

# **Inspection Report**

License #: 2AM-MEA

Inspector: A.Keim

**CIDMS # 522409** 

Client	Agnico-Eagle Mines Ltd.		
Mailing Address	#375-555 Burrard Street Two Bentall Centre Vancouver, BC V7X 1M4		
Inspection site location	Meadowbank Gold Project Mine		
Contact name	Stéphane Robert Title Environmental Superintendent		
Previous Inspection Dates	July 28, 2008	Aug 9, 2009	January 19&20, 2010
	July 21&22 2010	July 5&6 2011	
Inspection start date	March 23& 24 2012		
Region	Kivalliq Region		



Aboriginal Affairs and Northern Development Canada P.O. Box 100 Building 918 Igaluit, NU, X0A 0H0

Submitted Via E-Mail
Our File: 2AM-MEA0813
Your File: \_\_\_\_\_
CIDM # 522409

April 13, 2012

Louise Grondin, VP Environment Agnico-Eagle Mines Ltd. #375-555 Burrard Street Two Bentall Centre Vancouver, BC V7X 1M4

Email: louise.grondin@agnico-eagle.com

# RE: Water License Inspection - Meadowbank Mine Site March 23/24 2012

The Water Resources Officer (WRO) appreciates the assistance and cooperation provided by Stéphane Robert, Environmental Superintendent and Mr. Robin Allard, Senior Environmental Technician who accompanied the Inspector during the inspection of the Water License terms and conditions.

The following report is based on observations made at the time of the inspection;

- Fuel Tank Farm (Meadowbank Mine, Nunavut)
- Meadowbank Mine Site, Including;
  - o Main Building / Accommodation Trains
  - Water Treatment Facilities (potable)
  - Goose Bay Dyke and Pit ( Activity started this date)
  - o Portage Pit
  - o North Cell Tailings Pond and Recirculation Intake
  - Hazardous Waste Storage
  - o Incinerator and Waste Management Area
  - o Spill Reports- sites for clean up confirmation (14)

A review of the terms and conditions of the water license was completed following the individual inspections.

### Fuel Tank Farm: (Mine site)

- Site was found free of spills and contamination
- A new truck off-loading system in place and in use by Tanker during the Inspection. The new system was designed to prevent spills.
- o A liner has been placed under the transfer area
- o A log was available for review within the Pump station
- o Currently there are 4.9 million litres of P-50 of P-50 fuel in the mine site tank farm and an additional 30.3 million litres of P-50 at the Baker Lake tank farm.

# All Weather Road / Quarry Sites:

- The All-Weather roadway and guarries were not inspected during this Inspection.
- The Licensee carried out soil characterization testing of hydrocarbon contaminated soils in Quarry 6 in 2010. From this it was identified that 1700 Cubic meters of contaminated soils could be moved into the waste dump area located within the waste rock pile and an additional 500 Cubic meters could be moved to Quarry 22 for remediation.
- Contaminated soils at Quarry 5 are to be tested in 2012

- The spill that occurred at KM 22 has been cleaned but monitoring and any required ongoing remediation activities will continue for the remainder of 2012.
- The current Quantity of contaminated soils in Quarry 22 is to be determined and provided to the Inspector.

#### **Meadowbank Mine Site:**

- During period of Inspection it was noted that grey and black water from the mine site continue to be deposited in Teardrop lake (sump 4). Sampling will be conducted at the next Inspection.
- The Licensee started blasting and removal of overburden on the Goose Pit during the period of Inspection. The removal of overburden was on-going during the site visit.
- o Potage pit was found active. (4 benches completed) and 17 rock trucks on the road.
- o Tailings being deposited in North cell during the Inspection.
- Tailings disposition continues at a rate of approximately 10,000 tonnes per day.
- Noted that since Nov of 2011 There has been no discharge to the environment from any regular mine activity.
- o Contractor pad was inspected and found to be in good order with no spills
- Seepage under the East Dyke continues to flow into the Portage Pit. It is unclear if this can be stopped as the level of the flow is below the water line in the lake. Water is currently pumped to attenuation pond at a rate of 1,000 cubic meters per day. The Licensee would like to diverted the water directly back to the lake and an amendment will be submitted to this effect.
- In 2011 the Licensee used 1 million cubic meters of water, The License allows for the use of 700,000. An application for amendment is to be submitted without delay.
- o The Mine mill is reclaiming 66% of mine water for recirculation.

