



Overcoming Challenges

Developing Plans to Remediate the Port Radium Uranium Mine

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Presentation Outline

- History
- Challenges in developing the Remediation Plan
- Regulatory challenges
- Challenges in developing the procurement plan
- Remediation results and long term monitoring plans





Port Radium within Sahtu Dene and Metis Comprehensive Land Claim Area of NT.



NWT Region

Canada

Mine Site History

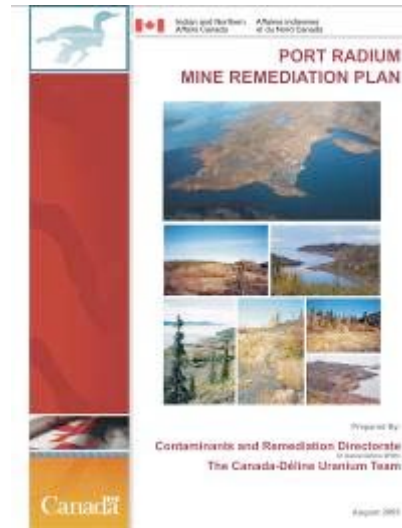
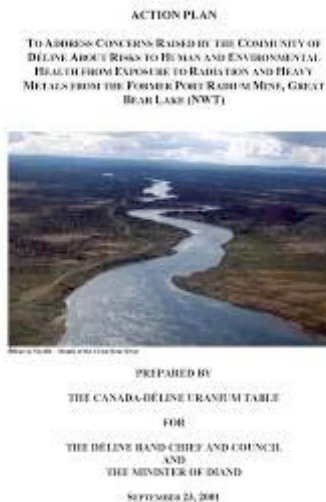


- 30's: Radium mining by Eldorado Gold Mining Co.
- 40 to 60's: Crown owned uranium mine Eldorado Mining and Refining Ltd.
- 60 to 80's: Echo Bay Ltd. silver mine
- Decommissioned in 1982 to "standards of the day"
- Security deposit returned b/c reclamation was completed to the satisfaction of the inspector



Site History Con't

- 2000-2005: Canada/Déline Uranium Table
- 2004: Crown secured FCSAP funding and made the decision to re-decommission the site
- 2005: Port Radium Remediation Plan was developed jointly by INAC and Déline



Timeline

- 2006 - permits & licences were obtained and contract was awarded
- 2007 - remediation occurred followed by re-assessment of risks
- 2008 - demobilization from the site and begin long term monitoring which will continue into perpetuity





Challenges in Developing the Remediation Plan

- Health and safety concerns
- Economic benefits obtained by Déline
- Déline's and Crown's contentment with the proposed plans



Implementation Principles

Developed to ensure that health and safety concerns and social economic concerns would be obtained during implementation.

These were:

- Work must be done safely
- Maximize Déline capacity building and training opportunities
- Maximize Déline employment/contracting opportunities
- Compliance with all legal and regulatory requirements



Choosing Options

Goals / Options Murphy Tailings Area	Leave as is and monitor	Fill in Sm. Pond at Murphy and relocate exposed tailings	Fill in Sm. Pond at Murphy and cover exposed tailings	Consolidate and relocate to McDonough TCA
Health and safety	Med	Low	High	Low
Protect fish, wildlife and vegetation	Low	High	High	Med
Protect GBL water quality	Low	High	Med	High
Minimize env. Impacts during rem.	High	Med	Med	Low
Minimize Long term care and maintenance	Low	High	Med	High
Return site to its original condition where possible	Low	Low	Low	Med
Is cost effective	High	Med	High	Low
A / P / NA	NA	P	A	NA



