Advanced Explorations Inc.
2012 Project Summary
2013 Project Plans
Roche Bay Project

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AANDCPermit: N2012C0013
QIA Licence: Q10L3C009
NWB Licence: 2BE-RBP1116

January 2013

ᓯᕗᓕᐅᑦᑎᑦ ᐅᓂᒃᑳᖏᑦ ᓇᐃᒃᓕᒋᐊᖅᓯᒪᔪᖅ

ᓴᕕᒃᓴᖅᓯᐅᕐᑎᑦ (“AEI” ᐅᕙᑯᓃᓐᓃᑦ “ᑲᑐᔾᔨᕐᑲᑭᒌᑦ”) ᐱᓕᕆᐊᒃᓴᒧᑦ ᐅᓂᑳᑦ ᓇᐃᒃᓕᒋᐊᖅᓯᒪᔪᑦ ᓇᓗᓇᐃᖅᓯᓯᒪᔪᑦ ᐱᓕᕆᐊᖑᕙᓪᓕᐊᔪᓂᑦ ᐃᕐᑲᓗᒑᕐᔪᓕᕆᔮᒃᑯᓐᓂᑦ, ᐅᖓᓯᖕᓂᕐᑲᓪᓗᐊᖅᑐᖅ 60km ᓴᓂᕋᔭᐅᑉ ᓂᒋᖅᐸᓯᖓᓐᓂᑦ, ᓄᓇᕗᒥ ᐊᕐᕿᒌᑉ ᓄᖑᐊᓂᑦ. ᑲᑐᔾᔨᕐᑲᑎᒌᑦ ᐱᓯᒪᓕᖅᑐᑦ ᓈᒻᒪᒃᑐᓂᑦ ᐱᔪᓐᓴᐅᑎᓂᑦ/ᓚᐃᓴᓐᓯᓂᑦ ᑕᐃᑯᖓ, ᓇᓗᓇᐃᖅᓯᒪᑦᑎᐊᖅᑐᖅ ᑕᕝᕙᓂ ᐅᓂᒃᑳᓕᐊᑦ ᕿᖓᓂᑦ.

ᓴᕕᒃᓴᖅᓯᐅᕐᑎᑦ ᒫᓐᓇᐅᔪᖅ ᓇᖏᓂᕐᑲᖅᑎᐅᓂᖅᓴᐅᔪᖅ ᑌᕙᒪᒃᑯᑦ ᓴᕕᒃᓴᖅᓯᐅᕐᓂᖅ ᐊᑐᖅᑐᐊᖅᐸᒃᑕᖓᓐᓂᑦ ᕐᑲᐅᔨᓴᕐᓂᐅᑉ ᐊᑖᓂ (75%) ᐃᓚᖓᓐᓂᑦ ᐃᕐᑲᓗᒑᕐᔫᑉ ᐃᕐᑲᓗᒑᕐᔪᓕᕆᕙᒃᑐᓂᑦ (25%) (ᓅᑕᐅᓇᓱᖕᓂᖅ ᐱᓕᕆᐊᖑᒧᖅ ᓱᓕ). ᓴᕕᒃᓴᖅᓯᐅᕐᑎᑦ ᓇᓗᓇᐃᒃᑯᑦᑎᖅᓯᓚᐅᖅᑐᑦ ᓴᕕᒃᓴᓂᑦ ᓇᓂᔭᖏᓐᓂᑦ ᐊᓚᕐᓂᕐᒥᑦ ᐊᕐᕿᒍ 2007−ᖑᓚᐅᖅᑐᒥᑦ, ᓇᓂᔭᐅᔪᑦ ᓴᕕᒃᓴᖅᓯᐅᕕᐅᔪᒥᑦ ᐊᕐᕿᒍ 2008 ᓄᖑᐸᓗᐊᓂᑦ, ᐊᒻᒪ ᓇᓂᔭᐅᒃᑲᓐᓂᖅᑐᑦ ᐊᖅᑯᑎᐅᔪᒥᑦ ᓴᕕᒃᓴᕐᑲᕐᕕᐅᔪᒥᑦ ᐊᕐᕿᒍ 2010 ᐊᒻᒪ 2011−ᖑᓚᐅᖅᑐᒥᑦ. ᐱᕆᔭᐅᔪᑦ ᐱᕆᔭᐅᕐᑲᑕᐅᔪᑦ ᐃᕐᑲᓗᒑᕐᔪᓕᕆᔮᒃᑯᓐᓂᑦ.

