# MEADOWBANK TYPE A LICENSE RENEWAL FINAL PUBLIC HEARING PRESENTATION APRIL 29-30 2015





Stephane Robert (Manager of Regulatory Affairs)



- Meadowbank overview
- Tailing and waste management
- Renewal Application
- Closure and reclamation
- Technical comments
- Estimated reclamation liability
- Setting Reclamation Security



#### **MEADOWBANK OVERVIEW**



#### **History Facts**

- •2003: Application to NWB and NIRB
- •2006: Project Certificate Issued by NIRB
- •2008: All Permits Received
  - ✓ Water License A
    - ✓ Amendment no1 Tank farm expansion
    - ✓ Amendment no2 Fresh water uses
  - ✓ DFO Authorization
  - ✓ MMER Schedule 2
- 2008: Construction of Dikes and Pit Stripping start up
- •2010: Start of Commercial Production
- End of 2017: Expected End of Operation
- •2018 and Beyond: Closure and Potential future plans



June 2008



August 2009



September 2013

#### **MEADOWBANK OVERVIEW**



#### Three (3) open pits in operation

Portage, Goose, Vault

#### Gold production

- 2010 to 2014 = 1.8M oz (produced)
- 2015 to 2017 = **1.0M oz (estimated)**

#### Average annual gold production

• 350,000 ounces over L.O.M.

#### Number of employees = 775

- 265 Inuit or 34% of the workforce
- Inuit payroll of \$29M per year

#### Estimated life of mine

- 2010-2017
- Potential to extend the mine life beyond 2017









#### PORTAGE PIT, GOOSE PIT, CENTRAL DIKE - SEPT. 2014





#### PORTAGE PIT, GOOSE PIT, CENTRAL DIKE - SEPT. 2014



#### SITE INFRASTRUCTURE - SEPT. 2014

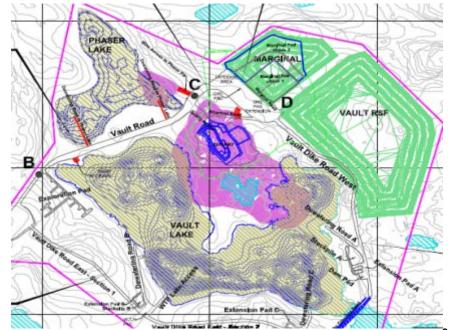






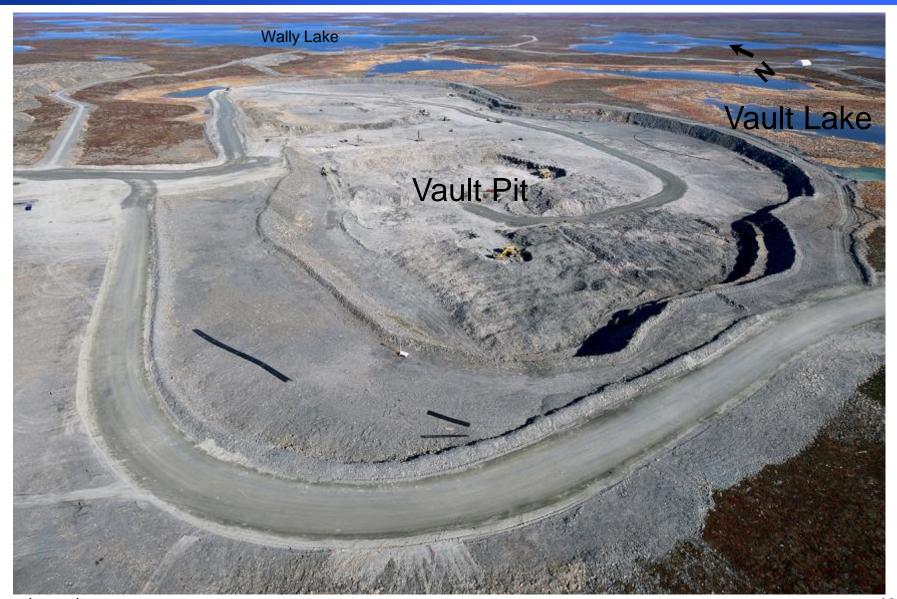
- Vault Dikes constructed in March 2013
- Operations started in Q1 of 2014
- Dewatering completed (2.7Mm³ in total)
- Fishout completed in September 2013
  - 2821 fish removed
  - 54% transfered in Wally Lake





