



# Contaminated Site Remediation of the Great Slave Lakes Mine Sites

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## Bidders Conference

June 12<sup>th</sup>, 2014

Yellowknife, NT

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## Outpost Island Mine site:



2



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## Blanchet Island Mine site:



3



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## Copper Pass Mine site:



4



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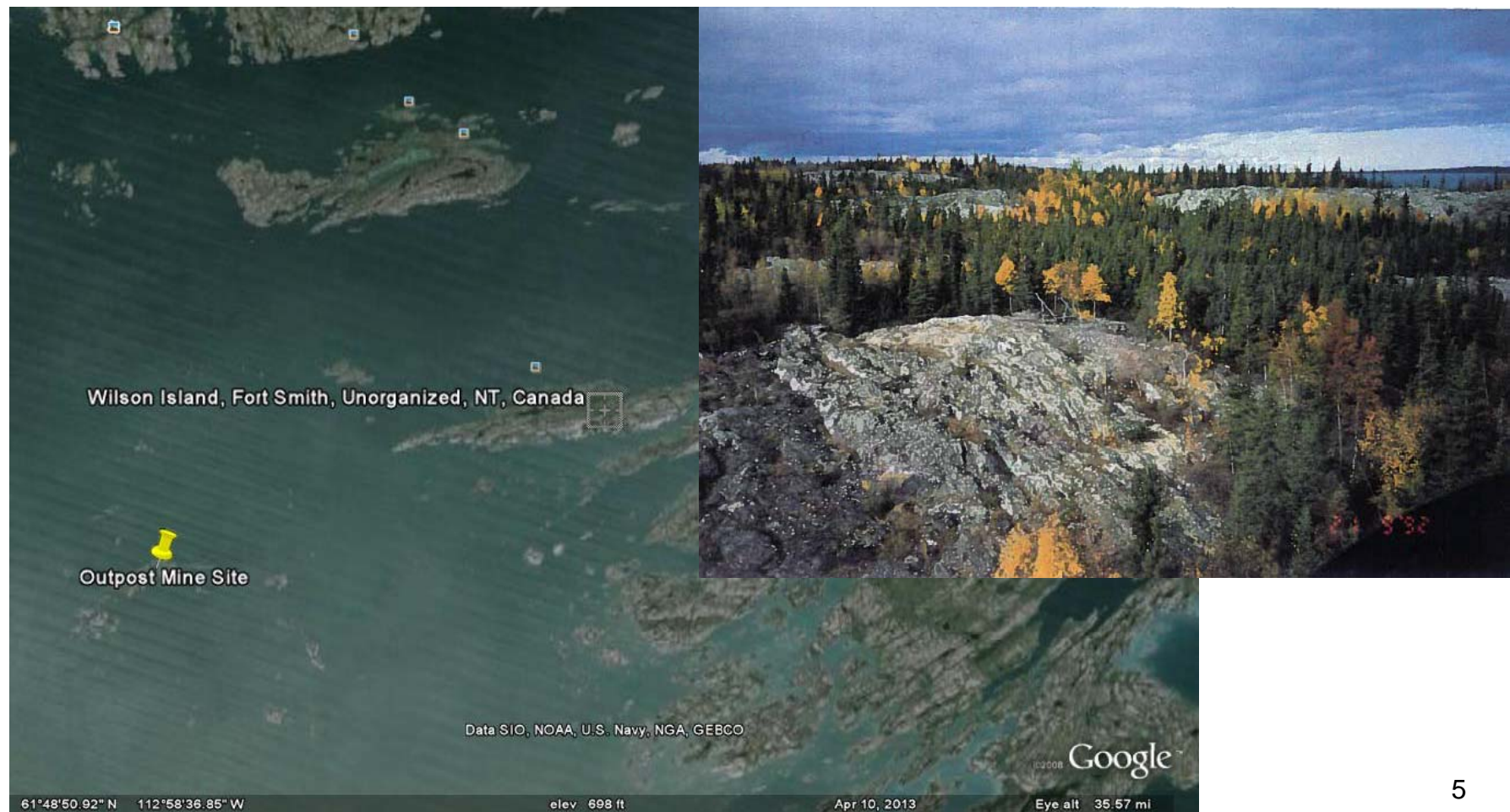


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## Wilson Island Shafts:



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## Waldron River Shafts:



## PWGSC Presentation Topics:

- Project Background (AANDC)
- Permitting (AANDC)
- Regulatory Compliance (AANDC)
- H&S Regulatory Compliance (PWGSC)
- Scope of Work – Specifications (PWGSC)
- Anticipated Schedule (PWGSC)
- RFP Review (PWGSC)



## Outpost:

- copper, gold and tungsten (1935-1952)
- West Island – primary mining activities
- East Island – minimal activities

## Blanchet:

- cobalt and nickel showing in 1968
- open-cut and adit developed in 1969
- small scale mining until 1970





### Copper Pass:

- nickel mine with original claims staked by Cominco in 1940
- Copper Pass Mines Ltd in 1969

### Wilson Island:

- advanced gold exploration property
- staking started in early 1900s through to 1970s

### Waldron River:

- copper exploration property
- staking started in 1940s through to 1960s



## Northern Contaminated Sites Program (NCSP):

- Originated in 1990s with Arctic Environmental Strategy (AES)
  - Outpost, Wilson Island, Copper Pass and Waldron River clean ups under AES in 1994
- Program now funded through Federal Contaminated Sites Program (FSCAP)



