

# CONCEPTUAL AIR QUALITY AND EMISSIONS MONITORING AND MANAGEMENT PROGRAM DESIGN PLAN July 20, 2015 Workshop

# Updates to the AQMP

- Name change from Air Quality Monitoring and Management Plan (AQMP) to Air Quality and Emissions Monitoring and Management Plan (AQEMMP)
- No changes
  - Meteorological Monitoring
  - Air emissions and greenhouse gas (GHG) calculations
  - Ambient air quality monitoring (Partisol/CAM)
  - Lichen tissue and snow chemistry monitoring
- New dustfalls to be installed around Lynx Road and Pit





## AQEMMP – Next version

- Increase in reporting from 3 year report (current) to annual data report and 3 year report
- Inclusion of response framework (triggers)
- Next submission will include updates from 3 year Annual Report
- Next submission will include Lynx only (not Jay)

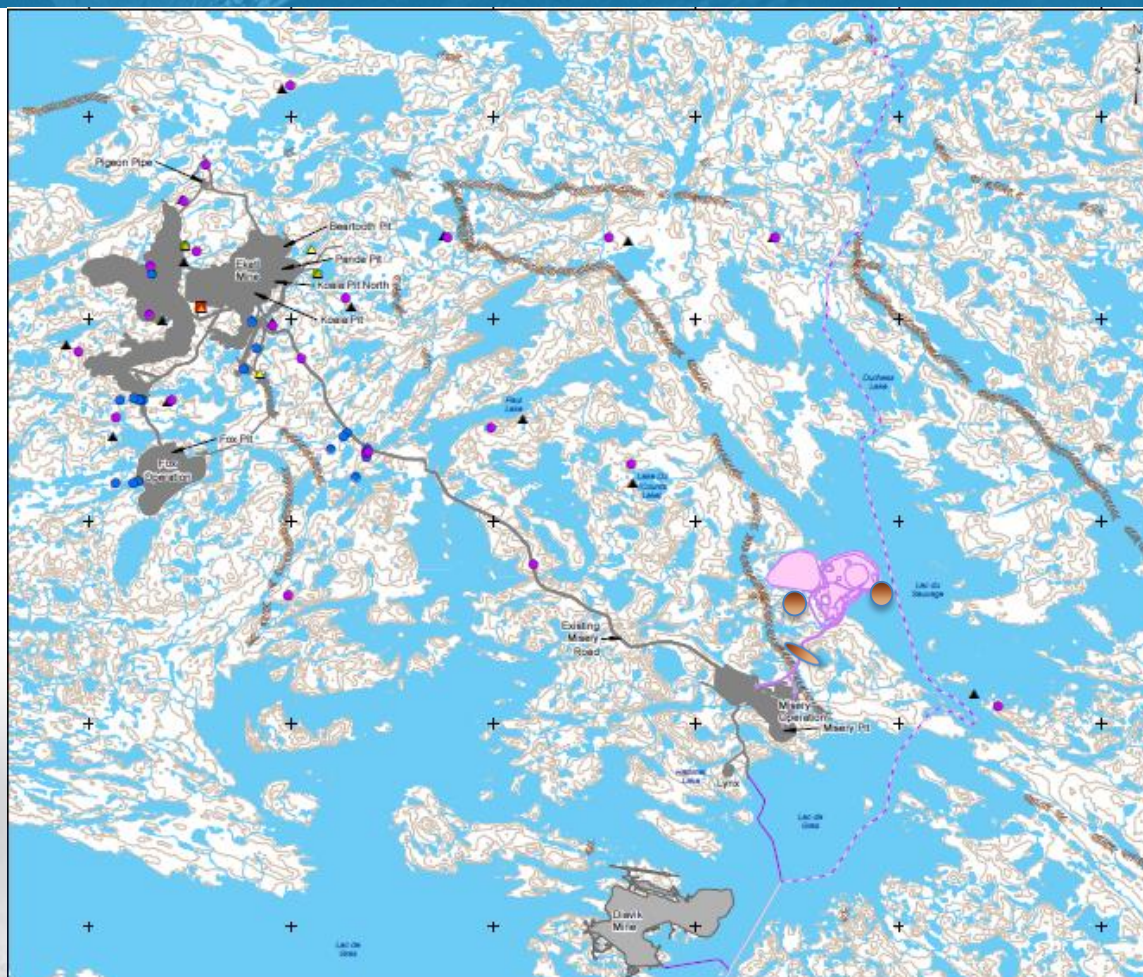
# Conceptual AQEMMP what's new for the Jay Project

