



# September 2018 Environmental Update for SLEMA Board

September 30, 2018

# Outline

1. Mine Update
2. Inspection Update
3. Regulators' Update
4. Aboriginal Update
5. Stakeholders' Update
6. Agency's Activities
7. SLEMA Reviews



# Acronyms

- AEMP – Aquatic Effects Monitoring Program
- ARD – Acid Rock Drainage
- DFO – Fisheries and Oceans Canada
- ECCC – Environment and Climate Change Canada
- ECM – Extended Care and Maintenance
- ENR – Department of Environment and Natural Resources, GNWT
- EQC – Effluent Quality Criterion
- GNWT – Government of the Northwest Territories
- INAC – Indigenous and Northern Affairs Canada (formerly Aboriginal Affairs and Northern Development Canada [AANDC])
- MVEIRB – Mackenzie Valley Environmental Impact Review Board
- MVLWB – Mackenzie Valley Land and Water Board
- PK – Processed Kimberlite
- SLEMA – Snap Lake Environmental Monitoring Agency
- SNP – Surveillance Network Program
- SSWQO – Site-Specific Water Quality Objective
- TDS – Total Dissolved Solids
- WEMP – Wildlife Effects Monitoring Program
- WTP – Water Treatment Plant
- WMP – Water Management Pond



# 1.1 Mine Update – August 2018

- The Snap Lake Mine remained in suspended operations (Extended Care and Maintenance)
  - 388 m<sup>3</sup> of water withdrawn from Snap Lake
  - No treated water discharged into Snap Lake
- No reportable spills
- Water sampled in 7 monitoring stations
  - Due to analysis problems with the ALS lab, some stations only have preliminary results. The delayed July results are included in this report



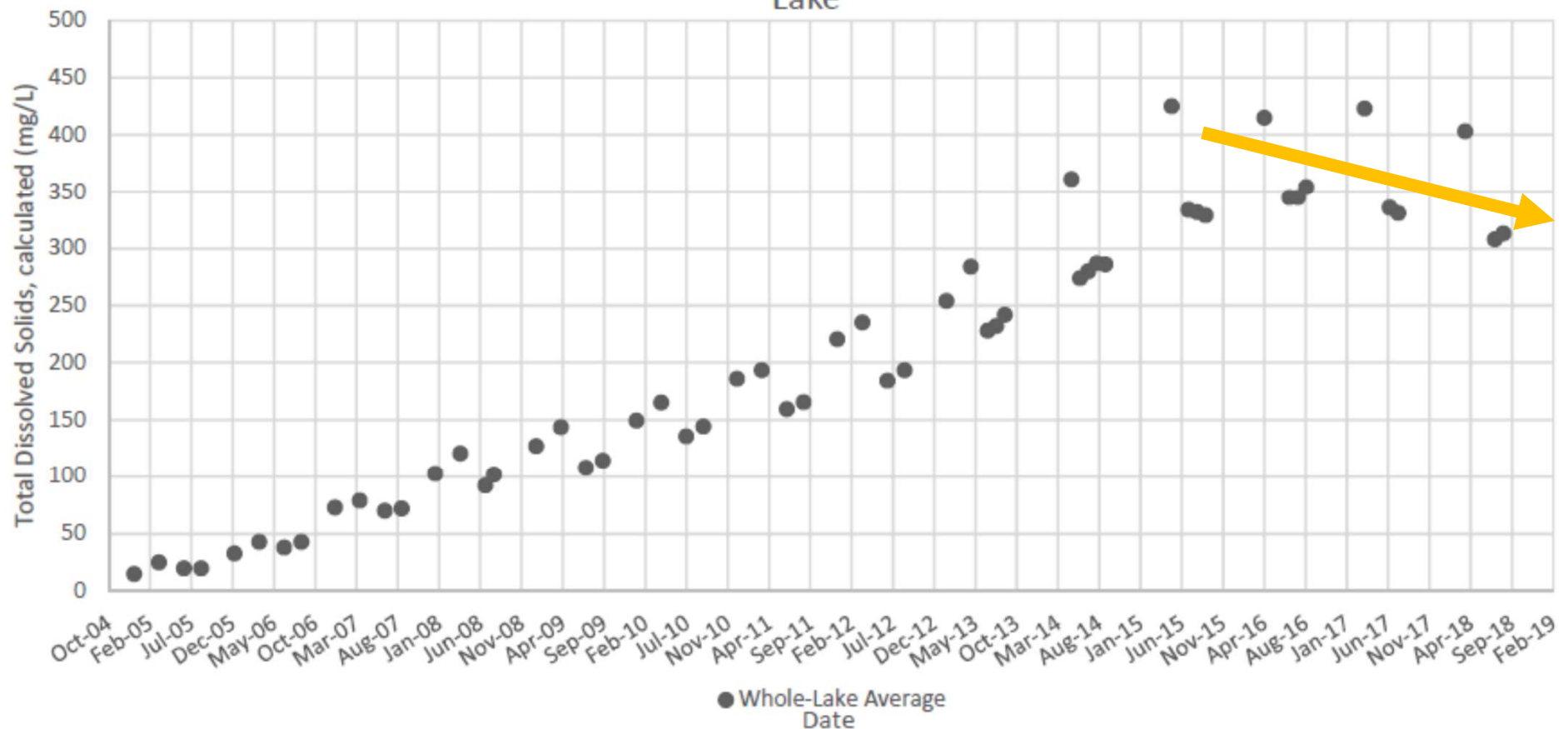
# Elevated Metal Concentrations in Runoff

