

Agnico-Eagle Mines Limited

Operational Monitoring and Reporting
Requirements at Meadowbank

The logo consists of a solid orange square with the letters 'AEM' in white, bold, sans-serif font centered within it.

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Agenda

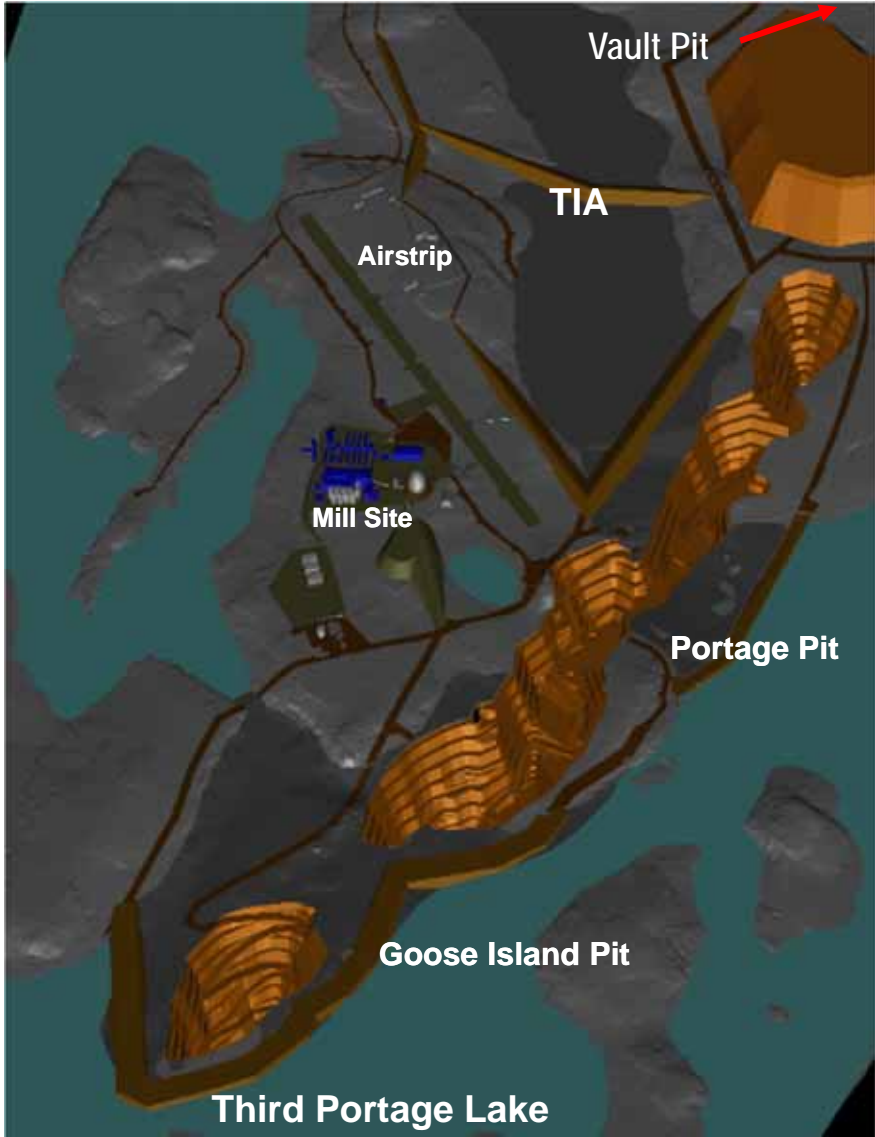
- History
- License and regulation
- Management and monitoring plan
- Monitoring
- Reporting





Meadowbank – Quick Facts

Mine Throughput:	8,500 tpd
Metallurgical Au Recovery:	92.5%
Mining Method:	Three Open Pits
Capital Cost:	C\$710 million
Mine is on IOL Land – Mineral rights to NTI and Canada	550 permanent jobs
Average annual production:	
Life of Mine:	350,000 oz Au
Open Pit Mineral Reserve:	3.7 million oz Au



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July 12, 2009



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August 2009



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September 2010



Meadowbank - History

- 1987: Discovery of Gold on the Portage deposit
- 2000: Discovery of the Vault deposit
- 2003: Application to NWB and NIRB
- Dec 2006: NIRB issued the Project Certificate
- July 2008: Received all permits
 - License A
 - DFO authorization
 - MMER Schedule 2
- August 2008: Beginning of the construction of dikes and stripping of the pit
- Mars 2010: Commercial Production





