



Dealing with Mining Legacy — Some Canadian Approaches

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DEALING WITH MINING LEGACY – SOME CANADIAN APPROACHES¹

1. INTRODUCTION

In this paper we discuss approaches that have been used in Canada to identify and foster private sector, public and aboriginal participation in dealing with mining environmental liabilities and orphan sites². To a large extent, Canadian and international laws dealing with environmental regulation, public consultation, and aboriginal rights impose obligations on mining companies and on Canadian governments to provide for public and aboriginal participation in processes affecting the environment and natural resources. In addition, in 2002 the National Orphaned/Abandoned Mines Initiative (“NOAMI”) was established as a cooperative program to assess key issues and recommend collaborative approaches to rehabilitation of orphaned/abandoned mines in Canada.³ NOAMI is guided by an Advisory Committee with representatives of the mining industry, federal, provincial and territorial governments, environmental non-governmental organizations, and First Nations.

2. CANADIAN LEGAL AND POLICY FRAMEWORK FOR DEALING WITH MINING LEGACY

This section covers federal, provincial, and international legal and policy instruments that impose obligations on private parties and governments to clean up abandoned mining sites. Many statutes and regulations dealing with natural resources and environment require public notification and opportunities for public comment and participation.

(a) Federal Statutes and Regulations

The *Constitution Act*⁴ delineates the heads of power given to the federal and provincial governments in Canada. The provincial legislatures are given legislative power over, among other things, exploration, development, conservation and management of non-renewable natural resources, the management and sale of the public lands belonging to the province, and local works and undertakings within the province. The federal heads of legislative jurisdiction relevant to mine clean-ups include fisheries, Indians, and lands reserved for the Indians. Neither level of government has been given exclusive jurisdiction over environmental matters; as a result, both federal and provincial governments have enacted environmental

¹ The author thanks Deborah Cushing for her assistance with this paper.

² The terms “abandoned” and “orphan” mines or sites have been defined differently in different Canadian contexts. The British Columbia *Mines Act* (R.S.B.C. 1996, Chap. 293) provides the following definition: “abandoned mine” means a mine for which all permit obligations under this Act have been satisfied and in respect of which the mineral claims have reverted to the government”. Therefore, “abandoned mine” does not include those for which permit obligations have not been satisfied. It does not define “orphan mine”. The NOAMI definition does not differentiate between the two terms: “Orphaned or abandoned mines are those mines for which the owner cannot be found or for which the owner is financially unable or unwilling to carry out clean-up.” In this paper, we discuss mines in a range of different situations requiring remediation and/or reclamation, but generally deal with mines for which governments have become at least partially responsible for clean-up or have had to intervene to achieve it.

³ NOAMI reports, pamphlets and workshop proceedings, online: <http://www.abandoned-mines.org>

⁴ *Constitution Act, 1867* (U.K.), 30 & 31 Vict., c.3, reprinted in R.S.C. 1985, App. II, No.5.

statutes. Some of the statutes at the federal level that may apply to the remediation of abandoned mine sites include the *Fisheries Act*⁵ and the *Canadian Environmental Protection Act*.⁶

The *Fisheries Act* regulates use of fish resources, fish habitat, and the quality of waters frequented by fish. In particular, sections 35 and 36 of the *Fisheries Act* prohibit harmful alteration, disruption and destruction of fish habitat and the deposit of deleterious substances in waters frequented by fish, respectively. As sediments and contaminants may be carried by runoff, leaching, and other processes from an abandoned mine and harm or contaminate fish habitat, the provisions of the *Fisheries Act* may apply. The *Fisheries Act* provides for officials to issue orders, directions, or lay charges for infractions; severe maximum monetary penalties and terms of imprisonment are available as punishment for those found guilty of these infractions. In addition, civil individuals can initiate prosecutions for violations of this Act. Where the government incurs costs for remediation, the *Fisheries Act* imposes liability for recovery of those costs on those responsible for the infraction or, in the case of deposit of deleterious substances, on those who at any material time had management, charge or control of the substance.

