

Appendix I2

Document: Executive Summary

MEADOWBANK GOLD PROJECT

Summary of revision and Executive Summary: 2014 Management Plans, Reports and Studies

March 2015

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Section 1: 2014 Management Plans: Summary of Revisions and Executive Summary Translations

1.1: Quality Assurance / Quality Control (QA/QC) Plan, Version 2

Summary of Revisions

This document is a revision the Quality Assurance / Quality Control (QA/QC) Plan, prepared in 2009 and updated in 2014.

The whole document was reviewed and updated. Particularly Section 2.1 Sampling equipment, Section 2.2 Sampling Method, Section 2.2.6 Sample Transport, Section 3 External and Internal Laboratory as well as Table 2.1 and Table 2.2. This revision was a comprehensive update to reflect operational change.

Executive Summary

This document presents the Meadowbank Mine Quality Assurance / Quality Control (QA/QC) Plan, a requirement of the Meadowbank Type A Water License No. 2AM-MEA0815, specified under Part I, Condition 19:

The Licensee shall submit within six (6) months of License approval to an Analyst for approval, a Quality Assurance/ Quality Control Plan that includes requirements for independent third party sampling and analysis. This Plan shall be developed in accordance with the 1996 Quality Assurance (QA) and Quality Control (QC) Guidelines for Use by Class “A” (INAC).

This Plan also supports the following conditions of the Meadowbank Project Certificate No. 004, issued by the Nunavut Impact Review Board (NIRB):

Condition 6

All monitoring information collected pursuant to regulatory requirements for the Meadowbank Project shall contain the following information:

- a. The person(s) who performed the sampling or took the measurements including any accreditations;*
- b. The date, time and place of sampling or measurement, and weather conditions;*
- c. Date of analysis;*
- d. Name of the person(s) who performed the analysis including accreditations;*
- e. Analytical methods or techniques used; and*
- f. Results of any analysis.*

Condition 23

For the purposes of monitoring quality assurance and quality control (“QA/QC”).... ensure that water quality monitoring performed at locations within receiving waters that allow for an assimilative capacity assessment of concern to regulators, be carried out by an independent contractor and submitted to an independent accredited lab for analysis, on a type and frequency basis as determined by the NWB. Results of analysis shall be provided to the NWB and NIRB’s Monitoring Officer.

1.2: Baker Lake Bulk Fuel Storage Facility: Environmental Performance Monitoring Plan, Version 3

Summary of Revisions

This document is a revision the Baker Lake Bulk Fuel Storage Facility: Environmental Performance Monitoring Plan, prepared in 2009 (version 1), update the first time in 2011 (version 2) and last updated in 2014 (version 3).

The whole document was reviewed and updated. This revision was overall a comprehensive update of the previous version and information has been added regarding the Jet-A Tank that has been installed in Baker Lake.

Executive Summary

Agnico Eagle Mines Limited – Meadowbank Division (AEM) is currently operating the Meadowbank Gold Project approximately 70 km north of the Hamlet of Baker Lake. As part of the project, six 10 million litres fuel storage tanks for diesel and twenty (20) 100,000L fuel storage tank for Jet-A were constructed at the Baker Lake Marshalling Area to receive and store bulk shipments of fuel for the Meadowbank Project. This document provides the details for the Baker Lake Bulk Fuel Storage Facility Environmental Performance Monitoring Plan required by Water License 2AM-MEA0815 Part I, Item 17.

To adequately assess the environmental performance of the bulk fuel storage tank at Meadowbank this report provides: a summary of the design, installation, operation and maintenance that follows the CCME (2003) Environmental Code of Practice for Aboveground Storage Tank Systems Containing Petroleum and Allied Petroleum Products; a summary of the location and environmental setting; a summary of the NWB Type A water license requirements; and an environmental assessment to support the recommended environmental monitoring for the ongoing evaluation of the secondary containment.

1.3: Meadowbank Bulk Fuel Storage Facility: Environmental Performance Monitoring Plan, Version 2

Summary of Revisions

This document is a revision the Meadowbank Bulk Fuel Storage Facility: Environmental Performance Monitoring Plan, prepared in 2009 (version 1) and update in 2014 (version 2).

The whole document was reviewed and updated. This revision was overall a comprehensive update of the previous version. Particularly Figure 2.1 Site Plan, Section 5 Environmental Performance Assessment – Inspection, Section 6.1 Visual and Operational Inspections, Section 6.2 Routine Contact Water Monitoring, and Section 6.3.2 Water Sampling. These update have been made to update current practice and reflect change since 2009.

Executive Summary

Agnico Eagle Mines Limited – Meadowbank Division (AEM) is currently operating the Meadowbank Gold Project approximately 70 km north of the Hamlet of Baker Lake. As part of the project, one 5.6 million litres bulk fuel storage tank was constructed to provide diesel fuel for routine operations at the mine site. The bulk fuel tank facility was commissioned in January 2009. This document provides the details for the Meadowbank Bulk Fuel Storage Facility

Environmental Performance Monitoring Plan required by Water License 2AM-MEA0815 Part I, Item 17.

To adequately assess the environmental performance of the bulk fuel storage tank at Meadowbank this report provides: a summary of the design, installation, operation and maintenance that follows the CCME (2003) Environmental Code of Practice for Aboveground Storage Tank Systems Containing Petroleum and Allied Petroleum Products; a summary of the location and environmental setting; a summary of the NWB Type A water license requirements; and an environmental assessment to support the recommended environmental monitoring for the ongoing evaluation of the secondary containment.

1.4: Incinerator Waste Management Plan, Version 5

Summary of Revisions

This document is a revision of the Incinerator Waste Management Plan, initially prepared in 2008 (version 1), update in 2009 (version 2), 2012 (version 3 and 4) and finally update in 2014 (version 5).

The whole document was reviewed and updated. There were no major changes and overall this update is just a comprehensive review of the previous version to make sure that AEM still operate the incinerator as per the management plan.

Executive Summary

This Incinerator Waste Management Plan (IWMP) describes the performance limits, waste management protocols, operation, monitoring and record keeping requirements for the incinerator, as part of the Agnico Eagle Mines Limited (AEM) Meadowbank Gold Project in Nunavut. This plan was developed in support of AEM's application for a Type A Water License from the Nunavut Water Board (NWB). This updated IWMP is a component of the Meadowbank Environmental Management System. The IWMP will be reviewed regularly by AEM and updated as needed. Any changes in operation/procedures are communicated to all applicable Meadowbank Departments.

The main objective of waste management relating to the primary incinerator and waste oil furnaces is to minimize the amount of waste to be incinerated by implementing an effective waste segregation and reuse (in the case of waste oil) program to ensure that only appropriate types of waste are incinerated. The primary objective of incineration is to eliminate materials from the landfill that could create odours, attracting wildlife to the landfill site or to the Meadowbank camp; as well as to avoid the generation of leachate caused by the decomposition of putrescible materials. The primary incinerator is a dual chamber, high- temperature incinerator and is used to dispose of solid waste from the accommodation camp, kitchen, shops, and offices that cannot be landfilled. The materials to be incinerated will be limited to putrescible waste such as paper, wood, food packaging and food waste. In addition, a series of small waste oil burning furnaces will be used for the disposal of used petroleum products such as heavy lubricants and engine oil. Ash produced from the incineration process will be disposed of in the on-site landfills. A protocol is implemented for testing incinerator ash and contingent measures for alternate disposal of ash if quality is unsuitable for landfilling.

AEM has purchased an incinerator from Eco Waste Solutions that complies with applicable regulations. The incinerator is designed to achieve compliance immediately upon attaining normal full scale operation. In addition to the incinerator technology, the implementation of a waste management and segregation plan will limit emissions of dioxins and furans from the incinerator. Compliance to the performance limits was confirmed by periodic stack testing annual initially and

as the results meet the Canadian Council of Ministers of the Environment (CCME) Canada-wide Standards for Dioxin and Furans (CCME, 2000a) and the CCME Canada-wide Standards for Mercury Emissions (CCME, 2000b), biennial testing is done as long as our waste stream has not changed.