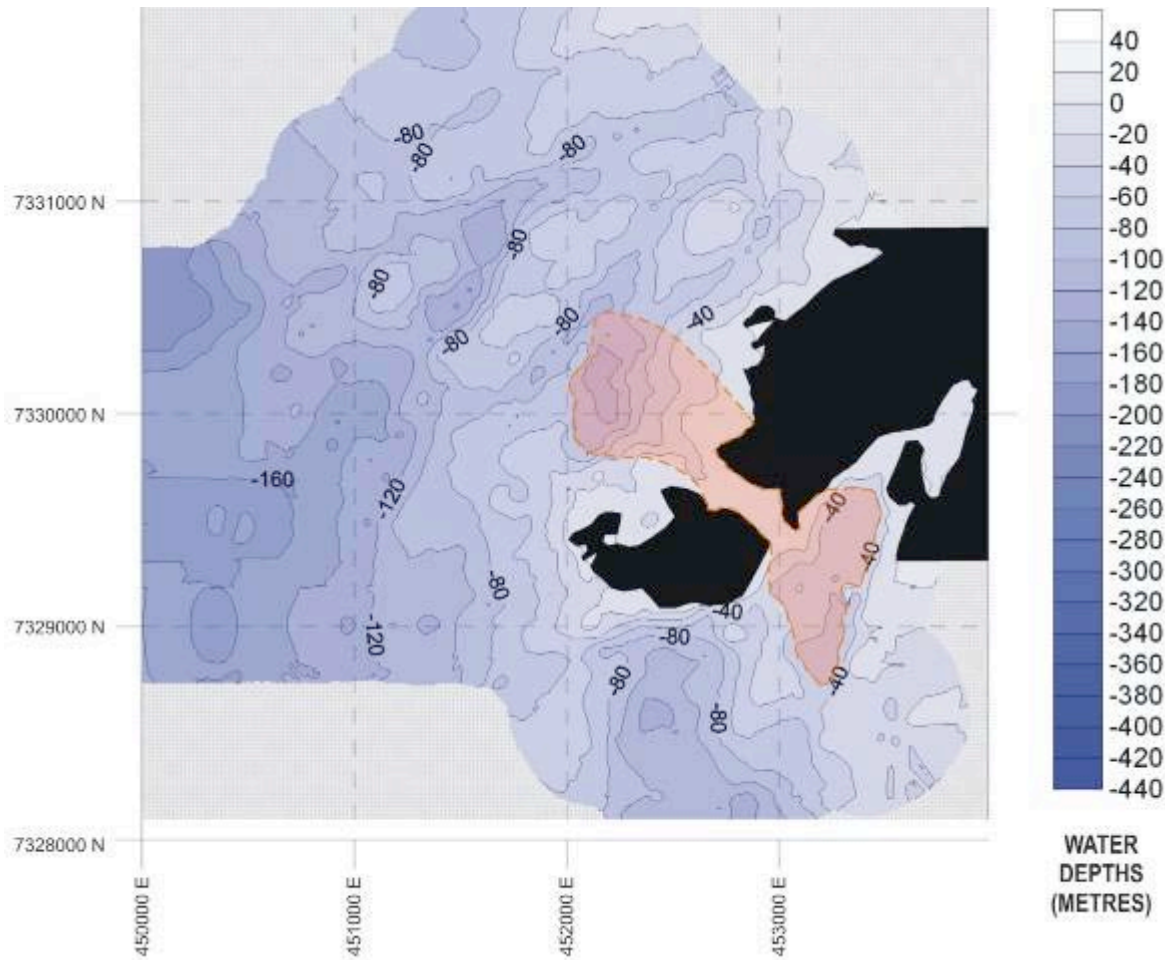
Remediation




- Physical concerns (openings, buildings, structures etc.)
- Environmental concerns (contaminated drainage, asbestos abatement, tailings areas, radiation areas etc)



Tailings – Risk Management





Regulatory Challenges (Permitting and Licencing Processes)

- Canadian Nuclear Safety Commission first time working with Sahtu Land & Water Board (SLWB) with the MVRMA
- Timing of obtaining permits compared to awarding the contract

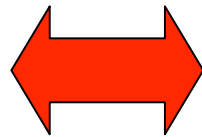
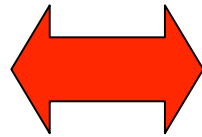


Permitting/Licencing

- *Nuclear Safety and Control Act, 1997, c.9* - Waste Nuclear Substance Licence (WNSL) for storage of uranium tailings
- *Mackenzie Valley Resource Management Act 1998, c. 25* - Land Use Permit for construction activities