The *Canadian Environmental Protection Act* consolidates previous federal environmental protection statutes and establishes national standards for the control and management of toxic substances. Part 9 of the Act gives the federal cabinet broad authority to set regulations for the protection of the environment. The Act also provides for public involvement in the enforcement of toxic substance regulations. For example, under section 17, a Canadian resident who is at least 18 years of age may apply to the Minister for investigation of an alleged offence under the Act.

The *Canadian Environmental Assessment Act* may come into play regarding abandoned mines if a prescribed federal authorization, federal land, or federal funding is involved in the project, or if the federal government is the proponent of the project. Depending on the extent of assessment for a particular project, different degrees of public participation may be required.

The federal government is responsible for abandoned mine sites on lands under federal jurisdiction. For example, Indian and Northern Affairs Canada is the custodian of most federal lands in the North and through its Northern Contaminated Sites Program is responsible for managing contaminated sites in the Northwest Territories and Nunavut and for funding the cleanup of sites in the Yukon.⁷ Over 350 contaminated sites have been identified of which 37 are priority sites because of higher associated risks. One of the principles of the program is to promote Aboriginal and northern participation in the decision-making and remediation processes related to contaminated sites.

Under section 35 of the Canadian Constitution, existing aboriginal and treaty rights are “recognized and affirmed”; aboriginal peoples of Canada include Indians, Inuit, and Métis. Where aboriginal rights could be infringed by Canadian provincial and federal governments, such as by approving mining or reclamation activities, the government has a duty to consult and accommodate the concerns of the aboriginal group. The degree of consultation and accommodation required varies from notification to “deep consultation”⁸. There is a large body of case law regarding challenges to regulatory decisions alleged to have not complied with

⁵ R.S.C. 1985.

⁶ S.C. 1999, c.33.

⁷ Online: <http://www.ainc-inac.gc.ca/ps/nap/consit/>

⁸ *Haida Nation v. British Columbia*, [2004] 3 S.C.R. 511 (2004 SCC 73)

consultation obligations. Here we only touch on this topic, as it is beyond the scope of this paper to deal with this issue in detail; however, it must be considered as an important determinant of aboriginal participation in any natural resource activity in Canada. The need to consult and accommodate where aboriginal rights may be infringed has led to the general practice by proponents of major mining and other activities to sign Impact Benefit Agreements with potentially affected aboriginal peoples.

Further, as we will discuss below, in some cases modern land claims agreements between the federal government and aboriginal groups have established aboriginal institutions of public or self-government. These agreements are implemented by federal legislation, such as the *Mackenzie Valley Resource Management Act* and the *Nunavut Waters and Surface Rights Tribunals Act*, among others.

(b) **Provincial Statutes and Regulations**

Canadian provinces have enacted legislation within their jurisdiction to regulate the practice of mining and to manage and protect the environment, which may apply to abandoned or orphan mine sites. The British Columbia *Mines Act*⁹, for example, provides that the title of an abandoned mine reverts to the provincial government. Under section 17 of the Act, an inspector may cause work to be done on an abandoned mine to remove or alleviate danger to persons or property or to remedy pollution of the land or watercourses affected by the mine. The costs of such work are paid from the province's consolidated revenue fund and form a lien on the mine or mineral title in favour of the government. The title of the mine may not be transferred until the debt is paid or the notice is cancelled.

The British Columbia *Environmental Management Act*¹⁰ regulates waste management and environmental management. Of particular relevance to abandoned mine sites is Part 4 of the Act on contaminated site remediation. Remediation is defined as, "action to eliminate, limit, correct, counteract, mitigate or remove any contaminant or the adverse effects on the environment or human health of any contaminant ...". Under section 58, a director may determine whether a contaminated site is an orphan site or a high risk orphan site. The minister may then declare that it is necessary for the protection of human health or the environment for the government to undertake remediation of the site.

The director has various means under the Act of attempting to recover remediation costs which include taking steps to recover costs from responsible persons and registering a lien against the property for the costs of the remediation. However under Part 5 of the Act, on remediation of mineral exploration sites and mines, a previous owner or operator of a past producing mine site is not responsible for remediation if their transfer agreement excludes the owner or operator from liability or they have obtained indemnification under the *Financial Administration Act*¹¹. Under section 69, a person is not responsible for remediation of an historic mine site if they have obtained indemnification or their exploration activities did not exacerbate existing contamination at the site.

