

# The Nanisivik Legacy in Arctic Bay

## A Socio-Economic Impact Study

Prepared for:  
Department of Sustainable Development  
Government of Nunavut

Prepared by:  
Brubacher & Associates  
Ottawa

August, 2002

Exhibit: <u>6</u>	Date: <u>June 4/04</u>
Exam of: <u>Socio-Economic Study</u> <u>TARA LUTZ, CSR</u>	

# Acknowledgements

The willing contribution of all those who participated in the community meetings, interviews and kitchen table chats was critical to the success of this project, and is greatly appreciated. These people are named in an Appendix at the back of this document. Thanks is extended to the Nanisivik mine personnel who took some time to pull together data and provide an opportunity to tour the site. Thanks is also extended to all those within the Government of Nunavut who provided input and data into this project. Assistance was also provided by the Nunavut Employees Union and by the Nunavut Wildlife Management Board.

Special thanks to Joanasie Akumalik who provided advice and facilitation services, and to Mishak Allurut who played an integral role in the community research and provided very competent interpretation services.

TABLE OF CONTENTS

Executive Summary ..... i

Introduction..... 1

    Purpose, Objectives And Perspective..... 2

    Methods used to gather knowledge and data ..... 3

    Structure of the Report ..... 3

Chapter One: Voices Of Experience ..... 6

    The Nanisivik Era..... 6

    Early days..... 6

    Changing Skills And Experience ..... 8

    Social and Cultural Change ..... 11

    Economic Impacts ..... 21

    Impacts of Closing Nanisivik ..... 28

    A period of uncertainty ..... 28

    Loss of income and work..... 28

    Potential loss of infrastructure and services..... 30

    Looking to the future ..... 32

    Summary..... 36

Chapter Two: What The Numbers Tell Us ..... 38

    Socio-economic Profile of Arctic Bay ..... 38

    Nanisivik's contribution to Arctic Bay's economy..... 41

    Direct Contribution..... 41

    Indirect Contribution to Arctic Bay's Economy ..... 45

    Snap Shot of Arctic Bay's Money Economy..... 48

    Sources of Personal Income..... 48

    Snap Shot of the Harvest Economy ..... 49

    Summary of Measurable Socio-Economic Impacts..... 50

Chapter Three: Analysis Of The Data ..... 54

    Impact of Nanisivik During Mine Operation ..... 54

    Social Impacts And Change Arising From Nanisivik ..... 54

    Economic Change Related To Nanisivik ..... 60

    Summary Of Impacts And Benefits..... 64

    Impact of Nanisivik's Closure On Arctic Bay ..... 66

    Summary of the impacts of Nanisivik's closure ..... 69

    Impact On Arctic Bay's Development..... 70

    Public Investment In Northern Industry As A Development Tool ..... 71

    Impact On Arctic Bay's Development..... 73

    Summary Of Development Impacts ..... 80

**Chapter Four: Conclusions and Recommendations ..... 83**  
Nanisivik—A Lasting Legacy? ..... 83  
Recommendations..... 85  
*Arctic Bay Adjustment Strategy: Mitigating The Impacts Of Mine Closure* ..... 85  
*Building On the Mining Experience Of Arctic Bay* ..... 90  
*Summary of Action Elements*..... 95

**Appendix A: List Of People Interviewed**

**Appendix B: Interview Framework**

## EXECUTIVE SUMMARY

Following over a quarter century of operations, the Nanisivik zinc mine is scheduled to close down its operations this year. With road access to the community of Arctic Bay, the Nanisivik mine closure is expected to have significant impacts on that community. In addition to the loss workers from Arctic Bay, the closure is expected to impact the Arctic Bay community's business sector and potentially its access to services such as jet service, favourable seafit arrangements, and other spin-offs from the mine's presence in the region.

This report was undertaken in order to document and assess the legacy that Nanisivik has contributed to building the community of Arctic Bay, to determine the impacts that mine closure will have on the community; and, to gather what has been learned from this experience so that future community-mine developments build on the Nanisivik experience.

### *Voices of Experience*

During a series of open-ended 'kitchen table' discussions, workshops, and key-person interviews, Arctic Bay residents speak honestly and profoundly about the impacts Nanisivik on the social and economic life of their community. Their feelings are mixed as they look back on how the mine affected their community over the past decades, and of what life will be like without mining activity at the nearby site.

During the interviews with over forty residents of the community, comments were raised on many issues relating to the Nanisivik experience. These include: recollections of the early days of the mine; changing skills and experience; impacts on families; impacts of wages on the household economy; new opportunities to socialise; impacts of alcohol; employment creation; the traditional economy; business; and, implications of the mine for local infrastructure and services.

Some of the earliest memories of the Nanisivik mine come from elders interviewed for this report.

As one woman recalled, "We didn't have any washing machines at that time, so I had to wash the very dirty clothing of the workers by hand. I got very tired and I still feel the stress of all those years of washing—that's the negative side."

A limited, though significant, number of Arctic Bay residents worked full or part time at the mine over the years. However, community residents noted that the benefits and drawbacks of the mine spread to many more people in the community. Arctic Bay residents talk about how Nanisivik money meant new skidoos that were used to hunt caribou. One woman recalls how the mine provided money at a time when money was becoming an important resource in the north: "When Arctic Bay was starting to form people were hungry most of the time. I left Arctic Bay to go to Pond Inlet in the 1960s. After I returned in 1982, I saw that people were less hungry. People who worked at Nanisivik could buy gasoline and snow machines. They could hunt more caribou and that would be shared with the whole community."

