

Mining Association of Canada  
Towards Sustainable Mining

23<sup>rd</sup> Meeting of the  
**Community of Interest Advisory Panel**  
**SUMMARY REPORT**

March 4, 2015  
Toronto, ON

**Towards Sustainable Mining**  
Vers le développement minier durable



Prepared by:

**Stratos Inc.**  
1404-1 Nicholas Street  
Ottawa, Ontario  
K1N 7B7  
tel: 613 241 1001  
fax: 613 241 4758  
[www.stratos-sts.com](http://www.stratos-sts.com)



# TABLE OF CONTENTS

- EXECUTIVE SUMMARY ..... 1
- 1 INTRODUCTION..... 3
- 2 SUMMARY OF ACTION ITEMS ..... 3
- 3 DELEGATION FROM FINLAND’S NETWORK FOR SUSTAINABLE MINING ..... 4
- 4 WELCOME AND INTRODUCTIONS ..... 5
- 5 TAILINGS MANAGEMENT: UPDATE FROM MOUNT POLLEY ..... 6
- 6 EXPERT PANEL ON TAILINGS MANAGEMENT ..... 9
- 7 COI PERSPECTIVES ON TRANSPARENCY AND ACCOUNTABILITY OF TAILINGS ..... 12
- 8 PEARLS OF WISDOM: PACKAGING AND SHARING OUR LESSONS LEARNED ..... 14
- 9 TSM UPDATE AND PANEL BUSINESS ..... 15
- 10 REFLECTIONS FROM FINNISH OBSERVERS ..... 16
- 11 CLOSING AND MEETING EVALUATION ..... 17
- APPENDIX A: LIST OF PARTICIPANTS..... 19



100% Post-consumer content  
Acid-free

## Executive Summary

---

Established in 2004, the Community of Interest Advisory Panel (COI Panel) is an independent multi-stakeholder group that monitors the Mining Association of Canada's Towards Sustainable Mining (TSM) initiative's progress and serves as an external source of knowledge and experience. This executive summary provides a brief account of the meeting held on March 5<sup>th</sup>, 2014 in Toronto, Ontario.

At the fall 2014 meeting, the COI Panel agreed to have a substantive discussion on the breach of the tailings storage facility that occurred at Imperial Metals' Mount Polley mine on August 4, 2014 and MAC's approach to tailings management. More specifically, the Panel wanted to explore the theme of transparency and accountability of tailings management and regulatory regimes and potentially develop a specific output from the discussion that could be shared more broadly. With this in mind, the agenda included an update from Imperial Metals on the Mount Polley incident, an expert panel to provide context on tailings management, and a Panel group discussion on the information communities need to have confidence in the management and regulatory regimes around tailings across the lifecycle of the mine.

This was the first Panel meeting where the Panel chose to cover only one topic, and discuss a company-specific event. This meeting also differed from the norm as a large delegation from Finland's Network for Sustainable Mining was invited to observe the meeting and offer reflections at the end.

### *Update on Mount Polley Tailings Storage Facility Breach*

Dr. C.D. Lyn Anglin, Chief Scientific Officer at Imperial Metals Corporation provided an update on the Mount Polley tailings dam breach, including the progress of their response program and community outreach. The Panel's discussions centred on the response efforts of the crisis by the company, the regulators and the media as well as lessons learned from this event to bring trust and confidence back to the industry and ensure that there are strong processes in place to prevent this kind of failure.

### *Expert Panel on Tailings Management*

The dialogue between the expert panel and the COI Panel focused on the governance and risk management of tailings, including the adequacy of risk assessments, Board oversight and accountability, and the need for increased disclosure to inform the financial sector. The Panel was interested in the relationship between the company and communities (including Aboriginal communities) on issues related to tailings and wondered whether or not communities of interest could play a role in sharing their opinions on risk tolerance and if the Panel itself could play a role in helping to implement the recommendations set forth in the Mount Polley report by the Independent Expert Review Panel.

### *COI Perspectives on Transparency and Accountability of Tailings*

All participants (including Panel members, observers and experts) divided into three groups to discuss: What do communities of interest need to know to have confidence in the management and regulatory regimes around tailings? The three groups were based on the life phases of tailings facilities, including planning and construction, operations and closure. The groups were also tasked with thinking about how the COI Panel may play a role at each phase. Several suggestions and possible COI Panel action items arose from the table discussions. Looking forward, the Panel recognizes this as a 'moment of change' and agreed to continue the conversation on how to package these outputs through the Annual Panel Statement Working Group.

A key theme throughout the discussions on tailings was around building trust and confidence: between the communities and the company, between expert consultants and the company, between regulators and the community, and so forth. Improving disclosure and dialogue around risks and response plans with communities and other key stakeholders such as the financial industry and media is an important component for building relationships that are based on trust and transparency. Considering the technical nature of tailings, industry needs to find ways to effectively communicate these issues with non-technical audiences.

#### *TSM and Panel Updates*

There were three new Panel members in attendance for this meeting: Theresa Hollet, Luc Zandvliet and Scott Yarrow. The Panel Renewal Working Group will work to fill the vacant seats on the Panel and better streamline the renewal process. Logistics and content for the fall meeting were not decided and will be followed up in the spring.

#### *Reflections and Conclusion*

In general, Panel members appreciate the open dialogue and networking with colleagues and enjoyed having the Finnish observers present throughout the meeting. Diving into one topical subject area was valuable. By building in time to dialogue, members could better understand each other's views and contexts, and it allowed time to reflect on issues that matter. While the Panel was unable to come to agreement on the specific output for the meeting, which was one of the primary goals of the meeting, they agreed to carry on the work and not lose this important window of an opportunity to share their insights with the broader COI.

