

The logo consists of a large dark blue circle with a white crescent shape inside it. To the right of this circle is a series of smaller dark blue circles of varying sizes, arranged in a semi-circular arc.

# **ADVANCED EXPLORATIONS INC.**

## **Advanced Explorations Inc. 2011 Project Summary 2012 Project Plans Tuktu Project**

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**INAC Permit:** N2010C0011  
**NWB Licence:** 2BE-TUK1015

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## **EXECUTIVE SUMMARY**

Advanced Explorations Inc.'s ("AEI" or the "Company") Project Summary outlines activities undertaken at the Tuktu Project, approximately 70 km west 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.

The project consists of 15 mineral claims (HABS 1 to 11, staked in September and October 2009; HABS 12 to 15 staked in September 2011). The claims are beneficially owned by Advanced Explorations Inc., and are part of the Roche Bay 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 project consists of a mineral exploration program undertaken on recently acquired iron mineralization, as part of the larger Roche Bay exploration initiative. The exploration program was initiated and camp established in 2011. The program continuation and timelines for 2012 will be contingent on the level of financing that can be achieved.

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

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## 2011 PROJECT SUMMARY

The following report gives a summary of the activities that occurred at the project area during 2011. An exploration camp was established and program initiated on Crown lands only, and permitted under the INAC Land Use Permit and NWB Water Use Licence 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.

### ***Camp Facilities***

The camp consisted of temporary Weatherhaven tents and held up to 20 people initially, which was then expanded to hold additional staff. All infrastructure is temporary in nature, and removable upon completion of the exploration program. Personnel used the camp only during the field season of April to October.

At the end of the field season, all camp facilities were closed and secured for the winter months. The camp layout schematic is shown in Appendix A.

The *Job Safety Plan* was used for prevention and mitigation of all safety issues at the project. A site orientation for new people coming into camp was given promptly upon arrival. Safety points were addressed as well as general procedures in camp during the orientation. A copy of the map of the camp layout was posted. Helicopter safety orientation was done by the pilots prior to new people getting onto the helicopter. Weekly safety meetings were held to cover wildlife sighting issues, hunting/fishing, archaeological site avoidance and identification, helicopter safety issues, as well as training as required.

Daily activities were documented by the Project Manager and Environmental Specialist, which included daily operations at the camp, drilling operations, fuel inspections, waste monitoring, wildlife sightings, water usage monitoring, flight reports, archaeology site observations, monitoring for ground disturbance and safety issues.

All appropriate permits/licenses were displayed on-site and available at the camp.

### ***Drilling***

There were a total of 19 drill holes in the program this season. All drill sites for the program were located a minimum of 31 metres from all waterbodies. A map of the drill sites for the program is included in Appendix A.

A common issue encountered when drilling in the Arctic is the drill rods freezing into the ground due to presence of permafrost. The common approach used to overcome this is to use heated drill water for the first 200 metres of drilling and then begin to add salt (CaCl) and create a brine solution that suppresses the freezing point of water to well below zero. Salt was the only drill additive used during the program, and salt use was minimized as much as practical.

Inspections were conducted at the drill sites before, during and after drilling and documented, and issues addressed immediately with the drill contractor. As part of the drilling operations, the footprint was kept as minimal as possible, salt was kept on tarps, fuel on drip pans lined with petroleum absorbent material and waste separated (scrap metal and burnable waste) and kept in empty barrels. The drill return was filtered through a polydrill system where possible or the flow of cuttings was directed into natural depressions and further contained using sand bags where necessary. Cuttings from the polydrill system were recycled wherever possible and used to rehabilitate the sites once drilling was complete. The remainder of the drill cuttings were disposed of into natural depressions greater than 31 metres from any waterbody.

### ***Equipment***

Personnel, supplies and equipment were flown into site via helicopter or fixed wing aircraft. Most of the equipment was safely stored on-site for future use at the end of the season. An inventory of the equipment and materials that remain on-site is listed in Appendix B.

### ***Water Use***

All locations (GPS co-ordinates) where sources of water were utilized are listed in Appendix B. Camp water use was a permitted maximum of 3 cubic meters per day initially, which was later amended to 10 cubic meters per day on June 29, 2011.

The camp water source was a large lake located adjacent to the camp. This proved to be adequate for all needs. The camp water was filtered through a UV filtration system for kitchen use and all drinking water use. No drinking water needed to be flown into camp in the form of commercial bottled water this season.

The daily quantities of water utilized for camp were measured and recorded for the duration of the field season. There was one water tank at camp that was refilled as necessary by the Camp Manager. The date, time and quantity of water refills were documented. These records are summarized in Appendix B.

Drilling water use was permitted at a maximum of 180 cubic meters per day, which was then amended to 173 cubic meters per day on June 29, 2011. Water for drilling operations was

taken from the nearest lake of sufficient size without impact to the environment or fish of the lake. All water intakes were properly screened to prevent the entrapment, entrainment or impingement of fish. Efforts were made to reuse water including installing a polydrill system to re-circulate water at the drills. Water sources were chosen to ensure water use would not reduce lake water levels.

