

2009 Hope Bay Baseline Study Annual Summary

This summary is intended to meet the requirements of Rescan's Research Licence No. 0402609N-M for the Hope Bay Belt area.

Newmont Mining Corporation is exploring significant metal deposits near Hope Bay, Melville Sound, Nunavut. The area includes three main deposits; Doris, Madrid, and Boston. The Doris deposit has been previously permitted to become a mine (Doris North Project).

In 2009 Newmont continued baseline studies in the area in case of further development and to meet fisheries data collection commitments. These studies were largely a continuation of those that have taken place in the area since the 1990's, with a focus on the northern portion of the belt, near Doris Camp and the Doris and Madrid deposits. Work took place near to areas that may be developed as well as those far away which can be used as 'reference areas' in the future.

Highlights from the 2009 baseline monitoring include the following:

- Doris camp automated meteorological station maintenance and upgrade;
- Baseline ambient air quality monitoring through the installation of a Partisol ambient air sampler, dustfall monitoring stations, and a passive air sampling system. A micro-meteorological station was also installed to monitor lake evaporation;
- 13 automated hydrometric stations were operated in the area, with flow measurements being collected at various streams;
- About 25 lakes and streams were sampled for water, sediment, and aquatic organisms. Surface water quality characteristics varied with season (winter vs. summer) and with sampling area, with some lakes tending to be higher in nutrients;
- Freshwater fish community surveys were conducted in 7 lakes, one river, and several streams and ponds. Fish species captured included Arctic char, lake trout, lake whitefish, cisco, ninespine stickleback, and slimy sculpin. Fish habitat, hydroacoustic and underwater video surveys were also conducted at some of the sites.
- Marine water and sediment quality were sampled in Roberts Bay, Hope Bay, and at a reference bay. Hydroacoustic, bathymetry and shoreline habitat surveys were also conducted in Roberts Bay;
- Marine fish and aquatic community surveys were conducted within Roberts Bay and at a reference bay. Marine organisms captured included: Arctic char, lake trout, Greenland cod, ronquil, saffron cod, four-horn sculpin, Pacific herring, Arctic flounder, starry flounder, starfish, crab, snails, mussels, and clams;

- Caribou aerial surveys were flown during the post-calving season (July 2009). The Ahiak herd calves to the southeast of the Project area, but less than 10 caribou were observed during this survey indicating that the post calving area did not overlap with the study area in 2009. A number of caribou moved through the study area in May 2009 during the northward migration of the Dolphin and Union herd; and
- Wildlife surveys were conducted for breeding birds, waterfowl, raptors, and carnivore dens. Two raptor surveys (spring and summer) found 6 raptor species in the area, mainly rough-legged hawks and peregrine falcons. Of the 27 raptor nests found with eggs during the spring survey, only 2 contained chicks during the summer survey, likely due to a very late spring and cold summer weather. 36 different bird species were found during the waterfowl and breeding bird surveys, including nine songbird, two game bird, five shorebird, and 20 waterfowl species. Of all bird species observed, nine are listed as of territorial or federal conservation concern. One fox and one wolf den were found in 2009.

Baseline data will continue to be collected in 2010 to further characterize the natural environment in the Hope Bay Belt study area.