#### VAULT PIT - SEPT. 2014

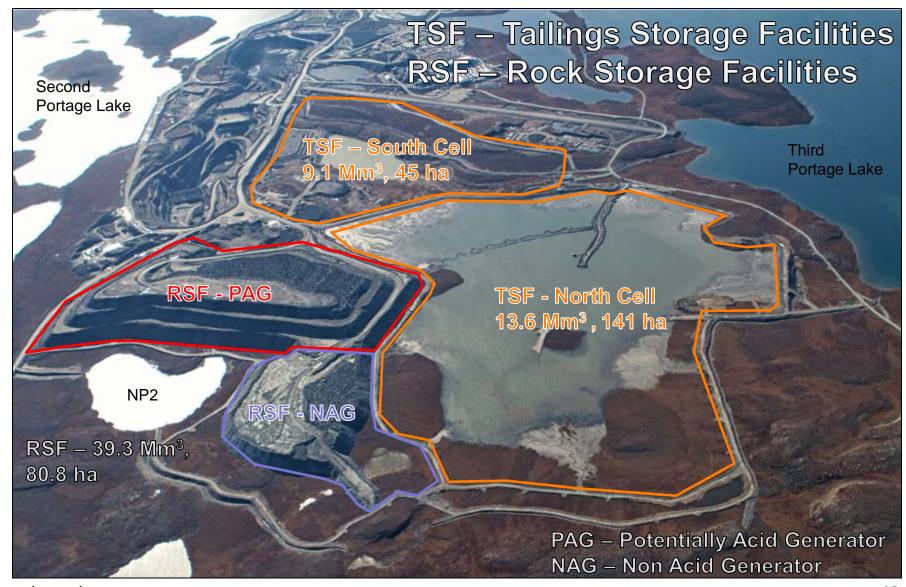






#### **MEADOWBANK TSF AND RSF OVERVIEW**





#### TAILINGS DEPOSITION PLAN HIGHLIGHTS



2010-2017: Approximately 13.6 Mm<sup>3</sup> of tailings will be stored in the North Cell, and 9.1 Mm<sup>3</sup> in the South Cell – total of ~ 22.7 Mm<sup>3</sup>.

- 2010: Tailings deposition in the North Cell
- End of 2014: Tailings deposition in the South Cell;
- Summer of 2015: Deposition in the North Cell will resume for few months, to minimize the ice entrapment for closure.
- Fall 2015: Deposition in the South Cell until the end of operation;

#### TAILINGS STORAGE FACILITY - NORTH CELL



As for December 31th, 2014

North Cell (2010-2015)