But the downside: the effect of "Nanisivik alcohol" in Arctic Bay was also shared. As this report indicates, "Nanisivik alcohol" is clearly identified by residents as the fuel that drove many of the other negative social impacts. One resident observed, "Guys at Nanisivik

didn't care if Arctic Bay women were married or not... This abuse was abuse not only of women but of all Arctic Bay people. It was disrespect for the social structure of Arctic Bay, for the bonds of marriage between people. Alcohol was the driving force for all of this."

Comments were made about the anticipated impacts associated with closure of the mine. These related to three key areas: loss of income and work; potential loss of infrastructure and services such as the Nanisivik airport; and, the uncertainty currently surrounding the closure process and future use of the Nanisivik townsite.

Residents also had important observations to make about the implications of Nanisivik for the future. Suggestions for how to learn from the experience were made. These included the need for mines to undergo cultural growth and change alongside the communities near which they are located. "Arctic Bay has been growing and evolving. The mine, on the other hand, didn't change." Other suggestions included establishing support groups for spouses; linking elders with youth for training and skills development; and, a stronger community voice in mine related decision-making. Many residents support the need for an event that would serve to commemorate the legacy of Nanisivik in their community and the contribution that Arctic Bay people have made to this period of northern mining history. Comments were also made about the future of Arctic Bay's economy and the need to take advantage of—and invest in—the significant opportunities that exist.

### *Social Impacts and benefits*

The overall impression arising from discussions with people from Arctic Bay is that alcohol associated with the Nanisivik site has had significantly negative social impacts for many individuals and families in the community. Beyond these alcohol-related impacts, residents of Arctic Bay do not feel that Nanisivik has had other negative social impacts on the community as a whole, nor on specific groups within the community. Positive social impacts, such as recreational opportunities and strengthened sharing networks, were also equated with Nanisivik.

One of the potential impacts this research aimed to assess, was whether 30 years of wage earning at the mine has led to a shift away from sharing, toward greater individualism when it comes to economic production in the household and in the community at large. The role of money has clearly increased in Arctic Bay over the years. Some families acknowledge that they now live from money, not from the land. It would be too great a leap, though, to suggest that this shift has been caused wholly by mine employment. Further, many people described how money earned by one family member would be spread around to assist both immediate family members as well as relatives. Sharing of major purchases such as snow machines also is widespread in the community. There was no evidence offered that the level of sharing of country food has been reduced by increased wage earning, and some suggestions that this has not occurred, that food continues to be shared in traditional ways.

Another form of social change relates to changes in the roles of elders, parents, and children. When asked about changing roles, many people expressed strong opinions that the roles of parents and elders with respect to raising children are changing. Elders no longer live in constant contact with parents and their children and are losing their role in raising children. The cause of this shift was almost entirely identified as the school

system—which takes children out of the home all day—and not work (either at Nanisivik or at the jobs in the hamlet). One person did, however, note concern over the impact of Nanisivik work on his children: *‘I left mine work because of our kids. My spouse and I both worked, and we worried a lot about our older sons.’*

#### *Significance of income earned at Nanisivik*

Nanisivik has provided an important contribution to the household economies of Arctic Bay workers. Two groups can be described. The first is small, and is made up of those who make a living from Nanisivik work, earning a wage sufficient to support their families. The other group is larger, and is made up of people who work shorter periods of time and earn less than what they require to live on. For these people, Nanisivik income is only once source of money, perhaps representing a disposable income component. For both groups, it is important to their household economies, and is reported to be productively spent.

Of particular importance is the level to which Nanisivik income is reported to be spent on equipment and supplies needed for participation in the hunting economy. From the start of Nanisivik employment back in the 1970s to the present time it seems that this income has provided the means for people to purchase snow machines, boats, gasoline and so on. Some of this money is provided to family members so they can make similar purchases. In other instances, Nanisivik workers lend their equipment to others while they are working. Although Nanisivik work cuts into the time workers have available for hunting, the benefits of Nanisivik income in terms of access to equipment and supplies promotes harvest activities. Traditional sharing networks seem to have been maintained throughout the Nanisivik era in Arctic Bay.

Finally, the effect of Nanisivik on promoting the local business sector has been limited. Two local businesses have emerged to carry out contracts with the mine and at the town site. Local carvers have found a ready and welcome market selling to Nanisivik workers. The effect of earned income on the Arctic Bay economy is important to local retail stores, however.

#### *Impacts of mine closure*

The closure of the Nanisivik mine is expected to have a range of impacts on the community of Arctic Bay. The major short term impact following Nanisivik closure will be the loss of jobs and income. Long-term workers will experience the greatest impact. Fourteen people from Arctic Bay have been earning \$25,000 or more. This group and their families may be expected to suffer from the effects of significantly increased economic stress. Opportunities to find other work in Arctic Bay are limited. Employment insurance benefits will provide temporary relief, but will not come close to replacing the high incomes enjoyed by full-time employees. While some may seek to re-locate to find other work, migration out of Arctic Bay is not expected to be significant. However, finding alternatives to replace the high levels of income provided by the mine will be difficult.

Arctic Bay residents who have sought work at Nanisivik on a casual basis will lose this option. Some thirty people from the community have been earning part-time or casual income from the mine. While some casual work is available in Arctic Bay, competition for these jobs will increase and there will be an adjustment in the local casual job market as some become discouraged and eventually drop out of the labour force. Loss of the

iii

relatively small amounts of money earned by casual workers is expected to represent a significant decline in disposable income for those individuals and their households.

Many of these casual workers are young and single. The loss of the sense of economic empowerment represented by mine jobs is expected to have an impact on these workers. Opportunities to replace these lower levels of income are better than the high income levels of the full-time workers, as they are more in line with what might be generated by small start up businesses, or work in existing retail businesses. However, the local economic climate for business may be expected to be negatively affected by the loss of a significant proportion of total community income previously generated by the mine.