ᐅᐸᒃᑕᐅᓪᓗᐊᑕᖅᐸᒃᑐᖅ ᓴᓂᕋᔭᒃ ᑎᑭᐸᐸᒃᑐᒃᑯᑦ ᕐᑲᖓᑕᓲᒃᑯᑦ ᐃᕐᑲᓗᖕᓂᑦ, ᐊᒻᒪ ᑎᖕᒥᓲᒃᑯᑦ ᐊᑭᒃᓱᒋᐊᖅᓯᒪᔫᒃᑯᑦ ᔭᓗᓇᐃᒥᖕᒑᖅᐸᒃᑐᖅ, ᐊᒻᒪ ᐊᔾᔨᒌᖕᒋᑦᑐᓂ ᓄᓇᓕᐅᔪᓂᑦ ᑲᓇᑕᐅᑉ ᓂᒋᖅᐸᓯᖓᓐᓂᑦ, ᕐᑯᓕᒨᒃᑯᑦ ᐅᕙᑯᓃᓐᓃᑦ ᕐᑲᖓᑕᓲᒃᑯᑦ ᓇᔪᖅᑕᐅᔪᒧᑦ. ᓄᓇᒃᑯᑦ ᐃᖏᕐᕋᓂᖅ ᐅᐱᖓᒃᓵᒃᑯᑦ, ᐊᐅᔭᒃᑯᑦ ᐊᒻᒪ ᐅᑭᐊᒃᓵᒃᑯᑦ ᐃᖏᕐᕋᔭᕆᐊᕐᑲᕌᖓᑕ ᑭᓯᐊᓂ ᐃᖏᕐᕋᔪᓐᓇᕐᑲᑦᑕᕐᓂᐊᖅᑐᑦ, ᐊᒻᒪ ᐊᑐᖅᑕᐅᔪᓐᓇᕐᓗᑎᒃ ᓄᓇᒃᑯᑦ ᐊᒻᒪ ᐊᐳᑎᒃᑯᑦ ᐃᖏᕐᕋᔭᕆᐊᕐᑲᕍᖓᑕ ᐊᒻᒪ ᓯᓚ ᐱᐅᔭᕍᖓᑦ ᑭᓯᐊᓂ ᕐᑯᓕᒥᒍᕐᑲᕈᓐᓇᖅᐸᒃᐳᓂ. ᐅᑭᐅᒃᑯᑦ, ᓯᑭᑑᑦ ᐊᒻᒪ ᐅᓯᑦ ᓄᓇᒃᑯᑐᐊᖅ ᐊᑐᖅᑕᐅᕐᑲᑦᑕᕐᓗᑎᑦ ᐊᐳᑎᕐᑲᑦᑎᐊᕋᖓᑦ.

ᑲᑐᔾᔨᕐᑲᑎᖏᑦ ᐸᕐᓇᐃᓯᒪᔪᑦ ᑲᔪᓯᒻᒪᕆᓕᕐᓗᑎᒃ, ᐃᓚᖓᓐᓂᑦ ᓅᑦᑎᓂᖅ ᕐᑲᐅᔨᓴᕐᕕᖕᓂᑦ ᑌᕙᒪᒃᑯᑦ ᓄᓇᕐᑯᑎᖓᓐᓄᑦ ᐃᕐᑲᓗᒑᕐᔫᒧᑦ ᐊᕐᕿᒍ 2013, ᓈᒻᒪᒃᑐᑦ ᐃᒪᕐᒥᑦ ᐊᒻᒪ ᓄᓇᒥᑦ ᐊᑐᕈᓐᓇᕐᓂᕐᒧᑦ ᐱᔪᓐᓇᐅᑎᑦ/ᓚᐅᓴᓐᓯᑦ ᐊᖏᖅᑕᐅᓯᒪᓕᖅᑐᑦ NWB−ᑯᓐᓂᑦ ᐊᒻᒪ AANDC−ᑯᓐᓂᑦ.

ᑲᑐᔾᔨᕐᑲᑎᒌᑦ ᐊᐅᓚᑦᑎᓂᐊᖅᑐᑦ ᕐᑲᐅᔨᓴᕈᑎᖏᓐᓂᑦ ᑌᕙᒪᒃᑯᑦ ᓄᓇᕐᑯᑖᓂ 2953 ᐱᓕᕆᓗᒋᑦ C Zone ᓴᕕᒃᓴᓕᒃ. ᒥᑭᓐᓂᖅᓴᖅ ᐱᓕᕆᐊᖑᔪᒃᓴᖅ ᐸᕐᓇᐃᔭᐅᔪᖅ ᐱᑎᐊᕐᓗᓂ ᐃᕐᑲᓗᒑᕐᔫᖕᒥᑦ A/B Zone (ᑌᕙᒪᒃᑯᑦ ᓄᓇᕐᑯᑖ 22952). ᐱᓕᕆᐊᖑᓂᐊᖅᑐᑦ ᑲᔪᓰᓐᓇᕐᓂᐊᖅᑐᓂᑦ ᕐᑲᐅᔨᓴᕐᓂᕐᒥᑦ ᐊᕙᑎᒥᑦ, ᓄᓇᖑᐊᓕᐅᕐᓂᖅ ᐱᕐᑲᓯᐅᑎᓗᒍᓗ ᕐᑲᐅᔨᓴᕐᓂᖅ ᐊᒻᒪ ᕐᑲᐅᔨᓴᕈᑎᒃᓴᓂᑦ ᐅᔭᕋᓂᑦ ᐃᑰᑕᕐᓂᖅ.

ᑖᓐᓇ ᐸᕐᓇᐃᓂᕐᒧᑦ ᓇᐃᒃᓕᒋᐊᖅᓯᒪᔪᖅ ᐊᒻᒪ ᓇᓚᐅᑦᑖᖅᑕᐅᓯᒪᔪᖅ ᐸᕐᓇᐅᑎᑦ ᑐᓂᔭᐅᓯᒪᔪᑦ ᐃᓚᒋᔭᐅᓪᓗᓂ ᓴᕕᒃᓴᖅᓯᐅᖅᑎᒃᑯᑦ ᐊᕐᕿᒍᑕᒫᖅ ᐅᓂᒃᑳᓕᐊᕆᔭᕆᐊᖃᖅᐸᒃᑕᖏᓐᓂᑦ.

ADVANCED EXPLORATIONS INC.
ROCHE BAY PROJECT

EXECUTIVE SUMMARY

Advanced Explorations Inc.'s ("AEI" or the "Company") Project Summary outlines activities undertaken at the Roche Bay Project, approximately 60 km south of Hall Beach, Nunavut during the latest calendar year. The Company has received the appropriate permits/licenses for the area, as detailed on the cover page of this report.

