



Port Radium Remediation Project

By Julie Ward, INAC



NWT Region





Overview

History

Canada Deline Uranium Table Recommendations

Goals/Objectives for cleanup

Training

Contracting

Aboriginal Benefits during remediation

Remediation

Health and safety monitoring

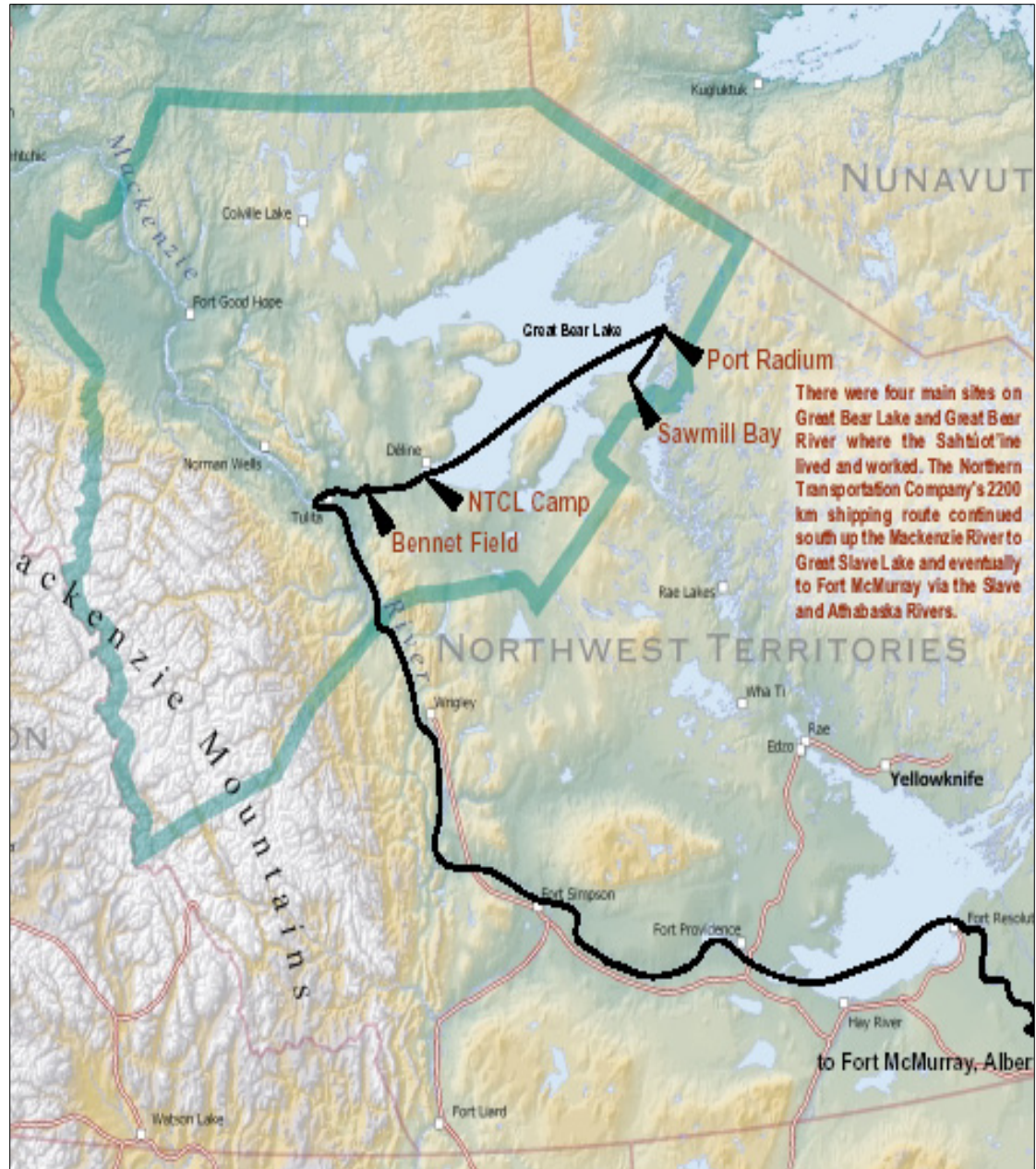
Post remediation monitoring



Indian and Northern
Affairs Canada

Affaires indiennes
et du Nord Canada







Deline Approaches Canada

COLUMN ONE

A village of widows shares its sorrow

Nobody told the Dene men the uranium ore they carried was dangerous.