Nanisivik mine directly contributes over \$1 million per year to Arctic Bay's total personal income. This represents a significant proportion of household disposable income. The loss of this income can be expected to impact on the large retail stores, as well as on smaller consumer-oriented local businesses. Loss of income may also be expected to have an negative impact on hunting, given the high costs associated with this activity. The impact of Nanisivik's closure on local businesses is expected to be particularly felt by the Arctic Bay carvers and by the local taxi and hauling companies. Alternative markets for carvings may be found, provided reasonable support is provided. Other business owners may need to pursue new activities in order to recover lost revenues.

Over the short and medium terms, it is expected that many of those people who lose Nanisivik income will be unable to replace it with other sources of earned income. Increased financial hardship, stress, loss of confidence and other related symptoms of unemployment and loss of a sense of personal productivity may be anticipated.

Closure of the Nanisivik site may reduce the ability of Arctic Bay residents to 'get out' of the community to take part in other social and recreational activities. However, the impact of this will depend on what, if any, alternatives take place at the site. While some may miss the present opportunities to socialise with the miners, others may welcome an end to the problems that have arisen when alcohol is thrown into the mix.

#### *Nanisivik's contribution to Arctic Bay's development*

The rationale for investing public money into the Nanisivik project included clear expectations that this investment would assist in achieving community development objectives. The impact on four ingredients for community development—human capital; social capital; financial capital; and, infrastructure—are assessed.

The lasting impacts of Nanisivik on people (human capital) in Arctic Bay are mixed. For some, the mine has provided an important opportunity for personal growth and advancement in a region where such opportunities are limited in their scope. Others have, as described by one elder, 'had a rough life' because of indirect impacts of the mine, closely associated with Nanisivik alcohol.

The relevance of these impacts to Arctic Bay's future are significant. A healthy, confident and well-educated population will be essential to achieving progress in the strategic sectors identified in Arctic Bay community economic development planning processes. Children who have seen the productive work their parents can do may become more motivated to explore their abilities as well. On the other hand, considerable community

iv

efforts and resources will need to be focussed to create opportunities for those who have suffered major set-backs to build productive lives in the community.

The skills profile developed by Nanisivik work must also be considered. These have been mostly in areas that relate to infrastructure creation and maintenance—carpentry, machinery operation and repair, some trades. These skills are not irrelevant to Arctic Bay's future development, but they are not the skills that will power the community toward development in the identified strategic sectors such as tourism, arts and crafts, commercial fisheries, and even mining development. What are needed will be entrepreneurial skills, administrative skills, research capabilities, people skills, conflict resolution, and so on. Over nearly three decades of proximity to Arctic Bay, Nanisivik has had a remarkably negligible impact on building skills in these areas.

In terms of social capital, Arctic Bay is widely perceived as a traditional Inuit community. Frequent references to sharing of the proceeds of Nanisivik work suggest that kinship sharing networks have been well-maintained throughout the Nanisivik era. The shift toward a money-based economy in which Nanisivik played a supporting role—but did not cause—does not seem to have led to dramatic movement toward individualistic attitudes to material wealth. In the absence of any attempts to identify and measure appropriate indicators, little more than this can be said. It is conceivable that income earned at Nanisivik provided opportunities for people who otherwise would only have been beneficiaries of these sharing networks, to actually participate by playing a sharing role. This would both lead to increased social status for these individuals, as well as strengthening the sharing networks. References to orphans and others who lacked economic means gaining opportunities through Nanisivik are significant in this regard.

Other comments referred to situations where the "social norms" of Nanisivik were significantly different than those in Arctic Bay. In particular, the impact on established marriages was noted. Did Nanisivik have a significant and lasting effect on the institution of marriage, or more broadly, on gender relationships in Arctic Bay? Various suggestions were made that negative impacts on marriages tended to be temporary, although references to marriage break-down were also made. Again, evidence that would shed more light on this indirect impact is not well-developed. Clearly such an erosion of the cornerstone of family—and ultimately community—social integrity would be a serious issue. What can be stated, though, is that impacts in this area were not directly imposed on Arctic Bay. Miners from Nanisivik are not said to have frequently traveled to the community for social interaction. Rather people from Arctic Bay chose to travel to Nanisivik. The physical and cultural separation between Nanisivik and Arctic Bay is recognized to have mitigated impacts in this area.

Nanisivik may have presented a significant opportunity to increase Arctic Bay's financial capital. A conservative estimate of wages paid to Arctic Bay residents over the life of the mine might peg this in the neighbourhood of \$1 million a year over 25 years. Some of this simply replaced social assistance payments, some went to pay income taxes. Much of this money, however, became discretionary income. In terms of the lasting impacts of this Nanisivik cash infusion into the Arctic Bay economy, there is little that is certain. Little evidence was provided to support a connection between Nanisivik income and increased capacity to finance local business start-ups or expansions. Evidence to support the possibility that potential entrepreneurs have access to savings built-up as a result of Nanisivik work was not found. A few workers are said to have purchased homes

as a result of having jobs at the mine. This is physical capital that could be converted into money should these people choose to enter into business.

The developmental value of expenditure of Nanisivik income should not be entirely discounted though. Some of this income may have been converted into social capital, if, as discussed by numerous respondents, sharing of proceeds of work (snow machines, gasoline, money, groceries, country food harvested as a result of equipment purchased and so on) did strengthen kinship sharing networks. Some of the income may also have been converted into human capital through expenditures that served to improve individual health and well-being. Suggestions that Nanisivik income reduced stress is evidence in this direction.