The daily quantities of water utilized for drilling was recorded for the duration of the field season. There was one water pump per drill. The water pump was inspected to determine a maximum pump rate of 10 Gallons per minute. The daily quantities of water utilized for drilling was calculated and documented. These records are summarized in Appendix B.

### **Waste**

The greywater from camp ran into a natural depression adjacent to camp, greater than 31 metres from any waterbody. The greywater was further contained by using sand bags around the area and putting peat moss on top to help with natural re-vegetation of the area.

All combustible waste and sewage was incinerated daily in a dual chamber, forced-air incinerator, with the ash stored in empty drums. The drums of ash were sealed and secured on-site for the winter and will be removed from site and sent to an approved disposal facility. The incinerator was sealed and secured on-site for the winter.

All non-combustible waste was sealed and secured on-site for the winter and will be removed from site and sent to an approved disposal facility.

Waste oil was stored in drums in the berm on-site. These drums will be removed from site and sent to an approved disposal facility.

Empty barrels/fuel drums were reused where possible. The remainder have been secured on-site and will be removed from site and sent to an approved disposal facility.

All drill cores were stored a minimum of 31 metres from all waterbodies.

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

All waste deposition locations were recorded and listed in Appendix B.

### ***Fuel Storage***

Drip trays were placed under drums used for heating tents, and absorbent material wrapped around connection points. Portable hand pumps were used to pump rain/melt water out of the drip trays and into empty fuel drums. These were stored in the berm on-site.

Visual inspections of all fuel drums were conducted whenever people were getting fuel. 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 available at the camp, berm, drill sites and during all refuelling activities. Drip pans were used for all refuelling activities.

At the end of the season, all fuel was stored in the berm on-site and a list of its contents is in the equipment inventory list in Appendix B.

### ***Wildlife/Fisheries***

Operational activities were managed to avoid impacts on wildlife. During breeding bird season, if nests and eggs of birds were observed they were avoided until nesting was completed and the young had left the nest. A perimeter of a minimum 2 km area around the camp and drill sites was surveyed on a regular basis for caribou activities, within which all operations were to be suspended if caribou were sighted there. There were no caribou migrations or calving activities observed in the project area.

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. The “Safety in Bear Country Manual” was followed and discussed at the weekly safety meetings. 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.

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

### ***Ground Disturbance***

The use of overland vehicles was closely monitored to minimize ground rutting or gouging. People were advised to stay on the snow and avoid any patches of vegetation. Use of overland vehicles was halted before the snow melted to the point where it was impossible to safely travel without damaging the tundra. Areas of use were inspected by site managers over the summer and remediated as necessary.

### ***Archaeological Sites***

All drill sites and work areas were inspected for potential archaeological sites prior to work being undertaken. Archaeological/paleontological/burial sites were avoided by a minimum of 50 metres. All observations were properly recorded and notification procedures implemented.

### ***Discharges/Spills***

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

There were two incidents that occurred this season. There was a salt spill where a bag of salt ripped and dropped while being slung by the helicopter. All contaminated soil and snow was shovelled into empty bags, and slung to the Roche Bay berm where any melt water in the berm was pumped out into empty drums. All bags and drums will be removed and sent to an approved disposal facility. There was also a minor fuel release on a small lake that was caused by a misplaced absorbent pad. This was contained using absorbent pads and booms, which were removed and stored until they can be sent to an approved disposal facility.

In the summer, water and soil sampling was conducted by an independent consultant at both sites to assess potential impacts. Results have determined that there were no significant impacts and that further monitoring is not required. All spill reports and follow-ups were sent to the appropriate agencies.

### ***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. A number of inspections and site visits by other stakeholders also took place over the field season and are summarized in Tables 1 and 2.



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**Table 1: 2011 Inspections of the Tuktu Project.**

Date	Inspection
June 15, 2011	WSCC Safety Inspection
July 12, 2011	INAC Land & Water Inspection
July 25, 2011	Government of Nunavut, Department of Community & Government Services, Fire Prevention Inspection

During the inspections, any comments arose were addressed immediately on the inspection date, when possible. Other items that would take longer to address were completed following the inspections in a timely manner and inspectors were notified of their completion. Overall no major concerns arose from the inspections.

**Table 2: 2011 Site Visits of the Tuktu Project.**

Date	Site Visit
July 21, 2011	INAC Geologists
August 2 – 5, 2011	Wardrop
August 10, 2011	Government of Nunavut

***Flights***

Flight altitudes as presented in the permits/licenses terms and conditions were abided by to avoid disturbance to 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 summarized. No airborne gravity flights were conducted this season. These records are summarized in Appendix D.

***Environmental Baseline Studies***

EBA Engineering Consultants Ltd. conducted a number of environmental baseline studies throughout the season, which are summarized in Table 3.