ANNE McILROY
The Globe and Mail, Deline, NWT

G4 The Edmonton Journal, Friday, June 12, 1998

Canada

Dene tell ministers story of 'village of widows'

Uranium used in Hiroshima, Nagasaki bombs continues to kill Deline Indians, committee hears

JANICE TIBBETTS
THE CANADIAN PRESS
Ottawa

At 53, Joe Blondin is considered an elder in his remote Dene community where so many men have succumbed to cancer.

Villagers believe the disease is linked to government-sponsored mining of radioactive radium and ura-

The report implied the federal government is responsible for an unknown number of radioactive-related deaths as well as 1.7 million tonnes of radioactive waste dumped in Great Bear Lake, Canada's fifth-largest lake.

The Eldorado mine was initially a private venture when it opened in the 1930s, but later became a Crown corporation, producing the uranium used in



mented cases and counting, including another death last week.

But villagers say they began dying in the 1970s that men were before their time. Today, they clear majority of residents are widows and children.

"Over the last 25 years, we've seen nothing but cancer," said Bator. "We feel our animals, our fish, our water is all contaminated and it hurts us in turn because we are the sumers of these elements."

A 1985 report by the National Research Council, as well as a



Canada's responses to concerns

NEWS/NORTH NWT, MONDAY, January 24, 2000 A5

Feds to help Deline

Nault visits the Sahtu to pledge support to mine tailings clean-up

by Terry Halifax
Northern News Services
Deline

Deline and Ottawa will work together to decide how to clean up the estimated 1.7 million tonnes of radioactive tailings dumped in Great Bear Lake.

Minister of Indian Affairs and Northern Development Bob Nault met with Chief Leroy Andre and the community of Deline Jan. 19, to pledge the government's commitment to clean up or contain the uranium tailings at the Port Radium mine.

The uranium was mined by the Government of Canada at Eldorado mine in Port Radium and sold to the U.S. government for use in the construction of the first atomic bomb.

Nault said the government will commit to whatever resources are necessary to the project, but the first step is to work with the community.

"We want to start right away with the healing process of the community," he said. "That's above and beyond the issue of liability of the effects the mine had on the community members and their health."

A forum has been established called the Canada/Deline Uranium Table with a budget of \$235,000. It is in the early stages of establishing a plan of action which will outline the appropriate studies and investigations, to be followed by the clean-up and monitoring.

"We have agreed to a work plan that will



Ottawa to investigate charges it exposed Dene to radiation

THE CANADIAN PRESS
Ottawa

without wearing protection.

"It's just like flour," Baton said through a translator. "It just starts



Canada-Deline Uranium Table

5 years of studies (2001-2005) consisting of:

- information gathering
- traditional knowledge
- environmental studies
- health studies
- risk communication and education
- community capacity building through project
- management and other associated training



Canada-Deline Uranium Table

Recommendations/Goals:

- To carry-out the remediation of the Port Radium site as quickly and efficiently as possible which addressed the areas identified as most concern during the Environmental Assessment.
- Work must be done safely
- Maximize Deline employment and procurement opportunities where possible
- Maximize Deline capacity building and training opportunities where possible
- Compliance with all legal and regulatory requirements including H&S and contracting policies



Training Initiatives





Project Schedule

2000-2005 CDUT environmental studies and
recommendations

2005-2006 Permitting/licensing process and
training

2007 Site Remediation

2008 onward Long term monitoring



The Contracting process

Through Public Works and Government Services (PWGSC) contract award process, Port Radium Remediation project was awarded to Aboriginal Engineering Ltd. (AEL) in December 2006.



Deline - Aboriginal Benefits

Within the proposal AEL has committed to a minimum of:

5.8% Deline subcontractors

75% Deline employment

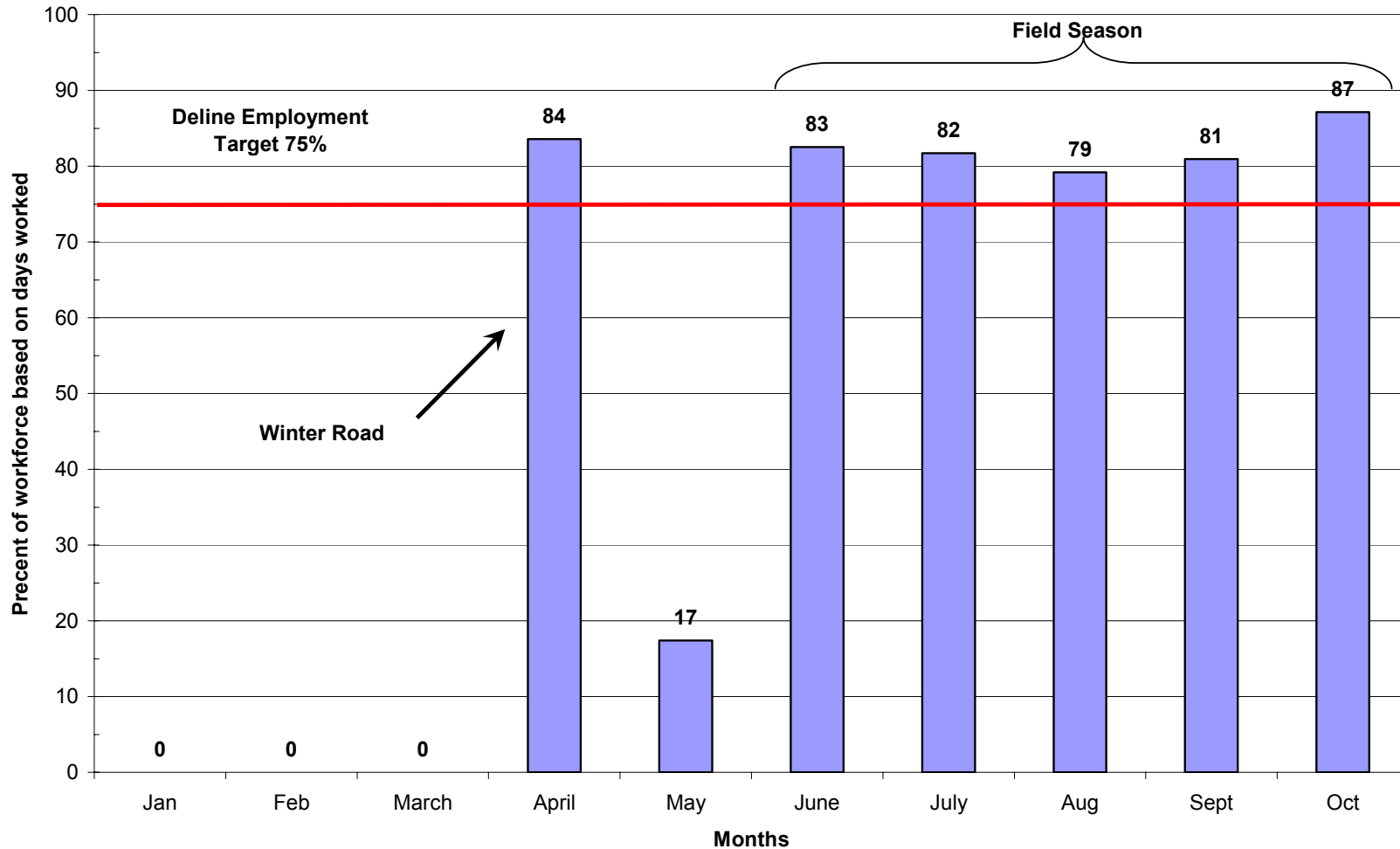
Benefits and penalties are put into the contract based on these commitments