#### **Summary of Key Outputs/Results from March 2015 COI Panel Meeting**

- ✓ Broader and deeper understanding on tailings management
- ✓ Several ideas and suggestions to be included in an output that will be shared more broadly, with an action to continue this work in a timely manner.
- ✓ The COI Panel itself was a source of inspiration for the creation of the Finnish Network for Sustainable Mining
- ✓ Stronger relationship with the Finnish Network for Sustainable Mining

## 1 Introduction

The Mining Association of Canada's (MAC) Community of Interest (COI) Advisory Panel ("the Panel") met for their 23<sup>rd</sup> meeting on March 4, 2015 in Toronto, Ontario. The Panel, established in 2004, monitors the Towards Sustainable Mining (TSM) initiative's progress and serves as an external source of knowledge and experience.<sup>1</sup> Its mandate is to:

- Help MAC members and communities of interest improve the industry's performance
- Foster dialogue between the industry and its communities of interest
- Help achieve the goals of TSM

This report presents a summary of discussions at the March 2015 Panel meeting. Unless indicated, Panel members' comments are not attributed. While the report captures the discussion and Panel member perspectives. Should there be specific decisions and recommendations proposed by the Panel, the approach and results will be described in this report and any dissenting views will be identified and recorded. Meeting presentations are appended to this report; content contained in meeting presentations is not duplicated in the body of this report.

## 2 Summary of Action Items

Below is a summary of action items arising from the COI Panel meetings. Action items are reported until complete. Action items throughout the report are underlined.

ACTION ITEMS					
#	ITEM	LINK TO REPORT	RESPONSIBLE	TIMELINE	STATUS <small>(as of March 2015)</small>
#1 October - 14	Fill the open PDAC seat on the Panel	3.1	MAC	2015	In progress
#2 October - 14	Discuss absenteeism by MAC Member company representatives with MAC members	11.2	MAC	Before Spring meeting	Complete
#3 October - 14	Deliver a webinar for the Panel on the relationship between TSM and other CSR reporting mechanisms	11.3	MAC	Before Spring meeting	Deferred (with support of the Panel)
#4 October - 14	Invite the Panel to help shape and design the next local COI meeting	11.3	Stratos / MAC	Before Fall meeting	In progress
#5 October - 14	Include time to debrief the PVR webinar presentations after the webinar. Discuss key issues with MAC.	11.3	Stratos / MAC	Before Fall meeting	Not started yet
#7 October - 14	Provide written feedback to MAC on key lessons learned from the site visits across Canada over the last four years	12	Panel	TBC	TBC
#8 October - 14	Decide how to include the provincial mining organizations who have adopted TSM onto the Panel	12	MAC / Stratos / Panel	TBC	TBC
#1 March - 15	Stratos will talk with Members about term-limits in the spring to better understand the Panel's renewal requirements	4.3	Stratos	Spring 2015	In progress
#2 March - 15	Panel Statement Working Group to follow up with discussion on creation of an output and agree with a path forward	7	Annual Panel Statement	Spring 2015	Not started yet

<sup>1</sup> For more information on MAC's COI Panel, visit: <http://www.mining.ca/site/index.php/en/towards-sustainable-mining/community-of-interest-advisory-panel.html>

ACTION ITEMS					
#	ITEM	LINK TO REPORT	RESPONSIBLE	TIMELINE	STATUS (as of March 2015)
#3 March -15	Suggestion to have a webinar on how mining companies raise capital, recognizing that the TSX plays a huge role in Canadian and global mining.	6	MAC	TBC	TBC

### 3 Delegation from Finland's Network for Sustainable Mining

This year, 23 people from Finland's Network for Sustainable Mining joined the COI Panel for the March meeting. The Finnish and Canadian groups met on the afternoon of March 3, 2015 to meet and learn from one another on key elements regarding how to make multi-stakeholder networks/panels successful. The outcomes and discussions of this meeting are included under separate cover.

The Finnish delegation was invited to observe the March COI Panel March meeting and provide their reflections at the end of the day.

#### 3.1 About the Finnish Network for Sustainable Mining

The Finnish Network for Sustainable Mining was established in May 2014 to foster co-operation and dialogue between the mining industry and its stakeholders. It provides a platform for sharing information and experiences, and advocates the joint development and introduction of more responsible practices on the basis of tried-and-tested best practices. The MAC Community of Interest Advisory Panel has been a source of inspiration in the creation of our network.

The network has had a very active start. Within a short period of time, the network has not only created a fruitful dialogue between different parties, but also deployed studies, organized seminars and started hands-on work developing tools for enhancing sustainability in mining in Finland.

The network has workgroups tackling issues regarding environmental and social responsibility, and local activities. Currently the network is developing tools for a voluntary responsibility standard adjusted for Finland, based on the Canadian TSM standard. The network attended PDAC 2015 to look deeper into the TSM standard in action, share experiences with the COI Panel, the Canadian aboriginal and nature conservation community as well as mining companies.

Until July 2015, the network will be hosted and vice-chaired by the Finnish Innovation Fund Sitra, after which its actions will be supported by FinnMin, the Finnish Mining Association. The network is chaired by Mrs Hannele Pokka, who also serves as the Permanent Secretary at the Finnish Ministry of the Environment.

For more information, visit: <https://www.sitra.fi/en/ekologia/responsible-mining>

## 4 Welcome and Introductions

---

### 4.1 Introductions

Michael van Aanhout, the Panel facilitator, and Ben Chalmers, Vice-President of Sustainable Development at MAC welcomed everyone to the March 2015 COI Panel meeting. Chief Earl Klyne was invited to formally welcome the Panel and provide acknowledgement to the traditional territory of the Mississauga. Peter Read was then invited to provide a safety message – a custom that is well ingrained in the mining industry. Peter's message was about recognizing how dangerous and damaging falls can be considering that they account for over 40% of major trauma hospitalizations in Canada.

The Panel Facilitator invited everyone to a roundtable of introductions and provided updates on the composition of the Panel. The following was noted:

- *New Panel members:*
  - Theresa Hollet, Luc Zandvliet, Josée Méthot and Scott Yarrow
- *Outgoing Panel members:*
  - Vic Goodman, Pujjuut Kusugak and Glen Koropchuck
- *Regrets:*
  - Pierre Gratton, Claudine Renauld and Shirley Neault
- *Observers:*
  - Nathalie Tremblay from the Quebec Mining Association, and members from the Finnish Network for Sustainable Mining

A list of all attendees is provided in the Appendix.