In the area of infrastructure several observations can be made. First, the lasting benefits of Nanisivik transportation services are limited. Some progress was made in developing the tourism sector by outside cruise ship companies. This experimentation was reliant on both the port facility and the jet service. While the direct benefits to Arctic Bay were small, these initial efforts have been a start in exploring the potential for this product. Other impacts of these transportation services are basically related to cost savings and are, therefore, similar in their effect as Nanisivik wages.

Evidence that the presence of Nanisivik infrastructure reduced the investment of public money into Arctic Bay infrastructure is small but credible. However, the overall assessment is that Arctic Bay suffers from inadequate infrastructure alongside other small Baffin communities, not in contrast to them.

However, it may be fair to consider what the community's development status would be today, had government invested in Arctic Bay infrastructure rather than in the infrastructure of the Nanisivik townsite. Nanisivik could have functioned as a bunk-house operation, with government money going to build better nursing facilities and school, a community hall, a visitor centre, space for business development and so on.

#### *Conclusions: Nanisivik's legacy*

- ❖ Nanisivik has made limited contributions to Arctic Bay's development capacity. Some of the income earned at the mine has contributed to involvement in the traditional economy and has helped to maintain and possibly strengthen social networks of sharing. Some individuals have benefited from attendance at the Nanisivik school where they learned skills that have helped them to function well within local hamlet jobs.
- ❖ Children of parents who worked at the mine benefited from increased family income and from seeing parents productively engaged in work. The nature of these positive impacts on later outcome of children is not well known, however. The potential concern that children of workers may be less-exposed to traditional skills were not supported by community interviews.
- ❖ Indirect negative effects on individual well-being is also acknowledged. These arise particularly as a side-effect of alcohol abuse and misuse that is widely attributed to Nanisivik's lax alcohol policy. Those affected through alcohol-related domestic violence include people who had a connection to the mine as well as those who had no connection. This latter group did not share in the benefits of

increased household income, only in the negative impacts.

- ❖ The long-term well being of some children has also been affected by the Nanisivik alcohol-effect. Exposure to domestic violence and Foetal Alcohol Syndrome are known to have significant impacts on future outcome. Little is known about the details of these sorts of indirect impacts in Arctic Bay, however, as no monitoring was undertaken.
- ❖ Overall, the Nanisivik experience has not provided a dramatic enhancement of Arctic Bay's capacity to achieve its development goals. The rationale for creating the Nanisivik townsite was made using arguments that this would contribute to development in the area. Opportunities to play this developmental role, however, seem not to have attracted the focussed attention needed to capitalize on them.
- ❖ The mine could have had a greater positive influence if a consistent focus on its role in local development capacity-building had been maintained by public sector parties, alongside the private sector function of running a profitable mine.
- ❖ Alternatively, the public investment in Nanisivik that was rationalized for its potential to contribute to regional development could have had greater developmental impacts had it been spent directly on local development capacity-building.
- ❖ The experience of Arctic Bay can provide valuable direction to other Nunavut communities that may be faced with opportunities related to mining developments. Some of the key lessons that have been learned include the following:
  - Maintain a focus on community development goals
  - Ensure corporate memory is documented and available to the community
  - Monitor social and economic conditions related to these goals
  - Maintain open channels for communication between the mine and the community and workers
  - Manage alcohol according to community wishes
  - Address 'future use' options and opportunities during the design phase
  - Set up pre-employment orientation for all who are interested

#### Recommendations

The closure of the Nanisivik mine, with the associated loss of direct and indirect jobs and income can be expected to have significant economic impacts on the community of Arctic Bay. The potential for social impacts related to loss of income and jobs is also high. Therefore, a clear strategy to assist the community through a period of adjustment is required. The following recommendations set out a framework for such a strategy. They reflect several additions and modifications that were made following presentation of the final draft report and recommendations to the community in August 2002.

- 1.1 Establish Certainty About Future Use Of The Nanisivik Facilities
    - Action 1.1.1: Analyse how proposed expenditures at Nanisivik will promote the achievement of Arctic Bay development objectives (as identified in the community's CED Plan), and assess the relative effectiveness of these expenditures vis-à-vis alternative uses of these funds.
    - Action 1.1.2: Develop an appropriate alcohol policy and program that would apply to any future use of the Nanisivik site. This policy should reflect the needs and values of community members and be binding on the future use project, subject to review and revision by the community of Arctic Bay.
  - 1.2 Commemorating The Nanisivik Experience
    - Action 1.2.1: Hold a 'Nanisivik Commemoration Event'
  - 1.3 Monitoring And Assistance For Those Affected By Lost Income
    - Action 1.3.1: Hold a "Vulnerability Indicators Identification Workshop" in Arctic Bay
    - Action 1.3.2: Implement an early warning system to detect potential problems based on monitoring of the above indicators.
    - Action 1.3.3: Establish a "Multi-year Enhanced Support Net" to respond to individual and family emergency needs as they arise. This may require loosening or expanding existing support programs.
  - 1.4 Transitional Job Creation and Work Experience Program
    - Action 1.4.1: Pilot the Nunavut Job Corps in Arctic Bay.
  - 1.5 Support for micro- and small-scale entrepreneurship
    - Action 1.5.1: Enhanced Entrepreneur Support Program: workshops; mentoring; professional support.
  - 1.6 Infrastructure in Support of Durable Economic Development
    - Action 1.6.1: Start building the infrastructure that is required to support entrepreneurial and tourism opportunities.
  - 1.7 Support the Arctic Bay Working Group on Nanisivik Closure to prepare a community work plan in support of this adjustment strategy
    - Action 1.7.1: Develop a community adjustment work plan.
- The Nanisivik experience has also provided some important lessons that should be taken into account in future community – mining projects. Six general recommendations build on these lessons:
- 2.1.1 Maintain a focus on community development goals
  - 2.1.2 Ensure corporate memory is documented and available to the community
  - 2.1.3 Monitor social and economic conditions related to these goals
  - 2.1.4 Maintain open channels for community between the mine and the community and workers
  - 2.1.5 Manage alcohol according to community wishes