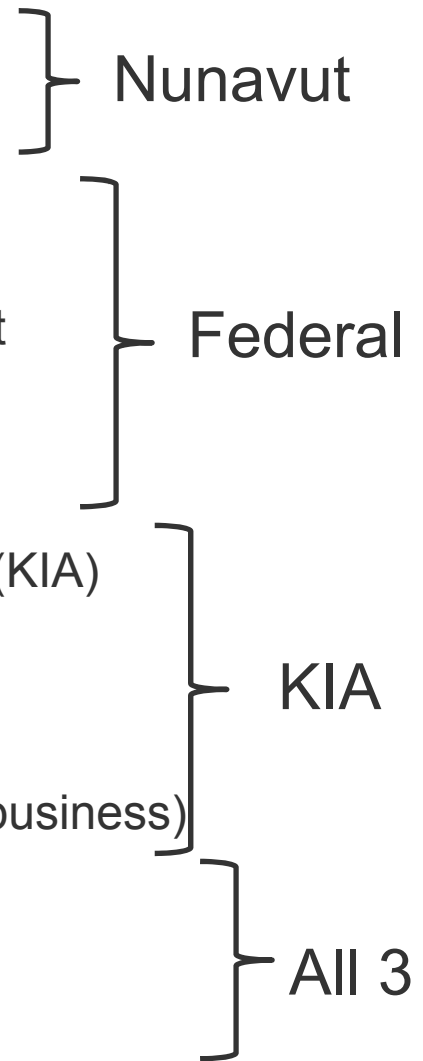
Permits and Agreements

Mainly:

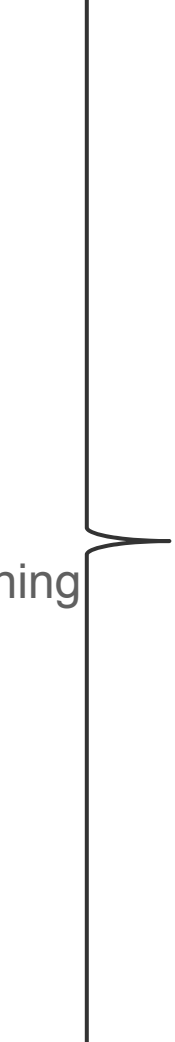
- Project Certificate from the Nunavut Impact Review Board
- Water License from the Nunavut Water Board
- MMER Schedule 2 Listing of the tailings containment lake
 - Second Portage Arm
- DFO Fisheries Compensation Agreement and Fisheries Act

Authorizations

- Road
- Mine
- Production Mining Lease with the Kivalliq Inuit Association (KIA)
- Water Compensation Agreement with the KIA
 - Road
 - Mine
- Inuit Impact Benefit Agreement (employment, training and business)
- Lease for the road and quarries
 - GN
 - INAC
 - KIA



Requirements of the License and permits

- **Water License 2AM-MEA-0815**
 - 36 Conditions applying to construction
 - 10 Conditions applying to water use and management
 - 24 Conditions applying to waste disposal and management
 - 4 Conditions applying to modifications
 - 9 Conditions applying to emergency response and contingency planning
 - 27 Conditions applying to general and aquatic effects monitoring
 - 6 Conditions applying to abandonment, reclamation and closure
 - **NIRB Project certificate**
 - 86 conditions
- 
- 202



Security Requirements

■ INAC:

- 43.9 M\$ Closure plan
- 0.14M\$ Land Lease for Road and Quarries

■ DFO

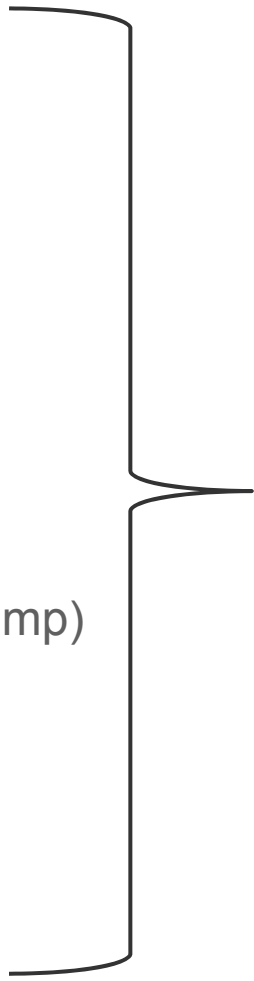
- 25.75M\$ Fish Habitat Compensation

■ KIA

- 14.9M\$ Production Lease (Closure plan)
- 0.6M\$ Exploration Lease (Closure plan Explo camp)
- 0.35M\$ Road and Quarries

