



**UNIMIN**

Unimin Canada Ltd.

**Date:** June 20, 2016  
**To:** PLC Members  
**Copies:** Blue Mountain Modernization PLC Engagement files; Mary Kainer (Environmental Chair, LKRA); posted on [www.CanadianNepheline.ca](http://www.CanadianNepheline.ca) website  
**Subject:** **Public Liaison Committee – Minutes of June 17, 2016 Meeting**

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**Meeting Date:** Friday June 17, 2016      **Time:** 2:00 – 4:15 PM

**Hosted by:** Bob Marshall (Unimin) – Blue Room (plus site tour)

**Attendees:** Lake Kasshabog representatives:  
Dawn Mitchell – Member at large  
Mike Delsey – East Lake rep  
John Davison – East Lake rep  
Ron Kearn (absent) – West Lake rep  
Michael Rosin (absent) – West Lake rep

Unimin personnel: Bob Marshall, Cynthia Jamieson

Observer: Jim Martin (absent)

Go-To-Meeting: No attendees from a remote location for this meeting.

The following handouts were provided to facilitate the meeting: (1) Agenda; (2) Minutes of October 30, 2015 meeting; and (3) Pinchin's noise impact contour maps from 2008 and 2016.

### **1. Review of the Minutes of the last meeting**

- To augment the handouts, Bob Marshall projected the November 2015 meeting minutes on a wall screen and conducted a brief overview, including
  - Update on the Canadian Nepheline Modernization Project and project status
  - Review of the ongoing improvements to sound controls with noise contour maps from 2008 and 2013, which showed significant improvements in the sound levels due to the installation of silencers, improvements in the adjustments in the RPM of the large fans and retrofit of back up alarms
  - Photos of the tailings before and after green up
- Bob Marshall asked if there were any errors or omissions from the last meeting minutes
- None was noted - Minutes accepted from October 2015 meeting

## **Public Liaison Committee – Minutes of June 17, 2016 Meeting**

### **2. Update the committee on the Canadian Nepheline Modernization Project**

- Unimin has provided site tours and briefing presentations to upper management including Unimin's new CEO (October 2015), Sibelco's CEO (February 2016), and recently Unimin's COO (June 2016). Unimin continues to review engineered options to manage costs and expects board approval for one of these options in the fall of 2016.
- Modernization continues to include building expansion for mineral processing activities, the removal of administrative buildings, the addition of two short spur lines, the construction of a new office building, parking lot and septic system. Stormwater improvements and a channel re-alignment is also part of the permitting process. These activities all occur outside of the nepheline syenite reserves.
- Unimin explained that the nepheline syenite deposit is situated within Unimin's property boundary, which leaves very little room for ancillary activities such as processing buildings, tailings, and waste rock disposal. Waste rock is placed in old pits if no ore is deemed recoverable. At some point Unimin hopes to back fill the active pits but at this time, the depth of the nepheline syenite deposit is unknown.
- Cynthia reported on the permitting progress. Draft environmental reports were completed upon approval from management to advance permitting. Permitting involves a public relations component including consultation with First Nations, the Municipality, and public stakeholders (Open Houses, KLRA Annual General Meetings, and Public Liaison Committee meetings). In addition, approvals are required from the Crowe Valley Conservation Authority (CVCA), Ministry of the Environment and Climate Change (MOECC), Ministry of Natural Resources and Forestry (MNR), Ministry of Northern Development and Mines (MNDM) and the Department of Fisheries and Oceans (DFO). Applications have been submitted to the CVCA and the DFO. The MOECC approvals process will commence upon receipt of the CVCA permit and is expected to take the longest review time. Unimin has conducted pre-consultation meetings with regulators to facilitate the permit review process. Unimin expects that permitting will be completed in 2017.
- Construction is expected to take approximately two years. Nephton will be decommissioned shortly after a successful startup of the Modernization project. Power restrictions prohibit both facilities to operate concurrently for very long.

### **3. Review the Blue Mountain Plant's ongoing improvements to sound control**

- Bob reviewed the on-going improvements to sound control with supporting noise impact contour maps from 2008 and 2016, after the addition of three large silencers at Blue Mountain this past spring. The noise footprint has minimized over the past 8 years and measurements at neighbouring residences are well within MOECC noise standards.
- Each silencer is engineered for a specific noise source. The silencers are inspected on a regular basis and re-packed as necessary.

