



Mount Polley Mine Tailings Breach Ministry of Environment Regulatory Response

Presentation to MEND
SFU Downtown Campus
December 1, 2016

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Ministry of Environment -
Environmental Protection Division

Ministry of Environment Presentation Overview

- Ministry's Role in the Response, timelines
- Ministry's Approach to Spill Remediation
- Ministry's Monitoring Program
- Compliance
- Communications
- Regulatory Status update

Ministry of Environment's Role

- Regulatory Oversight under *Environmental Management Act*
 - Issue Orders, Advisory or Warning Letters, and Permit Amendments
 - Review plans, proposals, permit applications from the company
 - Ensure implementation of long-term monitoring and remediation plans
- Partnership with First Nations
- Coordination with other agencies
- Monitoring and audit monitoring
- Community outreach and support

The Ministry oversees clean-up work and will ensure long-term monitoring and remediation are completed to the satisfaction of the Ministry and implemented by the company.

Ministry's Regulatory Actions, Order

**Pollution
Abatement
Order**
Aug 5 2014

**Progress
Reports**
Jul '15
Nov '15
Nov '16

**Amended
Pollution
Abatement
Orders** May
'15, Nov '16

**Advisory
Letters**
Sept 9
2014
Feb 18
2016

**Advisory
Letter**
Feb 18

Ministry's Regulatory Actions, Permit

**Minor
Permit
Amendment**
Jul 9 2015

**Approval
letter**
Jun 27
2016

**Minor
Amendment
application**
Aug 2016

**Major
Amend
ment**
Nov 30
2015

**Submit
LTWMP
draft
TAR**
Jun 30
2016

Ministry's Approach to Remediation

Impact Assessment

August 2014 to August 2016 and beyond

Emergency Response

August 2014 to
September 2014

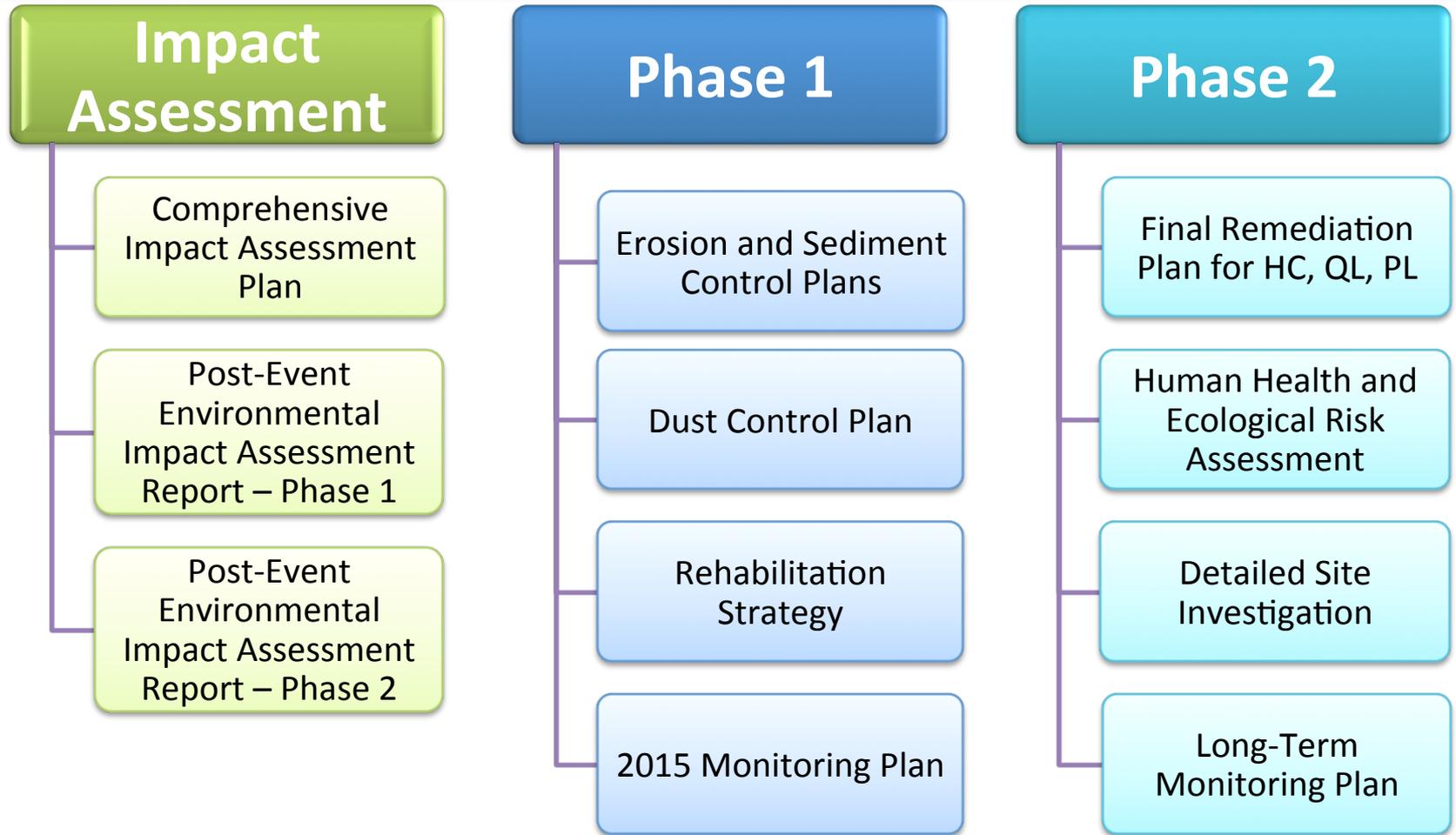
Phase 1

October 2014 to
June 2015

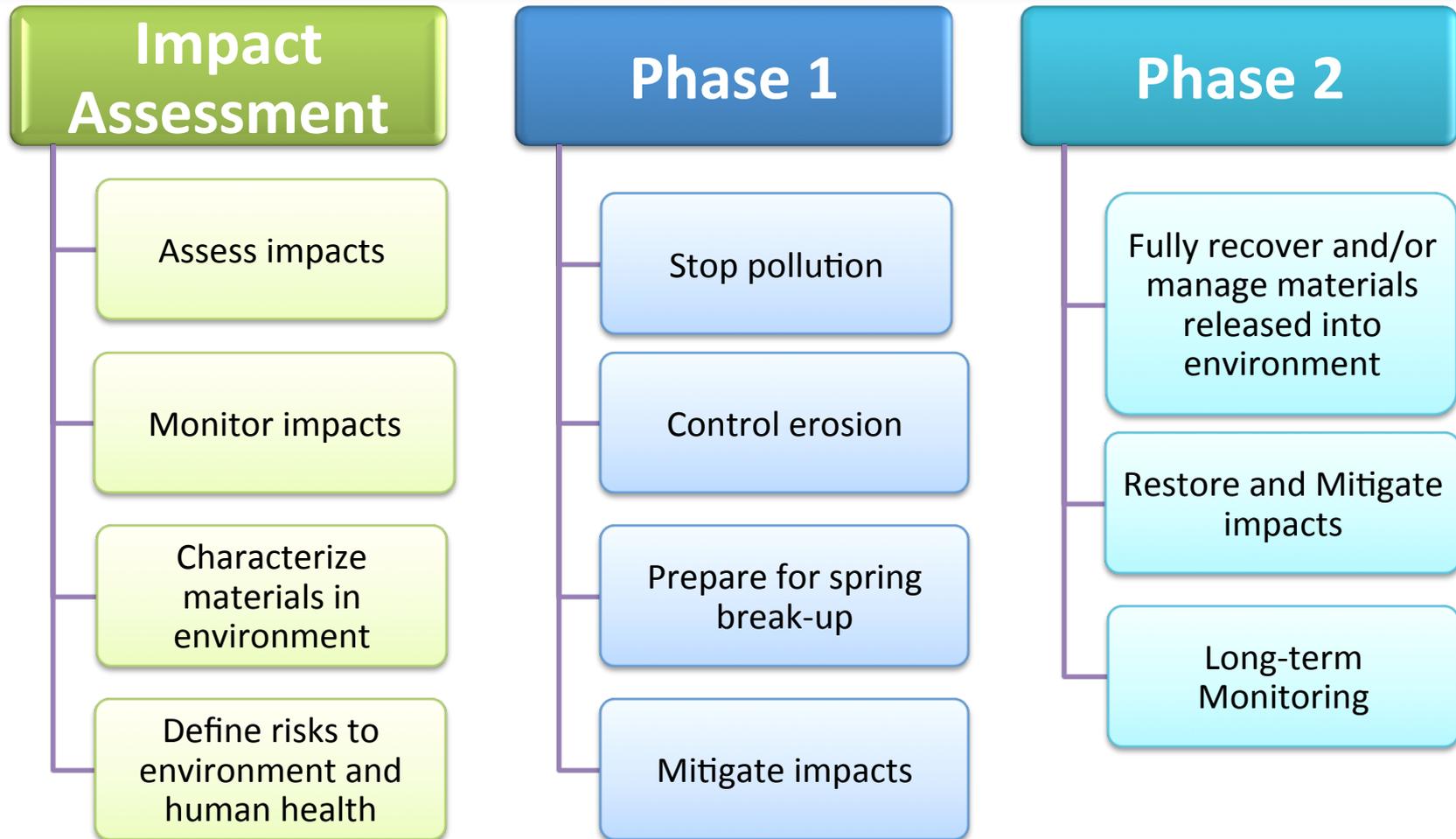
Phase 2

July 2015 to
August 2016 +

Ministry Requirements: Planning



Ministry Requirements: Actions



Ministry's Long-Term Remediation Goals

The Ministry's long term remediation goals are:

- 1) MOE, as the lead regulatory agency, will be satisfied with MPMC's clean-up and remediation plan.
- 2) MOE, as the lead regulatory agency, will be satisfied that the area has been cleaned-up/remediated to an acceptable standard.

→ An iterative process to the planning and tasks will be required, allowing planning to evolve as new information comes to light based on results of monitoring, research studies, and on-the-ground conditions in order to meet the requirements of the Order or any future amendments.

Ministry's Monitoring Program



- MOE has collected over 350 samples
- Collect weekly water quality samples on Quesnel River off Likely Bridge & GF
- Review company's sampling data weekly & Review company's Monitoring Plans
- Audit company sampling when appropriate
- MOE 2016 Monitoring Plan in place; will increase sampling if conditions change
- Conducted spring turnover sampling of Quesnel and Polley Lake

Independent review

Azimuth -

Draft conceptual plan, and Report of 5 in 30 days sampling datasets.

Dr. Bernard Laval -

Review of the Tetrattech EBA Quesnel Lake Model of Lake currents.

Lorax Environmental Services –

Water balance and modelling expertise for permit amendments.