■ GN

- 5M\$ Tank Farm and Marshalling Area



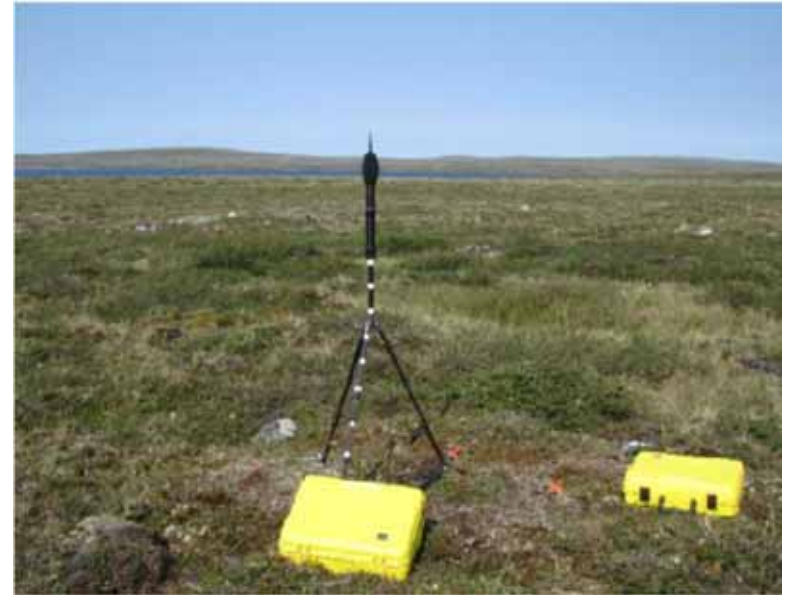
\$90.64M

Annual payments

- INAC:
 - 10 500\$ Land Lease for Road and Quarries
- KIA
 - 564 000\$ IIBA (Implementation, Compensation & Scholarship)
 - 114 000\$ Production Leases (Mine and Road)
 - 285 000\$ Water compensation (Usage & disturbance)
- GN
 - 32 382\$ Tank Farm and Marshalling Area
 - Municipal taxes (~\$2 million per year)
- Royalties (INAC-NTI - ~\$50 million over mine life)
 - After capital reimbursement
 - Depends on gold price
 - Depends on production costs
 - Portage & Goose Grandfathered clause (as crown land) – royalty goes to Canada and then re-directed to NTI
 - Vault Royalty - negotiated directly with NTI

Management Plans

- Waste management plan
- Water management plan
- Noise abatement and management plan
- Transportation management plan
- Emergency response plan
- Spill contingency plan
- Hazardous material management plan
- Terrestrial Ecosystem management plan
- Closure and reclamation plan
- Incinerator management plan
- Landfarm management plan
- Landfill management plan
- Sewage treatment Plant and O&M manual



Monitoring plans

- Core Receiving Environmental Monitoring plan
- Dike construction and dewatering monitoring plan
- Blast monitoring plan
- Fishout program
- Groundwater monitoring plan
- Habitat compensation monitoring plan
- Water quality and flow monitoring plan
- Metal Mining effluent regulation monitoring plan
- Environmental Effect monitoring study design
- Quality Assurance / Quality Control plan
- Operational ARD/ML sampling and testing plan
- Baker Lake Bulk Fuel Storage Facility: Environmental Performance Monitoring Plan
- Meadowbank Bulk Fuel Storage Facility: Environmental Performance Monitoring Plan



Dewatering of Second Portage Arm

- Water level was draw down by 23 meters
- Removed around 17 Mm³ of water
- Treat around 10,000 to 15,000 m³/day
- Limits to respect from the License (daily) and MMER (weekly)
 - Different parameters to control (ex: Al, turbidity)





