Environment Canada
Environnement Canada

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Our File: 4703 001 015

August 13, 2010

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By email

Re: Agnico-Eagle Mines Ltd. – Meadowbank Gold Project – 2009 Annual Report Review - Water Licence 2AM-MEA0815

Environment Canada (EC) staff have reviewed the 2009 Annual Report and Appendices A4-1, A4-2, A4-3, C1, F2, F4, and F7, and provide the attached comments for your consideration. Comments are in tabular format, marked as Attachment 1.

Please do not hesitate to contact me at 867-669-4735 or by email at anne.wilson@ec.gc.ca with any questions or comments regarding the foregoing.

Sincerely,

Anne Wilson
Water Pollution Specialist
Environmental Assessment - North

cc. Carey Ogilvie (Head, EA-North, Yellowknife)
Jane Fitzgerald (Environmental Assessment Coordinator, EA-North, Yellowknife)
Myra Robertson (EA Coordinator, Canadian Wildlife Service, Yellowknife)
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Attachment 1. EC comments on Agnico-Eagle Mines Limited - Meadowbank Division's 2009 Annual Report – Water License 2AM-MEA0815

Annual Report Section:	**Water license (**2AM-MEA0815) **condition or reference:**	**Comment:**
General	Schedule B, Item 5: *The Licensee shall file an Annual Report with the Board no later than March 31 in the year following the calendar year being reported. The Annual Report shall be developed in accordance with Schedule B.*	In general the Annual Report was concise and addressed the information requirements. Table1.1, List of Reporting Requirements, was very useful and made the identification of relevant sections easier.
Section 2.1.3 East Dike and Bay-Goose Dike Phase 1 Construction Evaluation	Appendix A4-1, A4-2 and A4-3	Appendix A4-1 documents the work done in 2008; EC found this to be useful and well presented. Appendix A4-2 presents the 2009 results which expand on the previous study. EC was pleased with the weight-of-evidence approach used to evaluate and interpret effects and observations. An appropriate set of parameters was thoroughly investigated, and extensive exploration of inter-relationships was done. There were a few minor questions which arose: • Table 1-4 is missing in the document. • It would have been useful to have the test solution chemistry for the bioassay tests. EC supports the recommendations to continue with benthic monitoring in 2010, to conduct follow-up periphyton studies, and do toxicity testing of sediments from depositional areas.

		Appendix A4-3 provides the data collected under the approved dike construction monitoring plan. The presentation was clear and the figures showing time series profiling were especially useful. Errata: Figures 3-10 to 3-17 are numbered Figure 1 on all figures.
Section 5.2 Solid Waste Disposal Activity - Landfarm	Schedule B, Item 9: *A summary report of solid waste disposal activities including monthly and annual quantities in cubic metres of waste generated and location of disposal.* NIRB Project Certificate No. 0004, Condition 74	It is EC's understanding that alternatives to construction of the landfarm are being investigated. This should be noted, and details provided of the planned disposal method for the contaminated materials currently stored in the quarry.
Section 5.2.1 – Incinerator	Schedule B, Item 10: *Report of Incinerator test results including the materials burned and the efficiency of the incinerator as they relate to water and the deposit of waste into water.*	EC looks forward to reviewing the results of the recent stack testing in the next reporting period. EC recommends that the information included in the incinerator section of the Annual Report include details of how the approved Incinerator Waste Management Plan is being implemented. In Section 7 of the Revised Incinerator Waste Management Plan (May 2009) it is noted that "the quantity and type of materials incinerated on site during operations….are to be included within the annual report." However, while the quantity of waste incinerated is estimated, the type of waste incinerated was not indicated in the Annual Report. Other comments on the Revised Incinerator Waste Management Plan (May 2009): It is mentioned in Section 5.1 that waste is segregated prior to incineration, i.e. "At Meadowbank the main objective of the waste management plan relating to incineration and the waste oil burning furnace is to minimize the amount of waste to be incinerated by implementing an effective waste segregation program to ensure that only appropriate types of waste are incinerated." However, it was observed during a recent site visit by