- “With regard to the overall SNP performance for June 2018, total aluminium and total copper exceeded the effluent quality concentration for several run-off sampling points within various site locations. None of these sampling points has direct flow into Snap Lake. All reported data has been confirmed for the identified sampling locations. The effluent quality concentration trends higher during spring runoff. A large portion of the yearly precipitation falls as snow, and the contaminants contained in precipitation accumulates in the snowpack and is released during a short period in the spring. These high concentrations may be due to a freeze-concentration process during snow recrystallization and melting in which contaminants accumulate preferentially at the surface of ice particles. Once all of the snow and ice melts, the concentrations decrease drastically. The higher concentrations may result from collecting the sample in a runoff location that is not fully thawed, including the surrounding snow and ice upstream from the sampling location.”



# Down Trend of TDS Levels in Snap Lake Since 2016

Whole-Lake Average Total Dissolved Solids (Calculated) Concentrations in Snap Lake



# 1.2 Mine Construction Schedule linked to Addition Security Deposit

- Submitted on September 22, 2018
  - Provided the supporting information linking the payment structure of the Additional Security Deposit (ASD) to mine construction activities (i.e. west cell construction) as requested by Environment and Natural Resources on August 30, 2018
    - Prepared by Arktis Solutions
    - Two tables excerpted from the 2003 Snap Lake Diamond Project Preliminary Closure and Reclamation Plan
      - Overall Project Schedule
      - North Pile Development Schedule



## 2. Inspection Update

- Inspector – Tracy Covey
- Water Licence Inspections
  - No inspection reports received in September 2018





# 3. Regulators' Update – ENR

- ENR update the review process for the Environmental Agreement Additional Security Deposit (ASD) on September 28, 2018
  - ENR had a meeting with De Beers on September 27
  - ENR's desk review on ASD due on October 18
    - Review of the Agreement and identification of the reasons for ASD
    - Excel spreadsheet with line items and financial values that detail ASD environmental agreement related liabilities
  - Two week of review by De Beers
  - Multiple rounds of discussion between ENR and De Beers
  - ENR's Decision
    - Reason for decision



### 3. Regulators' Update – MVLWB

- Snap Lake Working Group 8<sup>th</sup> meeting (or Closure Workshop) to discuss the upcoming Final Closure and Reclamation Plan submission has been set for November 8, 2018