Each province has distinct environmental assessment legislation and requirements that may apply to clean-up of abandoned mines. Generally environmental assessment acts contain public comment and/or public participation provisions.

⁹ R.S.B.C. 1996, c.293.

¹⁰ S.B.C. 2003, c.53.

¹¹ R.S.B.C. 1996, c.138.

Management of the contaminated sites for which the Province of British Columbia is responsible under the *Environmental Management Act* is conducted by the Crown Contaminated Sites Branch of the Ministry of Agriculture and Lands. Ten contaminated sites had been identified as of 2006 for priority for current action because of risk to human health and the environment.¹² These ten sites include the Britannia mine site and the mine tailings at the Yankee Girl mine site in the West Kootenays. Ten sites have also been identified as the top ten candidate sites for remedial action; all ten sites are mine sites. (The federal government has reported over 2,000 contaminated sites under federal jurisdiction.¹³ Over 400 of these sites are in the province of Quebec and over 300 in each of the provinces of British Columbia and Ontario, in part due to the significance of mining in the development of these three provinces.)

(c) **International Obligations**

Canada also has obligations under international treaties that may be relevant to remediation of abandoned mine sites. For example, the environmental impact of an abandoned mine may be contrary to the *Migratory Birds Convention Act 1994*¹⁴, which implements the 1916 *Migratory Birds Convention* between the United States and Canada. Under section 5.1 of the Act, “No person or vessel shall deposit a substance that is harmful to migratory birds, or permit such a substance to be deposited, in waters or an area frequented by migratory birds or in a place from which the substance may enter such waters or such an area.”

Canada and the United States have entered into a number of other bilateral treaties regarding the environment. The *Pacific Salmon Treaty*¹⁵ regulates cross boundary fishery issues but also addresses fish habitat which may be affected by run-off from an abandoned mine site. The *Boundary Waters Treaty*¹⁶ addresses cross-border issues for the freshwater rivers and lakes along which the Canada-U.S. border passes. The International Joint Commission established under the treaty can make recommendations regarding trans-boundary pollution causing injury to those water bodies. Transboundary rivers that do not form part of the border are also the subject of specific treaties, such as the *Treaty relating to the Co-operative Development of the Columbia River Basin*.¹⁷

Canada, Mexico and the United States are parties to the *North American Free Trade Agreement* (“NAFTA”)¹⁸ along with its side agreement, the *North American Agreement on Environmental Cooperation* (“NAAEC”), which was negotiated and ratified at the same time. The side agreement establishes a trilateral commission, the Commission for Environmental Cooperation (“CEC”).¹⁹ The Commission is made up of three bodies: the Council, the governing body; the Secretariat, which receives complaints from the public; and the Joint Public Advisory Committee which provides technical advice and facilitates public access to information. Under Articles 14 and 15 of NAAEC, residents of Canada, Mexico and the United State may

¹² *Crown Contaminated Sites Biennial Report*, online: <http://www.al.gov.bc.ca/clad/ccs/index.html>

¹³ See Treasury Board of Canada, online: http://www.tbs-sct.gc.ca/index_e.asp

¹⁴ S.C. 1994, c.22.

¹⁵ (1985) CTS 7.

¹⁶ (1909) CUS 312.

¹⁷ (1964) CTS 2.

¹⁸ (1993) 32 ILM 289 and 605.

¹⁹ See online: <http://www.cec.org>

file submissions alleging that a party to NAAEC is failing to enforce its environmental law. The filing of a submission may result in the creation and publication of a factual record. The Secretariat has the responsibility for administering this citizen complaint process.

The Secretariat of the CEC has received over 25 citizen complaints about a party to the treaty failing to enforce its own environmental laws, including one submitted by the Sierra Legal Defence Fund about the “systemic failure of the Government of Canada to enforce section 36(3) of the *Fisheries Act* to protect fish and fish habitat from the destructive environmental impacts of the mining industry in British Columbia.”²⁰ According to the submission, at least 25 mines in British Columbia were known to be acid-generating and at least 17 other mines were potentially acid-generating.

