



**Yukon  
Water Board**

*Office des eaux  
du Yukon*

October 20, 2004

Expatriate Resources Ltd.  
#701-475 Howe Street  
Vancouver, BC V6C 2B3

Attention: Harlan Meade and/or Jason Dunning

**RE: WATER USE APPLICATION QZ01-051**

I have completed my review of your revised water use application which was submitted to the Yukon Water Board office on July 29, 2004.

The following information will be required in order for me to proceed with this application:


1. Section 3.2.8, paragraph 3, states that "there will be a significant lag time before drainage from the waste rock becomes acidic." What does "significant" mean in relation to this statement?
2. Section 3.2.8, paragraph 6, indicates that if the project is not economical, the company will develop a long-term approach to water treatment. Please clarify this statement by explaining what the options are, given that "long-term" implies in perpetuity.
3. Please clarify your proposed disposal of sludge from the treatment plant. It appears that it may be mixed with cement and disposed of in an "acceptable manner" or placed in a lined confinement. You are required to detail what you plan to do and where you plan to do it and use of the term "acceptable manner" does not provide the Yukon Water Board with the clarity of detail that it requires.
4. Section 4.4.1, paragraph 1, indicates that groundwater quality is expected to be similar to surface water quality in surrounding streams. Please provide the basis for this statement.
5.
  - a) Regarding closure of this operation, what will determine whether the project is temporarily suspended or permanently abandoned and reclaimed?
  - b) Who is proposed to make that decision and based on what criteria?
  - c) Is it possible that this project could end up in "temporary suspension" for years without being properly reclaimed?

6. Section 7.4.3.1 suggests that the treatment of drainage water from the waste dump will be determined based on the results of testing. It appears from other sections of the application that the decision criterion will be the MMER criteria. Please clarify and confirm whether treatment will be based on the results of testing or the MMER criteria.
7. Please refer to section 3.3.1, page 16, paragraph 5:
  - a) If a permanent storage facility is required for waste rock that remains after the rest has been returned underground, where will the facility be located? Please provide a map that indicates the proposed location and a design drawing with details of the proposed facility.
  - b) How and when will the decision be made to build a permanent storage facility?
8. Referring to section 7.5.2.1, what criteria will be used to decide if the test mine will be flooded after exploration and when will that decision be made?
9. In section 7.5.2.2, the first sentence states that "The test mine portal will be maintained in such a way that underground water will continue flowing." Please clarify what you mean by this statement.
10. In section 7.5.2.2, the second paragraph refers to a "passive water treatment system." Please provide details for this treatment system.
11. Table 7 contains a footnote that states the "monitoring of Geomach instruments and water inflows to continue as long as possible during the trial period." Please explain what determines "as long as possible."
12. Table 8 predicts runoff from the waste rock during the winter months. Please clarify if this is realistic.
13. Table 9 indicates "worst case" water quality results for a number of dates between 1995 and 2001.
  - a) Where did these dates come from?
  - b) Are these actual test results? If so, from where?
14. Table 10 shows dilution ratios of waste rock seepage to W16 flows. W16 appears to be approximately 2 km downstream of the proposed discharge location.
  - a) What is the impact of that on dilution ratios at the actual discharge point?
  - b) What are the corresponding Go Creek flows at the discharge point?
  - c) What effect does the wetland have on the flow regime between the site and W16?

15. Why have no investigations been carried out to assess the foundation conditions and the need for a liner at the proposed temporary waste rock storage location? When will this be done?
16. Section 1.2, paragraph 4, of Appendix A states that the "average water quality in Go Creek will likely remain within the CCME guidelines."
  - a) Does this imply that the guidelines may be exceeded in non-average conditions?
  - b) If so, what is the plan for that situation?
17. Appendix A-1 clearly states that the water treatment plant design is conceptual and that pilot testing or at least bench scale-testing should be carried out. Has this been done? If not, when will it be done?
18. Figure 9 indicates that a liner may be installed in the seepage collection pond. Section 3.3.1, paragraph 4, states that it will be. Which is correct?
19. Please provide a map that shows the locations of the various stations on Wolverine Creek (i.e. W8, W9, W12, W14, W15, W16, W21).

If you have any questions, please contact me collect at (867) 456-3980.

Sincerely,



Kelly Boutilier  
Licensing Officer

Cc: Register QZ01-051  
Judy St. Amand, Government of Yukon-Energy Mines and Resources (K-9)

We have a new e-mail address.  
[ywb@yukonwaterboard.ca](mailto:ywb@yukonwaterboard.ca)