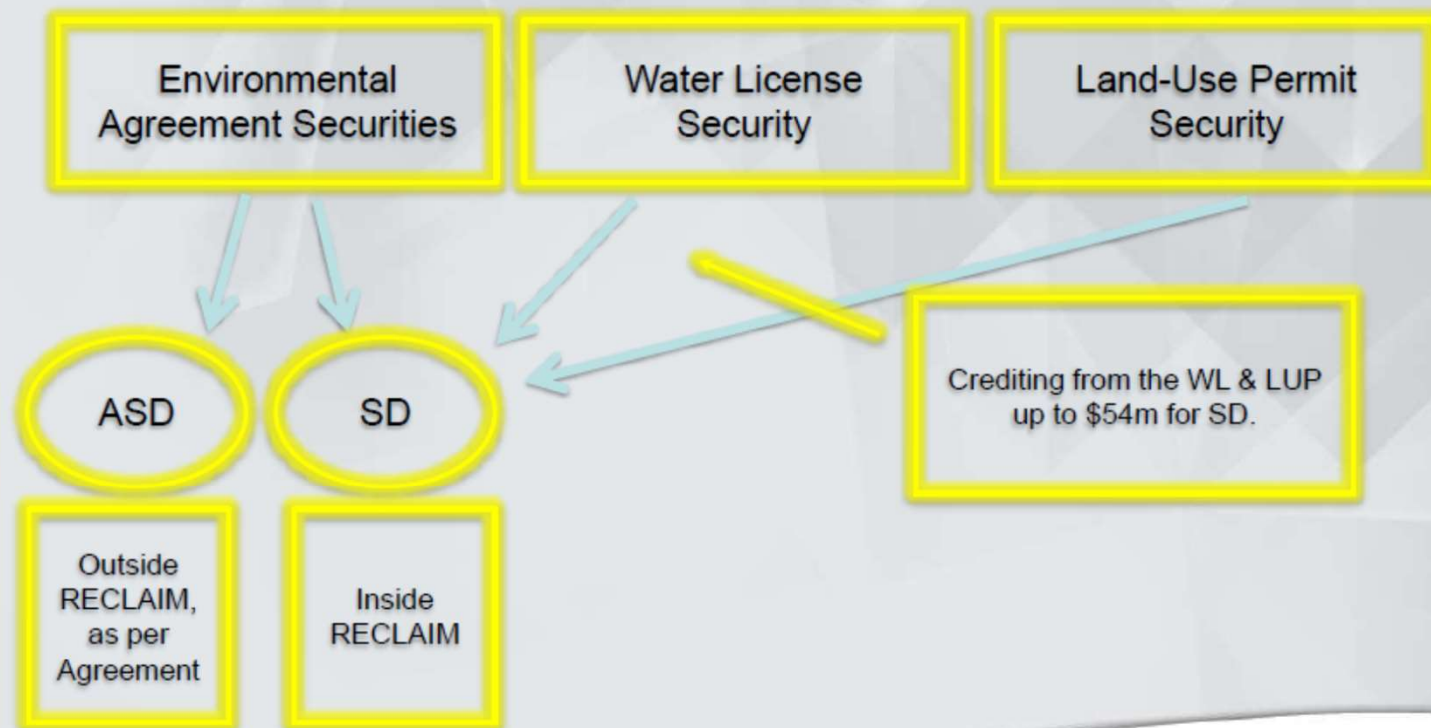
## 3.1 ENR's Position on ASD (I)

- For procedural fairness, the work approach and desktop review will be conducted with the same methodology as Ekati and Diavik reviews
- Regarding construction activities for the West Cell in 2019 – the technical memorandum provided by De Beers does not link ASD to the west cell
- The SD and ASD are not intended to overlap
- ASD is required for items outside of the SD (or RECLAIM model) - West Cell is SD related



# Difference between SD and ASD in the Environmental Agreement

## EA Securities



# ENR's Position on ASD (II)

- Based on existing process, the desktop review will define the ASD more clearly
- Crediting towards the Land-Use Permit is credited towards the SD not the ASD under Clause 12.1 (e)
- This review is focused on whether De Beers is over or under secured
  - ENR to coordinate reduction of Irrevocable Letter of Credit to reflect review outcome



## 4. Aboriginal Update

- Tlicho Government has been in talk with De Beers and SLEMA about setting up a one-day TK workshop on the Snap Lake Closure and Reclamation Plan De Beers will be submitting to the MVLWB in January 2019
  - Between end of October and late November



## 5. Stakeholders' Update

- No comments received in September 2018



## 6. Agency's Activities

- SLEMA Executive Meeting was held in Yellowknife on September 5, 2018
- SLEMA staff observed the Fish Tasting Event on September 6
  - Six trout were caught, and elders were satisfied with the taste of fish





## 7. SLEMA Reviews

- Request for Review of Securities Held Against the Environmental Agreement
- Case Study for Care and Maintenance – Lupin Mine



## 7.1 Request for Review of Securities Held Against the Environmental Agreement

- De Beers requested on August 14, 2018
- ENR responded with a review process framework on August 30