Advanced Explorations Inc is currently the majority owner of the Crown mineral leases under exploration (75%) as part of the Roche Bay joint venture with Roche Bay plc (25%) (transfer in progress). AEI staked mineral claims covering the Peninsula area in late 2007, claims around the mineral leases in late 2008, and additional claims along the strike of the iron formation in 2010 and 2011. All claims are part of the joint venture with Roche Bay plc.

Primary access to Hall Beach is typically by scheduled flights from Iqaluit, and charter flights from Yellowknife, and various other cities in southern Canada, with helicopter or fixed wing aircraft transport to the site. Ground transportation in the spring, summer and fall is limited to the minimum required, and is only considered on durable land and tundra when necessary travel has to be undertaken and the weather does not permit helicopter flights. In the winter, snowmobiles and skidded equipment are only used on ground with adequate snow cover.

The Company plans to start the progressive, partial re-location of the exploration camp to Crown lands at the Roche Bay Peninsula during 2013, as the appropriate water and land use permits/licenses have been granted from the NWB and AANDC respectively.

The Company will be conducting its main exploration program on Crown Lease 2953 covering the C Zone ore body. A smaller scale program is also planned to occur on the Roche Bay A/B Zone (Crown Lease 22952). The programs will consist of ongoing environmental baseline studies, geological mapping as well as exploration and geotechnical drilling.

This project summary and projected work plan is submitted as part of AEI's required annual reporting.

Contents

1.0 2012 PROJECT SUMMARY

The following report gives a summary of the activities that occurred at the project area during 2012. The project area is on Crown lands, permitted under an AANDC Land Use Permit, and on Inuit owned lands, permitted under a QIA Land Use License. There is also a NWB Water Use License. All permits/licenses are documented on the cover page of this report. Project maps are provided in Appendix A, including an updated land disposition map showing both the existing and new mineral claims making up the current project lands.

1.1 Camp Facilities

The 2012 program was run out of the hamlet of Hall Beach during the preliminary 2012 activities. The camp facilities remained closed for the duration of the summer, accessed only for inspections and the demobilization of equipment. Later in August project activities moved to the Tuktu camp north-west of Hall Lake, during which activities in the Roche Bay project area consisted of equipment mobilization, refueling activities as well as baseline data collection. The Roche Bay camp was actively monitored throughout the season to ensure the facility remained in good order. Visits took place in May, June, August, September and October.

The Job Safety Plan was used for prevention and mitigation of all safety issues at the project. A site orientation for new workers was given promptly upon arrival. Helicopter safety orientation was conducted by the pilots prior to new workers boarding the helicopter. Weekly safety meetings were held to review safety protocols, discuss safety concerns as well as wildlife sightings, hunting/fishing, archaeological site identification and avoidance, helicopter safety, and other training as required.

Activities were documented by the Project Manager and Environmental Specialist, which included, but were not limited to fuel inspections, wildlife sightings, flight reports, archaeology site observations, ground disturbance and safety issues.

All appropriate permits/licenses were maintained for the project.

1.2 Drilling

No drilling took place in 2012 on the Roche Bay property.

1.3 Equipment

Personnel, supplies and equipment were flown into site via helicopter or fixed wing aircraft. Roche Bay activities consisted of the demobilization of equipment stored near the Roche Bay Camp and in sea cans stored on the Roche Bay Cache location six kilometers' north-east of the camp. All equipment still on site was secured for the winter prior to the seasons end.

1.4 Water Use

No water was used for drilling purposes or camp use.

1.5 Waste

No grey water was produced, as the camp remained closed for the season. Activities were run out of Hall Beach for the beginning of the season, then from the Tuktu camp from August to October.

Any waste generated during field activities was minimal, and consisted mostly of remains of packed lunches. All waste brought into the field by workers was carried out with them once work was complete.

Empty barrels/fuel drums were reused where possible. The remainder have been secured on-site at the Roche Bay beach area and will be reused during another season or removed from site and sent to an approved disposal facility.

The Company is registered with the Government of Nunavut, Department of Environment. Waste manifests will accompany all shipments as required.

No waste deposition locations were recorded as no drilling or camp operations took place.

1.6 Fuel Storage

All fuel used for the project was stored in the berms at Roche Bay camp or the Roche Bay beach area. A list of their contents can be found in the equipment inventory list in Appendix B.

Visual inspections of all fuel drums were conducted whenever the fuel was being used. A more formal inspection was done by one of the site managers on a regular basis.

All fuel containers were marked with "AEI". Fuel storage areas were a minimum of 31 metres from all waterbodies.

Spill kits were on-site and accessible at all times. There were spill kits at the camp, berms, and helicopter pads (wherever refueling would take place). No refueling of camp facilities was required as the camp was not operational.

1.7 Wildlife/Fisheries

Operational activities were managed to avoid impacts on wildlife. No activities coincided with the breeding bird and caribou calving season. Care was taken to ensure activities did not disturb any breeding birds or nest sites. Interference with caribou was also avoided.

Flights were maintained at a minimum altitude of 610 metres above ground level, unless there was a specific requirement for low-level flying, which does not disturb wildlife and migratory birds. No colonies of migratory birds were observed in the project area.

All wildlife sightings/encounters were brought to the attention of the local Bear Monitor and the Environmental Specialist on-site.

No hunting was permitted on-site as per the regulations. Fishing was permitted after work hours only if proper authorizations were obtained.

All wildlife sightings were documented including locations, time of sightings, species, number of animals, animal activity, and gender and age (if possible). These are summarized in Appendix C.

1.8 Ground Disturbance

No overland vehicles were used during the 2012 field season. None of the work which occurred risked causing ground disturbance.

1.9 Archaeological Sites

All archaeological/paleontological/burial sites were avoided by a minimum of 50 metres (a minimum of 30 metres is required in the permits/licenses terms and conditions). All observations were properly recorded and notification procedures implemented.