The submission focussed on three abandoned mines: the Tulsequah Chief Mine; the Britannia Mine; and the Mount Washington Mine. The submission describes the Tulsequah Chief as an abandoned copper mine located in northwest British Columbia that has been discharging high levels of zinc, lead and copper into the Tulsequah River since the 1950s. It describes Britannia Mine as an abandoned mine near Squamish, British Columbia that discharges high levels of copper and zinc into Britannia Creek and Howe Sound. Finally, it states the Mount Washington Mine is an abandoned mine that leaches copper-laced acid mine drainage into nearby creeks that flow into the Tsolum River.

Canada responded to the submission in 1999. In 2001, the Secretariat notified the Council that the submission, in light of Canada’s response, warranted the development of a factual record. The Council decided to terminate the submission process with respect to the Tulsequah Chief and Mount Washington Mines as both mines were subject to pending judicial or administrative proceedings. The Secretariat was directed to prepare a factual record in regards to the assertion that Canada is failing to effectively enforce section 36(3) of the *Fisheries Act* with respect to the Britannia Mine only. That factual record was publicly released in 2003 and includes: details of the information gathering process; examination of the meaning and scope of section 36(3) of the *Fisheries Act*; examination of policies regarding the enforcement of section 36(3); details of the alleged violation of section 36(3) at the Britannia Mine; and information about and an assessment of Canada’s actions in regards to the Britannia Mine.

The Secretariat engaged an independent expert to conduct a preliminary analysis of the likely effectiveness of the government’s remediation plan for the Britannia Mine in stopping the deposit of deleterious substances consistent with the requirements of the *Fisheries Act* and its related policies. The expert questioned the length of time proposed for building an effluent treatment plant and its effectiveness given the effluent characteristics at the mine site. Issues of sludge disposal and surface and groundwater contamination were not yet resolved. The expert considered that the amount of money budgeted by the provincial government for the remediation program, \$75 million, would have to be closely controlled in order to be sufficient to support the treatment plant operation over the long term.

The secretariat file on this submission is now closed. As explained in the public document, the purpose of a factual record is to, “provide information regarding asserted failures to effectively enforce environmental law in North America that may assist submitters, the NAAEC Parties and other interested members of the public in taking any action they deem appropriate in regard to the matters addressed.”²¹

In addition to providing for submissions to the Secretariat from Canadian, Mexican, or U.S. residents, NAAEC in Part Five provides for consultation and resolution of disputes between parties to the

²⁰ *Factual Record BC Mining Submission (SEM-98-004)*, online: < http://www.ccc.org/files/pdf/semi/98-4-FFR_en.pdf >

²¹ *Factual Record BC Mining Submission (SEM-98-004)*, online: < http://www.ccc.org/files/pdf/semi/98-4-FFR_en.pdf >

treaty, that is, the governments of Canada, Mexico and the United States. Under this part, any party may request consultation with another party regarding whether the other party has consistently failed to enforce its environmental law. This part sets out a series of stages to address the alleged lack of enforcement from consultation through arbitration and implementation of an action plan. If a satisfactory action plan is not achieved, an arbitral panel may impose a monetary enforcement assessment under article 34(4). Under article 36 and Annex 36B, if a party fails to pay this assessment, the complaining party may suspend their NAFTA tariff benefits and increase the rates of duty on the other party's goods until the assessment is satisfied.

