



Indigenous and  
Northern Affairs Canada

Affaires autochtones  
et du Nord Canada



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# **Jericho Diamond Mine**

## **Site Stabilization Plan**

Teleconference with NWB  
January 11, 2017



# 1. Project Location



**Note: Jericho Mine is located ~260 km Southeast of Kugluktuk**





## 2. Site Overview



**Note: Yellow shaded area is Inuit Owned Land**





## 2. Site Overview – North End – Hazardous Material Storage Area







## 2. Site Overview – Open Pit Area



**Note: Yellow shaded area is Inuit Owned Land**





## 2. Site Overview – Process Plant & Camp







## 2. Site Overview – Processed Kimberlite Containment Area (PKCA)



### 3. Current Site Conditions

#### 1) Open Pit

- Rain and snow are filling the pit with water (~44+ years)
- Uranium (naturally occurring – from rock) levels above CCME\* 0.015 mg/L (~8x)
  - Trending downwards

#### 2) Processed Kimberlite Containment Area (PKCA)

- PKCA fine tailings dispersion via wind
  - Encapsulated in ice
- Cell B/C water levels need to be managed
  - Pumping over West Dam



\*Canadian Council of Ministers of the Environment



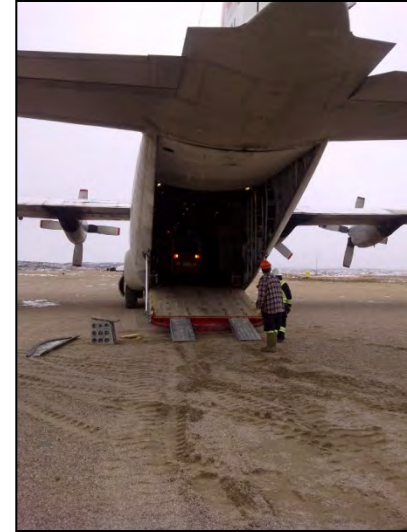
### 3. Current Site Conditions (continued)

#### 3) Airstrip & Roads

- Airstrip condition deteriorating
  - Soft spots (packed as part of Care & Maintenance activity)
- Roads are deteriorating but mostly usable

#### 4) Buildings & Debris

- Truck Shop & Process Plant
  - Deteriorating slowly
- Camp
  - Water leaks, mould, etc.
- Debris throughout site
  - Vehicles, equipment, etc.





### 3. Current Site Conditions (continued)

#### 5) Fuel Tanks & Berm

- All tanks are essentially empty but do contain residual fuel and/or sludge
  - Tank farm berms retain water and require management as part of Care & Maintenance activities





### 3. Current Site Conditions (continued)

#### 6) Contaminated Soils

- Metal contaminated soils  
~64 m<sup>3</sup>
- Fuel contaminated soils  
~3,315 m<sup>3</sup>
- Some fuels on-site (risk of additional contamination)



#### 7) Hazardous Materials

- ~1,816 m<sup>3</sup> of hazardous materials (lead paint on Above Ground Storage Tanks, organics in drums/tanks)
- ~2,855 hazardous items (florescent lights, cylinders, fire extinguishers, batteries)





## 4. Site Stabilization Plan (SSP) Considerations

- Environmental Hazards at the Site
  - Assessment (address the highest risk items)
- Input from Stakeholders
  - Regulators (INAC, NIRB, NWB, NPC)
  - Land Owners
    - Kitikmeot Inuit Association
    - INAC - Jericho Working Group
  - Local Communities
  - Industry
    - Commercial Viability Assessment
- Budget
  - Security and 2016 Federal Infrastructure Initiative
- Timeframe
  - Must be Finished Work by March 2018



## 4. Site Stabilization Plan

### 1) Open Pit

- Create a Pit Lake
  - Increase the amount of water entering the pit by re-establishing the natural drainage path (remove the C1 Diversion)
    - The Pit should fill with water in ~11-15 years
    - Estimate flow is 328,000 m<sup>3</sup>/year (Tahera)
  - Construct a channel for future water flow out of the pit
  - Monitor the Uranium levels in the water
    - Treat if required





## 4. Site Stabilization Plan (continued)

### 2) Processed Kimberlite Containment Area (PKCA)

- Prevent fine tailings dispersion via wind
  - Cover the fine tailings in Cell A with coarse tailings
- Prevent the build-up of water
  - Breach Divider Dyke A
  - Breach the West Dam (estimated 210,000 m<sup>3</sup>)



## 4. Site Stabilization Plan (continued)

### 3) Airstrip & Roads

- No work planned other than minor maintenance during use

### 4) Buildings & Debris

- No work planned as part of this proposed project





## 4. Site Stabilization Plan (continued)

### 5) Fuel Tanks & Berms

- All tanks to be cleaned, dismantled and landfilled
- Fuel berms
  - Fuel contaminated soil will be removed and consolidated in a bermed area



## 4. Site Stabilization Plan (continued)

### 6) Contaminated Soils

- Metal contaminated soils
  - Ship off-site for disposal
- Fuel contaminated soils
  - Consolidated on-site

### 7) Hazardous Materials

- Organic liquids: oil & fuel
  - Incinerate and/or ship off-site for disposal
- Other hazmat: batteries, cylinders, florescent lights
  - Sorted, packaged and shipped off-site for disposal







## 5. Site Stabilization Plan Schedule



### September 2016

- All permit applications submitted through NPC Portal

### September 30, 2016

- NPC Conformity Determination

### December 23, 2016

- NIRB approval

### Feb-April 2017

- Tender Project, Award Contract

### May 2017

- Mobilize to Site

### May-October 2017

- Complete Site Work

### October 2018

- Demobilize from Site



**Thank you  
Matna  
Qujannamiik  
Koana  
Merci  
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