### 4.2 Review of Objectives and the Agenda

The Panel facilitator reviewed the objectives of the Panel and the agenda. At the fall 2014 meeting, the COI Panel agreed to have a substantive discussion on the breach of the tailings storage facility that occurred at Imperial Metals Mount Polley mine in August 2014 and MAC's approach to tailings management. More specifically, the Panel wanted to explore the theme of transparency and accountability of tailings and potentially develop a specific output from the discussion that could be shared more broadly.

### 4.3 Panel Renewal Update

The Panel facilitator reminded everyone that there were two vacancies on the Panel for the Economic and Community Development category as Victor Goodman and Pujjuut Kusugak have stepped down. MAC and the Panel will be canvassing the Panel and industry members for nominations to fill these vacancies in the spring.

The Panel Renewal Working Group has also been working to address the challenge of Panel continuity and streamlining the renewal process. The aim is to have a long-term renewal plan with constant, minimal renewal of 10-15% of Panel. Stratos will talk with Members about term-limits in the spring to better understand the Panel's renewal requirements.

Other updates from the working group include: the revised Terms of Reference to reflect changes to the renewal process; the development of an onboarding checklist for new Panel members; the development of a mentorship program; and in the future, possibly aligning the Panel's work with MAC's strategic plan.

#### 4.4 Approval of the Reports

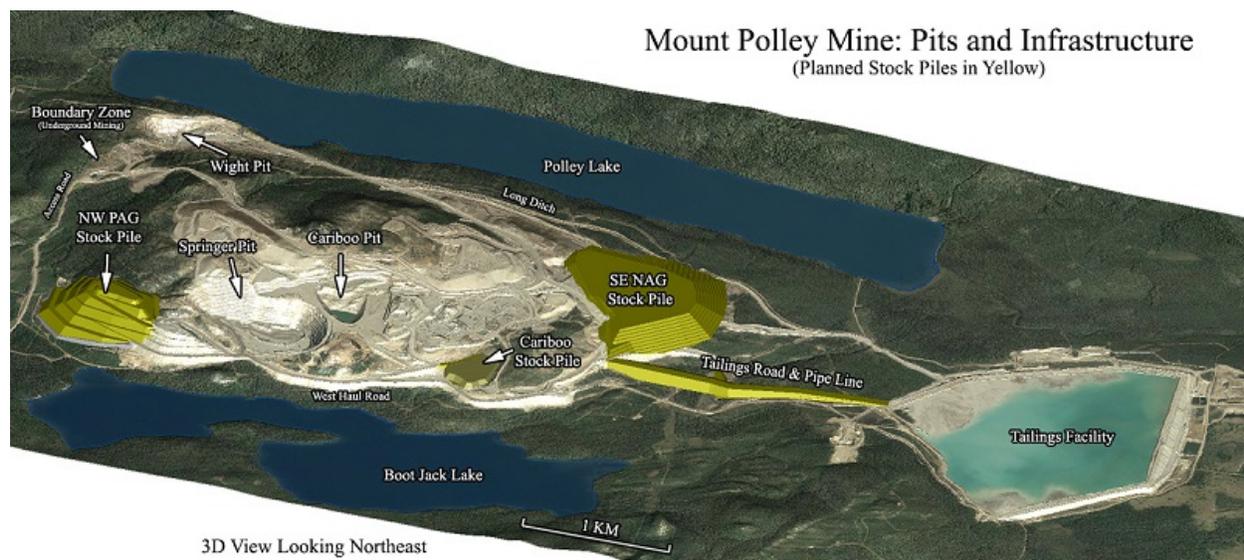
The Panel approved the October 2014 meeting report and post-verification review (PVR) report without additional amendments.

## 5 Tailings Management: Update from Mount Polley

### 5.1 Presentation by Imperial Metals

Dr. C.D. Lyn Anglin, Chief Scientific Officer at Imperial Metals Corporation provided an update on the Mount Polley tailings dam breach, including the progress of their response program and community outreach.

Mount Polley is an open pit copper/gold mine with a developing underground project located in south-central British Columbia. The Mount Polley property covers 18,794 hectares, which consists of seven mining leases totalling 2,007 hectares, and 43 mineral claims encompassing 16,787 hectares.



On August 4, 2014 the tailings dam at the Mount Polley mine was breached. The immediate impact of the breach was the release of 10.6 million m<sup>3</sup> of supernatant (surface) water and 7.6 million m<sup>3</sup> of tailings solids that flowed into Lake Polley, and then down Hazeltine Creek into Quesnel Lake. There were no injuries or loss of life due to this breach.

Imperial Metals has responded to the breach through the following two phases:

- |                                     |   |
|-------------------------------------|---|
| <i>Response and recovery phase:</i> | <ul style="list-style-type: none"> <li>• Securing the tailings</li> <li>• Reducing the water level in Mount Polley</li> </ul> |
|-------------------------------------|---|

- Recovering the wood and breached debris from Lake Quesnel
  - Ongoing monitoring
- Rehabilitation and restoration phase*
- Hazeltine Creek and Polley Lake
  - New bridge installations
  - Grass seedings of tailings and creek
  - Transparency

The cause of the dam failure was described in the report by the Mount Polley Independent Expert Engineering Investigation and Review Panel, released on January 30, 2015. The Review Panel concluded that the Perimeter Embankment of the tailings storage facility (TSF) failed because a glaciolacustrine layer (GLU) lying approximately 8 metres below the base of the dam in the area of the breach was not as strong as had been assumed in the design of the TSF. (See textbox on page 9 for a more detailed description of the cause of the breach from the *Report on Mount Polley Tailings Storage Facility Breach*). The Independent Expert Panel found no evidence of failure due to human intervention, overtopping, or piping and/or cracking resulting in internal erosion. The Panel indicated that the water accumulation within the tailings storage facility was not a cause of failure but contributed to the release of tailings through the breach.