In order to demonstrate compliance with performance limits, an annual incineration management report will be prepared and submitted to the NWB (as part of the water license annual report), Government of Nunavut (GN), Environment Canada (EC), and NIRB. The quantity of materials incinerated on site during operations, together with results from stack emission and ash monitoring, will be included within the annual report.

This IWMP will be maintained by AEM to reflect the current operations at the Meadowbank Gold Project, permit requirements and regulatory setting. The IWMP will be reviewed on a regular basis and revised when necessary to ensure that the project staff, operators and regulatory bodies are kept aware of any changes to project operations.

1.5: Groundwater Monitoring Plan, Version 4

Summary of Revisions

This document is a revision of the Groundwater Monitoring Plan, initially prepared in 2008 (version 1), update in 2009 (version 2), 2011 (version 3) and finally update in 2014 (version 4).

The whole document was reviewed and updated. Particularly, AEM update the Executive Summary; Section 1.2 to reflect current wells; add Section 3.3 and 3.4 (seep and production drill hole sampling methods); update Section 5 (additional reporting on tailings-related parameters).

Executive Summary

This document presents the Meadowbank Mine Groundwater Monitoring Plan, a requirement of the Meadowbank Type A Water License No. 2AM-MEA0815. The Meadowbank Mine currently has two operating groundwater monitoring wells, drilled in 2008. A number of wells drilled in 2003, 2006, 2008, and 2011 are now inoperable for various reasons. One well drilled in 2011 will be replaced in 2014, and sampling of pit wall seeps has been added to augment the program. Methods to obtain groundwater samples from production drill holes are currently under investigation. Groundwater chemistry data is used to predict the quality of water accumulating in open pits, and to determine any effects of mining on groundwater quality, particularly with respect to tailings deposition.

Groundwater sampling will be carried out on an annual basis. Analytical parameters will comply as per Schedule 1, Table 1, Group 3 of the Meadowbank Water License. Quality Assurance/Quality Control procedures will be implemented during each sampling event. A groundwater monitoring report will be submitted by Agnico Eagle Mines Limited to the Nunavut Water Board (NWB) by March 31 annually. This report will include all data from the previous year's results as well as a historical record, dates and methods of sampling, and an assessment of the data obtained with particular regards to salinity parameters and indicators of tailings reclaim water movement (total cyanide and dissolved copper).

1.6: Oil Pollution Emergency Plan, Version 5

Summary of Revisions

This document is a revision of the Oil Pollution Emergency Plan, initially prepared in 2012 (version 0), update in 2012 (version 1), 2013 (version 2) and finally update in 2014 (version 3, 4 and 5).

The whole document was reviewed and updated as per Transport Canada Assessment and Non compliance letter received. As the document was rewritten so it's impossible to note all of the modification done. We can consider version 5 of the OPEP as a new version.

Executive Summary

This document presents the Oil Pollution Emergency Plan for Agnico Eagle Mines Limited (AEM) Meadowbank Division. This plan is pursuant to the Canada Shipping Act 2001; and all the subsuming regulations.

Oil Pollution Emergency Plan (OPEP) designates lines of authority, responsibility, establishes proper reporting and details plans of action in the event of a spill. This plan applies to the operational phase of the fuel transfer which takes place at Agnico Eagle Ltd.'s Baker Lake Marshalling Facilities and Oil Handling Facility located at latitude 64°18'36"N and longitude 95°58'04"W.

A hard copy of the OPEP will be available at the Baker Lake Marshalling facility during the transfer operations.

1.7: Updated Mine Waste Rock and Tailings Management Report and Plan - 2015, Version 4

Summary of Revisions

This document is a revision of the Updated Mine Waste Rock and Tailings Management Report and Plan - 2015, initially prepared in 2009 (version 1), update in 2013 (version 2), 2014 (version 3) and finally update in 2015 (version 4).

The whole document was reviewed and updated. Particularly: Section 1, 2, 3, 4, 5, 6 were updated with the actual Life of Mine (LOM) for operations ending in Q3 2017, Section 7 was updated according to the tailings deposition plan and water balance for the actual Life of Mine (LOM) for operations ending in Q3 2017, Section 8 was updated according to additional instruments installed and future monitoring plan, Section 9 was updated according to additional monitoring plan for final closure design.

Executive Summary

Agnico Eagle Mines Ltd. Meadowbank Division (AEM) is operating the Meadowbank Gold Mine (the Mine), located on Inuit-owned surface lands in the Kivalliq region approximately 70 km north of the Hamlet of Baker Lake, Nunavut. The Mine is subject to the terms and conditions of both the Project Certificate issued in accordance with the Nunavut Land Claims Agreement Article 12.5.12 on December 30, 2006, and the Nunavut Water Board Water Licence No. 2AM_MEA0815 issued on June 9, 2008. This report presents an updated version of the Mine Waste Management Plan for the Mine and forms a component of the documentation series that has been produced in accordance with the above.

The Mine consists of several gold-bearing deposits: Vault, Portage and Goose Island. A series of dikes are required to isolate the mining activities from neighbouring lakes. The dikes were and will be constructed using quarried materials or using materials produced during mining.

Waste rock from the Portage and Goose Island Pits is currently being stored in the Portage Rock Storage Facility (RSF), and in the Portage pit as infill. Pit infill is only carried out in areas where mining is completed, and as such contributes to the overall fish habitat compensation approved by the Fisheries and Oceans Canada (DFO). The Portage Rock Storage Facility was constructed to minimize the disturbed area and will be capped with a 4m layer of non-acid-generating rock to constrain the active layer within relatively inert materials. This control strategy is designed to minimize the onset of oxidation and the subsequent generation of acid rock drainage includes freeze control of the waste rock through permafrost encapsulation and capping with an insulating convective layer of NAG rock. The waste rock below the capping layer is expected to freeze, resulting in low rates of acid rock drainage (ARD) generation in the long term. Thermistors currently installed in the RSF indicate that freezing is occurring.

Waste rock from the Vault Pit will be stored in the Vault Rock Storage Facility. Geochemical predictions indicate that a capping layer will not be required over this area as the majority of waste rock is considered NPAG. An adaptive management plan includes monitoring of water quality during operations to confirm modelling predictions and to allow adjustments to the closure plan as required. The waste rock is expected to eventually freeze.

The Tailings Storage Facility (TSF) is delineated by a series of dikes built and to be built around and across the basin of the dewatered northwest arm of Second Portage Lake. The TSF is divided into the North and South Cells. From 2010 to 2015 tailings are to be stored in the North Cell, delineated by the Stormwater Dike and Saddle Dams 1 and 2 as well as perimeter rockfill road structures. Once the North Cell is full, deposition will switch to the South Cell until mine operations cease in 2017. The South Cell will be delineated by the Central Dike and Saddle Dams 3, 4 and 5. The division of the TSF into cells allows tailings management in comparatively smaller areas with shorter beach lengths that reduce the amount of water that is trapped and permanently stored as ice. Operation in cells also allows progressive closure and cover trials to begin in the North Cell while tailings deposition continues in the South Cell.

AEM is considering a Tailings Optimization Plan that may affect the future configuration of the South Cell. Should this Plan move forward AEM will advise regulatory bodies in advance and obtain any permits and licenses as required.

Tailings are placed sub-aerially as slurry and water from the pond is reclaimed during operation. The tailings deposition strategy is to build beaches against the faces of the perimeter dikes to push the pond away, and ultimately produce a tailings surface that directs drainage towards the western abutment of the Stormwater Dike. Following mine operations, a minimum 2-m thick cover of NAG rockfill will be placed over the tailings as an insulating convective layer to confine the active layer within relatively inert materials. The final thickness of the rockfill cover layer will be confirmed in the final design based on thermal monitoring to be completed during operations. The control strategy to minimize water infiltration into the TSF and the migration of constituents out of the facility includes freeze control of the tailings through permafrost encapsulation.

A Thermal Monitoring Plan (TMP) was developed to observe the freezeback of the TSF and RSFs in order to comply with Part I, Conditions Applying to General and Aquatic Effects, Item 11 of the Nunavut Water Board (NWB) water license 2AM-MEA0815. Item 11 requires a TMP to monitor temperatures of the TSF and RSFs during and after, mining operations.