1.10 Discharges/Spills

The *Oil and Hazardous Material Spill Contingency Plan* was followed throughout the project in response to any discharge or spill incident.

1.11 Inspections/Site Visits

The Company conducted inspections as necessary to ensure compliance with all of the permits/licenses terms and conditions for the duration of the project.

1.11.1 Table 1: 2012 Inspections of the Roche Bay Project.

Date	Inspection
August 06, 2012	AANDC Land & Water Inspection

Project activities were not yet underway at the time of the inspection. Comments which arose during the inspection were addressed as soon as possible, and included the following.

- Care and Maintenance Plan created, and provided as requested
- Clean-up of Beach lay down area/Roche Bay Cache conducted, including resolution of secondary fuel containment concerns

Some concerns were not reported until after the conclusion of 2012 project activities in the area. These will be addressed as soon as possible in the 2013 season. A summary of actions taken was submitted to the AANDC inspector following the completion of the 2012 season.

1.12 Flights

Flight altitudes as presented in the permits/licenses terms and conditions were abided by to avoid disturbing wildlife. The number of flight take-offs and landings were estimated for the season based on the helicopter flight tickets submitted. The dates, locations and reasons for flights were also recorded. No airborne gravity flights were conducted this season. These records are summarized in Appendix D.

1.13 Environmental Baseline Studies

Due to financial constraints, Environmental Baseline Studies were limited. Wildlife reconnaissance was conducted in June, August, September and October. Stream data loggers

installed in the 2011 season were maintained and monitored throughout the same time period. Scheduled maintenance also took place on the Meteorological station in June and October. Archaeologists conducted site visits in September to observe and document sites within the Roche Bay and Tuktu project areas. During all project activities, Archaeological sites were noted and avoided when seen. Water quality sampling occurred in September for both Roche Bay and Tuktu projects. In addition; thermistors installed in the Roche Bay project area in 2011 were monitored throughout the field season.

1.13.1 Table 3: 2011 Environmental Baseline Studies for the Roche Bay Project.

Date	Environmental Baseline Study	Purpose
Ongoing all year	Climate	A record of short and long-term weather patterns in the project area
June, August-October 2012	Wildlife reconnaissance	Presence/absence of species within the project area
September 2012	Water Quality Sampling	Baseline standards of water conditions in the project area.
September 2012	Archaeology	Documenting locations and inventorying the importance of Archaeological sites in the project area.
June 2012	Bathymetry studies	Bathymetry assessment of Roche Bay
June, August-October 2012	Hydrology	Monitoring of stream data loggers stationed throughout project area
June, August-October 2012	Thermistors	Reading temperature data from thermistors stationed throughout project area

Reports from these baseline studies are submitted according to the associated permits. The baseline studies will continue in subsequent years.

A summary of the water quality monitoring program is in Appendix E.

1.14 Reclamation

No reclamation was necessary as limited work took place within the Roche Bay project area. All reclamation work at the Tuktu camp and drill sites was completed according to the seasonal reclamation plans outlined in the Abandonment & Restoration Plan.

A complete inspection of all disturbed areas, including the Roche Bay camp (not used this season), and the Roche Bay beach area was conducted prior to seasonal closure with a full inventory and photographs taken at all of the sites.

The Roche Bay camp site was inspected to ensure it was still secured for the winter, although it was not used this season. Maintenance work was done at the camp site as required.

The Roche Bay beach area was inspected to ensure it was still secured for the winter. Maintenance work was done as required.

1.15 Community Consultations and Local Employment

Open dialogue is ongoing between AEI and the communities of Hall Beach and Igloolik, with the Hamlet Councils, the Hunters & Trappers Associations, CLARC, the Mayors, QIA representative, the public, the schools and other community members.

During the field season, the Project Manager was living on-site at the Tuktu camp and the Site Supervisor was living in the Company house in Hall Beach. Both of them were always available to receive and address any concerns.

The process of 'securing' the Roche Bay Camp for winter includes leaving an obviously unlocked, and open tent to accommodate hunters and other members of the community as they travel through the area. AEI was also available to assist with local emergencies including search and rescue as needed. During the 2012 season, AEI's helicopters assisted in the rescue of a stranded hunter in the Roche Bay area as well as the evacuation of nine persons (six adults, three infants) requiring medical assistance from a hunting camp on Gifford Fjord, Baffin Island. Once the persons were safely evacuated to Igloolik, a return trip to the hunting camp carried fuel and fresh supplies to those still at the camp.

Local employment opportunities related to Roche Bay field work and Tuktu camp during this season are listed below:

- Core Cutters
- Camp Support Staff
- Bear Monitors
- Kitchen Support Staff
- Ground Support for the Helicopters
- Laboratory Technicians
- Labourers

Local economic benefits are summarized in Appendix F.

1.16 Conclusion

Future plans for the project are underway and we hope to continue to work effectively and amicably with the communities in the region. We are eager to see the communities benefit further from AEI's activities there.

2.0 2013 PROJECT PLANS

The Company continues to hold its land and water permits/licenses from the previous season to allow for drilling, camp operations, environmental baseline studies and geological modeling. The Company intends to use results from its previous seasons of drilling to refine its resource definition. An environmental program and geological mapping program will also be included.

AEI is also investigating the potential of including clean, alternative wind energy in its project development plans. A meteorological monitoring tower is being proposed as part of the 2013 program, but is contingent on the findings of a preliminary report on the wind potential

During the 2013 field season, the Company intends to relocate its current camp from its current location to crown lands. Project activities would continue for the season from April to October, operating out of Hall Beach or an alternative camp site as necessary. Inuit workers will be employed and supplies and services purchases locally as part of the program. All activities for the season will be contingent on the level of financing acquired for the project.