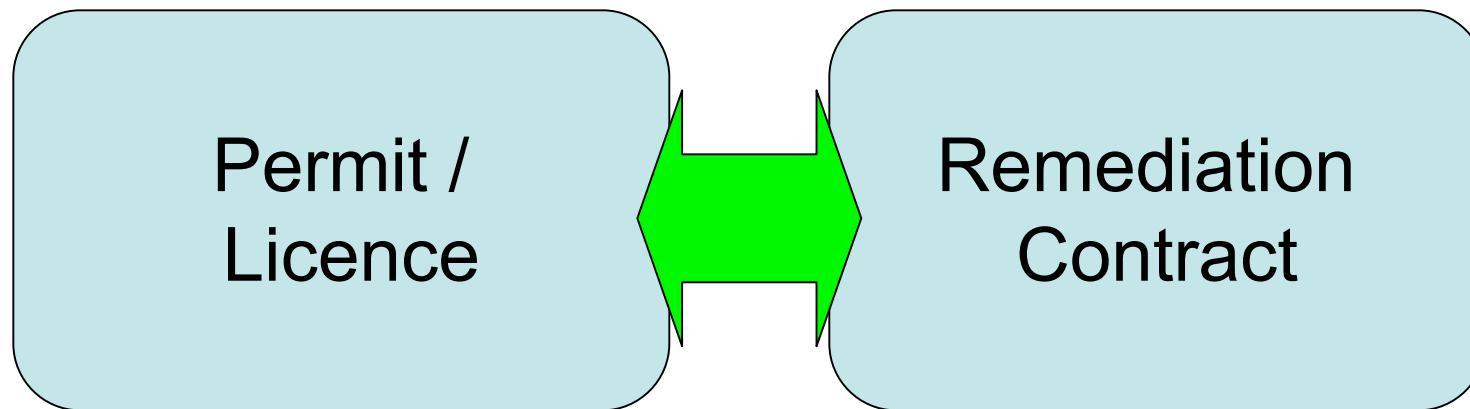
Obtaining Licence from CNSC



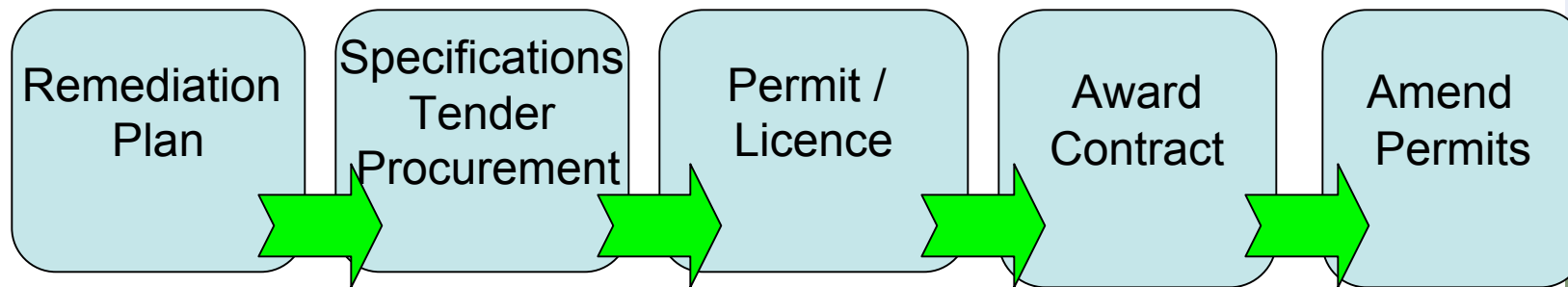
- Develop process
- Arrange for review agencies
- Clarifying roles and responsibilities



Regulatory Timing Challenges



Regulatory Process



Permit and Licence applications:

- require enough flexibility
- required to be descriptive

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Canada



Challenges in Developing Procurement Plan

- Interpretation of Land Claim Agreement related to procurement of contract
- Differing mandates between Departments (INAC & PWGSC) and Aboriginal Government
- Ensuring social-economic targets would be met by winning contractor





SAHTU DENE AND METIS COMPREHENSIVE LAND CLAIM AGREEMENT

- Section 35 of the Constitutional Act of Canada
- Procure under Comprehensive Land Claim Agreement (CLCA)
- The CLCA states that contracts must “intend to maximize local and regional employment and business opportunities”
- Include an Aboriginal Benefits Package within the weighting criteria of the contract





PWGSC -
Contracts are fair
and reasonable
and represent
good value to the
Crown

**Procurement
Plan**

INAC - reduce
Crown liabilities,
be cost effective,
maximize capacity
& training,
confidence in H&S
of completing work