## Federal contaminated site criteria:

- Abandoned (no owners)
- On Crown Land (not community)
- Contaminated above background levels
- A risk to humans or the environment







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Phase	Step	Activity
<b>Assessment</b>	<b>1</b>	<b>Identify Site</b>
	<b>2</b>	<b>Historical Review</b>
	<b>3</b>	<b>Initial Testing</b>
	<b>4</b>	<b>Classify Site (NCS 1,2, 3 or waste site)</b>
	<b>5</b>	<b>Detailed Testing</b>
	<b>6</b>	<b>Reclassify Site</b>
<b>Licencing/ Permitting</b>	<b>7</b>	<b>Develop Remediation/Risk Management Plan</b>
<b>Remediation</b>	<b>8</b>	<b>Implement Plan (Remediation)</b>
	<b>9</b>	<b>Confirmatory Sampling</b>
<b>Monitoring</b>	<b>10</b>	<b>Long Term Monitoring</b>



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## GSL Remediation Project:

- Assessment Phase (historical review) confirms all sites are abandoned
- There are no active 3rd party interests on any of the sites
- AANDC is owner and custodian of these sites



## NCSP and Environment, Health and Safety (EHS):

- Program is high risk (remote site logistics, chemical, physical and biological hazards)
- As site owner/custodian, AANDC needs to ensure that systems are in place to ensure H&S and environment are protected
- if work can't be done safely, it doesn't get done





## GSL Remediation Project:

- Phase I-III ESAs and HHERAs conducted between 2005-2013; finalized through FCSAP expert support and Traditional Knowledge Study
- Risk assessment indicates generally low risks with Contaminants of Concern (metals, PHCs, PAHs)
- RAP options selected with communities in 2013
- Sediments are locally impacted but will be risk managed (leave in place, cut off loading source)



## GSL Remediation Project Stakeholders:

### **Akaiicho Dene** (Interim Measures Agreement)

- Yellowknives Dene First Nation (YKDFN)
- Lutsel K'e Dene First Nation (LKDFN)
- Deninu K'ue First Nation (DKFN)

### **NWT Metis** (Interim Measures Agreement)

- Fort Resolution Métis Council (FRMC)

### **Tlicho** (Tlicho Final Agreement)

- Tlicho Government

+ Parks Canada

+ GSL Yacht Club



## Site Hazards (known and potential):

- **Chemical** – elevated metals (arsenic, chromium, copper, cobalt, nickel) in exposed tailings and mixed ore\* and waste rock, waste POLs, metal and PHC impacted soils, haz mats
    - Residual ore contains elevated mineralized arsenic and will require appropriate H&S control measures
  - **Physical** – mine openings, trenches (steep walls, loose rock, variable ice quality), steep slopes, UXOs, abandoned structures
  - **Biological** – wildlife (Blanchet and Copper Pass), abandoned structures (hantavirus)
- + logistics (air, marine, winter road travel)





<b>Mine Component</b>	<b>Outpost</b>	<b>Blanchet</b>	<b>Copper Pass</b>
<i><b>Mine Openings/ Surface Trenches</b></i>	4 (2 shafts, 2 raises)	1 (adit)	6 (trenches)
<i><b>Buildings</b></i>	2	6	7
<i><b>Non-Hazardous Refuse</b></i>	130m <sup>3</sup>	75m <sup>3</sup>	16m <sup>3</sup>
<i><b>Hazardous Waste Materials</b></i>	0.5m <sup>3</sup>	minimal	3,070L
<i><b>Mixed Tailings/ Waste Rock</b></i>	9,000m <sup>3</sup>	TBD	TBD
<i><b>Ore</b></i>	TBD	25m <sup>3</sup>	120m <sup>3</sup>
<i><b>Waste Rock</b></i>	400m <sup>3</sup>	1,000m <sup>3</sup>	4,800m <sup>3</sup>
<i><b>Metal Impacted Soil</b></i>	TBD	2,200m <sup>3</sup>	5,000m <sup>3</sup>
<i><b>PHC Impacted Soil</b></i>	23m <sup>3</sup>	50m <sup>3</sup>	71m <sup>3</sup>
<i><b>Surface Water and Sediments</b></i>	TBD	TBD	TBD



<b>Mine Component</b>	<b>Wilson</b>	<b>Waldron</b>
<i>Mine Openings/ Surface Trenches</i>	2 (capped shafts)	2 (pits)
<i>Buildings</i>		
<i>Non-Hazardous Refuse</i>		
<i>Hazardous Waste Materials</i>		
<i>Mixed Tailings/ Waste Rock</i>		
<i>Ore</i>		
<i>Waste Rock</i>		
<i>Metal Impacted Soil</i>		
<i>PHC Impacted Soil</i>		
<i>Surface Water and Sediments</i>		



## GSL Regulatory Compliance:

AANDC:

- Site Owner / Custodian
- Land Use Permit and Quarry Permit Holder



## GSL Permitting:

### Land Use Permit – MVLWB

- Single permit for all 3 sites

### Quarry Permit - AANDC

- Single permit for all 3 sites

### Water Licence – MVLWB

- No triggers (no licence)





## GSL Permitting:

LUP and QP cover operations for  
Outpost, Blanchet and Copper  
Pass

Wilson and Waldron - Operations  
do not trigger LUP, QP or WL



## GSL Permitting:

Land Use Permit – 5 year (+2)