See paper copy

_____ _____

John Gingerich **Date**
Chief Executive Officer
Advanced Explorations Inc.

See paper copy

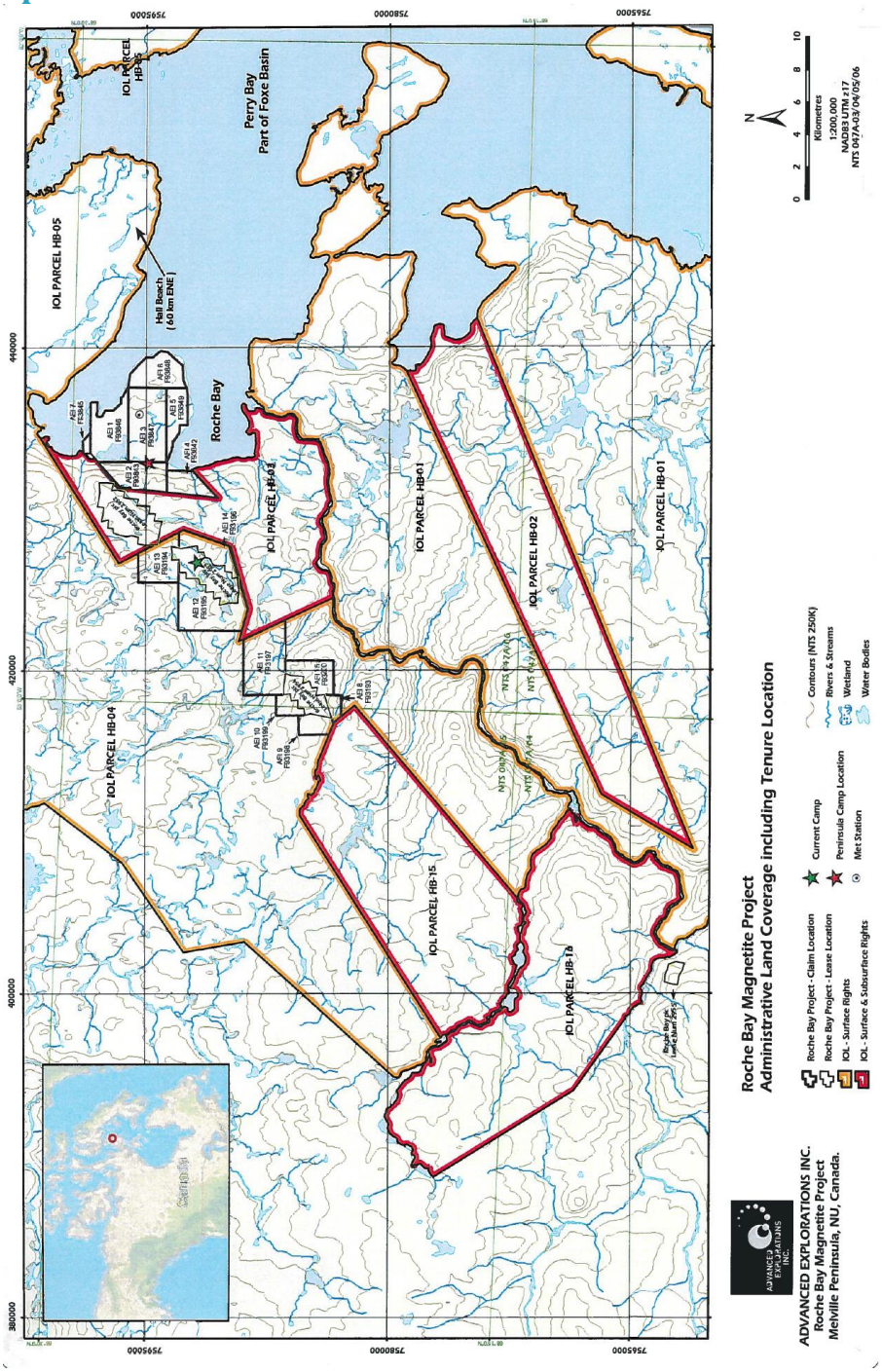
_____ _____

Bernie Swarbrick **Date**
VP Capital Projects and Studies
Advanced Explorations Incorporated

