PUBLIC HEARING

SYDNEY TAR PONDS AND COKE OVENS SITES

REMEDIATION PROJECT

JOINT REVIEW PANEL

V O L U M E 12

HELD BEFORE:	Ms. Lesley Griffiths, MCIP (Chair) Mr. William H.R. Charles, QC (Member) Dr. Louis LaPierre, Ph.D (Member)
PLACE HEARD:	Sydney, Nova Scotia
DATE HEARD:	Thursday, May 11, 2006
PRESENTERS:	Membertou First Nation: Mr. Bernd Christmas Sydney Tar Ponds Agency: Mr. Donald Shosky

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I N D E X O F P R O C E E D I N G S

QUESTIONING

I N D E X O F U N D E R T A K I N G S

--- Upon commencing at 1:02 p.m.

THE CHAIRPERSON: Good afternoon. Before we turn to our first presenter, Mr. Bernd Christmas, I am going go ask if there are undertakings that participants need to bring forward, and I will begin by asking the Tar Ponds Agency. Mr. Potter?

MR. POTTER: Thank you, Madam Chair. We have four undertakings today. Two are hand ins, and two will be read in, as well as a hard copy.

Undertaking No. 7 from April 29th comparing site specific target levels to CCME levels. That will be a hand in today, as well as a hand in on -- we have no number for this one, but it would be from May 2nd. It's a list of 650 reports from our library at the Tar Ponds Agency office. We'll have the full list of all of our reports for hand in today.

The two reports that we'll provide today are -- it' No. 8, and Mr. Gillis will verbally read this one in. It's regarding the total mass of PCBs in the Tar Ponds. And then Mr. Kaiser is going to do No. 14, which is key findings on the RAER report.

So, I'll ask Mr. Gillis to address the first one.

MR. GILLIS: Thank you, Frank.

This is the follow up response to IR 12,

indicated areas of Tar Pond sediments contaminated with PCBs in concentrations greater than 50 parts per million. These areas included two areas slated for excavation, as well as several additional areas to be stabilized and solidified.

Massive PCBs and all sediments with PCB concentrations greater than 50 parts per million was estimated to be 3.7 tonnes, and was presented in a follow up response to IR 12.

The massive PCBs and the remainder of the sediments was estimated using two methods. Surfer, a geostatistical modelling package, and area weighted means using polygons calculated by ArcGIS.

The massive PCBs in the remainder of the sediments with PCBs in concentrations less than 50 parts per million was estimated to be between 3.8 and 4.7 tonnes respectively.

Using the same two methods, the total mass of PCBs in the Tar Ponds is estimated to be between 7.4 and 8.4 tonnes. All of these PCBs will be treated, whether incinerated, stabilized, and solidified.

Thank you.

THE CHAIRPERSON: Thank you, Mr. Gillis. And you have one more to read into the record.

MR. KAISER: Thank you.

This is undertaking 14. There was a qualitative evaluation of human health and ecological risks conducted on the alternative options considered through the RAER process.

The JAG core principles as applied meant that the alternative options must be protective of human and ecological health before being allowed to continue through the consideration process.

The seventh bullet, which is the reason for the undertaking, in key findings on page 2-81, simply indicates that the alternative options were similar in terms of relative risk.

THE CHAIRPERSON: Thank you, Mr. Kaiser.

That concludes your housekeeping, Mr. Potter?

MR. POTTER: Yes, Madam Chair.

THE CHAIRPERSON: Thank you.

Are there any other participants who have undertakings that they are completing this afternoon?

If not, we will move directly to our first presentation, Mr. Bernd Christmas, Membertou First Nation.

You have 40 minutes, so would you like to take -- you'd prefer to do it from there? Or you can do it from the witness table.

You have a maximum of 40 minutes if you need it, and I can let you know 5 minutes before the end.

--- PRESENTATION BY MEMBERTOU FIRST NATION

- MR. BERND CHRISTMAS

MR. CHRISTMAS: That will be very helpful. Sometimes lawyers, we ramble on.

Okay. I did provide a copy of the presentation to your Secretariat, and so it's -- there's a written version.

Obviously, on behalf of the Community of Membertou, we thank you for allowing us at such short notice to provide a -- our viewpoints on what is transpiring here today.

And, of course, I realize today was supposed to be a day off, if I understood, and again, thank you, thank you, thank you very much for accommodating us.

I'd like to begin with a little bit of a history.

The Mi'kmaq People are the First Peoples of the territory we commonly know today as the Atlantic Provinces. And for hundreds of years prior to the arrival of Europeans, the Mi'kmaq lived in a diverse and structured society, a society which recognized the land and its resources as key to their own survival.

Mi'kmaq society consisted of various summer and winter communities which were located throughout Mi'kma'ki, and one such community was the Sydney Mi'kmaq community located on the shores of Sydney Harbour, also known as the Place of the Rock.

It is this community where the present day Membertou extends from, as it was here on the shores of the Sydney Harbour where we resided for hundreds of years, until we were forcibly relocated during the 1920s.

The Sydney Mi'kmaq community was a small community, but it was highly frequented by all Mi'kmaq who resided in the other communities located throughout Cape Breton Island.

This was primarily due to the fact that other Mi'kmaq would come to the Sydney reserve for days and weeks at a time, so as to be able to sell their fine Mi'kmaq crafts to the non-native society.

The Mi'kmaq were also well known for their beautiful Mi'kmaq quill baskets, ash baskets, axe handles, which they manufactured themselves and sold door to door as a means of livelihood.

The residents of Sydney reserve would open their doors to their fellow Mi'kmaq visitors and provide them with shelter and food during the time they stayed, as to do otherwise would be against the rules of Mi'kmaq

society. You see, the Mi'kmaq people were extremely interdependent, and hospitality and friendship were key components to our daily social life.

Like all other Mi'kmaq communities, the Sydney reserve utilized the resources of the sea for much of their daily sustenance, and Sydney Harbour, also commonly known as Ciboo, was the main source for our food supply.

It is only with the increased pollution of the Harbour, and our eventual removal from our traditional community located in -- community location in the 1920s, when the community residents relied less and less on the resources located here.

However, well into the 20th century, Mi'kmaq continued to utilize the various waterways and estuaries found throughout Sydney for fishing, and continue to do so today.

We were referred to as the Sydney reserve until the 1970s, where it was decided that we should reclaim part of our heritage back, and renamed our community Membertou after -- whom we consider one of our greatest Grand Chiefs of the Mi'kmaq Nation.

Membertou today is a community of approximately 1,100 people with a diverse set of backgrounds, education and occupations.

Our community is located within a bowl that some long ago described as swamp lands.

Regardless, we've made it our home and have begun to thrive in a way that no one could have imagined.

We have created what some have described as a model for success that other aboriginal communities could follow or aspire to across the country.

In the mid-'90s, we were facing an ever increasing debt load, almost reaching one million dollars ($1 million), with an operating budget of four point five million, and we had 20 employees and were, needless to say, very disorganized.

In keeping with our traditions of not giving up in the face of adversity, we took matters into our own hands, meaning we aggressively demanded a voice with our government partners.

We actively embraced the fact that beyond the reserve bound -- reservation boundaries is a world that is moving forward, and offered hope for our young and old.

We decided that the best way to break the cycle of despair was to create an economy that we built and would take into consideration the unique Mi'kmaq world view. So, we started adopting some of the

governance and business models prevalent in Ottawa, Toronto and even New York.

Along the way, we became the first indigenous government to be ISO 9001-2000 compliant.

We have established partnerships with companies in sectors such as food service, aerospace, defense, finance, retail, information technology, to name a few.

And we have also built such great things as schools, day care centres, youth centres, convention centres with restaurants.

And all this has led us to a new sense of purpose, and a collective sense of hope for the future. We are now in a position where we employ almost 600 people with an operating budget of seventy-five million.

And yes, of course, we are very proud of our accomplishments.

Achieving these once thought dreams was not easy. We had to reconcile who we were as an aboriginal community, and did not want to lose that.

At the same time, we know our history, we know our language, we know our land and we know our waters. That is why we also challenge government actions where others had given up.

As some of you know, we reclaimed our

strong fishing history when we challenged the Government of Canada on whether or not our treaties protected our rights to fish commercially.

We all know the Supreme Court of Canada agreed that all Mi'kmaq, including Membertou, have the right to commercial fish -- fish for commercial purposes, including a right to a moderate livelihood -- which we're still trying to figure out what exactly that means. I hope it's a lawyer's moderate livelihood. We'll all be in a good position.

It was noted that in this infamous case rendered by Justice Binney that it was a fact that we had aboriginal title to rivers, streams, estuaries and harbours.

That is something that I want to just highlight right there, that point, because it's very important to the rest of the presentation.

And, you know, we believe this is obviously crucial as to how a community as Membertou is to be considered as you render your findings.

So, before continuing with this line of thinking, we believe it is prudent to highlight our view of the activities by the Government of Canada and the Province of Nova Scotia.

We, of course, will defer to the various

regulatory bodies and the agencies to correct, perhaps, some of the factual errors that we may make. And if we should be corrected, well then it highlights one of the difficulties that we are about to discuss later on.

It is our understanding that the cleanup activities and studies started quite a number of years ago.

We understand that the sentiment is that it has been studied beyond what is considered normal for this type of project.

However, it is and was important to do this.

We understand that about sixty million dollars ($60 million) was spent between 1995 and 2000, give or take a few years here and there. Four hundred million is going to be spent on the cleanup.

We understand that several technologies were considered and are the topic of this current review.

We also need to ensure that we do not -- that we do this the right way, because today is where the stars are lining up to get the job for the future generations done.

Membertou's history, as you know, goes back before there was even this need for the cleanup.

We have just started to become familiar

about it, but not at the level we should be, either from a moral or a legal perspective.

It would be remiss if we did not tell you that some strides have been made in the past year or so. You are probably aware that we recently entered into an agreement with the Province of Nova Scotia and Canada for an aboriginal set aside program for the cleaning of the Cooling Ponds portion.

Officials such as Ken Swain and Alphonse Cormier and Garth Bangay from the Government of Canada, as well as Dave Darrow of the Province, should be commended for the work they undertook to ensure that Membertou and other Mi'kmaq communities would at least be included in the business of the cleanup.

And, of course, we'd like to, at this time, publicly thank them for this, because it was a very difficult road. And I don't have to tell you, this -- the politics is pretty amazing when it comes to this sort of stuff. But they held their own, and we're at a point where we are today.

Now, to the point, and why we are here today asking for this last minute intervention.

Yes, it is recognized that studies have been conducted, experts from literally all over the world have been asked for input.

Millions of dollars has been spent to do this, and everything you wanted to know about the subject is available for reading, scanning and perusing at one's leisure.

Membertou, however, has not been consulted. Attempts have been made, we think.

A business agreement, in our view, is not consultation. We believe the law on the subject of aboriginal consultation is clear.

Membertou community members have recognized treaty rights to hunt, fish and gather for food, social and ceremonial purposes, as well as for commercial purposes.

We also claim aboriginal and -- aboriginal rights and title to the area that is the question of this review, and as such, the Panel, in our opinion, needs to consider the question of consultation in the strict legal sense, especially as it pertains to Membertou, or at least, the Panel needs to consider whether or not the governments have adequately consulted with our community.

Membertou believes that the Crown -- and this term is used to describe both levels, for this purpose -- has a duty to consult on the potential adverse impacts, at least since 1990 with the Sparrow decision. This was reinforced in the second Marshall decision in

1999, and the second phase of the Sparrow justification analysis invokes the honour of the Crown and that:

> "The special trust relationship and the responsibility of government vis-a-vis aboriginals..."

It is here that consultation is addressed where the court states in paragraph 43 of Marshall II that:

> "The special trust relationship includes the right of the treaty beneficiaries to be consulted about restrictions on their rights."

The extent of the Crown's duty consult is a matter of degree dependent upon adverse impacts on First Nations. In other words, the degree of adverse impact -- the greater the degree of adverse impact, the greater the duty to consult. And that's from, of course, Delgamuukw, which is a pivotal case.

And, again, we believe in Marshall it states that:

> "This variation may reflect such factors as the seriousness and duration of the proposed restriction, and whether or not the minister is required to act in response to

unforseen or urgent circumstances. As stated, if the consultation does not produce an agreement, the adequacy of the justification of the government's initiative will have to be litigated in the courts"

In the context of the various laws and regulations that you and the various governments are working under, the question of adequate consultations appears to vary depending upon the particular act or regulation that the crown department is operating under and the affected First Nations' use or dependence on it, and the length and extent of prohibitions and urgency addressing, obviously, a particular situation.

In November 2004 the Supreme Court of Canada released its decision in the Haida case where the central issue was whether the Government of BC had a duty to consult the Haida people on its decision to issue tree harvesting licenses on traditional territory claimed by the Haida.

Haida represents the proposition that First Nations need not establish a recognized claim before the duty to consult arises, and the Haida asserted title to the area in question and the rights and resources, including forest resources for over 100 years,

and were in the process of negotiation with both the Federal and Provincial Governments for title and rights recognition.

The Supreme Court recognized that even though their claim hadn't been established there was a prima facie legitimacy to their claim and a recognition to that in order to ensure that the Haida would still have access to resources if and when their claims were established. Mechanisms need to be in place for their interests to be addressed.

Mi'kmaq or Membertou interests, as they pertain to this review, are distinguished from the Haida in that the rights to resources are established and recognized already. Haida is relevant in that it expands upon the spectrum of interests where First Nations ought to be consulted and speculates on degrees of consultation necessary to and for the crown to uphold its honour.

The potential for adverse impacts of decisions from this Panel in the Membertou interests is high, in our words, very high.

The Supreme Court of Canada also offered the following with respect to the spectrum of the crown duty to consult First Nations in, again, Delgamuukw, 1997.

"The nature and scope of the duty of

consultation will vary with the circumstances. In occasional cases, when the breach is less serious or relatively minor, it will be no more than a duty to discuss important decisions that would be taken with respect to lands held pursuant to aboriginal title. Of course, even in these rare cases when the minimum acceptable standard is consultation, this consultation must be in good faith, and with the intention of substantially addressing the concerns of the aboriginal peoples whose lands are at issue. In most cases, it will be significantly deeper than mere consultation. Some cases may even require the full consent of an aboriginal nation, particularly when provinces enact hunting and fishing regulations in relation to aboriginal lands."

As with any rights, there is a corresponding responsibility in the case of consultation. First Nations have a duty to act in good

faith and cooperate with reasonable consultation measures, and also it should be noted, too, that a strong position on the consultation spectrum that may be -- may require consent from an affected First Nation does not translate into a veto or over-regulation of resource activities.

So, it should be noted -- as we kind of move away from the legal parts of this presentation, it should be noted that when the federal Department of the Environment was the lead on the cleanup file, Membertou requested a formal consultation process, and, in fact, we requested approximately $1.8 million dollars to undertake a review, our own review, of all the evidence and findings by the experts, and of course we were going to, you know, hire legal and technical experts to provide us assistance with that review.

Unfortunately, this request was not agreed to and to date we have never had a formal presentation on what exactly is going to occur within the cleanup. We believe -- to us, you know, and perhaps to others, this is surprising, and we, of course, believe the law is on our side.

So, before people start to squirm and want to call their respective legal counsels, you know, Membertou wishes to categorically state that all this can

be overcome by a process that would allow us to have an active role in the cleanup. We do not believe that is asking too much.

Resources should be made available to allow the young and elderly of Membertou to understand what has or is about to happen. We are extending an olive branch of cooperation but we cannot let our right to consulted to be trampled upon either.

So, in conclusion, we encourage all the various departments in this review, and the Panel, to immediately and seriously take our request for the establishment of a formal consultation process.

And, Madam Chair, that is the presentation, and if there's any questions, obviously I can field those.

THE CHAIRPERSON: Mr. Christmas, thank you very much for your presentation. Thank you first for some of the background that you've provided us with.

I've been reading so much about the community of Membertou and the things that have been happening and the progress that's being made, and it was with much pleasure that the Panel paid an informal visit and saw some of the things that have been going on and the businesses and developments that have happened there. So, that was very interesting.