3. NATIONAL ORPHANED/ABANDONED MINES INITIATIVE (NOAMI)

In 1999 and 2000, stakeholders requested that provincial and federal mines ministers establish a joint industry-government working group to review the issue of abandoned mines whose legacy included significant environmental, human health and financial costs. Following a workshop on abandoned mines in 2001, the ministers agreed to a large-scale program for the rehabilitation of orphaned/abandoned mines. NOAMI was established in 2002 to be a co-operative Canadian program guided by an Advisory Committee made up of representatives of the mining industry, federal, provincial and territorial governments, environmental non-governmental organizations, and First Nations. The role of the Advisory Committee is to assess key issues and recommend collaborative approaches to implementing remediation programs in Canada.²²

Task groups were formed to address four program areas. Under the first program area, information gathering, a review of existing information has been undertaken to work towards the goal of a national inventory of orphaned and abandoned mine sites. The second task group on community involvement completed case studies for three Canadian mine sites (Deloro site in Ontario, Giant Mine in the Northwest Territories, and Mount Washington Mine in British Columbia) in order to develop and publish guidelines for best practices in community involvement. The third task group examined legislative barriers and collaborative opportunities related to voluntary remediation of orphaned and abandoned mines. Their findings were used in a multi-party workshop to develop recommendations for action. The final task group examined a variety of funding approaches to the remediation of orphaned and abandoned mines. Advantages and disadvantages of funding options were identified and preferred approaches were recommended.

The recommendations from the four task groups were integrated into an action framework to guide the work of NOAMI and its stakeholders over the next several years. Key elements of the framework include:

- Provide guidelines to jurisdictions in addressing regulatory requirements related to orphaned and abandoned mines.
- Develop a short term mechanism to enhance government capacity to remediate key abandoned mine sites.
- In the long term, assess and implement a broad range of funding mechanisms for governments to remediate abandoned mine sites.
- Develop guideline documents for facilitating reclamation of orphaned and abandoned mines across Canada.

²² NOAMI reports, pamphlets and workshop proceedings, online: <http://www.abandoned-mines.org>

In terms of community involvement in reclamation and remediation of abandoned mine sites, NOAMI has identified the following lessons learned:

- The nature of community involvement should be made explicit at the outset to avoid frustration or distrust if community expectations are not met.
- Community involvement should include broad representation and a wide diversity of views.
- Action should be taken to prevent high rates of participant turnover, such as conflict resolution processes, financial assistance, technical and administrative assistance.
- Agencies should be accountable to respond in a timely manner to the public's input and recommendations.
- Perceived lack of fairness should be guarded against, as it can undermine the credibility of the process.
- Effective facilitation of meetings is critical to work through conflicts between individuals with different points of view.

4. SOME EXAMPLES

In this section we briefly present some examples of how clean-up of abandoned or orphan mines has been handled in Canada, the interaction among various regulators and overlapping jurisdictions, and the role of various stakeholders in these efforts. In recent years there has been a trend of increasing public and aboriginal consultation and participation in the remediation and reclamation of abandoned mines.

(a) **Britannia Mine**

As mentioned above, the Britannia Mine is the subject of a factual record prepared by the Secretariat of the CEC under NAFTA in response to a citizen's complaint asserting that Canada is failing to effectively enforce section 36(3) of the *Fisheries Act* with respect to three mines in British Columbia. The Britannia Mine is located on the eastern shore of Howe Sound, about 50 kilometres north of Vancouver, British Columbia. This copper and zinc mine was in operation for about 70 years until 1974. The government of British Columbia describes the mine site as, "one of the largest metal pollution sources in North America."²³ The CEC factual record on the Britannia Mine includes the following description:

The mine is located inside Mount Sheer, which rises to a height of 4,600 feet over several kilometres from the shore. Inside Mount Sheer, 210 kilometers of abandoned mine workings act as conduits for rain water and snowmelt that enter open pits at the summit and flush out of a portal located at the base of the mountain. The acidic metal-laden effluent, which is acutely lethal to fish, is channelled to a submerged outfall and discharged, untreated, into the fish-bearing waters of Howe Sound.²⁴

The provincial government has identified pollution control measures that are needed at the site, including: collection of acid mine drainage through a collection plug; treatment of the mine drainage and

²³ Ministry of Agriculture and Lands, Crown Land Administration Division, *Britannia Mine Remediation Project*, online: <http://www.agf.gov.bc.ca/clad/britannia/index.html>

²⁴ *Factual Record BC Mining Submission (SEM-98-004)*, online: < http://www.ccc.org/files/pdf/semi/98-4-FFR_en.pdf > pp. 7-8.

contaminated groundwater at a treatment plant; control of discharge of contaminated groundwater; prevention of the formation of acid mine drainage in part by rerouting uncontaminated surface waters; and assessment of contaminated sediments at the outfall on Howe Sound. The government has provided indemnification for environmental liabilities to companies who are successors to the previous mine operators in exchange for \$30 million to partially fund the reclamation project.