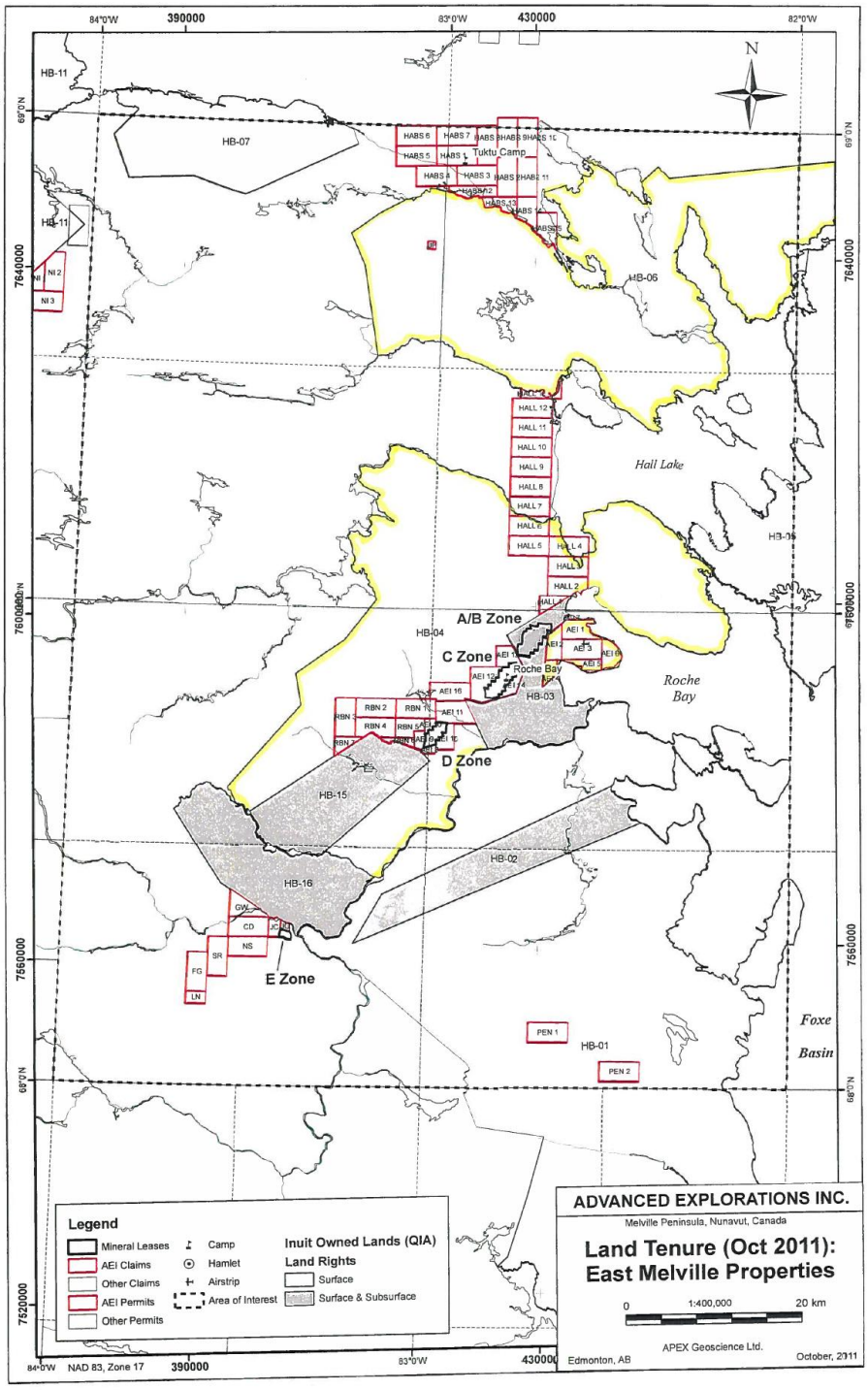
3.0 Appendix A: Maps

3.1 Location Map

3.2 Site Map


Perry Bay
Part of Foxe Basin
Roche Bay
Hall Beach
(60 km ENE)
IOL PARCEL HB-05
IOL PARCEL HB-04
IOL PARCEL HB-03
IOL PARCEL HB-01
IOL PARCEL HB-02
IOL PARCEL HB-15
IOL PARCEL HB-16
Roche Bay Magnetite Project
Administrative Land Coverage including Tenure Location
Roche Bay Project - Claim Location
Roche Bay Project - Lease Location
IOL - Surface Rights
IOL - Surface & Subsurface Rights
Current Camp
Peninsula Camp Location
Met Station
Contours (NTS 250K)
Rivers & Streams
Wetland
Water Bodies
Kilometres
1:200,000
NAD83 UTM z17
NTS 047A-H3/04/05/06
ADVANCED EXPLORATIONS INC.
Roche Bay Magnetite Project
Melville Peninsula, NU, Canada.

3.3 Land Tenure Map



4.0 Appendix B: Inventories

4.1 Equipment Inventory List (as of October, 2012)

Roche Bay Camp

- 28 Weatherhaven tents
- 1 dual chamber, forced-air Incinerator; 1 old incinerator
- 1 generator shack and 1 industrial diesel generator
- General workshop equipment
- Kitchen equipment
- Fire extinguishers
- Tent stoves
- Core, core boxes, and core racks
- 2 silos containing tools and misc. equipment
- Camp supplies, cots, chairs and tables
- 3 Argos
- Empty propane tanks on wood pallets
- 44 Propane tanks
- 1 berm containing 39 Jet B, 38 Diesel
- 1 D6 Dozer
- 1 Skidder
- 1 Snowcat
- 2 ski-doo toboggans
- 2 ATV trailers
- Miscellaneous drill shelters and equipment

Roche Bay Beach Area

- 12 Seacans:
  - Salt (CaCl), chiller, 12’ boat, motors
  - Fuel berms
  - Ranger, gasoline, cattle troughs
  - Kubota cab
  - Salt (CaCl)
  - Kubota
  - Skidoo and parts
  - Spare pump engines
  - Hose line, peat moss
  - Core boxes, rods, tubes
  - Drill equipment

- 3 berms containing:
  - 10 drums of Jet B
  - 170 drums of Diesel
  - 100 bags of Salt (CaCl) (1 ton bags)
  - 60 drums of gasoline
- 6 empty fuel tanks (50,000 L)
- Kumatsu