Normally we -- the Panel does ask questions of presenters. I think probably, as you can imagine, with the detail that's in your presentation and the topics that you're covering, that that's something that the Panel will definitely want to read and give some consideration before we pursue that. So, there may not -- I will ask my colleagues, but we may not have questions for you today.

I just want to clarify. I'm sure you're totally well aware of the fact that the Panel is not a decision-making body, we are an advisory-making body.

So, I think we will need to take your written presentation and give it some thought and see what may fall out with respect to the mandate that the Panel has, but certainly it was very interesting to hear that.

--- QUESTIONED BY THE JOINT REVIEW PANEL

THE CHAIRPERSON: I mean, my only question -- and you may not wish to answer that at this point, but I wondered if you wanted to elaborate a little bit on the types of adverse impacts on your -- on Membertou's rights that you think that might result from the implementation of the project, just in very general terms. I'm sure you won't want to get into any detail on that.

MR. CHRISTMAS: Yeah, I guess it really just boils down to -- you know, it's kind of odd for me perhaps to even say this, but like we're not even at that point to determine what it potentially is.

You know, we've made the statements and we've told government before on other issues that we claim aboriginal title and treaty rights, those are clear, fishing rights, and, you know, land use, et cetera, et cetera. You know, in the whole spectrum of what's behind all this, there's a greater claim that still has to be dealt with, which is obviously not the Panel's issue.

So, I think we're still -- I hate to sound so very vague, but I think we're still at the point where we can't really tell you about the adverse impacts because we don't really understand exactly the full brunt of what is about to take place down there.

You know, I should -- again, we should be fair from what is written here, and I'll freely offer it. You know, we've had -- you know, it was back probably around '99 when Garth Bangay was regional director general, he sent someone to get us to fill out a booklet and we -- the people know the story at the Agency, they probably have heard that, you know, we basically kicked the people out of the Council chambers because it was

almost an insult to us that we had to fill out a booklet, because we didn't consider that as formal consultation.

And then there was someone from Health Canada who came to us back in '97, I think, and they showed us sort of like a map of where there was going to be water treatment plants or something like this, and that was -- to be fair, those are the two kind of things we really know, except, of course, now we know some of the business of what's about to occur.

But still from, you know, the community themselves, do they understand, has anyone done presentations to them? No, that hasn't occurred yet.

THE CHAIRPERSON: Well, thank you. I will ask my colleagues if they have questions for you.

MR. CHARLES: Mr. Christmas, the Panel has been provided with a study that's entitled "A Mi'kmaq Ecological Knowledge Study." Are you aware of that study?

MR. CHRISTMAS: Yes.

MR. CHARLES: And you've read the conclusions of the study?

MR. CHRISTMAS: Yes. The Mi'kmaq Ecological Study is a document that obviously provides evidence of Mi'kmaq use of resources. Now, you have to remember that's evidence of what's going on there, but

we're talking about consultation, it's two different things.

That does not -- for example, certain species are asked about and so on and so forth but it doesn't talk about, for example, say if there's a plant that's, you know, readily available that a Mi'kmaq would use for medicines or for a commercial purpose.

So, I guess what we want to distinguish is that was -- those are evidence of uses of Mi'kmaq people that have been documented, but consultation does not address, you know, the pure, simple questions of what is going to happen at and within the cleanup within our traditional territories.

Do you understand what I'm saying, the ---

MR. CHARLES: Yeah, I know -- I understand the difference between the consultation that you'd like to see carried forward ---

MR. CHRISTMAS: Okay.

MR. CHARLES: --- and the results of an ecological study. But because you did mention adverse impacts on traditional rights, this study does conclude that:

> "The project will not negatively impact the lands and resources that

the Mi'kmaq utilize for traditional use activities, and should they occur, they will be minimal."

And I take it that your position would be, well, that's okay, but we still -- whether they're minimal or not, there's still some kind of an impact on our traditional rights that needs to be talked about and the consultation would take place in that regard?

MR. CHRISTMAS: That's correct, sir, and that is our position and I -- we believe that, you know, again, the Constitution in the country protects us in that and we should have some level of consultation. Not only the Constitution but, you know, the laws that have been developed, as I tried to go through.

MR. CHARLES: All right. Thank you very much.

DR. LAPIERRE: No, thank you, Madam Chair. I had the same question you had, so you've asked it, so I'm fine.

THE CHAIRPERSON: Our practice in the hearings is now to invite questions to the presenter from other participants.

I will turn first to the Tar Ponds Agency. And, Mr. Potter, do you have any questions for Mr. Christmas or do you have any points of clarification

directly relating to his presentation?

MR. POTTER: Yes, Madam Chair, I did have one question.

--- QUESTIONED BY THE SYDNEY TAR PONDS AGENCY (MR. FRANK POTTER)

MR. POTTER: You mentioned you were asking for, I guess, a formal consultation process. I'd like you, if you could, to explain what you might foresee that -- what kind of shape that would take.

As you're aware, there has been a fair bit of discussions that have gone on in the past and much of those discussions have been culminated in the MOA incorporating the interests of aboriginal people.

Arising from that was the Protocol Agreement set aside for the current project for the cooling pond, a commitment to review that project upon its completion to see if there's opportunities for additional, perhaps, aboriginal involvement in the project as it proceeds. Those things have been discussed and are, I guess, ongoing.

Public Works Canada, and myself included, have met with the Council and gave an update to them, I haven't got the date in front of me but probably about a month and a half ago, perhaps two months, just a briefing

summarizing the status of the project, indicating we're heading into the current EA process.

So, we did give a bit of a briefing at that point in time and you did speak to previous involvement with Environment Canada back in the late '90s/early 2000. But just back to the question, what would you see being perhaps a formal process for this consultation?

MR. CHRISTMAS: Well, I think firstly, you know, it goes back to what we submitted -- we asked for adequate resources to, you know, get independent advice, so to speak, from people who know this business of environmental cleanups, and have them, in conjunction obviously with, you know, the relationship we've been developing present and do easily a number of presentations to community members in a public forum, so to speak, that would be specific to the concerns of Membertou residents in relation to their aboriginal culture, traditions, and again, in claiming, in our belief, our claims to the area. So you know, at our level that's how I see it.

MR. POTTER: Okay, thank you, Madam Chair.

THE CHAIRPERSON: Thank you. I will now ask if we have any other questions from other participants.

As you know, I give priority first to people who are registered participants, registered who either have or are going to give a presentation, but then I will also take questions from others.

Could I just see by a show of hands if any of the registered presenters have questions for Mr. Christmas. I see Ms. Ouellette, Ms. MacLellan, Dr. Ignasiak. Have I got everybody?

Well, going from right to left, Ms. Ouellette. Can I ask for you to have one question and a follow-up, I think.

--- QUESTIONED BY MS. DEBBIE OUELLETTE:

MS. OUELLETTE: Hi, my name is Debbie Ouellette and I'm a former resident of Frederick Street, so you would know.

My question to you, Bernd, is have you had any experts that came in and did any testing on the Coke Ovens and Tar Ponds so far to give you an idea of how bad the contamination is there?

MR. CHRISTMAS: No.

MS. OUELLETTE: Okay. Do you plan on doing that if you get any of the projects that are coming up, like say the cooling pond or any work on the Coke Ovens or Tar Ponds beforehand?

MR. CHRISTMAS: Well, I guess it depends on the process that is going to be established. I hope with Mr. Potter and his folks. Is that what you're asking?

MS. OUELLETTE: I'm just asking like your experts, are they going to come in and do any work prior to what the Tar Ponds and Coke Ovens ---

MR. CHRISTMAS: Oh, I see. I guess what I'm trying to get across is that, yeah, we haven't had any experts, and we'd like to have some independent advice that will review either the findings or maybe conduct their own.

MS. OUELLETTE: You're planning on doing that, as well.

MR. CHRISTMAS: Yeah.

MS. OUELLETTE: Thank you.

THE CHAIRPERSON: Thank you, Ms. Ouellette.

So Ms. MacLellan.

--- QUESTIONED BY CAPE BRETON SAVE OUR HEALTH COMMITTEE (MS. MARY-RUTH MACLELLAN)

MS. MACLELLAN: Thank you, Madam Chair. Through you to Mr. Christmas I have a couple of questions, with your permission. One of them is almost

like a two-part, but it's sort of the same thing.

In the past, when they started some of the projects, for example, the sewage treatment plant, some of the land over there I believe was originally owned by the Mi'kmaq, a graveyard, or somewhere in that area. It was either around there or around the creek, I'm sorry, I'm not sure where. But were you consulted -- was your community consulted at all before the process started?

MR. CHRISTMAS: To the best of my knowledge, no.

MS. MACLELLAN: Thank you for that.

When they set up the Liaison Committee that's now in place, were you asked to send membership there?

MR. CHRISTMAS: I think we were. I think we were through the Federal Government, but we declined because we believe we have a different position from a legal perspective as it relates to how to be consulted.

MS. MACLELLAN: That's what I was trying to get at, thank you.

Could you tell me a little bit about the health of the residents in Membertou? Are there high rates of diabetes and cancer?

MR. CHRISTMAS: Yes.

MS. MACLELLAN: Thank you.

THE CHAIRPERSON: Thank you, Ms. MacLellan.

Dr. Ignasiak.

DR. IGNASIAK: Thank you very much, Madam Chair. Actually, my question was already answered, so I will not ask it again.

THE CHAIRPERSON: Okay. Thank you very much.

Is there anybody else present? Mr. Marman, I see you, and the lady over there. I will take the lady over there first, and then Mr. Marman, if you'd like to come forward with your question. And if you could give your name, please.

--- QUESTIONED BY MS. CATHY THERIAULT:

MS. THERIAULT: My name is Cathy Theriault, and I'm a concerned citizen. Actually, I came today because I was really interested to find out what Membertou's experts would have -- like their findings, and I was shocked to hear that they didn't get the funding awarded to carry that research out.

And my question is, who's directly responsible for turning down that request for funding?

MR. CHRISTMAS: We don't know. We submit the requests and then -- as you can appreciate, Ottawa is

a big place.

MS. THERIAULT: So do you know what department that goes to or what ---

MR. CHRISTMAS: Well, our original request went to Environment Canada ---

MS. THERIAULT: Okay. Thank you very much.

MR. CHRISTMAS: --- when they were the lead in the ---

MS. THERIAULT: And to your knowledge, do you know of any other groups that were turned down for funding?

MR. CHRISTMAS: No.

MS. THERIAULT: Thank you very much.

THE CHAIRPERSON: Thank you, Ms. Theriault.

Mr. Marman.

--- QUESTIONED BY GRAND LAKE ROAD RESIDENTS

(MR. RON MARMAN)

MR. MARMAN: Thank you, Madam Chair.

Indeed, all the people in Cape Breton are quite proud of the advances made in Membertou. We're really impressed with what has been going on there, and the development happening there, and I guess a lot of

people are quite grateful for the employment that the native community has provided for all people in this area.

One of the things that I look at is the beautiful Convention Centre that's up there, and I just wonder do you feel, Mr. Christmas, that the bad reputation this tar pond has is causing some people concern with using your facilities, people to come from away and book your facility for a convention or whatever?

MR. CHRISTMAS: No, not that I can tell from my staff that deal with the Convention Centre, there hasn't been anything like that. I don't know if it's an amusing anecdote, but we get some people who want to come and actually see it, get a tour.

MR. MARMAN: Takes all kinds, I guess. Do you think that the quicker this project gets started that the more benefit will be for, you know, all areas of Cape Breton?

MR. CHRISTMAS: Yes, of course. We have said that publicly. My Chief has said that publicly. We'd like to get this thing done as fast as possible. It's for the interests, whether it's aboriginal or non-aboriginal peoples.

MR. MARMAN: Thank you very much.

THE CHAIRPERSON: Thank you, Mr. Marman.

I think I see one more question, yes. Mr. -- I've lost your name, I'm sorry. Yes, McMullin.

--- QUESTIONED BY MR. DAN MCMULLIN:

MR. MCMULLIN: Good afternoon, and I, as well, just came in, but I surely would like to congratulate you, Mr. Christmas, on the progress at Membertou, tremendous progress over the last 10 years, as I recall.

I have a question regarding the recent appointment of yourself to the Board of Directors of Bennett Environmental. Our concerns here about incineration techniques have led us to research many of the companies involved, both locally and internationally, and I'd like to known what your position is with regard to the use of incineration in the cleanup of the Sydney Tar Ponds.

MR. CHRISTMAS: Well, for me to answer that it's a bit tough because, again, I don't fully understand the inner workings of how incineration works, so to speak. I think the Board of Bennett had asked me to join their Board because of the activities they're going to be doing across the country within aboriginal lands, and they wanted advice on that.

MR. MCMULLIN: So we have no indications

here that your joining the Board of Bennett would, in any way, indicate that you are positive about incineration techniques being used in the cleanup.

MR. CHRISTMAS: Well, again, I guess the issue here is that we don't -- myself personally and Membertou itself doesn't know pros and cons of incineration.

MR. MCMULLIN: So you have no position on incineration.

MR. CHRISTMAS: Right.

MR. MCMULLIN: Thank you very much.

THE CHAIRPERSON: Thank you.

I'm seeing no more questions.

MR. POTTER: Madam Chair, could I get another question?

THE CHAIRPERSON: Mr. Potter, you have one? Yes.

--- QUESTIONED BY THE SYDNEY TAR PONDS AGENCY:

MR. FRANK POTTER

MR. POTTER: Thank you. The mandate of the panel is to consider the current uses of lands and resources for additional purposes by aboriginal persons. I wonder if Mr. Christmas can identify what the current uses would be, and what the impacts that are currently

happening right now.

MR. CHRISTMAS: Well, that would be very difficult for me to answer right at this time, and I think it again goes back to you'd have to come back to the community and get their views on this. Hence the consultation process. It's a two-way street, so to speak, you know. You give us information, we give you information. I think that's how we should try to work on this.

THE CHAIRPERSON: Thank you, Mr. Christmas. So thank you very much for your presentation.

We will now take a 20-minute break before we come back. We will -- Sydney Tar Ponds Agency will be making a presentation, a follow-up presentation with respect to issues around the capping, proposed capping, and also questions around the capacity of the remediated sites to support future land uses. These will be followed by questions.

So it is now -- we will return at 5 minutes pas 2:00. Mr. Christmas, thank you very much.

--- RECESS AT 1:45 P.M.

--- RESUME AT 2:07 P.M.

THE CHAIRPERSON: Okay, now ladies and gentlemen, we will begin the session again. The next item on the agenda is a follow-up presentation by the Sydney Tar Ponds Agency addressing the capping and future uses. So Mr. Potter. This is an hour, I gather.

MR. POTTER: It should be about 50 minutes on the capping and future land uses. We were going to add in, if you recall, a very brief section on the continuous emission monitoring aspect, about ten minutes. And I understand we'll break after the presentation then come back for questions, is that correct?

THE CHAIRPERSON: Yes, that's correct.

MR. POTTER: Thank you.

THE CHAIRPERSON: Okay. Thank you.

MR. POTTER: I'll ask Mr. Shosky to begin the presentation. Thank you.

--- PRESENTATION BY SYDNEY TAR PONDS AGENCY

(MR. DONALD SHOSKY)

MR. SHOSKY: Thank you, Mr. Potter. We can go to the next slide. I thought what we would start with today is going through some sites that were similar in nature in the sense that they're all redevelopment projects. I, personally, worked on most of them in different parts of the world.

This particular site here was a manufactured gas plant site in Brisbane, Australia. And the -- this is a pre-photograph of that particular site before any remediation was done. It was a manufactured gas plant site for about 100 years. And once this site was cleaned up, about a billion dollars worth or sorry a half a billion dollars worth of redevelopment took place on it.

In this particular case, the cost of real estate was so much higher than the cleanup value was, the choice was to remove the material, stabilize it in a monolith offsite and contain it in that fashion. But as soon as the cleanup is completed and it's expected to be completed this year, there'll be residential development back on this area. Go ahead.