### Reporting Requirements

1. Sediment & Erosion Control Plan
2. Waste Management Plan
3. Spill Contingency Plan
4. Annual Progress Report



## GSL Permitting:

Quarry Permit – annual renewal

### Reporting Requirements

1. Monthly Quarry Report
2. Annual Final Plan

\*Quarry Operations Plan

\* Territorial Quarry Regulations  
(TLA)



## GSL Permitting:

### Water Use

track between all 3 sites

MAX <100m<sup>3</sup>/day





## GSL Permitting:

### Immediate Needs

1. Sediment & Erosion Control Plan
2. Waste Management Plan\*
3. Spill Contingency Plan\*

-> 45 day review period



## Supporting Documents:

~40 files provided

Available on BuyandSell Posting

➤ Regulatory Compliance

➤ Environment

➤ Health and Safety

➤ Guidance Documents



# Regulatory Compliance:

Legislative Requirement	Jurisdiction	Aspect/Hazard	Revision
<b>Migratory Birds Convention Act 1994</b> Migratory Birds Regulations (C.R.C. 1978, c.1035) a.SOR/2002	Federal	Wildlife	2009, c.14 2011-120
<b>National Fire Code of Canada</b> , 1995 a. 2002		General Environmental	2010
<b>Navigable Waters Protection Act</b> (R.S.C. 1985, c.N-22), a.1998, c.10 Navigable Waters Works Regulations (C.R.C., c.1232)	Federal	Water Contamination	2009, c.2 95-372
<b>Northwest Territories Waters Act</b> (S.C. 1992, c.39) a.S.C. 2002, c.10 Northwest Territories Waters Regulations (SOR/93-303)	Federal	Water Contamination Drinking Water Safety	2005, c.1 2012-250
<b>Transportation of Dangerous Goods Act</b> , 1992 (S.C. 1992, c.34) a.1999, c.31 Transportation of Dangerous Goods Regulations (SOR/2001-286) a. SOR/2003- 400	Federal	Hazardous Waste	2009, c.9 2012-245
<b>Environmental Protection Act</b> (R.S.N.W.T. 1988,c.E-7)	NWT	Spills, Fuel Storage	2011, c.16
Spill Contingency Planning and Reporting Regulations (R- 068-93)	NWT	Spills	068-93
Used Oil and Waste Fuel Management Regulations (R-064- 2003)	NWT	Fuel Storage	064-2003
<b>Explosives Act</b> (R.S.N.W.T. 1988,c.E-10) Explosives Regulations (R.R.N.W.T. 1990,c.E-27)	NWT	Explosives, Unexploded ordinances	2007, c.21 1990
<b>Mine Health and Safety Act</b> (S.N.W.T. 1994, c.25) Mine Health and Safety Regulations (R-125-95)	NWT	Occupational Health and Safety	2010, c.16 R-008-2003
<b>Safety Act</b> (R.S.N.W.T. 1988,c.S-1)	NWT	Occupational Health and Safety	2010, c.16
Asbestos Safety Regulations (R-016-92)	NWT	Occupational Health and Safety	R-016-92
Environmental Tobacco Smoke Work Site Regulations (R- 082-2003)	NWT	Occupational Health and Safety	R-082-2003
General Safety Regulations (R.R.N.W.T. 1990,c.S-1)	NWT	Occupational Health and Safety	R-079-2000
Silica Sandblasting Safety Regulations (R-015-92)	NWT	Occupational Health and Safety	R-015-92
Work Site Hazardous Material Information System Regulations (R.R.N.W.T. 1990,c.S-2)	NWT	Occupational Health and Safety	1990, c.S-2
<b>Wildlife Act</b> (R.S.N.W.T. 1988,c.W-4)	NWT	Wildlife	009-2009
Birds of Prey Regulations (R-020-92)	NWT	Wildlife	058-99
Critical Wildlife Areas Regulations (R.R.N.W.T. 1990,c.W-3)	NWT	Wildlife	059-99



## Health and Safety

- H&S
  - Transportation safety
  - Mine safety
  - Worker and 3rd party safety
- Environmental Protection
  - Land and water, fish and wildlife
  - Fuel Storage, spill prevention
  - Hazardous materials management



## Regulatory Compliance:

- Need to know all applicable legislation and standards (not just those provided)
- Acts, Regulations, Codes, Standards, and Guidelines are regularly updated (ensure current version)
- Software such as “Compliance Pro”