All infrastructures needed for mine operations, closure and reclamation, including mine waste management areas, will be re-contoured and/or surface treated during closure according to site

specific conditions to minimize windblown dust and erosion from surface runoff. This activity is designed to enhance the potential for re-vegetation to occur and wildlife habitat re-establishment.

1.8: Tailings Storage Facility; Operation, Maintenance and Surveillance Manual, Version 4

Summary of Revisions

This document is a revision of the Tailings Storage Facility; Operation, Maintenance and Surveillance Manual, first reviewed in 2012 (version 1), 2013 (version 2 and 3) and finally update in 2015 (version 4).

The whole document was reviewed and updated. There were no major change bring during this revision of the document. Overall, the update was just a comprehensive review of the whole document and some table were update to reflect change in the organization. Table updates were 1-1, 1-5, 1-8, 3-1, 9-6.

Executive Summary

This Operation, Maintenance and Surveillance Manual has been prepared by Agnico Eagle Mines Limited and is to be used for the operation, maintenance and surveillance of the Tailings Storage Facility at the Meadowbank Gold Project. All Registered Manual Holders are responsible for ensuring that they are using the most recent revision of this document. This Operation, Maintenance and Surveillance Manual, may not be copied in whole or in part without the written consent of Agnico Eagle Mines Limited.

1.9: Dewatering Dikes; Operation, Maintenance and Surveillance Manual, Version 4

Summary of Revisions

This document is a revision of the Dewatering Dikes; Operation, Maintenance and Surveillance Manual, first reviewed in 2012 (version 1), 2013 (version 2 and 3) and finally update in 2015 (version 4).

The whole document was reviewed and updated. There were no major change bring during this revision of the document. Overall, the update was just a comprehensive review of the whole document and section were update to reflect operational changes: Section 3 – update information regarding the dewatering of Vault, Section 3.3.3 – update information regarding the seepage collection system, Section 4 – update information regarding the dewatering of Vault.

Executive Summary

This Operation, Maintenance and Surveillance Manual has been prepared by Agnico Eagle Mines Limited and is to be used for the operation, maintenance and surveillance of the Dewatering Dikes at the Meadowbank Gold Project. All Registered Manual Holders are responsible for ensuring that they are using the most recent revision of this document. This Operation, Maintenance and Surveillance Manual, may not be copied in whole or in part without the written consent of Agnico Eagle Mines Limited.

1.10: 2014 Water Management Report and Plan, Version 2

Summary of Revisions

This document is a revision of the 2013 Water Management Report and Plan reviewed in 2015 (version 2).

The whole document was reviewed and updated. This version is a revision for the 2013 Water Management Plan (by AEM) according to the updated Life of Mine and water management strategies. For a complete review of the update part please refer to Section 2.3.1 Change from Water Management Plan 2013.

Executive Summary

Agnico-Eagle Mines Ltd. Meadowbank Division (AEM) is operating the Meadowbank Gold Mine (the Mine), located on Inuit-owned surface lands in the Kivalliq region approximately 70 km north of the Hamlet of Baker Lake, Nunavut. The mine is subject to the terms and conditions of both the Project Certificate issued in accordance with the Nunavut Land Claims Agreement Article 12.5.12 on December 30, 2006, and the Nunavut Water Board Water Licence No. 2AM_MEA0815 issued on June 9, 2008.

This report presents an updated version of the Water Management Plan 2014 that provides a revised site-wide water balance. The revised water balance will determine the demand and storage requirements of water over the life of the mine. The storage strategies and required transfers will be discussed at large. Certain concepts within the water balance, including pit flooding, remain at the conceptual stage for now and will be further detailed in the Final Mine Closure and Reclamation Plan to be submitted one year prior to final closure in accordance with the current Type A Water License.

The necessity of this particular water management update follows changes in the observed natural pit water inflows, updated tailings deposition parameters, mine and milling life schedule and production rate, tailings management and pit backfilling strategies.

Section 2: Executive Summary of Reports or Studies Submitted in 2014

2.1: Production Lease KVPL08D280 2014 Mine Plan

Executive Summary

Condition 5.09 of Production Lease KVPL08D280 for the Meadowbank Gold Project states:

On or before January 1st in each year of the Term, AEM shall deliver to KIA its annual Mine Plan for the next calendar year, detailing at least the following:

- (i) a description of the activities and work that AEM proposes to perform in that year on the Leased Land, together with a listing of major equipment to be brought onto the Leased Land; and
- (ii) a description of the topographical features and any natural or manmade features, structures, works and waters that may be affected.

This document presents the 2014 Annual Mine Plan for the Meadowbank Gold Project.

The Meadowbank gold mine began the operations phase of the project in February 2010, and thus, is entering its five year of operations. In addition to routine activities throughout the 2014 season, a number of secondary construction/modification projects will be undertaken near the main mine site area and Vault area, and dewatering activities will be completed in the Vault area. Construction of the Central Dike will resume in 2014.

Environmental monitoring (wildlife, aquatic effects, groundwater, noise and air) will continue through 2014 in support of all operational undertakings at the Meadowbank site as required by the NWB Type A Water License 2AM-MEA0815, NIRB Project Certificate No.004, DFO authorizations, and MMER regulations.

2.2: 2013 Annual Geotechnical Inspection Meadowbank Gold Mine, Nunavut

Executive Summary

This report presents the findings from the 2013 geotechnical inspection of Agnico-Eagle Mines (AEM) Meadowbank Gold Mine Project. This inspection was conducted by Golder Associates (Golder) from September 9 to 17, 2013 to comply with the requirements of AEM Water License Permit. This inspection covered the geotechnical aspects and the review of the available instrumentation data for the dewatering dikes, tailings storage facilities (TSF) structures, structures along the All Weather Private Road (AWPR) located between the mine site and the town of Baker Lake, bulk fuel storage facility at the mine and at Baker Lake as well as other site facilities such as site roads, landfill, landfarm, Stormwater Pond and the airstrip. The inspection of the pit slope is presented in another report.

At the time of the inspection, and based on the instrumentation data, the condition of the dewatering dikes generally appears stable. It is recommended to improve the East Dike flow meters system that records the flow of water pumped by the two seepage collection sumps at the dike toe. It is also recommended to keep the waste dump away from the downstream toe of South Camp Dike to allow visual observation in this area. The tension cracks and the hole observed on the crest of Vault Dike should be monitored. Sloughing, settlement and tension

cracks observed in the newly added material on the crest of Bay-Goose Dike do not affect the dike performance.

Extra monitoring of the Bay-Goose Dike downstream slope and toe is recommended to supplement the now-impossible visual monitoring of the crest. The water pond at the downstream toe and the seepage downstream of Bay-Goose Dike and into Bay-Goose Pit should continue to be monitored.

At the time of the inspection, and based on the instrumentation data, the condition of the TSF generally appears adequate. Water was observed directly ponding against portions of Saddle Dam 2, Stormwater Dike, RF1 and RF2. AEM modified the deposition plan to improve the management of the facility. Golder recommends continuing the deposition of tailings along all peripheral dikes of the facility to distance the water prior to winter as per the design requirement. Water ponds, outflow and piping were observed in different areas at the downstream toe of Stormwater Dike. It is suggested to monitor the flows to observe signs of volume increase or appearance of sediment in the water.

No geotechnical issues were identified with the bridges, culverts and quarries along the AWPR. It is recommended to give particular attention to the location of culverts R-00A, PC-17A, PC-17, PC-3, PC-14, PC-16 and R17. If insufficient capacity to handle the flows is observed at freshet, or water is circulating under the road at those locations, then it is recommended to clear the obstructions or repair the culverts. Presence of unstable blocks and loose rocks along steep walls were also observed in Quarry 1,3,7,9 and 19. Those unstable blocks and loose rocks should be cleaned if operation of those quarries is resumed.

No geotechnical issues were observed at the Meadowbank fuel tank. There were signs that water had accumulated to a very high level in the past at the Baker Lake fuel tank farm and the Meadowbank tank farm. Ongoing removal of fluids that accumulated within the secondary containment facilities should be managed appropriately. At the Baker Lake fuel tank farm the geomembrane was folded and exposed in two areas north of Tanks 1 and 2. It is recommended to cut and repair the fold and to re-cover the area with fill material.