**Table 3: 2011 Environmental Baseline Studies for the Tuktu Project.**

Date	Environmental Baseline Study	Purpose
March 18 – 26, 2011	Socio-Economic & Traditional Knowledge (IQ) Studies	Gain statistical information on the communities in the region and traditional knowledge of cultural and

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		environmental importance of the region.
<b>June 24, 2011 – July 1, 2011</b>	Breeding Bird Surveys	Inventory species and their territories within the project area.
<b>June 26, 2011</b>	Caribou Survey	Inventory presence/absence and estimate population density in the area.
<b>July 10 – 26, 2011</b>	Archaeology Study	Document location and inventory the importance of Archaeological sites in the area.
<b>July 30 – 31, 2011; August 27 – 28, 2011</b>	Water Quality	Baseline standards of water conditions in the area.
<b>July 31, 2011</b>	Waterfowl Surveys	Inventory presence/absence in the area.
<b>Variable as part of other surveys</b>	Raptor Surveys	Inventory presence/absence and breeding activity in the area.
<b>Ongoing all year</b>	Climate	Meteorological station continues to be operational.

Reports from these baseline studies have been 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.

### ***Reclamation***

All reclamation work at the 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 (camp and drill sites) was conducted prior to seasonal closure with a full inventory taken at all of the sites. The camp site was closed and secured for the winter. All tent structures were locked and sealed shut. Minimal non-perishable foods only were secured on-site.

Remediation of drill sites began as soon as practical after drilling. Drill cuttings were contained in bags and used to return the site to its natural contours if required, as well as for other restoration work that may have been required. The drill sites were then inspected and assessments were made on whether further remediation was required by the application of

peat moss to help with natural re-vegetation of the sites. Some of the drill sites had very few cuttings which were barely distinguishable from the surrounding habitat. These sites did not require any further remediation with peat moss. Some of the drill sites that had visible cuttings were remediated as needed with peat moss. Note that a control group of holes were not remediated with peat moss in order to get a better understanding of the effects that peat moss has in contributing to site restoration. The control sites were chosen to include each of the differing habitat types used for the drilling program. All of the holes will be inspected when the camp re-opens to assess whether further remediation will be required.

### ***Community Consultations and Local Employment***

Open dialogue has been established between AEI and the communities of Hall Beach and Igloolik, with the Hamlet Councils, the Hunters & Trappers Associations, CLARC, the Mayors, the public, the schools and other community members.

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

The camp always kept its doors open to the communities to accommodate hunters and other members of the community as they passed through the area. AEI was also available to assist with local emergencies including search and rescues as needed during the season.

Local employment opportunities during this season are listed below:

- Core Cutters
- Camp Support Staff
- Bear Monitors
- Drill Helpers
- Kitchen Support Staff
- Ground Support for the Helicopters
- Laboratory Technicians
- Assistant Cook
- Labourers
- Beach Logistics Staff

Local economic benefits are summarized in Appendix F.

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***Conclusion***

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

**2012 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 season of drilling to refine its resource definition. An environmental program and geological mapping program are also planned. The camp will re-open and drilling operations continue for the season from April to October. 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.

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Signed “John Gingerich”

Feb. 2012

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

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**Date**

Signed “Lou Nagy”