# Environment Regulatory:

<p>CONSOLIDATION</p> <p><b>Mackenzie Valley I Use Regulations</b></p> <p>SOR/98-429</p> <p>Current to May 14, 2014</p> <p>Last amended on September 30, 2013</p> <p>Published by the Minister of Justice at the following address: <a href="http://laws-lois.justice.gc.ca">http://laws-lois.justice.gc.ca</a></p>	<p>CONSOLIDATION</p> <p><b>Northwest Territories Waters Regulations</b></p> <p>SOR/93-303</p> <p>Current to May 14, 2014</p> <p>Last amended on November 30, 2012</p> <p>Published by the Minister of Justice at the following address: <a href="http://laws-lois.justice.gc.ca">http://laws-lois.justice.gc.ca</a></p>	<p>ENVIRONMENTAL PROTECTION ACT</p> <p><b>SPILL CONTINGENCY PLANNING AND REPORTING REGULATIONS</b></p> <p>R-068-93</p> <p>INCLUDING AMENDMENTS MADE BY</p> <p>This consolidation is not an official statement of law. It is an office consolidation prepared by the Legislation Division, Department of Justice, for convenience of reference only. The authoritative text of regulations can be ascertained from the <i>Revised Regulations of the Northwest Territories, 1990</i> and the monthly publication of Part II of the <i>Northwest Territories Gazette</i>.</p> <p>Copies of this consolidation and other Government of the Northwest Territories publications can be obtained at the following address:</p> <p>Canarcic Graphics 5102-50th Street P.O. Box 2758 Yellowknife NT X1A 2R1 Telephone: (867) 873-5924 Fax: (867) 920-4371</p>	<p>LOI SUR LA PROTECTION DE L'ENVIRONNEMENT</p> <p>ENVIRONMENTAL PROTECTION ACT</p> <p><b>USED OIL AND WASTE FUEL MANAGEMENT REGULATIONS</b></p> <p>R-064-2003</p> <p>In force January 1, 2004</p> <p>INCLUDING AMENDMENTS MADE BY</p> <p>R-041-2005</p> <p>This consolidation is not an official statement of the law. It is an office consolidation prepared by the Legislation Division, Department of Justice, for convenience of reference only. The authoritative text of regulations can be ascertained from the <i>Revised Regulations of the Northwest Territories, 1990</i> and the monthly publication of Part II of the <i>Northwest Territories Gazette</i>.</p> <p>Copies of this consolidation and other Government of the Northwest Territories publications can be obtained at the following address:</p> <p>Canarcic Graphics 5102-50th Street P.O. Box 2758 Yellowknife NT X1A 2R1 Telephone: (867) 873-5924 Fax: (867) 920-4371</p>	<p>LOI SUR LA PROTECTION DE L'ENVIRONNEMENT</p> <p><b>RÈGLEMENT SUR LA GESTION DES HUILES USÉES ET DES COMBUSTIBLES RÉSIDUAIRES</b></p> <p>R-064-2003</p> <p>En vigueur le 1<sup>er</sup> janvier 2004</p> <p>MODIFIÉ PAR</p> <p>R-041-2005</p> <p>La présente codification administrative ne constitue pas le texte officiel de la loi; elle n'est établie qu'à titre documentaire par les Affaires législatives du ministère de la Justice. Seuls les règlements contenus dans les <i>Règlements révisés des Territoires du Nord-Ouest (1990)</i> et dans les parutions mensuelles de la Partie II de la <i>Gazette des Territoires du Nord-Ouest</i> ont force de loi.</p> <p>On peut également obtenir des copies de la présente codification et d'autres publications du gouvernement des Territoires du Nord-Ouest en communiquant avec :</p> <p>Canarcic Graphics 5102, 50<sup>e</sup> Rue C.P. 2758 Yellowknife NT X1A 2R1 Téléphone : (867) 873-5924 Télécopieur : (867) 920-4371</p>
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## Environment Guidance:



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# Health and Safety Regulatory:

**MINE HEALTH AND SAFETY ACT**  
**CONSOLIDATION OF MINE HEALTH AND SAFETY REGULATIONS**  
R-125-95  
*(Current to: October 17, 2011)*

**AS AMENDED BY NORTHWEST TERRITORIES REGULATIONS:**  
R-026-97  
R-106-97  
R-041-98  
R-026-99

**AS AMENDED BY NUNAVUT REGULATIONS:**  
R-016-2003  
In force February 28, 2003

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A copy of a regulation of Nunavut can be obtained from the Territorial Printer at the address below. The *Nunavut Gazette* and this consolidation are also available online at <http://www.justice.gov.nu.ca/english/legislation.html> but are not official statements of the law.

Any registered regulations not yet published in the *Nunavut Gazette* can be obtained through the Registrar of Regulations at the address below.

Territorial Printer Legislation Division Department of Justice Government of Nunavut P.O. Box 1000, Station 550 Iqaluit, NU X0A 0H0	Tel.: (867) 975-6305 Fax: (867) 975-6189 Email: <a href="mailto:TerritorialPrinter@gov.nu.ca">TerritorialPrinter@gov.nu.ca</a>
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R-125-95

<p><b>SAFETY ACT</b> <b>WORK SITE HAZARDOUS MATERIALS INFORMATION SYSTEM REGULATIONS</b> R.R.N.W.T. 1990,c.S-2</p> <p><b>INCLUDING AMENDMENTS MADE BY</b></p> <p>This consolidation is not an official statement of the law. It is an office consolidation prepared by Legislation Division, Department of Justice, for convenience of reference only. The authoritative text of regulations can be ascertained from the <i>Revised Regulations of the Northwest Territories, 1990</i> and the monthly publication of Part II of the <i>Northwest Territories Gazette</i>.</p> <p>Copies of this consolidation and other Government of the Northwest Territories publications can be obtained at the following address:</p> <p>Canarctic Graphics                  5102-50th Street                  P.O. Box 2758                  Yellowknife NT X1A 2R1                  Telephone: (867) 873-5924                  Fax: (867) 920-4371</p>	<p><b>LOI SUR LA SÉCURITÉ</b> <b>RÈGLEMENT SUR LE SYSTÈME D'INFORMATION SUR LES MATIÈRES DANGEREUSES DANS LES LIEUX DE TRAVAIL</b> R.R.T.N.-O. 1990, ch. S-2</p> <p><b>MODIFIÉ PAR</b></p> <p>La présente codification administrative ne constitue pas le texte officiel de la loi; elle n'est établie qu'à titre documentaire par les Affaires législatives du ministère de la Justice. Seuls les règlements contenus dans les <i>Règlements révisés des Territoires du Nord-Ouest (1990)</i> et dans les parutions mensuelles de la Partie II de la <i>Gazette des Territoires du Nord-Ouest</i> ont force de loi.</p> <p>On peut également obtenir des copies de la présente codification et d'autres publications du gouvernement des Territoires du Nord-Ouest en communiquant avec :</p> <p>Canarctic Graphics                  5102, 50<sup>e</sup> Rue                  C.P. 2758                  Yellowknife NT X1A 2R1                  Téléphone : (867) 873-5924                  Télécopieur : (867) 920-4371</p>
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# Health and Safety Guidance:

