

# Elliot Lake City Council November 26, 2012

Rio Algom Limited  
Denison Mines Inc.



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# Introduction

- **Andrea Conway**
  - Environmental Coordinator, Denison Environmental Services
- **Debbie Berthelot**
  - Reclamation Manager, Rio Algom Limited

# Overview

- **Denison Mines Inc. Activities**
- **Rio Algom Limited Activities**

# Denison Activities

- **Stollery Pond Filter Berm**
- **Cinder Lake Culverts**
- **Rogers Cell Tower**
- **ETP/Communication Improvements**

# Stollery Filter Berm Improvements

- Filter rates lower than expected through berm
- Following a review by Golder core was replaced with coarser grade material
- Filter berm now appears to be performing adequately
- No environmental impacts



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# Stollery Filter Berm Improvements



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# Cinder Lake Culverts

- Capital Project – 12 culverts
- Corrugated Steel Culverts were in place for ~30 years and reaching the end of their lifespan
- Replaced with HDPE culverts during no flow in August.



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# Before; During; and After





# Rogers Cell Tower

- Denison granted Rogers permission to construct a cell tower on Denison property adjacent to former mill site
- Optimal location for cell coverage for a number of stakeholders
- Ground work for towers complete: concrete bases, pole line and service building
- Tower assembly in progress - in service by mid December



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# Rogers Cell Tower



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# ETP & Communication Initiatives

- **Communication upgrades are planned for remote monitoring of the water treatment systems at both Denison and Stanrock sites**
- **DES is reviewing proposals from service providers that will result in:**
  - **Quicker response to ETP alarms and upset conditions;**
  - **Remote control of ETP/Pump Station (automation);**
  - **Remote environmental monitoring ability;**
  - **Improved control of discharge water quality; and**
  - **Reduced risk of environmental impacts**
- **TMA-1 ETP relocation (closer to spillway) is also in progress**



# ETP Relocation



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# Rio Algom Activities

- Ryan Lake Outlet Maintenance
- Quirke Settling Pond Maintenance
- CNSC License Review
- Dam Safety Review