One a little bit closer to home is a park that in 1983 was closed in the Detroit area because of

manufactured gas plant contamination again, coal tar residues. There was a cap put in and some materials and cover soils put on that site and the park was re-established. But we have a number of cases like this. This is one of probably five or six that I personally have worked on. Again, it depends on the value of the land as far as the future uses go.

We'll go to the next slide. Ready to go to the next one. This is one that I gave the Panel a write-up on. It's the Taunton, Massachusetts facility. It's the one we're saying is similar to the Tar Ponds site in the sense that there was some river dredging and star stabilization using cement. And there's on site capping as well as a slurry wall and vinyl sheet piling. We gave an extensive write up on that one yesterday.

And these are a couple of my personal favourites and also some of the larger ones that I've worked on. On the right here, pre-cleanup phases is an area of Melbourne, Australia called the Docklands area which you can get to if you look at -- if you look up Docklands.com. And the site itself was a huge undertaking because it was a very large manufactured gas plant site. Again, materials were moved from the site because the cost of real estate was so much higher there that they were stabilized off site using cement and

ultimately buried in a monolith.

Go back please. On this project over here, back in the U.S. I was the technical director on a project in San Diego, California where after the manufactured gas plants waste were cleaned up the new Padres Stadium was built on top of it. Okay.

This is our backyard. And what I thought I'd do first is go through the engineering controls one more time that we have in place. We kind of talked extensively about the capping scenario or cross sections of some of the other areas. So I'll show a few other details so that it'll give people a better understanding of how the stabilized mass will be contained over time. Can you go back please?

In this photo we have our channel, our open channel that will be constructed in this area. This is a good frame of reference for a lot of the new -- for the additional slides that'll come up later in that we're trying to maintain that open channel. Right now there is a barrier being constructed here with a 50 metre opening. And the channel width that will remain open for the fish passages and things like that.

So what we'll do next is we'll go to one of the details on the side of this channel so that it'll give you an idea of what that material, what that

containment structure looks like on the side where that open channel will be. In this case, basically, as we discussed earlier, we're planning on putting in Riprap anchor protection on one side, on the side where the monolith is. We will have a combination of liners and Riprap and a number of things that keep the monolith contained to the right.

The sediments from that will be removed from the channel, will be removed, the liner placed underneath and gravel and -- not gravel, but probably a two-inch minus rock will be placed in this area here in order to keep the liner down but also maintain that channel structure. So as you can see the monolith from an engineering perspective will be constructed in such a fashion that the materials will be contained. We show another picture here of a view of the cap itself. And these are things we just need to keep in mind as the rest of the discussion continues.

Next slide please. At the front where the barrier wall is, this is the current project that's going in right now or not -- it's just -- tenders were just received on it. It will be constructed this summer. With the rock barrier wall there was a mention made of permeability of that wall and things of that nature. As part of the remediation, this wall would still need to be

constructed in order to keep the sea from entering some of the work areas. In this case we're planning on increasing the content of cement along this facial structure here in order to give it a harder protective capabilities, rather than installing liners on that portion there. We intend to put in a more robust higher concentrations of concrete than what some of our recipes are showing now.

And you'll notice that when we get out that far, this is a little -- the scale's a bit distorted here because we're finalizing some of our final grading plans and things like that but you'll see that by the time we get out that far the impact of sediments are much thinner in thickness than they are the further inland that you go. As we go through these, these are not what we're considering proposed. This is just open discussions on possibilities.

And the possibilities that could take place here, just like we saw with some of the other projects that I mentioned earlier, it's important to have an end point in mind when you start a lot of these projects. You'll see some ideas thrown out here. As Mr. Potter stated earlier, we feel that the current state of the design could support a number of multi-uses. The purpose of this particular series of slides and

discussions now is to go over exactly what sorts of things could be done.

And we'll start off in the Tar Ponds area. These smaller trails here are for -- we would consider for biking and things of that nature. And they would go out along the barrier wall and have a nice trail setting. As we discussed earlier the geotechnical capabilities of the cap to support that sort of light traffic and even some parking lots is more than suitable for that. Some of the other things that you'll note on here, possibly a basketball court, soccer fields or other sports fields. Basically a recreation area for use by a lot of different people.

There has also been some thoughts given to having an area down here where that could be possibly a little bit larger paved area where there could either be parking for the sporting events or the soccer fields or be able to come in and have some special events like a farmers' market or something like that. The big green space -- the spaces up here could include an observation deck because you do get a good view out there. Once you have access to that area, there's a nice view out there. Some picnic tables. As we can see some spots like that so it's a -- it would be a spot where people could get together and enjoy each other's company. Go ahead.

Along these same things now, we feel pretty comfortable that based on the geotechnical criteria that we've proposed so far that there are certain areas of this that could be also in light industrial area development. And as we talked earlier, we believe that the final land use in these areas could also support some buildings, one storey buildings in these areas, some office spaces where there might be a garage attached to the back where deliveries could take place.

For the type of vegetation that we've shown in each one of these, we've talked to some local people about the types of vegetation that would be most suitable in these areas and we have a listing of the types of plants. Looking at the areas that are capped, the thickness of the cap, these areas up here from the SYSCO site coming onto the Tar Ponds just because of the way the grading will have to take place will be several metres thicker in soil coverup in this area here, than closer to the channelized area. Yet there are, depending on what we wanted to put in there for beautifying those particular channels there's options to put a variety of different vegetation there.

You'll see in this case, too, that we have a more robust road system that goes partially through the

site allowing people to get in and out for commuting to work, along again with some biking type of trails and hiking type of trails along this area. So in a lot of urban areas now you're seeing a lot of these designs going towards this sort of natural environment setting for office spaces. It makes people feel a lot better when they go to work. They can go out and take a walk or a bike ride or something like that. And there's still areas down here where after the work week's done in particularly good weather in the summer that people could congregate and listen to music and things of that nature.

Let's go to the Coke Ovens site. There was a question earlier about the areas that were going to be capped. Under the current proposal this really is the area here that's going to be capped, you'll see that it has some topographic relief to it because of the different realignments that have taken place with the Coke Oven Brook realignment and a few other things. But let's take a look at what this could potentially be if we go ahead and doll it up a bit.

What's nice about this is that we have approximately 150 hectares right here in the middle that would serve as very nice green space, where you can see, as we talked about earlier, there were areas that trees could go in and some vegetation could be established.

This parking area over here because of the nature of what would be done at the tar cell, that material's destined right now to be removed and incinerated, could also support a more extensive vegetation. But for the sake of just putting a parking lot on there for now, that's what we did. You'll see that there's a potential to support ball fields. Again, a series of trails and some dressing up of some of these water courses that are there.

We also felt that there is probably a need for a bit of topographic relief out there and hence there would be some additional work possibly that would take place in this area here that we're calling a high point. Again, soccer fields, recreation, outside basketball or tennis courts are all possible under these scenarios.

If we look at what the industrial side of this would look like, again, rather than just having a large open area that's compacted with slag, or something like that, it's possible to come in and include a lot of greenery in areas where the cap -- along the edges of where the caps are designed to be.

And again, the criteria of the monolith that we are showing right now should support this sort of traffic with the heavier road. These industrial -- light industrial areas, or small office complexes, could easily be supported with the criteria that we have there.

We'll just throw up some cross-sections, because the question came up on how do we maintain integrity of the cap, and the best that I can tell is, any future development that will be of concern of not only to the people that are redeveloping it, but citizens. And I think that there'll be -- typically what happens is that there's some restrictions on what can happen, but what will probably primarily drive what happens out there, is the ability for the cap to be maintained.

So, when we do these evaluations, the very simple capping system that we had showed historically out there involves anywhere from .3 meters to a meter of clay. In order to get the same efficiencies, one would need to instal synthetic liners in order to achieve the same level of protection.

This is commonly done in a lot of different situations right now where there's either landfill capping that have been turned into golf courses, green spaces that have been turned over after stabilization's been done.

We're still not particularly proud of the tree rooting system here, but the idea here is that where we would put in large strands of trees, near areas where there might be some stabilized material, there would have

to be special care taken, in order to ensure that there was enough soils placed above that material in order to sustain trees and grasses.

On the concrete slab on grade scenario, it's pretty straightforward in this case, the way it can be distributed in such a fashion with concrete slabs that it's possible to get a very low psi pressure. So we don't need to worry so much about subsidence and things of that nature.

It's possible to have this be a bike trail, a road, a concrete slab for a building, a parking lot, a whole variety of uses.

There was a project that I finished in Alaska two years ago where this was basically the final -- part of what the final design was. It was an asphalt slab for some storage units over a solidified monolith.

In this case, this would be for shallow infrastructure applications, let's say irrigation systems for parks or golf courses, although I guess it's debatable with the amount of rain you get here whether or not you would need this or not.

Typically what happens is that again, in order to eliminate any pathways for prematurely having precipitation go through the cap into the underlying materials, we would typically line these areas with HTP

lining material or irrigation pipe.

About two years ago, I finished a project similar like this in Santa Barbara, California, for the MTV. They were planning on building out an electrical train trolley station, and we had to go in and surgically remove a lot of impacted soils for the utility corridors.

So, properly planned, these sorts of ideas are easily implemented in the field. It's not an unknown way to do it, it's just a fact that you have to take a little bit of extra care when you decide to go back into these areas and work on them.

So what do we do with some of the deeper material. Because we do have a lot more deeper issues with larger infrastructure projects, again the idea here is, whether it's a water line, a sewer line, or something like that, is to come in and be able to isolate those areas that you're actually going to be working so that there's a sense that the infrastructure that's being installed can be installed safely, that it's not going to become contaminated by having outside materials migrate in.

Typically what happens when that happens is that you come in and you remove the portions of the monolith that you need to, possibly re-treat the material, and then, as part of your ultimate reuse of

that area, have a place for that material to go before you finish your work. Again, this is something that's pretty commonly done. It's not rocket science to do it, it's just extra care when you go in and do it, do the work.

On the deeper foundations that I've got portrayed there, it's the same sort of analysis. It's possible to get the right spread footings in order to not compromise the lighter load that this particular monolith has on it now.

It is possible, of course, always to increase the compressive strength characteristics of the monolith to make it a bit stronger, but as you heard the guys from the Cement Association talk, there is a fine line there before you'd want it too hard so that you can't get back into it and make any adjustments to it later.

So again, this is a situation where you want to try and keep the construction for the workers that are going in there as clean as possible. So you'll remove the contaminated material, you'll line the areas, and then proceed typically with your normal construction procedures.

In areas where we don't -- where we are concerned with vapours, things like that, which we're

not, in this case, there's usually vapour control systems that are installed at the bottom of the foundations of the buildings in order to redirect those vapours outside.

Again, pretty straightforward, pretty simple solutions to these all have been implemented in different Brownfield cases across the world.

Sit down for a moment, and if everybody could just kind of put this to memory what I'd like to do is go back to one of the earlier pictures so I can actually point out the different areas where we would look for cap integrity and some of these things, rather than just reading it off a list. But if you want to take a look at that, there's a detailed undertaking that we gave the panel earlier this week. It would be undertaking 15 that we turned in.

Let's go back to one of the Tar Ponds, and then we'll go to the Coke Ovens.

In order to ensure that we have a good basis for our capping scenario, and that we can reuse it later, we start off with monitoring the actual construction of the monolith first. So end-use monitoring is part of it, but you have to make sure it's built properly to begin with.

So I'll briefly go through some of the things that we would anticipate that would have to be

done during these activities to ensure that this was done properly.

If we can all remember back again, too, is that we have the leachate lines in here that are -- that if they did have material in them could discharge to the open channel. Of course, the valves are closed, so it wouldn't be a problem, but there would be ultimately monitoring of those facilities along the channel themselves.

Let's go back to the cap. A component in the cap is the geosynthetic clay liner, which comes out in a roll, and I think we talked about this a little bit. It's clay that is embedded between two rolls of felt. That has certain specifications that have to be followed as far as overlappingness of the liner material.

The clay caps that we were talking about, as well, all these areas here would have to be compacted throughout this entire area to meet certain standards.

So before we put a lot of the trees or basketball court or parking lot, or anything like that, out there, we would need to make sure that all of the clay was compacted properly at the right lifts, and we do that a number of different ways.

You set up compaction testing using nuclear densometers to measure compaction. You're always

looking to make sure that you're shooting your proper grades in order to make sure that the fill over your cap is appropriate.

You'll also notice that before we put anything on we'll be looking at trying to control surface water from storm events. Right now, all our run-on and run-off control events are -- we have looked at a 1-in-100 year storm event as our method of run-off and run-on control. So all the diversions there that we've anticipated so far have been looked at with that in mind, so it's a 1-in-100 year storm event.

During the construction phase, depending on how far the cap is, we'll have some sedimentary ponds and things like that, so that we don't get a discharge of sediments out into the harbour. Those will be monitored and, if necessary, tested chemically.

And I think we talked about the silt curtains that we were going to install during the creation of these channels.

And, of course, we would be doing air monitoring during all of this around all the work area for dust, certain type of indicator chemicals. We'd also be monitoring the wind velocity, gusts, humidity and the noise.

If we can go to a similar drawing for the

Coke Ovens. On the Coke Ovens Site, basically we would follow the same type of procedures. We would have the density compaction testing of all the clay cap material before anything obviously was put on. And we would be controlling all the surface water run-offs to make sure that we weren't getting siltation inside these newly-constructed water courses. And the air monitoring would take place during all the activities of construction.

So once that part's built and we start putting some vegetation on it, what would it look like when we start to monitor it. If you could go back to the previous slide, please.

If we're looking at this scenario, for example, we know, as I stated earlier, that we would be checking periodically on our leachate lines to make sure that we were not getting water in them.

If we are getting water, that water would be checked and tested to make sure that we were able to discharge it, and it wouldn't be discharged until we were -- had determined that it was safe to discharge. And if it was discharged, it would be discharged into the channel.

If it were dirty, we would set up a treatment system in order to treat that water and handle it according to whatever regulatory requirement we needed

to meet in order to discharge it.

In the water from those systems, should water show up, we'd be looking at sampling it for PCBs, PAHs, PPH, BTEX, metals, PH, following a quality assurance/quality control programme for all the samples collected.

Now, once we start revegetating these areas and working on them, we would also continue to verify that the cap integrity has been maintained. So we'd be looking over these areas for cracks or subsidence, we'd be checking these areas for erosion problems. We don't expect any erosion problems, because our slope is so flat towards this channel, but we would be checking for those, and they'd be corrected.

Storm surge events we would expect to be mostly focused in this area up in here from either the ocean or different surface water levels, maybe from a big storm event.

So these areas here would be inspected very regularly for erosion, too, to wind or storm surges.

Having seen some of the storms out here, they do kick up quite a fuss sometimes, and this would be a pretty important component of any monitoring programme, would be to go in and monitor that and make sure that it was acceptable, and, if not, do repairs to it.

Throughout this process, too, we'd be looking and checking all the discharge areas for siltation problems and controlling any open areas to water and things like that that could cause a siltation problem. They would have to be controlled.

In looking at the types and diversity of vegetation that we've been -- expressed to us that we could place out here, we see that there is quite a habitat that could be developed here for birds and other animals that may not be there at this point. It's just a nice, we believe, after looking at it, that there's quite a bit of opportunities there for trees and bushes and things of that nature. And we also would ensure that this fish passage area would remain open by doing the monitoring of that to ensure that that requirement was being met.

If you go to the Coke Ovens Site, the Coke Ovens Site, in a lot of respects, is a lot easier to deal with because you have an area up here that's fairly large that you can walk around and look for subsidence and things of that nature.

The series of trails and trees and vegetation always helps with not only giving a much better visual appearance, but also being able to take on more water, have less runoff issues.

In this case, we would have a series of monitoring wells that we'd be looking at, and we did expect to have some discharge of water over time, and our treatment plant for that would be somewhere down in this area here, probably, for the long term water system.

I would envision a building that was something that was compatible with whatever our final park design would be, if there's a particular motif that would be used or something like that. Our discharge point would be down here, so it would be monitored regularly for PAHs, PPH, benzene, metals, PH.