In January 2005, the Ministry of Agriculture and Lands signed a 21-year project agreement with EPCOR Britannia Water Inc. to design, build, finance and operate a mine water treatment plant. The plant began full operation in January 2006. The treatment plant will have to operate indefinitely and will produce sludge each year that will need to be disposed of. The B.C. government-EPCOR agreement is an example of a public-private partnership promoted by the B.C. government.

Public participation in the early years of the Britannia clean-up consisted of opportunities to attend public meetings regarding project proposals and, as provided by legislation, opportunities to comment on, and appeal, applications of the government for effluent permits under the *Environmental Management Act* or its predecessor legislation. Public notices and progress reports are made available in the Britannia homepage. Public participation is a major feature of a recent community redevelopment project and a project which proposes two complementary components: a historical/tourism attraction and a mining innovation centre of excellence. The innovation centre would be complemented by an initiative by the Centre for Environmental Research into Mining, Minerals and Materials (CERM3) at the University of British Columbia to establish a dedicated environmental and mining research centre.

(b) **Mount Washington Mine**

The Mount Washington Mine was one of NOAMI's case studies regarding community involvement in the remediation of abandoned mines²⁵. This mine is located on Vancouver Island and was a small open-pit copper mine that operated for only a few years in the 1960s. Large piles of ore, waste rock and mill tailings were left at the mine and mill sites. Acid rock drainage and the associated copper from the mine site were thought to have a significant impact on fish and fish habitat in the Tsolum River. Water quality objectives for copper for the river were not being met. The fish resource in the Tsolum River was significantly decreased from the numbers present in the 1950s, probably due to the combination of the mine's effects and a number of other factors, including sedimentation from logging and development along the banks of the river; removal of gravel from the riverbed for construction of an airstrip; and altered water flow and temperatures due to water withdrawal for agricultural irrigation.

Community involvement began with community members bringing attention to the loss of the fishery on the river and resulted in the provincial government spending \$1.5 million on remediation at the site from 1988-1992 but with no reduction in copper levels. Concern about the watershed and the need for community input into decisions resulted in the formation of the Comox Valley Watershed Assembly which applied co-operative problem solving to issues of water quality and improving fish habitat.

The Tsolum River Task Force (TRTF) was formed in 1997 and obtained two years of funding from the federal Department of Fisheries and Oceans to restore fish habitat on the river. Other provincial and local groups contributed to projects outside the federal government's mandate. The TRTF was an advisory group representing stakeholders from federal and provincial government agencies, fishing industry, mining industry, First Nations, and local area groups. TRTF's objective was to restore the Tsolum River watershed to historic levels of health and productivity.

²⁵ NOAMI, *Lessons Learned On Community Involvement in the Remediation of Orphaned and Abandoned Mines Case Studies and Analysis*, February 2003.

TRTF was successful in respect of restoring fish habitat and watershed management but was less effective with respect to mine site remediation. The “Lessons Learned” report (at page 21) states that one of the problems may have been that while all stakeholders shared information and ideas, no government agency or industry took responsibility and committed to take action. However, as described below, regulatory enforcement action was taken, but outside of the TRTF’s activities or direct knowledge.

When funding for TRTF ended, the Tsolum River Restoration Society was formed. The Society is less broadly based than TRTF and focuses on fish habitat restoration. The community is willing to help with mine remediation but is waiting for commitment and action by the government.

