

# RIO TINTO

Environmental monitoring with the community



## Traditional and scientific knowledge

A recipe for success

Diavik's fish palatability study involves Aboriginal elders and youth and Diavik scientists, and marks the significant integration of scientific and traditional knowledge in Diavik's ongoing environment management programme.



Traditional knowledge is used in conjunction with biological science to test the health of fish in Lac de Gras, site of the Diavik diamond mine in the Northwest Territories of Canada. This methodology has been used since mining began in 2003 to protect fish species, valued by Aboriginal communities as a food source. Fish and fish habitat are protected, monitored, and managed in accordance with the requirements of Diavik's Fisheries Authorizations.

The Diavik Environmental Monitoring Advisory Board (EMAB) includes community, government and company representatives. Since 2002, EMAB has been instrumental in assisting Diavik with a fish palatability study to provide initial and follow up information regarding the quality of fish and in particular, any changes to fish health during mining operations.

Diavik constructed a seasonal camp on the south shore of Lac de Gras, within sight of the mine, to enable community members to undertake monitoring programmes. The study involves Aboriginal elders and youth and Diavik scientists, and marks the significant integration of scientific and traditional knowledge.

Community representatives rated the lake trout on appearance before and during cleaning, and on look and taste once cooked. The scientific side of the study measured the general health of lake trout as well as weight, length, fecundity, age, stomach content and texture. New technology was used to assess fish palatability, using scientific instruments to measure the chemical signature and texture of the meat. Fish samples were also sent to Agriculture Canada and Health Canada for analysis.

Overall, participants found fish texture to be healthy and of good quality. Some parasites were present in the tissue but this is common in a lake where nutrient levels are low and in fish that consume smaller fish. As for the taste, the group generally found the fare to be "excellent". The scientific results mirrored the baseline data collected in 2002 by Diavik during its environmental assessment.

In addition to lake trout, other fish species found in Lac de Gras include cisco, round whitefish, Arctic grayling, burbot, longnose sucker, and slimy sculpin.

Other monitoring programmes have also been run from the traditional knowledge camp including studies into caribou monitoring and water quality.

Left: Diavik diamond mine in Canada's Northwest Territories.

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