Feb. 2012

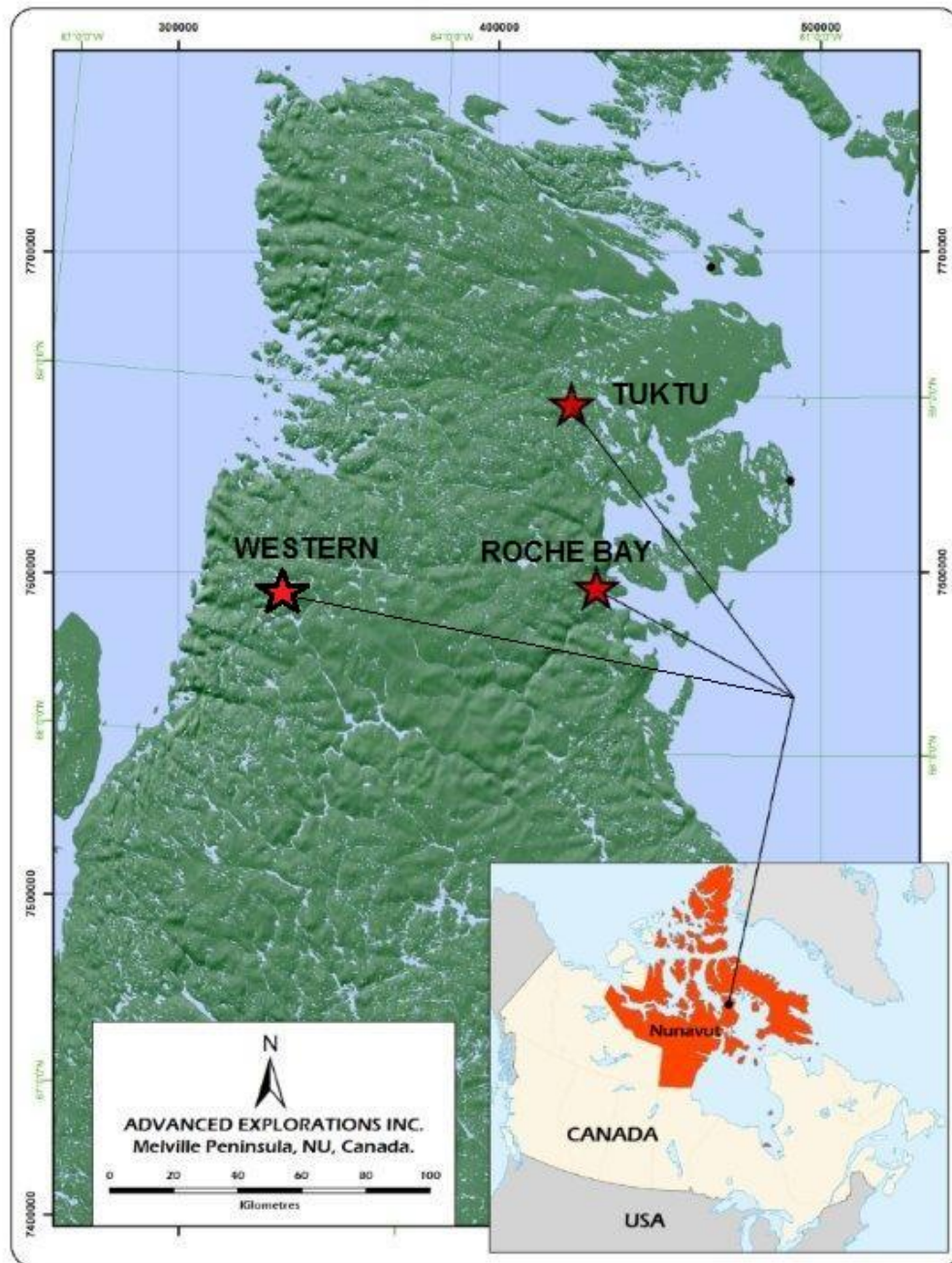
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**Lou Nagy**  
**Chief Financial Officer**  
**Advanced Explorations Inc.**

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**Date**

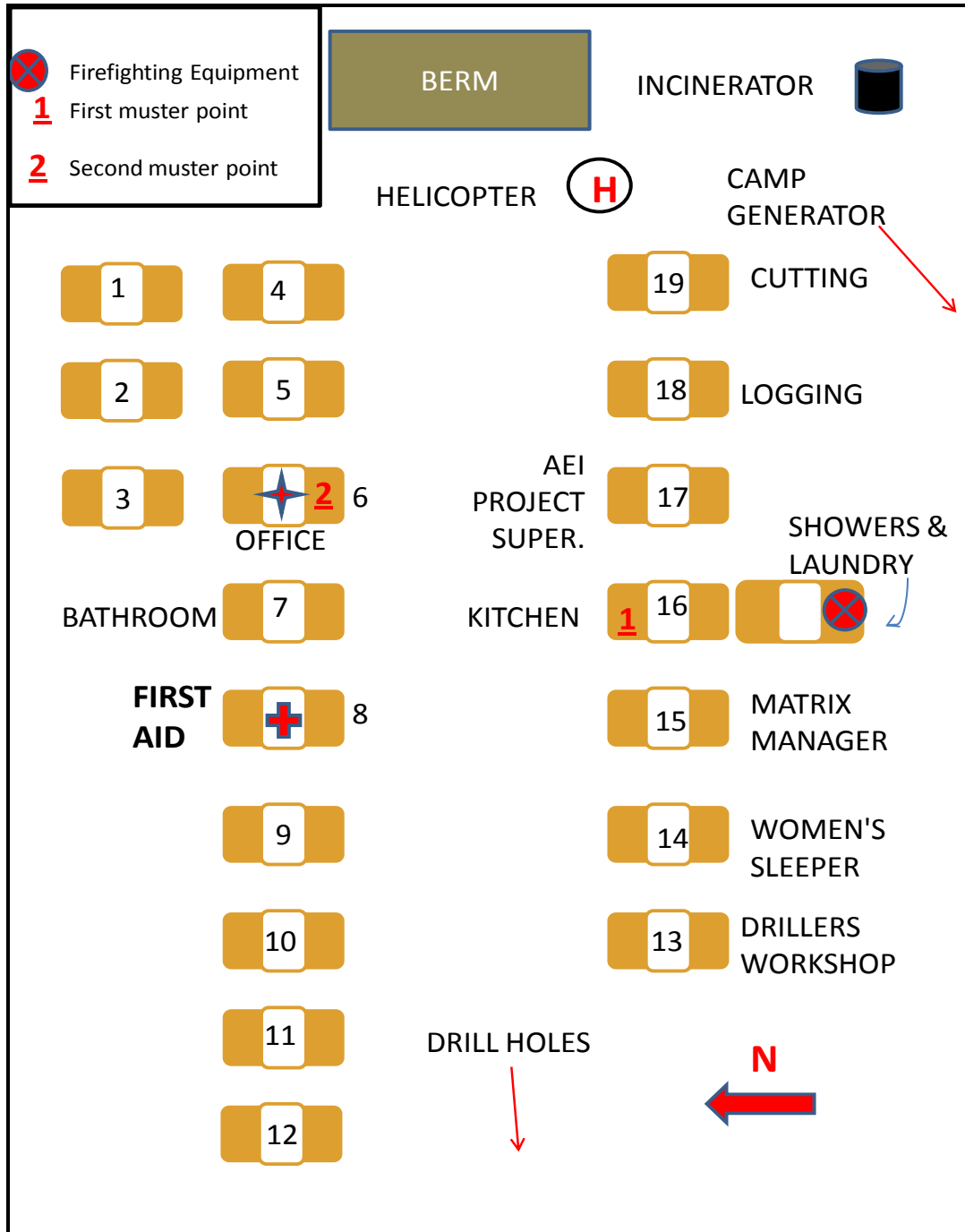
**Appendix A: Maps**  
***Location Map***