It is recommended to monitor at freshet the performance of the three culverts installed on Vault road as they are partially collapsed in the middle. No geotechnical concerns were identified with the landfill, landfarm, Stormwater management pond and the airstrip.

2.3: Annual Review of Portage and Goose Pit Slope Performance (2013)

Executive Summary

An annual site visit to inspect the performance of the pit walls of the open pits at Agnico-Eagle Mines Ltd.'s (AEM) Meadowbank Mine was carried out by Golder Associates Ltd. (Golder) from September 06 to September 11, 2013.

PORTAGE PIT

Pit A

There is potential for a larger failure in the area of the 2012 failure. Planar structure dipping into the pit is noted at the base of the bench face. New berms are required to prevent access to the bench and to a potential rock fall in the area below. Additional recommendations are contained in this report. Large voids are observed in the quartzite at the bottom of Pit A west wall at the base of the ramp. A rock fall containment berm has been constructed directly below this area, and is performing adequately. The north and east walls are performing adequately, with some small

wedges that should be retained on the catch bench if they fail. On-going visual inspections are recommended for this pit.

Pit B

In general the west wall of Pit B is performing well. There are some continuous joints but they are favourably oriented. There is some raveling of material from the ultramafic rock; however this material is being contained on the catchment berm. Some hard-toes were observed during the site visit. An overhang formed by steep east dipping joints intersected by flatter joint features appears relatively thin, and, if it were to fail, may result in a small amount of spill over on to the working platform. Recommendations are made in the text. A wedge was identified on the east wall of Pit B directly above the ramp, at the 5067 bench access. The wedge does not contain a large volume but is located directly above the ramp and in an area that personnel may use to park. A control/containment berm should be constructed to prevent personnel and equipment from parking beneath this feature.

Pit C

Mining of Pit C has been completed, and the pit is being backfilled as a fill dump. The west and east pit walls of Pit C are buttressed by rock fill, currently within 2 to 3 benches of surface. Consequently, the potential for large scale instability is minimal. A brief visual inspection of the dump crest area showed no signs of tension crack formation, or other indicators of instability. No actions are required.

Pit D

Mining of Pit D has been completed, and the pit is being backfilled as a fill dump. The west and east pit walls of Pit D are buttressed by rock fill, currently within 2 to 3 benches of ground surface. The potential for large scale instability is minimal and hazards noted in previous inspection reports are no longer a significant concern. A brief visual inspection of the dump crest area showed no signs of tension crack formation, or other indicators of instability

Pit E

Pit E is being mined in three phases: Pit E1, Pit E2, and Pit E3. Currently Pit E2 (Phase 2 Pushback) is being mined. This will be followed by mining of Pit E3, and of Pit E1 to a final floor elevation of 4997 m RL.

A substantial number of catch-benches on the south wall of Pit E1 and Pit E2 pushback are filled as a result of dozing of material from the crest above from the Pit E3 area. This does not present a risk now, but might when mining begins again in Pit E1. However, it is planned to continue mining down the south wall using single-bench (7m high) mining with 12 m catch benches resulting in a relatively flat wall. Nevertheless, prior to re-commencement of mining in the base of the pit, the risk associated with working beneath the filled benches needs to be re-evaluated, and restrictions to access may need to be applied. If necessary, a buttress or deflection berm can be constructed to manage material that may ravel.

A large wedge was identified at the southeast crest of the pit. A kinematic assessment of the wedge indicates it is plunging into the wall and presents a low risk to future mining activities below.

GOOSE PIT

The inspection of the Goose Pit comprised a series of stops around the outside of the pit for an overview, several stops in the base of the pit, and a traverse along the 5110 bench. The pit has been significantly advanced since the 2012 inspection.

East Wall

The east wall of the Goose Pit is being excavated predominantly in intermediate volcanic rock and iron formation. The East wall of the Goose Pit was observed to be performing well. Angled

pre-shear blasting methods are being used effectively to break the rock parallel to the steeply west-dipping foliation.

South Wall

In general the benches in the south wall of the pit and the west wall above the ramp are clean and have been scaled well. The benches are performing satisfactorily and there is little accumulation of material noted. There is some catchment loss, and the weaker ultramafic rocks typically show greater loss of catchment than the stronger quartzite rock.

The Bay Fault is now clearly identifiable in the south wall of the pit. Water flows in to the pit along this fault, which trends south beneath the Bay-Goose Dike.

A sheared contact was identified at the west end of the south wall, dipping to the west. Water flows along the contact, and a sump on the west wall has been excavated to collect the water. The contact trends south under the Bay-Goose Dike and is currently interpreted to form a hydraulic connection with Third Portage Lake. Water flowing along the contact is intercepted by east-west trending continuous vertical joints which allow water to flow into the pit. This feature has previously not been recognized.

A series of small wedges were identified above the ramp near the contact between quartzite and ultramafic. A containment/control berm should be placed at the toe of the slope to prevent equipment and personnel from parking or trafficking beneath this area. The area should be identified on a hazard identification map, and mine personnel should be alerted to the hazard.

West Wall

Ultramafic rock is exposed at the base of the west wall, and is overlain by quartzite. The bench excavated in quartzite is performing well. The contact with the underlying ultramafic rock dips in to the slope at a moderate angle. The contact and underlying ultramafic rock are wet, and during the site visit a small rock fall occurred within the ultramafic at the toe of the bench. The rock fall was related to failure along a steeply dipping back plane intersected by horizontal joints, and created an over-hang. An open and continuous joint is present below the ramp on the west wall, dipping toward the pit at an angle that may be close to its frictional strength. Failure of this feature may undercut the ramp to some degree, and could over-top the catchment bench below. It was recommended to AEM to use the I-Sight software to gain a better estimation of the dip of the plane in order to evaluate the potential for sliding to occur and what impact there might be.

North Wall

The north wall is comprised predominantly of ultramafic rock. Seepage is noted across the north wall face. In the northwest corner bench performance has been poor due to the presence of moderately inclined (50 degree) south dipping foliation and joints.

Several wedges were identified in the northwest and north wall. If these wedges were to fail the material would most likely be retained on the catch bench, although it is possible some material might spill over the catchment. The features should be identified on a hazard identification map, and mine personnel should be alerted of the hazard.

A large multiple bench scale wedge was identified in the northeast corner of the Goose Pit. The wedge presents a significant hazard to equipment and personnel. The orientation of the planes forming the wedge should be determined and a kinematic analysis should be completed as soon as possible.

Goose Pit Groundwater Inflows

Water in-flows were noted along the Bay Fault where it intersects the south wall of the Goose Pit. A sump is located at the south wall in the pit base and collects water in-flow from the Bay Fault and from water flowing down the ramp.

Significant seepage and water inflows on the south and west walls of the pit were noted. It is suggested that the conceptual hydrogeological model be updated to incorporate the observations made during the site visit, and then compared with the previous groundwater model. Higher groundwater pressures than previously predicted could result in a lower factor of safety for overall slope stability; conversely lower groundwater pressures could result in a higher factor of safety. This would assist in providing direction on whether or not a full stability assessment of the south, west, and north walls is warranted.

Slope Monitoring

An effective slope monitoring instrumentation program should be considered for the Goose Pit. Although prisms are installed on the upper bench faces, these are being monitored once every 2 weeks, which is insufficient for identifying any movement trends or forewarning of possible failures. No prisms have been installed on the north, south, or west walls of the Goose Pit. Permanent RTS base stations should be installed, and a trigger, action, and response plan (TARP) specific to the Goose Pit should be developed.

Geotechnical Mapping and Surveying

During the site visit AEM had an evaluation copy of the I-Sight software program available, and this proved invaluable for assessing some of the wedge and planar structures that were identified during the site visit. One critical structure that was identified but could not be evaluated during the site visit is the large wedge in the northeast corner of the north wall of the Goose Pit. It is strongly recommended that the structures forming this wedge be mapped using I-Sight and that a kinematic assessment be completed.

From discussions on site, it is Golder's understanding that geotechnical inspections of the pit areas are carried out every two or three days depending on the available access and exposure of new walls. A wall inspection report is produced on a bi-weekly basis. This inspection frequency should be increased to daily in some of the areas identified in this report, specifically where equipment and personnel may be operating beneath an area of potential instability.

