact water storage basins into the TDRSA
23 to such an extent that the one foot of head maximum would be
24 exceeded?

25 A Well, the permit would prohibit that.

1 Q And you know, hypothetically if that -- again, purely
2 hypothetically if under some scenario there was not enough
3 capacity for contact water from the contact water basins --
4 in the contact water basins themselves and in the one foot
5 of head allowable in the TDRSA, do you know whether or not
6 that liquid could be pumped back down into the mine
7 workings?

8 A I believe that's what the condition in the permit says.

9 Q Ms. Halley asked you some questions about leakage at a rate
10 of 24 gallons per acre per day. Is that the correct unit, I
11 believe?

12 A Yes; yes.

13 Q Now, just to be clear, that permit condition is talking
14 about a rate of leakage through the primary liner system.
15 Could you indicate where that is?

16 A It's -- sorry. This is the primary system right here
17 (indicating).

18 Q Okay. Is that the same thing as 25 gallons leak -- again,
19 if that were to happen where would that water go?

20 A It would be picked -- in order for -- to detect a leak in
21 the detection system, it would be picked up by the -- this
22 composite drainage layer and drained to the sump.

23 Q And again, just so the record is clear, under the terms of
24 the permit if water enters the -- excuse me -- the leak
25 detection system, there's a requirement that it get pumped

1 out; correct?

2 A Yes.

3 Q In any event, when the permit -- or that condition of the
4 permit talks about a leakage of 24 -- or 25 gallons, it's
5 not talking about leakage below the leak detection system
6 into the soil; correct?

7 A No, it's not. Correct.

8 Q I believe Ms. Halley also asked you if you were a hundred
9 percent sure that there could never be a leak or words to
10 that effect. Do you recall that?

11 A Yes.

12 Q Whether or not you could -- you are -- could say that you
13 were a hundred percent sure that there could never be a
14 leakage, based upon your experience in engineering and
15 reviewing the performance of similar systems and your review
16 of the permit conditions, could you offer an opinion as to
17 whether or not the conditions of the permit and the
18 requirements with respect to the liner design, construction,
19 maintenance, et cetera, would reasonably minimize the
20 potential release of contaminants into the environment?

21 A Yes, I believe it meets that standard; the design meets that
22 standard.

23 Q And if you know based upon your review of the permit as a
24 whole, are there other conditions in the permit that require
25 in addition to the monitoring in the -- that you've

1 testified here to today: the detection system and in the --
2 above the primary liner, are there requirements with respect
3 to groundwater monitoring in the vicinity of this structure?

4 A Yes, I believe there are. Yes.

5 Q Do you understand whether or not those requirements for
6 groundwater monitoring would be intended to determine or to
7 measure if in fact there was a leakage through both liner
8 systems?

9 A Yes.

10 Q You were also asked a question about the possibility of
11 settlement of the liner system itself. I believe in part of
12 your answer -- I just wanted to be clear on this -- you
13 indicated that from an engineering standpoint you would
14 expect that as a part of the construction there would be a
15 proper preparation of the subgrade; that is, preparation of
16 the soil upon which this whole structure would be
17 constructed; is that correct?

18 A Yes.

19 Q And I think finally you were asked something to the effect
20 of whether a rock stockpile storage area is a whole
21 different animal from a landfill. Do you recall that?

22 A Yes.

23 Q I guess I'd like to ask you to clarify that. Now,
24 recognize -- first of all you've testified, I believe, that
25 it's not common in your experience to put rock in municipal

1 solid waste landfills; correct?

2 A Correct.

3 Q Are there in your knowledge and experience things called
4 industrial waste landfills?

5 A Yes.

6 Q That may contain materials other than -- a variety of
7 materials -- industrial waste, that is -- other than
8 municipal solid waste?

9 A Yes.

10 Q And in any event, in terms of the engineering principles and
11 construction techniques used in those municipal solid waste
12 landfills and type III landfills -- let me be more specific.
13 The technologies that are used in terms of -- that you
14 described here today; that is, liner systems, leak detection
15 systems -- are those a whole different animal in this case,
16 the TDRSA, from liner systems, leak detection systems in
17 landfills?

18 A No, they're very similar.

19 MR. REICHEL: I have nothing further.

20 MS. LINDSEY: I have just one question. I'm Sarah
21 Lindsey and I represent Kennecott Eagle Minerals Company.

22 CROSS-EXAMINATION

23 BY MS. LINDSEY:

24 Q You submitted some of your comments -- and this was a memo
25 that we looked at -- for questions to be submitted to

1 Kennecott that you told us about; right?

2 A Yes.

3 Q And you reviewed the comments that Kennecott -- their
4 replies to those?

5 A Yes.

6 Q Okay. I just want to ask you -- Mr. Wallace asked you about
7 the 25-year, 24-hour precipitation event and what would
8 happen if there was a much greater event. And I'd like to
9 look at Kennecott's response to one comment. And this was
10 admitted as Respondent's Exhibit 69, I believe, yesterday.
11 If we could -- if I could just direct your attention to
12 comment 26, which is, "To provide a plan for evaluating
13 storm events in the TDRSA using a 24-hour, 25-year storm
14 event or equivalent." And if you could just read through
15 this as to Kennecott's response. Read through it first,
16 unless you're familiar with it already.

17 A I'm familiar with it.

18 Q Okay. On the bottom paragraph it says,

19 "A help analysis considering a peak 24-hour, 25-
20 year storm event of approximately 3.62 inches in June
21 and a spring snowmelt condition was completed. Based
22 on this help model analysis, peak daily head on the
23 base liner will be 0.247 inches, significantly less
24 than the 12-inch requirement."

25 Is that -- did I read that correctly?

1 A Yes.

2 Q Okay. So based on that analysis there would have to be -- I
3 mean, this is less than an inch buildup based on that 24-
4 hour, 25-year peak event; correct?

5 A Yes.

6 Q Okay. So it would have to be a very, very significant event
7 to ever exceed the 12 inches of head for a precipitation
8 event; correct?

9 A Yes.

10 MS. LINDSEY: Okay. I have nothing further.
11 Thank you.

12 MS. HALLEY: Nothing further.

13 MR. REICHEL: Nothing further. Thank you, Ms.
14 Ring.

15 JUDGE PATTERSON: Thank you.

16 (Proceeding adjourned at 4:25 p.m.)

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