**Structures** are completed to El.150m

Water Volume: 79,790 m<sup>3</sup>

Cumm. Stored Tailings: 12,636,984 m³ / 16,252,769 tonnes

Total capacity (until 2015): 13,581,776 m<sup>3</sup> / 17,740,658 tonnes



#### TAILINGS STORAGE FACILITY - SOUTH CELL



#### South Cell (2014-2017)

Central Dike

El.120m in 2013 El.132m – 2014

■Saddle Dam 3, 4 and 5

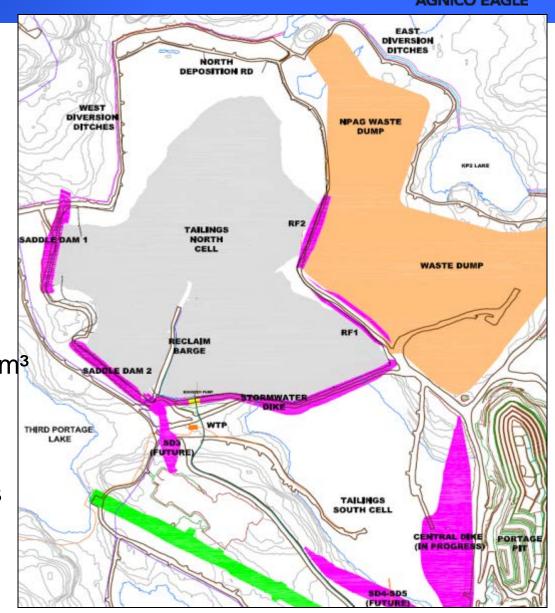
~EI.140m - 2015/2016

EL~140m - 2015/2016

Water Volume: 757,819 m<sup>3</sup>

Cumm. Stored Tailings: 386,029 m<sup>3</sup> / 469,355 tonnes

Total capacity (until 2017): 9,134,955 m<sup>3</sup>/ 11,962,743 tonnes





#### APPROACH TO RENEWAL



- AEM proposed updates to certain items or conditions of the licence that are administrative in nature.
  - Removal of items no longer applicable;
  - Removal of items originally made as conditions to ``update plans``;
  - Removal of conditions relaqted to construction or early operations;
  - Removal of items that never existed or are not anticipated to exist;
     (i.e, certain monitoring stations);
  - Changes that reflect amendments, modifications or discussions at workshops with regulators; (Part E, Item 6 and 7);
  - Updates to certain items that are administrative in nature (pg 64)
  - Improve clarity and consistency for both AEM and NWB

#### **HIGHLIGHTS**



- Scope
  - Purpose: Mining and Milling
  - Term 10 years (Operations, Closure, Post Closure)
  - Removal reference construction (where applicable)
- General Conditions
  - Revised list of plans
  - Security no changes
- Construction
  - Removal reference construction where completed
- Water Use and Management
  - Total volume freshwater requested 9.1Mm³ per year
- Waste Disposal and Management
  - Removal discharge to land for fuel containment facilities consistency with Part F, Item 23

#### **HIGHLIGHTS**



- Modifications
  - No changes
- Emergency Response and Contigency Planning
  - No changes
- General and Aquatic Effects Monitoring
  - Change in monitoring group
  - Administrative changes, removal of stations no longer applicable
- Abandonment, Reclamation and Closure
  - Maintaining commitment for detailed closure plan ``at least 12 months prior`` to closure
  - Ongoing progressive reclamation

#### FRESHWATER REQUIREMENTS



Table 6-1 - Freshwater requirements from Third Portage Lake, Unnamed Lake and Wally Lake. Updated and Adapted From SNC 2013 Water Management Plan (Table 4-2)

| Year | Mill/Camp<br>Freshwater Use<br>from TPL (m³/yr) | Emulsion Plan<br>Freshwater Use<br>from Unnamed<br>Lake (m³/yr) | Portage and Goose Pit<br>Flooding from TPL<br>(m³/yr) | Vault Lake Pit<br>Flooding from Wally<br>Lake (m³/yr) |
|------|---|---|---|---|
| 2013 | 1,585,009                                       | 2,400   | 0   | 0   |
| 2014 | 1,147,600                                       | 2,400   | 0   | 0   |
| 2015 | 1,147,600                                       | 2,400   | 450,000   | 0   |
| 2016 | 1,147,600                                       | 2,400   | 1,200,000   | 0   |
| 2017 | 1,147,600                                       | 2,400   | 1,200,000   | 0   |
| 2018 | 55,000*   | 0   | 4,880,000   | 4,184,652   |
| 2019 | 55,000  | 0   | 4,880,000   | 4,184,652   |
| 2020 | 55,000  | 0   | 4,880,000   | 4,184,652   |
| 2021 | 55,000  | 0   | 4,880,000   | 4,184,652   |
| 2022 | 55,000  | 0   | 4,880,000   | 4,184,652   |
| 2023 | 55,000  | 0   | 4,880,000   | 4,184,652   |
| 2024 | 55,000  | 0   | 4,880,000   | 4,053,862   |
| 2025 | 55,000  | 0   | 0   | 0   |

<sup>\*</sup>Fresh water consumption for domestic camp use.