**Camp Layout Schematic (not to scale)**

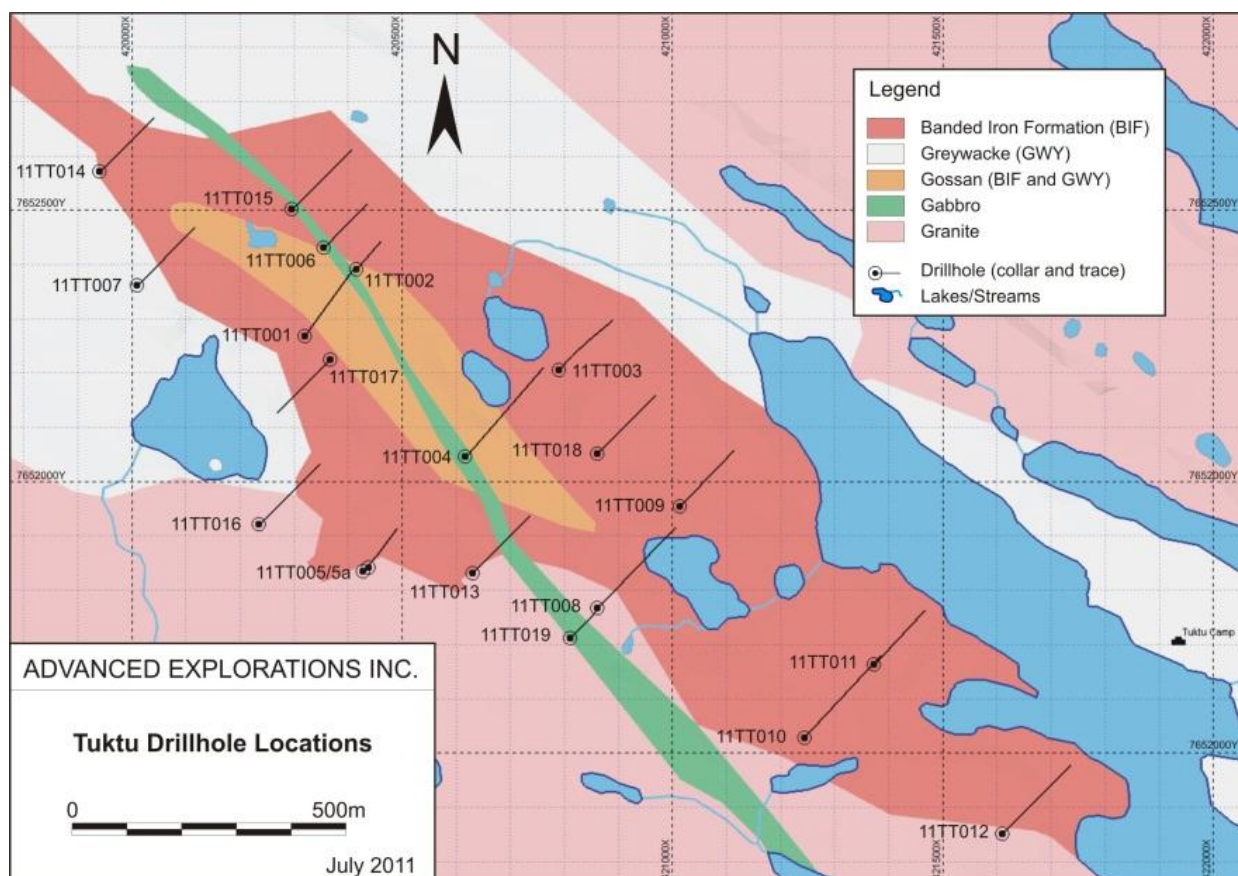




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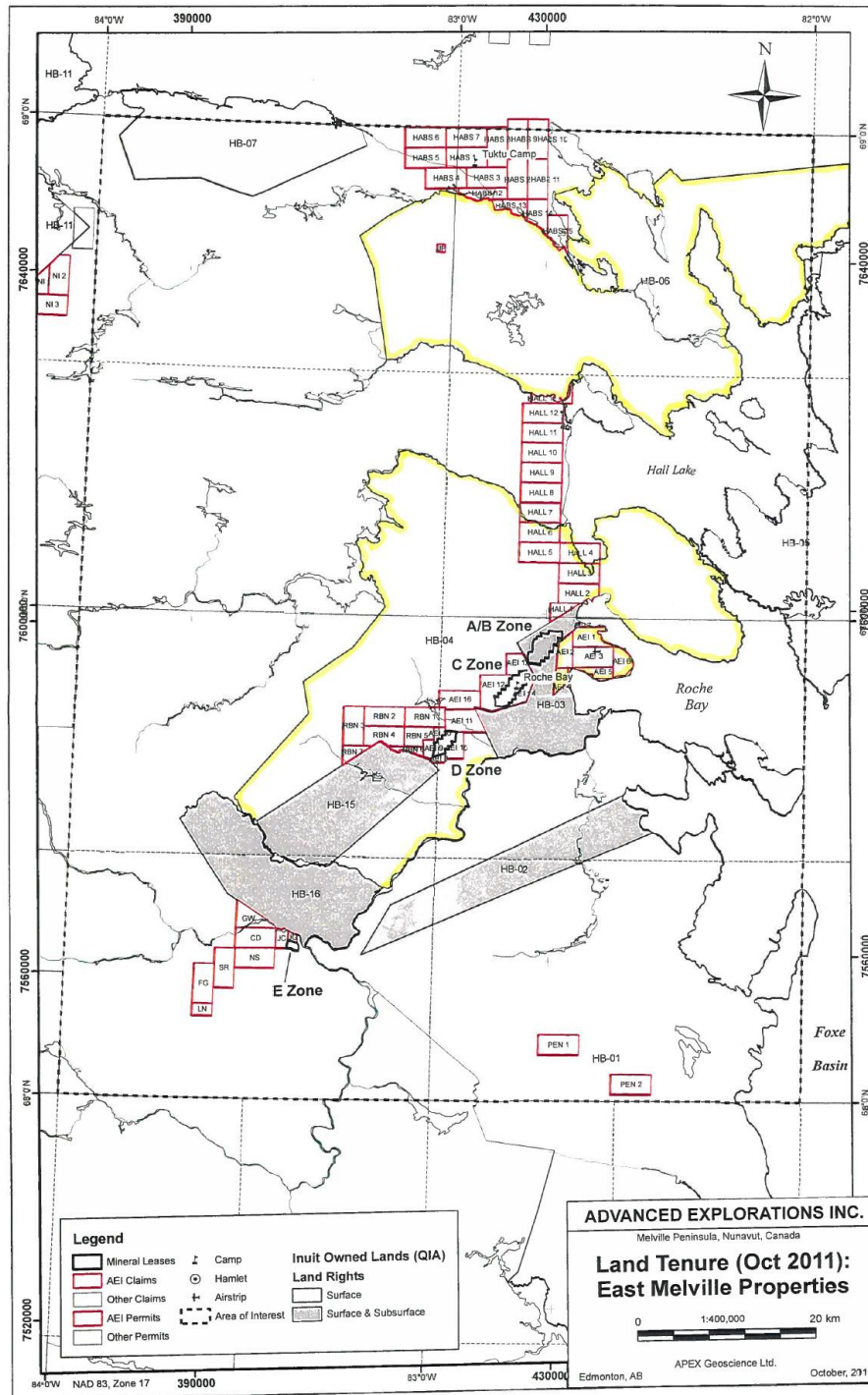


**Drill Sites Map – 2011 Program**



# ADVANCED EXPLORATIONS INC. TUKTU PROJECT

## Land Tenure Map



## Appendix B: Inventories

### *Equipment Inventory List (as of September, 2011)*

#### Tuktu Camp

- 20 Weatherhaven tents
- 1 dual chamber, forced-air Incinerator
- 1 generator shack and 1 industrial diesel generator
- General workshop equipment
- Safety gear
- Kitchen equipment, 2 freezers
- Medical supplies and equipment
- Office supplies
- 16 fire extinguishers, 12 smoke alarms, 3 CO detectors
- 2 geostoves, 12 oil miser toyotomi stoves, 19 laser 73 toyostoves
- 1 snowblower
- Core and core boxes
- 1 sled
- 1 berm containing:
  - 1 bag of Salt (CaCl) (1 ton bag); some partially full bags of Salt
  - 9 drums of Jet B
  - 19 drums of Diesel
  - 1 drum of Gasoline
  - four 100 lb tanks of Propane

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### ***Camp Water Use & Source***

Camp Water Source	Location	
	Latitude	Longitude
Tuktu Camp	68°57'44.06"N	82°57'1.69"W
Camp Water Use	Amount of Water (m³)	
Total Water Used	288.40*	
Total Water Permitted	1,335.00*	
Difference	1,046.60*	
Average Water Used/Day	1.52*	

\*Note: Values are for camp water used from when the camp opened until August 20, 2011. The final two weeks before camp closure records were lost due to technical problems. However, these numbers are presumed to have been declining as the camp was slowly decreasing in size at this time.