5.0 Appendix C: Wildlife

5.1 Wildlife Table

APPENDIX C: BIRDS AND MAMMALS OBSERVED AT ROCHE BAY, 2012			
Location: North-west Corner (*68°38'18.17"N, 83°24'43.68"W*), **North-east Corner** (*68°39'2.70"N, 81°36'38.42"W*), **South-west Corner** (*68°16'19.42"N, 83°22'43.16"W*), **South-east Corner** (*68°16'45.41"N, 81°36'55.45"W*)			
Common Name	**Latin Name**	**Number of Observations***	**Number of Individuals**
Birds			
Pacific Loon	*Gavia pacifica*	1	1
Loon sp.	---	3	3
Tundra Swan	*Cygnus columbianus*	1	2
Lesser Snow Goose	*Chen caerulescens*	48	632
Canada Goose**	*Branta canadensis*	5	97
Long-tailed Duck	*Clangula hyemalis*	2	10
Duck sp.	---	1	12
Willow Ptarmigan	*Lagopus lagopus*	1	1
Ptarmigan sp.	---	1	0
Thayers Gull	*Larus thayeri*	2	3
Glaucous Gull	*Larus hyperboreus*	2	7
Snowy Owl	*Nyctea scandiaca*	4	2
Falcon sp.	---	1	0
Common Raven	*Corvus corax*	3	3
Lapland Longspur	*Calcarius lapponicus*	3	6
Snow Bunting	*Plectrophenax nivalis*	1	3
	Totals	79	782
Mammals			
Arctic Hare	*Lepus arcticus*	4	1
Arctic Ground Squirrel	*Spermophilus parryii*	2	2
Lemming sp.	---	1	0
Arctic Wolf	*Canis lupus arctos*	2	0
Arctic Fox	*Alopex lagopus*	4	1
Polar Bear	*Ursus maritimus*	2	1
Ermine	*Mustela nivalis*	1	1
Atlantic Walrus	*Odobenus rosmarus*	4	13
Ringed Seal	*Phoca hispida*	1	1
Seal sp.	---	27	46
Barren-ground Caribou	*Rangifer tarandus*	19	14
	Totals	67	80

* The number of observations is the total number of times an animal sign (track, scat) or an animal or animal group was spotted. An individual sighting is the total number of individual animals seen (including within a group). These numbers do not account for possible recounts of individual animals.
** "Canada Geese" in this case includes the Ricardson's (or Hutchins's) Cackling Goose (*B.h.hutchinsii*), and the Lesser Canada Goose (*B. c. parvipes*)

5.2 Wildlife Summary

Advanced Explorations Inc. (AEI) is considering the development of the Roche Bay magnetite project, believed to be one of the world's largest undeveloped magnetite deposits. The Roche Bay project is located at 68˚26' north latitude and 82˚46' west longitude, approximately 65 km southwest of Hall Beach on the Melville Peninsula. The project site is situated adjacent to a naturally deep water harbour with 20+ metre water depths.

EBA Engineering Consultants Ltd. (EBA), operating as EBA, A Tetra Tech Company was retained to complete baseline studies of existing wildlife at the Roche Bay Magnetite Project. EBA began conducting wildlife surveys at Roche Bay in 2006, continuing in 2007, 2008, and 2011. Wildlife reconnaissance also took place in 2012; however no official surveys were conducted. The wildlife program normally includes breeding bird, raptor, marine bird, Barren-ground caribou and marine mammal surveys. Surveys were conducted in June, July and August of 2006 and 2007, May, June, July and September of 2008, and May, June, July and August of 2011. A total of 1,975 wildlife observations were documented during surveys over seven years. This includes 383 observations of animal sign such as tracks. These surveys yielded a total of 47 species.

Over a period of six years (2006 – 2011) a number of surveys were conducted and included point counts for upland birds, aerial marine bird and raptor surveys along with incidental bird observations. Point count surveys (breeding bird surveys) were conducted to determine the distribution, abundance and general habitat associations of birds breeding in the Roche Bay area. Forty-six plots (46 point-counts) were surveyed in five habitat types stratified by the Ecological Land Classification (ELC). A total of 14 species of upland breeding bird species have been recorded breeding in the study area. Lapland Longspur, followed by Horned Lark, were the most common species recorded during the breeding bird surveys.

Between 2006 and 2012, marine birds (seabirds, waterfowl and waterbirds), representing 21 bird species were recorded within the study area during the baseline studies (during surveys and as incidentals). Waterfowl (ducks, geese and swans) made up 95% of the total number of birds recorded, followed by 4% seabirds (gulls, tern, jaegers and guillemots) and less-than 1% loons.

Aerial raptor surveys were completed in 2006, 2007, and 2008; however, raptors were also documented opportunistically during other surveys. Between 2006 and 2012, a total of 217 raptor observations (totalling 225 individuals) were documented, including Gyrfalcon, Peregrine Falcon, Rough-legged Hawk, and Snowy Owl; the later three species were confirmed to be nesting within the study area.

Barren-ground Caribou were observed within the study area during surveys conducted between 2006 and 2011, with the average group size observed during the ungulate surveys being 2.2 animals, with a maximum group size of 12. Caribou densities ranged from 0.01 caribou/km2 to 0.20 caribou/km2 within the study area. The estimated number of caribou using the study area ranged from 9 ± 8.0 to 245 ? 156.0 (S.E.). Between 2006 and 2012, animals were also noted as incidental sightings.

Marine mammal surveys were flown in conjunction with marine bird surveys between 2006 and 2011. These observations comprised four mammal species, including Polar Bear, Walrus and Bearded, and Ringed Seals. An

incidental observation of Beluga Whales in Roche Bay occurred in September of 2011, and 2012 saw an incidental sighting of 11 living and 4 dead Atlantic Walrus, also in September.

Incidental observations of miscellaneous wildlife, including Sandhill Crane, Arctic Ground Squirrel, Arctic Foxes, Red Foxes, Arctic Wolves, Arctic Hares, Lemmings and Weasels were also documented during field operations. All 2012 observations of wildlife were categorized as incidental observations. No previously undocumented species were noted in 2012, however a few sightings of note included Atlantic Walrus, Arctic Wolf sign, and a Polar Bear.