Monthly monitoring of employment and subcontracting results



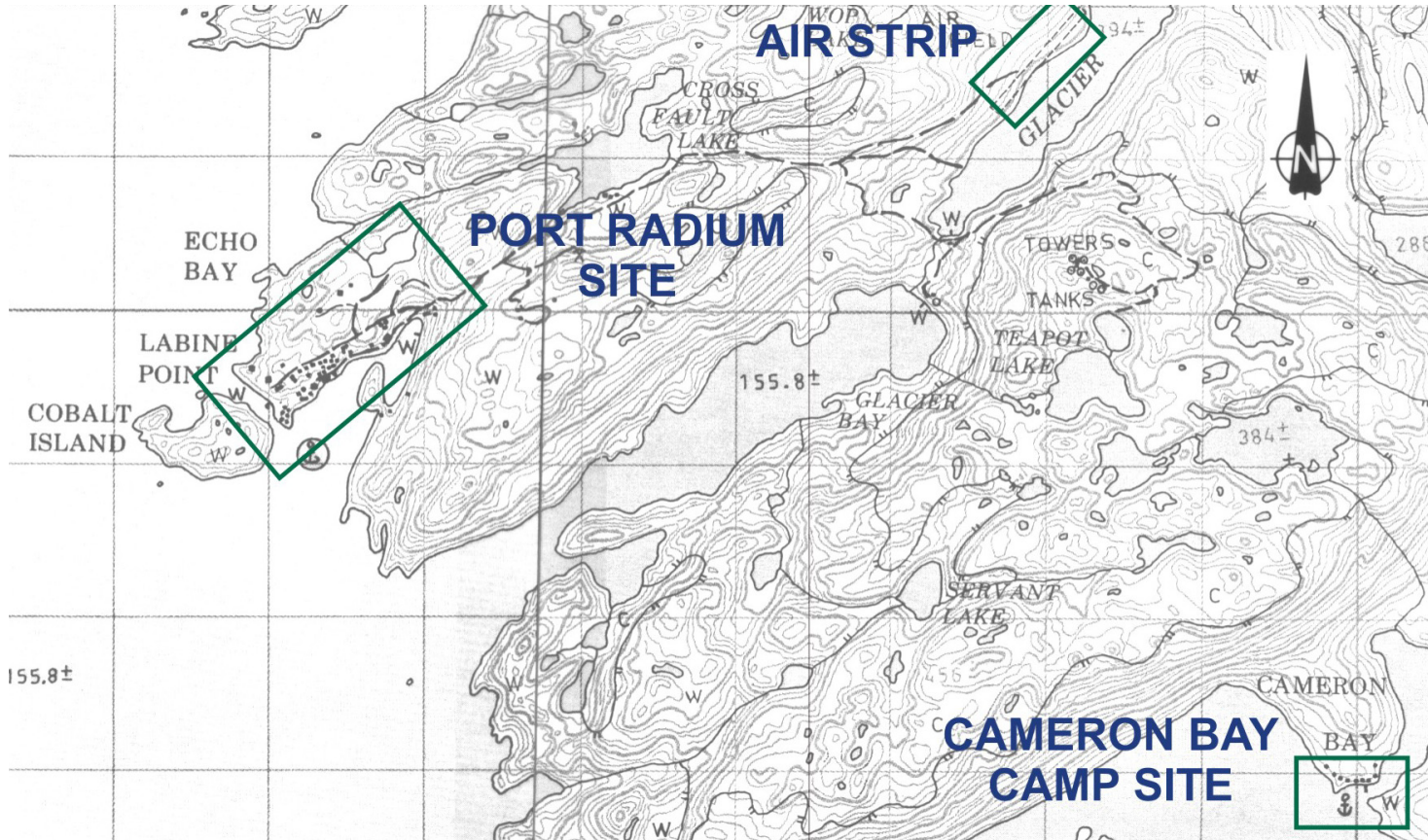
Employment Monitoring

Deline Employment 2007/08





Site Layout





Environmental Summary

Physical Concerns:

openings, metal scraps, dock area, buildings

Environmental Concerns:

tailings areas, onsite water quality, water quality surrounding the site, vegetation, drainage from site, elevated gamma levels associated with mine rock and exposed tailings

Risks to Ecology and Humans:

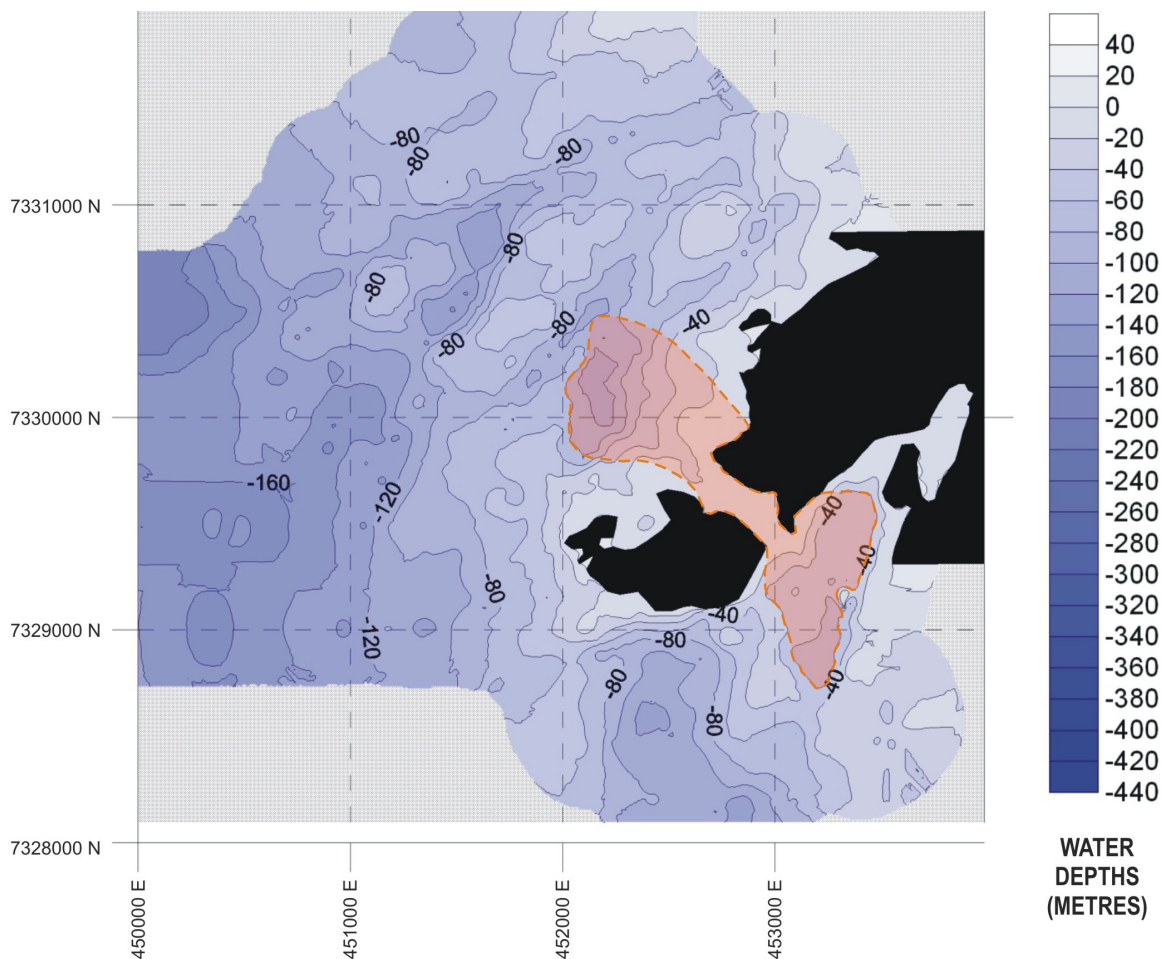
Risks to localized small animals

No detectable risks to fish or large animal

Only physical risks to humans based on current use



Great Bear Lake Tailings



- Risk management and monitoring



Physical Concerns





Close Underground Openings





Dock Wall removal





Dock Wall Removal





Decontamination – asbestos removal



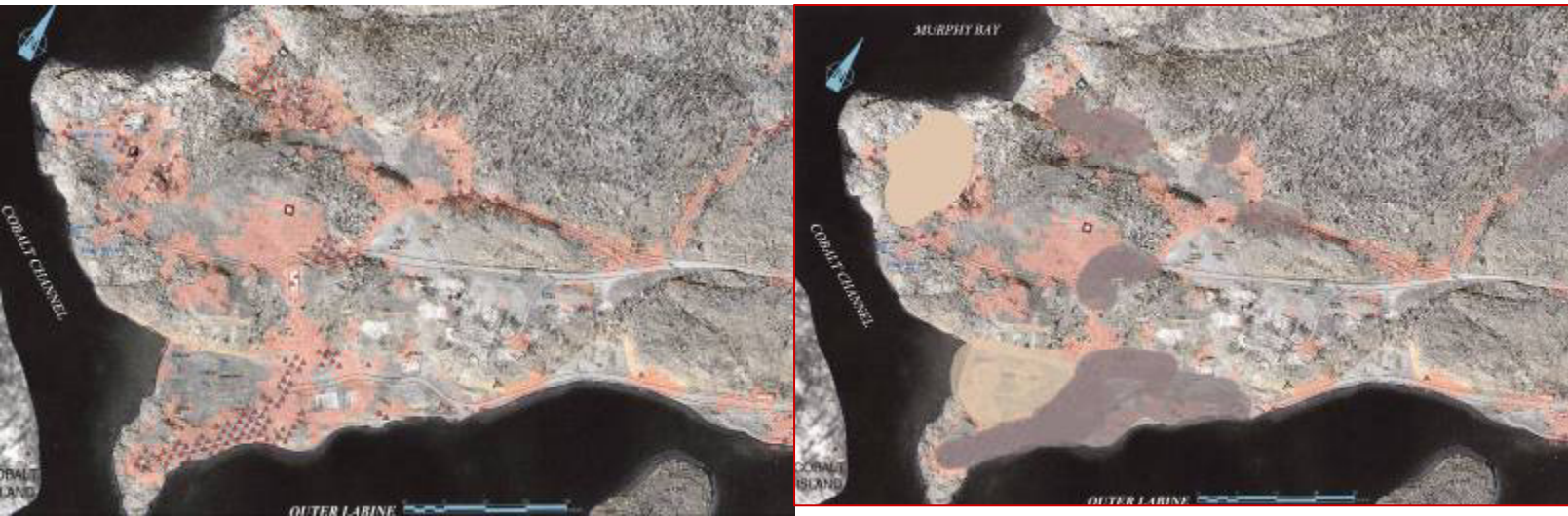