- A conceptual AQEMMP was prepared for the Jay Project
  - Subject to revision and input from regulators and the communities
  - The AQMMP will be expanded spatially to include monitoring the effects of the Jay Project
  - It will include monitoring during the construction of the Jay Project
  - Adds regular calculation of emissions to compare with DAR estimates
  - Now has threshold triggers that when reached, require an action (i.e., Adaptive Management Framework)

## Conceptual AQEMMP – Spatial Extent (2-5, 7, 8 & 9)

- Additional monitoring locations near the Jay Pit and Jay Road
  - Emissions from the Jay Project are expected in higher concentrations near the Jay Pit and the Road
    - An additional TSP monitoring station is proposed east of the Jay Pit
    - An additional station for dustfall, passive NO<sub>2</sub>, lichen and snow chemistry is proposed east of the Jay Pit (“90-metre” location to be ground-truthed)
    - An additional transect for dustfall, lichen and snow chemistry is also proposed for the Jay Road (locations to be ground-truthed)





## Conceptual AQEMMP – Construction (1-10)

- Monitoring will occur during construction of the Jay Pit and Jay Road
  - Emissions from the construction of the Jay Project are expected to be similar to operations
    - Short-term higher concentrations/deposition rates may occur during the construction phase
      - Appropriate management the key to mitigating construction-related emissions
  - Monitoring should be established early and effort made to retain “permanent” locations, but must also recognize that as the Project matures, monitoring may need to adapt



## Conceptual AQEMMP – Emissions Calculations (3-1)

- The new AQEMMP includes a requirement to calculate and confirm emissions
  - Emissions from the Jay Project will be calculated and compared to those used in the Air Quality Assessment in the DAR
    - Confirms assumptions
    - Documents appropriate methodology for future comparisons
    - Permits valid comparison between predictions and actual
    - Transparent and provides actionable data for adaptive management

## AQEMMP Thresholds (4-1)

- There are three threshold levels proposed, each corresponding to a measured change in air quality and each requiring a different response
  - Level 1 – change is within acceptable limits, continue monitoring
    - Less than 80% of AAQS and less than 20%+ change year to year
  - Level 2 – air quality is inconsistent with expectations and an internal review and development and implementation of action plan is required
    - Less than 80% of AAQS and more than 20%+ change year to year
  - Level 3 – air quality is becoming a concern and an external review and development and implementation of action plan is required
    - More than 80% of AAQS and more than 10%+ change year to year

# Data Analysis and Interpretation

- Key questions addressing:
  - Comparison to DAR predictions
    - The monitoring data will be compared to the DAR predictions to confirm the assumptions and demonstrate that the modelling was conservative
  - Comparison to AQEMMP thresholds
    - Will determine the need or lack of need for review and adaptation of the management program



# Data Analysis and Interpretation

- Key questions addressing:
  - Comparison to NWT Air Quality Standards
    - Informs the AQEMMP thresholds – regular review to determine ongoing effectiveness
  - Assessment of spatial and temporal trends
    - Helps in assessing parameters like dustfall where short-term management triggers are impractical
  - Annual data report with comparison to triggers circulated to all parties
  - Three year summary and program review report circulated

## Next Steps

- Integration of the Lynx program into new AQEMMP
- The AQEMMP for Jay is expected to be implemented at the commencement of the Jay Project
- The conceptual AQEMMP will continue to be refined in the permitting stage of the Project and will incorporate input from regulators and communities as part of the engagement process – part of why we're here today

## Engagement Schedule – Lynx Update

**April 2015** – Circulation of 3 year report

**July 2015** – Technical meeting 3 year report and updates to AQEMMP

**August 2015** – Responses to comments on 3 year report

**Fall 2015** – Circulation of updated AQEMMP for Lynx for comments

**Fall 2015** – Finalize AQEMMP for Ekati and inclusion of Lynx



## Engagement Schedule – Jay Update

### **One month of receipt of Environmental Assessment Approval**

- Circulate next version of draft conceptual plan for Jay construction and operations

### **Prior to Jay Construction (summer 2016)**

- Technical workshop to discuss and receive input on the draft conceptual plan for construction and operations
- Circulate revised draft conceptual plan for construction addressing feedback received for final written
- Finalize plan for construction addressing feedback received

## Engagement Schedule – Jay Update

### **Prior to Jay Operations (2019)**

- Circulate revised draft plan for operations addressing feedback received and reflecting findings of the Jay construction programs and the ongoing Ekati Mine operations programs.
- Technical workshop to discuss and receive input on the Revised Draft Amendments for operation
- Finalize Amendments for operations addressing feedback received

### **Prior to Jay Closure and Reclamation Activities**

- Finalize Plan for Closure and Reclamation through the established WLWB process for development of the Interim and Final Closure and Reclamation Plans