We'd also look at storm events that would come down here. As I stated earlier, we try -- this is currently looked at as about a 1-in-100-year storm event, so it's got a pretty robust design criteria in it now, but, as usual, having been a surface hydrologist for a while, sometimes you get some storm events that are higher than that.

So those areas would need to be inspected after the large storm events to make sure that the riprap was in place, and that the vegetative cover along the channels was still acceptable.

And as you can see, by being able to put in a lot of these additional trees and shrubs, we've created a lot more habitat development -- habitat area

down there. And by putting in extensive biking and trail system -- as one of the doctors explained yesterday, there's just a shortage of that sort of stuff in Sydney right now, and we felt that by having a lot more of those kind of opportunities for people, it would be a much more pleasant area.

We felt it was important, and we kind of talked about this in the context of what some of us envisioned. Over the last couple of days we've definitely gotten the impression that a lot of people think that it was just going to be left as a big open area that was just going to become overgrown with weeds, and nobody would take care of it.

But I think the vision's better than that, and while it still needs to be decided what people want there, the fact of the matter is is it will be a contained -- environmentally contained system with an appropriate series of monitoring on it, and a whole lot of very diverse things that can be done out there with the land, once it's turned back over to public use.

I don't think I took my 50 minutes, but the next part is the incinerator stuff. Or we can leave it at this for now, if you'd like.

THE CHAIRPERSON: Well, thank you very much, Mr. Shosky. I assume you're just going straight

through to the completion. I think we're going to come back with questions after a break, so if you want to complete the presentation or ---

MR. SHOSKY: Sure. You can go ahead and turn this small one off, go to the next one.

Okay. We thought it was important that we go through a couple of things here. One is, this is our yet-to-be-decided typical type of incinerator flow chart, and the comment that came back earlier was that we should take some time to talk about dioxin monitoring on stacks and things of that nature.

Before we do that, I think it's important that we go ahead and run through the incinerator technology again, briefly, and kind of explain where the state of the art is as far as treatment goes.

There was an awful lot of discussion about the various contaminants that are going into the incinerator and things we needed to worry about. Those things included some heavy metals and PCBs, and the creation of dioxin at the end.

We've -- this flow chart actually describes three different types of dioxin-treating emission controls, and we'll just go through that briefly, because I think it all needs to go in perspective before we start talking about monitors.

We know that this is the feed that comes in, and we talked about this. If we were to have some problems with the incinerator, the first thing that would happen is that we would cut off the feed so that no more impacted soils would continue to go through the incinerator.

Then we have our combustion chambers. We located the bypass control, and then we're looking really at these three technologies here as potential dioxin-controlling technologies. And the lime in carbon is very commonly used for dioxin control, particularly on large industrial garbage incinerators, municipal garbage incinerators. A baghouse is very commonly used.

Wet scrubbing systems, as our friends discussed a couple of days ago, enables us to rapidly quench the gases, so that it lowers the temperature of the gas in a very rapid fashion so the dioxins don't form.

There's a number of technologies on the market now, and each one of these cases allow some sort of treatment of dioxin or prevention of dioxin prior to it going out the stack.

There's bags on the market now that create a catalytic reaction that allow gases to be -- potential gases that contain dioxin to be neutralized and catalyzed

before release. This is a common technology. It's also very good for the mercury and some of the other things that we're concerned about there.

And this wet scrubber system -- very seldom are all three of these systems implied on any particular incinerator. They are -- more incinerator vendors are looking at putting them in sequence, you know, because there's been more of a demand for that, and that's why we have it included on this flow chart.

Before we ever get to monitoring dioxins here, there's a number of operating parameters that we're concerned about, as an operator of an incinerator, that would give us an indication that we might have a problem. And they're going to be pretty simple ones that are there as part of discussions, because all the pieces of information that get collected during a particular day of burning, all have to be evaluated to ensure that machinery is operating properly. And when it's operating properly, it means that the emissions are being controlled properly.

So the sorts of things that we'd be looking for are just the mechanical interactions between the different systems; are things running at the proper rates and speeds that we anticipate them to run at, or feel comfortable running at.

An important precursor to determining whether or not you've got dioxins or not are the various temperatures within the system itself, and there's temperature points that would be monitored here, here, here, here and here and typically here. So there's five or six points, at least, where temperatures would be monitored regularly, and temperature is a critical component in the formation of dioxin during any portion of this process.

So those would be monitored on a regular basis. If they don't fall into the range that would be the safe operating range, it would cause concern for the operator of the unit so that they could come back and adjust the temperature either up or down to ensure that it's operating at its proper efficiency.

The other thing that we would look at are the various pressure points and air flow rates within the system itself in order to make sure that there is either not enough or just enough oxygen to get our complete combustion to occur.

Some of those parameters also, if not monitored properly, can potentially form dioxins in the emissions.

The other thing you want to pay particular attention to are the usages that you have of your various

additive consumptions, whether it be lime or carbon, to make sure that that's flowing properly, that you're getting the proper dose of your lime or carbon in there in order to ensure that the gases are not being transformed over to dioxin and creating a problem.

So we have a number of parameters that have to be monitored on the incinerator prior to relying on the stack. It has to be done that way, because you are trying to anticipate problems before they happen.

I think we talked in one of our response submittals about the type of continuous monitoring that would be taken at the monitoring station. There's a bunch of indicator parameters I think we listed there. I won't go into them now, but we will go over to the next slide.

Based on looking into some of the suggestions that we received from various members of the audience, we came up with a list. It might not be the total list of all of the types of equipment that possibly could monitor for precursors of dioxin, but it is a list. It shows that -- the various compounds that can be analyzed, most of them are precursors.

As with any other indicator piece of equipment, sometimes you get false positives, sometimes you get false negatives. That information, in

conjunction with the other mechanical properties that we talked about of the unit with temperature, pressure, and things of that nature, would all have to be taken into account.

But we can see that none of them -- there are some that go from 20 seconds to 15 minutes, some from 2 to 6 hours. They're not instantaneous readings like you would get from a continuous monitor that reads out on a chart. So there is some time involved with collecting the data, analyzing it, making sure it's not a false positive or a false negative, and analyzing that information before it was released. So it's not a continuous monitor like some of the other more traditional monitors are.

The stack testing period that we would normally do for an incinerator of this nature would be a couple of times a year where you actually did monitor the actual concentrations of dioxin in sending it out to a lab.

Just so that everybody is kind of on the same page on this, and probably why there's a bit of concern about it, is that that lab analysis that you receive back on that dioxin testing usually runs a couple of weeks to -- you know, anywhere from two to five weeks, depending on the laboratory that you send it to, and it's

extremely expensive.

So in a nutshell, this is what we -- this is a partial list of what we are here to talk about. We welcome questions on the equipment. They're precursor items that would, in some cases, be okay.

I will say that there's not years and years and years of operating data on a lot of these systems right now, and a lot of the information that is presented, particularly in the internet, is mostly sales stuff.

So there would -- during the detailed design, if it were decided to go with investigating these types of detection systems, some diligence would have to be done with the people that are using this equipment now to ensure that we understand what the results are that are being given to us.

Thank you very much.

THE CHAIRPERSON: Well, thank you very much, Mr. Shosky, for those two presentations.

The panel is now -- we would like to take a 25-minute break before we come back for the question period, so that would mean that at 20 past 2:00 we would resume. So thank you. Well, that would be going backwards, wouldn't it, so we'll try to keep going in a forwards direction, so 20 past 3:00.

--- RECESS AT 2:54 P.M.

--- RESUME AT 3:24 P.M.

THE CHAIRPERSON: Ladies and gentlemen, we will resume the session.

The main presentation made by the proponent was on capping and the capacity of the remediated sites to support future land use, and there was also a brief presentation with respect to monitoring, that's monitoring for the incinerator.

I think what we're going to do, first of all, is, we're going to focus on the main presentation with respect to capping and future use, and the panel has a number of questions, and then I will open it for questions from others on that topic.

And then we'll see how the time goes. If we have time, we may then open the questioning on the second issue, but if we don't, what we'll do is we'll just put that forward till Tuesday, which is when the panel has asked the proponent to be here for a block of questioning, a follow-up block of questioning by the

panel and by other participants. So we may move that subject on.

So, in a nutshell, first of all let's focus on capping and future use. Dr. LaPierre, you have some questions.

--- QUESTIONED BY THE JOINT REVIEW PANEL:

DR. LAPIERRE: Good afternoon, and thank you for the presentation.

Mr. Potter, I have a series of questions, and I think what I'll do, I'll ask them in stages, but they relate to trying to help us get a better understanding of the compressive strength of the monolith, and what it entails for the stabilization and solidification.

I guess the first question we have is -- well, first of all, the statement that you made earlier today was that 50 percent of the -- close to 50 percent of the PCBs would still be held in the Tar Ponds.

Now, accepting that the PCBs would have to be contained, you'd have to have some security that the PCBs are not going to move in relation to the cap, I guess a few questions.

The first one is you've identified that the strength of the cap, the psi, you're looking at 14 to

17 or 14 to 19, so it gives you some plasticity in the system, and I guess we heard in the presentation that that allowed you to move into the cap and do some digging, and it's fairly easy to get into the cap.

I guess the question I have is ---

MR. POTTER: If I could, just to make sure we get the question directed correctly, the 14 to 17 psi is in relation to the monolith, the material ---

DR. LAPIERRE: Yes, the monolith, excuse me.

MR. POTTER: Okay, great.

DR. LAPIERRE: When you look at the monolith, and I guess if you had a compressive strength of 14 to 19 as compared to 200 or 300, when you conduct the leachate test, the dynamic leachate test from Environment Canada, would you get the exact same results from a monolith that has a compressive strength of 19, 200 or 500, and in which one would you have more faith in containing the PCBs from movement?

MR. POTTER: I'll ask Mr. Shosky to address the two parts of that question.

MR. SHOSKY: That's a very good question, and while our design criteria was in that lower range, our actual results that we got during our demonstration that we did as part of the pre-design work that I was

working on were several orders of magnitude higher -- or one order of magnitude higher than that. So we were -- our actual results were over 100 psi.

My personal opinion is is that when you take and break the sample up into small pieces, and expose it to acidic conditions, you will leach more chemicals than you would if it were just tested as a block. Does that answer your question?

DR. LAPIERRE: It does, but not really, I guess. The question was if you took that block and it had 19 psi compressive strength, and you took a similar block with 300 psi, and another one with 500 psi, would you get the exact same results in the leachate test once you crumble it and release it.

MR. SHOSKY: My personal opinion is is that they would be the same, not exactly the same but close, within a small range of one another.

I don't mean to sound elusive, but the -- I don't think that there would be, like, an order of magnitude difference. There may be -- there's always a little difference between each sample that you take, so I would say essentially they would be the same. And the reason I would state that is because, particularly for the mercury and heavy metals, that's more of a function, in my opinion, of PH control as opposed to stabilization.

And with the organics, ensuring that the -- if the mixing is done thoroughly, it shouldn't make a difference, either.

DR. LAPIERRE: Okay. The next question is, if you had -- if you were not removing the PCBs from the ponds, if you were leaving them there, could you increase the psi or the compressive strength within the monolith at differing strengths across the monolith? Say where you have the concentrations of PCBs in higher concentrations, could the monolith be increased in strength in those areas and then go back to a lesser compressive strength in that area?

MR. SHOSKY: The short answer is yes, and our intention for the front of the monolith that would be nearest the ocean, behind the barrier wall, would be to increase the cement content there probably -- right now we had done tests at 10 percent, we may go ahead and move it up to 25 percent in order to ensure that we had a nice stable -- from a geotechnical point of view, stable environment at that point, so that we would not -- if a catastrophic storm surge were to occur, or something, our monolith would remain intact.

DR. LAPIERRE: Is there a significant price increase in moving from a 10 percent to say a 20 or 25 percent cement content in the monolith?

MR. SHOSKY: It's a pretty easy rule of thumb. Right now, just to use round numbers, the cost of a tonne of dry cement in Sydney is approximately $200 Canadian a metric tonne. So if you go from 10 percent by weight to 25 percent by weight, it's a simple calculation as to how much you would have. So to keep the math simple again, at 10 percent it would cost say $20 for our additive, and if it went to 25 percent, it would go up to approximately $50 for your additive. And then it's just a function of multiplying that by the number of yards you'd need to treat. So -- because the mixing price typically would stay about the same.

DR. LAPIERRE: Okay. As you increase the strength of the cement, if the strength of the cement was increased, and also as the monolith cures, does it release gases to the surrounding atmosphere, and would these gases increase if you had a higher compressive strength within the monolith?

MR. SHOSKY: That's a very good question.

When -- you have to look at what causes gases to be created, and assuming that it's from some sort of biological degradation or something like that, when we add the cement in there, and we get a slight reaction, we're taking away those mechanisms that are going to cause that material to break down and create

gases.

So, in my opinion, once the stabilization is complete, I would not expect to see gases generated like you would in a landfill, municipal landfill situation where methane gas has a tendency to come up and get captured in collection systems.

If -- during the detailed design phase, that is something that probably should be looked at to verify that, but right now my personal opinion is is that -- that probably extra gas control mechanisms would not need to be in place there.

DR. LAPIERRE: In the monolith, once it's in place, did I understand correctly that you would have drainage holes that would go from the bottom of the monolith to the top to release water pressure at the bottom? And if you had that, would that be an area where gas could be -- could the gas under pressure, I imagine, in the water table under the monolith, could gas dissipate into that water that's going to -- if I understand correctly, and you can correct me if I'm not right, I see these silos going through the monolith coming up and connecting to your drainage system. And then, if gas was -- did build up underneath, could it flow through that water up to the top and into the drainage system?

MR. SHOSKY: Yes. The short answer would be is if gas were to be generated, it's going to go its path of least resistance, which would be those collection drains. And, as a result of that, those drains would, in a sense, act as a passive gas -- could potentially act as a passive gas collection system.

For example, if during the course of operations we find out that there's some of those areas collect water, some don't, there may be some gas that may collect in -- could potentially collect in those other drain lines.

DR. LAPIERRE: And I guess another question is, could you -- if the organic content is high, and it's a question -- I guess we heard some discussion on the problems associated with a high organic carbon content in the sludge that you're treating. However, the cement folks who were here the other night, seemed to indicate that it was a challenge, but a challenge that could be addressed.

I guess the question is could you use geopolymers in the mix to give strength to the matrix, is that a possibility?

MR. SHOSKY: The trick with that is to ensure that you get a thorough mixing that occurs first, and so that the end product that you would have would be

a little bit drier and possibly not as -- as a result of that, not so highly impacted with organics, because of adding the cement. In that case, yes, then you could add the polymers if you decided to do it.

One of the -- it might be worthwhile discussing, for a moment, why we went with the testing additives that we did when we first looked at this, and it's also probably worth mentioning that while we did some testing, it wasn't the end all of all the testing that would need to be done in the detailed design work.

The purpose of the Stabilization Technical Memorandum was pretty much to try and get an idea where the various additives could be used and why we were going to use them.

We purposely did not look at anything other than general commodity type of stabilization agents when we did our testing.

We did not go with any proprietary mixes as far as special mixes from a particular vendor, because we felt it was more important, at this point, to see whether or not a commodity such as cement, fly ash or quick lime, which are easily obtainable additive agents, could be effectively used on this material.

The next step would be either during the bidding process for the work and also during the detailed

design phase, to allow -- a competitiveness on the technology process would be to go ahead and allow some of these other specialty mixes to be tested.

DR. LAPIERRE: Okay. I guess in the -- if I understand from your discussion, the decision to move to a 14 or 17 psi is based on a technical decision, and not a cost decision.

MR. SHOSKY: That is correct. The cost increase to go to a higher psi is not that great. So, you know, if you came back and said "I'd like you to test results at greater than 50 psi instead of 21" the cost is -- it might be 1 or 2 percent of the cement cost, which is not a -- it's not a large cost in the bigger scheme of the project.

DR. LAPIERRE: And if you were not going to remove the PCBs and you were looking at total stabilization and solidification, would you consider increasing the strength of the monolith to ensure a greater reliability of stability through your solidification?

MR. SHOSKY: Technically, I wouldn't need to, but what would be more important to me, under that scenario, would be to have a bit clearer vision on what the end use would be, as far as that would go.

