RECLAMATION PLANNING AT THE PINCHI LAKE MINE
ACKNOWLEDGEMENTS

• Chief T. Alexis (Tl’atz’en)
• Chief F. Sam (Nak’azdli)
• Technical Working Group Members:
  – Walter Kuit – Teck
  – Mark Edwards – Teck
  – Bruce Donald - Teck
  – Beverly Bird (Tl’atz’en/Nak’azdli Lead)
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INTRODUCTION

• Location / History of Site
• Current Status
• First Nations’ Involvement
• Environmental Studies
• Reclamation Planning Process
• Overview of Reclamation Plans
• What Next
PINCHI LAKE MERCURY MINE
SITE HISTORY

Historic Operations
(1940-44)

Modern Operations
(1968-75)
PINCHI LAKE MERCURY MINE
SITE HISTORY

• Ore Body:
  – Hosted in Permian-age limestone and sediments
  – Primary mineral is Cinnabar (HgS)
  – Deposit grades 0.3% HgS

• Historic Operation
  – 50 tpd to 1100 tpd

• Modern Operation
  – 750 tpd
  – 1.6 M tonnes of ore produced
CURRENT STATUS OF SITE FACILITIES

WEST ZONE PIT
ROCK QUARRY
U/G PORTALS
MAIN ZONE PIT
NEW MILL SITE
TAILINGS IMPOUNDMENT AREA
SMS AREA
CARETAKER RESIDENCE
CURRENT STATUS
RECLAIMED AREAS

CALCINE REGRADED 
AND GAPPED

LAGOONS 
CAPPED

ED CREEK 
DIVERSION 
STABILIZED
FIRST NATIONS INVOLVEMENT

Triggered by December 2004 dyke failure
FIRST NATIONS INVOLVEMENT
FIRST NATIONS INVOLVEMENT

• 2005 established the Technical Working Group (TWG) – members from Teck and First Nations
• 2006 signed a formal working Agreement that frames our ongoing relationship
FIRST NATIONS INVOLVEMENT

The TWG

• Functions on a consensus basis
• Plans, directs, and reviews studies
• Directed the development of the proposed decommissioning and reclamation plan
FIRST NATIONS INVOLVEMENT

The TWG

- Has met more than 13 times
- Hosted 4 community meetings and several joint Council meetings
- Organized 3 site tours for community
- Held Site additional tours and meetings with Keyoh holders and Elders
- Issued newsletters (hand delivered to ensure coverage)
FIRST NATIONS INVOLVEMENT

First Nations are directly involved with the collecting samples for the environmental studies.
FIRST NATIONS INVOLVEMENT

• Reviewed each others’ studies (such as First Nations’ study on consumption of country foods)
• Sampled locations and country food types identified by First Nations
• Used country food consumption rates provided by First Nations in the Human Health Risk Assessment
• Discussing ways to provide employment/contract opportunities for First Nations during reclamation work
First Nations’ youth constructed a trail which is a replacement for a traditional trail displaced by the mine.
Conducted a series of comprehensive environmental studies to:

- To gain a fuller understanding of mercury impacts at the site and surrounding area
- Studied air, surface waters, ground waters, sediments, soils, vegetation, large and small mammals, benthic invertebrates, insects, reptiles, plankton
ENVIRONMENTAL STUDIES

Used the information to develop a comprehensive ERA that guided the reclamation planning.
ERA concludes:
- The aquatic environment of the tailings pond is the most significant source of methyl mercury on-site
- Concentrations of MHg in Pinchi Lake fish are gradually declining

HHRA concludes:
- Large lake trout and burbot in Pinchi Lake are the only two country food sources where some restrictions on consumption are recommended
Conventional decommissioning includes:

– Seal mine portals
– Demolish buildings
– Disposal of debris (West Zone pit)
– Removal of hazardous materials (asbestos, lab chemicals, metallic mercury)
– Re-vegetation of disturbed areas
DECOMMISSIONING AND RECLAMATION PLANNING

Risk Based Decommissioning

- Identified exposure pathways and loading of methyl mercury to environment using risk based assessment
- Risk based controls are proposed (i.e. capping with low permeability till to break exposure pathways to receptors).
Teck has received a joint letter of support of the Closure Plan from Chiefs and Councils of the Tl’atz’en and the Nak'azdli.
LONG TERM SITE MANAGEMENT

Includes:
  – Maintaining controlled access to the site
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– Regular monitoring of environmental conditions
LONG TERM SITE MANAGEMENT

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- Conducting periodic mini ERA studies
LONG TERM SITE MANAGEMENT

Includes:

– Maintaining controlled access to the site
– Regular monitoring of environmental conditions
– Conducting periodic mini ERA studies
– Continued First Nations involvement with the monitoring
WHAT NEXT?

- Initiate process to amend existing mine reclamation permit to include the work in the Decommissioning / Reclamation Plan
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• Initiate some of the decommissioning work this year.
THANK YOU!