# **Hazardous Waste and Waste Management:**

- Hazardous waste shipping records were not available for review.
- o It was noted that 91 sea cans of Hazardous wastes were shipped off site
- 25 sea can of hazardous wastes originated within the Municipality of Baker Lake.
  - o 880 Drums of waste oils and unidentified substances
  - o 20 tonnes of batteries
- o A clean up of the old dump in Baker lake was also undertaken by the Licensee
  - o 354 tonnes of steel scrap and;
  - 94 tonnes of tires were shipped off site
- The Incinerator area was found to be in good working order.
- Four other single stage incinerators were also noted adjacent to the Incinerator building.
   These are only to be used if or when a failure occurs with the main incinerator.
- Sea-can and shipping containers for hazardous wastes were found to be properly labelled and in good order.

#### Spills:

During the period of inspection the following spill reports were inspected and closed;

1.	2010-016	200 L Hydraulic oil	North Portage Pit
2.	2010-120	210 L Engine Oil	South Portage Pit
3.	2010-139	210 L Engine Oil	South Portage Pit
4.	2010-166	100 L Engine Oil	Cleaned from Sea can
5.	2010-215	150 L Fuel –P-50	Cleaned from surface and placed in Q 22
6.	2010-342	125 L Engine Oil	South Portage Pit
7.	2010-433	300 L Hydraulic Oil	South Portage Pit
8.	2010- 466	200 L Fuel -P-50	South Portage Pit
9.	2011-283	280 L Fuel /H Oil Mix	TCG Laydown - Cont soil placed in Q 22
10	2011-353	150 L Used Oil	Soil shipped off site in haz mat shipment 2011



11. 2011-403	250 L Hydraulic Oil	Site cleaned and soil taken to Q 22
12. 2011-421	200 L Fuel P-50	Site cleaned and soil taken to Q 22
13. 2011-436	625 L Used Oil	Soil shipped off site in haz mat shipment 201
14. 2011-463	350 L Hydraulic Oil	Site cleaned and soil taken to Q 22

The above noted spill sites were inspected and the Inspector found the spills have been cleaned up to accepted environmental/regulatory standards and the spilled products and contaminated materials have been appropriately disposed of.

An e-mail to the Spill Line recommending closure of the above noted spill reports will be submitted under separate cover.

Non-Compliance: Issues identified during the inspection and/or review of relevant material

# Issues where there is a known or suspected violation of a requirement of the Water License or Act:

- Quarry sites used as lay containment areas for contaminated soils without the use of secondary containment is not recommended for long term storage and remediation of contaminated soils. In the long term the use of treatment technologies and /or shipment off site of hydrocarbon contaminated soils is required for continued compliance with the legislation.
- The total allowable volume of water as authorized under the current license has been exceeded and must be addressed by the licensee either though an amendment application or reduction in the consumption rate. A plan to address this issue is to be developed prior to the period of the next Inspection.

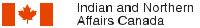
The licensee continues to work diligently on compliance with the issued license and has undertaken a number of successful proactive remediation and clean-up projects on site and in the community of Baker Lake.

**Andrew Keim** Inspector's Name

Inspector's Signature

Cc:

Phyllis Beaulieu - Manager licensing - Nunavut Water Board



Submitted Via E-Mail
Our File: 2AM-MEA0813

Your File:

CIDM # 522409

April 17, 2012

Louise Grondin, VP Environment Agnico-Eagle Mines Ltd. #375-555 Burrard Street Two Bentall Centre Vancouver, BC V7X 1M4

Email: louise.grondin@agnico-eagle.com

# RE: Water License Inspection - Meadowbank Mine Site March 23 and 24<sup>th</sup>, 2012

Ms. Grondin,

Please find attached a report on the Water License Inspection conducted March 23<sup>rd</sup> and 24<sup>th</sup>, 2012. Included at the end of the report is a record of observations made during the inspection with respect to issues of Non-compliance or Non-conformity with the issued Water License or the Nunavut Water and Nunavut Surface Rights tribunals Act.