NOAMI has identified reasons why TRTF was successful in involving all stakeholders in the sharing and discussion of information as well as why it was less successful in moving the mine reclamation project forward. These reasons include:

- Having paid staff to ensure administrative tasks are completed and to avoid volunteer burn-out.
- Getting early community involvement and agreeing on a common goal to focus the work of the task force.
- Using professional facilitators at meetings to ensure all interests are heard and complex issues are understood.
- Using working groups to examine complex issues and having one member of each working group sit on the steering committee.
- Having joint funding or funding from a broadly based agency to allow for assessment and implementation of complex remediation programs.
- Clearly establishing the role and decision-making ability of government representatives so as not to unrealistically raise expectations.
- Recognizing that funding for reclamation projects is a political decision.

The Mount Washington Mine was also one of the subjects of the citizen’s complaint to the Secretariat of the CEC under NAFTA asserting that Canada is failing to effectively enforce section 36(3) of the *Fisheries Act* with respect to three mines in British Columbia. In this case, the CEC declined to prepare a factual record, since regulatory action was being taken by the federal government. Environment Canada issued a Direction under s. 38(6) of the federal *Fisheries Act* for several parties to remediate the site as the drainage from the abandoned mine was depositing a deleterious substance in waters frequented by fish. As the original mining companies no longer existed, a number of companies not involved in mining but that were past and present owners of the site were named in the Direction. Remedial actions were taken and the copper levels in the streams coming off Mount Washington, although the data confirming this are not publicly readily available, have apparently been reduced to acceptable levels.

(c) **Giant Mine, Northwest Territories**²⁶

The Giant Mine is located in Yellowknife in the Northwest Territories and began producing gold in the 1940s. The NOAMI “Lessons Learned” report (at page 13) quotes INAC as stating that 237,000 tonnes of arsenic trioxide dust have been stored in underground chambers on the mine site, adjacent to Great Slave Lake. When Royal Oak Mines became insolvent in 1999, the Royal Oak Project Team/Giant Mine Project Team was formed to manage the abandoned property and identify ways to remediate the mine site.

While the community had been concerned about the health and environmental impacts of arsenic, the community had not been formally involved in the remediation of the mine site. The Giant Mine Project Team set up a public registry in 2001 to allow the public access to information and reports about the mine remediation. Open houses, public displays and community meetings were held in various locations in order to answer questions and share information about the remediation plan.

The “Lessons Learned” report (at page 16) states that some community members perceive that the federal government involved the community too late and had already selected its remediation option before consulting with the public. The remediation plan may have had broader support if the public had been consulted in the early priority-setting stages of the process. Educating the public about the technical aspects so that they are able to understand the complexities of the issues may increase support for decisions. Although early consultation may increase the time spent on a project, it will also increase trust in the process, the agencies involved and the decisions reached.

A remediation plan for the Giant Mine was completed in 2005-2006 after review by an independent peer review panel, various federal government agencies and final review and agreement in principle by the Government of the Northwest Territories.²⁷ The GNWT and Indian and Northern Affairs Canada have signed a cooperation agreement to work together on the remediation plan. The Deton’Cho/Nuna, an Aboriginal and Northern company joint venture contractor has assumed full responsibility for care and maintenance of the Giant Mine Site.

(d) **Nanisivik Mine**

Nanisivik is located off Strathcona Sound, near the community of Arctic Bay in Nunavut, which is located about 1,300 air kilometres northwest of Iqaluit. Nanisivik was developed in the 1970s to support the lead, silver and zinc mine operated by Breakwater Resources Ltd. The mine closed in September 2002 after 26 years of operation.²⁸ In October 2002, CanZinco Ltd., a wholly owned subsidiary of Breakwater, was issued a water license for the closure and reclamation of the Nanisivik project. Reclamation responsibilities of CanZinco include: building demolition; waste disposal; contaminated soil haulage; and site clean-up. Wolfden Resources Inc. through an agreement with CanZinco owns the mill facility at Nanisivik. As part of the acquisition, Wolfden is responsible for taking down the mill facility, operating the separation plant and performing environmental clean-up on the site where the mill and storage facilities are located. Wolfden

²⁶ NOAMI, *Lessons Learned On Community Involvement in the Remediation of Orphaned and Abandoned Mines Case Studies and Analysis*, February 2003.

²⁷ Indian and Northern Affairs Canada, *Northern Affairs Program Contaminated Sites Program Performance Report 2005-2006*.