Asbestos Removal





Gamma Radiation Cover



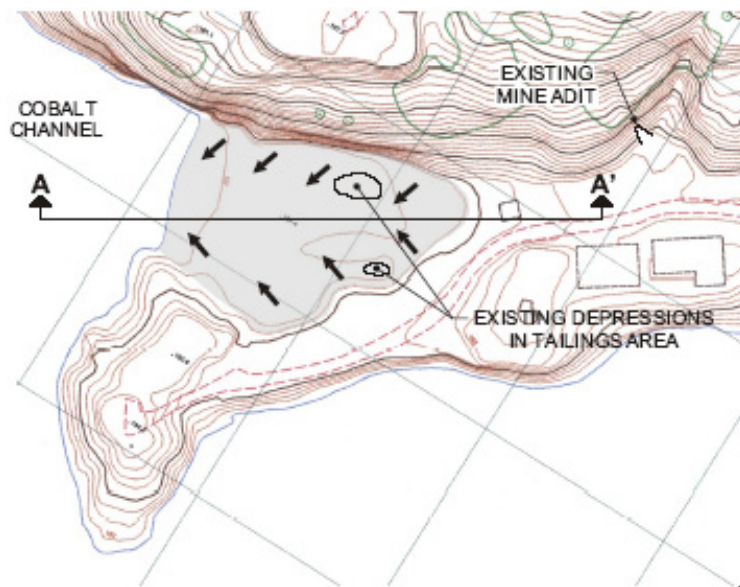
Average gamma reduction of 30% on main mine site

Average gamma reduction of entire site by 18%

Resulting in a 26% reduction to humans visiting the site
for short periods of time



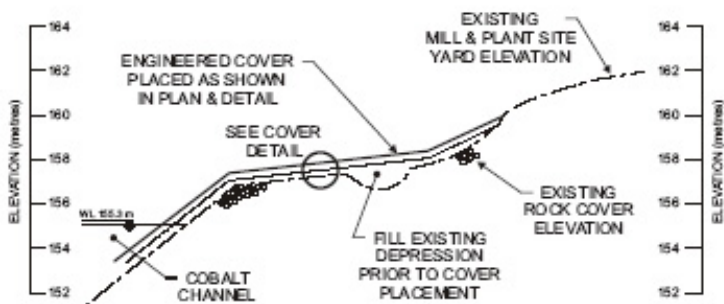
Silver Point Area



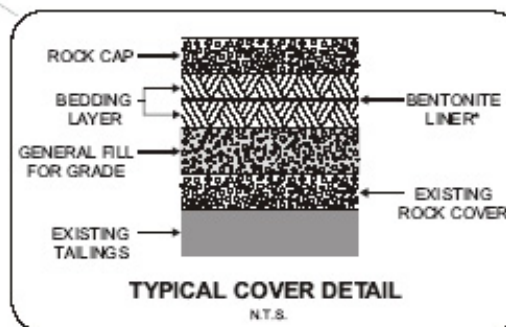
**PLAN VIEW
SILVER POINT TAILINGS AREA**