#### **TECHNICAL COMMENTS**



- Technical comments (TCs) on Water License Renewal received on December 24<sup>th</sup>, 2014
  - KIA and their consultants, AANDC and is consultant, DFO and Environment Canada.
- A total of 97 TCs comments were received:
  - Interim Mine Closure and Reclamation (~ 16%)
  - Modification / rewording draft water license (~ 33%)
  - Freshet Action Plan / RSF Seepage (~ 7%)
  - CREMP (~ 11%)
  - Management Plan (~ 32%)
- During the technical Hearing, AEM reached an agreement on all the technical comments from the regulators.



#### **INTERIM CLOSURE PLAN**



- Part J of the licence requires implementation of the approved *Interim Closure and Reclamation Plan (ICRP)*.
  - AEM committment to revised ICRP to reflect issues raised and committment made throughout the NWB review process.
- Part J, Item 3 of the licence required submission of a Final Closure and Reclamation Plan at least 12 months prior to closure.
  - AEM committment to comply.
- AEM is committed to complying with all standards, guidelines applicable to closure and reclamation

#### **MEADOWBANK CLOSURE SCHEDULE**



Major Milestones for Closure (based on Interim Closure Plan, Golder, Jan 2014 and actual LOM):

| Years                | Milestones  |
|----------------------|---|
| 2017 Q3              | End of Production                                   |
| 2017 Q4 to 2020      | Meadowbank Infrastructure Decommissioning           |
| 2015 (NC) to 2018    | TSF Closure (NAG Capping)                           |
| 2018 to 2032         | TSF Water Quality and Thermal Monitoring            |
| 2018 to 2020         | Water Management Facilities Closure                 |
| 2015 (Goose) to 2024 | Pits Flooding – Portage, Goose, Vault               |
| 2024 to 2028         | Pits Water Quality Monitoring                       |
| 2029                 | Dikes Breach (Open to Third Portage Lake)           |
| 2018                 | RSF NAG Cover Completion                            |
| 2018 to 2028         | RSF Water Quality, Thermal and Stability Monitoring |
| 2030 to 2040         | AWPR and Vault Road Closure and Monitoring          |

#### **CLOSURE PLAN AND OBJECTIVES - RSF**



#### **RSF Closure Objectives:**

- Minimize erosion, thaw settlement, slope failure, collapse or the release of sediments or contaminants (ARD and ML);
- Build to blend in with current topography;
- Build to minimize the overall project footprint.

#### **Considerations:**

- Geochemistry of the rock in the pile (PAG);
- Quantity of chemically stable rock available.

#### **Strategy:**

- Type of waste and disposal location within the Portage RSF is recorded – PAG and NAG;
- RSF PAG will be covered by a 4.0 m layer of NAG rock to achieve geochemical stability and to act as a thermal barrier (cover on-going during operation);
- Majority of the RSF has been covered during operations, minimal area will remain to be covered at closure;
- Monitoring of freeze-back during operation and closure to confirm cover performance.





#### **CLOSURE PLAN AND OBJECTIVES - TSF**



#### **TSF Closure Objectives:**

- Minimize catastrophic and/or chronic release of the tailings or contaminated water to the environment;
- Stabilize slopes and structures surrounding the tailings impoundment;
- Minimize wind migration of tailings dust.

#### **Considerations:**

- Potential acid generation and metal leaching from tailings;
- Tailings frozen state;
- Quantity of chemically stable rock available.