²⁸ CBC News, “Contamination concerns grow at Nanisivik”, online: <http://www.cbc.ca/canada/north/story/2004/06/04/nun-nanisivikconcern04062004.html>

expects that its acquisition of the Nanisivik infrastructure will provide it with “a competitive advantage for the development of deposits located in Canada’s arctic.”²⁹

The closure of the Nanisivik mine was reported to be a serious employment loss to the community of Arctic Bay, which is 30 km. away, and other Nunavut residents employed at the mine. In 2002, plans were publicized for the use of the closed Nanisivik townsite as a trades training centre for Inuit peoples and other Nunavut residents. The Nunavut Association of Municipalities passed a resolution (02-20, 2002 AGM) for the Nunavut Association of Municipalities to lobby the Nunavut Government to acquire and utilize the Nanisivik town site as a Trades Training Centre. However, those plans never materialized and the communities were disappointed:

Mr. Barnabas: Thank you, Mr. Speaker. I rise today to express the frustration of my constituents in Arctic Bay. ...the community is feeling let down, as many ideas are not coming to pass. It appears that a new trades school will not be going ahead. There are questions about what will happen to the infrastructure in Nanisivik.³⁰

Local residents did not seem to be integrally involved or consulted in the closure and reclamation of the mine and townsite, but the unique feature of Nunavut and other parts of the North of Canada is the fact that, where land claims agreements have been settled, regulatory bodies consisting of aboriginal peoples must approve the activities involved in clean-up of industrial sites (as well as construction and operation of the industrial facilities). In Nunavut, the Inuit and the government of Canada have signed the Nunavut Land Claims Agreement (“NLCA”), which provides for the establishment of a number of institutions of public government, including the Nunavut Wildlife Management Board, the Nunavut Planning Commission, the Nunavut Impact Review Board, the Nunavut Water Board, and the Nunavut Surface Rights Tribunal as institutions of public government. For example, the activities required for the abandonment and reclamation of the Nanisivik mine required, under section 57 of the *Nunavut Waters and Nunavut Surface Rights Tribunal Act*, a water licence from the Nunavut Water Board, which reviewed the project and held a public hearing.

Regulation of mines in the North also involves federal government regulatory agencies, in particular the Department of Indian and Northern Affairs Canada (“INAC”). The federal regulators cooperate in the reviews and regulatory decisions under their areas of jurisdiction, and have a number of policies promoting broad-based participation. For abandoned mines that are contaminated, INAC applies its Nunavut Mine Reclamation Policy as well as its “Contaminated Sites Management Policy” (effective date: August 20, 2002), which includes in its guiding principles the following:

- INAC will promote First Nation, Inuit and northerner participation and partnership in the identification, assessment, decision-making and remediation/risk management processes relating to contaminated sites.
- INAC will plan, where appropriate, the scale and pace of remediation/risk management in keeping with the First Nation, Inuit and northerner capacity to be involved.
- INAC will incorporate economic opportunities, to the extent possible, for First Nations, Inuit and northerners in the management and remediation of contaminated sites.

²⁹ Wolfden Resources Inc., online:<http://www.wolfdenresources.com/s/NanisivikMill.asp>

³⁰ Nunavut Hansard, Thursday, June 3rd, 2004, at page 958.

5. CONCLUSIONS

Canada has a large number of mining legacy sites, and significant effort is being applied to their reclamation and remediation. Dealing with mining legacy in Canada is regulated under a plethora of legislation, involves participation by multiple governmental institutions, and requires notification and consultation of the public and, specifically, of aboriginal peoples. There is no template or consistent approach to dealing with abandoned mines, but certain practices have arisen as a result of legal requirements and the necessity and desirability of cooperation among overlapping regulators, mining companies, aboriginal groups, and the public. These include cooperation among regulatory agencies in review processes and decision-making, careful attention to consultation with aboriginal peoples, and increasingly, public involvement in approval processes and public hearings. NOAMI has contributed valuable information and experience regarding abandoned mines, particularly with regard to effective methods of public consultation.

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