The role of Aboriginal Affairs and Northern Development Canada (AANDC) in issues related to the use of water or deposit of waste in Nunavut is one of compliance monitoring and enforcement.

Our preferred option in all instances is to work with clients by identifying instances of non-compliance, risks to the environment and/ or people, bringing them to the client's attention and ensuring the operator is better able to address these issues and ensure continued compliance with the authorizations and the Act before undertaking more formal enforcement actions.

Should you require more information or clarification please contact the undersigned at the coordinates listed below.

I look forward to working with you and your staff. If you have any questions please do not hesitate to contact our offices here in Iqaluit.

Sincerely,

Andrew Keim
A/Manager Field Operations
Aboriginal Affairs and Northern Development Canada
Box 100 Building 918
Iqaluit, Nunavut XOA OHO
Ph: 1-867-975-4289

Fx: 1-867-979-6445

Andrew.Keim@aandc-aadnc.gc.ca



June 2, 2012

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Andrew.Keim@aandc-aadnc.gc.ca

RE: Water License Inspection – Meadowbank Mine Site March 23/24 2012 – NWB Lic # 2AM-MEA0813

Mr. Keim,

Thank you for your inspection report dated April 13, 2012 (received electronically April 30, 2012).

Please note the following Action Plan in response to the concerns raised in your report,

- 1) East Dike Seepage An amendment request will be submitted to the Nunavut Water Board (NWB) to pump this seepage back to Second Portage Lake prior to contact with the Portage Pit. We are currently preparing the application to amend and anticipate submitting it by the end of July 2012. In the interim we will continue to manage this in the Portage Attenuation Pond.
- 2) Hazmat Shipping Information Availability It is my understanding that AEM provided you with this documentation as well as information about a CIP spill in the mill in an email from Stephane Robert dated March 24, 2012. In the future this information will be readily available.
- 3) Total Allowable Water Use Exceedence AEM first reported the increased water usage in our 2010 Annual Report which was submitted to the NWB in March, 2011. We are currently preparing an application to amend and anticipate submitting it by July 1, 2012
- 4) Quarry sites 5 and 22 Used as Storage Areas for Hydrocarbon Contaminated Soils without Secondary Containment AEM agrees with your assessment that these areas should not be used as long term storage and remediation of contaminated soils. There is app 4,375 M3 of material at Quarry 22 and 1355 M3 of material at Quarry 5. Within these totals there is a considerable volume of course material that does not appear to be contaminated (no staining or odour). Therefore AEM is implementing the following,
  - Initiation of a sampling program at both sites. Samples will be analyzed for F1 to F4
    (C10 C60) petroleum hydrocarbon fractions. Results will be compared with the CCME
    criteria outlined in the Government of Nunavut's "Environmental Guideline for
    Contaminated Site Remediation, rev. March, 2009. It is anticipated that app 30% of the
    material in Quarry 22 and in excess of 70% of the material in Quarry 5 is course grained
    and uncontaminated.
  - Any material that meets Tier 1 criteria from the Guideline will be reused as NPAG cover material in our Waste Rock Storage Facility or Landfill. Any material that exceeds the criteria will be brought back to Meadowbank and temporarily stored at the Waste Rock Storage Facility. All run off from this site is directed to the Tailings Storage Facility which is not discharged to the environment. In addition to our regular sampling of run off from this location we will add BTEX and Total Oil and Grease to monitor if any of these compounds are discharging to the tailings pond.