**BEST PRACTICE**  
for Building and W  
Safely on Ice Cove

**Asbes**

WSC

## Guideline for Dust Suppression

- 1 Introduction
    - 1.1 Definitions
    - 1.2 Why are Dust Suppressants Used?
    - 1.3 Roles and Responsibilities
  - 2 General Dust Suppression G
    - 2.1 Notification for Use of Approved Pro
    - 2.2 Approved Products
    - 2.3 Application Procedures
    - 2.4 Environmental Concerns
      - 2.4.1 General
      - 2.4.2 Water
    - 2.5 Spill Contingency Plan
  - 3 New Products
    - 3.1 Leachate Toxicity Testing
  - 4 Conclusion
  - 5 Bibliography
- Appendices

## Environment, Health and Safety Management System Manual

Revision 0

Northwest Territories Region



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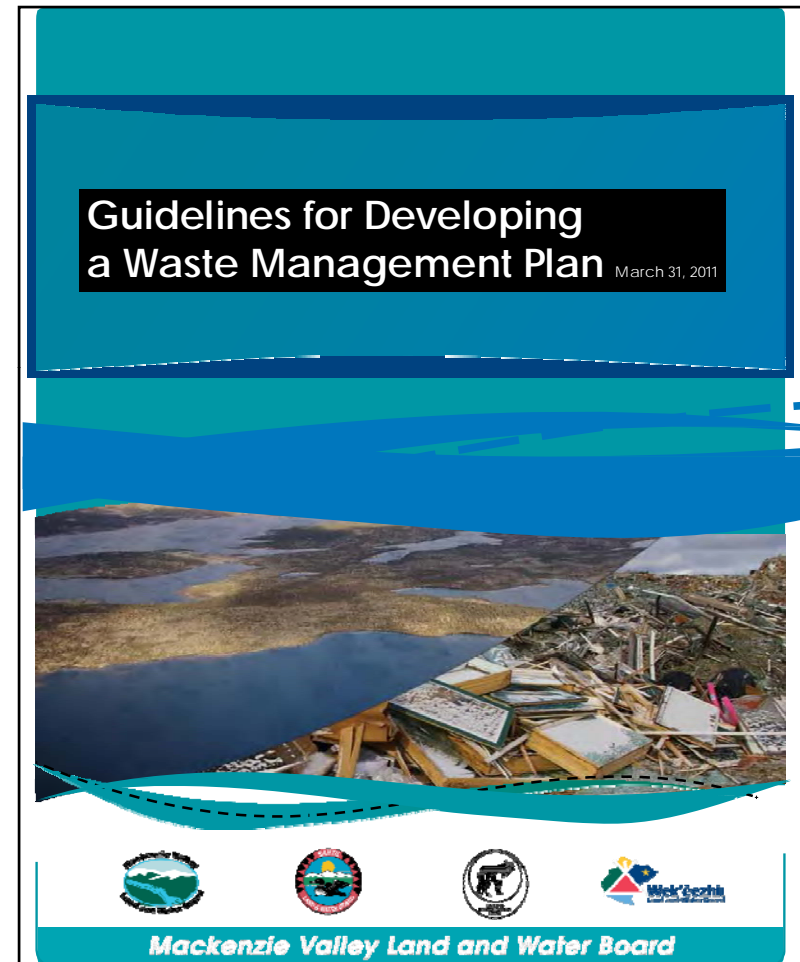
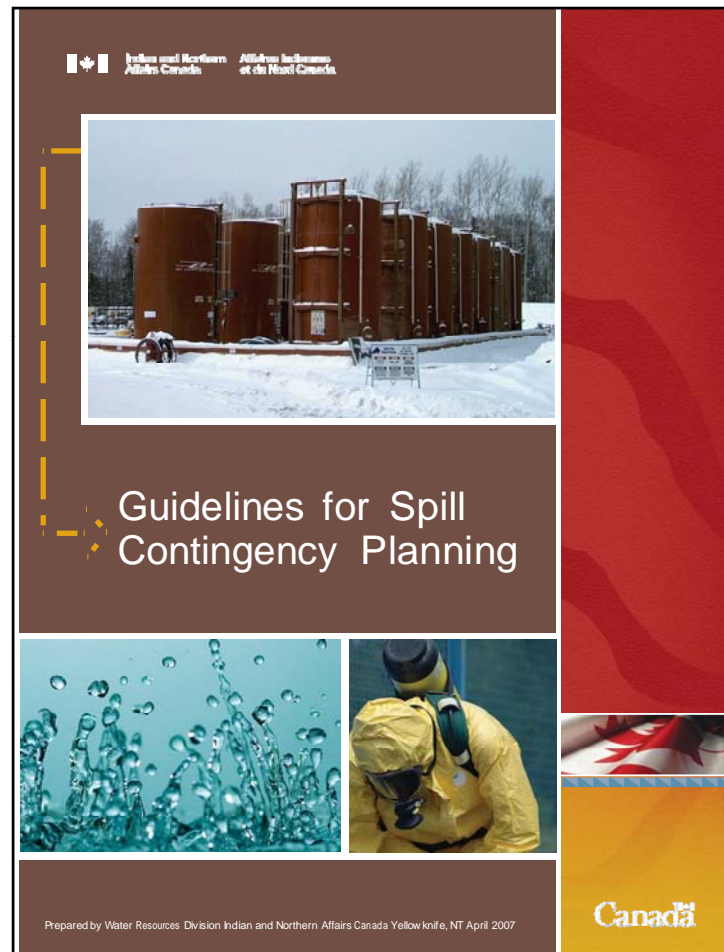