Lyn noted that while there have been many concerns related to the possibility of increased levels of arsenic in the water, results show that the current concentrations are well below the Guidelines for Canadian Drinking Water Quality, noting that there are higher levels of background arsenic found in the surrounding area due to naturally occurring arsenic that is higher than crustal abundance averages.

Community concerns remain around turbidity, copper levels and the impact on fish. Lyn explained how there has been zero percent mortality of fish due to the incidence and copper levels are below CCME aquatic guideline levels. Lyn also noted that drinking water is still being provided by Imperial Metals in the community due to the turbidity in Quesnel Lake.

## 5.2 Panel Q&A

Key themes from the discussion with the Panel include:

- *Government's response to the breach*
  - The B.C. government was involved in immediate and long term monitoring and initiated the Mount Polley Independent Expert Investigation process.
- *Media issues*
  - Many Panel members were 'glued to the media' immediately after the Mount Polley incident. Although Lyn noted that there was a lot of misinformation shared during those early days after the event, Imperial Metals did not have immediate updates on their website, and as one Panel member pointed out, as a result the issue was framed by the media. Imperial ought to have had immediate and accurate information available for the media and stakeholders to give confidence to the public that they were on top of the issue.
- *Fines and abatement*
  - Cease and desist orders and pollution abatement orders are important tools at the disposal of the regulator for responding to a crisis such as this. While Imperial Metals has not yet been fined (as the post-event environmental impact assessment (EIA) report is

- still being prepared), one member noted that fines are important for building trust and confidence with the public to show that justice is served.
- A few Panel members wanted to know whether Imperial could ‘walk away’ from the event, (e.g., Could Imperial Metals let Mount Polley go bankrupt? How much was the environmental bond?) Lyn noted that Imperial Metals has taken the responsibility to make this right; and another Panel member with a background in corporate law noted that the courts can look beyond the corporate structure to enforce the payment of liabilities.
  - It was noted, that aside from fines, these types of major events have an impact on share price and on the company’s social license to operate.
  - *Specific questions related to the breach*
    - Aside from the technical failure, were there other reasons for the breach? Was the reported increase in production a factor? No, the production rate did not increase dramatically.
    - One Panel member wanted to know the level of precipitation since the incident happened and whether or not this had an impact on site remediation. Winter was cold and snowy which made it challenging for the equipment to move through the mud and, looking forward, the amount of precipitation to expect in the spring is unknown.
  - *Community*
    - What does success look like from the community’s perspective? Lyn was not sure if her team at Mount Polley had had that specific conversation on the long-term success of the community engagement process but noted that the community in general wants clean water, unharmed fish and restored habitat, with an underlying understanding that this type of event will never happen again.
  - *What are the lessons learned? What are the pre-conditions for building trust and confidence*
    - One Panel member was curious about the media reports noting that people close to the mine were picking up signals that an event such as this could happen and wondered what type of pre-conditions could be put in place to help build trust and confidence in mining facilities. For instance, should whistleblower protection be encouraged for employees, communities, and government employees?
    - Lyn noted that there is a lot of geotechnical research being done to better understand the design flaw and Ben noted that MAC is doing a lot of work through the MAC Tailings Working Group to learn from this event.
    - It will be important to share the results of the research on clay mineralogy, specifically the GLU, with other mines in similar geographic areas to ensure that they do not encounter the same failure.

The Panel thanked Lyn for sharing the update on Mount Polley. The Panel’s discussions centred on the response efforts of the crisis by the company, the regulators and the media as well as lessons learned from this event to bring trust and confidence back to the industry and ensure that these types of failures never occur again.

**Cause of the Mount Polley Breach**

The breach of the Perimeter Embankment on August 4, 2014 was caused by shear failure of dam foundation materials when the loading imposed by the dam exceeded the capacity of these materials to sustain it. The failure occurred rapidly and without precursors.

Direct evidence of this failure mechanism is provided by an identified shear surface in surviving remnants of the dam core and by deformations consistent with shearing in a weaker glacially-deposited layer of silt and clay about 8–10 metres (m) below the original ground surface. This layer, its properties, and its extent received intense scrutiny during this investigation, and analyses using representative parameters provide indirect evidence that further supports this failure mechanism.

Deposited in a complex geologic environment, the weaker glaciolacustrine layer was localized to the breach area. It went undetected, in part because the subsurface investigations were not tailored to the degree of this complexity. But neither was it ever targeted for investigation because the nature of its strength behaviour was not appreciated.

*Extract from the Report on Mount Polley Tailings Storage Facility Breach:*

<https://www.mountpolleyreviewpanel.ca/final-report>

## 6 Expert Panel on Tailings Management

### 6.1 Expert Panel Presentations

MAC invited three experts on tailings to present their perspectives on tailings management, regulatory regimes and the impacts of Mount Polley on tailings dam design and management. The experts were: Dirk Van Zyl (Panel member on the Mount Polley Independent Expert Engineering Investigation and Review Panel); Andy Small (Director at Large for the Canadian Dam Association) and Edgar Tovilla (Supervisor at the Environmental Approvals Access and Service Integration Branch (EAASIB) within the Ontario Ministry of the Environment and Climate Change). The Expert Panel was also invited to share their views on the impact of climate change on tailings facilities design and management.

*Dirk van Zyl - Independent Expert Engineering Investigation and Review Panel*

Dirk shared information regarding the *Report on Mount Polley Tailings Storage Facility Breach*. He reported on the causes and contributing factors of the failure as well as the Panel's recommendations (<https://www.mountpolleyreviewpanel.ca/sites/default/files/report/ReportonMountPolleyTailingsStorageFacilityBreach.pdf> Page 139):

- 1) To implement best available technology (BAT) using a phased approach
- 2) To improve corporate governance
- 3) To expand corporate design commitments
- 4) To enhance validation of safety and regulation of all phases of a TSF
- 5) To strengthen current regulatory operations
- 6) To improve professional practice
- 7) To improve dam safety guidelines

### *Andy Small – Canadian Dam Association*

The Canadian Dam Association is a not-for-profit organization that supports regulators and dam owners in Canada. Its objectives are to: encourage responsible practices and management throughout the life cycle of dams; continually improve information on, and knowledge of, dams; foster an awareness and understanding of dams and related issues; support the development of skills and expertise in dam disciplines; and provide broad representation of the dam community in Canada.

