



TO Phyllis Beaulieu
Manager of Licensing, Nunavut Water Board

File: 9545-2-3.2BE-RBPA

CIDMS: 263003

September 19, 2008

FROM David Abernethy
Regional Coordinator, Water Resources Division
Nunavut Regional Office

**SUBJECT Water License #2BE-RBP0608, Roche Bay Plc. and Advanced
Explorations Inc., Roche Bay Project, Qikiqtani Region,
Renewal Application and Summary of Drilling Procedures**

Please be advised that on behalf of Indian and Northern Affairs Canada (INAC), I have reviewed the above-referenced license renewal application and summary of drilling procedures submitted by the Advanced Explorations Inc. to the Nunavut Water Board (NWB) for approval.

Two (2) Technical Memorandums are provided for the NWB's consideration.

Should you have any questions regarding the comments / recommendation provided, please contact me at (867) 975-4555 or AbernethyD@inac-ainc.gc.ca.

Regards,
David W. Abernethy

Cc. Kevin Buck, Manager of Water Resources
Bernie MacIsaac, Manager of Field Operations
Andrew Keim, Water Resource Officer



Technical Memorandum

File : 9545-2-3.2BE.RBP0608
CIDMS: 256590

TO Phyllis Beaulieu
Manager of Licensing, Nunavut Water Board

September 19, 2008

FROM David Abernethy
Regional Coordinator, Water Resources Division
Nunavut Regional Office

SUBJECT **Water License #2BE-RBP-0608, Roche Bay Plc. and Advanced Explorations Inc., Roche Bay Project, Qikiqtani Region, Renewal Application**

DESCRIPTION

Advanced Explorations Inc. (AE) submitted a renewal application for the above-referenced water license to the Nunavut Water Board (NWB) on July 2, 2008. This application was subsequently distributed to interested parties for review on July 21, 2008. The application consists of the following documents:

- Cover letter dated June 26, 2008;
- Water License Application Form;
- Supplementary Questionnaire;
- Summary of Operations, English and Inuktitut;
- Drill and Camp Water Source Coordinates;
- Area Map;
- Abandonment and Restoration Plan dated January 2008; and,
- Spill Contingency Plan dated July 9, 2008 and MSDS Sheets.

In addition to this, AE submitted an additional document entitled, "*Summary of Drilling Procedures for Advanced Explorations Inc., The Roche Bay Magnetite Project*" and additional documentation to the NWB on July 7, 2008. This was a requirement of the July 7, 2008 Amendment #3 to water license #2BE-RBP0608. This documentation was distributed for review/comment on August 19, 2008. I have attached a Supplemental Technical Memorandum for your consideration in the approval of this license renewal.

COMMENTS / RECOMMENDATIONS

The following comments / recommendations are provided to the NWB for consideration in the approval of this water license renewal application.

1. Water Use Estimate

- Page 3 of the Water License Application Form requests the use of 500 m³ of water on a daily basis to support project operations. Of this amount, 10 m³ will be used for domestic purposes and 100 m³ will be used at each drill site (there will be 4-5 drills on-site). This water use estimate is inconsistent with what is provided in Item #27 of the Supplementary Questionnaire, which states that 50 m³ of water will be used for domestic purposes and 450 m³ for drilling operations. AE must confirm the amount of water use proposed in the application with respect to domestic and drilling purposes.

2. Monitoring of Water Use

- AE should describe how it will measure and record in cubic metres the daily quantities of water utilized for camp, drilling, and other purposes as required in Part I, Item #1 of the license. INAC recommends that the use of water metering devices be required if a suitable method of determining water use is not provided by AE.

3. License Term

- AE has requested a license expiry date of August 31, 2012. INAC recommends that the expiry date be set for a time after the completion of annual operations (i.e., late autumn). A license expiry date of December 31, 2012 is preferred.