## 2.1.6 Address 'future use' options and opportunities during the design phase

### 2.1.7 Implement a pre-mining employment orientation course using Inuit teaching methods

In order to build on these general recommendations, the following specific actions are called for:

#### 2.2.1 Focus Future Community-Mine Agreements On Development Objectives

Action 2.2.1.a: Organise and host a 'Community Development and Mining' workshop.  
Action 2.2.1.b: Develop a guide for development-oriented IIBA negotiation strategies

#### 2.2.2 Develop A Model For Effective Community-Mine Agreement Management Committees

Action 2.2.2.a: Prepare analytical Community-Mine Agreement Management Committees case studies, including the Strathcona Agreement Monitoring Committee; the Strathcona Training and Employment Advisory Committee; the Raglan Committee; the Golden Patricia Agreement Management Committee; and the Muskeg Agreement Committee, among others.  
Action 2.2.2.b: Develop a model or models for appropriate Agreement Management Committees.

#### 2.2.3 Monitor Social And Economic Indicators That Relate To Community Development Aspirations

Action 2.3.1.a: Implement a "State Of Our Hamlet" reporting system in at least one community likely to be involved in a community-mine agreement over the next five years.

## INTRODUCTION

Following over a quarter century of operations, the Nanisivik zinc mine is scheduled to close down its operations this year. With road access to the community of Arctic Bay, the Nanisivik mine closure is expected to have significant impacts on that community. In addition to the loss of workers from Arctic Bay, the closure is expected to affect the Arctic Bay community's business sector and potentially its access to services such as jet service, favourable sealift arrangements, and other spin-offs from the mine's presence in the region.

A brief history of the Nanisivik development was provided in a 1981 report by Hicking-Partners Inc. that evaluated the benefits of the project to the public sector up to 1980. They noted that the mineral potential of the area was known as early as 1910, with discovery of the ore body that eventually led to the Nanisivik mine being made in 1957 by the Texas Gulf Sulphur Company. Exploration work to assess the quantity and grade of lead-zinc ore took place between 1958 and 1970. Negotiation to obtain a mineral export permit then began between the company and DIAND. Initially these negotiations were unsuccessful and Texas Gulf Sulphur allowed Mineral Resources International (MRI) out of Calgary to acquire an option on the property.

MRI continued the drilling program in 1972 and 1973, and undertook production feasibility studies. According to the Hicking-Partners historical summary, those studies indicated that using a completely private sector scenario, the project would be commercially viable as a temporary bunkhouse operation with a seven to eight year life span. An alternative feasibility scenario included government assistance to develop an open township community. Under this scenario, the identified reserves could support a project with a 12 to 13 year life span. The project quickly received approvals and financial support from the federal government to proceed with the township option. Construction at the site was well underway in 1974 and the mine and mill became operational in 1976.

The Nanisivik mine and township were initiated in the midst of expectations that it would provide significant social and economic benefits to north Baffin communities. It is fitting, then, at this time of closure of the mine that the Nanisivik legacy be assessed from a broad community development perspective. Such a perspective considers not only the "losses" that closure may bring, but also the strengths the community has developed during its experience with the mine. Dimensions of the positive legacy that may be anticipated for Arctic Bay include—amongst other things—the new skills acquired; job and business experience gained; improved economic independence; and, perhaps, increased confidence. These strengths may position the community to better achieve collective and individual goals.

Arctic Bay's history did not begin when Nanisivik started operations, nor will it end with the mine's departure. Nonetheless, the experience of the past three decades have influenced the community's evolution in important ways.

This report seeks to document and assess the legacy that Nanisivik has contributed to building the community of Arctic Bay. It will proceed from the point of view that the residents of Arctic Bay have played an active role in building this legacy and that they

will continue to be active agents in shaping the “post-Nanisivik” future of their community.

#### **PURPOSE, OBJECTIVES AND PERSPECTIVE**

The purpose of this project is to document the experience of the community of Arctic Bay with the Nanisivik mine over the past 25 years. It is intended that the knowledge gathered here can assist the community in dealing with the closure by acknowledging and recording this important period in Arctic Bay's history. It can also serve an important purpose in helping to understand the relationship between mine operations and Inuit family and community social and economic life. Such understanding is critical if future mining developments are to maximize their benefits to communities while minimising negative impacts.

More specifically, this study has addressed the following purpose

*To assess the impact of the closing of the Nanisivik zinc mine on the community of Arctic Bay and to propose appropriate mitigation;*

*To document the mine's legacy in the community, and, to demonstrate how this legacy can be used for the benefit of the community in the future.*

Three key objectives will be achieved through the project:

*To develop a first-hand account of the impacts that the Nanisivik mine has had on the residents of Arctic Bay, including community-based recommendations on how best to build on Nanisivik's positive legacy and how best to ameliorate any negative impacts that the mine closure will have on residents;*

*To provide an analysis of the economic impacts to be anticipated from the Nanisivik mine site closure.*

*To recommend a course of action for the territorial government to pursue.*

The perspective that guides the research and analysis presented here is focussed on how the ability of the residents of Arctic Bay to achieve individual, family and community goals has been influenced by the Nanisivik legacy. In practical terms, this perspective means that the study does not focus narrowly on “losses” (e.g. of jobs, income, businesses, services) that may result from the mine closure. These aspects are important and are assessed. However, their significance depends on the ability of the community to use its strengths—some of which may have been developed in association with the Nanisivik experience—to move into the post-Nanisivik era of Arctic Bay's evolution.