2.4: 2013 Independent Geotechnical Expert Review Panel Report

Executive Summary

Report 14 – September 9-11, 2013

The meeting of the Dike Review Board was held on site as planned from September 9th to 11th.

The Board is now comprised of three members, Mr. D. W. Hayley, Dr. N. R. Morgenstern and Mr. D. A. Rattue. All three members were in attendance.

The objectives were to review the progress of the works, the dike behaviour, and make acquaintance with future plans for the mine development. The activities covered those outlined in the agenda which is included as Attachment A. The list of attendees at the meeting is given in Attachment B.

Digital copies of several documents were transmitted prior to the meeting, a list of which is included in Appendix C. Paper copies of the various PowerPoint presentations were provided by Agnico-Eagle Mines (AEM) and Golder and Associates (GAL) during the meeting. A selection of photographs taken during the visits is to be found in Appendix D. In the report which follows, the Board's recommendations are underlined.

2.5: Meadowbank Gold Project Water Management Plan 2013

Executive Summary

Agnico Eagle Mines Ltd. Meadowbank Division (AEM) is operating the Meadowbank Gold Mine (the Mine), located on Inuit-owned surface lands in the Kivalliq region approximately 70 km north of the Hamlet of Baker Lake, Nunavut. The mine is subject to the terms and conditions of both the Project Certificate issued in accordance with the Nunavut Land Claims Agreement Article 12.5.12 on December 30, 2006, and the Nunavut Water Board Water Type A Licence No. 2AMMEA0815 issued on June 9, 2008. This report has been written to meet Part E, Item 7 of the NWB Type A License, which in summary states, the water balance and water quality model shall be re-calibrated as necessary, and at a minimum of once every two years following the commencement of operations. Further, it presents a comparison of the predicted and recently remodeled pit water quality forecast as required in Part E Item 6.

This report presents an updated version of the SNC Lavalin Water Management Plan 2012 to provide the site-wide water balance in order to determine the demand and storage requirements over the life of the mine. The report discusses water usage for 2013 and the operational storage strategies and required transfers going forward through 2014. The necessity of this particular water management update has come following changes in the observed natural pit water inflows, mine and milling life schedules and production rate, tailings management and pit backfilling strategies. The plan considers results of the water quality modelling predictions prepared by SNC, 2014 (presented in Appendix B); which will assist in informing reflooding, treatment and water management during closure. Certain concepts within the water balance, including pit flooding, remain at the conceptual stage for now and will be further detailed as the mine progresses, and will be updated in future annual reports.

2.6: Core Receiving Environment Monitoring Program 2013

Executive Summary

The CREMP focuses on identifying changes in limnological parameters, water and sediment chemistry, or changes to primary (phytoplankton) and secondary (benthic invertebrate community) aquatic producers that may be associated with mine development activities. This is accomplished through the application of a temporal/spatial trend assessment that includes application of quantitative decision criteria (i.e., early warning “triggers” and action “thresholds”; some of which were updated in 2013) to facilitate immediate and objective decision-making regarding appropriate management actions. This information is integrated annually into the Aquatic Ecosystem Monitoring Program (AEMP) for holistic environmental management and decision making.

Meadowbank Study Lakes

CREMP monitoring started in 2006 and in-water mine development started in 2008. Key mine development activities that could result in changes to the aquatic receiving environment include: East Dike construction (2008), Bay-Goose Dike construction (2009-10), dewatering of both lakes and impoundments (2009-11, 2013), effluent discharge (2012 to present) and general site-related mining activities that mostly generate dust (e.g., rock crushing, blasting, ore and waste hauling; 2008 to present). Key findings for 2013 are summarized in Table ES-1:

- Water Chemistry – There were some statistically significant mine-related changes identified in 2013 at one or more near-field (NF) areas: total and bicarbonate alkalinity

(SP), conductivity (SP, TPE & TPN), calcium (TPE) and TDS (SP & TPE) were elevated above their respective trigger values with statistically significant changes at one or more NF areas relative to baseline/reference conditions. These triggers were set at the 95th percentile of baseline data using an approach that evaluates a statistically significant trend as compared to baseline data, and were not derived from effects-based thresholds (e.g., CCME water quality criteria). While these results represent mine-related changes, the observed concentrations are still relatively low and unlikely to adversely affect aquatic life. These trends need to be reviewed again in 2014.

-Sediment Chemistry – Quantitative trigger analysis for sediment is based on coring results, which are scheduled to coincide with MMER EEM field studies (i.e., every three years); the next program will take place in 2014. Notwithstanding, visual trend analysis was conducted in 2013. The increasing trend in chromium concentrations in TPE continued in 2013 and exceeded the trigger value. A follow-up study is recommended in 2014 to confirm the nature of the trend (i.e., reduce residual uncertainty regarding the possibility of the results being due to a spatial trend).

-Phytoplankton Community – Statistically significant increases in total biomass (TPN, TPE, SP, TE & WAL) and taxa richness (TPN) were seen in 2013 relative to baseline/reference conditions. However, this apparent increase is due to a relative decrease in biomass at reference area INUG not an absolute increase at the near-field and mid-field areas, where results are fairly consistent with historical trends at those areas. While not apparently mine related, these trends should be watched again in 2014.

-Benthic Invertebrate Community – While the majority of near-field and mid-field areas showed apparent reductions in abundance and taxa richness relative to baseline/reference conditions, the only statistically significant adverse effect was a decrease (-46%) in abundance at far-field TEFF over the last three years combined. However, these results appear to be due to historically high abundance and taxa richness at reference area INUG, rather than absolute decreases at the near-field, mid-field or far-field areas, which generally tracked within baseline ranges. While these trends are not mine related, they should be watched in 2014.

Baker Lake

CREMP monitoring started in 2008. Key mine-related activities include barge/shipping traffic and general land-based activities associated with the tank farm area. No spills of fuels, hydrocarbons or any other materials occurred in the vicinity of the barge dock and jetty in 2013. No changes in the aquatic receiving environment were observed that were attributable to AEM's activities in Baker Lake. No follow-up management actions are required for 2014.

2.7: 2013 Hamlet of Baker Lake Harvest Study – Creel Results

Executive Summary

Nunavut Environmental Consulting Ltd. is pleased to provide Agnico-Eagle Mines Ltd. (Agnico-Eagle) with this brief memorandum summarizing the 2013 creel results from the annual hunter harvest study conducted in the Hamlet of Baker Lake.

Background

In March 2007, a harvest study was initiated by Agnico-Eagle in association with the Baker Lake Hunters and Trappers Organization (HTO) in order to monitor and document the spatial distribution, seasonal patterns and harvest rates of hunter kills before and after construction of the Meadowbank All-Weather Access Road (AWAR). The harvest study is conducted annually and is open to both Inuit and non-Inuit residents of Baker Lake who are at least 16 years of age.

The harvest study focuses primarily on terrestrial wildlife harvests; however, creel results are also recorded by the harvest study administrator in support of on-going creel surveys. In previous years, the creel results were included in the annual Meadowbank Wildlife Monitoring Summary Report; however, since 2009, results have been provided in a standalone memorandum.

In late 2009, AREVA Resources Canada Inc. (AREVA) entered into a data and cost-sharing agreement with Agnico-Eagle; however, the implementation of the harvest study has remained the same. Both Agnico-Eagle and AREVA recognize that communication with participants is of utmost importance to ensure study success through adequate participation rates and accurate Reporting.

2.8: 2013 Groundwater Monitoring and Water Quality Results, Meadowbank Mine, Nunavut

Executive Summary

The 2013 groundwater monitoring program at Meadowbank was conducted in support of the Groundwater Monitoring Plan (AEM, 2014). The objectives of this program are to monitor the salinity of deep groundwater in order to update site water quality predictions and to document any effects of mining on groundwater quality, particularly with respect to tailings deposition.

In 2013, two monitoring wells were sampled (MW 08-02 and 08-03). Attempts to clear the available third well (MW 11-02) which was blocked with development material in 2012 were again unsuccessful. This well will be replaced in 2014.