Ch2M Hill –

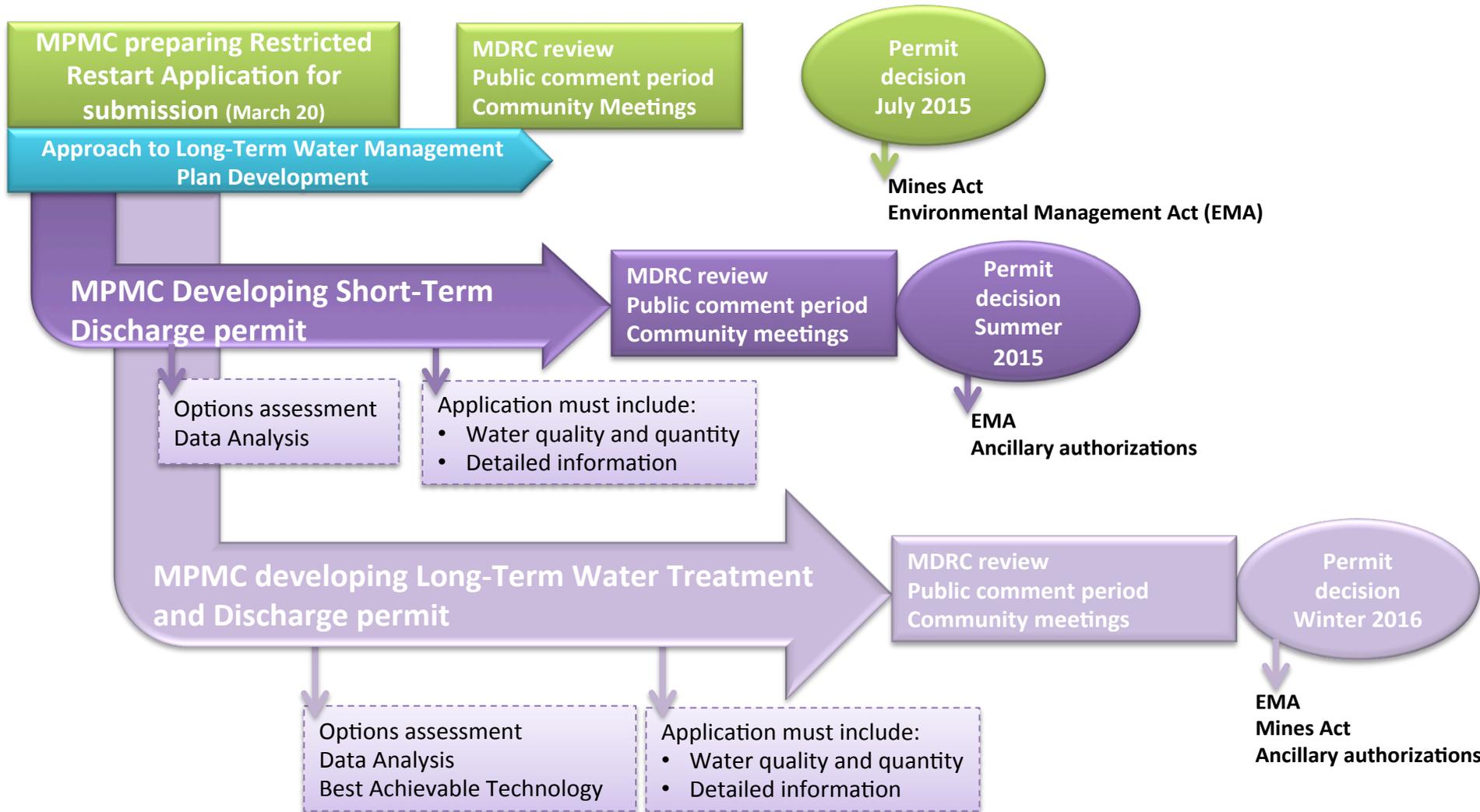
Detailed Site Investigation Review

Applications for MOE Permit Amendments

- Restricted Restart – deposit of tailings to Springer Pit up to 1030m elevation with no discharge to the receiving environment. Application received March 20 and issued July 9 2015.
- Short Term Treatment and Discharge – considering the near term need for treatment and discharge of mine effluent to the receiving environment an application to discharge was received July 16 2015 and was issued Nov 30 2015. Short-term discharge period is necessary to allow for the review, development and implementation of a long-term plan.
- Long Term Treatment and Discharge – Application for permit amendment expected imminently

Mount Polley Mine Permitting

Water management planning and permitting (ongoing)



Compliance

- Have utilized our Environmental Protection compliance staff to check on compliance with the conditions of the Pollution Abatement Order and the various versions of the amended discharge permits through review of submitted information and periodic site inspections.
- Some relatively minor non compliance issues have been identified and subsequently addressed by Mt Polley Mining Corp.
- March 11 2016 a temporary permit Bypass was authorized (as allowed for by the permit) to allow water that met permit discharge quality to be released from the site
- Conservation Officer Service in conjunction with DFO and Environment Canada continue to investigate the original spill event for possible offences under the Environmental Management Act and the Federal Fisheries Act