#### **METHODS USED TO GATHER KNOWLEDGE AND DATA**

In carrying out this project, we carried out two streams of research in order to provide a good perspective on both the subjective and the objective aspects of the Nanisivik legacy.

Kitchen-table visits and workshops provided opportunities for community members to express their personal observations, experiences and ideas. Community radio was used to talk about the research as it progressed.

This qualitative research stream is complemented by qualitative research focused on identifying objective aspects of the legacy. This second research stream assesses elements such as the impact of the mine on employment, income, and local business.

Together, these streams provide perspective on how the mine is perceived to have influenced the local economy, family organisation and other dimensions of Arctic Bay's socio-economic life.

Following the final drafting of the report and recommendations, a ‘ground-truthing’ exercise was carried out in Arctic Bay. Highlights of the report, along with the recommendations, were presented to the Hamlet Council, Arctic Bay Working Group on Nanisivik Closure, and at a general public meeting. This ground-truthing led to several additions and modifications to the recommendations which are reflected in this report.

#### **STRUCTURE OF THE REPORT**

The report is organised in four chapters. The first two chapters set out the qualitative and quantitative data, respectively. Chapter One is an attempt to reflect the voices of community members. The text set in italics is what people said, as closely as possible using the words that were spoken. It is noted, though, that many of the conversations were carried out in Inuktitut, through a translator. Many of these conversations were taped, so that meaning and intent could be later verified. Some narrative is provided (text that is not in italics) in order to provide some context to what people said. The source of these comments are ascribed to individuals by a group identifier, so it is possible to track comments made by the same individual.

In Chapter Two, the quantitative data is presented. This data provides a summary of the economic impact of the Nanisivik mine and townsite for Arctic Bay. It also seeks to establish the relative importance of this data in the context of Arctic Bay's overall economy. Very little detailed economic profile data was available from any local or territorial source. Hence an attempt has been made to assemble data from a wide range of local and government sources. Some of the resulting numbers are very solid, others are based on people's best guesses. The data presented should be looked at both as a best attempt at describing the local economy, as well as a model for identifying what data should be gathered and maintained at the community level.

Both streams of data are analysed for meaning and significance in Chapter Three. Findings and observations that have been made in other reports dealing with Nanisivik in the past are also introduced in that chapter.

Chapter Four draws conclusions and presents recommendations.

## CHAPTER ONE: VOICES OF EXPERIENCE

Conversations with residents of Arctic Bay provided opportunities for many people to share their insight and experience about the impact that Nanisivik has had on their community and about the changes they expect to see when the mine closes.

This chapter is intended to reflect the ideas and observations that were expressed during these conversations. Many people spoke about similar issues and things they have experienced or observed. An attempt is made here to bring together these common themes. Although some narration is included in order to add context to what was said, an effort has been made in this chapter to let the words—often spoken through an interpreter—speak for themselves.

### 1.0 THE NANISIVIK ERA

#### EARLY DAYS

Inuit from Arctic Bay have been involved in the Nanisivik project from the early stages. Some were active in the exploration and staking period that took place between during the 1960s. There has, therefore been active Arctic Bay involvement at Nanisivik for as long as 40 years.

*During the early days, the surveying and exploration activities only took place during the spring and summer. However, my husband continued to work for the*



**Qapik** lived with her husband, Isaiah Attagutsiak, at the beach below Nanisivik.

*company throughout the year even after the southerners left, maintaining the buildings and equipment that was left behind for the following season - elder woman 1*

*We didn't have any washing machines at that time so I had to wash the very dirty clothing of the workers by hand. I got very tired and I still feel the stress from all those years of washing—that's the negative side. I washed for both Gailunat and Inuit—maybe six people each season at that time. There were not even any washboards then. There was no payment for this work - elder woman 1*

*I remember using dog teams to get around and we did lots of*

*walking at the time. – elder man 2*

*We were living along the beach over there. We were staking out the area. Then men would walk and walk. Their seal boots got worn out from so much walking so we had to repair them every day. – elder woman 4*



**Qapik** lived with her husband, Isaiah Attagutsiak, at the beach below Nanisivik.

*Every day women had to work hard to repair the boots. These women never got paid for this work they did. Sewing, taking care of the children and washing the work clothing. – elder man 3*

*They used to land planes on the ice, before there was an airstrip in Arctic Bay. Back then we worried about how to get food in to Arctic Bay - elder woman 3*

*Nanisivik mine back then wouldn't allow me to work on skins and so on—no shacks—and so when they offered for us to move up to Nanisivik I wouldn't have been allowed to have a snack to sew at. – elder woman 1*

*During the public meetings when the mine was being set up—at that time the mine was wanting people to work seven days a week. I said at least give us Sunday for a rest. They agreed and ever since that they gave Sunday off. – elder woman 1*

*The community indicated during meetings that we did not want alcohol—that's what we agreed on. After a while, though, the company decided to bring in alcohol. Since Nanisivik was not a real community, and not part of Arctic Bay, they said we could not regulate them. At Nanisivik many people, both from south and north, were drinking and getting tired. They could not control their drinking. – elder man 2*

*Nanisivik helped by providing employment—especially during the construction period. I lived at the beach while we were building the dock and the townsite. Isaiah hired me from Arctic Bay. I'd work one week on site, then we'd be flown back to Arctic Bay by twin otter. My wife was patient. She knew I'd return with money. While Attagutsiak was there, there were more people from Arctic Bay working. After, people from other places worked there. – former worker 6*

*I used to live at the beach with my parents. There was a small group of six families there because of the work. Women staying in the camp were often hungry. Only the employees were able to get food from the mine. They would sometimes go and bring some food down for their families. The men didn't have time to hunt since they spent all day staking the area for the mine. There were no boats to families from beach to our post camp. They were using dog teams at the time to take families back and forth from the camps to the beach. – spouse 5 of worker*

## Changing Skills And Experience

During the Nanisivik era, people in Arctic Bay learned new skills and gained new experiences as a result of employment at the mine, or through attendance at the Allurut School at Nanisivik. The following comments illustrate what people in Arctic Bay had to say about these new skills. In Chapter Three, we will assess how these new skills and experiences may contribute to Arctic Bay's capacity to achieve its development goals.