### **4. New Business**

- Two Open Houses will be hosted at the Blue Mountain facility in August 2016, strategically positioned to facilitate schedules of permanent and seasonal residents
- Dates include: August 10 (Wednesday) and August 13 (Saturday)
- Invitations will be (a) delivered to Lake Kasshabog properties as in previous years; (b) posted on the CanadianNepheline.com website; and (c) a request will be made to the LKRA to post on their website

## **Public Liaison Committee – Minutes of June 17, 2016 Meeting**

### **5. Site Tour**

- Mike Delsey, Dawn Mitchell and Cynthia Jamieson accompanied Bob Marshall on a driving tour of the mine and Nephton tailings. The Nephton Plant tour was deferred until cooler weather could accommodate long pants and closed-toed footwear. A stop was made at the east highwall of the Main Pit and photos were taken. The tour continued along the haul road to the Nephton tailings. Cell development and revegetation sequencing were observed. The tailings cells are being advanced from north to south. Cell 1 (closest to Kasshabog Lake) is at final design elevation. The freeboard is currently being backfilled so that final cover can be established. Fast growing buckwheat will be used initially but moss and other self-sustaining native species will be encouraged. Active deposition areas including Cells 2 and 3 are using open ponds and small sprinklers for dust suppression. Future deposition areas are covered with buckwheat and MTO mixes and augmented with water cannons. Despite the heat wave the vegetation was green and robust. Irrigation water is supplied from the Clarification Ponds, which helps reduce discharge from the tailings outfall.

### **6. Next Meeting**

Next meeting is tentatively scheduled for September 2016.

Meeting adjourned at 4:15 pm.

Attachment: June 17, 2016 PowerPoint presentation

**Unimin Public Liaison Committee Meeting**  
June 17, 2016 – 2:00pm

## Agenda

- Review of the Minutes of the last meeting.
- Update the committee on the Canadian Nepheline Modernization Project
- Review the Blue Mountain Plant's ongoing improvements to sound control.
- New Business.
- Group Tour of the Nepton Plant.




Date: November 26, 2015  
 To: PLC Members  
 Copies: Blue Mountain Modernization PLC Engagement file, Mary Kahar (Environmental Chair, L&E) saved on [www.canadianmodernization.ca](http://www.canadianmodernization.ca) website  
 Subject: Public Liaison Committee - Minutes of October 30, 2015 Meeting

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Meeting Date: Friday October 30, 2015 Meeting: 2:00 – 3:10 pm  
 Plant Tour: 3:10 – 4:15 pm

Hosted by: Bob Marshall (Chair) – Blue Room (plus site tour)

Attendees: **Lake Umbagog representatives:**  
 Dawn Michal – Member at large  
 John Davidson – East Lake rep.  
 Mike Delaney – East Lake rep (Co To Meeting)  
 Ron Keam – West Lake rep (Co To Meeting)  
 Michael Rouch – West Lake rep (observer)  
 Jim Miller – South Shore (observing as an observer)

**Unimin personnel:**  
 Bob Marshall – NSD Plant Manager  
 Michael Clarkson – NSD Assistant Plant Manager (Attending as an observer)  
 Paul Brown – Blue Mountain Plant Superintendent (Attending as a presenter)  
 Cynthia Jamison – Environmental Program Manager  
 Michele O'Leary – Environmental Specialist (Attending as an observer)  
 Doug Staples – NSD Senior Purchasing/Warehousing Supervisor (IT Coordinator)

**Agenda items:**

- Review of the minutes of the last meeting (June 26, 2015)  
 No vote or motions were brought forward
- Update the Committee on the Canadian Nepheline Modernization Project (Slides 1-5 in the attached presentation)
  - Summary of the project process
    - The Plants currently have about 3 700 pieces of rotating equipment. It is expected that a single modernized plant will have about half or less the current combined plants number of pieces of equipment.
    - Smaller environmental footprint due to less distance to move product (diesel), and transportation of products (Energy, water etc)
    - Closing the Nepton plant in 4 – 6 years
    - NSD estimates a significant volume of traffic across the haul road each day
  - Project status update
    - Unimin CEO visited the site October 26, 2015
    - He supports the project and will request Board approval funding to start the environmental permitting and final engineering design