To obtain a sample from MW 08-03, AEM applied a saline solution in attempts to thaw an ice bridge that has blocked this well below the heat trace cables since it was installed. Although this is a common practice, and despite repeated purging over time, remnants of the sodium chloride solution could not be fully removed prior to sampling. This occurred previously during development of MW 11-01 when the sample chloride concentration was >10,000 mg/L as a result of drilling brine. However, concentrations of dissolved metals in the sample obtained from MW 08-03 are comparable to historical results and are still useful to assess mine impacts to groundwater.

As per recommendations in the 2012 Groundwater Monitoring Report (Golder, 2012), attempts were made to augment the program by sampling production drill holes in Portage Pit, and pit wall seeps in Goose Island Pit. An insufficient flow of groundwater was encountered during production drilling to obtain viable samples, but seep sampling was successful.

Concentrations of all parameters measured in 2013 are provided in this report, along with a year-over-year comparison of salinity-related results that are relevant to the site water quality model. All historical results are provided in Appendix A.

Overall, concentrations of salinity-related parameters in samples collected in uncontaminated wells and pit wall seeps in 2013 are within the range of those observed historically in similar locations on the mine site. In addition, concentrations of parameters of concern that would indicate mining impacts to groundwater (i.e. cyanide, copper) were well below NWB license limits for discharge to surface water, and similar to historical results, indicating no measureable movement of tailings into groundwater.

2.09: 2013 Wildlife Monitoring Summary Report

Executive Summary

The 2013 Wildlife Monitoring Summary Report represents the eighth of a series of annual Wildlife Monitoring Summary Reports for the Agnico-Eagle Mines Ltd. (Agnico-Eagle) Meadowbank Mine (the project). Baseline and monitoring programs were first initiated in 1999 and will continue throughout the life of the mine. Details of the wildlife monitoring program for the project are provided in the Terrestrial Ecosystem Management Plan (Cumberland 2006). The 2013 report provides the objectives, methodology, historical and current year results, accuracy of impact predictors, and management recommendations of each monitoring program in standalone sections.

The Meadowbank Gold Mine (the mine), with an expected operational life of eight years, is located approximately 70 km north of the Hamlet of Baker Lake, 300 km inland from the northwest coast of Hudson Bay. Construction of a 106.8 km All-Weather Access Road (AWAR) between the Hamlet of Baker Lake, the nearest community, and the mine was completed in March 2008.

In 2013, five active Peregrine Falcon (*Falco peregrinus*) nests were observed and monitored at quarry sites along the AWAR. Quarries appear to have created suitable raptor nesting habitat, as four of the five nests have been active for the past four seasons. For the second year in a row, a Peregrine Falcon pair nested at Portage Pit; however, given its location away from mine operations, no additional management or deterrent activities were required. Raptor nest management plans were not warranted at any of the other active nest sites, and no project-related effects on falcon nesting success were confirmed.

The Government of Nunavut Caribou (*Rangifer tarandus*) collaring program, ongoing for the past five years in the Baker Lake area, continued in 2013 with an additional 15 collars deployed as part of regional efforts to understand Caribou populations. Seasonal Caribou movements within and adjacent to the Meadowbank Regional Study Area were tracked and mapped throughout the year. The Hunter Harvest Study participation rates slightly decreased in 2013 (49 respondents), as did overall reported number of Caribou harvested in 2013 (n=420, compared to n=496 last year). In 2013, 43% of all reported Caribou harvests were within 5 km of the AWAR, the highest percentage since the start of the study. As in previous years, notices were distributed reminding employees to be aware of Caribou migration, as large herds of Caribou were observed near the AWAR on several occasions in November and December, but road closure in 2013 was not required. Five Caribou fatalities (one incident) on the AWAR and one Wolverine fatality at the mine site occurred in 2013. Improved foodhandling practices and employee awareness programs at the mine site helped ensure no Arctic Fox fatalities in 2013.

Each subsequent Wildlife Monitoring Summary Report builds on data presented in the previous year's report. Analyses of data from monitoring programs to date indicate that the programs are appropriate for comparing baseline conditions and reference areas to current conditions at the mine site. Monitoring programs will continue to meet the conditions of the Nunavut Impact Review Board Project Certificate but will evolve throughout the life of the mine, contingent on data quality objectives and the necessity for adaptive management strategy implementation and subsequent effectiveness monitoring. Ongoing collection of data will allow for increasingly robust statistical analyses each year, where warranted, that will build on an understanding of naturally occurring and potential mine-related effects.

2.10: 2013 Blast Monitoring Report for the Protection of Nearby Fish Habitat

Executive Summary

As required by the NIRB Project Certificate No.004, Commitment 85, AEM Meadowbank Division conducts monitoring to evaluate blast related peak particle velocity and overpressure to protect

nearby fish bearing waters. According to the NIRB commitment, blasting must use a specific charge weight, delay and set.

The detonation of explosives in or near water produces compressive shock waves that can cause significant impacts to the swim bladders of fish, rupture other internal organs and/or damage or kill fish eggs and larvae. In addition, the effects of the shock waves can be intensified in the presence of ice. Consequently, guidelines have been developed by DFO to protect fish and fish habitat from works or undertakings that involve explosives in or near fisheries waters. These guidelines are presented in the DFO report entitled “Use of Explosives In or Near Canadian Fisheries Water”, and included the following:

- No explosive is to be detonated in or near fish habitat that produces an instantaneous pressure change (IPC) greater than 100 kPa in the swim bladder of a fish; representatives from DFO requested that AEM use a value of 50 kPa instead of 100 kPa; and
- No explosive is to be detonated that produces a peak particle velocity greater than 13 mm/s in a spawning bed during the period of egg incubation (for lakes near the Meadowbank mine, the fisheries window is from August 15 to June 30).

Peak particle velocity (PPV) and overpressure monitoring data was recorded throughout 2013 during blasting activities at the North Portage Pit, South Portage Pit, Bay Goose Pit and Vault Pit. The locations of the blast monitoring stations in 2013 are called Portage Pit North (14W 7214597N 639457E), Portage Pit South (14W 7213663N 639349E), Goose Pit (7212116N 638881E) and Vault Pit (14W 7219726N 640741E). These monitoring stations are illustrated in Figure 1 and Figure 2 for Vault Pit. The Portage stations are located near the shoreline of Second Portage Lake and the station located on the Bay Goose Dike is near Third Portage Lake East Basin. In January 2013, AEM added a blast monitoring station at Vault, located between the Vault Lake and the Vault Pit, to evaluate blast levels and to be protective of fish in Vault Lake. The blast monitoring at Vault occurred from January to March, as AEM blasted some rock near the pit for the Vault Dike construction, and for pre-stripping at Vault Pit from November to December. From April to October no mining activity was completed as activity was focused on Vault Lake dewatering and the fishout.

In 2013, Meadowbank blast engineers have been adjusting blast parameters as part of the continual blast optimization. The hole depth was decreased by an average of 0.2 meters which represented about 2.4% less explosive for each blast, which has resulted in less loss of energy and a sound pressure reduction. The blast engineers also adjusted the blast pattern which ultimately in reduced vibrations during blast. In 2013, they continued to use PPV and IPC for monitoring blasts and sophisticated monitoring techniques such as video and geo-referencing to improve blast procedures and operations.

2.11: 2013 Landfarm Report

Executive Summary

As per the Landfarm Design and Management Plan (February, 2013), this report has been prepared to provide the following information regarding landfarm activities in 2013:

- volume of material added to and removed from the facility;
- disposal or reuse location;
- results from laboratory analyses of soil and contact water;
- volume and type of nutrient additions;
- visual inspection results; and
- volume of contact water pumped.

In addition, this report presents the results of the nutrient-addition pilot study that was initiated in 2012.

Approximately 2577 m³ of soil was transported to the landfarm in 2013. This includes 295 m³ from spills related to the Meadowbank site, 352 m³ from a spill in Baker Lake (during construction of temporary Jet A pad), and 1930 m³ from Quarry 22 (which was used for contaminated soil storage prior to construction of the landfarm).

Approximately 180 m³ of soil was removed from the landfarm following remediation and transported to the Portage Rock Storage Facility. Overall rates of PHC degradation appear to be sufficiently rapid to warrant continued use of the landfarm as a viable treatment for spills of the designated materials. Nutrient treatment appears to generally increase degradation rates, particularly for the F3 fraction. Use of the landfarm with application of sewage sludge as a nutrient treatment will be continued.