Andy provided an overview of the regulatory regime in Canada and described the role of the owner, regulator and designer. He described how CDA issued a Mining Dams Bulletin in October 2014 to address gaps between the 2007 CDA Guidelines and requirements of the mining industry, noting issues of importance such as the Dam Safety Engineer of Record; closure; and climate change considerations. Following the Mount Polley Panel Report, CDA formed a task group to review the Panel report and identify where improvements could be made to the CDA guidance. Andy noted that there are several issues to be addressed should the Mount Polley Panel's recommendation for the creation of independent review boards be implemented.

### *Edgar Tovilla - Supervisor and Appointed Director under the EPA Environmental Approvals Access and Service Integration Branch for Ontario's Ministry of Environment and Climate Change*

Edgar described Ontario's regulatory structure for the metal mining sector, how it fits into the larger picture of transparency and accountability, and the participatory approach of approvals. He provided an overview of the Environmental Assessment process, Ontario's Environmental Bill of Rights, and Duty to Consult. He noted that Ministries work together to ensure that there are enough checks and balances in the regulatory system to ensure safe dams are built and operated. There is a balance on how descriptive regulations should be as he cautioned that some can become too rigid for implementation. Edgar closed his presentation by sharing Ontario's Climate Change Discussion, released in 2015, which sets a clear vision and long-term and short-term goals for fighting climate change.

[http://www.downloads.ene.gov.on.ca/envision/env\\_reg/er/documents/2015/012-3452.pdf](http://www.downloads.ene.gov.on.ca/envision/env_reg/er/documents/2015/012-3452.pdf).

## 6.2 Q&A with the Panel

The Panel had the following points to share with the Expert Panel:

- *Governance*
  - From an investor perspective, the whole industry is painted with the same brush after these events, leaving investors to wonder about the risks associated with their investments. How well equipped are Boards' risk committees to deal with issues like this? What types of governance mechanisms can be put in place at the Board level? For instance, could there be a voluntary stakeholder panel that challenges the Board? How diverse is the Board?
  - Who audits the auditors? How do you build trust with the decision makers?
  - Tailings are often discussed at the Board level as part of enterprise risk management process. Executives who are responsible for tailings need to rely on technical experts to ensure that the risk assessments are done accurately. What is the risk tolerance? (e.g., taking into consideration certainty of geology based on drilling, and the factor of safety desired). What other best practices exist from a governance perspective? How to make decision-making cost models favour dam safety and stability? (e.g., models that incorporate the cost of conflict, delays and tailings failures into the decision-making process).

- *Tailings risk management and disclosure*
  - There are concerns around the risk assessments completed for junior mining companies. Suggestion to provide best practice guidance to the juniors and improve the rigour in the industry around risk assessments.
  - Ontario is trying to make the CDA guidelines into requirements, similar to B.C. Some were concerned with this approach adding that regulations are too cumbersome to update to be kept up to date with the guidelines.
  - Considering that risk is evaluated by likelihood and consequence, what's the likelihood that an event like this will happen again? Based on the information provided (2/1000 per dam, per year), one Panel member highlighted the urgency of acting now, as that would mean that Canada could see two events like Mount Polley every decade.
  - Risk disclosure is important for the financial industry to better understand these risks. A parallel was drawn to the Bre-X situation and how securities regulators responded to that event by increasing disclosure obligations and rigour through the 43-101 standard of disclosure for mineral projects.
  - There was a question about instrumentation (e.g., inclinometers). Vibrating wire piezometers were in place at Mount Polley but because the dam broke so quickly, the instrumentation would not have allowed for a response.
- *Conflict of interest*
  - Perceived conflicts of interest should be discussed and managed considering there are limited experts in the field of tailings dam design, and in some cases, Engineers of Record wear multiple hats within the industry (e.g., working for the mining company, consulting firm, etc.). As one Panel member noted, whether these conflicts of interest are real or perceived, these issues would be of interest to the media.
  - This issue may grow in importance if Independent Review Boards are required for TSFs tapping into a limited number of experts.
- *Aboriginal perspective*
  - First Nations recognize the economic reality on the need to mine. However, they need to be more than consulted, they need to be part of the decision making process and considered as a regulator, alongside federal, provincial, territorial and municipal governments. There is a growing worldwide recognition of Aboriginal rights and Aboriginal people will do what is necessary to protect the land.
  - There was concern that Ontario's duty to consult may not be carried through if a mine does not go through a provincial environmental assessment and does not gather information on impacts on traditional lands at the start of the project. It was noted that Ontario's obligation regarding duty to consult is required under the Mining Act and that the Ministry of Northern Development and Mines is responsible for it, also noting that this information is gathered during the development of the closure plan.
- *The role of Communities of Interest (including the COI Panel)*
  - Is there a role for the Panel to help make the recommendations provided by the Independent Expert Review Board a reality?
  - Tailings management is a challenging subject for communities, however, they bring in different voices and could be part of the discussion around what is an acceptable risk. Perhaps tailings should be considered as a matter of public interest.
  - This issue was discussed in the following session (What do communities of interest need to know to have confidence in the management and regulatory regimes around tailings across the lifecycle of the mine.)

In summary, the dialogue between the expert panel and the COI Panel focused on the governance and risk management of tailings, including the adequacy of risk assessments, Board oversight and accountability, and the need for increased disclosure to inform the financial sector. The Panel was interested in the relationship between the company and communities (including Aboriginal communities) on issues related to tailings and wondered whether or not communities of interest could play a role in sharing their opinions on risk tolerance and if the Panel itself could play a role in helping to implement the recommendations set forth in the Mount Polley Independent Expert Investigation and Review Report.

## 7 COI Perspectives on Transparency and Accountability of Tailings

---

After lunch, all participants (including Panel members, observers and experts) got into three groups to discuss: What do communities of interest need to know to have confidence in the management and regulatory regimes around tailings across the lifecycle of the mine. The three groups were based on the life phases of tailings facilities, including planning and construction, operations and closure. The groups were also tasked with thinking about how communities may play a role at each phase.