Dike Construction Monitoring



**East Dike –
Summer 2008**



**Bay Goose
Dike Phase 1
Summer 2009**

TSS Effects Assessment Study

- What was conducted in 2008-2010?
- TSS dike construction monitoring
 - Turbidity for TSS output
 - Water Quality
- Water quality and Aquatic Studies
 - Water quality chemistry
 - Phytoplankton (floating plants in the water)
 - Zooplankton (inverts that swim in the water column)
 - Laboratory Testing: Zooplankton and fish
 - Fish Habitat: Sediment Traps
 - Sediment Chemistry Quality (coring)
 - Benthic invertebrate community studies (small invertebrates that are important food source for fish)



Managing TSS during Bay Goose dike construction

- Installation of turbidity curtain (cell) on the causeway
- Installation of a pumping system in front of the construction platform
- Water is pumped and treated before release to the environment
- Respect all the limits at the 7 monitoring stations



Bay Goose Dike Construction
July 21 2010



Fishout

- Fishout of Second Portage Arm
 - 3079 fish (1123 Kg) were removed from the Bay Goose Area
 - 0% of the fish were transferred to the Second Portage Lake
- Fishout of Bay Goose Area
 - 2139 fish (283 Kg) were removed from the Bay Goose Area
 - 58% of the fish were transferred to the Third Portage Lake



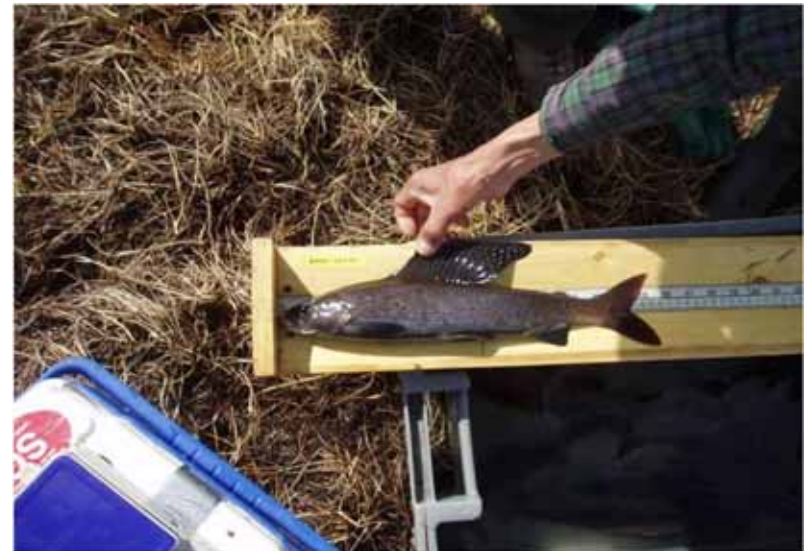
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RO2 compensation work



R02 Habitat Compensation Monitoring

- Collect Adult Arctic grayling using Hoop nets
 - Mark and Recapture (tagging)
 - Collect newly hatched fish: larval drift traps
 - Collect young arctic grayling minnows: minnow traps
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- To date, the data shows that the habitat compensation is used for spawning



Wildlife monitoring

- Caribou radio-collaring program in collaboration with the GN.
 - 20 collars in 2008 and 2009
 - 5 collars in 2011
- Hunter and creel harvest study
- Road survey
- Birding plots and transects
- Raptor nest surveys
- Waterfowl nesting surveys



- Monthly report to NWB (License A)
 - Quarterly report to KIA (Production lease)
 - Quarterly report to EC (MMER)
 - Annual report to NWB (License A)
 - Annual report to NIRB (Project Certificate)
 - Annual report to EC for the MMER
 - Annual report to DFO for the HAD authorization
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- To comply with the requirement of NIRB, NWB and DFO, the annual report of 2009 contains 4,000 pages.



Reporting

Reporting requirement	Appendix D - NIRB	Annual report License A
Progressive reclamation works	X	X
Public consultations	X	X
sites visits by inspectors	X	X
Noncompliance	X	X
Groundwater monitoring	X	
Characterization of mine waste materials	X	X
Monitor tailing freezeback efficiency	X	X
Quality assurance and quality control (QA/QC)	X	X
Fishout program	X	X
Air quality	X	X
Results of stack testing of the incinerator	X	X
Blast Monitoring	X	X

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QUESTIONS