2.12: 2013 Air Quality and Dustfall Monitoring Report

Executive Summary

The 2013 air quality and dustfall monitoring program at Meadowbank was conducted in support of the Air Quality Monitoring Plan - Addendum (Golder, 2008) and Air Quality and Dustfall Monitoring Plan - Version 2 (updated plan, November, 2013). This updated plan was developed to reflect current procedures, and includes no major changes to monitored parameters, locations or methods.

The objective of the 2013 program was to measure dustfall, total suspended particulates (TSP), PM₁₀, PM_{2.5} and NO₂ at four monitoring locations around the Meadowbank site. Locations were established in 2011 in consultation with Environment Canada.

Results obtained for the measured parameters were compared to Government of Nunavut (GN) Environmental Standards for Ambient Air Quality (October, 2011) for TSP, PM_{2.5} and NO₂; BC Air Quality Objectives (August, 2013) for PM₁₀; and Alberta Ambient Air Quality Guidelines (August, 2013) for dustfall. The Canadian Ambient Air Quality Standards for PM_{2.5} (May, 2013) are also referenced, although Nunavut has not yet incorporated these objectives into territorial guidance documents. Of sixty-three TSP samples obtained, one exceeded the relevant GN standard of 120 µg/m³, with a concentration of 459 µg/m³. This sample was more than four times higher than the next highest measured concentration, and was obtained from DF-2, which is located immediately south (downwind) of the main mine plant area and adjacent to the TCG contractor area. Annual average TSP values at each station did not exceed the GN standard for that time period of 60 µg/m³. No samples exceeded relevant standards or objectives for PM₁₀ or PM_{2.5}.

The Alberta recreational area guideline for dustfall was exceeded in 11 out of 43 samples, which is similar to 2012 (10 exceedances). The industrial area guideline was exceeded in only one sample. The GN annual average standard for NO₂ of 32 ppb was not exceeded, with a maximum monthly average of 5.3 ppb.

In addition, PM₁₀ data from 2012 was re-analyzed based on comments received during the 2012 Annual Report review by NIRB. This analysis rectified a calculation error which had resulted in significantly over-estimated concentrations, and presents a comparison to the BC Air Quality Objectives (August, 2013) for PM₁₀. No suspended particulate samples from 2012 exceeded the relevant standards or objectives.

2.13: 2013 Vault Fishout Summary Report

Executive Summary

The final fish-out program planned for the Meadowbank site took place from July 19 – September 24, 2013 at Vault Lake. This fish-out followed protocols developed in the Vault Lake Fishout Work Plan (April 2013) in consultation with the retained fisheries consultant (North/South Consultants Ltd.) and Fisheries and Oceans Canada (DFO). This project consisted of two phases; the “CPUE phase” in which fish removal was undertaken during the daytime only (to maximize successful transfer to adjacent Wally Lake), and the “final removal phase” in which nets were also set overnight to maximize total catch. During the fish-out, a total of 3,183 fish were captured, with a total weight of 901 kg. Of these, 1,801 fish (57%) were successfully transferred to Wally Lake. Abundance and biomass for each species is shown in Table 1.

Table 1. Total abundance and biomass by species for the fish-out of Vault Lake.

Species	Abundance		Biomass	
	# Fish	%	kg	%
Arctic char	101	3	49	5
Lake trout	1894	60	563	62
Round whitefish	1123	35	274	30
Burbot	65	2	15	2
TOTAL	3183	100	901	100

Length and weight were recorded for all fish captured (unless adverse weather conditions prohibited use of the scale). Gender and maturity were also recorded for all fish that did not survive (1361 fish). A subset of fish (112) that did not survive underwent a detailed biological assessment including stomach fullness, ovary weight, weight of 100 eggs, liver weight and examination for obvious deformities, erosions, lesions, and tumors (DELTs) and parasites. Fish were generally determined to be in good health, with average condition factors >1 for all species except burbot (similar to 2010), and a 5% incidence of DELTs or parasites. During the CPUE phase, initial abundance was estimated daily based on the decline in catchper-unit effort using both the Leslie and DeLury methods. Beginning on August 19th, the cumulative catch exceeded the Leslie estimate until the final phase of the fishout. With improved catch success in the final phase, the estimates were found to be high, 4211 fish (Leslie method), or 5990 fish (DeLury Method) representing 132% and 188% (respectively) of the actual captured population.

2.14: 2013 Noise Monitoring Report

Executive Summary

The 2013 noise monitoring program at Meadowbank was conducted in support of the Noise Abatement and Management Plan (AEM, 2009; 2013). The objective of the 2013 program was to measure noise levels at five previously determined monitoring locations around the Meadowbank site, over at least two 24 h periods.

While monitoring was conducted for a total of 23 days, the total amount of available data was reduced due to equipment malfunction, difficulties with software and filtering of the data recorded outside optimal weather conditions. However, one to two days of valid records were available for all stations except R1.

Since noise levels vary constantly over time, the monitoring instrument used at Meadowbank measures acoustical energy near-continuously and reports a single number for each minute,

representing the “equivalent sound level” (Leq). Daytime, nighttime, 10-11pm and 24 h Leq values are shown for each monitoring location in Table 1.

No Leq values exceeded target sound levels of 55 dBA (daytime) and 45 dBA (nighttime). Since no Leqs were elevated as a result of mine activity, no additional mitigation measures or changes to the monitoring program are recommended at this time.

Table 1. Daytime, nighttime, 10-11pm and 24 h Leq values for monitoring locations R1 – R5 and total hours of valid data available to calculate each Leq.

Site	Dates (2013)	L _{eq, day} 7am-11pm (dBA)	Total Hours	L _{eq, night} 11pm-7am (dBA)	Total Hours	L _{eq, 1 h} 10pm-11pm (dBA)	L _{eq, 24 h} (dBA)	Total Hours
R2	Sept. 7	-	-	-	-	-	36.4	5
	Sept. 9	51.7	11	40.1	8	47.7	44.2	21
R3	Jul. 12	34.1	10	-	-	-	34.1	10
	Jul. 13	-	-	41.2	4	39.7	40.6	6
	Jul. 14	-	-	37.4	8	-	36.6	10
	Jul. 15	41.9	9	39.5	8	38.5	41.2	16
R4	Jul. 27	35.4	9	-	-	36.1	35.4	9
R5	Aug. 12	-	-	42.7	6	-	42.0	11
	Aug. 13	41.1	5	44.6	8	-	45.0	17
	Aug. 14	43.1	16	39.0	8	28.7	38.1	17

2.15: 2013 Habitat Compensation monitoring Report

Executive Summary

According to Fisheries and Oceans Canada (DFO) Authorizations NU-03-0191.2, NU-03-0191.3 and NU-03-0191.4, AEM maintains a Habitat Compensation Monitoring Plan (HCMP; AEM, 2013) to ensure that fish habitat compensation features are constructed and functioning as intended. Based on the schedule described in the HCMP, monitoring of compensation features currently occurs every 2 years.

In 2013, monitoring was conducted for the constructed spawning pad, located at stream crossing R02 along the all-weather access road (AWAR). Monitoring was not required for the mine site habitat compensation features. As described in the schedule of monitoring events, the AWAR study included a visual assessment of stability, as well biological monitoring to confirm use by Arctic grayling.

The field analysis was conducted from June 14 – 29, 2013. The major component of the program consisted of length and weight measurements and maturity identifications of adult fish captured in hoopnets. Nets were set to capture both upstream and downstream movements, and were set as soon as ice conditions allowed. Additionally, reproductive success in this reach was assessed using larval drift traps.

The constructed spawning pads were visually confirmed to be stable as designed. Rates of shifting of material have not exceeded expectations at construction. Generally, condition factors of adult fish, population size distributions and timing of migration were within the range of values seen in previous years, confirming continued use of this area by Arctic grayling. It is suspected that the primary upstream migration occurs below ice cover or immediately at ice-off, since Arctic grayling larval drift has been consistently caught within 1-3 days of study initiation. Larval drift rates of collection continue to exceed those observed prior to construction of the spawning pad, suggesting a positive impact on Arctic grayling reproduction, either through direct use or reduced pressure on upstream spawning areas.