#### **Strategy:**

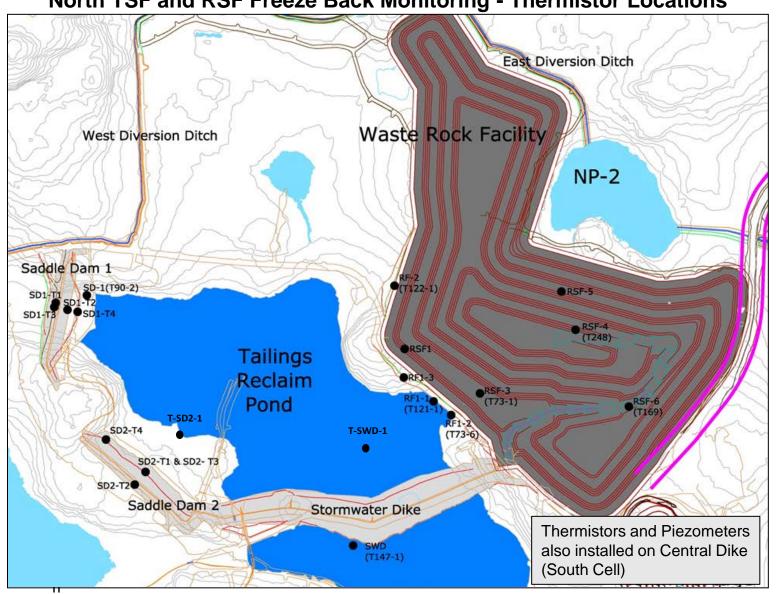
- The overall tailings management approach for long term stability and control of ARD involves encapsulation of the tailings in permafrost;
- The tailings will freeze after deposition and remain frozen after closure;
- NAG cover of 2m to 4m (final design to be determined) will be placed to insulate the frozen tailings and to protect against erosion;
- The final cover surface will be graded to blend into the existing topography, and to shed water adequately for closure;
- Monitoring of freeze-back during operation and closure.

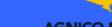


#### **TSF AND RSF MONITORING PROGRAM**



#### North TSF and RSF Freeze Back Monitoring - Thermistor Locations





#### **TSF AND RSF MONITORING PROGRAM**

- Thermistors are installed in the RSF, TSF dams and in the tailings;
- Purpose of thermistors:
  - TSF to monitor the talik temperatures underneath and tailings freeze back;
  - Dams to monitor the structures and foundations;
  - RSF to monitor the RSF temperature as freezing progresses.
- Monitoring throughout the operational, closure and post closure period;
- Collect data for modelling and for final cover design;
- To date, thermistors indicate that freeze back is occurring in the tailings and in the RSF, while dam structures and foundations remain frozen on yearly basis.





#### **MEADOWBANK RESEARCH PROJECT**



- AEM has initiated a research project in collaboration with RIME (Research Institute of Mines and Environment) to characterize cover material and determine the effectiveness of different cover thicknesses and designs;
- Final cover design for the TSF and cover performance of the RSF will be supported with these studies and trials;
- Research project is ongoing on the TSF and for NAG material characterization, future work will also include the performance assessment of the RSF cover;
- Additional thermistors will be installed along the RSF benches/slopes and in-situ cells will be built – collaboration between Meadowbank staff and RIME.

#### **CONCEPTUAL OPEN PITS RE-FLOODING**





Portage and Vault Areas Open Pits Flooding – Conceptual Overview



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# ESTIMATED RECLAMATION LIABILITY AT MEADOWBANK



## WHAT IS THE ESTIMATED RECLAMATION LIABILITY AT MEADOWBANK?



- All parties to this process agree that the current estimate of the reclamation liability at the Meadowbank mine site is \$86,519,614
- This represents the estimated cost of reclaiming the site at the end of the expected mine life in 2017 and is based on worst case assumptions, specifically:
  - AEM is unable to meet its obligations either through bankruptcy or other cause;
  - Government has to step in and take over reclamation of the site using outside contractors;
  - There is a period of time before Government starts cleaning up the site.
- This is a significant increase from the estimate in the current license of \$43.9 Million estimated in 2008 and reflects:
  - Growth in the size of the mine from its start in 2008 to today and looking towards end of mining in 2017;
  - Increase in the unit cost of all labour, materials and services that will be needed to reclaim the mine;
  - Better understanding of how the site can best be reclaimed;
  - A much larger allowance for interim care and maintenance cost before the Government starts work.