4. Camp Location

- Item #'s 9 and 10 of the Supplementary Questionnaire reference the relocation of the project's camp. However, no detailed information on this subject has been provided in the license renewal application. INAC recommends that AE provide a diagram of the area where the camp will be relocated to, referencing site coordinates and proximity to water sources.

5. Sump Descriptions

- AE should provide information required by Item #35 of the Supplementary Questionnaire (which calls for a description of the location, dimensions and volume, and freeboard of sumps). Descriptions of the camp's gray water sump(s) and drill waste sumps are also applicable in this regard.

6. Incineration

- Page 5 of the Abandonment and Restoration Plan states that all combustible waste will be incinerated and ashes will be brought to Churchill and/or Montreal for disposal. Item #33 of the Supplementary Questionnaire states that the incineration system used on site will be a forced-air incinerator. INAC recommends that AE review Item #'s 13-18 of its Nunavut Impact Review Board (NIRB) Screening Decision Report #08EA041, and ensure it meets these conditions (attached).
- A dual chamber, forced-air incinerator is recommended for the incineration of combustible solid waste products for camps of 10 – 50 persons. The reason for this is to prevent or minimize the deposition of wastes associated with incomplete combustion and the leaching of ash residue through run-off from impacting surface waters. As such, there should also be no open burning of plastics, wood treated with preservatives, styrofoam, electrical wire, asbestos, or demolition wastes. Furthermore, AE should source separate wastes and dispose of using approved devices or at approved waste disposal facilities.

7. Spill Contingency Planning

a. Fuel Cache and Hazardous Material Storage Locations

- When discussing spill kit storage locations, AE makes reference to multiple fuel caches. These are referenced in Item #24 of the Supplementary Questionnaire and on page 17 of the Spill Contingency Plan (which states that there are fuel caches at the camp and sealift landing area). The Spill Contingency Plan should be revised to include detailed descriptions of all fuel caches within the project area. These descriptions should state the types and quantities of fuel stored within the fuel cache, site coordinates, proximity to water sources, and include diagrams/maps. In addition to fuel caches, locations of chemicals, including calcium chloride, and hazardous waste material storage should be included in this plan. Consideration should be given to alternatives in the use of calcium chloride as a drilling fluid additive.

b. Secondary Containment Berms

- Page 2 of the Spill Contingency Plan states that all fuel barrels will be stored within secondary containment berms. INAC suggests that AE provide a detailed description of these secondary containment berms. An applicable operations and maintenance manual that addresses daily inspections, spill prevention, etc. should be included in this plan.

c. INAC Water Resources Division Contact Information

- Contact information for the INAC Nunavut Regional Office Water Resources Division provided in Appendix D (page 62) of the Spill Contingency Plan should be revised with the following details:

Kevin Buck, Manager of Water Resources Division
 Indian and Northern Affairs Canada – Nunavut Regional Office
 Telephone: 867-975-4550
 Fax: 867-975-4585
 Email: BuckK@inac-ainc.gc.ca

8. Abandonment and Reclamation

a. Restoration of Old Borealis Camp

- Item #38 of the Supplementary Questionnaire states that the Old Borealis Camp has been “restored.” INAC recommends that AE provide a summary report, including photographic documentation, of this camp’s restoration status to the NWB and INAC Water Resource Officer.

b. Disposal of Hazardous Waste Material

- The Abandonment and Restoration Plan does not provide a description of how hazardous waste materials will be disposed. This information must be included in a revised plan. It is noted that there are no hazardous waste disposal sites in Nunavut.

c. Camp Relocation

- Should AE relocate its existing camp, a summary report, including photographic documentation, of this camp’s relocation and reclamation should be provided to the NWB and INAC Water Resource Officer.

Should you have any questions regarding the comments / recommendation provided, please contact me at (867) 975-4555 or AbernethyD@inac-ainc.gc.ca.

Regards,
David W. Abernethy

Cc. Kevin Buck, Manager of Water Resources
Bernie MacIsaac, Manager of Field Operations
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Attached.