MoE Communications

- Company – weekly update calls and weekly written updates (posted), ¼ly data submission (posted), public meetings reporting on progress and applications
- First Nations, other Agencies, Consultants, Researchers – committees, regular meetings and calls, site visits, Science Panel workshop
- Communities – public meetings, involvement of Reps in some committees, info sharing.
- Website - for monitoring data and interpretation, maps, reports Order, and Permit information, links to other sources.

Mount Polley Mine Tailings Dam Breach, Likely, August 4, 2014



» [New: Video of Phase One Cleanup](#) (July 29, 2015)

A tailings dam failure at the Mount Polley Mine occurred on August 4, 2014 resulting in the loss of about 17 million cubic meters of water and 8 million cubic meters of tailings/materials into Polley Lake, Hazeltine Creek and Quesnel Lake having significant impact. An emergency response was undertaken by the Province involving various agencies throughout August and into September of 2014. A Pollution Abatement Order under the *Environmental Management Act* was issued on August 5, 2014 and amended on May 27, 2015 to abate the discharge, undertake an environmental impact assessment of the breach and implement remediation activities. A Letter of Understanding between the Province and Soda Creek Indian Band and Williams Lake Indian Band outlines a collaborative approach to jointly address all aspects of the tailings breach. The Ministry of Environment is leading the response for the environmental monitoring, impact assessment, mitigation, and remediation of the area impacted as a result of the Mount Polley Mine tailings breach, and is working closely with First Nations, local governments, provincial and federal agencies, and public representatives.

[Progress Report](#)

[Regulatory Oversight](#)

[Incident Information](#)

[Sampling and Monitoring](#)

[Maps](#)

[Permits and Reports](#)

Updates



Contact Information

» [Email Mt Polley Environmental Enquiries](#)

Posted for Public Comment

- » Mt. Polley Post-Event Environmental Impact Assessment Report
 - » [summary](#) [PDF 48.5MB]
 - » [full report](#) [PDF 165 MB]
- » Comments on the report close July 21, 2016

Ministry of Environment

- » [Water Quality Sampling Procedures](#)
- » [Compliance and Enforcement Policy](#)
- » [The Effluent Permitting Process under the Environmental Management Act: An Overview for Mine Project Applicants](#)

Ministry of Energy and Mines

- » [Mount Polley Mine](#)
- » [Code Review](#)
- » [Dam Safety Inspections](#)

Ministry of Forests

Where are we now?

- 2nd Post Event Environmental Impact Report submitted and reviewed
- Treated mine discharged utilizing impacted Hazeltine Cr as part of Short term water management plan in place through Nov 2017
- Human and Ecological Risk Assessments and related Remediation Plan expected in early 2017
- Significant progress on remediation of Hazeltine Creek with still a lot of work and time before restoration can be considered complete
- Over time reducing direct government involvement in meetings, monitoring shift to proponent, greater use of Public Liaison Committee and Implementation Committee (FNs & MPMC)

Where do we want to be in the future?

- Hazeltine Cr. and Polley and Quesnel Lakes restored and any impact offsets implemented
- Monitoring and reporting for spill impact included in discharge permit to enable ongoing review
- Long term water management plan for treated mine discharge in place and permitted by Nov 2017
- Evolution to a relatively passive post closure mine discharge distributed to the smaller watersheds draining Mt Polley.

Lessons Learned

- Adaptive Management and reliance on Qualified Professionals are critical to success
- Limited ability to reclaim government costs from the proponent
- Involve First Nations in the assessment and decision making process
- New requirements are necessary to provide clarity and certainty for spillers, meet public and First Nations expectations and maximize environmental protection.
- Continuous Improvement required to reduce duplication of effort and improve efficiencies

Questions?

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