#### **NOVEMBER 2014 RECLAIM 7 ESTIMATE - MEADOWBANK**



Reclaim 7.0 Project: Meadowbank Gold Project

11/14/2014

#### SUMMARY OF COSTS

| CAPITAL COSTS                             | COMPONENT<br>NAME | соэт         | LAND<br>LIABILITY | WATER<br>LIABILITY |
|---|-------------------|--------------|-------------------|--------------------|
| OPEN PIT P                                | ortage/Goose      | \$5,400      | \$5,400           | \$0                |
|   | Vault             | \$0          | \$0               | \$0                |
| UNDERGROUND MINE                          |                   | \$0          | \$0               | \$0                |
| TAILINGS FACILITY                         |                   | \$38,716,200 | \$9,671,000       | \$29,045,200       |
| ROCK PILE                                 | Portage           | \$6,004,827  | \$0               | \$6,004,827        |
|   | Vault Area        | \$0          | \$0               | \$0                |
| BUILDINGS AND EQUIPMENT                   | Meadowbank        | \$7,919,428  | \$7,771,016       | \$148,412          |
|   | Baker Lake        | \$1,664,270  | \$1,664,270       | \$0                |
|   | AWPAR             | \$991,072    | \$616,072         | \$375,000          |
| CHEMICALS AND CONTAMINATED SOIL MANAGEMEN |                   | \$1,208,184  | \$70,975          | \$1,137,209        |
| SURFACE AND GROUNDWATER MANAGEMENT        |                   | \$5,198,311  | •                 | \$5,198,311        |
| INTERIM CARE AND MAINTENANCE              | _                 | \$0          | _==               | \$0                |
| SUBTOTAL: 0                               | Capital Costs     | \$61,707,692 | \$19,798,733      | \$41,908,959       |
| PERCENT OF                                | SUBTOTAL          |              | 32%               | 68%                |

| INDIRECT COSTS                             |              | COST         | LAND<br>LIABILITY | WATER<br>LIABILITY |
|--|--------------|--------------|-------------------|--------------------|
| MOBILIZATION/DEMOBILIZATION                |              | \$4,762,500  | \$1,528,034       | \$3,234,466        |
| POST-CLOSURE MONITORING AND MAINTENANCE    |              | \$2,972,373  | \$953,677         | \$2,018,696        |
| ENGINEERING                                | 5%           | \$3,085,385  | \$989,937         | \$2,095,448        |
| PROJECT MANAGEMENT                         | 5%           | \$3,085,385  | \$989,937         | \$2,095,448        |
| HEALTH AND SAFETY PLANS/MONITORING & QA/QC | 0%           | \$0          | \$0               | \$0                |
| BONDING/INSURANCE                          | 0%           | \$0          | \$0               | \$0                |
| CONTINGENCY                                | 15%          | \$9,256,154  | \$2,969,810       | \$6,286,344        |
| MARKET PRICE FACTOR ADJUSTMENT             | 0%           | \$0          | \$0               | \$0                |
| SUBTOTAL: Inc                              | lirect Costs | \$23,161,796 | \$7,431,395       | \$15,730,401       |
| TOTAL COSTS                                |              | \$84,869,488 | \$27,230,128      | \$57,639,360       |