### Panel Group Discussion

*What do communities of interest need to know to have confidence in the management and regulatory regimes around tailings across the lifecycle of the mine (e.g., planning and construction, operations and closure)?*

Key takeaways from each group are described below.

#### *Planning and Construction*

- There is a need to engage in meaningful discussions with the COIs at the earliest stage, however, there is a fine line between early engagement and keeping it affordable and manageable for the companies.
- Considering the highly technical nature of tailings, communities need to engage in ways that make sense to them. For instance, communities could comment on TSF options so that they understand the risks and costs associated with mitigating risks, or help select experts they trust for an independent review board.
- Outreach and engagement is needed to help build COI's awareness on tailings (e.g., composition, dam design and construction, etc.). For instance, MAC could prepare a video or webinar for community audiences.
- High risk scenarios for each TSF option should be provided at the start to help companies (and possibly communities) make informed decisions about which design to construct.
- Junior companies may experience more challenges in receiving expert feedback that would lead to higher performance.
- What information should be public? Consider expanding guidance documentation for securities filings to include technical information related to the planning and design of tailings facilities (e.g., NI 43-101). This type of increased disclosure requirements may require collaboration with the TSX but would help all mining companies (including juniors) make more informed decisions around tailings as investors and the public would have access to their plans.
- One suggestion for the Panel was to have a webinar on how mining companies get capital, recognizing that the TSX plays a huge role in Canadian mining.
- Will independent review panels be public? What would a successful panel look like?

- MAC should review the TSM Tailings Management protocol to raise the bar (e.g., make level A more robust)

### *Operations*

- Recognize that there is a lot of public information available during the design stage from the EIA, however, less is available during the operations phase.
- Companies need to communicate information on tailings in a language that makes sense for non-technical audiences
- Communities need to know:
  - Information on tailings at the site-level, not just corporate information;
  - That management systems for tailings are working and facilities are technically sound;
  - What could go wrong? What is in the tailings? What is the response plan?
- How can independence and conflict of interest be assessed? It is important that the regulator is independent, adequately resourced, providing oversight of each facility and the experts on tailings (e.g., companies, consultants, independents) are balanced. Is there potential for COIs to engage with experts locally or regionally?
- Aside from adopting TSM, one of the Finnish Network's working groups is currently drafting 80 key indicators for mining companies to report on at the site level that are relevant for local stakeholders.
- Opportunity for the COI to provide guidance on best practices in engaging with communities for companies and regulators.

### *Closure*

- Communities need to know that there is a high quality closure plan in place that is reviewed by qualified people.
- Bonding and securities for closure should be clear and transparent for communities. There should be full disclosure around the amounts.
- Companies need to deal with the risk of early closure, which may be a bigger risk than closure at the end of the mine life. The same is true for the transfer of a property from a major to a junior.
- Communities and regulators should have a say with regards to closure.
- What questions do communities need to ask about closure? There is a need to clarify who is responsible so communities know who to address their questions.
- There is a need to establish, with communities, triggers for consultation and criteria of what is required to go from 'active care' to 'passive care'.
- Consultation should be a condition of approval.
- Is the EA the right avenue for consultation?
- Closure is an important issue for juniors who are not members of MAC. Can MAC do something on this issue industry-wide? Is there a role for NOAMI?
- Should the Panel make recommendations to regulators or to MAC (voluntary vs. regulatory)?
- Recommendations should be uniform across Canada. (e.g., Possibility to collaborate with the CDA)

Several good points and possible COI Panel action items arose from the table discussions and the Panel agreed that the need to act on these issues was urgent. The purpose of the following session was to determine how best to package the information into a concrete deliverable.

## 8 Pearls of Wisdom: Packaging and sharing our lessons learned

---

The Panel was asked how to share the information and suggestions gathered from the meeting into a concrete deliverable that could be shared more broadly with communities of interest and industry. To help guide the discussion, they were asked to consider:

- Why is this important?
- Who would you share this with?
- How would you share? Who's responsible for sharing?
- What information do you want to share from this meeting?

Some of the ideas that were shared included:

- Specific to Mount Polley:
  - Frame lessons learned in the context of an ongoing investigation.
  - Develop a 3-4 minute animation describing the Mount Polley incident and key recommendations.
  - Consider the communities expectations and whether there is an interest in learning more about the geotechnical issues regarding the incident at a community level. (Response was that the communities near Mount Polley are concerned about water quality and fish health, even though there is evidence to show that the fish is safe to eat).
- Suggestions on what and how to package the information for a broader audience:
  - Develop recommendations/guide for industry so that in the case of an event, they know what information should go to the public immediately and how to share technical information in a way that makes sense for the community and other non-technical audiences.
  - Provide guidance on how to communicate risks to communities.
  - Look to other cases (aside from Mount Polley) and international best practices to better understand the issue and develop recommendations.
  - Ensure that any recommendation made should respect Aboriginal rights and the use of Traditional Knowledge.
  - Develop a 'tailings for dummies' guide to increase awareness around tailings.
- Questions for the Panel to consider:
  - How can non-MAC members be reached?
  - Does the Panel want to go on the record with a statement?
  - Who is it directed to and what is the purpose?
  - Could the Annual Panel Statement Working Group take on this challenge?

By the end of the discussion, the Panel did not land on how they would like to package this information, but it was clear that there was a sense of urgency that the Panel should react to this fleeting 'moment of change'. There was interest in having the Annual Panel Statement Working Group continue the conversation. One Panel member cautioned that the recommendations or statements should not be buried in a report and so even if the 'pearls of wisdom' are included in the Annual Panel Statement and published in the TSM Progress Report, it should be shared more broadly.