Regional Office: 93, Rue Arseneault Bureau 202

Val d'Or, Quebec J9P 0E9 Tel: 819-825-3744 Baker Lake Office: P.O. Box 540

Baker Lake, Nunavut X0C 0A0 Tel: 867-793-4610 Fax: 867-793-4611



# Two Phased Approach

- Phase One, which will take place in 2012, will involve sampling, screening and
  categorizing the contaminated soils. Course material and material that meets Tier 1
  criteria will be removed from both quarry sites and reused at the Meadowbank site in the
  manner previously stated.
- A revised Landfarm Management Plan (Part F, Item 12) will be prepared and submitted to the NWB for approval. When the Plan is approved by the NWB AEM will use the site as a permanent remediation /storage facility.
- **Phase Two** of the program will involve removal of the remainder of the contaminated soil to a permanent storage/remediation (landfarm) site at Meadowbank. Engineering and location are in the planning stage therefore this phase will be completed in 2013.
- Both sites are being monitored for offsite migration of contaminants via run off water. To date none has been observed. Should the potential for offsite migration be observed immediate containment procedures will be implemented (absorbent booms/pads or an earthen berm).
- After the contaminated material has been removed from these quarries sampling of the substrate will be conducted. Any subsequent contaminated soils will be excavated and taken to the Landfarm. The goal will be to remediate contaminated soils to a level that allows for reuse at the site within the Waste Rock Storage Facility.
- Also, no further contaminated soil will be taken to Quarry 5 and 22 in the future. It will be temporarily stored or reused (if it meets criteria) at the Waste Rock Storage Facility. Final reclamation plans for the Waste Rock Storage Facility include permafrost encapsulation.

I trust this course of action meets with your approval. Should you have any questions or concerns please feel free to contact me at jeffrey.pratt@agnico-eagle.com.

Sincerely,

Jeffrey Pratt

Environmental Coordinator Agnico-Eagle Mines Ltd. Meadowbank Division (867) 793-4610 ext. 6728 jeffrey.pratt@agnico-eagle.com

CC: J. Kevin Buck

Val d'Or, Quebec 19P 0E Tel: 819-825-3744

# WATER USE INSPECTION REPORT FORM

Licensee Rep. Martin Theriault -Senior Technician-Kevin Buck -Environmental Superintendent-Licensee: Agnico-Eagle Mines Ltd. (AEM) Licence No: 2AM-MEA0815

Comments: A compliance inspection was conducted on the 26th and 27th of July 2012, at the Meadowbank Gold Project (67° 0' 75"N, 96° 4' 39" W)

### WATER SUPPLY

Source(s): Third Portage Lake	Quantity used: + 100 000 000 m² per yr
Owner:/Operator: Agnico-Eagle Mines Ltd.	

Indicate: A - Acceptable U - Unacceptable NA - Not Applicable NI - Not Inspected Treatment Systems: Storage Structure: A Chemical Storage: A Intake Facilities: A Flow Meas. Device: A Conveyance Lines: A Pumping Stations: A Screen : A

- Water is pumped from Third Portage Lake to a central holding tank that supplies both the camp facilities and mill
- Potable water is treated with UV, and chlorine
- The chlorine is mixed daily, and all associated safety equipment and training is available to the Water Treatment Plant (WTP) Operators
- Water quality, volume, and WTP standard operating procedures were available for review
- Operator was very knowledgeable
- Facilities were noted to be clean and tidy
- The licensee continues to exceed allowable annual water use

The Inspector requires within 30 days the licensee to submit an amendment to their water license in regards to water use quantity.

Collected inside the WTP, at a designated SNP location

# WASTE DISPOSAL

#### Comment:

The waste stream is managed through a network of segregation station throughout the site. The waste is first sorted by the individuals producing the garbage and then is sent to the appropriate handling area which is placed in final segregation.

- Hazardous materials are containerized and shipped off site by a contractor
   Approved domestic waste is burned in the incinerator and the ash is disposed in the onsite landfill
- General bulk waste is placed in the onsite landfill
- A metal recycling program is in place
- Back haul manifest has been request by the Inspector

The Inspector noted concerns as to the disposition of the incinerator ash in the landfill

# Contaminated Soils

The Licensee has been experiencing a large volume of spills since 2010. All contaminated soil has been stock piled over the years in various quarries along the Meadowbank road. Previous Inspectors has deemed this location to be unacceptable and to address the issue the Licensee has built a temporary storage site.

During the inspection the Licensee was in the process of moving material to this site. The Inspector requires a timeline as to when all the contaminated soil will be moved to this location and within 30days of this inspection, the licensee shall submit a Plan to the board in regards to remediation and management of all contaminated soils.

The inspector reminds the Licensee this is an ongoing issue and the Board required action to be taken to manage contaminated soils in 2008 when the license was issued.