#### **ADDITION OF INTERIM CARE & MAINTENANCE**



- AANDC recommended that Agnico Eagle's Nov 2014 reclamation estimate be raised by \$1,650,126 to a total of \$86,519,614 to reflect AANDC's experience that: "there is inevitably a period of interim care and maintenance that is required after an operator abandons a site due to financial difficulty. That time is required for legal processes, non-operator reclamation planning, service procurement, etc."
- In our opinion, this extra interim care and maintenance cost unfairly places an additional burden on the proponent's reclamation security obligations and reflects poorly on the government's inability to promptly fulfill its obligations to reclaim an abandoned site.
- Agnico Eagle believes the Reclaim Model sufficiently accounts for interim care and maintenance and the "extra" time referenced by AANDC is in reality a measure of Government inefficiency; however
- Agnico Eagle does not contest AANDC's recommendation and has adjusted its security estimate accordingly

#### AGREEMENT ON RECLAMATION LIABILITY AT MEADOWBANK



• It is AEM's understanding that now all Parties Agree that the Reclamation Liability for the Meadowbank Site through the end of mining in 2017 is \$86.5 Million, broken down as follows:

| ١ | Water Liability | \$58.8 Million | 68% |
|---|-----------------|----------------|-----|
|   | Land Liability  | \$27.8 Million | 32% |



#### **RECLAMATION SECURITY - WHAT ARE AEM'S EXPECTATIONS?**



- That there be a fair and equitable process under the Nunavut Waters and Nunavut Surface Rights Tribunal Act (NWNSRTA) to ensure that adequate security is set aside by the Proponent to cover the cost of reclaiming the mine site should AEM be unable to meet its closure obligations;
- That this security be in a form that ensures access to the funds by the Government/Inuit Land Owner in the event of economic failure of the company but also in a form that does not add to the initial capital cost of the project;
- That security be specific to the following as set out in the Nunavut Waters and Nunavut Surface Rights Tribunal Act:
  - to compensate, fully or partially, a person, including the designated Inuit organization, who is entitled to compensation under section 13 and who has been unsuccessful in recovering that compensation, if the Minister is satisfied that the person has taken all reasonable measures to recover it; and
  - to reimburse Her Majesty in right of Canada, fully or partially, for reasonable costs incurred by Her Majesty in right of Canada under subsection 87(4) or, subject to subsection (3), under subsection 89(1). (i.e. Closure & Reclamation of a mine site)





- That there be one agreed upon security amount that covers 100% of the agreed upon liability – (no double or over bonding)
- That how the security be held or managed in the event that the company has failed to meet its requirements is in some agreed upon arrangement between the Government of Canada (AANDC) and the Kivalliq Inuit Association (KIA).
- Remember if the security is being accessed then it is likely that AEM has in some form failed or is likely unable to meet its obligations and is no longer in the picture.



### WHAT IS THE CURRENT SITUATION AT MEADOWBANK? HOW MUCH SECURITY HAS AEM POSTED FOR RECLAMATION

- Type A WL Security Requirement:
  - **\$43,900,000**
- Security Bond Posted in form of Irrevocable Letter of Credit (LoC):
  - \$43,900,000 posted to Government of Canada AANDC
- KIA Commercial Lease Security Requirement
  - **\$14,900,000**
- Security Bond Posted in form of Irrevocable LOC:
  - \$14,900,000 posted to KIA
- Total Security Posted: \$58,800,000 against agreed upon liability of \$43,900,000
- Over bonding of 134% or \$14.9 Million

#### **RECLAMATION SECURITY – OVERBONDING – WHERE ARE WE TODAY?**



- Ultimately, Agnico Eagle has a responsibility to provide adequate security to ensure that our mine site can be fully reclaimed should we fail to do so either as a result of abandonment of the site or through bankruptcy. However, Agnico-Eagle should not be required to provide reclamation security (combination between the Water License and Land Use Lease) beyond the agreed upon reclamation liability.
- The KIA and AANDC have been discussing mechanisms by which they can resolve this overbonding issue for years. On occasion they have invited AEM to be present for their discussions, at which time we have participated and have on many occasions suggested ways to resolve this issue.
- In all cases AANDC tells us that they cannot resolve the issue because the proposed solution interferes with the powers of their Minister.
- In our view Section 76 & 82 of the NWNSRTA gives the Minister a lot of flexibility with respect to the form and nature of this security and yet AANDC shows none of this flexibility.