## 9 TSM Update and Panel Business

---

### 9.1 TSM Work Plan

Ben provided an update on the TSM activities from October 2014 to March 2015. In brief:

- *Water*: MAC has completed the draft framework on water, which encourages companies to take a watershed approach to water management, and will share with the COI Panel for review and comment. MAC is monitoring the progress of the Alliance for Water Stewardship (AWS), with New Gold piloting their standard and sharing its experience with MAC members.
- *Safety and Health TSM Protocol*: MAC completed the detailed review of the Safety and Health Protocol. Language was streamlined and a requirement was added on the participation of workers in safety and health matters. MAC will share with the Panel to review and comment.
- *Protocol consistency*: All protocols have been reviewed for consistency purposes and a number of changes will be made. These will be shared with the Panel.
- *TSM Video on Energy Management*: NRCan recently produced a short video on energy management that focuses on TSM and ISO 50001. It will be shared with the Panel once finalized.
- *Third party recognition of TSM*: There is an increasing awareness and support for TSM within the federal government, and one of the recommendations from the Expert Review Panel for Mount Polley was: *“Corporations proposing to operate a tailings storage facility (TSF) should be required to be a member of the Mining Association of Canada (MAC) or be obliged to commit to an equivalent program for tailings management, including the audit function. See section 9.4.1.”*
- *TSM Excellence Awards*: Nominations have closed for the TSM Excellence awards (for Community Engagement and Environment). The Panel has supported MAC in adjudicating the awards. Winners of these two awards will be announced in early May at the CIM Awards Gala.

### 9.2 Fall 2015 Meeting

The fall 2015 location and date have not yet been selected and Panel members provided suggestions on possible locations. Yellowknife, Williams Lake, Labrador City and Vancouver were all offered as suggestions. MAC will take the Panel's suggestions into consideration as well as budget and host availability.

### 9.3 Selecting the Post-Verification Review Companies

The Panel provided several suggestions for companies to undergo Post-Verification Review (PVR) but none were agreed to as the Panel felt that it would be best to decide once the location was determined. Some of the suggestions included:

- Suncor - Considering that they have not undergone external verification, this might be an opportunity for the Panel to discuss the issue. Another option would be to ask Suncor in 2016 when their results are verified.
- New Gold – Interesting work happening at the New Afton Mine.
- Agnico Eagle – This would provide continuity with last year's visit to Val-d'Or and they have never undergone the PVR process.

Panel members will select the companies to undergo PVR using an online survey tool.

#### 9.4 Working Group Opportunities

The Panel facilitator walked through the three working group options (listed below) and noted that more information on time commitments would be circulated after the meeting.

1. Panel Statement:
  - The scope of this group may be expanded based on the outcomes of this meeting
2. Post-Verification Review
  - The working group will help decide on the scope of issues to explore during the PVR
3. Panel Renewal
  - Will continue with the Panel renewal process and help bring continuity to the Panel.

## 10 Reflections from Finnish Observers

---

The observers from the Finnish Network for Sustainable Mining selected a few representatives to share their collective thoughts and observations on the COI Panel meeting.

A representative from a Finnish conservation organization liked the composition of the Panel but noted the role of local communities was not clear, further wondering if local stakeholders had an impact on governance issues.<sup>2</sup> It was evident that were challenges with First Nations in Canada, noting that First Nations are not properly taken into the consideration in the mine planning phase. The presentation on Mount Polley was appreciated and while it was clear that the failure was caused by a design flaw, he wondered if TSM, and the industry could have gone further in preventing it and felt the treatment of the company by the COI panel was “lame” and should have been more forceful and critical. It was later clarified by MAC that this session was meant as a learning opportunity and that the Panel plays more of a challenge function at their meeting in the fall that focuses on the Post-Verification Review of TSM performance.

A representative from the Finnish mining industry, liked the flow of conversation, remarking how the Panel was not narrow minded and general concerns were aired. In terms of what he could bring back to Finland, he wondered “what does success look like?” and explained how it will be important to target success and work backwards. For the Expert Panel discussion, it seemed that the public’s trust in engineers and qualified experts was questioned and noted, from an industry perspective, the importance of working with experts who they trust. He suggested that the COI Panel should provide concrete recommendations on the discussions from the day. Moving forward, he suggested to the COI Panel to review Finland’s work on developing key indicators for the mining companies to report on at the site level.

A representative from the Finnish Innovation Fund Sitra, collected all of the responses from the delegation and shared them with the Panel. Key observations included:

- Good quality dialogue based on openness and transparency

---

<sup>2</sup> MAC clarified that the Panel visits local stakeholders during the fall meeting, and that two seats on the Panel are currently vacant who would normally provide that perspective (Community Development & Economic Development categories).

- Importance of building time into dialogue to build understanding of each other's views and contexts, and providing time to reflect on issues that matter
- Group work was important
- Evident that Panel was seeking solutions, not problems

Key questions for the Panel included:

- What are the Panel's goals for the future?
- What impact has the Panel made?
- What challenges has the Panel experienced since the beginning?

Jukka Noponen, Senior Advisor to the the Finnish Innovation Fund Sitra, thanked the Panel for this opportunity and noted that it was an important experience for them to take back to Finland as they continue to build the Network for Sustainable Mining and eventually implement the Towards Sustainable Mining program.

## 11 Closing and Meeting Evaluation

---

During the closing, each Panel member had the opportunity to share their thoughts on the meeting and topics they would like to further explore during the October meeting.

---

*There was a sense of ownership to 'do something now'.*

---

The following is a summary of the roundtable and meeting evaluations<sup>3</sup>:

- *Focus on tailings*
  - Many Panel members agreed that it was timely to focus and deepen their knowledge on tailings management and discuss ways to prevent another failure. This was also the first time that the Panel focused on one company issue, and it seemed to work well.
  - The Panel enjoyed having the experts stay for the whole session on tailings.
  - One Panel member noted how there seems to be unresolved geotechnical issues that should eventually be shared with other mining companies in similar geological areas, particularly the broad geographical regions east of the Canadian Shield where there are widespread glaciolacustrine sediments.
  - The issue of trust and confidence was an ongoing theme throughout the discussions.
  - Considering that one of the challenges was reaching out to non-MAC members, a representative of the Quebec Mining Association reminded everyone that their members (who are not all MAC members) now need to implement TSM.
- *Urgency for action*
  - The Mount Polley incident marks an important opportunity for the Panel to come to agreement and take action. There was a sense of ownership to 'do something now'. While the Panel did not manage to come to agreement during the meeting, one Panel member remarked that this will take time and resources and the opportunity will be lost if not taken now.
- *Value of having Finnish observers*
  - There was widespread agreement that it was valuable to have made this connection with the Finnish Network, noting the importance of having observers in the room.