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November 26, 2015  
 Public Liaison Committee - Minutes of October 30, 2015 Meeting

- Permitting & Consultation
  - Need final design details to go forward and start permitting
  - Can start First Nations consultation
  - Unimin will host a site visit for First Nations before it snows

1. Review the Blue Mountain Plant's ongoing improvements to sound control (Slides 6 – 10 in the attached presentation)

- 2008 Unimin conducted sound testing to address noise complaints. Following testing Unimin installed 26 silencers at the Nepton plant
- 2013 Proton Environmental completed additional sound testing
- Acoustic Reports indicated an approximate 90% sound reduction from Nepton from the original 2008 results
- Unimin has installed 14 silencers at Blue Mountain
- Complaints have been generally due to the Haul Road traffic during the early morning
- Unimin has committed to not start mobile equipment before 6am on the weekend. Paul gave an overview of the silencers installed to date and explained that the 6 new silencers will be installed by late January 2016 at the Blue Mountain Plant

2. New Business

- Ron and Mike would like a tour of the plant next summer; Unimin agreed
- Bob explained that it is important to also have a tour of Nepton to see what will be eliminated as a result of closure

3. Next Meeting


- Tentatively scheduled for late February 2016

4. Group Walking Tour of the Blue Mountain Plant

- Walk through product warehouse
- Walk through fine grind plant, control room and sand plant

Meeting adjourned at 4:15 pm

ATTACHMENT: PowerPoint presentation





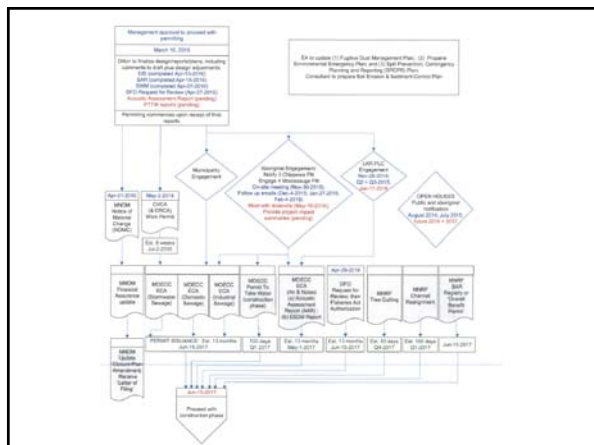
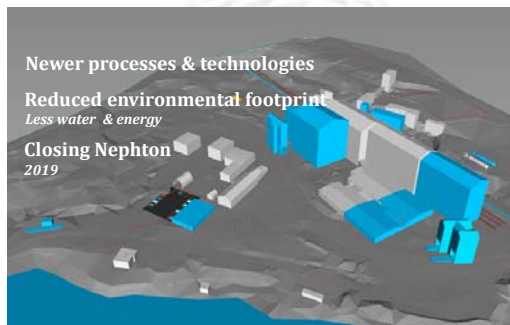
### Canadian Nepheline Modernization Update

- Equipment upgrades and additions
- Processing rearrangements
- Building removal and additions
- Currently pursuing project permitting
- Buildings will be removed at time of mine closure
- From permitting to completion will take until 2019