**First Nation
Government -**
Build capacity,
businesses,
employment,
training





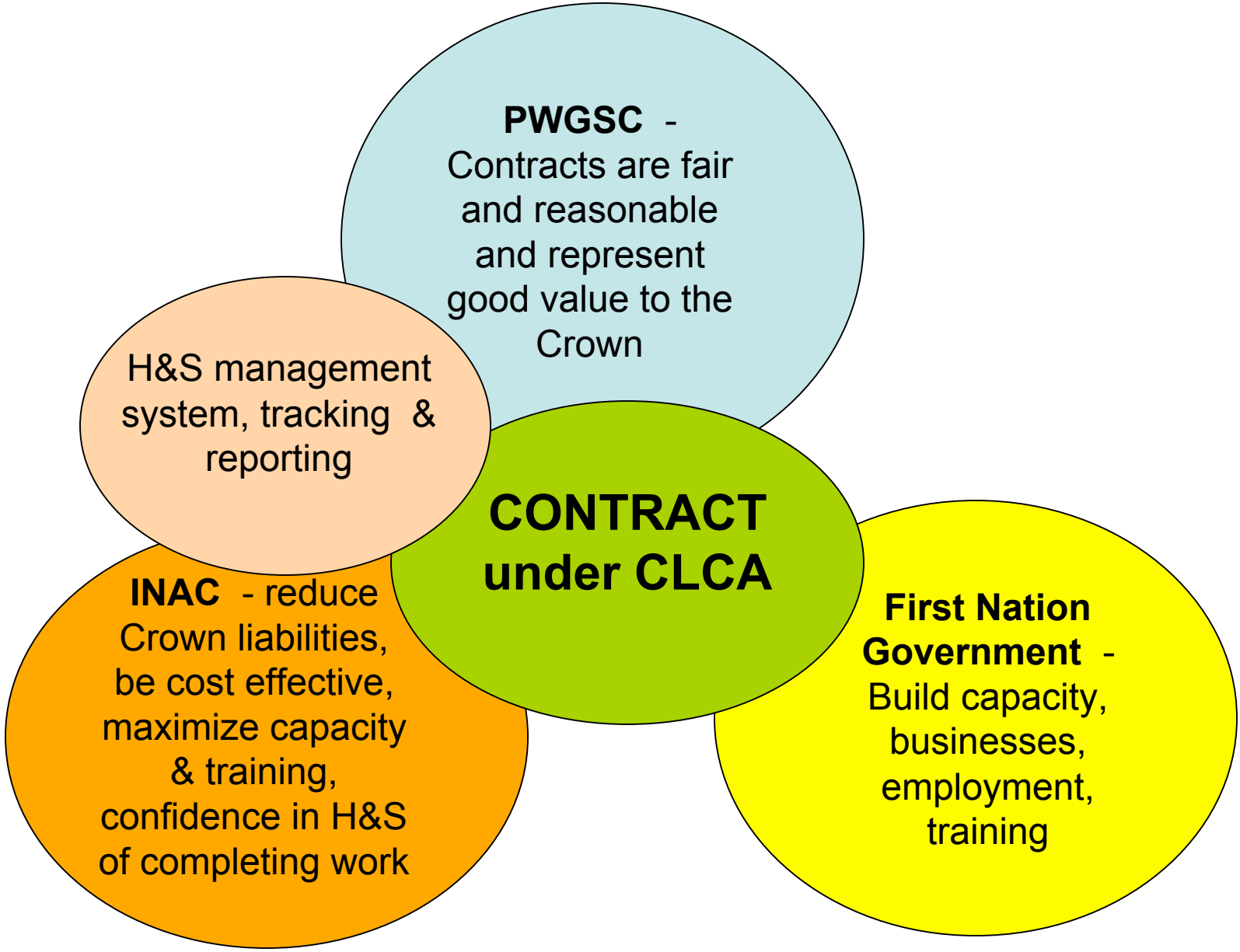
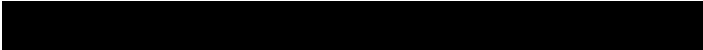
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**CONTRACT
under CLCA**

**First Nation
Government -**
Build capacity,
businesses,
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training









Training Opportunities



Ensure Social-Economic Targets

- Develop contract evaluation criteria accordingly:
 - To obtain the best value proposal
 - 60% proposal : 40% costs
 - Proposal can be further broken-down to
 - 75% technical & management : 25% Aboriginal Benefits
- Incentives and penalties and were used to reinforce the Contractors aboriginal target commitments





Aboriginal Benefits for Port Radium

- Déline involve during Mobilization/ Demobilization
- Indirect benefits transport through the community;
- Subcontracting opportunities (target 10 – 30%); and
- Employment opportunities (target 40-60%)
- Unique incorporation of Déline into remediation program