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## Submission Standards:





## Sediment and Erosion:

No specific Guidance Documents

MVLWB Public Registry for examples

<http://www.mvlwb.ca/Boards/mv/SitePages/registry.aspx>

Recommend looking at several examples.



## Sediment and Erosion:

Focus on both Erosion and Sediment.

Erosion: Primary defense, long term design features (e.g. vegetation, armoring, rip rap, grades, material size, channels, etc.)

Sediment: Secondary defense, temporary features, required until site is stable (e.g. silt fences, hay bales, etc.)



## Sediment and Erosion:

In addition to general SEC information, will also require site specific content, such as...



## Sediment and Erosion: Blanchet Borrow Area (~31m from GSL)



**Photograph No. 1:** Aerial view of Blanchet Borrow Areas 1 and 3 (circled red).



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## Sediment and Erosion:

Outpost Island - directly adjacent to GSL



## Additional Supporting Documents:

- Mine History
- Previous remediation
- Northern Operation Standards
- Remedial Action Plans
- Quarry assessment and operations
- Copper Pass winter road
- Wilson and Waldron Mines





## Land Use Jurisdiction:



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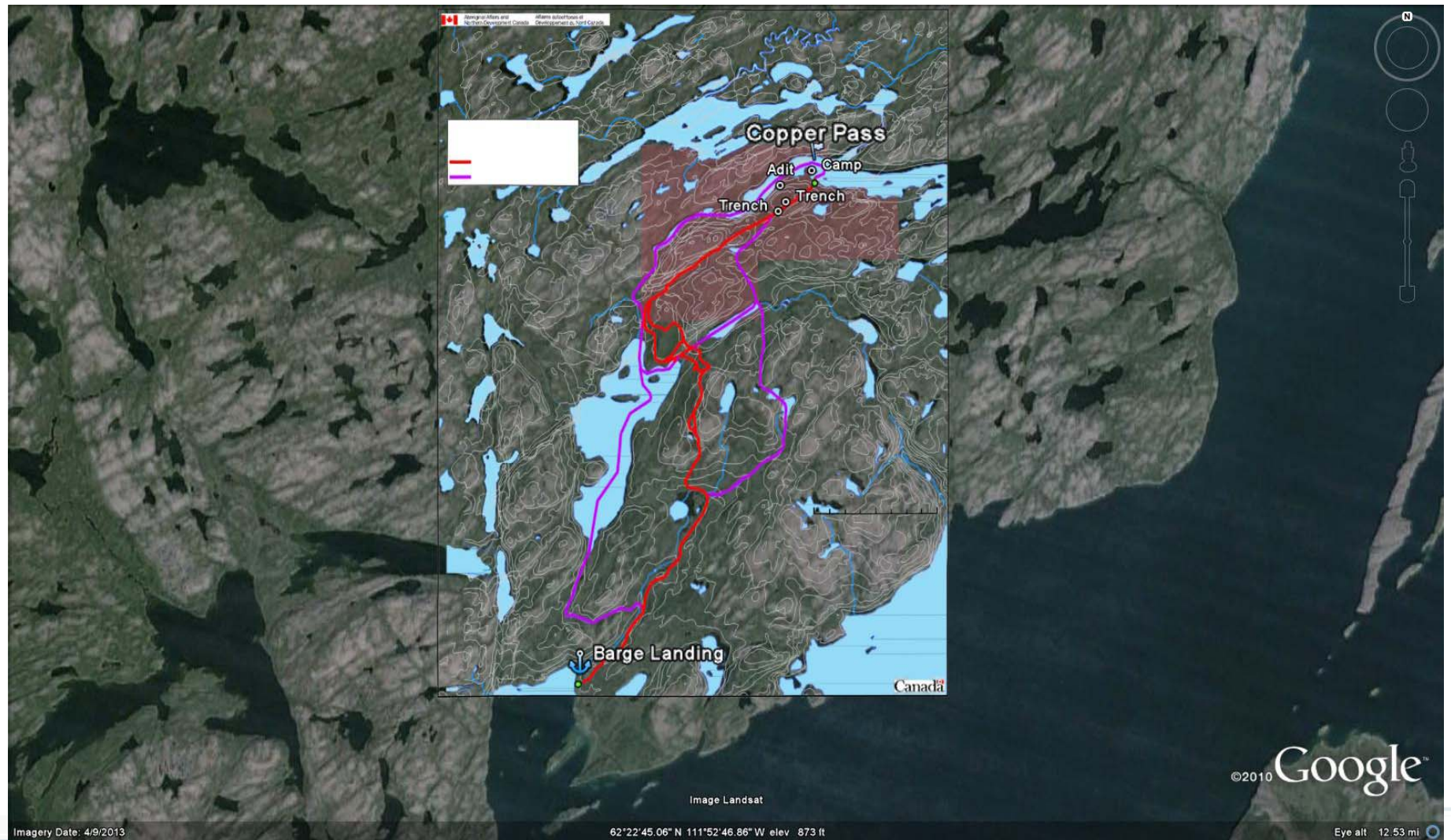
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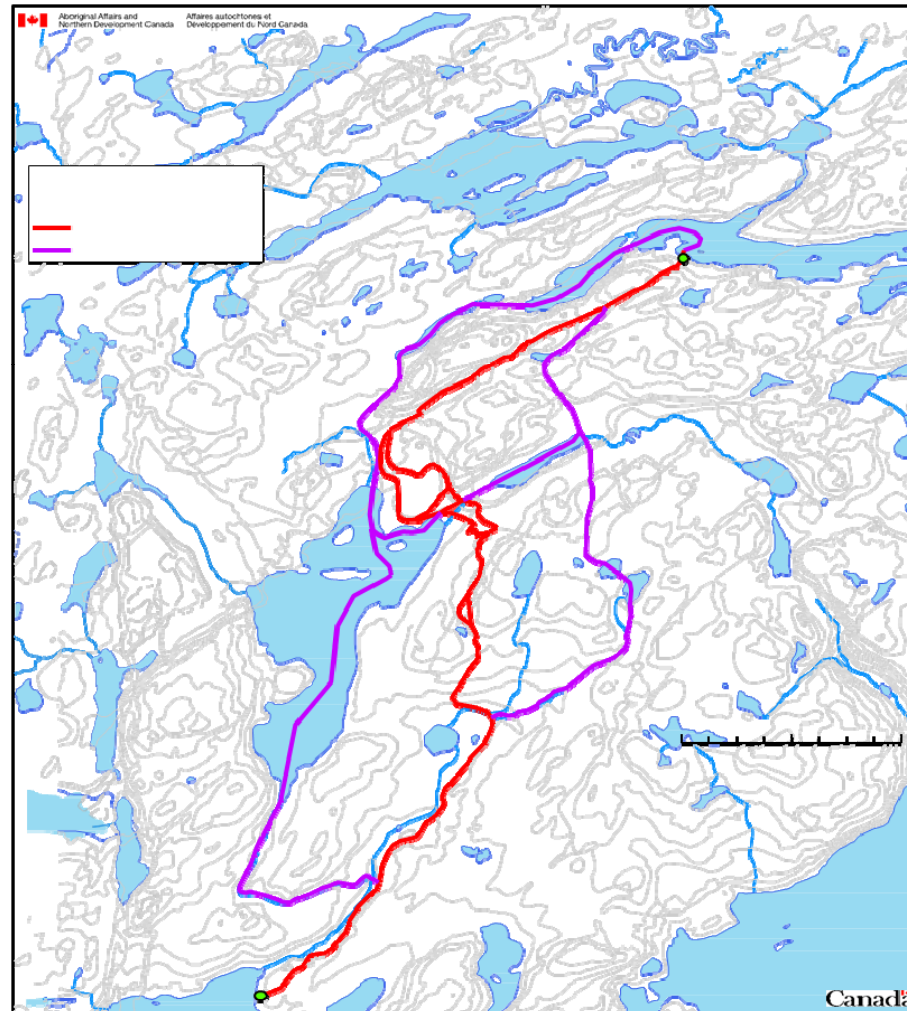


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## Land Use Jurisdiction:



## Regulatory Summary

- AANDC is site owner/custodian and federal proponent