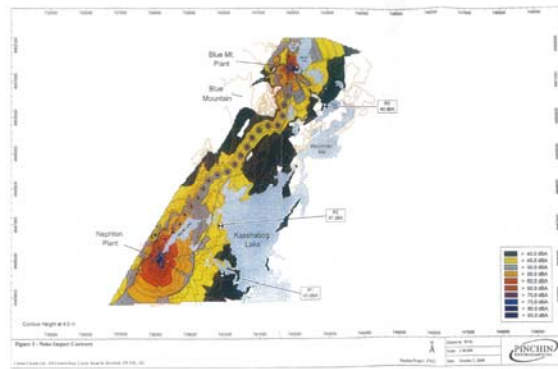


### Canadian Nepheline Modernization

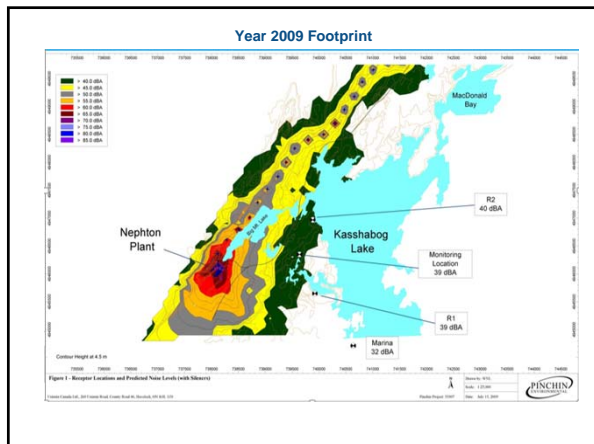
Newer processes & technologies  
 Reduced environmental footprint  
*Less water & energy*  
 Closing Nephton  
 2019



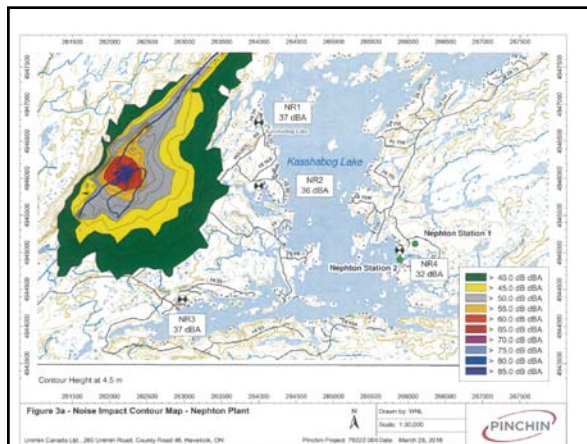
### Noise Abatement Achievements Year 2008 Footprint

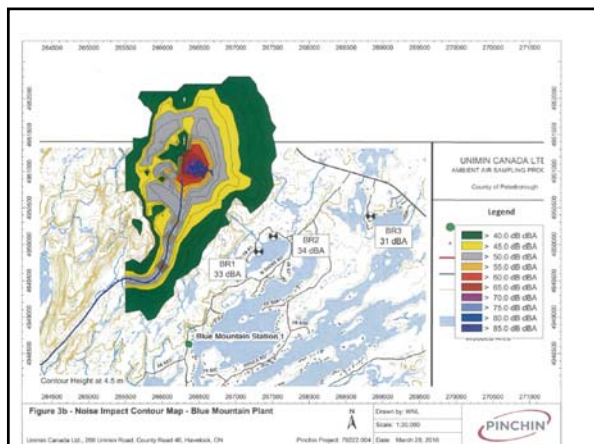


### Year 2009 Footprint



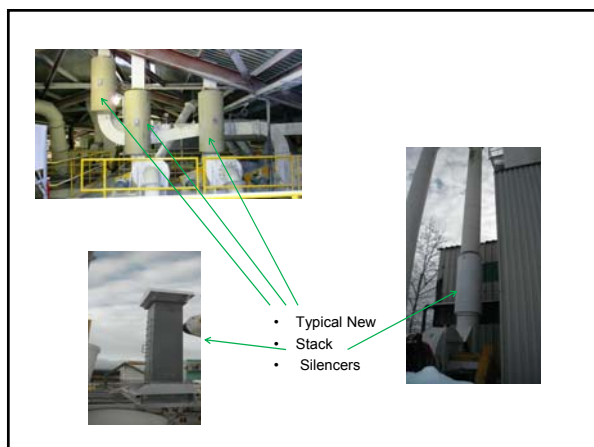
### Noise Abatement Achievements Year 2008 Footprint





### Noise Abatement Achievements

- **Nephton:** Silencers installed on 26 large fans
- **Blue Mountain:** Silencers installed on 14 large fans
- RPM on specific large fans adjusted to avoid low frequency sound
- Most **Mobile Equipment** retrofitted with white noise back-up alarms



### Primary 2016 Community Relations Activities

- Presentation to HBM Municipal Council, July 4,
- Lake Kasshabog Residents' Association AGM, July 9
- First Nations Kids Day at NSO, Aug 12
- Blue Mountain Open Houses, Aug 10,13