As far as stabilizing the PCBs, I've

successfully stabilized PCBs and left them in place in Alaska at less than 10 percent cement, and would feel very comfortable -- that's a very extreme environment compared to here, and I would feel very, very comfortable at 10 percent with the materials we have here which will yield 21 -- you know, the 12 to 19 psi we've been talking about.

DR. LAPIERRE: Okay. If I can move to the cap. I guess we'd like for you to confirm the reasons for the cap, so we understand. And then I have a question on the cap.

The cap is going to be on the surface, it's going to have a layer of clay, and I guess the question I would have is more to the layer of clay. Would the layer of clay, being close to the top, be subjected to rehydration and drying out during the summertime, and thus possibly cracking and would that be a possibility?

MR. SHOSKY: The short answer is yes. The freeze, the thaw, these would be items that would need to be looked at in the detailed design stage.

Typically, if you were to increase the clay thickness, you would still lose probably a bit of the clay that was on top from freeze and thaw effects, so you could still have a thin clay layer, but it should

have a nice soil cover over it to prevent freezing and thawing.

And the first question you had, as to why we need the cap, the cap serves the major purpose of enabling the monolith to stay away from being weathered from the natural environment, and the fact that we're using clay, a clay liner, just helps to reinforce the fact that there'll be less water infiltration into it.

I have one design that I did in Indiana that we used more of a grassy material, and the one that I had submitted as our case example was actually a permeable cap. The one in Taunton, Massachusetts, that I gave you the case example of, was actually a permeable cap that we had that was less than -- it was like 10 to the minus 5 cms per second, which is an order of magnitude or so less than what we're proposing here, and the reason that we did that was again because the ultimate land use there was sporting fields, soccer fields, and they also wanted some landscaping around the sides of the site that was more conducive for soils that had a better -- had a higher permeability.

In that case, too, we evaluated the evapotranspiration rates off the plants, the grass, that helps with the infiltration, because the key is is to not have water infiltrate into the lower levels, but also be

able to have that protective cover there. So, all those factors went into play on that particular cap design.

DR. LAPIERRE: Would it be feasible to include a higher level of overburden over the cap and, I guess, give you a -- it should enhance the ability of the soil to support either buildings or whatever use you might put to it?

It seems that your presentation this afternoon -- you showed some slides on areas that were very heavily urbanized and more likely had a good tax base and they can move forward to develop these areas.

I guess one has to relate the end project back to the local area, and if you look at the techniques that you brought forward, I don't know how much that would increase the cost of building per square metre compared to going to an area where you just had to, you know, bulldoze the area out. You have some surrounding areas. I was looking at your malls out in the area, there's lot of land there and people could go there versus building on site.

And I guess the question relates to, could you increase it by increasing the overburden? And wouldn't that make the land maybe more accessible for future development?

MR. SHOSKY: Absolutely. In fact, I'd

probably encourage it, because when I've gone to other places, particularly when you're at the end of the land use period or the beginning of when you're installing your park or recreation area, you know, you want a little bit of topographic relief for those extra bushes and vegetation and various other things that -- impressions that you want to leave people with when they get through visiting your new recreation area.

DR. LAPIERRE: I guess the next question is -- and that's my final one for now also -- the idea is if you were going to increase that soil overburden by say another metre or two, would it be a significant cost increase?

MR. SHOSKY: No.

DR. LAPIERRE: It seems to me it might be an enhancement for land use in the future versus the minimal top.

MR. SHOSKY: It's -- that single component is not significant compared to the other aspects of the project.

DR. LAPIERRE: Okay. Thank you, Madam Chair.

MR. POTTER: If I might just add a little bit on the capping and future site use, just to give you a bit of an update with the ---

As I mentioned before, we do have a committee with the Cape Breton Regional Municipality looking at future site use for what they're referring to as the port-to-port corridor, from the harbour port to the airport, of which we would be a component of that.

We've just agreed recently to provide funding -- co-funding of a study to take a look at the potential for the future use of that whole corridor, including our property.

So, that's -- the terms of reference has just been prepared, we've contributed funding, they're seeking some other funding from other sources, and I expect that study will be underway within a month or two and a couple months down the road we'll have a better handle on what potential there might be for eventual use down there.

So, that will help guide us as we move in, again, to the detail design stage. If we know in advance what the intended use is, we can start looking at if there's a need for additional covers, increasing the compressive strength of the material, you know, it will certainly help to at least eliminate some of the unknowns we have right now.

DR. LAPIERRE: And you anticipate that this study might be advanced enough to integrate the

planning into your final design plan?

MR. POTTER: That's correct, yes.

THE CHAIRPERSON: Well, just a comment on that or an observation. It's -- that sounds like a -- somewhat different from where we started out on sort of day one or day two of the hearings.

I'm not critical of that, that sounds good to me but -- so it does sound like -- I think your original statements were pretty cautious with respect to your -- where the Agency's responsibility for this project ended and where future use began.

But now just to clarify what you just told Dr. LaPierre, it sounds like you are interested in trying to adapt design of the remediation to future uses as they become more evident. Is that right?

MR. POTTER: That's correct. We're not leading this initiative, we are assisting in the funding and we're a participant on this committee. It's being led through -- primarily through the Municipality and the port, the Master Port Development Committee it's referred to as.

But, you know, we have a design that we understand suits our needs. We do have -- for purposes of, you know, the environmental containment of the site, the MOA does allow some flexibility to accommodate future

uses.

It's probably in the best interest of the community if we can understand what the community may wish to have there in the future, that we can better tailor our closure plans and containment plans to accommodate some potential uses.

THE CHAIRPERSON: That's great. I'd like to just ask a couple of questions to clarify. In your presentation, Mr. Shosky, I think I heard you refer to something called leachate lines which -- is that -- did you use that terminology or was I mishearing you?

MR. SHOSKY: I probably misspoke. It was the monitoring systems inside the monolith that Dr. LaPierre was referring to.

THE CHAIRPERSON: Okay. Well, let me just ask a question and then maybe that was -- my question is simply answered by an error when you were speaking.

Because in your response, in the Agency's response to IR-61, the Agency stated that the overall trench design is intended to provide release of groundwater pressure from under the cap by promoting entry of groundwater from the till and bedrock units below the stabilized sediments.

So, that was the -- and, I mean, I think that's perfectly consistent with everything you've been

saying to us, but it just seemed this afternoon that you seemed to be indicating that the trenching system may, in fact, not be collecting groundwater.

You sort of made some references to, "Well, if there is anything there," and you've made the reference to leachate lines, which sounded much more like a leachate collection system for a landfill or something.

So -- well, perhaps you could just clarify.

MR. SHOSKY: Well, first of all, it was a slip of the lip for the terminology. I did also say, though, that if water does come up we have reason to believe that that'll be the case and we were conservative in our approach.

But we, during the detail design phase, would really want to look at that in a lot more detail, because in hearing discussions on these collection systems we want to make sure that they're really necessary to the extent that we have them in there right now and that's going to require a bit more investigation during the detail design phase to figure out the exact spacing and number of them.

THE CHAIRPERSON: So, these are -- they are -- you are partly seeing them as possible collection -- leachate collection systems rather than ---

MR. SHOSKY: No, ma'am. It's the -- they would be for the groundwater control, as we stated in the response in our IR. Sorry for that misunderstanding.

THE CHAIRPERSON: Now, the other -- about costing with respect to these -- the groundwater control measures, in your response to our very first Information Request, IR-1, you advised the Panel that the remediation cost for the Tar Ponds was expected to be $160.5 million and at that time it was our understanding -- and then you provided subsequent information on the trenching system which seemed to be a fairly sophisticated addition to the project.

So, I guess the question is, is that estimate that we were provided in IR-1 -- does that still hold good? Did that include the cost of the -- of this groundwater trenching system?

MR. SHOSKY: Yes, it does. It still holds true.

THE CHAIRPERSON: Okay. Thank you.

MR. CHARLES: Mr. Shosky, the topsoil layer in the Tar Ponds and Coke Ovens seems to be different -- I think I've got this right -- a 10-centimetre topsoil later in the Tar Ponds Site and 20 centimetres in the Coke Ovens. Is that right?

MR. SHOSKY: Yes, Dr. Charles.

MR. CHARLES: Why the difference?

MR. SHOSKY: The largest reason that there is a difference there was simply when we started to do our grading, look at the grading situation there, it varied a lot more on the Tar Ponds Site than it did on the Coke Ovens Site.

And I'll also say that those would be the minimum thicknesses that we'd be looking at. There would be some changes across the site as it was being built because of gradient issues across -- you know, gradient issues across the site as we graded it.

MR. CHARLES: In your presentation this afternoon you seemed to suggest that there might be some reason for putting more topsoil or more top fill, whatever you want to call it, in some locations on the Coke Ovens, I think, particularly.

So, that's a possibility, is it?

MR. SHOSKY: That's correct.

MR. CHARLES: Okay.

MR. SHOSKY: And what brought on a lot of those questions, I think, was earlier in the Panel discussions there was a lot of questions about the vegetation that was being placed and things like that and there are some areas where, just because of the way it has to be finally graded, there will be in some cases

several metres of additional fill there.

MR. CHARLES: Right. You may not be a tree expert, but I'm going back to your drawing of the trees with the roots that you were not too happy with but I understood what they were.

In normal properties tree roots tend to give problems for underground pipes and drainage and the rest of it. How do they react to a cap such as we've got here where you've got different layers but eventually you come down to a plastic cover?

If it ever got -- if the roots -- and I know that people would be careful about the kind of trees they planted so you wouldn't get trees that go vertically down a long way and would rather get flatter roots. But supposing it got down to that plastic membrane, will a membrane like that, you know, fend off tree roots, do you know?

MR. SHOSKY: The 40 mil HTP would. It's about half as thick as like irrigation pipe for a sprinkler system.

MR. CHARLES: And that's what you'd be using?

MR. SHOSKY: Yes.

MR. CHARLES: Okay.

MR. SHOSKY: The root system itself would

typically hit that layer, and if you go out to the mountains and look and see where different trees might be growing on top of a rock or something like that, you can see that the root system hits that hard rock and starts spreading out.

MR. CHARLES: Yeah.

MR. SHOSKY: That's typically what should happen.

MR. CHARLES: Okay. So, you're a tree expert, too?

MR. SHOSKY: I landscaped for a number of years, Dr. Charles. I know what the skinny end of a shovel looks like.

MR. CHARLES: So, you've had experience in hydrology?

MR. SHOSKY: Yes, sir.

MR. CHARLES: How about volcanoes, are you ---

MR. SHOSKY: No.

MR. CHARLES: Have you got any experience in ---

MR. SHOSKY: No volcano experience.

MR. CHARLES: No volcanoes, okay. I'll let that one go.

What about subsidence with stabilization,

any problems with that, potential I mean?

MR. SHOSKY: There's always a potential for some subsidence. We haven't seen it as much in the monoliths as you would in a municipal landfill situation because the monoliths can be placed in layers themselves and, with diligence, not have any void space in them, where with a garbage pile typically you'll see a lot more subsidence problems.

MR. CHARLES: Right. Now, I know we've talked about leachate and I just want to establish this in my own mind at least.

You're convinced that with regard to the kind of stuff we're dealing with in the Tar Ponds, particularly the organic matter and so on, a high content of organic matter, that the leaching problems that you have before you treated that material would be greater than afterwards? In other words, the stabilization and solidification is going to decrease any leaching problems that you'd otherwise have?

MR. SHOSKY: That's correct.

MR. CHARLES: And you're happy with that on the basis of your professional experience?

MR. SHOSKY: Yes.

MR. CHARLES: You're pretty confident?

MR. SHOSKY: Very confident. It's been --

I've done it a number of times in a number of different locations and I'm very confident with that.

MR. CHARLES: Okay. I have another question here. I noticed when I've been looking through some of the Superfund sites that a lot of those sites were -- where solidification and stabilization was done were -- it was done in an ex-situ kind of situation rather than in-situ.

Is there any particular reason for that? Is it cost or the conditions they encountered or ---

MR. SHOSKY: It would depend on each special case. For example, I'd say probably 70 percent of the stabilization I do is in-situ because of local conditions that only allow one type of mixing method.

Pug mills, ex-situ processes, I've done a number of stabilization processes using them, including a radioactive site in downtown Denver. I don't like that particular technique. It's not my preferred method of doing it because there's an awful lot of potential for more dust to be generated and for odours to be released.

MR. CHARLES: And I noticed in the slides that you presented -- or maybe it was the cement people, I can't recall now, but on the sites that were done in the US they seemed to take a lot of precautions to prevent dust and odours and that sort of stuff, you know,

escaping.

And I just wondered -- I can't recall exactly what mitigating procedures we've used on this site, but I don't recall them being quite as extensive. But I take it that doing in-situ stabilization here, would you be using the same sort of extensive precautions that you'd see in some of the Superfund sites?

MR. SHOSKY: Probably more, actually. One of the things that's interesting about stabilization ex-situ versus in-situ, when you take and remove material out of the ground you've got a point at that point where you're going to be generating odours. That's a point that has to be controlled.

You put it in a truck, you have to worry about how the truck is going to transport it over to the ex-situ piece of equipment. That process generates odours. You take it out of the truck, you put it in the pug mill, that process generates odours. So, you've got five or six different spots where you'll generate some substantial -- potentially some substantial odours.

Some of the people I've seen doing that will spend an awful lot of extra time, money and effort in controlling a lot of additional emissions that they don't need to because of the fact that they're picking it up and moving it so many times.

Doing the work in-situ properly, in a cautious manner, typically you have less dust generation and less odour generation because it's all controlled at the source.

You can stop the process at any point in time, you can spray foam on it, you can put deodorizers on it. There are a lot of things that can be done to eliminate odours at the time when the mixing occurs.

MR. CHARLES: As I understand it, the tests that were done in 2002, the bench technology testing stuff on stabilization and solidification, they were done ex-situ, I take it, right?

MR. SHOSKY: Yes.

MR. CHARLES: And I guess you don't see any difference in looking at the results of those tests and applying them to an in-situ situation?

MR. SHOSKY: No, and I'll tell you why -- is that when you need to do these tests, what you try and do is you try and mimic the way that the job would be executed in the field, and often it's through just very diligent mixing of the materials together either by hand or by using small pieces of equipment.

MR. CHARLES: Now, the material that we've got here in the Tar Ponds, I guess you'd agree, is fairly unique, not completely unique but it's fairly unique

because of its composition and so on.

MR. SHOSKY: That's correct.

MR. CHARLES: And you've tried to provide us with situations, comparable situations that you're familiar with, where the same kind of material or something similar has been used on a solidification and stabilization basis.

On the examples that you've taken -- you've used that are deemed to be similar, how similar in your mind are they? Have you found anything that's exactly the same as we've got or something that's, you know, 80 percent similar?

MR. SHOSKY: I think the Taunton case that I gave you is probably 80 percent similar except for it's a very -- it's a much smaller site. It had tidal issues, the salt water intrusion that Dr. LaPierre had talked about, a pervious cap, an ultimate end use that would be probably similar to what you would have here with a sporting field.

The concentrations of benzene actually were higher, the tar content was higher and some of the materials that I was looking at that we ended up stabilizing there, I think we ended up using a higher concentration of cement.

So, they were the most similar to the site

as a whole, including the capping and everything.

MR. CHARLES: Now, at some point will you have to take some actual stuff from the Tar Ponds and use your additives and, you know, put together your mix and see how it works? In other words, will you have to do sort of a small test pilot project before you get going?

MR. SHOSKY: On a field implementable scale, that's what we would typically do to verify that the mixes were right. But as Dr. LaPierre said, it's possible to change the concentrations of the recipe depending on where we're at.

Once we get a comfortable feeling with how much the organic content is, perhaps the soil properties change, there may be something that may cause us to add a little bit more or a little bit less to it.

There's been some discussions about pH control. There are ways to control the pH using simple systems like baking soda and things like that to put in some buffering capacity if that were desired.

I think, you know, as we found out more about it we would be able to come up with more detailed -- you know, better mixes over time for sure.