### Skills And Experiences From Work

A range of skills have been gained or honed through work at Nanisivik. Some of these have been put to direct use in the hamlet. For example, people noted that Nanisivik workers got valuable "real work" experience at the mine in areas such as carpentry, heavy equipment operation, mechanics helper, and truck driving:

*Working at Nanisivik really helped me personally. The money of course. Also the skills I learned as mechanic's helper. Now the hamlet has a mechanic who also formerly worked at Nanisivik and that guy is now teaching his skills to another man. – former worker 5*

*My dad learned carpentry skills working for Pan Arctic. He then worked for Nanisivik and is now employed as a carpenter in Arctic Bay. – lived with parents at Nanisivik 5*

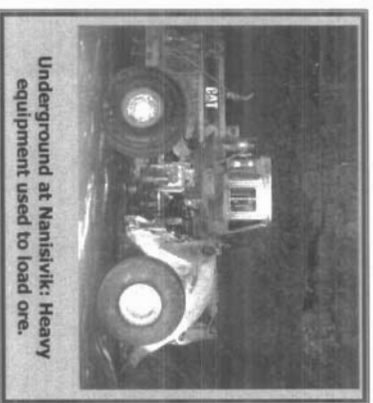


**Qayaq Naqitavik (right) with a southern colleague at work in the mill at Nanisivik.**

*My father worked at Nanisivik for twelve years and learned carpentry skills. He carries these skills on today. When he earned money, he would help me out. – business person 4*

People also gained experience related to working in a formal, industrial work setting. Some of these skills related to work habits, while others involved adapting to and coping with workplace stress:

*Nanisivik helped by preparing people to live in a work routine—early rising to catch the bus. For young people this was difficult. For adults these early mornings are similar to what hunters do and what women do. – elder man 3*



**Underground at Nanisivik: Heavy equipment used to load ore.**

*There were workplace issues—getting used to working with Qallunaat, disagreements or conflicts, especially with supervisors. If an Inuk employee doesn't agree. We had an employment co-ordinator, but never a mediator. – hamlet leader 2*

Nanisivik may have had some influence in the area of entrepreneurial skills development. One person suggested that some former Nanisivik workers have considered becoming entrepreneurs:

*Workers from Nanisivik have experience that can be used in the community of Arctic Bay. Some are thinking of business ideas. – lived with parents at Nanisivik 3*

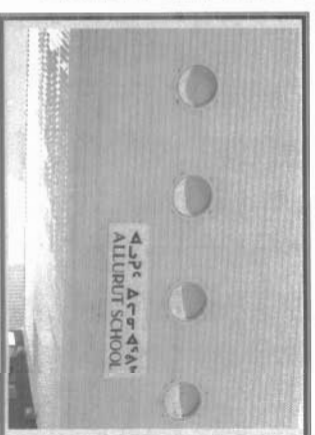
Some missed opportunities were also identified related to skills development, and to the lack of recognition of Inuit knowledge amongst southern workers:

*Inuit could have trained Inuit if they had hired more Inuit. We missed that opportunity. Those skills would have been available to the community even after the mine closed. – elder man 3*

*The skills we know are useful. Even a big boss from the south—he needs help from our knowledge. Without our skills our environment will kill you. – elder man 3*

### Nanisivik's Allurut School

Many people noted the quality of education at the Allurut school in Nanisivik. Classes at the school were taught in English, leading Inuit students to develop good English language skills—something widely recognised as a benefit to these students. The presence of students from the south was suggested to have increased the level of expectation for performance right across the student body. The lower number of students per teacher was also noted, and some former students seemed to appreciate the greater level of teacher attention they received:



*The Nanisivik School had no traditional program. So students there picked up better English skills than those who attended Arctic Bay school where they study Inuktitut. Also most students were Qallunaat. It is the case that many positions in the Hamlet today require English skills, so many of those positions have been filled by people who attended Nanisivik school. – hamlet leader 1*

*Those who speak English are more capable of getting jobs, and earning money. In one way this skill is good—it allows them to communicate better. If there is something they don't agree with, or if they are not happy with a certain situation they can talk back and get their views across. – elder woman 1*

Education standards were higher. Expectations were higher. 80% of the students were from the south. There were no Inuktitut classes, all English. Arctic Bay is 80 to 90% Inuktitut speaking in everyday life. It's a living language here. Half of the population is unilingual Inuktitut-speaking, not fluent in English – lived with parents at Nanisivik 1

It was better growing up at Nanisivik. The school had fewer students for each teacher and it had English classes. We learned English sooner. I had to learn Inuktitut reading and writing later, though. There was also more respect for teachers and for one another. Students from Arctic Bay can read fluently in Inuktitut. But English skills are also important. – lived with parents at Nanisivik 5

Nanisivik school is really good—good discipline. Nanisivik school was more challenging than Arctic Bay. Those of us who grew up at Nanisivik have the ability to speak English. – lived with parents at Nanisivik 3

Bilingual parents push their children more to do well in school. Some elders do tell people to learn two languages. – professional 5

The children who attend school at Nanisivik speak English sooner. That is important. They have more confidence and comprehend better. – spouse 1 of worker

### Loss Of Skills Due To Nanisivik?

The possibility that Nanisivik has taken people away from practicing traditional skills, or from teaching these skills to children was generally discussed. One person noted that as a child, living at Nanisivik reduced opportunities to get out on the land. Other people commented on the situation in Arctic Bay where change is seen as taking place in the context of a larger shift toward a money economy. The impact of the school system was also considered to be a concern.