# De Beers' Request

- Requested a Review of the securities held against the Environmental Agreement for the Snap Lake Mine
  - To eliminate duplication of posted security between those held for the land use permit (LUP) and water licence (WL), and the Environmental Agreement as well as
  - To eliminate the requirement to post additional securities against activities that will not be pursued (i.e. construction of west cell)
  - To define the activities the Additional Security Deposit (ASD) covers and
  - To define the process for return of those securities



# De Beers' Justifications (I)

- “We will not be constructing the west cell, and therefore this additional security is not warranted”
  - \$3,500,000 in 2019 to cover aspects of the environmental impact associated with construction of the west cell



# De Beers' Justifications (II)

- “Essentially, the MVLWB now requires security for all topics intended to be covered by the ASD and there is no longer any need for security to be held outside of the MVLWB’s security instrument.” (water licence and land use permit)

	Specific Category	LUP Securities <sup>1</sup>	WL Securities <sup>1</sup>	Total
Wildlife	Aquatic Effects Monitoring Program	\$3,022,500	\$1,627,500	\$4,650,000
	Wildlife Effects Monitoring Program	\$130,000	\$70,000	\$200,000
Air Quality	Air Quality and Meteorological Monitoring	\$352,950	\$190,050	\$543,000
Vegetation	Scarify	\$318,004	\$0	\$318,004
	Top Soil Application	\$331,500	\$0	\$331,500
	Associated Indirects	\$207,841	\$0	\$207,841
	Revegetation Monitoring	\$456,000	\$0	\$456,000
<b>TOTAL</b>		<b>\$4,818,795</b>	<b>\$1,887,550</b>	<b>\$6,706,345</b>

<sup>1</sup>Values taken from MVLWB approved 2018 RECLAIM Financial Security Estimate Version 3



# De Beers' Justifications (III)

- “De Beers is requesting this Review to remove double-bonding that currently exists, to eliminate the need to post additional securities for activities that will not take place, and to eliminate the Additional Security Deposit or at least define the activities it covers and the process for return of those funds.”

	Land Use Permit	Water Licence	Environmental Agreement	Total
Currently Held by GWNT	\$21,335,671	\$39,066,247	\$20,000,000	\$80,401,918
Security Required by September 20, 2018	\$51,118,424	\$27,844,664	\$0.00	\$78,963,088
Difference	\$29,782,753.	-\$11,221,583	\$20,000,000	\$-1,438,830

# Payment Schedule (I)

➤ Section 12.1 of the Environmental Agreement provides a payment schedule for security deposits, which includes the following timeframes relative from the Effective Date of the Agreement (May 30, 2004):

- Thirty days – June 30, 2004
- Third anniversary – May 30, 2007
- Fifth anniversary – May 30, 2009
- Fifteenth anniversary – May 30, 2019



# Payment Schedule (II)

Payment due on	Security Deposit (\$)	Additional Security Deposit (\$)
June 30, 2004	15,000,000	2,000,000
May 30, 2007	30,000,000	8,000,000
May 30, 2009	2,000,000	10,000,000
May 30, 2019	7,000,000	3,500,000
Total: <b>77,500,000</b>	54, 000,000	23,500,000





# Section 12.1.c.(iv) of the Environmental Agreement

- In making determinations under this Article 12.1(c), the Minister shall apply the principle that there be no duplication between the Security Deposit and the Additional Security Deposit.



# Section 12.1.e&f of the Environmental Agreement

- The amount of security which DBCMI deposits with the Minister pursuant to the Land Leases or the Water Licence shall be credited against the Security Deposit
- The amount of any security deposit which DBCMI posts with the Minister pursuant to a land use permit shall be credited against the Security Deposit



# Section 12.1 of the Environmental Agreement (last paragraph)

- Once DBCMI has completed the closure and reclamation of the Project to the satisfaction of the Minister, the Minister shall return to DBCMI any unused portion of the Security Deposit and of the Additional Security Deposit less amounts related to ongoing Obligations. The Minister shall take appropriate steps to terminate, cancel or release guarantees, insurance or like assurances comprised in the Additional Security Deposit



# Security Deposit Held by the GNWT vs. the Updated Estimate

- Current security deposit held by the GNWT (\$80,401,918) for Snap Lake Mine is as follows
  - Land Use Permit: \$21,335,671,
  - Water Licence: \$39,066,247, and
  - Environmental Agreement: \$20,000,000 (ASD)
- The Security Estimate in 2018 is \$78,963,088, which is less than the amount held by the GNWT