MR. CHARLES: Okay. And this is my last question. We've seen some figures about efficiency rates in relation to incinerators. Could you give me any kind

of an estimate of what you consider the efficiency rate of stabilization and solidification today?

MR. SHOSKY: Efficiency in what respect? When you say "efficiency" to me, I think production rates.

MR. CHARLES: Efficiency in terms of success, and I know that means, well, how long, over what period of time and so on, but sort of just a feel for the -- how good is it?

MR. SHOSKY: I'm going to give you probably a little bit longer answer than you want, and I've done that before.

MR. CHARLES: I'm used to that. Go ahead.

MR. SHOSKY: But there's a couple of ways to look at that. You can look at one -- one aspect is contracting efficiency, how easy can you take something out to market, get local contractors to bid on that project and things like that. Stabilization is much easier to work with contractually than incineration is.

The other items that are important is you can have a more reliable day-to-day, day-in and day-out production rate, so you're more predictable about when your project would be finished, there's less -- the simpler the process is, the less chance for breakdown and malfunctions.

Weather delays or operator error, those kind of things are much simpler using the stabilization process than incineration.

MR. CHARLES: What about the final product, how good it works, how well it works?

MR. SHOSKY: Each case needs to be looked at individually, but depending on what the end land use and the control measures that you've taken in place, I believe personally that they're equivalent technologies in effectiveness on environmental remediation.

Now, you won't necessarily -- you won't destroy PCBs using stabilization but you'll lock them up and bind them up and isolate them from the environment, so that that would be a difference between them, but the effectiveness, in my opinion, in the overall environmental context would put them as equals in my mind.

MR. CHARLES: So, in terms of doing the job it's supposed to do, which is to contain any toxics in a stable matrix so that they don't go wandering around anywhere, and in terms of maintaining its form and its shape and its properties, you would rate -- and I guess we could say for a period of at least -- what will we say? -- 40 years, would you say that it would -- or you would give it a rating of say what, 90 percent?

MR. SHOSKY: Yeah, I would give it a high rating. And I think it's important here that when -- that I also make a statement here that neither Earth Tech nor AMEC nor Jacques Whitford, the people that are part of this assessment EIS process -- none of us are specific technology vendors. We try and find the best technology for the particular site, which is why you go through this narrowing down process.

We're unanimous in believing that stabilization is a good technology and appropriate for this application.

MR. CHARLES: Thank you.

DR. LAPIERRE: I would like to ask a question -- a few questions relating to leachate, the toxicity of the leachate.

I guess we can conclude that the contaminants in the Tar Ponds sediments are bound to an organic material and fairly stable, I guess. We've heard that from many sources. We know that the bottom ash that you're going to bring in from the incinerator won't have any material, and I guess the primary source -- control source for the Tar Ponds remediation will be containment.

However, the Battery Point is not designed to be impermeable and there is groundwater contact that's going to come in at that area.

I guess we also know that the Earth Tech, I think, solidification technical memo reports that leachate analysis on the North and South Pond and the Tar Ponds were typically below USEPA and NSDEL concentrations.

Is there an overall pass/fail criterion associated with the USEPA and NSDEL test protocol? And I guess, did all of the Tar Ponds samples pass the criterion?

MR. SHOSKY: When we did our mixing for that technical memorandum that we put together, we tried a variety of different techniques and additives. So, the short answer is that not all of the additive mixes that we tested passed.

We did have success with the cement in the Tar Ponds. For the Tar Cell material, we had some difficulty with that one but we learned a lot from the testing procedures there, that if we were to look at stabilization for that material I would feel comfortable that we would be able to come up with a recipe that could also stabilize that material as well.

But generally speaking what you have to put in any stabilization program is a rigorous quality assurance/quality control program to ensure that all your testing parameters are meeting the required leachability

tests and things like that.

DR. LAPIERRE: So, you could -- if you were to change the -- if the process of containment was to change where you would have a greater concentration of PCBs, for example, would you come back to reassess those -- that leachability test?

MR. SHOSKY: The leachability test right now -- I think, in discussions with the Tar Ponds we've agreed that the leachability testing would be done once every 500 cubic metres of material that would be treated.

So, there would be testing that would go along the entire project. It's not -- you would not just -- it does not just end with the bench scale testing. It would be done through the entire time.

DR. LAPIERRE: And could you give me some indication how long the monolith would take to cure from top to bottom? I imagine the top would cure faster than the bottom?

MR. SHOSKY: I would only be speculating at this point. I could tell you that after probably -- with this mix ratio, after about three days -- no, I'm sorry, seven days -- you would be able to drive a piece of heavy equipment on it, but I don't know how long it would take to set in the very centre. I would need to look into that.

DR. LAPIERRE: Okay. Thank you.

THE CHAIRPERSON: I'd just like to explore a couple of things. One is the lands on the Coke Ovens Site that are currently owned by CBDC and -- now, let's see, have I got this straight. My understanding is that CBDC has remediated those sites. Is that right?

MR. POTTER: The Mullins Bank property on the Coke Ovens, that's correct. They did an assessment and completed the remediation on the property. I forget the date, but eight or 10 years ago.

THE CHAIRPERSON: Remediated it to what stated standard? And can you relate whatever they've stated as being their remediation criteria to your own SSTLs that you've used for the rest of the site?

MR. POTTER: I'll ask Mr. Kaiser to address that in relation to our SSTLs.

MR. KAISER: Thank you, Frank. The criteria that was set at that time is not clear in my mind at this point. I don't believe they used the same approach.

They didn't go out and do a risk assessment and -- after doing a site assessment and then determine what the SSTL would be. I think they probably picked the criteria, although I'm just guessing at this point. I really don't remember the details of it.

THE CHAIRPERSON: What remediation did they do? What remediation techniques did they use?

MR. KAISER: As I recall, they removed all of the usable coal that was left on the site, they, I believe, applied some topsoil in some areas and basically re-vegetated the area.

THE CHAIRPERSON: So, is it a capped site?

MR. KAISER: No, I don't believe it would be considered a capped site at this point in time. Basically, it's a -- I think, an approach that's used in areas where coal handling is sort of a traditional activity and they basically just clean up the coal and try to return the site to, you know, kind of a coal-free state.

MR. POTTER: Perhaps we can follow up with an undertaking. We'll go back. It's one of the references in the EIS. We did review some of the information that DEVCO had provided to us and we can go back and check on -- I'm pretty sure that reference would be in there.

If not, we know we can get a copy of it just to clarify that, because we're sort of trying to go from memory and it's, like I say, 10 or perhaps 12 years ago.

But essentially what work they did was

that they completely removed all the coal, removed the overburden that would have been potentially impacted by the coal operations there, and to go any further would be, you know, I guess, just guessing from bad memory right now. So, we'll clarify that with some follow-up.

THE CHAIRPERSON: Just so that I can be clear for the record then, your undertaking is to do what, sorry?

MR. POTTER: We'll go back to the work that DEVCO had undertaken on that property, we'll take a look if they did do an assessment on that property, if they have information in there of what their cleanup criteria were and what they were cleaning to, we will try to identify that.

THE CHAIRPERSON: So, the undertaking is to provide us with as much information as you can find on the DEVCO remediation process and criteria and targets and results? [u]

MR. POTTER: Correct.

THE CHAIRPERSON: Okay. Thank you. In terms of work that you've done in that area, when I went back to the RAER Report to get a kind of overview of the conditions on the Coke Ovens Site, it -- no, sorry, I'm in the wrong place, though actually that is relevant, too. I couldn't really get from that a very clear

impression of what there was or was not in the Mullins Bank area.

Now, you provided us with some information in IR -- I had it open and then I shut it -- IR-53? Let's see if that's -- I may have the wrong number. No, perhaps I don't. I think it was IR-53, and we did get a site plan showing the various locations of boreholes and sampling and so on. Yes?

MR. POTTER: Sorry, just looking at the IR now.

THE CHAIRPERSON: It's the first figure in that response. Anyway, obviously the density of sampling and so on is less -- it's less dense in that area.

But can you just kind of provide me with a summary of how that area matches up to your SSTLs. Obviously -- well, I shouldn't say that but, I mean, we've assumed all along that your decision to pick certain areas to cap on the Coke Ovens Site relates to the fact that surface soils are not meeting SSTL requirements in those areas, so we assume that the Mullins Bank area does meet them. Is that right? I mean, are there any residual concerns in that area?

Actually, you know what, I'd like to move -- so I'm not keeping you guessing, I'd like to move on to what I'm trying to get a handle on.

It is the whole question of, you know, what restrictions there are to development in an area, in any part of this site, and we've been talking about that. But, I mean, are there any restrictions whatsoever in this area?

MR. KAISER: There would be, I guess, restrictions at this time, yes. We know that there is still some coal -- some residual coal left on the Mullins Bank area.

We, for our purposes, have not determined that there are any requirements to do further cleanup due to the fact that the area is zoned industrial and we don't see any future site use designated at this point in time.

THE CHAIRPERSON: Well, we -- it seems to me we start to get a bit circular in this, though, with saying that this area is zoned institutional, therefore we don't -- presumably the area was zoned institutional because -- industrial, I'm sorry, because it was an industrial area.

And we've asked questions about this before in terms of why there was no -- you never did develop a residential SSTL, and I gather the indication was that the Agency felt it had been given no mandate to look at such a potential use in this area. Is that what

you stated?

MR. POTTER: I think -- we were just checking on undertakings here and I think we're crossing into a couple.

There was an undertaking to go back and check the records of when it was determined that there would not be -- or the Municipality indicated a lack of interest, if you wish, in residential use over there, and we did provide that undertaking yesterday or the day before.

THE CHAIRPERSON: I do remember that. I do remember that, yes.

MR. POTTER: Yeah. So, that was the guiding document -- or guidance we received back in 2000, I believe, at a JAG meeting. So that that was sort of the general direction that we headed in, that the land was being -- for the purposes early on the criteria we were considering was parkland and industrial use, not residential.

That was the general guidance that we were proceeding with back then before we got into, you know, detailed SSTLs.

We do have -- and just turned in -- Undertaking 7 today which does speak to SSTLs and the CCME and maybe -- we just did a hand-in on that one. So,

perhaps if it's helpful, we could have some discussion on the undertaking or come back to it after you've had a chance to review it.

THE CHAIRPERSON: I guess I'm still interested no matter -- you know, some years back there did not appear to be any interest in other uses in this area. I still think it would be interesting at least to know whether, in fact, this area in its current state could support other uses other than industrial.

MR. POTTER: Excuse me, we're just trying to find Undertaking 7 just so we are clear on that.

MR. KAISER: The current project doesn't consider that there would be a need to address the Mullins Bank based on the fact that there wouldn't be any designated development at this point in time.

If we were to look at other options or other uses, we would have to do some work in that area, probably some capping, and it would be somewhat driven by what that future use would be.

THE CHAIRPERSON: Yes, I guess the -- my interest or my question is, you know, how far off that site is.

I mean, that area of the site is obviously in a better condition than the other parts of the Coke Ovens Site, but I have no sense whether with a relatively

small amount of work that area might be rendered actually clean, not capped, you know, contaminants gone and suitable for pretty well unrestricted uses.

I think the relevance -- there is relevance when we think of the presentation testimony we heard yesterday with respect to psychosocial effects and how a community responds to a remediated area.

So, I'm just curious to know whether there's potential for some part of the Coke Ovens Site to be completely remediated, that is completely cleaned up with no restrictions on future use. So, I don't know whether this area is -- has the potential to reach that situation or not.

MR. KAISER: Yes, of course, there is the potential for it to reach, you know, whatever state of future use we would want to go to.

As we've indicated in the past, after doing our site assessment work and then the risk assessment work that was done through the Phase 2/Phase 3 process that we followed, it was deemed that there was no requirement for us to proceed based on what we know the area is zoned for in terms of future use at this time.

If we were to move beyond that, we would consider it to be relatively minor, the amount of work that would be required to, you know, make use of that

area of the site.

THE CHAIRPERSON: Well, I should think CBRM might be interested to know that. That's information that should at least be available for the planning process they're going to enter.

But I'm going to ask Dr. LaPierre, because I know he has a question that relates to this.

DR. LAPIERRE: I guess the question I have is, when you decided to look at the area in the Mullins Bank or the entire Coke Ovens area, did you consider using PDUs and identifying -- breaking the land down into PDUs for -- and that's property development units, and specifying a specific end use and thus preparing a cleanup plan to meet that end use?

It seems that it's just one big cleanup that's about the same level in the entire area.

MR. KAISER: Actually, the approach was in maybe some regards the opposite. The area was assessed based on former use and the area -- all of the Coke Ovens area was divided into five separate areas, again based on what the former use had been, and then the whole process was followed in terms of determining what the current conditions were, what the current risks were and what the possible remedies that could be applied were.

DR. LAPIERRE: At the end when you finish,

will there be five different blocks of land each remedied to a different level or will they all have the same level of remediation?

MR. KAISER: Generally speaking, they will all have the same level of remediation, but again I guess it gets back to the previous discussion we've just been having, that the areas where we will apply a cap will, of course, be free of coal and any other possible residuals as opposed to the Mullins Bank area, in particular, where there would still be some residual materials.

DR. LAPIERRE: But the end result will be all that land will be subjected to the same controls and you will not have any area that is -- like Madam Chair was saying, could be used for a residential area? You have not gone to that level of determining the cleanup of the area?

MR. KAISER: That's correct. Based on the decisions that were made, you know, through discussion with many parties, we will not be going to a level beyond, you know, areas that are zoned industrial at this point.

DR. LAPIERRE: So, the entire area will be left as an industrial site and any future work -- or any future use of that area where you would want to take it beyond that industrial site would then require additional

work to bring it to the level of whatever PDU you may want to proceed with?

MR. KAISER: Basically, that's correct, yes. Again, the areas that we cap, of course, are going to be much farther along. They could be amenable to park use at this point.

DR. LAPIERRE: I understand that. Thank you.

THE CHAIRPERSON: I wonder if it would be possible to throw up the slides that showed your future use concepts. I quite understand that they're concepts, I know that, but ---

MR. KAISER: Plain view?

MR. POTTER: Plan view.

MR. KAISER: Sorry. Excuse me. Would you like the Coke Ovens or Tar Ponds first? It doesn't matter?

THE CHAIRPERSON: Tar Ponds. Yeah, that's fine, either one or maybe both of them.

I was just wondering if you could tell us a little bit more about -- you know, I don't want to delve into, you know, why you put down "Farmers Market." That's fine, that's conceptual, that's no problem, it would be a nice idea. But, obviously, there's been some sort of thought process going on in terms of why you

would have things in certain areas.

And I just wondered whether you could tell me a little bit more about that and to what extent they're driven by the actual capacity of the different parts of that site. Or I can understand that some of it may be driven by access and bringing it closer to other uses and so on.

But I'm mostly interested in, you know, is there something different about the harbour end here that -- in terms of its capacity to have uses there compared to the other end?

MR. SHOSKY: Right now the only reason that that particular area looks the way it does right now is because it's the access back there. There's not a major road or anything that currently exists that would take us back into that area.

Even on the one that's industrial -- the industrial one -- put on the next one, okay? Even on the industrial one we still have this same usage down here.

Now, if there were maybe some activities that possibly were coordinated with adjacent property owners on this site where we had access by road back into this area, it might be -- it might look different.

We could put a road, I guess, on the interface here to actually drive -- at the property line

between the SYSCO Site and the Tar Ponds, but that's pretty much what drove it at this point.

THE CHAIRPERSON: So, there's no -- in the case of the Tar Ponds Site there's no particular -- there's no difference between any of the areas with respect to what they will take?

MR. SHOSKY: That's correct.

THE CHAIRPERSON: Just while we're looking at it, it's a different question but would it be possible to make -- I don't know -- what is the waterway going to be called ultimately?

MR. SHOSKY: Are you suggesting we name it after you or Potter's Pond or ---

THE CHAIRPERSON: Well, possibly neither of those, but I just didn't know what to -- how to refer to it, because I don't think you could call it Muggah's Creek because it won't be a creek but ---

MR. SHOSKY: Well, it should definitely have a name that's more attractive than what it's currently referred to in engineering terms, "the open channel."