There was an impact on traditional life. We'd go hunting only once a year. But my father was an orphan, so my grandparents were not around. Our generation is mixing English with Inuktitut. We are losing some of the old words. – lived with parents at Nanisivik 5

Most workers live in Arctic Bay and return each day. School has been in Arctic Bay for so long anyway. We are not together with our children anyway. When I was young, I learned how to hunt. The young girls learned how to make clothing. Today young people are at school all day. It is school, not work, that has changed this for us. – elder man 2

Big changes have taken place over the past 30 years, for example in the way we raise our daughters. In the past we passed on knowledge of how to make clothing—prepare skins and sewing skills. Today young people are more work-oriented, trying to make money. They need money now. No one is assisting me in doing these things [sewing], so I cannot pass on my skills. – elder woman 1

It's not the jobs that prevent people from learning hunting skills. It's the school system. The school prevents these hunting skills or these sewing skills to be passed on to the children, because the children need to go to school every day—

that's mandatory. They have to be in school every day. So school has more of a negative side to it when compared to Nanisivik. Nanisivik only creates employment. It did not take away the children from learning the skills. - elder woman 1

It's not Nanisivik that prevents people from continuing their traditional role—like a man hunting for food, or a woman making clothing. That role has changed, even without Nanisivik. All other communities are like that—they are more job focused now. – elder man 1

Further, one elder noted that work is not incompatible with carrying on Inuit traditional activities:

Even Qallunat in Arctic Bay can hunt just as well as we do. People can work and hunt too. People will always be going out hunting here in Arctic Bay. When I was young, there were RCMP and missionaries and they would do good hunting. Today many Qallunat work at lot and have less time to hunt, but they still do it. They even go out by dog team. – elder man 2

Some concern was expressed that the opportunity to pass Inuit knowledge on from the generation that lived traditional lifestyles is quickly passing.

Those who are twenty years old or less have never seen traditional skills in practice. They have never seen how an igloo or sod house could be kept warm, for example. There are only a handful of elders who know the really traditional life. They need to stay alive long enough. The youth could record the stories. Elders can pass our knowledge on through the schools. – elder woman 4

### Social and Cultural Change

The Nanisivik project was developed and operated over a thirty-year period from the 1970s to the first decade of the new millennium (the 2000s). This period was a time of continuing dramatic social change for the Inuit of the north Baffin region. When speaking about the impact of Nanisivik on family and community social and cultural organisation, people from Arctic Bay situate the Nanisivik experience within the context of this ongoing transition.

It was difficult to put comments about the social impacts of Nanisivik into a larger perspective. What is the relative importance of Nanisivik effects compared with other influences on social and cultural change and challenges in Arctic Bay? A few comments shed some light on how three Arctic Bay professionals view this:

In general, I don't see people who work at the mine crossing paths with me professionally. ... The costs of Nanisivik to Arctic Bay have been minimal. Lots of potential negative impacts were minimised by cultural separation. Arctic Bay and Nanisivik have been fairly separate. Arctic Bay is not a mining community. The mine had a built-in social barrier that may have limited interaction—few miners came into Arctic Bay, for example. – professional 1

It's not necessarily the families where people are working that suffer problems. – professional 2

*I would not say that the mine is generating work for me. – professional 3*

From conversations with people in Arctic Bay, several key themes emerged related to social change. These include changes to the integrity and structure of families; change in the structure of the household economy; and, change in the social opportunities available to people from Arctic Bay.

### **Family Structure And Integrity**

Arctic Bay's social structure is based on strong extended family relationships and on healthy individuals who make up these families. In this section, insights about how Nanisivik has influenced this social structure are presented, starting with how individuals were affected, then considering effects on the immediate family. Comments related to the impacts on families associated with 'partying' at Nanisivik are also presented in this section.

#### **Impact on individual quality of life**

Nanisivik provided some jobs in a region where the role of money in the mixed economy is increasing and where income-earning opportunities are limited. These jobs, then provided benefits both in terms of income, as well as to the well-being that comes with having a productive role in society.

*I have seen that people with work are under less stress than those who rely on social assistance. – professional 4*

*My partner is happier (but more tired) when he has work. He's happy to be able to feed his family. For me, I don't have to worry about the cost of groceries. – spouse 1 of worker*

However, Nanisivik jobs involve a commitment to an intense work experience. Arctic Bay workers have to be on the bus early in the morning and are away from home all day. Workers are on the job Monday to Saturday. Miners also work shifts.

*When I worked there in the 1990s I'd get up at 5:00 am, feed my one year old daughter and drop her off at the baby sitter in time for me to catch the 6:45 am bus. If you missed the bus, the taxi cost \$100. I paid between \$150 to 300 per week for baby sitter. – lived with parents at Nanisivik 3*

**After unionization things got harder. Before, workers left**

**Arctic Bay at 6:45 am. Now they leave at 5:45 because the guys who live at Nanisivik voted for an earlier start and they are in the majority. – professional 4**

**The workers didn't get fired right away, but you could tell after awhile the stress that they felt – elder woman 1**

**I've always thought that more young people would be working if they didn't start so early. I've heard that young people would quit because they couldn't get up so early. – hamlet leader 2**



**Arctic Bay – Nanisivik shuttle bus**



**The ride home after**