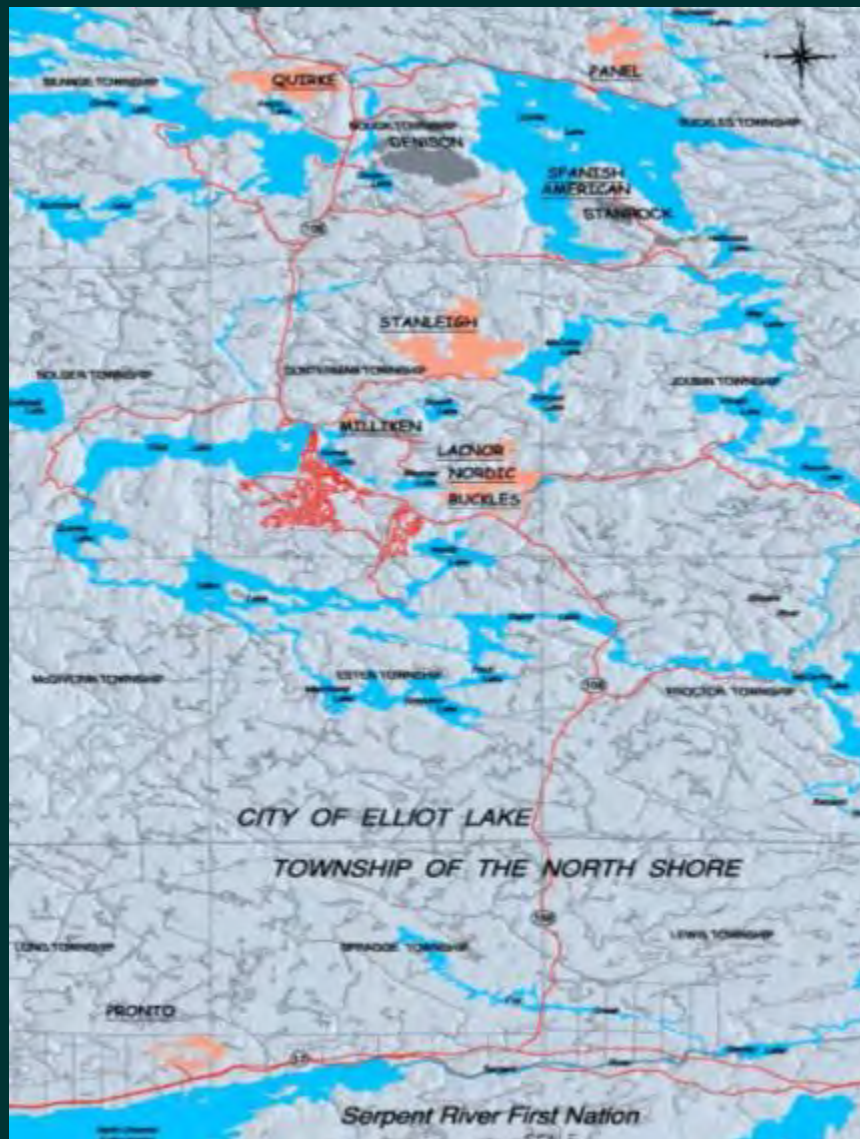


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### Quirke:

1956 – 1961; 1968-1992  
20.5 M t; 411 ha; 17 dams  
365 treatment days



### Panel:

1958 – 1961; 1979-1990  
16 M t; 123 ha; 10 dams  
44 –161 treatment days

### Spanish-American:

1958 – 1959  
0.5 M t; 12 ha; 2 dams

### Stanleigh:

1958 – 1960; 1983-1996  
20.5 M t; 411 ha; 10 dams  
107-240 treatment days

### Milliken:

1958 – 1964  
0.1 M t; 23.1 ha; 3 dams

### Lacnor:

1957 – 1960  
2.7 M t; 27 ha; 2 dams

### Pronto:

1955 – 1970  
4.4 M t; 47 ha; 7 dams  
60 -146 treatment days

### Buckles Nordic:

1957 – 1968  
12 M t; 117.3 ha; 15 dams  
365 treatment days

# Ryan Lake

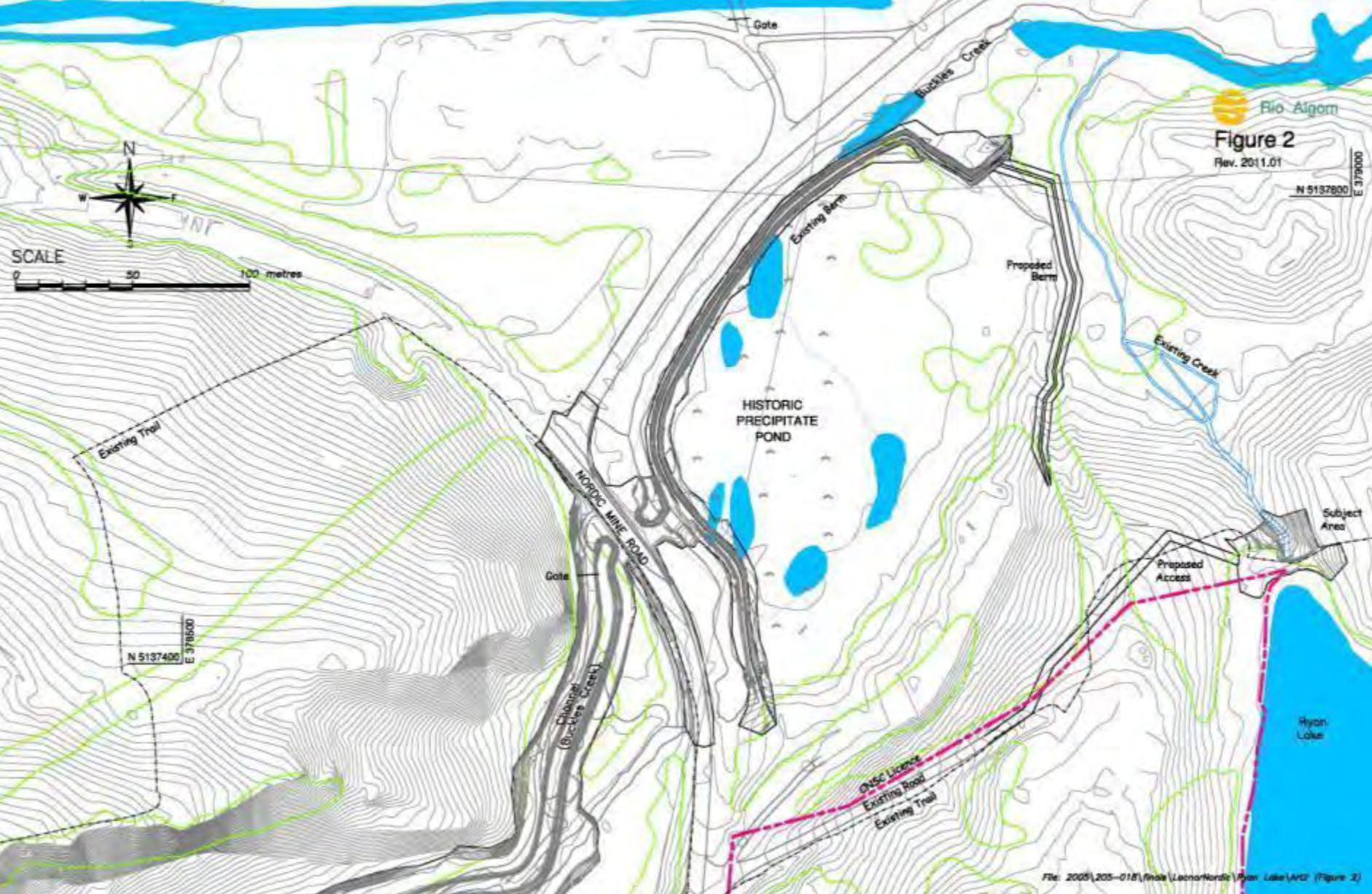


Precip  
Pond



Ryan Lake

# Physical Works





# Ryan Lake



Precip Pond



Ryan Lake

# Quirke Settling Pond



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Slide

# CNSC Five Year Review

- *Overall all the dams and associated structures were found in general good operating condition and appeared well maintained. Staff also concurs with Golder's assessment of the sites, that all of the geotechnical features at the Rio TMA's remain in good operating condition.*
- *Features associated with these decommissioned sites are robust, well engineered structures. The life expectancy for the dams and spillways is hundreds of years, even without scheduled maintenance.*
- *Overall, environmental conditions are improving at the Elliott Lake site. More specifically, water quality is improving and environmental impacts, such as lower taxonomic richness and abundance in the benthic communities are now only evident immediately downstream of the Quirke, Denison, and Stanleigh TMA's. Lakes further afield are in good environmental health with benthic community metrics similar to control and health indicators of white suckers similar to reference lakes. Sediment contaminant levels continue to be slightly elevated, which is to be expected due to the low depositional rates and bioturbation in these environments.*

# Dam Safety Review

- **Conducted in conformance with Canadian Dam Association *Dam Safety Guidelines* and Ministry of Natural Resources *Dam Safety Review Best Management Practices***
- **Performed by third party geotechnical engineering firm: Klohn Crippen Berger**
- **Scope includes**
  - Dam classification and design standards review
  - Operation, maintenance and surveillance performance and programs
  - Emergency preparedness and public safety



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Questions?



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