**VIEW OF SILVER POINT
TAILINGS AREA AND DEPRESSIONS
TO BE FILLED**



**SECTION A-A'
SILVER POINT TAILINGS COVER ADDITION**



***NOTE:**
A 20cm NATIVE CLAY LAYER MAY BE SUITABLE ALTERNATIVE
IF BORROW IS ECONOMIC



Silver Point Tailing Area



Reduced potential of contaminated runoff by 90%

Removed contaminated surface water



Health and safety and Environment monitoring

Total person hours work on site 33,034 hr

0 accidents

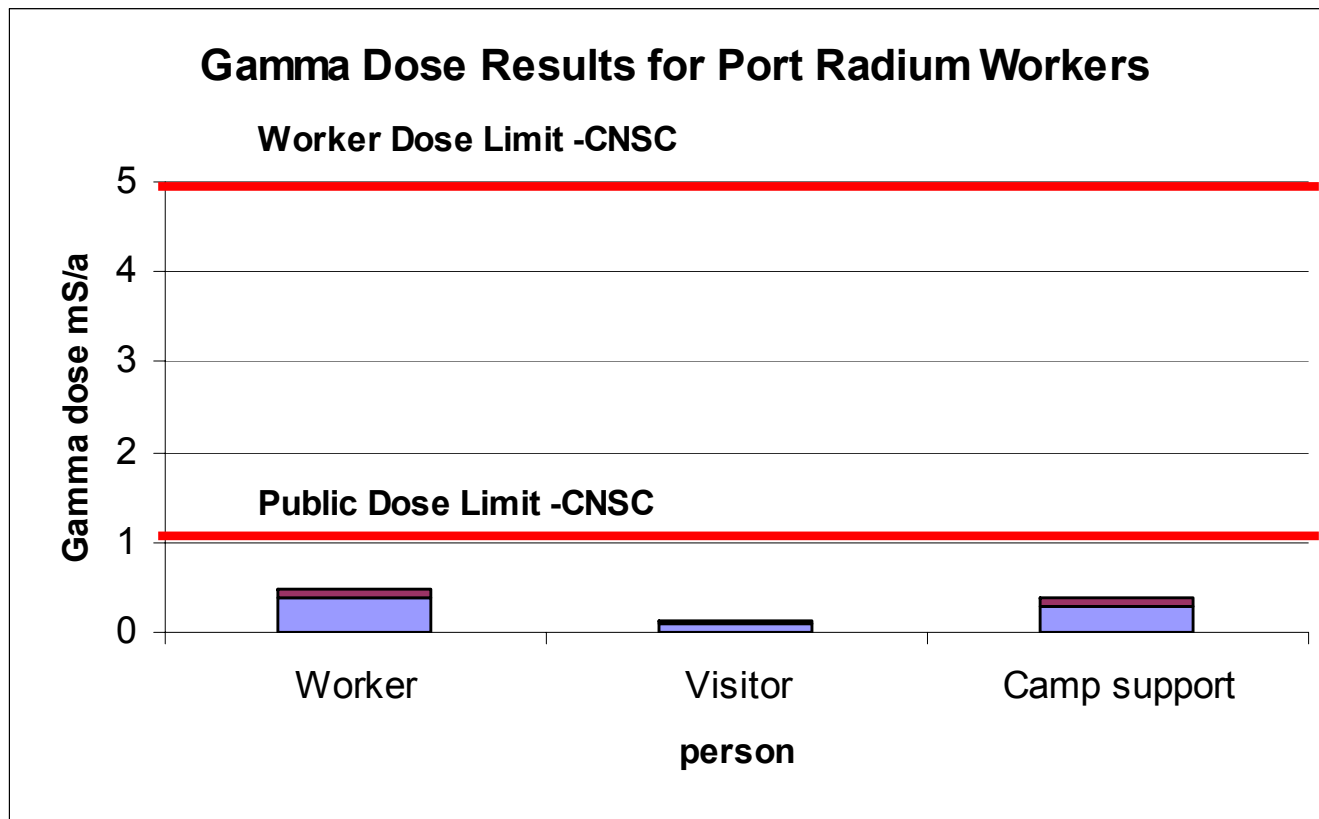
0 near misses

1 well contained (300L) spill

4 inspection (with 0 concerns)



Personal Gamma Results





Water quality monitoring