- PWGSC manages the remediation contract and is the Contractor's first point of contact
- The whole project team needs to lead by example



# Health and Safety

## 01 35 32 - SSHASP

- Contractor assumes role of Prime Contractor, as such is responsible for H&S of all persons on the site.
- NCSA Certificate of Recognition (COR)
  - Ensures a recognizable safety program in place
  - Quantifiable and measureable
- Provision of a full time EMT, first aid supplies and dedicated treatment facility.
- Authority Having Jurisdiction (AHJ)
  - WSCC (Mandatory)
  - Mine Health and Safety Act (Mandatory)
  - CLC II (Applies to Government of Canada and information for the Contractor)





## Health and Safety

- Initial Site Hazard Assessment
  - AANDC/Consultant (draft report available to successful Contractor)
  - Winning Contractor (Initial plus Annual)
  - All Hazards to be addressed by Contractor
- Site Specific Health and Safety Plan
  - Reviewed by WSCC and PWGSC
  - Possible Audits by PWGSC and AANDC
  - Inspections by WSCC
- The development of the SSHSP is a lump sum item





# Mobilization / Demobilization

## 01 53 00 Key Points

- Contractor is responsible for all aspects of mobilization and demobilization of equipment, fuel, supplies, camp, crews, etc.
- Methodology should be clearly described in the proposal along with potential risks and mitigative measures
- Potential options for accessing site are being presented base on our logistical analysis
- Contractor is responsible to conduct their own research and develop specific mobilization approach
- Mobilization and Demobilization are Lump Sum payment items