THE CHAIRPERSON: Yeah. Anyway, I guess what I'm asking is, is there -- well, I know the answer to this, the answer is always yes if you've got the money.

But is there a potential to make more of a feature of that water area than is currently shown in terms of making it a broader waterway, providing for any kind of pools within that?

MR. POTTER: I think we employed the same approach we looked at on the Coke Ovens Brook realignment. We had somebody help us, one of our consultants come in -- came in and did a design on that in terms of both vegetation, you know, pools, meandering, the nature of it.

I think one of the cross-sections showed a typical engineering cross-section of -- and I knew somebody wouldn't like that drawing, but we expect that we're going to take -- you know, that's for conceptual purposes.

We're going to have to take a look at, you know, at the detail design stage, employing the same approaches that we used on the Coke Ovens Brook realignment, trying to get some pools, some meanderingness and looking at vegetation where we possibly can with that flow.

THE CHAIRPERSON: If you could put up the Coke Ovens. So, a slightly different situation from the Tar Ponds. We do have different capacity here.

I just wonder if you would like to reflect

at all on the thinking process between what went where on these concepts.

MR. SHOSKY: Well, we've had a lot of discussion over the last week on different topics. I'm sure that there's some of us in here that would have a golf course as a personal favourite but then there's other that don't.

I think one thing that I've noticed -- and I've been in a lot of different areas -- is the lack of nice green space with trail riding or hiking trails in it, and then I've also in driving around town noticed that, in my opinion anyway, there's probably a shortage of outdoor field activities, like whether it's a baseball diamond or a soccer field or something like that.

I understand there's not much football played here, so it would have to be some sort of, you know, soccer field or something of that nature, and that's kind of what that was around.

Now, that gives us a lot of interest in this particular part up here, because it is a lot of acreage there and there's a lot of potential for several different things that could happen in that area. I just didn't have enough time to think it through as to what my best suggestion would be. That's why we have a lot of variety up there.

THE CHAIRPERSON: Yes, my question was not so much, you know, why you showed a tennis court or whatever but it's the fact that you've located them in a certain way, and I just wanted to know whether there's -- in terms of, again, the capacity just for certain kinds of future uses, if there's -- if you have any reflections in the different parts of the site because there is -- the site will differ in terms of some of it will be capped and some won't.

Did you deliberately put those sports facilities ---

MR. SHOSKY: No.

THE CHAIRPERSON: Oh? That's simple. And then when it comes to the next one with the industrial uses?

MR. SHOSKY: Yeah, there was a little bit more thought that went into that one, and the reason being is because these areas here, which was that big green area that we saw in the last one, you could get by with, you know, putting in the parking lots and whatnot and having some tree breakers between them and putting office buildings there.

THE CHAIRPERSON: So, you mean there's possibly a virtue in having impermeable surfaces in that capped area? Is that what you meant?

MR. SHOSKY: Yes, but not that much better than a properly managed green space.

MR. POTTER: I think the key point is that we have -- as you can see from the various conceptual drawings, we have a lot of flexibility in what that future use could be, and depending on, you know, the ultimate decisions made the MOA does allow us to, you know, take the design to the point of where it would accommodate that future use.

And if we start understanding what the wishes are of the community through the Municipality and the Master Port Development Committee, we can certainly start taking the design as we progress to a point where, you know, it's to everybody's benefit.

And, you know, we're not restricted, I guess that's the key thing, that there's some limitation -- very limited limitations in terms of what we can do getting into the -- deeper into the site, but in terms of the surface activities there's quite a bit of potential.

DR. LAPIERRE: I was pleased to hear that and I was pleased to hear that, you know, the locations of these balls fields and soccer -- the way you have them aren't the way that they must stay on the land, because I was thinking if you're looking at future use and you're looking at industrials and looking at the possibility of

integrating the downtown activities ---

I have a limited experience in some of these, but if you could cluster four or five ball fields together, cluster five or six soccer fields together with a centralized facility, then you can generate tournaments on a provincial or regional scale and those fit into this type of areas.

And I guess my question is as to how you -- if you had gone about developing property development units, one of those could have been, you know, a sport type complex where you could integrate those activities.

And I guess my question was -- but you did answer before -- do you have the capability of designing a larger scale and grouping all of your soccer fields within a functional unit? Because it becomes much more functional if you've got five or six fields or five or six ball fields that can work together.

MR. POTTER: Certainly. You know, we took two groups up to Moncton to the CN shops[?] property, and that's a classic example of that, and, you know, it's amazing to see what they did with that property, and they did, you know, take advantage of the grouping PDU there and that's, you know, certainly something that can be looked at.

And we have a limitation within the MOU

how far we can take the soccer field. Maybe we can get it right to the point where we don't put the grass down, but we can -- you know, certainly the intent will be to try to take this as far as we can within the confines of the MOU for making the site suitable for those future uses.

MR. CHARLES: I've just got a question about the roads. You've got roads on the Tar Ponds, and it's, I guess, the Tar Ponds we're more concerned about.

But would there be any weight restrictions on the vehicles that -- I'm concerned about the 17 psi and what -- I take it since you've got roads there you're confident that you can drive vehicles on them?

MR. SHOSKY: The short answer is yes, and also with the roads there would have to be some additional bedding material and things like that that would need to be put in place to make sure that they were able of meeting at least, you know, regular passenger size type of vehicles.

MR. CHARLES: And on the Tar Ponds you've got all those drainage channels underneath there as well, so I guess you'd have to be careful on how you constructed the roads not to interfere with those, would you? Or would you be down to that depth?

MR. SHOSKY: That's correct. And it's one

of the reasons why you don't see much more than just bike paths down in that area at this point. I mean, if we were going to upgrade it, we would probably want to increase the unconfined compressive strength of the material at least in the upper layers.

MR. CHARLES: Okay. Thank you.

THE CHAIRPERSON: Well, thank you very much. I think, if you can bear with me in patience, folks, that we should now take a 10-minute break so we can all stand up, and then when we come back I will invite questions from other participants.

Thank you very much. So, it is -- we'll return at 5 to 5:00.

--- RECESS: 4:44 P.M.

--- RESUME AT 4:56 P.M.

THE CHAIRPERSON: We will resume. Congratulations to you stalwart people who are still here. I really admire your strength and perseverance. And really appreciate it too. So I'm now going to open the floor for questioning. And I would like to start off or basically focus the questions on the capping and the future use and of course, we did get -- very much into the solidification and stabilization issue so I guess that's fair game as well. I'd like to focus the questions on there and just, depending on how the time goes because I don't think we'll -- we'll try not to go too late from now on but then I know you might be -- there might -- you might be sitting there with a burning question -- or sorry, no pun intended -- with respect to the monitoring that was shown at the end of the agency's presentation so I -- if you -- if somebody does have a question about that I'll try and fit it in at the end but please can we focus on the capping and future use to begin with. So could I just get a sense of who has questions please. Okay, I'm going to go from the back to the front this time. I have -- so Ms. Kane. I have Ms. Kane, Dr. Ignasiak, Ms. MacLellan, Mr. Lelandais and Mr. Marman. That's it so -- are you cold?

MS. KANE: Frozen.

THE CHAIRPERSON: Yes, we are too.

MS. KANE: Yeah, it's really cold.

SYDNEY TAR PONDS AGENCY

--- QUESTIONED BY MS. MARLENE KANE

MS. KANE: Good afternoon. I'm sorry I missed the presentation but I still have some questions. Just before we broke -- went for a break, I mean, Mr. Shosky you said to increase weight restrictions on the Tar Ponds for possible future site uses that you could increase the unconfined compressive strength in the upper layers but you wouldn't have to do it in the lower layers. How would that help -- hold more weight if only the upper layers were done but the lower layers had a much lower compressive strength?

MR. SHOSKY: Often in a lot of road construction projects you'll have a certain thickness for that. Heavier weight matters more than it does at depth and it's just a function of making it competent in that upper layer.

MS. KANE: It won't somehow force -- because the strength in the lower layers will be weaker than in the upper layers, it won't somehow put too much pressure on those lower layers?

MR. SHOSKY: I don't think so.

MS. KANE: And you wouldn't be able to really know that, though, could you? Would you be able to test what was happening in the treated sediments below as far as damage?

MR. SHOSKY: Well, first of all, the geotechnical properties of the material would be defined and then just like as if they were building a regular road, they go through their normal process of design which would include verifying what the strengths would need to be in order to support the load that you were going to put on it.

MS. KANE: Okay, I guess ---

MR. SHOSKY: It's engineerable, I guess, is -- if that's a word.

MS. KANE: Okay. You've -- I'm wondering how will you control the leachate in the groundwater from the slag piles which are on the east side of the North Pond from infiltrating the SS material and the cap? Should be [inaudible], sorry.

MR. SHOSKY: Can you bear with me a minute while I put up a -- just a plan view so we can talk from that.

MS. KANE: Okay, thank you.

MR. SHOSKY: That might be better. Ms. Kane, let me just make sure I understand the area you're

talking about. This here?

MS. KANE: Yes. That's where the slag piles are from ---

MR. SHOSKY: Right. From SYSCO. Right now the current thought is that that area would be again -- the material that's coming onto the tar cell site or would be put -- placed next to the tar cell site would ---

MS. KANE: Tar Ponds. Tar Ponds.

MR. SHOSKY: Ponds, sorry. Tar Ponds site, would be of a higher -- a lower -- would have a permeability of about ten to minus 4, ten to minus 5. So as the water and whatever else comes from SYSCO comes to this area, it would hit this monolith that would be at ten to the minus 6 or 7 and by gravity would come down in theory in this direction. We're in the process of looking at those design details right now and I don't have a good answer for you to answer your question at this point.

Right, the only other addition that I'll make to that would be that we do expect to see some groundwater welling that might be intercepted by some of the t-drain system that we have here which would show up in pipes that would be closed and monitored along this area. But this is an area that we're looking at a lot

right now because of putting in a more impermeable barrier there with the monolith, is basically how we've decided to try and deal with it at this point.

MS. KANE: So you don't really have a plan in place for that yet?

MR. SHOSKY: It's not fully developed yet.

MS. KANE: But you've determined that the cap will not be sedaquious[?] on top of the Tar Ponds so ---

MR. SHOSKY: That's correct.

MS. KANE: --- you'll have to ensure that no ---

MR. SHOSKY: Well, we're talking about groundwater here right?

MS. KANE: --- groundwater or -- um-hmm.

MR. SHOSKY: And we're talking about the groundwater coming and hitting a rock and we're -- we are not sure exactly at this point what will happen at that interface. That's something that we're looking at.

MS. KANE: I'm sorry, which rock?

MR. SHOSKY: The monolith.

MS. KANE: It's going to be like a rock?

MR. SHOSKY: Yes. It'll have a permeability of ten to minus 6 or ten to minus 7. And just to clarify something with you as well, is that we do

have some collection -- a shallow collection drain here, potentially for some interception there but we're still looking at those design details in that particular area.

MS. KANE: And just one more question on that. You're -- so far you're talking about the groundwater hitting the monolith or the rock that you were referring to it as ---

MR. SHOSKY: Yes.

MS. KANE: --- but what about the cap that's on top?

MR. SHOSKY: It's -- it wouldn't affect the cap. In my opinion I don't think it would affect the cap. We have, in this particular area here, in order to make everything line up at this stage as we understand it, our cap should be above the groundwater in this area.

MS. KANE: Okay, that's going to -- but you still have a buildup of water behind it and you're going to have to ---

MR. SHOSKY: That's correct.

MS. KANE: All right. Thank you. Do I have more time? I've got quite a few questions. I'm sorry. I feel I'm -- it was stated that the leachate criteria in the Tar Ponds sediment is already being met before treatment with SS and that stabilization had little or not effect on the leachable levels of volatile

organics, PAHs and PCBs. There was an increase, however in the leachable levels of some metals following stabilization. Confirmation of these results would depend on additional testing of samples with higher levels of leachable volatile organics, PAHs, PCBs and metals. And I understand that testing was conducted and I'm wondering what were the results of those additional tests.

MR. SHOSKY: All the testing data that has been done so far, while there was a lot of tests done historically on the leachability of the sediments, the most recent testing is that that was submitted in one of the IRs and it was the tech memo on stabilization. There hasn't -- to my knowledge there hasn't been any testing since then.

MS. KANE: Okay and so did it confirm that these results -- just one moment please.

THE CHAIRPERSON: Ms. Kane, can you just say what you were quoting from?

MS. KANE: It was from my submission.

THE CHAIRPERSON: Your comment.

MS. KANE: Yeah, it was my submission on question No. 21 -- between 20 and 21 that the other question was, it says the long term immobility of some organic compounds has not yet been proven in stabilized

material. Is that still the case? Or was that proven in that last round of testing?

MR. SHOSKY: Well, we believe that it was shown that that would be the case in the last round of testing but as I explained to the Panel, there would be quality assurance, quality control testing going on throughout the stabilization process in order to verify that those assumptions that were part of the original design hold throughout the entire process and if there was a case where things weren't -- where the parameters weren't met, then they would be retreated again until they were.

MS. KANE: Okay. The South Pond and correct me if I'm wrong, the South Pond has been submerged on the most part with fresh water and the North Pond has been submerged with salt water and fresh water when the coffer dam is opened, how will that affect how the sediments behaved following the treatment with SS?

MR. SHOSKY: In my opinion it shouldn't make a difference.

MS. KANE: It won't make a difference at all?

MS. SHOSKY: I don't believe so.

MS. KANE: Okay. I noticed in -- and I can't remember, I'm sorry, what study it was -- it was

again in the last -- and I brought it up at the last round of questioning, it was your last sampling in Table 7 where it was showing the compressive strength after seven days and then after 14 days? I'm wondering first of all, would there not be a greater percentage of organics present in the South Pond than in the North Pond because of tidal flushing in the North Pond?

MR. SHOSKY: I would only be speculating to answer that question because I have not gone through all of the data and done a comparison of analysis of that nature.

MS. KANE: So you're not sure if there's more organics in the South Pond or in the North Pond?

MR. SHOSKY: Not categorically speaking.

MS. KANE: Because SS is more successful on inorganic material than organic material and I'm just wondering if the level of organics between the North and South Pond, if they're different, if it would have a different effect during the SS process?

MR. SHOSKY: I don't believe it would and I think it's been discussed now on several occasions that stabilization works really well for inorganic material but it's -- as demonstrated by the projects I presented in and into the Panel in presentation of other materials, it's suitable for organic material as well.

MS. KANE: Is it not possibly the reason -- I think I heard you mention that one of your test results showed a psi of 100. And was that a sample from the North Pond, close to the mouth of the North Pond?

MR. SHOSKY: I believe so.

MS. KANE: Could that not be a reason why there is a higher compressive strength in that area because there's fewer organics?

MR. SHOSKY: It typically may make a difference but not that much of a difference.

MS. KANE: Okay and I just have one more question. Thank you. I'm just wondering if the issue of the methane gas or other gasses being generated has been dealt with?

MR. SHOSKY: Has the method of methane gas been dealt with?

MS. KANE: And other gasses in there?

MR. SHOSKY: And other gasses.

MS. KANE: Um-hmm.

MR. SHOSKY: As we discussed earlier, I don't see a process in place right now that would generate that methane gas or the other gasses in quantities that would affect the capping system or any of the control systems that are out there. The conditions just don't exist.

MS. KANE: But during the tech demo there were complications experienced within drum samples of the Tar Pond sludge when methane gas were generated from the anaerobic decomposition of sewage organics.

MR. SHOSKY: Well, I can't speak to the tech demo that was done several years ago. I can say that drums of ---

MS. KANE: That was prior to ---

MR. SHOSKY: Pardon?

MS. KANE: That was prior to any treatment being conducted from what I understand. It was after the samples were put in barrels to be shipped off, that's when the methane gas was a problem.

MR. SHOSKY: But what we're doing with that material through the stabilization process is that you're removing the conditions that would cause that to generate. For example, I don't know how much oxygen there was in the drums that were there or under what heat conditions they were under. There's a number of things that can cause a drum to bulge. Or you know, spill over.