# Sewage: Sewage Treatment System: BIODISK

		Continuous Discharge (land or water): Water		
		Wetlands Treatment: NA		Trench: None
Indicate: A - Acceptable	U - Unacceptable	NA - Not App	icable NI - Not	Inspected
Discharge Quality: A	Decant Structur	e: A	Erosion: A	

Decant Structure: A	Erosion: A
Dyke Inspection: NA	Seepages; NI
Freeboard: NA	Spills: NI
O&M Plan: A	A&R Plan: NI
	Dyke Inspection: NA Freeboard: NA

Discharge Quality: A	Decant Structure: A	Erosion: A	
Periods of Discharge: Cont	Effluent Discharge Rate: A		

#### Comments:

- Sewages is collected from the surrounding facilities and brought to the Sewage Treatment Plant (STP), were it is treated and discharged to Teardrop Lake.
- The STP consists of an equalization tank, 3 biodisk tanks, clarifler systems, and UV lamp treatment
- · At the time of the inspection two biodisk were online
- Waste water quality, and volume records were available for review
   Plant was clean and well organized

Samples were collected from; STP discharge, the attenuation pond water at the treatment plant during discharge.

FUEL STORAGE:
Owner/Operator:
Indicate: A - Acceptable U - Unacceptable NA - Not Applicable NI - Not Inspected

Berms & Liners: A	Water within Berms: A Evidence of Leaks:	
Drainage Pipes: NI	Pump Station & Catchment	s Berm: A
Pipeline Condition: A	Condition of Tanks: NI	

# Comments:

The fuel onsite is stored in large above ground storage tanks, and all refueling station have been fitted with liners to mitigate spills

Spill kits and other emergency response equipment were located at these sites

# SURVEILLANCE NETWORK PROGRAM (SNP)

Samples Colle	cted Owner /Operator		or: Agnico-Eagle Mines Ltd.	
4	85	AANDC:Potable, Effluent, Leachate, Treatment (attenuation pond discharge)		
Signs Posted	SNP: Some		Warning: None	
Records & Rep	orting: A	nnual Report submi	itted	
Geotechnical I	nspection	: 2011 report was	submitted	

#### Comments:

- The sampling requirements are handled by the environmental department for Meadowbank Gold Project
- Numerous sampling sites were lacking signage
   Warning signs were not noted at the Water Treatment Facilities nor the Sewage Discharge
- The Licensee works toward meeting all sampling requirements found within their license

#### Non-Compliance of Act or Licence:

### Part Eitem 3

The total volume of fresh water for all uses shall not exceed 700,000 cubic metres per year

# The Inspector requires;

- Water balance report 2011
- Within 30 days of this inspection; a timeline of completion of relocation of contaminated soils from quarries to temporary storage facilities
- Approved ash disposal plan
   Within 30 days of this inspection; a Plan for remediation and management of contaminated soils shall be submitted to the Board
- · Monitoring results of split samples take at the time of the inspection
- Confirmation of application to amendment water use quantities
- Back haul manifest

The Licensee is reminded to submit a copy of the construction summary report to the Board on completion of divergent ditches

Sent by E-mail Original on File
Inspector's Signature
Representative Signature

Andrew Keim- A/Manager Field Operations Phyllis Beaulieu - Manager Licensing- Nunavut Water Board Contact Information:
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Resource Management Officer
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August 15, 2012

Christine Wilson Resource Management Officer Aboriginal Affairs and Northern Development Canada **Building 918 – Box 100** Igaluit, Nunavut XOA OHO Ph: 1-867-975-4296

Fx: 1-867-979-6445

Christine.Wilson@aandc.gc.ca

RE: Water Use Inspection Report – Meadowbank Mine Site July 27, 2012

Ms. Wilson,

Thank you for your inspection report dated July 27, 2012 (which was given in person to AEM Senior Technician Martin Theriault on that date). Please note the following in response to the inspector requirements in your report;