## Mobilization / Demobilization

- Blanchet and Outpost Mine Sites accessible via barges
- Copper Pass Mine site is connected to Great Slave Lake (GSL) via a historic winter road
- All sites are accessible via float planes (Turbo Beaver or Twin Otter)
- It is anticipated that barges will be used to access both Blanchet and Outpost directly; whereas, equipment for Copper Pass will be staged at Hamilton Bay where the historic winter road alignment connects Copper Pass to GSL
- It is anticipated equipment staged at Hamilton Bay would be transferred to Copper Pass via the historic winter road alignment
- Due to the timing of contract award, there is limited time for fieldwork this fiscal year and there is the potential for only the barge mobilization to Hamilton Bay, historic winter road construction, and mobilization of equipment to be completed



## Outpost 1994 Mooring



## Blanchet - Potential Mooring Locations





## Copper Pass - 1994 Mooring Location (Hamilton Bay)



Hamilton Bay looking N/NW



# Scope of Work

## 01 54 00 - Camp Supply and Operation

Contractor responsible for:

- Supply and operation of camp.
- Security & wildlife protection.
- Selecting camp location to avoid areas of historical significance.
- Water use and effluent discharge.
- Regulatory compliance.
  
- Existing structures **not** suitable for use as temporary camp.
- Lump sum payment item.





# Scope of Work

## 02 41 16-1 – Structure Demolition

- All structures onsite are to be demolished and separated into various waste streams. Non hazardous materials are to be removed offsite.
- Untreated wood debris to be burned onsite in a pre-approved location.
- Known hazardous and non-hazardous materials and estimated volumes are categorized in the spec appendix A, and detailed in the supporting documents.
- Lump sum payment item, quantities will not be measured for payment.



# Scope of Work

## 02 41 23 – Debris and Misc Removals

- All non hazardous scattered and buried debris to be removed off-site.
- Untreated wood debris to be burned onsite in a pre-approved location.
- Quantities will not be measured for payment. Lump Sum Payment item.
- Demolition debris categorized in the spec appendix A, and detailed in the supporting documents.



## Scope of Work

### 02 55 13 Contaminated Soil:

- PHC Contaminated soils are to be removed off and will be measured by tonnage based on weigh bills of the Contractor's disposal facility
- Ore and ore concentrate are to be removed off and will be measured by tonnage based on weigh bills of the Contractor's disposal facility
- Metal impacted soils from camp waste and broken batteries are to be removed off and will be measured by tonnage based on weigh bills of the Contractor's disposal facility
- Estimated volumes are categorized in the spec appendix A, and detailed in the supporting documents.



## Scope of Work

### 02 61 33 Hazardous Waste Material:

- Known hazardous materials include, but not limited to batteries and hazardous liquid contents.
- Lump Sum Payment Items for the supply of shipping containers, containerization, and off-site transport. Quantities will not be measured for payment.
- Description and estimated volumes of known hazardous materials are categorized in appendix A and detailed in the supporting documents



# Scope of Work

## 03 05 11 Mine Opening Seal:

- Outpost – shafts, raises and trenches
- Blanchet – adit
- Copper Pass – trenches
- Wilson - shafts
- Waldron - shafts
- Descriptions of the openings at Blanchet, Outpost, and Copper Pass are in appendix B and detailed in the supporting documents
- Descriptions of the openings at Wilson and Waldron are idetailed in the supporting documents
- Lump Sum Payment Items for closure of each opening.



## Scope of Work

### 31 22 15 Grading:

#### Blanchet

- An estimated 2,000 m<sup>3</sup> of impacted soil and waste rock in the mine area
- All material to be consolidated on site under an engineered cap
- Lump sum payment item that includes, but not limited to;
  - Supply and placement of geomembrane materials
  - Supply and placement of borrow material
- An estimated 500 m<sup>3</sup> of impacted soil at the beach area
- All material to be consolidated on site under an engineered cap





## Scope of Work

### 31 22 15 Grading:

#### Outpost

- An estimated 1,000 m<sup>3</sup> of tailings and waste rock in the mine area
- All material to be removed from the toe of the existing stockpile along North Bay and placed further inland within the existing stockpile
- Screening of existing waste rock required to produce approximately 60 m<sup>3</sup> of coarse aggregate (50 to 150 mm)
- Placement of a silt curtain at the North Bay opening to Great Slave Lake
- Lump Sum Payment Items for all grading



## Scope of Work

### 31 22 15 Grading:

#### Copper Pass

- An estimated 9,500 m<sup>3</sup> of ore and waste rock in the mine area
- All material to be removed and placed within Trenches 1 and 2
- Lump sum payment item that includes, but not limited to;
  - Supply and placement of geomembrane materials
  - Supply and placement of borrow material



## Schedule

### Key Dates (anticipated):

- July 7<sup>th</sup>, 2014 – Tender Close
- August 4<sup>th</sup> 2014 – Contract Award
- August 4<sup>th</sup> – September 15<sup>th</sup> 2014 – Permitting
- September 15<sup>th</sup> – 30<sup>th</sup> – Stage 1 Copper Pass mobilization (Hamilton Bay)
- Winter 2015 – Stage 2 Copper Pass mobilization (Historic Winter Road)
- Spring 2015 – Blanchet and Outpost mobilization
- Summer 2015 – Fieldwork at all 5 sites
- Fall 2015 – Demobilization from all sites except for Copper Pass
- Winter 2016 – Stage 1 Copper Pass demobilization (Historic Winter Road)
- Spring 2016 - Stage 2 Copper Pass demobilization (Hamilton Bay)



## Questions?



Public Works and  
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## Request for Proposal (RFP) – Mary Anthony



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