# Comments from the Environmental Analyst (I)

- SLEMA support ENR's position
  - ASD is required for items outside of the SD (or RECLAIM model) - West Cell is SD related
    - De Beers to continue to prepare for final payment (\$3,500,000) of their ASD under clause 12.1(c)(i)(D) of the Environmental Agreement
- De Beers' request to not deposit \$3,500,000 in 2019 is not justifiable
  - \$3,500,000 is part of the ASD payment schedule



# Comments from the Environmental Analyst (II)

- Security deposits required by the MVLWB through the water licence and land use permit (\$60,401,908) before 2018 is greater than the total amount of Security Deposit in the Environmental Agreement (\$54,000,000, including the amount due on May 30, 2019)
  - De Beers deposited \$60,401,908 as required by the MVLWB, fulfilled the **Security Deposit** requirement of the Environmental Agreement
  - De Beers also deposited \$20,000,000 of **Additional Security Deposits** as required under the Environmental Agreement, but still has to deposit \$3,500,000 on May 30, 2019 to fulfil the ASD requirement of the Environmental Agreement



# Comments from the Environmental Analyst (III)

- The Security Estimate (RECLAIM) in 2018 (\$78,963,088) is greater than previous WVLWB requirement (\$60,401,908)
  - De Beers might have to deposit the balance to fulfil the Security Deposit requirement of the Environmental Agreement
  - However, the Security Estimate is less than the sum of SD and ASD currently held by the GNWT (\$80,401,908)
  - The ASD is under review by ENR, and there will be negotiation between De Beers and the GNWT



# Comments from the Environmental Analyst (IV)

- In general, De Beers' request to streamline the security deposits (Water Licence, Land Use Permit, and the Environmental Agreement) and clarify security deposit return mechanism is justifiable
  - De Beers' request to remove the ASD is not justifiable
- Certain percentage of security deposit should be held by GNWT for a longer term for covering unpredicted residue impacts
  - This could be clarified as part of the ASD





## 7.2 Case Study for Care and Maintenance – Lupin Mine



# Lupin Mine

## ➤ **Lupin Mine** was a gold mine in Nunavut

- It opened in 1982 and was originally owned and operated by Echo Bay Mines Limited, who in 2003 became a fully owned subsidiary of Kinross Gold Corporation
- The mine ceased production briefly in August 2003, but was restarted in early 2004 to recover old stope pillars with a reduced crew. The mine closed again in February 2005 and, in 2006, the assets were sold to Wolfden Resources Limited (later MMG, Ltd.) and subsequently to Elgin Mining, Inc. of Canada in July 2011
- In January 2015 WPC Resources of Vancouver optioned the property from Toronto-based Mandalay Resources who had purchased Elgin Assets

- [https://en.wikipedia.org/wiki/Lupin\\_Mine](https://en.wikipedia.org/wiki/Lupin_Mine)



# Care and Maintenance for the past few years

- Elgin stated that the mine is currently on care and maintenance due to the low price of gold, and that "The mill and all associated infrastructure was properly decommissioned and are in good condition for re-commencement of operations" should market conditions prove favorable. During the winter, the mine is served by the Tibbitt to Contwoyo Winter Road



# Recent Development

- Lupin Mine was fined \$10,000 for not filing reports on time in August 2018
  - Lupin Mines Incorporated has pleaded guilty to the charge by ECCC
  - The mine failed to produced timely reports – initially due in 2014 – on impacts to fish habitats
    - Those reports were eventually filed in 2017, and no negative impacts were found
  - \$80,000 of the penalty will go straight into an environmental damages fund, which disperses money to projects designed to benefit the environment taken on by groups like NGOs and Indigenous governments

<https://www.cbc.ca/news/canada/north/nunavut-lupin-mine-fined-1.47946>



# Lessons Learned from Lupin Mine (I)

- Extended Care and Maintenance could be difficult, and liabilities related to uncertainty might be huge
  - The Lupin Mine opened in 1982 but has been mothballed for more than a decade (2005-2018)
  - Commodity price, extreme weather, etc. will impact the care and maintenance and its performance



# Lessons Learned from Lupin Mine (II)

- Security Deposit is necessary and extremely important as a valuable vehicle of responsible mining
  - Lupin Mine did not conduct the study as required for financial reasons, leading to a recommendation that charges be filed under the Fisheries Act
  - The \$100,000 penalty represents the maximum that could be levied, given the charge by ECCC