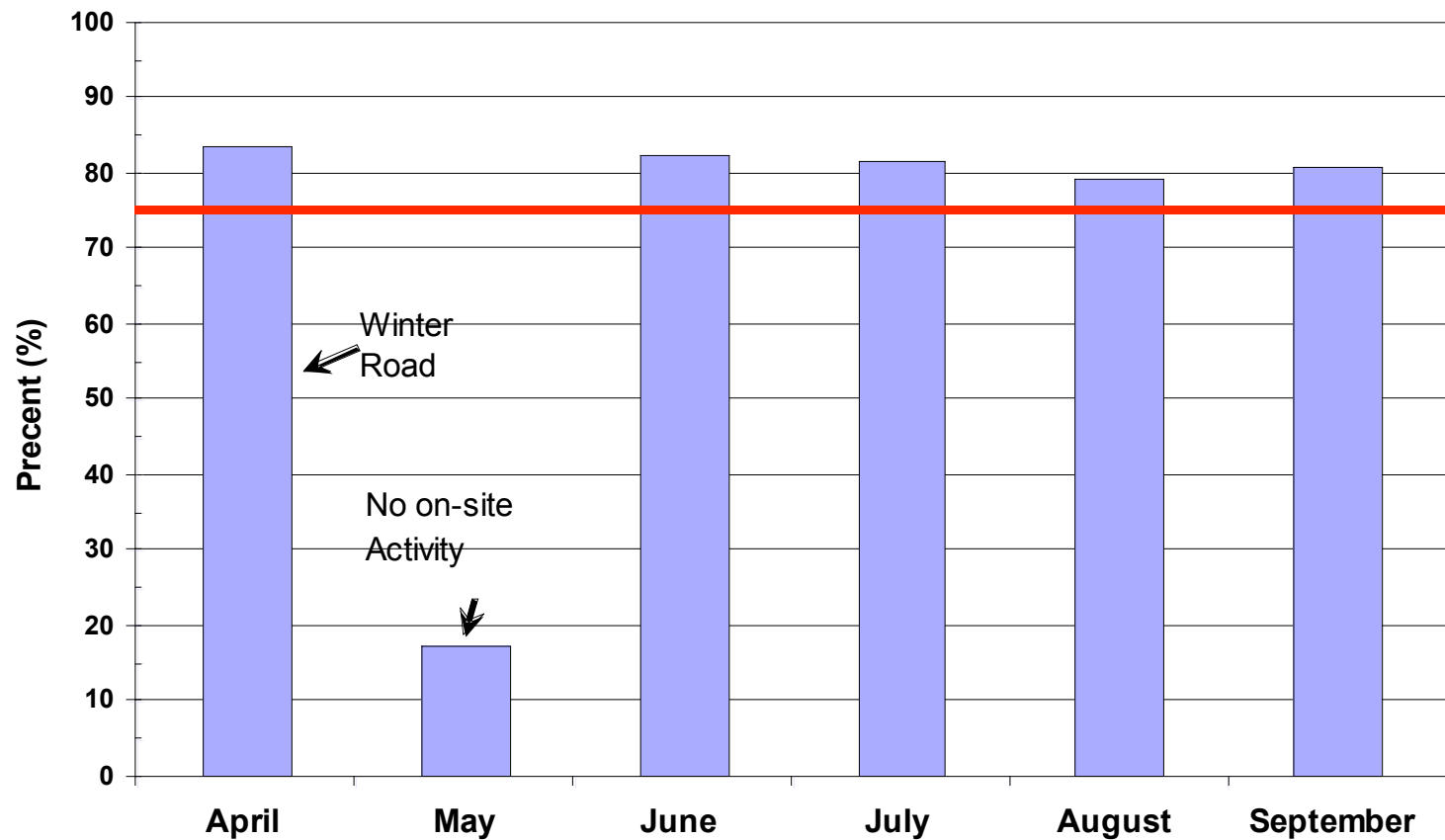
Remediation Results

Contract awarded to Aboriginal Engineering Ltd.:

- Aboriginal employment met INAC/Déline targets
- H&S Management met INAC/Déline targets
- Significant Risk Reduction was accomplished