---

<sup>3</sup> Eleven Panel members responded to the Meeting Evaluation Forms, two provided feedback in writing after the writing.

- A few Panel members felt that the two groups could have been better acquainted to better understand one another's contexts (e.g., mining industry, societal expectations, relationships with communities, etc.). The term Panel and Network are not synonymous and there should have been an opportunity to discuss this difference.
- Some expressed interest in continuing the relationship with the Finns. One suggestion was to invite Finnish observers to the fall meeting to observe the PVR sessions. That would allow them to get a better sense of how the COI Panel examines more closely company performance.
- *Meeting expectations*
  - All COI Panel members felt that the meeting met (or mostly met) their expectations; but noted that it was unfortunate that the Panel did not land on how to proceed.
  - One Panel member noted that there are other issues, aside from Mount Polley, which the Panel should seek to have more in-depth enquiries. For example, more analysis and discussion needs to be done to follow up on the fall meetings. (e.g., Follow up required after the Panel's experience in Val-d'Or with the local COIs, including the relationship with Aboriginal peoples).
  - Overall, the Panel felt that they could express their interests, however, one Panel member noted that this was a bit more challenging this time due to the increased amount of people in the room.
- *Most enjoyable parts of the meeting:*
  - Many Panel members explained how they were impressed with the quality of the exchange and the frank and open dialogue.
  - Many appreciated the deep dive into the tailings issue as noted above.
  - One Panel member liked the small group discussions noting as it allows for more interactive discussion.
  - Another Panel member was pleased that the Panel composition is close to full strength, noting that the perspectives of the community and economic development were absent but their seats will hopefully be filled for the next meeting.
- *Least enjoyable parts of the meeting and suggestions for improvement*
  - Many found the 'Pearls of Wisdom' part of the meeting challenging. One member noted that while the Panel should not simply convene one-time discussions, nor should it generate outputs simply for their own sake. It needs to be part of a larger strategy.
  - One Panel member wondered how the Panel would be perceived by local and international stakeholders. Does the Panel voice those opinions?
- *Meeting organization, facilitation and materials*
  - The Panel felt that the meeting was well organized, however there were issues with the heat and size of the room.
  - The meeting facilitation was rated 'good' to 'excellent'.
  - Panel members liked the flow and felt that the facilitator raised good questions and had good time management.
  - The process and documentation leading up to the meeting (webinar and binder) was valuable. It demonstrated how MAC takes the Panel seriously.

## Appendix A: List of Participants

### TSM Community of Interest (COI) Advisory Panel 2015 Membership List

NAME	ORGANIZATION (Panel members are invited as individuals, not as representatives of their organizations)
Dan Benoit	Métis National Council (AANDC)
Theresa Hollet	Nunatsiavut Government
Joy Kennedy	Independent, formerly, United Church of Canada
Stephen Kibsey	Caisse de Dépôt et Placement du Québec
Chief Earl Klyne	Seine River First Nation
Nathan Lemphers	Independent, formerly, Pembina Institute
Philip Oxhorn	Institute for the Study of International Development, McGill University
Alan Penn	Cree Nation Government
Claudine Renauld (REGRET)	Independent
Doug Olthuis	United Steelworkers
Alan Young	Canadian Boreal Initiative
Luc Zandvliet	Triple R Alliance Inc.
Pierre Gratton (REGRET)	Mining Association of Canada
Louise Grondin	Agnico-Eagle Mines Limited
Scott Yarrow	Glencore
Peter Read	Syncrude
Mark Travers	Vale
Josée Méthot	Quebec Mining Association

Additional Attendees	Organization
Organizers	
Ben Chalmers	Mining Association of Canada
Nathalie Ross	
Michael van Aanhout	Stratos
Jane Porter	
Presenters	
C.D. Lyn Anglin	Imperial Metals Corporation
Dirk Van Zyl	Independent Expert Engineering Investigation and Review Panel
Andy Small	Canadian Dam Association
Edgar Tovilla	Ontario Ministry of the Environment and Climate Change
Observers	
Nathalie Tremblay	Quebec Mining Association
Shirley Neault (REGRET)	Hudbay Minerals
Finnish Network for Sustainable Mining - Observers	
Anita Alajoutsijärvi	Agnico Eagle Finland Oy, Kittilä Mine
Barber Riikka	Association for Nature Conservation
Sylvie Fraboulet-Jussila	The Finnish Innovation Fund Sitra
Maiju Hyry	Regional Council of Lapland
Sini-Paula Ilmonen	The Finnish Innovation Fund Sitra
Joanna Kunttonen	Anglo American Exploration Finland
Esko Lukkari	Freelance journalist, formerly, Kauppalehti
Kimmo Luukkonen	Pyhäsalmi Mine Oy
Timo Matikainen	The Finnish Innovation Fund Sitra
Jukka Noponen	The Finnish Innovation Fund Sitra
Juhan-Oula Näkkäläjärvi	The Finnish Saami Parliament
Anne Ollila	Reindeer Herders' Association, Finland
Hannele Pokka	Ministry of the Environment, Finland
Tommi Siivonen	Central Union of Agricultural Producers and Forest Owners (MTK)
Tuula Sjöstedt	The Finnish Innovation Fund Sitra
Heikki Sorasahi	The Finnish Innovation Fund Sitra

Pekka Suomela	FinnMin – Finnish Mining Association
Markku Tornberg	Central Union of Agricultural Producers and Forest Owners (MTK)
Kalle Varis	The Finnish Saami Parliament
Eero Yrjö-Koskinen	The Finnish Association for Nature Conservation