		EC employees that this practice is not being consistently implemented. In order to ensure efficient operation of the incinerator and to meet standards, this needs to be implemented fully at all times. As well, the management plan should include a discussion of mixing various waste streams to achieve optimum heat content. In Section 5.2, "dead animals (small size only)" is listed as acceptable waste for incineration. Dead animals, even small ones, should not be burned in batch incinerators. EC recommends that a more appropriate method of disposing of dead animals be used. Volumes of waste incinerated are estimated in Section 5.4, but weigh scales are not explicitly mentioned in the management plan. Weigh scales are essential to prevent overcharging of incinerators. Overcharging incinerators will reduce the incinerator performance resulting in excess emissions of toxic compounds and could shorten the life of the incinerator. Lastly, Section 5.4 also mentioned an allowance of sewage sludge of 1.8 kg per person per day to be incinerated. It is our understanding that sewage sludge is no longer being incinerated and the plan should be updated to reflect this.
Section 7.1. AWPAR	Schedule B, Item 13: *The results and interpretation of the Monitoring Program in accordance with Part 1 and Schedule 1.*	There seems to be a discrepancy between the field and the lab pH measurements for the R09 July 21st sampling, showing field measured pH values below or at CCME guidelines.
Section 7.1.10 Groundwater Monitoring Appendix F4	Schedule B, Item 13 NIRB PC Condition 8	The report "2009 Groundwater Quality Monitoring Program Meadowbank Mine Oct. 29, 2009" provides results from the two operational groundwater wells. The last two years results include higher TDS and chloride than previously measured. When will the water quality model be run with updated input data? The defective wells should be replaced to provide more robust groundwater quality data, particularly in the tailings storage facility area. We note that the NIRB sampling frequency is semi-annual, while the licence calls for annual sampling.

Section 7.1.11 Receiving Environment	Schedule B, Item 14: *The results of monitoring under the AEMP*. Schedule I: *Conditions Applying to General and Aquatic Effects Monitoring* Appendix F2	EC notes that restructuring of the aquatic effects monitoring is underway, and revisions to the Core Receiving Environment Monitoring Program will be made. Linkages are expected to be drawn to adaptive management under the revised AEMP framework. The abbreviations list should include LEPH and HEPH (light and heavy extractable petroleum hydrocarbons). Section 2.4 – Given the low sedimentation rates in these ultra-oligotrophic/oligotrophic lakes, the collection of the top 3-5 cm of lake sediment represents many years. To allow for the identification of potential mine effects EC recommends reducing the depth of the sediment sample to the top 1 cm. Both methods may be required for a time to define comparability to baseline data. Section 3.3.1 – It is stated that exceedence of the national ISQG and PEL sediment quality guidelines does not necessarily imply that adverse effects have occurred or are expected to occur, however nor are any site-specific effect levels specified. Sediment toxicity testing which is proposed to be conducted under the TSS EAS may help clarify the level at which adverse effects could occur. This data, once available, should be linked to adaptive management planning. Table 3-6 Detection limits for oil and grease seemed high for a number of the sites. Section 3.5 - Benthos – AEM is collecting 5 samples per station, using two subsample grabs per sample. As noted in Section 5.11.5 of the EEM GD[1], the minimum number of field subsamples should be 3, and many programs are using 5 subsamples. The EEM guidance document Chapter 5, page 5-55 provides details on calculating the appropriate number of subsamples for a given site. EC concurs with the idea of identifying a more comparable reference site for the Baker Lake exposure areas. General: While the report as presented does effectively describe the data collected in 2009, there is little comparison between the 2009 results and past years. This is

		reasonable for the pre-production stage, but as the mine moves into operations it will be useful to have discussion of temporal changes seen in AEMP results, and how these link to mine activities.
Section 7.3 Wildlife Monitoring	NIRB Project Certificate No. 0004, Condition 55	The Canadian Wildlife Service of EC has reviewed the Meadowbank Gold Project 2009 Wildlife Monitoring Summary Report, April 2010 sections related to migratory birds and Species at Risk. EC does not have any significant concerns at this time related to Meadowbank's wildlife monitoring program. EC encourages Meadowbank to continue to use adaptive management, where appropriate. EC appreciates Meadowbank's ongoing participation the NWT/Nunavut Bird Checklist program; information collected will help the Canadian Wildlife Service in determination of the abundance and distribution of northern bird species.
Section 7.4 Air Quality Monitoring	NIRB Project Certificate No. 0004, Condition 71 NIRB Project Certificate No. 0004, Condition 77	Air quality monitoring has not been initiated yet, and should be started as soon as possible. EC staff are available to discuss locations for monitoring equipment and parameters to be measured. Dust control at the site should be addressed.

[1] Metal Mining Effluent Regulations Environmental Effects Monitoring Guidance Document