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RE: Tahera Diamond Corporation, Jericho Diamond Mine – Quality Assurance/Quality Control Plan

Thank-you for the opportunity to provide input into the Quality Assurance / Quality Control (QA/QC) Plan for the Jericho Diamond Mine. The following specialist advice has been provided pursuant to Environment Canada's mandated responsibilities for the enforcement of the *Canadian Environmental Protection Act*, Section 36(3) of the *Fisheries Act*, the *Migratory Birds Convention Act*, and the *Species at Risk Act*.

Tahera Diamond Corp. has submitted a QA/QC Plan as required under their water license NWB1JER0410, Part L, Item 5, and Schedule L, Item 2. The QA/QC Plan covers all field and laboratory quality assurance and quality control aspects of the aquatic effects monitoring plans. The objective of the QA/QC Plan is to ensure that the data collected, analyzed and evaluated under the monitoring plan is of high quality and reliably and accurately reflects the conditions that are being monitored.

Environment Canada is pleased to provide the Nunavut Water Board with the following comments and recommendations regarding the QA/QC Plan:

Section 1.5 - QA/QC Principles, Page 3

- The comment on the purpose of assessing environmental data provides a reactive view of adaptive management, i.e. asking whether an effect has occurred that is significant. A much better approach would be to review environmental data for changes which are trending towards an effect, and to implement adaptive management to prevent any effects from becoming significant.

Section 2.2.2.1 – Field, Page 5

- While a calibration check for the mercury-in-glass thermometers does not need to be repeated with every use and can be done on about an annual basis, prior to their initial use, mercury-in-glass thermometers should have their calibration checked by a lab with ISO 17025 accreditation.

Section 2.2.2.2 - Laboratory, Page 5

- It is not explicitly stated in the plan that only "standard", "official" and/or client-specified analytical methods, which have been validated for use by the lab and determined to be fit



for the purpose of the monitoring program, should be used for testing. If an accredited lab is used this would be expected.

Section 2.2.2.2 - Standard Reference Material (SRM) and Matrix Spikes, Page 7

- The section should specify more clearly the frequency that SRMs and/or spikes are analyzed. Spikes should be prepared and analyzed for most tests rather just as "when specifically requested by the client", at least initially to demonstrate lack of matrix interference.

Section 2.2.2.2 - Inter-laboratory Comparisons, Page 8

- The first sentence is not clear. Is it supposed to say a CAEAL accredited lab will be used? The lab should also be accredited for all of the parameters (or as many as possible, especially the most critical) that are part of the monitoring program.

Section 3.2.3 - Nonvertebrate Aquatic Biota, Page 9

- Point 4 states that 5% of the samples are split and submitted as blinds. This doesn't make sense for taxonomic analysis, as samples are not homogeneous, and simply splitting a sample in half would give obviously lower counts for each blind sample. Is the intent to do replicates of subsamples? This point should be clarified.

Section 4.1 - Data Verification, Page 10

- This section states that a review will be conducted to identify whether data are reasonable. It should also specify what will happen if "unreasonable" results are found, i.e. any source of error should be checked for, samples should be re-analyzed if holding times are not exceeded, or data should be flagged as suspect and subsequent statistical analyses run with and without the suspect data point to see what effect it has.

Environment Canada appreciates the opportunity to participate in the review of the various plans required under the water license for the Jericho Diamond Mine, and hopes that these comments are helpful for the Nunavut Water Board. Please do not hesitate to contact me with any questions or comments with regards to the foregoing at (867) 975-4639 or by email at colette.spagnuolo@ec.gc.ca.

Yours truly,

Original signed by

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