Overall, the constructed spawning pads have not only increased the quantity of high-value habitat, but appear to be effectively increasing production rates in the local population

2.16: REPORT ON RSF SEEPAGE REPORT

Executive Summary

On November 8, 2013, Agnico-Eagle Mines Limited (AEM) received an inspector's direction from the Aboriginal Affairs and Northern Development of Canada (AANDC) related to the seepage of water from the Portage Rock Storage Facility (RSF) into Lake NP-2. According to the received direction, the RSF seepage contravenes AEM's type A water license #2AM-MEA0815 (water license). The inspector requested that AEM:

- Conduct an investigation about the release of waste from ST-16 sump location to Lake NP-2, which includes determining the source of the contaminated water in ST-16 sump;
- Conduct an investigation, in consultation with an independent firm, about possible failure of the Till plug designed to prevent waste from migrating out of ST-16 sump into Lake NP-2;
- Develop a plan in consultations with an independent engineering firm about:
- Corrective measures that will be taken to immediately stop the release of waste;
- Long term corrective measures that will be taken to secure waste in the future;
- Counteraction and/or remediation of the adverse impacts of the prior releases.

On November 15, 2013, AEM requested that Golder Associates Ltd. (Golder) prepare an assessment report regarding the RSF based on the above. The assessment report includes findings and immediate actions, as well as presenting recommendations about the immediate- and long-term corrective actions.

2.17: Interim Closure and Reclamation Plan

Executive Summary

Agnico Eagle Mines Ltd. (AEM) has been operating the Meadowbank Gold Project (the Project) since 2008. This document presents the Interim Closure and Reclamation Plan (ICRP) for the Project. Planning for mine closure and reclamation is an iterative process where ICRPs are prepared and updated on a regular basis, when there is a significant change to the mine plan, or according to key milestones in the mine life (INAC 2007). This ICRP document is an update to the closure and reclamation plan for the development phase of the Project (AEM 2008) and the reclamation cost estimate prepared by Brodie (2008). The purpose of the ICRP is to:

- Comply with the department of Aboriginal Affairs and Northern Development Canada (formerly Indian and Northern Affairs Canada [INAC]) policy requirements and guidelines

(INAC, 2002; INAC, 2007) for full cost of restoration (clean-up, modification, decommissioning, abandonment);

- Promote environmental stability of facilities and infrastructure and minimize maintenance and monitoring requirements at abandonment;
- Minimize potential impacts from contaminants;
- Ensure removal of all hazardous materials and waste;
- Address water license requirements (NWB 2008); and
- Document working goals, objectives and criteria for closure.

A summary of baseline environmental conditions is provided in Section 2.4. This includes descriptions for the regional and local study areas of:

- the atmospheric environment;
- physical components such as surficial and bedrock geology, permafrost, and hydrogeology and hydrology;
- chemical components such as soil, sediment and surface and ground water quality, and acid rock drainage and metal leaching potential;
- biological components such as vegetation habitat, aquatic biota and habitat and wildlife; and
- the social environment, including traditional land use and archaeological and cultural sites.

A description of each of the Project facilities is provided in Section 2.5. This includes:

- the Baker Lake Site Facilities, including the barge landing and Bulk Fuel Storage Facility;
- the All-Weather Private Access Road, that links Baker Lake to the mine site, and borrow pits;
- dikes and saddle dams constructed for the Project;
- open pits;
- Waste Rock Storage Facilities, for the Portage and Goose deposits and the Vault deposit;
- Tailings Storage Facilities;
- Water management facilities for the mine site, including contact and non-contact water diversions systems, the Reclaim Pond and Attenuation Pond;
- Infrastructure at the Mill and Service Areas, including the accommodations, service buildings, on-site roads, Airstrip and Emulsion Plant; and
- Waste management facilities, including the Landfills, Incinerator, Hazardous Material Storage Area, and Landfarm.

Objectives for mine closure have been developed by Environment Canada (EC 2009), and closure objectives and options by Aboriginal Affairs and Northern Development Canada (formerly Indian and Northern Affairs, INAC 2007). Specific objectives and closure activities for each of the Project facilities, and a description of any uncertainties for the closure activities, are provided in Section 3.3. Progressive closure reflects actions that can be taken during mining operations to close and reclaim various mine components, either when operations in an area are complete or when supporting infrastructure is no longer needed. Progressive closure can reduce overall reclamation costs by incorporating closure activities in the mine plan, and enhances environmental protection by addressing concerns sooner and allowing more time for reclamation objectives and goals to be achieved. Progressive reclamation activities for the Project are planned for the open pits, Portage Waste Rock Storage Facility, Tailings Storage Facilities, water management infrastructure, and site infrastructure. As of January 2013, progressive reclamation activities at the Portage Waste Rock Storage Facility have commenced; 42% of the ultimate area has been covered with NPAG rock (AEM 2013a).

Permanent closure is defined as the final closure of the mine site after mining has ceased. Permanent closure is typically a planned event, the timing of which is dependent on the mine life

of the project. The closure approach for the Project as well as specific closure activities at each Project facility is guided by the intended end land use of the area. Based on stakeholder and local community consultation to date, the intended end land use for project-affected areas is (a return to) the “natural” state. As such, closure activities are focused on decommissioning mine components so that they blend into the existing landscape to the extent possible. AEM will re-contour and grade the general mine area, including roads, to promote proper drainage of surface runoff and to provide a ground profile consistent with the surroundings. The Tailings Storage Facilities and Portage Waste Rock Storage Facility will be capped and re-contoured with a layer of non-potentially acid generating (NPAG) rock to encapsulate the tailings and waste rock in permafrost and promote natural surface drainage to Third Portage Lake. Reclamation efforts will focus on providing conditions conducive to natural re-colonization of the site by the surrounding native vegetation. Large-scale re-vegetation of the site is not considered feasible at this time as there is no readily-available seed material for native plants. In addition, there is a lack of available organic soils in the Project area which, in conjunction with the tough climatic conditions (short cold and dry growing seasons), makes it difficult to establish vegetation over large areas. The open pit areas will also be returned to a “natural” state by flooding and re-creating open water areas. This is consistent with the predevelopment landscape in the mine area.

Monitoring activities are conducted in the closure and post closure phases of the Project to “ensure that closure activities and any associated environmental effects are consistent with those predicted in the closure plan and to ensure that the objectives of mine closure are being met” (EC 2009). The closure phase for the Project will commence after mining operations have ceased in 2018. The closure period includes reclamation activities over a two to three-year period, as well as the extended period associated with pit flooding and stabilization of water levels and water quality. Monitoring will be conducted over the closure period to evaluate stability of mine components, thermal conditions of capping layers, and water quality across the site and in the receiving environment. It is anticipated that this closure phase will last approximately 10 years (to 2028), after which the dikes will be breached allowing mixing of pit and lake water, and the Project will enter the post-closure phase.

Environmental monitoring will continue at a reduced frequency for approximately 5 additional years to ensure that closure objectives continue to be met. Assuming acceptable conditions can be demonstrated, AEM will then apply to regulators to terminate the post-closure program. The planned closure and post-closure monitoring activities associated with each of the Project Facilities are provided in Section 3.6. Details related to the Project closure schedule are provided in Section 3.7.

A financial security cost estimate of the closure and reclamation activities for the Project, based on the current end of mine life configuration, has been prepared using the RECLAIM template (Version 6.1, March 2009); details of this estimate are provided in Section 4.0. The cost estimate has been developed assuming third party contractor rates, on the basis that AEM is unable to fulfill its closure and reclamation obligations, and the government is required to take over reclamation of the Meadowbank Gold Project. Temporary closure is defined as the cessation of mining and processing operations for a finite period with the intent to resume mining activities as soon as possible after the cause for the temporary closure has been resolved. Temporary closure may last for a period of a few weeks (short-term) to several years (long term), based on economic, environmental and/or social factors (INAC 2007). The objectives of temporary closure activities are to protect humans, wildlife and the environment, and maintain regulatory compliance until mining operations can resume. All facilities and personnel necessary to achieve the temporary closure objectives must be maintained operational. Temporary closure activities specific to each of the Project facilities are presented in Section 5.3.