6.0 Appendix D: Flights[1]

Date (Month)	Locations	Total Hours	Estimated Take-offs & Landings[2]	Reasons
April	Hall Beach, West Melville,	30.6	24	Staking, refueling, cache establishment, passenger transport
May	Hall Beach, Tuktu Camp, Roche Bay Camp, Roche Bay Airstrip	3.6	5	Passenger transport, Equipment transport
June	Hall Beach, West Melville, Tuktu, Roche Bay, Roche Bay Camp, Roche Bay Cache	87	56	Staking, moving equipment and passengers, field crew support, wildlife reconnaissance & other baseline data collection
August	Hall Beach, Tuktu, Roche Bay, Roche Bay Cache, Roche Bay Camp	108	58	Move passengers, sling equipment, drill moves, sling fuel, medevac, camp support, drill support, groceries, crew changes, field crew support, wildlife reconnaissance & other baseline data collection
September	Hall Beach, Tuktu, Roche Bay, Roche Bay Cache, Roche Bay Camp, Mackar Inlet, West Mellville	280	274	Move passengers, sling equipment, drill moves, sling fuel, medevac, camp support, drill support, groceries, crew changes, field crew support, wildlife reconnaissance, water quality & other baseline data collection
October	Hall Beach, Tuktu, Roche Bay, Roche Bay Cache, Roche Bay Camp,	132	182	Move passengers, sling equipment, drill moves, sling fuel, camp support, drill support, groceries, crew changes, field crew support, wildlife reconnaissance & other baseline data collection

[1]Chart includes records of flight activity from all three projects (Roche Bay, Tuktu and Anik) during the 2012 season

[2] All numbers of take-offs and landings are estimates only based on the helicopter flight tickets. Two helicopters were in operation from August until mid-October. In all other instances, only one helicopter was used.

7.0 Appendix E: Water Quality Summary

Advanced Explorations Inc. (AEI) is planning the development of the Roche Bay magnetite project, believed to be one of the world's largest undeveloped magnetite deposits. The Roche Bay project is located at 68˚26' north latitude and 82˚46' west longitude, approximately 65 km southwest of Hall Beach on the Melville Peninsula. In February 2007, AEI signed a joint venture agreement with Roche Bay plc. to undertake the required work to develop Roche Bay's extensive magnetite iron deposits in this area.

EBA Engineering Consultants Ltd. (EBA) was retained originally by Roche Bay plc in 2006 (project operator now Advanced Explorations Inc.) to conduct baseline studies of the water quality at the Roche Bay Magnetite Project. This summary describes the results from the 2008 to 2012 water quality sampling program, which is a continuation of the 2006 and 2007 program. To-date, EBA has completed four full (2006, 2007, 2008, and 2011), and three reduced seasons (2009, 2010 and 2012) of baseline water quality sampling within the project area. The 2006 and 2007 water quality and hydrology data was written up in 2007 (EBA 2007).

During 2008, three water sampling events were conducted, one each in June, July and September, which included 29 sampling stations across the project area. In 2009, one sampling event occurred in August and included 12 water quality stations. In 2010, one sampling event occurred in August and included 11 water quality stations. In 2011, two water sampling events occurred in July and August and included 12 water quality stations. In 2012, one water sampling event occurred on September 16 and included six water quality stations.

In general, the water quality in the Roche Bay area (Roche Bay) is pristine. The physical and chemical water quality parameters in this region are typical of Canadian arctic freshwater systems, characterized as having an average pH slightly above neutral with low electrical conductivity. Nutrient parameters such as nitrate and phosphorus tended to be either below the detection limits or very low. Ammonia was generally found to be low during the majority of water sampling events, except during low water flow and late summer. Ammonia levels increased gradually over the ice-free season through the natural process of ammonification, bacterial mineralization of dead plants, and animal excrement inputs (primarily waterfowl) resulting in levels that exceeded the CCME guidelines late in the season, but declined to below detection levels in September (2012). In 2008, 2009 and 2010 a number of stations experienced abnormal levels of ions and nutrients consistent with the introduction of saline marine water into the water quality station's sampling area (WS7, 10, 11, 16, 17, and 18). These elevated levels of ions and nutrients were caused by storm events. The occasional isolated instance of elevated total or dissolved metals were also observed and are attributed to the natural occurrence of metal in the bedrock and/ or contamination during sampling or bottle preparation. The latest sampling season of 2012 produced results showing the majority of the parameters to be below detection levels or within the acceptable range, only cadmium was marginally above the Canadian Council of Ministers of the Environment (CCME) guidelines for the Protection of Freshwater Aquatic Life (FAL) guidelines.

No hydrology work was conducted between 2008 and 2011. However the hydrology program at Roche Bay was expanded in 2011 with the installation of four data loggers on larger rivers draining the Roche Bay project area. Data from these loggers was downloaded in 2011 and 2012. Animal damage to one of the data loggers resulted in the loss of a partial season of stream data. Data loggers were repaired in early September and measures were taken to protect against future damage. Stream data has yet to be analysed.

8.0 Appendix F: 2012 Local Economic Benefits

Item	Estimated local impact for all Melville Peninsula projects	Comments
Food	$72,470.25	
Travel and Accommodation (local suppliers)	$385,868.06	*Travel expenses include all travel for the season, regardless of the community.*
Hall Beach Housing, Communications & Utilities	$62,164.76	
Fuel	$250,171.29	
Local Consultants, Associations, Community Meetings & Donations	*$26,461.71*	
Nunavut Permitting & Payments (including QIA)	$97,546.97	
Wages to Local Employees	$99,979.07	
Camp Supplies & Freight	$129,382.48	
Total	**$1,124,044.59**	