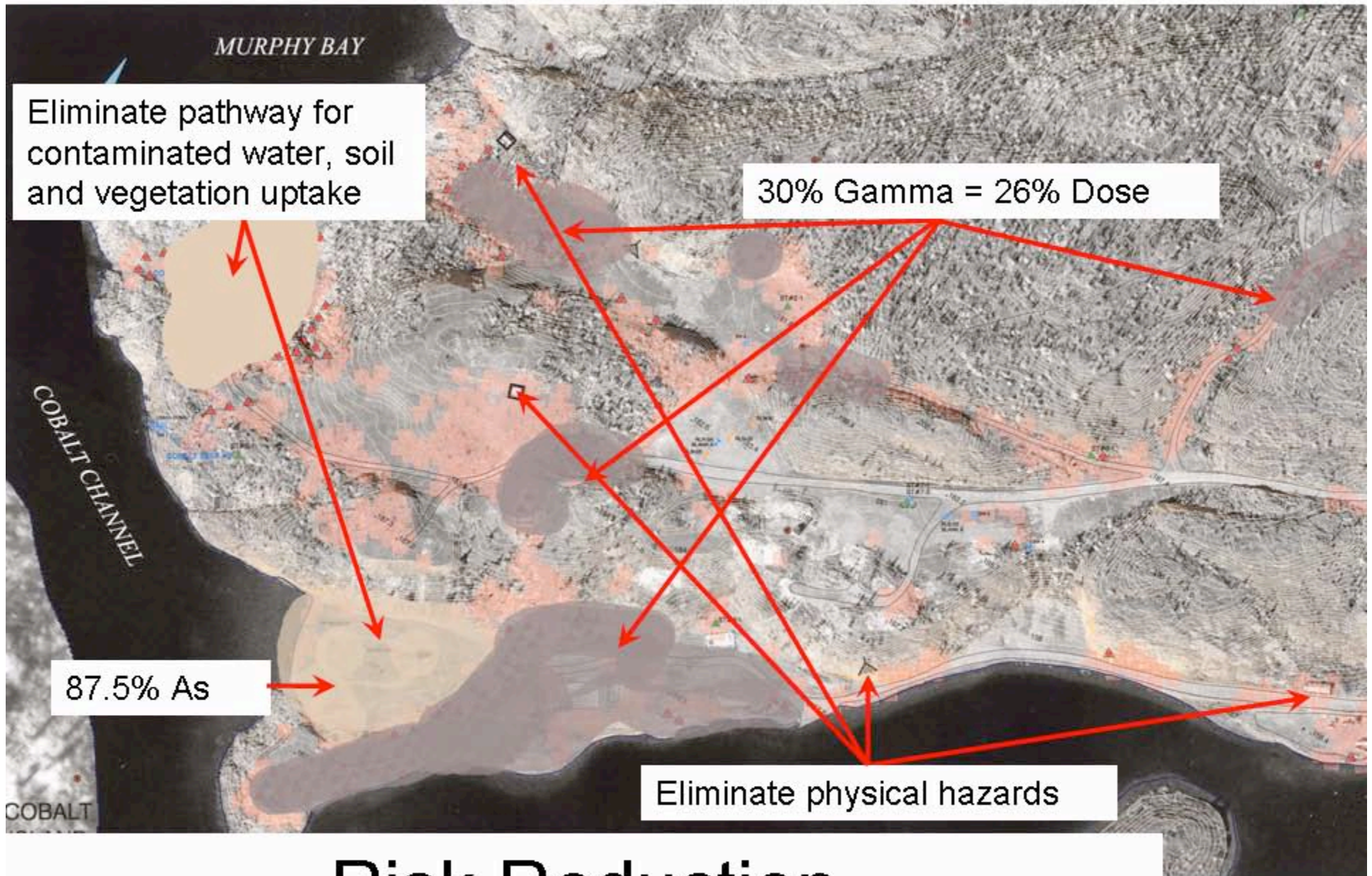
Aboriginal Engineering Ltd. Committed to 75% Déline Employment



Health and Safety Monitoring

- 37,852 person hours worked on site this season
- One 300L fuel spill which was well contained in a short period of time
- Full compliance results for 7 inspections/audits
- No incidences
- No near misses





Eliminate pathway for contaminated water, soil and vegetation uptake

30% Gamma = 26% Dose

87.5% As

Eliminate physical hazards

Risk Reduction

Port Radium Future: Long Term Monitoring

- Focused on monitoring site conditions to determine the success of the remediation
- Risk management for in water tailings
- Monitor traditional foods (fish, wildlife and vegetation)