### ***Drill Water Use & Sources***

Drill Water Sources	Location	
	Latitude	Longitude
11TT001, 11TT002	68°58'4.77"N	82°59'42.20"W
11TT003, 11TT004	68°58'10.63"N	82°58'45.19"W
11TT005, 11TT005a, 11TT006, 11TT007	68°58'4.77"N	82°59'42.20"W
11TT008, 11TT009	68°57'57.85"N	82°58'22.48"W
11TT010	68°57'45.50"N	82°57'58.36"W
11TT011	68°57'49.50"N	82°57'34.27"W
11TT012	68°57'41.29"N	82°57'10.80"W
11TT013	68°57'57.85"N	82°58'22.48"W
11TT014	68°58'15.78"N	83° 0'52.02"W
11TT015, 11TT016, 11TT017	68°58'4.77"N	82°59'42.20"W
11TT018	68°58'9.12"N	82°58'45.05"W
11TT019	68°57'57.56"N	82°58'23.81"W
Drill Water Use	Amount of Water (m³)	
Total Water Used	3,464.79	
Total Water Permitted	47,056.00	
Difference	43,591.21	
Average Water Used/Day	19.69*	

\*Note: Initially one drill was in operation and the average water used/day was for both the day and night drilling shifts. Starting June 6, 2011, two drills were in operations until completion and the average water used/day was for both drills and both their day and night shifts (four shifts total).

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**Waste**

Waste	Location	
	Latitude	Longitude
Greywater	68°57'54.6"N	82°56'56.6"W
Drill and Core Cuttings	68°57'54.3"N	82°56'53.4"W

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## Appendix C: Wildlife

LOCATION: 69°8'44.920"N, 82°27'29.392"W (NE corner); 69°8'24.629"N, 83°27'53.179"W (NW corner); 68°46'58.562"N, 83°26'13.705"W (SW corner); 68°47'18.437"N, 82°26'48.326"W (SE corner)		
Common Name	Latin Name	Number of observations
<b>Birds</b>		
Red-throated Loon	<i>Gavia stellata</i>	9
Pacific Loon	<i>Gavia pacifica</i>	4
Loon sp.		1
Tundra Swan	<i>Cygnus columbianus</i>	1
Greater White-fronted Goose	<i>Anser albifrons</i>	1
Snow Goose	<i>Chen caerulescens</i>	139
Brant Goose	<i>Branta bernicla</i>	2
Canada Goose	<i>Branta hutchinsii</i>	18
Common Eider	<i>Somateria mollissima</i>	3
King Eider	<i>Somateria spectabilis</i>	5
Long-tailed Duck	<i>Clangula hyemalis</i>	9
Duck sp.		2
Rough-legged Hawk	<i>Buteo lagopus</i>	12
Peregrine Falcon	<i>Falco peregrinus anatum</i>	8
Gyr Falcon	<i>Falco rusticolus</i>	7
Willow Ptarmigan	<i>Lagopus lagopus</i>	2
Rock Ptarmigan	<i>Lagopus mutus</i>	3
Ptarmigan sp.		11
Sandhill Crane	<i>Grus canadensis</i>	2
American Golden-Plover	<i>Pluvialis dominica</i>	7
Semipalmated Plover	<i>Charadrius semipalmatus</i>	1
Semipalmated Sandpiper	<i>Calidris pusilla</i>	19
Baird's Sandpiper	<i>Calidris bairdii</i>	4
Pectoral Sandpiper	<i>Calidris melanotos</i>	1
Sandpiper sp.		1
Long-tailed Jaeger	<i>Stercorarius longicaudus</i>	1
Jaeger sp.		1
Herring Gull	<i>Larus argentatus</i>	1
Glaucous Gull	<i>Larus hyperboreus</i>	27
Gull sp.		9
Arctic Tern	<i>Sterna paradisaea</i>	1
Snowy Owl	<i>Nyctea scandiaca</i>	4
Horned Lark	<i>Eremophila alpestris</i>	49
Common Raven	<i>Corvus corax</i>	17
American Pipit	<i>Anthus spinoletta</i>	3
Lapland Longspur	<i>Calcarius lapponicus</i>	24
Snow Bunting	<i>Plectrophenax nivalis</i>	44
<b>Totals</b>		<b>453</b>
<b>Mammals</b>		
Arctic Hare	<i>Lepus arcticus</i>	9
Arctic Ground Squirrel	<i>Spermophilus parryi</i>	19
Lemming	<i>Dicrostonyx sp. or Lemmus sp.</i>	16
Arctic Fox	<i>Alopex lagopus</i>	29
Polar Bear	<i>Ursus maritimus</i>	1
Ermine	<i>Mustela erminea</i>	9
Barren-ground Caribou	<i>Rangifer tarandus</i>	2
<b>Totals</b>		<b>85</b>
<b>Fish</b>		
Fish sp.		3
<b>Totals</b>		<b>3</b>