#### **RECLAMATION SECURITY – OVERBONDING – WHERE ARE WE TODAY?**



- The KIA has proposed ways to resolve the issue. They have made AANDC aware of their security requirements and conditions under the KIA's Land Use Leases.
- It is difficult for AEM to understand that after 8 years the matter of overbonding has not been resolved.
- AANDC has told the KIA in our presence that they will not indemnify the KIA for future liability resulting from the failure of Agnico Eagle to properly reclaim the Meadowbank site which undermines all efforts to have Canada hold all the land + water security and then have Canada look after the reclamation.
- Consequently KIA has had no option but to request to hold their own security against reclamation for land related disturbance on their lands (Inuit Owned Land).
- In this round Agnico Eagle could be faced with overbonding requirements under the Water License of 132% (\$27.7Million) or 150% (\$43.3Million) depending upon what recommendation the Board chooses.
- This is significant amount of money and has severe negative impact on how mining investment in Nunavut is perceived.





- In their April 08<sup>th</sup> letter AANDC suggests to the NWB that the "double bonding" issue is a matter to be resolved between KIA and Agnico Eagle which in our view is a case of "passing the buck".
- We find this position very discouraging and basically very unfair to Agnico Eagle especially in light of the position taken by AANDC on reclamation security bonding at the 2014 Mary River Type A Water License hearings.

#### **DOUBLE BONDING – WHERE DO WE GO FROM HERE?**



Agnico Eagle suggests that there are several ways that the NWB could address this issue in a way that is equitable to all parties, while ensuring that adequate reclamation security is posted by the Proponent to protect the environment while minimizing the amount of "overbonding".

We suggest the following possible approaches:

- Split the Security between the WL and Land Use Lease
  - Set the total amount of required reclamation security at \$86,519,614 with 50% of the security to be held by the Government of Canada via the Water License and 50% to be held by the Kivalliq Inuit Association via their land use leases (KIA Production Lease).
  - Agnico Eagle would provide evidence to the NWB that both securities have been posted in the forms of irrevocable Letters of Credit and that such amounts are to be posted against reclamation should the Proponent fail to meet its obligations.
  - Spell this out within the Water License.
  - This is the option preferred by Agnico Eagle as it is most equitable to all of the parties while still providing the protection sought by the Board.

#### DOUBLE BONDING – WHERE DO WE GO FROM HERE?



#### Alternatively;

#### Split the security between Water and Land

- Set the total amount of required reclamation security within the WL at \$58.8 Million to reflect the 68% portion of the total \$86.6 Million that is water related; and
- Recommend that the KIA set the reclamation security with their Production Lease at \$27.8 Million to reflect the remaining 32% portion of the total \$86.6 Million that is land related.
- Under the WL require that Agnico Eagle provide evidence to the NWB that both securities have been posted in the forms of irrevocable Letters of Credit and that such amounts are to be posted against reclamation should the Proponent fail to meet its obligations.

The 68%-32% split is the estimated water-land reclamation liability split calculated using the RECLAIM model.

This alternative provides the protection sought by the Board and as required under the NWNSRTA, splits the water-land liability obligations while avoiding any overbonding.

#### **DOUBLE BONDING – WHERE DO WE GO FROM HERE?**



- On a larger scale project this double bonding could add tens of millions of \$ to the reclamation bonding requirements.
- It is important for the board to be aware that with our Meliadine Project due to proceed into the Water Licensing Process later this year, the issue of Double Bonding will again raise its head and it is conceivable that Agnico Eagle could be in a position of being asked to pledge close to \$80 Million in the form of extra security (overbonding) on top of the amounts that all parties agree is the amount required to reclaim both sites.
- This makes development of mining projects on IOL unattractive and potentially penalizes Inuit beneficiaries without providing any improvement in protection;
- This double bonding issue is unfair to industry and to Inuit and needs to be resolved.















**Trading Symbol:** AEM on TSX & NYSE

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