MR. POTTER: Just if I could add to that, that was a problem, Ms. Kane, that -- it's just samples collected in a drum, placed in the building and they were left to sit for awhile and there wasn't a problem with methane. They -- you know, the organics were breaking

down, there was a gas problem with the drums. The problem was addressed and solved. But as Mr. Shosky said the, you know, material hadn't been treated. It was just sitting in a drum in a warm building and that's not the situation we're dealing with now with the SS and -- being applied to the sediment where it's being treated.

MS. KANE: But it's because the -- there was oxygen within the drums, is that right, that created the methane gas.

MR. SHOSKY: You need oxygen in order to have that process begin, in my opinion and in our situation with the monolith, we're not going to have a situation where there's going to be a lot of oxygen exchange in there. There'll be some oxygen exchange when we do our mixing process but hydraulic conductivity will be so low at the time it's placed that it's not conducive to a lot of air flow movement.

MS. KANE: So you don't perceive a problem at all with the generation of methane or other gasses?

MR. SHOSKY: No, I don't.

MS. KANE: Okay, thank you very much.

THE CHAIRPERSON: Thank you, Ms. Kane. Dr. Ignasiak. I didn't put any time limit on Ms. Kane because I wasn't awake but I will -- I was awake, I'm sorry. I was listening I assure you. Oh, dear. But I

will perhaps say five minutes from now on. So Dr. Ignasiak.

SYDNEY TAR PONDS AGENCY

--- QUESTIONED BY DR. LES IGNASIAK

DR. LES IGNASIAK: Madam Chair, first I understand that we'll be still able to ask some questions, the Proponent some questions on Tuesday between 1:00 and 4:00. Is that correct?

THE CHAIRPERSON: Yes, that's right. The Panel have questions and then there'll be time for other participants, yes.

DR. LES IGNASIAK: I think there is -- in order to answer the questions or explain the importance of the question that Marlene Kane asked I would need some time so I would leave it till Tuesday and I will embark rather on easy questions now. I would like to ask Mr. Shosky whether I understood correctly that during his experience in Australia the first slide that he described was in Brisbane NGP site and my question is, I understood when he was describing the site that the monolith was transferred off the site, is that correct? Or am I wrong?

MR. SHOSKY: No the monolith was built off site, that's correct.

DR. LES IGNASIAK: The monolith was built off site. So it was not really in situ? The second ---

MR. SHOSKY: I'm not sure what that comment meant. I didn't suggest it was similar. All I suggested was that the fact was is that it was a redevelopment of a site and the material was hauled off site and put -- mixed with cement and put in an offsite land fill.

DR. LES IGNASIAK: Sorry, perhaps I was confused. The second site, Melbourne, Australia and I believe that here I got it straight. Materials were removed off site. The materials which were stabilized were removed off site?

MR. SHOSKY: Yes, and I had indicated that.

DR. LES IGNASIAK: I see. So it was not a stabilization on site?

MR. SHOSKY: The material was stabilized, preliminarily on site and hauled off site and placed in an off site location.

DR. LES IGNASIAK: Okay, but what would be the intention for instance, here, in stabilizing the material inside and then removing it outside?

MR. SHOSKY: Both of these developments were multi-billion dollar developments and the

environmental cleanup whether it was an on site solution or an off site solution were less than one percent of the entire project and when you do the economics from a developer's point of view, they decided it was more cost-efficient for them to remove the material to an off site location.

DR. LES IGNASIAK: But you do not intend to do that here, right?

MR. SHOSKY: There's no reason to.

DR. LES IGNASIAK: I see. And about potential reasons, I understood today that really there might be a situation that different percentage of cement will be applied in different spots of the Tar Ponds. And I presume that that would be related to organics content, wouldn't it?

MR. SHOSKY: Not necessarily. There's a number of factors, particle size, moisture content. There's a lot of different reasons why we would change the cement mix concentrations and frankly it would be more towards the metal concentrations in mercury than it would be organics.

DR. LES IGNASIAK: I agree that there are some perhaps other factors but wouldn't it be worthwhile to really say at this point that as far as the samples that were tested by Earth Technology, the fact is that

there was about 50 percent less total petroleum hydrocarbons in the north sample as compared with the south sample? Almost exactly 50 percent, I remember I calculated it.

MR. SHOSKY: I'm not sure what numbers you're referencing.

DR. LES IGNASIAK: I'm referencing to your report, Earth Technology report. You took one sample from the South Pond and one from North Pond. These are the samples that Marlene referred to and one of those samples taken from the North Pond showed that the strength was actually achieving 100 psi while the other one was significantly below 20. And also what Marlene didn't mention is that surprisingly if you do cure cement you should have strong -- higher strength with time. Those samples behave this way that after seven days of curing the strength was higher than after 14 days of curing. Could you explain that?

MR. SHOSKY: Yeah, there's a lot of variation when you collect samples and have them tested. It's not uncommon to have some variation between the test results like that.

DR. LES IGNASIAK: But if that's really the case, if you had a problem with the sample which was 20 litre sample, as far as I remember, how would you then

proceed with huge sample which is the Tar Ponds.

MR. SHOSKY: Because we have a lot of experience and I, personally, have a lot of experience with a lot of stabilization projects and all of that experience tells me that we've got a good solution here for those particular materials. And with the proper quality assurance, quality control program, monitoring of the additives, doing the testing that we're supposed to do, that we would be able to successfully execute the project that is on the table right now.

DR. LES IGNASIAK: Last question, Madam Chair, about experience. Would you agree that probably in the North American continent the best experience has the United States Department of Energy that really is using the solidification process quite often.

MR. SHOSKY: No and the reason being is because they're stabilizing primarily different materials than most other people are doing in the environmental business right now. They have a very specific way that they look at waste streams and things of that nature. In taking subsets out of totally different conditions unappropriate for this discussion.

DR. LES IGNASIAK: Can I follow up with a question?

THE CHAIRPERSON: Yes, please do.

DR. LES IGNASIAK: So are you saying that essentially in -- on this -- in the North American continent the organic wasters are more often stabilized than inorganic wasters which are metalloids and metals?

MR. SHOSKY: I am saying that there are a number of sites that have organic contamination that are being stabilized in the United States. I don't know how the volumes compare. There's an awful lot of mine tailing sites that are now being stabilized that are metal, concentrated sites that are huge volumes. A lot larger than what we're doing here. But you know, there are a large number of sites that are being stabilized that have high organic concentrations in them.

DR. LES IGNASIAK: I have a good memory and I do remember that between 1882 and 2002, based on EPA reports which was published in 2004 and those people from Portland Cement Association referred specifically to this report, for the whole period up to 2002 in situ stabilization on Superfunds here was with three million thirty-six thousand tonnes. Out of that they emphasized close to two million tonnes was stabilized within one project.

I must tell you that was the U.S. [--] project. Anyway, so the remaining amount is slightly more than one million divided over 20 years which is

what, about one hundred thousand. No it's not, fifty thousand, I'm sorry. So that really indicates there is not such a large experience with in situ stabilization of organics and I must tell you, this is my final conclusion, that the United States Department of Energy policy now is -- and I'm quoting:

> "Waste lands loaded with organics are supposed to be thermally treated to destroy the organic species before the waste is solidified in the cement base matrix."

Thank you very much.

MR. SHOSKY: One clarification, Madam Chair. I think it's important to note that quoting EPA documents or studies don't reflect what happens in the commercial world outside of the government and those figures are not included in the ones that he's referencing.

THE CHAIRPERSON: Yes, thank you.

DR. LES IGNASIAK: Madam, I will have my own presentation and I will specifically refer to private projects.

THE CHAIRPERSON: Thank you, Dr. Ignasiak. Did the quotation you just stated, do we have that, a reference to that? Sorry you'll have to come back to the

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DR. LES IGNASIAK: The quotation that I referred to is in my undertaking.

THE CHAIRPERSON: Okay, thank you very much. Yes, Ms. MacLellan. So five minutes.

SYDNEY TAR PONDS AGENCY

--- QUESTIONED BY CAPE BRETON SAVE OUR HEALTH (MS. MARY-RUTH MACLELLAN)

MS. MACLELLAN: I probably won't take that long because right now while I'm freezing outside my blood is boiling inside. And I'm doing the very best I can to maintain my temper right now. I have first, if I may, a point of information, I have some clarification that I would like and I have a couple of questions. And I have a couple of undertakings. And then I have maybe one and a half questions regarding the monolith for today because I'm going to hold all my questions until I simmer down some. By Tuesday that should be -- the point of information is, the picture on one of our reports that we submitted first is a picture of the Mullins Coal Bank. I'll leave you to decide whether you feel there's been any remediation there.

I have since then submitted water sampling tests from the Mullins Coal Bank. I will leave the Panel

to their discretion to see them and think about them. The point of clarification is, when we come back on Tuesday how many questions will be allowed -- we be allowed to ask and how long?

THE CHAIRPERSON: I can't answer that I'm afraid, not until we get -- I'm afraid there's always Panel questions need to take priority because we really need to ask them but we'll try and provide as much time as we can. That's the best answer I can give you.

MS. MACLELLAN: So it would be wise to have your questions in typewritten form so that if you don't get them all asked I can turn them in.

THE CHAIRPERSON: Sounds like a very good idea, yes.

MS. MACLELLAN: I'm just saying that so everybody else might want to do that too. The undertakings. They -- at the beginning you asked about them bringing samples of the solidification or their mixes. Has that been done?

THE CHAIRPERSON: The Panel subsequently withdrew the request, so no.

MS. MACLELLAN: The other undertaking was regarding the financial things that I asked before, about the breakdown on the costs of the money spent to date and the operating costs of Tar Ponds Agency.

THE CHAIRPERSON: I'll ask first for the agency if you can -- if you know which undertaking that is. Otherwise I'll take that under advisement and we'll get back to you. Do you know when you made it, the request?

MS. MACLELLAN: Probably the first or second day.

THE CHAIRPERSON: Right.

MR. POTTER: There's two, I think on costing. One is costing in general and there was one about the doubling of costs. There was two undertakings on that so we should have that number back very shortly, hopefully perhaps tomorrow. So ---

MS. MACLELLAN: So both of them will be done before Tuesday so that we can look at them before we do our questions?

MR. POTTER: I'll commit that it'll definitely be in before Tuesday. If we can tomorrow, we'll have it done then.

MS. MACLELLAN: Monday's fine. The question regarding the monolith and 100 year storms. I am still questioning the depth of the monolith and the heighth of the seawall. So far I haven't been given an exact depth or heighth. I'm questioning he depth because of the frost here. Sometimes it can go from three to

four feet, depending on the weather and the winter we have. The other one regarding the 100 year storm, I believe if I'm correct, you said you based your calculations on storm surges and the fact that we may only get a bad storm once every 100 years. I beg to differ that the storms are changing.

A 1700 century wall just got uncovered this year in Louisburg but having said that it was 89 years ago, either this month or next month that we did have a tidal wave. That leaves us 11 years. Have you considered what might happen if we have another tidal wave. Have you considered the fact that we have a fault line here that runs all the way from Cape Breton to Newfoundland. Indeed, that tidal wave we had in 1927 not only impacted Cape Breton very heavily along the coast but it also impacted Newfoundland, the areas around Fortune and Grand Bank and Marystown, all those areas were heavily impacted and many people died. So what would that do to your monolith? Thank you.

THE CHAIRPERSON: You've asked a question, though. What would you like to know about the height of the seawall?

MS. MACLELLAN: I want to know how high it is and what kind of permeability will it have.

THE CHAIRPERSON: On the depth question

MR. SHOSKY: I'm sorry. I don't have the heighth, the details on the seawall at this point. I'd have to go back to some drawings that we have. That's a pretty simple thing for us to do. On the 100 year storm event, what that means is that at any given time there's a one in -- one percent chance that that storm event would happen. That's the frequency that they may come about. And it's a typical design standard that's used for roads, highways, bridges, parking lots, all that kind of infrastructure jobs.

MS. MACLELLAN: I will leave it at that, then, Madam Chair. I thank you very much for your patience but let me just say mine is running out because I'm tired of hearing we don't have, we don't know, we're unsure and I believe it to be so. Thank you.

THE CHAIRPERSON: Well, I believe in this instance, to be fair, they have the information but not right at their fingertips. Now are you going to -- that's an undertaking. You'll provide that information or provide the reference where we can find it? [u]

MR. POTTER: Yes, we'll -- it's the tender that's just been out for the barrier and we'll get the engineering drawing and get the heighth and get back with an undertaking on it.

THE CHAIRPERSON: Thank you. I think Mr. Lelandais, you're next please.

SYDNEY TAR PONDS AGENCY

--- QUESTIONED BY MR. HENRY LELANDAIS

MR. LELANDAIS: Thank you, Madam Chair. Most of my -- or my main question was already asked by Marlene and it was pretty well answered about the runoff from the high slag dump at the steel plant. The only question I have left Mr. Shosky would be the actual mixing of the aggregate in the cement and so on will that be done in the sense of, to use a comparison, a rototiller type of mixing or a vertical -- I think you know what I'm getting at but ---

MR. SHOSKY: That's a good question. Right now the intention is to use traditional civil excavating equipment to do that work.

MR. LELANDAIS: Okay, yes.

MR. SHOSKY: And that's what the plan is on the table right now.

MR. LELANDAIS: And the full depth, you're going down to till down to the ---

MR. SHOSKY: Yes.

MR. LELANDAIS: Thank you very much. Thank you, Ma'am.

THE CHAIRPERSON: Thank you. I have Mr. Marman.

SYDNEY TAR PONDS AGENCY

--- QUESTIONED BY MR. RON MARMAN

MR. MARMAN: Thank you, Madam Chair. Just in the discussion on stabilization and solidification there was a comparison of the project with and without incineration. And I had Mr. Shosky say -- heard Mr. Shosky say that without incineration the project would cost less, have no unforseen shutdowns, be able to be better scheduled and would not be weather dependent. And I might add more acceptable to this community.

And the end result is relatively the same from what I understand, that whether we take all the PCBs out or we don't the end result is that we're going to have a fairly stable and safe site. It's my understanding that Federal regulations state PCBs over 50 parts per million have to be destroyed but they said that you have to do this where it is practical.

It does not have to be destroyed if it is not practical. And you have to have -- come up with an alternative -- if you're not going to destroy them the alternative has to be -- an alternative has to be used that would cause no concern for human health. In this

case would we feel that, you know, we would fall under these guidelines where there was an alternative that would be perfectly safe and where we would not have to destroy the PCBs that are over 50 parts per million.

MR. POTTER: Madam Chair, I'll address that one and I think if Mr. Marman was here at the time that Environment Canada was presenting they did address that. They spoke about their departmental policies, the toxic substances policy and the fact that within their policies that we would be allowed to leave because we've identified that already in the project in one of the IRs that we're leaving, even with the excavation of the material going to the incinerator, we're leaving 11 percent of the PCBs above 50 ppm. That was fully within the policy that the Environment Canada has for that material. So I guess answering your question that it's not breaking any of the department's policies or regulations or legislation to manage the PCBs in place.

MR. MARMAN: Thank you. And like you say, it just seems a bit remarkable to me that, you know, we're going to take some of the PCBs out and go through all the trouble of moving them to another location and try to incinerate them. And I shouldn't say try, I mean we will incinerate them, I'm sure if we did but go through all the problems that would be associated with

that and still be left with PCBs in the ground that basically are what we took out. So thank you. Thank you, Madam Chair.

THE CHAIRPERSON: Thank you Mr. Marman. Is there anybody who is not a registered participant who had a question? Seeing no one I want to thank you all for your patience and your participation. Thank you to the agency for your presentation and for answering questions again. We will resume tomorrow, on Friday. We will begin at 12:45 and we have a number of presentations tomorrow afternoon so thank you very much and we'll see you tomorrow.

(ADJOURNED TO FRIDAY, MAY 12, AT 12:45 P.M.)

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Lorrie Boylen, CCR

Sandy Adam, CCR

Ruth Bigio, CCR

Gwen Smith-Dockrill, CCR

Friday, May 12, 2006 at Halifax, Nova Scotia