\*Canada Geese\* in this case includes the Richardson's (or Hutchins's) Cackling Goose (*B. h. hutchinsii*), and the Lesser Canada Goose (*B. c. paripes*)

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## Appendix D: Flights

Date (Month)	Location	Total Hours	Estimated Take-offs & Landings	Reasons
April	Tuktu, Roche Bay, Hall Beach, Tuktu Drill Sites	72.6	100*	Tuktu camp move & setup, Drill moves & setup
May	Tuktu, Roche Bay, Hall Beach, Tuktu Drill Sites	105.7	200*	Drill moves & setup, crew changes, camp supplies & groceries, Geological Surveys
June	Tuktu, Roche Bay, Hall Beach, Tuktu Drill Sites, Roche Bay Geotech ice bore hole sites	184.6	400*	Drill moves & setup, crew changes, camp supplies & groceries, Caribou Surveys, Raptor Surveys, Breeding Bird Surveys, Geotech ice bore hole sites, Marine Bird & Mammal Surveys
July	Tuktu, Roche Bay, Hall Beach, Tuktu Drill Sites, Western Permits	312.5	600*	Drill moves & setup, crew changes, camp supplies & groceries, Breeding Bird Surveys, Archaeology Surveys, Geological Surveys, Water Quality Surveys
August	Tuktu, Roche Bay, Hall Beach, Tuktu Drill Sites, Roche Bay Drill Sites, Western Permits	288.6	600*	Drill moves & setup, crew changes, camp supplies & groceries, Geological Surveys, Fisheries Surveys, Water Quality Surveys, Caribou Surveys, Marine Bird & Mammal Surveys, Hydrology Surveys
September	Tuktu, Roche Bay, Hall Beach, Roche Bay bore hole sites, Western Permits	177.8	300*	Drill moves & setup, crew changes, camp closure, Geological Surveys

\*Note: All numbers of take-offs and landings are estimates only based on the helicopter flight tickets.



## **Appendix E: Water Quality Summary**

Advanced Explorations Inc. (AEI) is planning the development of the Tuktu magnetite project, a satellite program to the AEI flagship Roche Bay Project. The Tuktu project is located at 68°57'56.81" north latitude and 82°56'58.78" west longitude, approximately 70 km northwest of Hall Beach on the Melville Peninsula, and within 45 km of the ocean.

In 2011 EBA Engineering Consultants Ltd. (EBA) expanded its work for AEI by taking on the Tuktu project in addition to their work on the near-by Roche Bay project. The 2011 program included baseline studies of the water quality at the Tuktu Magnetite Project.

In 2011, two sampling events took place to begin the baseline surveys of Tuktu; one on July 31<sup>st</sup>, another on August 28<sup>th</sup>. A total of six water quality sampling stations were involved in the 2011 program. Samples were submitted to SGS Environmental Services, a laboratory accredited by the Canadian Association for Environmental Analytical Laboratories (CAEAL).

In general, the water quality of the Tuktu environment is pristine. The physical and chemical water quality parameters of the waters in this region are typical of Canadian arctic freshwater systems, characterized as having a pH slightly above neutral with low electrical conductivity. Nutrient parameters such as nitrate and phosphorus were either below the detection limits or very low. Levels of ammonia were elevated above the CCME Guidelines for the Protection of Freshwater Aquatic Life (FAL) across a number of water stations during both sampling events, and can be attributed to a number of natural causes (based on similar patterns observed within the Roche Bay Magnetite Project area) such as ammonification (the gradual accumulation of ammonia from decomposition) and low water levels. Fluoride was marginally elevated on isolated occasions during the July and August sampling events. Levels of total iron were also slightly elevated above CCME in July at two water quality sites. Both fluoride and iron elevations can be attributed to a combination of local geology and potential contaminants introduced through laboratory or sampling error.

Additional sampling in future seasons will allow for more in-depth analysis of the natural state of water quality in the Tuktu region.

For more information regarding the initial sampling at the Tuktu Magnetite project; the 2011 Tuktu Water Quality Report is available upon request.



**ADVANCED EXPLORATIONS INC.**  
**TUKTU PROJECT**

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**Appendix F: Local Economic Benefits**

<b>Item</b>	<b>Expenditure</b>	<b>Comments</b>
<b>Food</b>	\$ 164,711.13	
<b>Travel &amp; Accommodations</b>	\$ 493,343.65	Travel expenses include all travel for the season, regardless of the community.
<b>Hall Beach Housing</b>	\$ 31,775.61	
<b>Fuel</b>	\$ 107,062.35	
<b>Local Consultants, Associations, Community Meetings, Donations</b>	\$ 19,804.73	
<b>Nunavut Permitting</b>	\$ 8,170.69	
<b>Local Wages</b>	\$ 347,025.00	Wages include approximately 30 local employees from Hall Beach and Igloolik.
<b>Camp Supplies</b>	\$ 2,846.83	
<b>Total</b>	\$ 1,174,739.90	