- 1) "Water Balance Report 2011" - The 2011 water balance for the Meadowbank project was submitted with our 2011 Annual Report in Appendix B1. This information can be found on the Nunavut Water Board FTP site. ftp://nunavutwaterboard.org/ Username: "public", and the Password: "registry". The water balance will be update again in 2012 and be available in the third quarter.
- 2) "Within 30 days of this inspection; timeline of completion of relocation of contaminated soils from quarries to temporary storage facility" - All contaminated soil that is stored at quarry 5 will be either transported to our Contaminated Soil Storage/Pilot Bioremediation Site (CSSPB) or directly to our waste rock storage area (uncontaminated course material) before the end of 2012. In addition, we intend to commence sorting/transporting the material stored at quarry 22 during 2012. The remaining soil at quarry 22 will be removed after freshet 2013. To date we have removed approximately half the material from Quarry 5. Removal of material will occur within the above stated time frames subject to the availability of equipment as well as weather conditions.
- 3) "Approved Ash Disposal Plan" - Ash samples are collected from the incinerator on in accordance with AEM's 'Incinerator Waste Management Plan' (AEM, May 2009, v2) approved by the NWB. The purpose of sampling ash is to determine its acceptability for disposal in the landfill, pursuant to the Government of Nunavut (GN) Environmental Guidelines for Industrial Discharge (2002). Results

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from this monitoring in 2011 are provided in Table 5.3 of the 2011 Annual Report. This information can be found on the Nunavut Water Board FTP site. <a href="ftp://nunavutwaterboard.org/">ftp://nunavutwaterboard.org/</a> Username: "public", and the Password: "registry"...

- **4) "Within 30 days of this inspection; a Plan for remediation and management of contaminated soils shall be submitted to the Board"** AEM will submit a *Contaminated Soil Storage/Pilot Bioremediation Site Plan*. This revised plan will be submitted as a modification and will supersede the current *Landfarm Management Plan (Oct 2008)*. The new plan will be submitted by October 31, 2012.
- **"Monitoring results of spilt samples take at time of inspection"** –results will be provided upon reception of the analytical report from our accredited laboratory. AEM would like to request a copy of the results obtained from the AANDC samples taken at the same time.
- **6) "Confirmation of application to amendment water used quantities"** Currently AEM evaluating the timeline and content for the submission of a Water License amendment for two reasons;
- a) Currently AEM has retained a consultant (SNC Lavalin) to complete an updated Water Management Plan (including an updated water balance) which is anticipated to be completed by Oct. 1, 2012. This Plan is a requirement for the amendment process.
- b) AEM Process Plant has received approval to undertake a major reclaim water recycling initiative which is scheduled to be completed by the end of 2012. The project will reuse app. 55 M3/hr of water which will reduce our freshwater consumption below our licensed limit. Should this be the case AEM will likely not proceed with a water use increase amendment. In addition, there are several other amendments that AEM requires and these were listed in my previous correspondence to Mr. Keim of your department (date response to his Mar 23 inspection and attach). These are the expansion of our waste rock storage area (NPAG storage for reclamation), the pumping back to Third Portage Lake of noncontact dike seepage (East and Bay-Goose Dikes) and the Vault Pit expansion. These amendments are also dependent upon the completion of the updated Water Management Plan referred to above in section (a). The amendments also vary in complexity and AEM is considering whether to apply for one amendment incorporating all or two separate amendments; one for the relatively smaller items (waste rock expansion, dike seepage discharge) and one for the more complex items (Vault expansion, water use).

For the reasons stated above it is difficult to determine an exact date for an amendment submission; however within the next 30 days we will make a decision on our path forward and set a firm timeline for submission of the amendment(s) and will inform the inspector.

**7) "Back Haul Manifest"** – The 2011 Back Haul Manifest for the Meadowbank project was submitted with our 2011 Annual Report in Appendix D1. This information can be found on the Nunavut Water Board FTP site. I have attached a copy of the Back Haul Manifest for your convenience.



I trust this meets with your requirements. Should you have any questions or concerns please feel free to contact me at <a href="mailto:jeffrey.pratt@agnico-eagle.com">jeffrey.pratt@agnico-eagle.com</a>.

Sincerely,

Jeffrey Pratt

Environmental Coordinator Agnico-Eagle Mines Ltd. Meadowbank Division (867) 793-4610 ext. 6728 jeffrey.pratt@agnico-eagle.com

CC: Kevin Buck –AEM

Stephane Robert – AEM Andrew Keim – AANDC

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